Exuberant Intermediality:

Hypermediacy, Technology, Space-Time, and Cyborgs in the U.S. Popular Theater 1873-1915

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Abstract

Intermedial theater is not just theater that employs other media and media technologies. It is theater that, in so doing, makes mediation itself a core component of the audience's experience. Therefore, intermediality, as an approach to theater, is highly relevant to today's increasingly technology-driven and multimedial world, in which the experience of mediation is itself a real and prominent experience of modern life.

In the United States today, however, the predominant aesthetics of mainstream theater run counter to intermediality. For the most part, mainstream theater today adheres to an aesthetic that strives to render the theater medium itself transparent, leaving the audience conscious only of the represented world on the stage. This is true even as theater today is ambitious and creative in employing new media and new technologies because, for the most part, these new media and new technologies are still employed in service of the same aesthetic goals. As a result, intermedial theater, in which media and mediation itself are core components of audience experience, exists today primarily on the avant-garde periphery.

By contrast, the late nineteenth and early twentieth century United States offers an example of a mainstream popular theater that embraced an intermedial approach. Specifically, theater practice in the late nineteenth and early twentieth century United States was characterized by a prevailing aesthetic of fragmentation and indeterminacy, an ambitious and overt employment of new technologies, complex spatiotemporal contradictions and disunities, and a cyborg point of view expressed both through integrations of human bodies and technology and through juxtapositions of human and inhuman performance. All of these characteristics encourage audiences to perceive the mediating presence of theater per se, as well as that of the technologies employed in the theatrical performance. My central argument in this dissertation is

that this exuberant intermediality of the popular theater in the late nineteenth and early twentieth century United States resulted in a playful, ambitious, engaging, popular theater that played a crucial social and cultural role at a transformational moment in media history.

As a result, the popular theater of the late nineteenth and early twentieth century United States thrived. Today, when theater has been relegated to a position of lesser cultural importance relative to digital mass media, we might benefit from looking back. The lesson of this popular theater of the late nineteenth and early twentieth century United States is not to imitate its specific aesthetics or practices, but rather to imitate its embrace of the medial flexibility and multimodality of theater in a way appropriate to the very different medial, technological, and cultural environment in which we exist today. Understanding, through the example of the past, the theatrical potential of intermediality in mainstream practice might open up aesthetic, structural, and conceptual possibilities that could help theater as a field remain relevant specifically in today's multimedial world.

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Chapter 1: Introduction

In the last few decades, intermediality has become a topic of considerable interest to theater scholars and theater practitioners alike, as exemplified in such foundational studies as *Intermediality in Theatre and Performance* (2006, edited by Freda Chapple and Chiel Kattenbelt) and *Mapping Intermediality in Performance* (2010, edited by Sarah Bay-Cheng et. al.). What distinguishes intermedial theater studies from the study of other recently described genres of contemporary performance such as postdramatic theater (Lehmann), digital performance (Dixon), multimedia performance (Klich and Scheer), and cyborg theatre (Parker-Starbuck) is that both intermedial theater practice and intermedial theater studies are centrally and overtly concerned with the process of mediation and with the medial nature of theater itself. Intermedial theater is not just theater that works at the intersections of and the interstices between different media and media technologies, but theater that, through those junction points, makes mediation itself a core component of the audience's experience, whether deliberately or accidentally, intellectually or viscerally.

Today, intermediality is also frequently associated particularly with digital technologies[1] and with work that is both aesthetically innovative and socially or politically transgressive.[2]

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[1] See, for instance, Bay Cheng et. al.: "This section … looks at ways in which digital technologies help to shape intermedial performance, but beyond this it responds to paradigmatic aspects of digital culture that effect the way in which performance events are created, shared, and experienced" (123); Chapple and Kattenbelt: "digitization … creates junction points where the different media meet and it is there – at the point of their meeting – that we locate intermediality in theatre and performance" ("Key Issues" 18); Nelson: "'intermedial theatre' defined in the traditionally established sense of theatre practices consciously performed 'live' before an aware audience but which overtly deploy digital media technologies" ("After Brecht" 32); and Vanden Heuvel: "Intermediality is first a technological intervention in theatre practice utilizing new, mostly digital technologies of projection, recording, playback and immersion" (366).
[2] See, for instance, Boenisch, "Aesthetic": "In a more and more thoroughly mediatized socio-cultural environment, intermediality offers a perspective of *disruption* and *resistance*" (115, emphasis original); Chapple and Kattenbelt: "Intermediality is a powerful and potentially radical

Thus, intermedial theater today is often discussed as an idiosyncratic and avant-garde approach employed in individual, forward-thinking productions, not as a component of mainstream theater practice or as a philosophical approach to theater as an art form.

Theater in the late nineteenth and early twentieth century United States offers a contrasting example of a mainstream popular theater that was in many ways as intermedial as anything being produced by cutting-edge theater companies and artists today.[3] Absent either digital technology or a transgressive agenda, theater of the late nineteenth and early twentieth century United States exhibited many of the other medial strategies seen in today's intermedial theater, including fragmentation and indeterminacy, prominent use of technology, complex spatio-temporal environments, and cyborgean conjunctions or juxtapositions of human and inhuman performers. As Mary Simonson notes in her *Body Knowledge: Performance, Intermediality, and American Entertainment at the Turn of the Twentieth Century*, "these sorts of intermedial practices – performers working across and between genre and media, weaving seemingly divergent techniques, sights, sounds, and styles into cohesive and deeply meaningful pieces – seem to have resonated deeply with early twentieth-century performers, critics, and audiences" (2). This is particularly the case when we focus not on the dramatic literature of the

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force" ("Key Issues" 12); Jensen: "In accordance with an avant-garde orientation, the intermedia terminology has been employed to stress the innovative or transgressive potential of artworks that articulate their message in the interstices of two media forms"; and Nelson: "Nevertheless, there appears to be a widely held assumption – on the part of those who engage in intermedial theatre practices and those who experience them – that intermedial theatre has assumed the mantle of radicalism" ("After Brecht" 31).

[3] The Builders Association get at this idea in their 2000 *Xtravaganza*, which draws upon the lives and work of turn of the century theater artists Loïe Fuller, Steele MacKaye, Busby Berkeley, and Florenz Ziegfeld. According to Shannon Jackson and The Builders Association's Artistic Director Marianne Weems, in their *The Builders Association: Performance and Media in Contemporary Theater*, "By compiling fragments from the history of American popular theater, it [*Xtravaganza*] showed the deep entanglements of new intermedia performance in the old genealogies of extravagant spectacle" (158).

period but on the design and technological aspects of performance, which, at the time, dominated theater practice to an unusual degree. My central argument in this dissertation is that the exuberant intermediality of this popular theater in the late nineteenth and early twentieth century United States resulted in a playful, ambitious, engaging, popular theater that played a crucial social and cultural role at a transformational moment in media history.

My goal in exploring this period is twofold. In reference to the past, the frame of intermediality has a lot to offer to our understanding of a period in theater history that has often been neglected by scholars and maligned by critics.[4] In reference to the present, understanding, through the example of the past, the theatrical potential of intermediality in mainstream practice might open up aesthetic, structural, and conceptual possibilities that could help theater as a field remain relevant specifically in today's multimedial world.

Generally speaking, theater in the United States in the late nineteenth and early twentieth century is remembered primarily for melodrama, for naturalism, for variety shows, and for spectacle. Melodramas, however, at least according to Arthur Hobson Quinn, in his 1927 *A History of the American Drama From the Civil War to the Present Day*, "are mere episodes, to be forgotten because they do not advance the art at all" (112). Sheldon Cheney, in his 1914 *The*

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[4] See, for instance, Frances Albert Doughty, in his 1890 "Evolution in Popular Ideals": "Forced to admit that the theatre for the last twenty years has been a photograph of our national taste, the more aspiring among us have been ashamed of the clap-trap, the buffoonery" (173); Marvin Felheim, in his 1956 *The Theater of Augustin Daly: An Account of the Late Nineteenth Century American Stage*: "The nineteenth-century theater has been curiously handled by most historians, for it has generally been treated with either indifference or contempt. Although we may justify the sneer, we cannot heartily cheer the neglect" (vii); J. C. Furnas, in his 1969 *A Social History of the United States 1587-1914*: "the American theater between the Civil War and the 1890's was prosperously inconsequential" (757); Samuel Eliot Morison, in his 1965 *The Oxford History of the American People*, of the period from 1870-1900: "a distinguished American drama lay in the future" (780); and Daniel J. Watermeier, in his "Actors and Acting" in the 1999 *The Cambridge History of American Theatre Volume II 1870-1945*: "Many had to be content working in either provincial stock or touring in claptrap melodrama" (447-48).

New Movement in the Theatre, similarly dismisses naturalism as “merely the servile imitation of nature … nothing at all to do with art” (270). Cheney is equally scornful of variety shows, calling revues “bastard forms of theatre entertainment that are frankly episodic and inconsequential, appealing to the lower senses and even to the sex instincts” (*The New* 249) and vaudeville “in its total aspect essentially inartistic, a mere commercial corruption of art” (*The New* 249). In his 1919 memoir *The Theatre Through Its Stage Door*, David Belasco scoffs at “spectacle, which is a primitive and inferior form of drama” (209). In short, all of the theatrical forms particularly characteristic of theater in the United States in the late nineteenth and early twentieth century are often relegated to a position of lesser importance in a hierarchy of theatrical art.

Although I believe that many of these critiques are overblown and/or infected by cultural elitism, it is not my project here to make any kind of artistic or merit-based argument in favor of the theater of the late nineteenth and early twentieth century United States. Rather, I suggest that the intermedial practices and attitudes discernable across all the different theater forms of the period, taken in toto, offer a useful example of the potential of an intermedial approach to popular theater practice that transcends the artistic value (or lack thereof) of any individual script, production, or stage effect. To quote Mary Simonson again, “Though each performance was unique, then, none was anomalous. Instead, the performances reveal a vibrant American artistic culture, one defined by and oriented around intermedial experimentation … The rich network of performances that resulted both reflected and helped to define early twentieth-century American cultural values, social concerns, and aesthetics” (199). Whatever flaws individual theater events of the time may or may not have had, theater practice in the late nineteenth and

early twentieth century United States broadly speaking, particularly in its technical aspects, was varied, ambitious, creative, and culturally influential.

By contrast, it is no secret that many theaters in the United States today struggle to maintain cultural relevance, secure funding, and attract audiences, particularly audiences that reflect the diversity of the U.S. population. The answer to this conundrum will, I think, require more than new marketing strategies, new fundraising strategies, or even new programming strategies. It will require genuine introspection about how theater as a medium can add to, rather than compete with, the numerous media technologies with which our lives are now saturated and how theater as a medium can engage with the divergent experiences of modern life felt through a diverse population. The lessons of intermedial theater practice in the late nineteenth and early twentieth century United States are therefore topical.

Furthermore, many people at the time loved their theater, precisely because it was vast and messy and recklessly optimistic. One 1905 writer declares,

> When one can go to the theatre and see the best of dramatic, operatic, farce comedy and comic or music fare and even grand opera, with sprinklings of science, physical culture, some of the sawdust of the circus, marvelous children, wonderful training of wild animals, magic and illusion, all in one performance for the puzzlingly small price charged by the vaudeville theatre, the acme of variegated theatrical entertainment appears to have been reached. (quoted in Lewis 321)

As the producer George C. Tyler recalls in his autobiography, *Whatever Goes Up – the Hazardous Fortunes of a Natural Born Gambler*, published in 1934, “No wonder I was crazy

about it and loved it more every week. We all did – actors and managers, stage-hands, understrappers like me – even the audiences, which is probably hard to believe" (87).

In short, this dissertation is primarily a historical study, but potentially one with relevance to theater practice today. This study is particularly timely because theater in the late nineteenth and early twentieth century United States faced many challenges not unlike challenges that we theater practitioners struggle with today, including scarce financial resources, changing audience demographics, and new technologies of communication and entertainment that challenge theater's role is society. An approach to theater practice as a whole that embraced theater's unique intermedial strengths was, I believe, a key aspect of how theater of the period made a place for itself in this changing world and it may be that a theater practice that again embraces those unique intermedial strengths would also fare well today.

Intermediality, as a concept, is both compelling and challenging to grapple with, both in itself and as it pertains specifically to theater. First of all, there is no clear, universally agreed-upon definition of the term "intermediality." As Irina O. Rajewsky writes, in her "Intermediality, Intertextuality, and Remediation: A Literary Perspective on Intermediality,"

> The current state of affairs, then, is a proliferation of heterogeneous conceptions of intermediality and heterogeneous ways in which the term is used. This proliferation may be rewarding, but it is also confusing, leading not infrequently to vagueness and misunderstandings. Hence it becomes necessary to define one's own particular understanding of intermediality more precisely, and to situate one's individual approach within a broader spectrum. (45)

Therefore, I will here briefly discuss the concept of intermediality as I use it and as I conceive of its relationship to theater as an art form, not so as to dispute other uses of the term, but so as to situate myself in what is already a rich network of scholarship.

One of the clearest broadly applicable definitions of intermediality comes from Klaus Bruhn Jensen in the *International Encyclopedia of Communication*:

> 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 conglomeration. (n.p.)

The question, then, is how this general concept can be applied to specific theatrical practices or performances, particularly as theater – all theater – by its very nature seems to meet all three of Jensen's conceptions of the term. Theater is virtually always multimedial. It is virtually always multisensory. And, as an industry, it certainly exists in a net of social, economic, and technological influence with other media.

This is why Henk Havens is quite right to say, in his article "The Intermedial Performer Prepares" in *Mapping Intermediality in Performance*, "Theatre is unthinkable anymore without technology and intermediality. Nobody can be trained as a theatre professional, without at least being aware of the image languages of cinema, television and the digital media. In theatre and performance practice, video equipment, digital tools, and high-tech sound-systems are

increasingly significant" (230). And yet, as Lars Elleström warns, "One can thus say that *everything* is intermedial and multimodal, which is definitely true in a way, but that might come dangerously close to saying that *nothing* is intermedial or multimodal" ("The Modalities" 38). Differentiating intermedial theater from theater as a whole is thus a useful task, but not an easy one.

Given the inherent medial complexity of the theater, it is understandable that many scholars of intermedial performance today forego any simple definition of intermediality in favor of a spectrum of characteristics associated with intermedial theater. Indeed to do otherwise would be dangerously close to what Hans-Thies Lehmann, in his *Postdramatic Theatre*, calls, "the metamorphosis of thought into the equally meaningless exercises of either archiving or categorizing" (18) or what Jürgen E. Müller, in his "Intermediality Revisited: Some Reflections about Basic Principles of this *Axe de pertinence*" in *Media Borders, Multimodality and Intermediality*, avoids as "a sort of academic bookkeeper discourse on different terminological, theoretical, methodological and historical items" (237). Intermediality, both in performance and in scholarship, is more useful for conceptualizing and exploring the functions of theater as a medium than for definitively circumscribing a distinct subset of theater events.

Freda Chapple and Chiel Kattenbelt, in their introduction to *Intermediality in Theatre and Performance*, take this approach, writing, "a first assumption is that intermediality is associated with the blurring of generic boundaries, crossover and hybrid performances, intertextuality, intermediality, hypermediality and a self-conscious reflexivity that displays the devices of performance in performance" ("Key Issues" 11). Sarah Bay-Cheng and her co-editors of *Mapping Intermediality in Performance*, similarly write, "In this analysis intermedial performances are increasingly hybrid in form, and entail (simultaneously) fragmentation and

synthesis, immediacy and mediation, personal engagement and separation" (123). Andy Lavender, in an article in *Mapping Intermediality in Performance*, writes, "Intermedial theatre and performance entails systematicity: plurality of (re)presentation; compound action; multi-modal *mise en scène*; and a disposition to affect" ("Digital" 134). Thus, in this dissertation, I roughly adopt Chapple and Kattenbelt's, Bay-Cheng et. al.'s, and Lavender's conceptions of the qualities of intermedial theater, while, like Chapple and Kattenbelt, Bay-Cheng et. al., and Lavender, making no claim to a categorical identification of intermedial theater.

I assert no certainty as to whether any particular performance or scenic effect of the late nineteenth and early twentieth century U.S. was or was not strictly "intermedial." I certainly am not claiming that *every* theatrical performance or scenic effect of the late nineteenth and early twentieth century U.S. was intermedial. Rather, I observe that, aside from the question of digital technology and the question of a socio-politically progressive agenda, popular theater of that period routinely employed many of the strategies most commonly associated with intermedial theater today. Furthermore, these intermedial strategies of theater at the time were both profoundly medially theatrical and profoundly relevant to the particular society of the late nineteenth and early twentieth century United States, just as strategies of intermedial theater today remain profoundly theatrical and profoundly relevant to contemporary society.

The specific strategies that I will address in this dissertation, employed both in intermedial theater today and in the popular theater of the late nineteenth and early twentieth century United States, include:

- A hypermedial fracture, both in its aesthetics and in its structure. (Chapter 2)

- An overt and experimental engagement with new media technologies, not only to represent other objects or ideas, but also to expose the operations of mediation itself. (Chapter 3)
- Conflicting and medially provocative constructions of the spaces and times of the stage, the audience, and the world at large. (Chapter 4)
- An exploration of the human actor as a cyborg technology of representation in direct juxtaposition to and conjunction with inhuman performing objects and technologies. (Chapter 5)

Each of these characteristics forms the focus of a chapter of this dissertation.

The first two of these chapters, those concerned with hypermediacy and with technology, serve primarily to establish my contention that the popular mainstream theater of the late nineteenth and early twentieth century was, overall, more intermedial than mainstream theater today and to explain the operational, aesthetic, and technological conventions of the period that led it to be so. In the next two chapters, those concerned with space-time and with cyborgs, I explore in greater depth some of the specific ways in which this prevalent intermediality allowed the popular theater of the time to engage productively with some of the profound sociocultural concerns of the day, shaping relations between humanity, places, spaces, and technologies.

There will, naturally, be overlaps and connections between these chapters, as the tactics above rely upon and give rise to one another. The technologies of Chapter 3, for instance, can give birth to the cyborgs of Chapter 5 and the fractured spaces and times of Chapter 4 often rely upon the hypermedial logic of Chapter 2. As such, I will attempt throughout this dissertation to make explicit connections between concepts and performances discussed in disparate chapters,

inspired by the example set by the editors of *Mapping Intermediality in Performance*, who structure their book as a network rather than a linear narrative (Bay-Cheng et al. 9-11).

For all that intermediality can be difficult to pinpoint in respect to any particular theater event, the concept is nonetheless particularly useful to apply to theater as a medium, precisely because theater is inherently uniquely medially complex and versatile. Those strategies that are seen as intermedial are the same strategies that embrace this complexity and versatility that is inherent to the theater as it is to few other media. It is for that reason that I believe that an intermedial approach can be particularly powerful at moments like now and like the late nineteenth and early twentieth century when medial landscapes change and theater needs to discover the role it can play in a new medial environment. An intermedial approach, even as it encompasses other media and technologies, remains grounded in that which is uniquely medially theatrical – its multimodal ability to simultaneously present and represent.

In his 2010 essay "The Modalities of Media: A Model for Understanding Intermedial Relations," Lars Elleström defines four "modalities" along which he believes all conceivable media are expressed and through which all humans interact with media. Elleström refers to any particular variant of one of these modalities as a "mode." Elleström lays out these four modalities in a table:

- Material modality: The latent corporeal interface of the medium; where the senses meet the material impact
- Sensorial modality: The physical and mental acts of perceiving the interface of the medium through the sense faculties
- Spatiotemporal modality: The structuring of the sensorial perception of the material interface into experiences and conceptions of space and time

- Semiotic modality: The creation of meaning in the spatiotemporally conceived medium by way of different sorts of thinking and sign interpretation ("The Modalities" 36)

As Elleström notes, theater is among the few media that are multimodal along all four of these modalities ("The Modalities" 24), meaning that it employs multiple material, sensory, spatiotemporal, and semiotic interfaces. I would go even further and say that we could call theater *omnimodal* in all four modalities, in that theater could employ *any* material interface, communicate along *all* sense faculties, exist in *all* spatiotemporal dimensions both in reality and in representation, and employ *any* sign system or semiotic strategy. Throughout this dissertation, when I use the terms "mode," "modality," and "multimodal," I use them in Elleström's sense.

Furthermore, not only can theater express in any mode of any of Elleström's four modalities, it can also express through and with any other medium or media technology. Peter M. Boenisch writes in his article "Aesthetic Art to Aisthetic Act: Theatre, Media, Intermedial Performance" in *Intermediality in Theatre and Performance*,

> Theatre itself is a media technology that utilizes, at its very heart, other media to transmit and store, while it highlights, at the same time, the process of processing information. Essentially, theatre is a semiotic practice, which incorporates, spatializes and disseminates in sensorial terms (thus: performs) the contents and cognitive strategies of other media by creating multiple channels, and a multi-media semiotic and sensoric environment. (113)

Or, as Elleström puts it,

> Theatre, for instance, normally combines and integrates, to varying degrees, basic media such as auditory text, still image and body performance. The aesthetic

> aspects of these combinations and integrations of basic media are part of how theatre is understood and defined as a qualified medium. Each basic medium has its own modal characteristics and when combined and integrated according to certain qualitative conventions the result is what we call 'theatre', consisting of different kinds of material interfaces, appealing to both the eye and the ear, being both profoundly spatial and temporal, producing meaning by way of all kinds of signs and, certainly, being circumscribed by way of historical and cultural conventions and aesthetic standards. Theatre may thus be said to be a qualified medium that is very much multimodal and also, in a way, very much intermedial since it combines and integrates a range of basic and qualified media. ("The Modalities" 28-29)

Theater's medial specificity, then, lies precisely in its medial richness and versatility, in its embrace, incorporation, encouragement, and exploration of other media and other media technologies in myriad ways. Thus, when theater engages with other media and technologies through the intermedial strategies that form the bases of the subsequent chapters of this dissertation, it is benefiting from techniques that are uniquely and specifically theatrical.

When theater incorporates these other media and technologies, the transformation that it effects upon them is not material but conceptual. To quote Boenisch again, "As opposed to the digital transcoding into bits and bytes, theatre leaves the thing itself intact, yet the actor, picture, and tape, at the same time, are *theatrically reproduced* into something beyond their mere (even less: *pure*) original presence" ("Aesthetic" 114, emphasis original). Andy Lavender, in his "Mise en Scène, Hypermediacy and the Sensorium," also in *Intermediality in Theatre and Performance*, similarly writes, "The screen is folded into the live event and so into the

phenomenal realm of the theatre … The projected images have a different status than they would were they part of a uniquely screen-based environment such as cinema or TV" (63). In other words, film or television or virtually any other medium can be employed on stage materially as itself, but with an added layer of semiotic significance. Film, on stage, is materially indistinguishable from film in any other context and yet, as Boenisch puts it, "That video projected on stage is no longer the same as the very same tape I watched at home" ("Aesthetic" 114). Objects, actors, and media on stage "become signs representing a character, or any fictional world and, at the same time, they are always also something presented on stage, something presented to someone, and that is – far more essential than any represented meaning – the quintessential function of a sign" (Boenisch, "Aesthetic" 114). Objects, media, or technologies on stage, then, are inherently hybrid, simultaneously themselves as they are and themselves theatrically reproduced.[5]

The result of this is that theater is a uniquely apt medium in which to explore mediality itself – both the mediality of theater and the mediality of any other medium that is incorporated into a theater event. As Liesbeth Groot Nibbelink and Sigrid Merx write, in a section of *Mapping Intermediality in Performance* entitled "Presence and Perception: Analysing Intermediality in Performance," "In becoming visible as a sign, while at the same time representing, a performance increases the spectator's awareness of employed strategies. Media become visible *as* media, as a result of their being staged" (225, emphasis original). Theater, thus, is inherently

[5] See, also, Claudia Georgi's *Liveness on Stage: Intermedial Challenges in Contemporary British Theatre and Performance*: "Although theater is indeed capable of integrating any other media without affecting their materiality, the semiotic qualities of the incorporated media are in fact modified by their very inclusion within a theatrical performance, because their signs are additionally turned into theatrical signs" (47).

profoundly intermedial, in a relatively unique way.[6] Not only is it materially dependent upon the media of which it is composed, but theater also has the ability to highlight mediality itself by showing stage objects, people, and media simultaneously as the thing represented and as the thing itself.

This becomes particularly important at historical moments in which the medial landscape is changing. Boenisch writes, "throughout the history of our culture theatre has played a particularly important role at any watershed moment for media technology. This has been true for the introduction of the phonetic alphabet, the invention of perspective and the printing press, and finally the more recent computerization of society" ("Aesthetic" 111). To Boenisch's list, I would add that this was true also for the revolution in transportation and mass communication technologies in the late nineteenth and early twentieth century, particularly in the United States.

Many of the observations that I make in this dissertation about the inherently intermedial nature of theater as a medium are applicable across many theatrical aesthetics, eras, and locations. My specific project here, though, is bounded theatrically, geographically, and chronologically.

Theatrically, I focus primarily on the design and technical elements of the production as drivers of intermediality, though I also address the performers, the text, and the overall structure of the theater event as they become relevant. My reasons for this focus are threefold. First, because intermedial theater studies are concerned with the totality of the theatrical experience, design and technology play a much larger role in intermedial theater studies than they do in many other approaches to theater scholarship. As such, it addresses what is often a blind spot in theater history, which tends to prioritize the dramatic text. Second, design and technology were a

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[6] As Georgi notes, "The medial versatility of theatre, however, is only shared by other plurimedial live media such as opera and ballet" (47).

focal point of theatrical practice in the late nineteenth and early twentieth century United States to an extent rarely seen in theater history and rarely explored in theater scholarship. Thus, intermedial theater studies, which is particularly concerned with the relationship of live and technological performance, is especially apt to understand this specific period of theater history, in which technology was at the forefront of theater practice. Third, as my own background as a theater practitioner is as a designer and technician, it is my personal area of expertise and I therefore believe that I am uncommonly qualified to assess period stage effects based on the often partial or speculative records that they leave behind.

In focusing on these design and technical elements, I am highlighting theater professionals and aspects of theater production that are often ignored, or at least relegated to a position of lesser importance. I will also necessarily be discussing some very pragmatic operational aspects of theater, like the size of the doors of train cars or the length of a scene change, which are seldom considered worthy of scholarly attention. But I side with Alice Raynor, in her essay "Presenting Objects, Presenting Things" in *Staging Philosophy*, who writes,

> in a broader theoretical story of theater I want to include the 'vulgarity' of pragmatic actions as a decisive feature of its ability to give flesh to the uncanny, and to see theater itself as a 'work of art' in Heidegger's sense of an unconcealing. That unconcealing that is not some latency belonging to object, not some ontological category of essence, but an unconcealing that consists of a perceptual event in which something that is materially present is suddenly perceived as both new and always already there. Giving flesh to the uncanny does not mean simply investing some object or body with a spirit, ghostly or otherwise;

> it means exploiting the temporalities of theater as a temporal and material art. (189-90)

The practicalities of theater practice, however pragmatic, however seemingly artistically uninspiring, are nonetheless, as Raynor indicates, highly influential on an art form like theater that is simultaneously both perceptual and profoundly and inescapably material.

Focusing on technical aspects of theater history does pose particular challenges. Stark Young observes, in an essay introducing a compilation of the designs of early twentieth century stage designer Robert Edmond Jones, "no art loses more in reproduction than that of the scene designer" (3). Young is perhaps being a trifle hyperbolic, but it is true that stage design and technology are difficult to recreate from the incomplete traces they leave behind, like sketches, models, groundplans, and promptbooks. Even these inadequate traces are all too often lost to history, because, to quote the prominent early twentieth century designer Lee Simonson, "Scenic designers to-day as in the past show a certain degree of indifference or contempt for the records of their productions. Many of the most important have been mislaid or lost" (14). Scholars are thus left to guess at productions' design and technical elements based on production photos or descriptions in newspaper reviews and technical theater manuals. For that reason, many of my descriptions of period stage designs and technical effects in this study are necessarily speculative.

Fortunately the theater of the late nineteenth and early twentieth century United States has left us with one more source of information about stage design and technology of the period, which is thus far largely untapped by theater scholars – patents. Stanley L. Engerman and Gavin Wright note, in their summary of trends in science and technology in *Historical Statistics of the United States*, "patents per capita surged between the 1850s and the 1870s, reaching a peak

shortly after the turn of the twentieth century, sometimes known as the 'golden age of the individual inventor'" (3-415). Certainly it was a golden age of individual inventors of theatrical effects, dominated by such prolific patent-seekers as Lincoln J. Carter, Loïe Fuller, Claude L. Hagen, Steele MacKaye, Langdon McCormick, and Frank D. Thomas, who, along with dozens of other inventors of the period, collectively experimented with all sort of mechanical, optical, electrical, and cinematic effects. The U.S. patent database therefore contains hundreds of period patents for theatrical devices and technologies including electrical effects; audio playback and amplification; atmospheric and other sensory effects; mechanical movement; optical illusions; and still and moving projected images, with both live and recorded sources. These patents are especially useful in that they are highly specific, both as to the technical functioning of the invention and as to its intended operations in the context of a theatrical event. Detailed written descriptions of effects are generally accompanied by schematic diagrams and other drawings. These patent records therefore form a major source for my research.

I should note that I cannot, at this point, be sure that all of the inventions in these patents were ever really used in performance, as only a few of them can be traced definitively to a specific performance via reviews, advertisements, or lawsuits. As noted by Gwendolyn Waltz, one of the few scholars I know of who has drawn extensively on these turn of the century effects patents, "for other patents, although a positive guess might be hazarded, it is less clear whether the effects were actually realized in production" ("Projection" 23). But, like Waltz, I believe that most of these patented effects probably were used in production, as patenting was a time-consuming and expensive process, not worth doing unless there was some real benefit to be gained. In the theater in particular, that benefit was protection of profits. As Waltz puts it, "They [effects designers] seem to have considered the patenting process to be a means of protecting

their rights over effects that, viewed publicly in the theater, were vulnerable to uncredited (and un-royaltied) imitation" ("Projection" 23). There is no question that this type of imitation was a problem.[7] Thus, for the remainder of this study, except in those cases where I specifically note otherwise, I operate under the assumption that at least the majority of the patents I cite were realized in performance.

My initial interest in these patents and the stage effects that they document was sparked because, taken individually, many of them are so delightfully unique and bizarre. Some, like William C. Sanford's 1911 patent for an "Amusement Device" – a trick glass barrel suspended above the stage, designed so as to create the illusion that a performer is drinking an impossible quantity of water – beg the question of why anyone would want to produce such an effect in the first place. Others, like William Hanlon's 1890 patent for a "Beheading Block and Ax," which works by having the performer whose head is to be cut off force his head down through a rubber barrier and out of sight at the last possible moment, seem unlikely to work convincingly in the way intended. Some are so logistically complicated that it's hard to imagine them ever having been put into effect, such as The Great Lafayette's 1907 patent for a "Theatrical Device" to stage a lion hunt that ends with a woman apparently being fed to the lion, which requires a dummy lion on a zipline, a person disguised as a lion, and an actual live lion. Still others seem so simple and self-evident that it's hard to imagine how anyone was ever granted a patent for them in the first place, such as William Gillette's 1888 patent for a "Method of Producing Stage Effects," which describes how to imitate the sound of horse's hooves by "beating with clappers, that represent the hoofs of a horse, upon some material that serves to represent the road bed over which the horse is supposed to be travelling" (1). It's frankly hard to imagine a method of

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[7] See, for instance, "Cuts," "Dynamite," Felheim (56, 58), and "Mr. Gillette's Patent."

imitating hoofbeats that wouldn't fall under the scope of such a broad patent. Plus, such an obvious idea must certainly have occurred independently to any number of people. Gillette actually did defend this patent successfully in court, though, as reported in an 1888 article in *The New York Times* entitled "Mr. Gillette's Patent: The Dramatist in a Position to Enforce his Rights." In short, these period patents are, in themselves, varied, fascinating, and often very amusing.

Because my interest was sparked precisely by the idiosyncrasy of these effects, this dissertation may also, in places, seem disjointed, though I would argue that in a dissertation structured by intermediality, which is itself expressly characterized by disunity, this may not be inappropriate. I think, too, however, that for all that the individual effects I will discuss vary widely in technique, purpose, complexity, and efficacy, taken collectively they are strong exemplars of a flamboyant and ambitious approach to theatermaking that, as we will see throughout this dissertation, encompassed not only the effects, but the structures and practices of the medium of theater in this period. It is this approach that I believe allowed theater of the period to engage productively with the medial, social, and technological transformations of its cultural moment and that allowed for the theatrical strategies that I believe connect theater of the period to intermedial theater today.

Geographically, I restrict my scope in this dissertation to the United States, although many of the social, technological, and aesthetic developments I discuss were happening elsewhere in the world as well as in the United States at that time. John A. Kouwenhoven writes in *Made in America*, "because America is – for a number of fortuitous reasons – the only major world power to have taken form as a cultural unit in the period when technological civilization was spreading throughout the world … arts in America reveal, more clearly on the whole than

the arts of any other people, the nature and the meaning of modern civilization" (6). Kouwenhoven is perhaps somewhat aggrandizing the significance of the United States, but it is true that the U.S. was the epicenter of many of the technological innovations that transformed both society and theatrical practice in the late nineteenth and early twentieth century.

Furthermore, the theater in the United States in the late nineteenth century experienced an operational transformation that was not mirrored elsewhere in the world and which I believe amplified its intermedial processes, structures, and aesthetics in a way not seen in other countries. I will discuss this operational transformation below in the section detailing the chronological scope of this dissertation.

Also, late nineteenth and early twentieth century theater audiences in the United States are particularly interesting and relevant in relationship to theater practice today. The population of the United States in the late nineteenth and early twentieth century, like the population of the U.S. today, was heterogeneous and changing due both to international immigration and internal migration. Thomas Postlewait writes, in his "The Hieroglyphic Stage: American Theatre and Society, Post-Civil War to 1945,"

> Although it is debatable that the flow of immigrants justifies the popular 'exceptionalist' view of America, it is still true that the number of immigrants who came into the United States between 1850 and 1914 profoundly transformed the demographics and the destiny of the nation, especially the cities … The economic, political, and social consequences of this immigration reached into every aspect of American city life, including the theatres." (145-46)

The U.S. population of the time, particularly in cities, represented a range of nationalities, languages, cultures, and backgrounds.

This population was reflected both in the growth of ethnically specific theaters[8] and in the audiences for the mainstream touring theater forms that I will discuss below. As Christopher Bigsby and Don B. Wilmeth note in their introduction to *The Cambridge History of American Theatre Volume II 1870-1945*,

> Each wave of immigrants brought with it a taste for its own cultural expressions as well as for its own food and social customs. Thus, plays were performed in Yiddish, German, and Italian, languages equally to heard on the street and in the factory … Yet there was a counterimpulse, a desire to plunge into the new linguistic and social world, to embrace its prejudices, its values, and its symbolic forms. If people could cling to the reassurances of the familiar in ethnic theatres, they could also come together as Americans to share experiences that … might not be wholly understood but that communicated on more levels than the merely linguistic. Thus they watched minstrel shows, visited circuses, vaudeville, and burlesque, and explored the paratheatrical world of Barnum and Bailey. (8)

The (often non-linguistic) intermedial modes of signifying employed by the U.S. theater in the late nineteenth and early twentieth century were key components of this ability of the period theater to communicate with a diverse audience, who represented a range of cultural backgrounds and spoke a range of languages.

We should not forget that immigrants and people of color were often the butt of jokes on stages of the period. Postlewait notes, "To be expected, caricatures of all ethnic and racial groups were common on the American stage" (139). But while we may deplore the xenophobic content

[8] For more on ethnic theater of the mid to late nineteenth century United States, see Postlewait 136-44.

of some theater of the period, we can still acknowledge the potential for inclusivity in the theater's overall intermedial structures and practices.

Chronologically, my study focuses between 1873 and 1915 because those dates signaled major changes in the predominant theater practices in the United States – the first primarily operational, the second primarily aesthetic. These dates, of course, are not bright lines but turning points, so in a few cases I do refer to productions and inventions that fall outside of this focal period but still reflect the practices and attitudes characteristic of this period.

1873 was transformative for the U.S. theater industry, as it was for industries across the United States and across the world. The Panic of 1873, one of the worst financial crises in U.S. history, ushered in an economic depression that would not be surpassed until the Great Depression of the 1930s.[9]

Like theater practitioners of the 1870s, we in the theater today have recently weathered a major period of economic difficulty. During and following the Great Recession of 2008 to 2012, diminished funding and shrinking audiences forced many established theater companies to cease operations. Similarly, in the 1870s, numerous theaters closed their doors, up to and including well-known venues like Edwin Booth's Booth's Theatre and Augustin Daly's Grand Opera House and Broadway Theatre (Peter A. Davis 6). But whereas today, for the most part, the remaining theater companies generally rely on more or less the same models of funding and operations that we adhered to prior to the Great Recession, in 1873 an entirely new style of theater production and distribution rose to prominence to replace the theaters that had failed in the Panic. I would not, of course, suggest that we today adopt the same models they used in the late nineteenth century, as the situations are somewhat analogous but by no means identical. The

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[9] For more on the Panic of 1873 and its impact on the theater industry, see Peter A. Davis or Frick.

changes that occurred in U.S. theater practice in 1873, however, do stand to remind us that there are many different ways to create, finance, and disseminate theater and that when old models no longer work in the same way, we have the option to experiment with others.

Prior to 1873, theater production in the United States was dominated by stock companies, established groups of performers presenting a repertory of plays in a fixed geographic location. These stock companies were devastated in 1873. Before the financial crash, in 1872, according to John Frick, in his "A Changing Theatre: New York and Beyond," there were fifty first-class stock companies spread across the major cities of the United States. In 1880, Frick says, there were only eight (201). Frick is evidently drawing on the autobiography of the actor Charles B. Wells for this specific number, which Alfred L. Bernheim points out in his 1932 *The Business of the Theatre* is likely not entirely accurate (31), but as Bernheim notes, "[Wells's] picture of the precipitous decline of stock is accurate on the whole" (31). There can be no doubt that stock companies suffered greatly in the 1873 economic collapse.

In the wake of the demise of so many stock companies, combination companies and variety shows rose to dominate U.S. theater. In combination companies, a star performer, accompanied by a troop of supporting actors and all requisite scenery, props, costumes, and technical effects, travelled the country, performing either a single show or a small repertory. The plays performed by the combination companies ranged from classics to contemporaneous melodramas to musical revues. Stylistically, they ran the gamut from detailed naturalism to over-the-top spectacle to the kind of shabby minimalism that is unavoidable for companies whose financial resources don't match their ambition. Variety shows, which encompass vaudeville and burlesque as well as Wild West shows and circuses, consisted of a series of independent acts like skits, magic acts, dancers, jugglers, acrobats, comedy routines, animal acts, scenes from longer

works, musical numbers, and, later, films. These, too, generally toured, rather than remaining in a fixed performance location.[10]

Both the combination company and the variety show existed prior to 1873, so when the stock companies collapsed, the expansion of these touring forms into the void was virtually immediate. As I will explore more in later chapters, the structure and operations of both combination shows and variety shows were both intermedial in themselves and facilitative of other intermedial theatrical characteristics. Thus, 1873 is an apt year for me to begin my study.

1915 was transformative for theater practice in the U.S. in a different way, marking a shift in theatrical aesthetics that moved away from intermediality. In 1915, Anatole France's *The Man Who Married A Dumb Wife* premiered at New York's Wallack's Theatre with production design by Robert Edmond Jones. Today, this production is widely considered the pivotal moment in the birth of the New Stagecraft, though of course the historical roots of the movement began earlier.[11] Since 1915, many of the design principles established by the New Stagecraft have continued to dominate theater practice in the United States up to the present day.

The rise of the New Stagecraft in U.S. theater was a facet of the larger international and cross-disciplinary trend towards modernism in art that was happening in this period. Inspired by the work of European innovators like Edward Gordon Craig and Adolphe Appia, the New Stagecraft is not so much a single aesthetic as it is a philosophy in which the purpose of the stage design is not to provide visual interest or to produce a physical location, but to suggest an environment so well suited to the text of the play – not only in terms of place, but also in terms of mood and theme – that it operates subconsciously on the imagination of the audience. As

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[10] For more on the predominance of touring in the late nineteenth and early twentieth century United States, see Postlewait 149-56.

[11] See, for instance, Brockett, Mitchell, and Hardberger 259; Essin, *Stage* 1-2; Mary Henderson 504; and Wilmeth 339.

Robert Edmond Jones writes in his 1941 *The Dramatic Imagination: Reflections and Speculations on the Art of Theatre*, which is probably the most influential statement of New Stagecraft principles written by one of the founders of the movement, “The designer creates an environment in which all noble emotions are possible. Then he retires. The actor enters. If the designer’s work has been good, it disappears from our consciousness at that moment. We do not notice it any more. It has apparently ceased to exist. The actor has taken the stage; and the designer’s only reward lies in the praise bestowed on the actor” (27). New Stagecraft design, thus, is immersive, poetic, and fundamentally subservient to the art of the actor and to the dramatic text.

Practically speaking, this philosophy typically manifests itself in simplicity, unity, and aesthetic abstraction. As Sheldon Cheney sets out in his 1914 *The New Movement in the Theatre*, “As a work of art, the specific production must be characterized by seriousness, by dignity, by unity, and by a harmonious interrelation of its component parts. Therefore there must be unity and harmony of play and setting; the action and its background must afford a single unified and synthetic appeal to the spectator. The setting must be in the *mood* of the play” (123, emphasis original). Arnold Aronson similarly writes, in his *Looking into the Abyss: Essays on Scenography*, “modern design moved the stage picture away from the specific, tangible, illusionistic world of romanticism and realism into a generalized, theatrical, and poetic realm in which the pictorial image functioned as an extension of the playwright’s themes and structures” (14). Or, more poetically, per Robert Edmond Jones, “A setting is not just a beautiful thing, a collection of beautiful things. It is a presence, a mood, a warm wind fanning the drama to flame. It echoes, it enhances, it animates. It is an expectancy, a foreboding, a tension. It says nothing, but it gives everything” (26).

Historically, the New Stagecraft has been remembered by practitioners and by critics both in the early twentieth century and today as a major step forward in theater aesthetics.[12] In this study, however, I make no claim one way or the other as to whether New Stagecraft aesthetics are artistically superior to the aesthetics they supplanted. I end my study with the advent of the New Stagecraft not because New Stagecraft designs are either more or less interesting than the designs that went before them, but because the aesthetic principles of the New Stagecraft are antithetical to intermediality.

Cheney, describing the New Stagecraft, writes of "the first two principles of unobtrusiveness and harmony" (*The New* 128). Robert Edmond Jones writes, "Every play is a living dream: your dream, my dream – and that dream must not be blurred or darkened. The actors must be transparent to it. They may not exhibit. Their task is to reveal" (28). In other words, the technologies by which theater operates – up to and including the human actor – are, in an ideal New Stagecraft production, totally transparent to a fully unified, though not necessarily realistic, represented world.

Much theater today continues to strive towards this ideal of unobtrusiveness in stage design and technology. Stage illusion creator Jim Steinmeyer, for instance, writes in his 2003 book *Hiding the Elephant*, "The ultimate goal of any special effect is that the audience ignores it and feels that it has been completely integrated into the story and subsumed within the action. If an audience stops the action of the play to applaud for a special effect, it's as much of an insult as a compliment" (180). As a student earning a BFA in theatrical design in the mid-1990s, I was taught precisely the same prevailing wisdom about lighting for the stage – that an ideal lighting design operates at an entirely subconscious level and that if the audience notices the lighting

[12] See, for instance, Bigsby and Wilmeth 14; Cheney, *The New* 121-48; and Robert Edmond Jones 133-38.

design, even to praise it, the lighting design has failed. My personal favorite illustration of this attitude comes from the technical theater-based webcomic *Q2Q Comics*, in which a lighting designer and a sound designer high-five over a newspaper review that mentions neither lighting nor sound because, "We didn't screw up noticeably!" (Younkins).

Intermedial theater, by contrast, is characterized by obtrusive and disunified media, technologies, and spaces of representation. Thus, when the New Stagecraft transformed theater aesthetics, it quashed theatrical practices that highlighted theater's uniquely multimodal mediality and thereby put an end to the exuberant intermedial experimentation that had previously characterized theater in the United States. Thus, my study ends with the 1915 rise of the New Stagecraft.

The contrast between the design aesthetics of the New Stagecraft and the design aesthetics of intermedial theater is captured well in the dichotomy of "immediacy" and "hypermediacy" as expressed by Jay David Bolter and Richard Grusin in their 2000 book *Remediation: Understanding New Media*. *Remediation* is an influential text in intermedial theater studies precisely because hypermediacy is very characteristic of conceptions of intermedial theater today.

Of immediacy, Bolter and Grusin write,

> In the epistemological sense, immediacy is transparency: the absence of mediation or representation. It is the notion that a medium could erase itself and leave the viewer in the presence of the objects represented, so that he could know the objects directly. In its psychological sense, immediacy names the viewer's feeling that the medium has disappeared and the objects are present to him, a feeling that his experience is therefore authentic. (70)

In other words, in the context of theater, immediacy names the feeling of a spectator who is fully immersed in the world presented on stage, to the point that she or he is no longer consciously aware that what she or he is watching is staged. Immediacy is clearly the goal of the New Stagecraft. It is Cheney's "unobtrusiveness" and Jones's transparent actor.

Describing hypermediacy, Bolter and Grusin write,

> In its epistemological sense, hypermediacy is opacity – the fact that knowledge of the world comes to us through media. The viewer acknowledges that she is in the presence of a medium and learns through acts of mediation or indeed learns about mediation itself. The psychological sense of hypermediacy is the experience that she has in and of the presence of media; it is the insistence that the experience of the medium is itself an experience of the real. (70-71)

Hypermediacy, by contrast to immediacy, reminds the spectator of the presence of theater itself as a medium. The spectator, even while fully engaged in the theatrical event, nonetheless remains aware – intellectually and/or viscerally – of the mediating presence of theater itself.

Note that the opacity of hypermediacy is not equivalent to the kind of distancing effect, most strongly associated with the work of Bertolt Brecht, that is meant to disrupt immersion in a theatrical narrative so as to cause the spectator to engage with a work on a critical level. Hypermediacy does not necessarily mean that the spectator is any less experientially immersed or any more intellectually critical than in the case of immediacy. Rather, it means that the spectator's experience encompasses an awareness of the process of mediation and the medial event itself, as well as an awareness of whatever is being mediated. This experience of mediation may be just as immersive, both intellectually and viscerally, as an immediate experience, particularly in an environment like today's increasingly digital society or the increasingly

electrical and mechanized society of the late nineteenth and early twentieth century United States, in which mediatization very clearly is itself an experience of the real.

Kattenbelt, in a 2008 article entitled "Intermediality in Theatre and Performance: Definitions, Perceptions and Medial Relationships," writes, "It is because of its capacity to incorporate all media that we can consider theatre a hypermedium, that it to say, as a medium that can contain all media" (23). Recall, too, that Elleström notes that theater is "multimodal on the level of all four modalities" ("The Modalities" 24). What both of these scholars of mediality are getting at is that, in Bolter and Grusin's epistemological sense, theater is always inherently highly hypermedial in that it is always performing multiple and complex operations of mediation.

In Bolter and Grusin's psychological sense, however, a particular theater event may or may not *seem* hypermedial in the experience of the audience or, more precisely, in the experience of any particular member of the audience, as no two audience members ever have entirely identical experiences. This is the approach that Boenisch takes when he writes,

> Intermediality, I suggest, is an effect created in the perception of observers that is triggered by performance – and not simply by the media, machines, projections or computers used in a performance. I conceive of intermediality as much more than yet another aesthetic strategy to be simply devised, or than just the latest media-technological gimmick feature waiting to be switched on as explained by the instruction manual.[13] We could use all of the latest computer techniques on stage

[13] Though I find Boenisch's scholarship compelling overall, the fact that he imagines that new technology can be incorporated into theater this easily and with this little effort or expertise is an instance of the perniscious blindness in theater scholarship to the importance of stage technicians in theater practice and theater history. I can attest from extensive and painful personal experience that using the latest media technology is never as simple as reading an instruction manual and

> without creating any intermedial effect, while intermediality might sneak into a most traditional text-only talking heads drama production. ("Aesthetic" 113-14)

Rosemary Klich and Edward Scheer, in their 2012 *Multimedia Performance*, similar suggest, "intermediality relates to a form of audience reception enabled when a presentation is patterned across various media, creating a multidimensional performance text which comes together in the experience a spectator has of the work" (71). In other words, for Boenisch and for Klich and Scheer, intermediality – at least in the theater – is a personal experience of the viewer, as well as an aspect of the mediality of the theater itself. In this conception, theater becomes intermedial not through the artists' aesthetic choices or use of technology, per se, but when an audience member perceives it to be intermedial. Intermediality in theater, then, is prompted not only by what is happening on stage, but also by what is happening in the world at large and thus in the experiences of theater audiences.

This is why Boenisch can argue, "the effect of intermediality becomes particularly powerful in the socio-cultural environment of the twenty-first century, which has media at its ideological heart" ("Aesthetic" 112). Bolter and Grusin, writing in 1999, similarly note, "In this last decade of the twentieth century, we are in an unusual position to appreciate remediation, because of the rapid development of new digital media and the nearly as rapid response by traditional media" (5). In other words, people living through today's rapid media development and the concomitant development in our understanding of the processes of perception and reception are perhaps particularly apt to perceive, appreciate, and relate to the complex medial interplay that can happen particularly on the theatrical stage.

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flipping a switch. In fact, as we will see in later in the chapter focusing on technology, the practical challenges of implementing new technology can themselves contribute to intermedial experiences for the audience.

A similar case can be made in reference to the people of the late nineteenth century United States. Jonathan Crary, in his *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century*, states "the reduction of the observer to a supposedly rudimentary state, was both an aim of artistic experimentation of the second half of the nineteenth century *and* a condition for the formation of an observer who would be competent to consume the vast new amounts of visual imagery and information increasingly circulated during this same period" (96, emphasis original). Miles Orvell, introducing his *The Real Thing: Imitation and Authenticity in American Culture, 1880-1940*, argues, "The tension between imitation and authenticity … has been a key constituent in American culture since the Industrial Revolution and assumes crucial importance in the shift from the nineteenth to the twentieth centuries" (xvi). Even in 1877, Edward C. Bruce noted, in his *The Century: Its Fruits and Its Festivals, Being a History and Description of the Centennial Exhibition with a Preliminary Outline of Modern Progress*,

> This of ours is a conceited century. In intense self-consciousness it exceeds any of its late predecessors. Its activity in externally directed thought is accompanied by an almost corresponding use of introverted reflection. Its inheritance, and the additions it has made, can make or will make thereto, supply an ever-present theme. It delights to stand back from its work, like the painter from his easel, to scan the effect of each new touch – to note what has been done and to measure what remains. (9)

Intermediality in theater, then, with its reflection on, about, and through new media and new ways of processing information, may have been as apt for the United States in the late nineteenth and early twentieth century as it is today.

In short, theater is an art form of unique medial potential and complexity. There is no more powerful medium within which to explore the relations of technology and humanity or representation and reality – questions which become particularly urgent at moments of profound technological, medial, and perceptual development like today and like the late nineteenth and early twentieth century in the United States.

On today's theatrical stages, at least in mainstream practice, that complexity tends to be reigned in by the ideals of transparent immediacy that we have inherited from Robert Edmond Jones and his New Stagecraft colleagues. Exceptions to this include the avant-garde productions scholars now speak of as intermedial.

The mainstream popular theater of the late nineteenth and early twentieth century United States, on the other hand, both *was* intermedial – in the sense that it embraced theater's inherent multi-modality of materiality, sense-data, space-time, and semiotics – and *felt* intermedial – in the sense that audiences perceived and enjoyed interplays of technology and perception and of reality and representation that are uniquely facilitated by the theatrical stage. In this way, the theater of the late nineteenth and early twentieth century United States offers a model of a popular theater that maintained its cultural relevance by taking a central role in a moment of technological and medial development in a way that mainstream theater has, for the most part, failed to do today.

Before I go further, I need to articulate a few caveats. First, as will be apparent throughout this dissertation, there are many characteristics about theater practice in the United States in the late nineteenth and early twentieth century that I appreciate – its inventiveness, its ambition, its experimentation, and its broad appeal, to name a few. However, in no way do I mean to suggest that theater practitioners today should revert to historical practices in any

particulars. Many characteristics of U.S. theater practice of the late nineteenth and early twentieth century were less than admirable. As noted earlier, the U.S. theater in the late nineteenth and early twentieth century reflected the predominant prejudices of its era, as do the arts in any age. Furthermore, the period's reputation for a paucity of dramatic literature is not altogether undeserved. And the theatrical syndicates that dominated theater distribution beginning in the 1890s may have discouraged artistic innovation by individual artists, though this seems to have been more the case for directors, actors, and playwrights than for inventors and technicians.[14] As is the case in all periods of theater history, theater of the late nineteenth and early twentieth century was particular to its own time. If there is a lesson for us to learn from it, that lesson is not to imitate its specific aesthetics or practices, but rather to imitate its embrace of the medial flexibility and multimodality of theater in a way appropriate to the very different medial, technological, and cultural environment in which we exist today.

I also do not wish to suggest that all of the late nineteenth and early twentieth century theater artists to whose work I look in this dissertation were deliberately creating intermedial work. The term "intermediality" was not even in use at that point. In its present sense, the word is generally traced to the 1965 article "Intermedia" by the Fluxus artist Dick Higgins.[15] Conceptually, people in the late nineteenth and early twentieth century United States were coming to understand media as influential and interrelated cultural forces that operated on multiple material, sensorial, semiotic, and societal levels, but there was not an articulated body of scholarship or critical thought about the topic as there is today. So, while some of the artists of

[14] For various perspectives on the theatrical syndicates and their effect on theater of the time, see Belasco "The Theatrical", Frick 210-18, Klaw, and Lippman.
[15] Higgins himself traces the word to Samuel Taylor Coleridge in 1812 (52), though, as Claudia Georgi notes, Coleridge used the term "not in a sense that we would associate with intermediality today" (24).

the period evidently did have some conscious interest in what we might now call intermedial questions, many focused, rather, on creating work that was technologically innovative, aesthetically exciting, and/or commercially successful. The intermediality that I see in their work is often an unintended consequence, an emergent property born of the period's conjunction of theatrical operations, technologies, and audiences.

Furthermore, in my assertion that mainstream theater today, on the whole, tends not to embrace theater's intermedial potential to the extent that I believe it did in the past, I do not mean to suggest that theater today is therefore inferior. As Higgins notes, "the term ["intermedia"] is not prescriptive; it does not praise itself or present a model for doing either new or great works. It says only that intermedial works exist" (52). If the popular theater of the late nineteenth and early twentieth century United States was, on the whole, more intermedial than most theater today – as I believe it was – it does not therefore follow that it was better by any artistic, aesthetic, technological, or ideological standard.

It is true, though, that theater in the late nineteenth and early twentieth century United States had more cultural cachet than theater does today. Today, as Boenisch writes in his article "coMEDIA electrONica: Performing Intermediality in Contemporary Theatre," "other media have replaced theatre at the centre of cultural attention, with theatrical live performance being shifted to the mere margins of electrONic culture" (38). There are numerous factors in play in this shift, most of which, while they do relate to other media of entertainment and representation, have little to do with the degree of intermediality of the performance event itself. The economics and operations of theater make it virtually impossible for theater to match the ubiquity of mass media like film and television. Changing habits of leisure time activity and cultural consumption make it increasingly difficult to attract audiences to time- and location-specific performance

events. These factors are both outside the scope of this dissertation and outside the control of theater practitioners.

However, live theater's relevance to today's world of diverse peoples and technologies is within our control, and it may be that, in that regard, the hypermediacy of intermedial practices has advantages over the immersive, immediate theater of the New Stagecraft lineage. Mike Vanden Heuvel, in his "'The Acceptable Face of the Unintelligible': Intermediality and the Science Play," writes, "It seems ironic that just those scientific ideas that have established an indelible purchase on the contemporary imagination, as evidenced by their appearance across all the arts, show the most intractable resistance to conventional theatrical representation" (377). Vanden Heuvel suggests – and I am inclined to agree – that intermedial science plays may be better suited to engage with these contemporary issues than now-conventional modes of theatrical storytelling. So, while not pretending that intermediality is any kind of panacea for the economic, social, demographic, and technological challenges facing theater today, I offer the theater of the United States in the late nineteenth and early twentieth century as a historical example of a popular theater that did embrace intermedial practices to successfully engage with technologies, sciences, issues, and audiences of its day.

Chapter 2: Hypermediacy

According to Jay David Bolter and Richard Grusin, in their *Remediation: Understanding New Media*, "If the logic of immediacy leads one either to erase or to render automatic the acts of representation, the logic of hypermediacy acknowledges multiple acts of representation and makes them visible" (33-4). Operationally, Bolter and Grusin associate hypermediacy with "fragmentation, indeterminacy, and heterogeneity" (31, quoting Mitchell). The effect of this fragmentation, indeterminacy, and heterogeneity is that, to quote Boenisch, "The usually transparent viewing conventions of observing media are made palpable, and the workings of mediation exposed" ("Aesthetic" 115). Hypermediacy in theater, then, reminds us of the inherent mediality of theater and of its overlapping and multiple acts of representation, in contrast to the immersive ideal of immediate theater that erases the theater event itself in favor of an ostensibly direct experience of the represented world of the stage. Today, hypermediacy is one way that intermedial theater reflects the fractured, digitized experience of contemporary life. In the context of the late nineteenth and early twentieth century United States, a hypermedial approach positioned theater to play a leading role in a culture in which new media, science, and technology led people to reassess concepts like authenticity, reality, knowledge, communication, and humanity.

The first necessity of this chapter is to examine the concept of hypermediacy and how it was a particularly apt theatrical strategy in the late nineteenth and early twentieth century because it captured something fundamental to the lived experience of the period, just as hypermediacy again does today. Next, I will explain how this concept of hypermediacy is, perhaps counterintuitively, compatible with the narrative of "realism" that is so prevalent both in the writings of late nineteenth and early twentieth century theater artists and critics and in

historical accounts of theater practice of this period. This established, I will then explore the specific elements of theatrical practice, both operational and aesthetic, that encouraged hypermediacy in the period.

Hypermediacy is not only stylistic, but also experiential, particularly if we are talking about hypermediacy in Bolter and Grusin's phenomenological sense. Hypermediacy offers a multiple and contingent experience, dictated by an audience member's own idiosyncratic assembly of disparate elements. Bolter and Grusin find the epitome of hypermediacy today in "the heterogeneous 'windowed style' of World Wide Web pages, the desktop interface, multimedia programs, and video games" (31). Bolter and Grusin are quick to note, however, that this does not mean that hypermediacy requires digital technology or that hypermediacy did not already occur prior to the advent of the internet or personal computing. As Bolter and Grusin note, "the same logic is at work in the frenetic graphic design of cyberculture magazines like *Wired* and *Mondo 2000*, in the patchwork layout of such mainstream print publications as *USA Today*, and even in the earlier 'multimediated' spaces of Dutch painting, medieval cathedrals, and illuminated manuscripts" (31). I argue that in the late nineteenth and early twentieth century United States as well, the popular theater routinely conjured hypermediacy – intentionally and unintentionally – both in the structure of theater events and in operational and aesthetic choices.

Hypermediacy is a concept that covers a lot of ground and can be applied to many different aspects of theatrical performance. It is therefore a concept that will surface again in later chapters in reference to specific productions and stage effects and, in the next three chapters respectively, in reference specifically to stage technologies, theatrical space-time, and human and inhuman actors. This chapter focuses on hypermediacy primarily as it was encouraged by the

operations of the theater industry generally in the late nineteenth and early twentieth century United States.

The hypermedial fragmentation, indeterminacy, and heterogeneity that I see in the theater of the late nineteenth and early twentieth century United States were important and relevant particularly because they were a reflection of fragmentation, indeterminacy, and heterogeneity in the culture broadly speaking, just as intermedial theater today appeals in large part because it reflects and reflects upon a hypermedial experience that has become part of our daily existence. As Lavender writes,

> hypermedial theatre engages the spectator in an awareness of the interaction of different media, hence of media themselves. In so doing, the fabric of the event – its *mise en scène* – suggests a sensorium based upon flow, linkage, interaction and simultaneity. By this means, the production evokes the experience of contemporary culture, and offers an immediate engagement with the form and felt texture of that culture. ("Mise en Scène" 63-64)

Hypermediacy in theater in the late nineteenth and early twentieth century appealed in the same way – as an experience resonant with the experience of culture of the time, broadly speaking.

In the late nineteenth and early twentieth century, as now, new populations, technologies, and social structures disrupted settled patterns of existence. Then, as now, new scientific theories seemed to trend more and more towards a universe that was, to many, existentially confusing. Therefore, then, as now, there was space for the theater of the time to employ its uniquely theatrical ability to generate a complex mix of material, sensorial, and semiotic experiences to explore, within the bounded investigative space of the stage, new experiences of daily life that are harder to grapple with in the unbounded space of the world outside the stage.

In his *The Real Thing: Imitation and Authenticity in American Culture, 1880-1940*, Miles Orvell provides a powerful summary of the scientific discoveries of the period and the destabilizing effect that they had on the popular consciousness of the time:

> The world no longer presented, on closer inspection, an aspect of order and coherence, of solid forms and surfaces; what might previously have gone unnoticed or been written off as anomalous would seem, given new instruments of observation and new theories of the physical universe, to be rudimentary evidence for entirely new hypotheses about the world. What had been invisible was made visible in the form of X-rays; infinitesimal temporal moments were revealed through high-speed photography; the atomic world of the infinitely small, and the astral world of the infinitely large, opened up unimaginably on either side of humanity's normal vision; forces one could not see directly – electricity, magnetic fields – yet had newly visible effects. The mind had to accommodate itself to these changed conceptions of physical reality and to technologies that afforded instantaneous communication across great distances and seemingly unlimited energy sources. (xviii)

Fragmentation, indeterminacy, and heterogeneity were thus increasingly prevalent experiences of life, both conceptually, in the way that science was coming to understand the world, and physically, in the way that new technologies and social forces were changing where, how, and with whom people lived, worked, and played.

This feeling of being slightly unmoored in a world that is changing both in scientific conception and in practical reality probably seems familiar to many of us living in the early twenty-first century. Vanden Heuvel details some of the scientific or philosophical concepts that

are as existentially destabilizing today as late nineteenth and early twentieth century sciences and technologies were in their time: "the complexity of emergent systems, the anxieties over genetic manipulation, the paradoxes of infinity, the chimeric hybrids of transgenetics, the emergence of cyborgs and the posthuman into everyday life, all of which are concerned with hybrid, with multiple flows of information that are complex and thus at some level unreadable, unpredictable" (377). Intermedial theater today finds much of its relevance and power in engaging with these contemporary concerns through the multimodal power of the theater.

I make a similar argument about the popular theater of the late nineteenth and early twentieth century United States. This is not to say that the theater artists of the late nineteenth and early twentieth century were necessarily deliberately mimicking or referencing the period's scientific discoveries or conceptual instabilities. As Jane Goodall writes, of nineteenth century popular entertainments that dealt with evolution, in her *Performance and Evolution in the Age of Darwin: Out of the Natural Order*, "This is not to suggest that such entertainments were theory driven, but rather that they reveal how popular curiosity often operates in the same areas as scientific study" (2). This popular curiosity of the time extended well beyond evolution to encompass all of the transformative technologies, sciences, and concepts of the age. The popular theater of the time reflected this curiosity though hypermedial practices that responded to a hypermedial experience of life.

Hypermediacy and realism

Hypermediacy, though, is not a concept that is frequently applied to the theater of the late nineteenth and early twentieth century. In fact, quite the opposite. The late nineteenth century is

the period when realism came to prominence as an artistic philosophy.[16] As such, realism was a prominent idea in theatrical practice of the time that influenced the work of playwrights, directors, actors, designers, and technicians. As Oscar G. Brockett, Margaret Mitchell, and Linda Hardberger describe in *Making the Scene: A History of Stage Design and Technology in Europe and the United States*, "around 1850, emphasis began to shift to realism and eventually naturalism and remained there throughout the last half of the nineteenth century" (190). Thus, realism and naturalism cannot be ignored in any project that, like mine, aims to uncover any important aspect of theater practice of the late nineteenth century.

Realism, though, at first blush may seem inimical to hypermediacy. In *Modern Drama and the Rhetoric of Theater*, William B. Worthen writes, "realism not only asserts a reality that is natural or unconstructed, it argues that such a reality can only be shown on the stage by effacing the medium – literary style, acting, mise-en-scène – that discloses it … it is the rhetorical purpose of realistic theater to assert the perception of verisimilitude as a sign of our proper engagement with the play" (14). When he speaks of effacing the medium, Worthen is clearly speaking of immediacy, not hypermediacy, in Bolter and Grusin's sense.

However, I nonetheless believe that the realism specifically of the late nineteenth and early twentieth century United States was compatible with hypermediacy as well, for two reasons. First, because "realism" at the time did not always carry the same connotation that Worthen puts on it.[17] Second, because even in the case of the kind of realism that Worthen describes, immediacy and hypermediacy are not mutually exclusive.

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[16] See, for instance, Brockett, Mitchell, and Hardberger 208-12; Mary Henderson 496; Watermeier 468; and Wilmeth 171.

[17] Even within the broad definition offered by Worthen, there are various identifiable sub-genres of realism. Brockett, Mitchell, and Hardberger, for instance, differentiate between historical realism – in which the emphasis is on historical accuracy (191-208), social realism – in which

Artists of the late nineteenth and early twentieth century United States were, indeed, quite fond of describing their work as "realism" or "realistic." Many of these period artists, though, when they strove for "realism," were not trying to create either a perfect reproduction of external reality or a flawlessly constructed fictitious environment. Rather, they wanted to evoke a "real" emotional and/or visceral response within the audience.

It is in this sense of "real" that Lincoln J. Carter could say that "as far as possible realistic effects are attempted to be secured" (1) in reference to an invention that relies on a light, a glass plate, a sponge, and lampblack to simulate an approaching train and Menlo E. Moore could speak of increasing "the realistic effect" (2) of an invention designed to suspend an actor over the audience. Neither of these effects could reasonably be called "realistic" in any sense related to recreating external reality or to generating a perfect, self-contained fictional world.

"Realism" in such cases refers not to mimicking an external object or environment or to creating a convincing simulacrum, but to causing an audience member to react viscerally, *as if it were real*, to a situation that the audience member knows intellectually to be false.[18] Gwendolyn Waltz, in her 1991 doctoral dissertation "Projection and Performance: Early Multi-media in the American Theatre," imagines an audience member's response to the type of "realistic" effect claimed by Carter, Moore, and their ilk:

> The spectacular effect evoked a true emotional reaction from the audience: for a moment, awareness of the stagecraft was forgotten and the spectators responded directly to a sensory stimulus. After a startled moment or so, the source of this

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the emphasis is on presenting a true representation of the real world (208-11), and naturalism – in which the emphasis is on creating a stage world so precise as to be indistinguishable or even inseparable from reality (211-12).

[18] For a discussion of how this concept of "realism" manifested in early film, see Paul Young 251-52.

> stimulation was recognized as artificial – as stage machinery – and was, finally, evaluated on the intensity and duration of its effect: how well it fooled the audience into temporarily reacting to it as though it were real. (185, emphasis original)

The success of these "realistic" effects lies not in immersing the audience member fully in a simulated experience (immediacy), but in encouraging the audience member to experience – either simultaneously or sequentially – both reality and theatricality (hypermediacy).

There were also, of course, artists and critics of the period for whom "realism" did mean something akin to Worthen's sense of transparent verisimilitude. It is this sense in which an 1883 article in the *Boston Daily Advertiser* commends a production of *Pounce and Co* because "the factory scene of the second act, with its real silk looms run by electricity, was a good piece of stage realism" ("Music and the Drama"). Similarly, a critic describing a production of *The Royal Pass* in the Milwaukee Sentinel in 1892, writes,

> Its realistic railroad scene in the third act, since this is a period when stage realism is something more than appreciated, ought of itself to be enough to secure it a large audience … The railroad scene in "A Royal Pass" as produced by Geo. C. Staley, is done with real working engines that run on iron tracks – real whistles that are blown with steam which is generated in the boilers of the engines. In fact, as a leading journal says, 'The locomotive race is more of the genuine article than a stage effect.' ("Theaters to Reopen")

These effects are "realistic" in as much as they accurately recreate something in the real world to an impressive degree of completeness and detail.

Even this kind of realism, though, while it strives for or even achieves immediacy, does not negate the possibility of concomitant hypermediacy. In this, the realism of the late nineteenth and early twentieth century stage can be usefully likened to trompe l'oeil. Realism, like trompe l'oeil, is a seemingly straightforward aesthetic technique, the operations of which can nonetheless be surprisingly complex. Caroline Levine, in an article entitled "Seductive Reflexivity: Ruskin's Dreaded Trompe l'oeil," argues, "In defiance of its reputation as a low and vulgar art form, trompe l'oeil emerges as a peculiarly powerful reflexive project, a mimetic enterprise that leads its viewers to a critical self-consciousness about the construction of representation" (365). On the surface, trompe l'oeil, concerned as it is with creating a perfect simulation of reality, looks like an experience of immediacy. And yet, trompe l'oeil, like realism, depends for its effect on a viewer's concomitant awareness of the fact that the seeming reality is an illusion. This reflexivity, in which the very perfection of a representation highlights its own mimetic function, resonates with Bolter and Grusin's hypermediacy, which makes visible the act of representation.

This same reflexivity is at work in the realism of the late nineteenth and early twentieth century stage. This effect is what Bert O. States, in his *Great Reckonings in Little Rooms: On the Phenomenology of Theater*, identifies in the acting of acclaimed late nineteenth and early twentieth century performer Eleanora Duse. Duse is remembered as among the first and most influential artists who adopted a realistic style of acting.[19] Of Duse's acting, the French theater critic Felix Duquesnel is reported to have said, "I never recognize her. Each time I see her in a new part, she seems to be a completely different person … She is no longer herself when she plays a character; she becomes the character she plays to such an extent that she herself

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[19] See, for instance, Brockett and Findlay 93-94; Brockett and Hildy 383; and Watermeier 465-66, 468, 476.

disappears entirely" (quoted in Guthrie 16). Yet, States writes, "[Duse] had her moments, her crescendos, in which the disappearance was so complete that the artist reappeared on the other side of the illusion – that is to say, stunned the audience with the fidelity of the artifice" (167). This realism, by the very perfection of its reproduction of reality *on stage*, can remind us of the presence and the act of mediation of the stage itself.

For an illustrative example of how this effect can work through scenery, as well as through a performer, I turn to David Belasco, whose work is often seen, whether positively or negatively, as the acme of late nineteenth and early twentieth century realism. In 1912, Belasco produced Alice Bradley's *The Governor's Lady*. One scene in *The Governor's Lady* is set in a Childs Restaurant, which was a real chain restaurant of the day and one of the first chain restaurants in the country (Essin, "Designing" 39). Belasco reportedly obtained the scenery and props for the scene from the same supplier who outfitted real Childs Restaurants ("Belasco Realism"). The effect of this scenery was so convincing that it could even be said by one commentator of the period that Belasco "merely bought a Child's Restaurant, complete in all details, and knocking out the fourth wall, set it up upon the stage" ("The Conversion"). This set, though, impressed not because audiences thought that it really *was* a Childs Restaurant, but because audiences knew that it really *wasn't* a Childs Restaurant, but only appeared to be one, down to the minutest details. Like a trompe l'oeil painting, in referring so perfectly to the real, Belasco's Childs Restaurant set simultaneously called attention to itself as representation.

Belasco's Childs Restaurant scene of *The Governor's Lady* also resembles some deliberately hypermedial works of contemporary intermedial theater, in that the real thing and the represented thing are explicitly and deliberately juxtaposed with one another. Andy Lavender, for instance, describes The Builder's Association's *Jet Lag: "Part One: Roger*

Dearborn" (1998-2000), in which, thanks to a live feed projection from an onstage camera, the audience can view simultaneously a live actor performing in front of a video camera and the video that results from that performance as viewed through the camera. According to Lavender, "As mediated by the camera the scene is convincingly real. As hypermediated by the theatre, the scene is palpably fabricated. The spectator delights in the fact that an actor and some technicians have cooked up the effect with a spray-mister and loud noise" ("Mise en Scène" 58). *Jet Lag*, of course, differs from *The Governor's Lady* in that *Jet Lag* offers the audience simultaneous views of the media construct and the process by which it is constructed, whereas the audience of *The Governor's Lady* sees only the finished stage reproduction and not the process by which it was accomplished.

And yet, the audience at *The Governor's Lady* would also have been familiar with real Childs Restaurants. Indeed, there was a Childs Restaurant just around the corner from the Republic Theatre where *The Governor's Lady* premiered. As Christin Essin notes in her "Designing American Modernity: David Belasco's *The Governor's Lady* and Robert Edmond Jones's *The Man Who Married a Dumb Wife*," "Many had passed the Childs on their way to the theatre, and even more would likely pass by after the performance, some perhaps stopping to enjoy a late-night meal before returning home" (32). Thus, *The Governor's Lady* emphasizes the artificiality of its setting just as effectively as does *Jet Lag*, though in a different way. Where *Jet Lag*'s audience experiences both views at the same time, *The Governor's Lady*'s audiences experienced reality and reproduction sequentially, seeing virtually the same Childs Restaurant both in the theater and on the street outside the theater.

In this way, it may even be that the hypermediacy of *The Governor's Lady* has a more lingering effect than that of *Jet Lag*. Whereas *Jet Lag*'s audiences can choose to end their

experience with the fall of the curtain, *The Governor's Lady* extends the audience's experience into world outside the theater. In the upcoming chapter on space and time we will see more of this kind of conceptual interplay between the space-time of the theater and the space-time of the world outside the theater.

Furthermore, this sequential experience of "the same" Childs Restaurant both inside and outside the mediating frame of the theatrical stage does not limit itself to highlighting the constructed nature of the Childs Restaurant as seen on stage. It suggests, too, that the offstage Childs Restaurant may be equally constructed. Today, we can look back at Childs Restaurant as the forebearer of the innumerable patently constructed chain restaurants with which the United States is now saturated. In this context, Belasco's realistic staging of a restaurant that itself bordered on the unreal seems both profound and prescient.

In short, however prevalent a rhetoric of "realism" was at this period, it does not imply that theater practice was thereby restricted to the kind of transparent immediacy that we tend to associate with realism today. I certainly do not mean to claim that every realist production necessarily ended in hypermediacy, but at least part of the appeal of realism at the time was definitely hypermedial. Far from immersing audiences in a represented reality, realism of the time, however it was defined, often depended on an explicit awareness of the process of representation that is required for the presentation of the real.

Hypermediacy in the late nineteenth and early twentieth century U.S. theater

Today, intermedial theater artists are generally deliberate in their appeal to the logic of hypermediacy. In the late nineteenth and early twentieth century, hypermediacy may have been an intentional choice for particular productions, but as a characteristic of theater practice as a

whole it was also an emergent effect encouraged by the commercial and operational structures of the profession. This does not preclude the probability, though, that the forms encouraged by these operational structures succeeded commercially at least in part because their hypermediacy appealed to contemporaneous audiences.

One of the most significant theatrical forms characteristic of theater in the late nineteenth and early twentieth century United States was the variety show, which, in the previous chapter of this dissertation, we saw rise to prominence in the wake of the Panic of 1873. The variety show is, by its very nature, fragmented and heterogeneous. Alongside skits and scenes from longer plays both classical and contemporary, variety shows could include such diverse performances as magic acts, jugglers, acrobats, dancers, comedy routines, animal acts, musical numbers, and, beginning in the mid-1890s, films. To give just one typical example, *The Grand Rapids Press* (Grand Rapids, MI) describes a variety show that played there in March of 1893:

> Among the sensations are [sic] Marvelous Melville, who does some thrilling feats upon a trapeze swung from the dome of the theater. Other cards include Thompson and Duclos, in songs, parodies and banjo duets; Mlle. Zittolla, the character comedienne, in an original act of mirth; the LeArdo Sisters, the celebrated French statue artists, who appear in conjunction with Solhke's grand ballot [sic]; the Sheridans, Phil and Crissie, in blackface comedy; and Flatow, the wonderful. A lively burlesque, "The Merry Buccaneers; or, Love and Duty," will conclude the entertainment. ("Theaters")

The casual reference to blackface comedy is a reminder not to romanticize a theater that was, in many ways, problematic and fraught with prejudice, but this lively combination of disparate

performances is otherwise simultaneously appealing as entertainment, reflective of the society of the period, and conducive to hypermediacy.

Mary Simonson writes, in her 2013 *Body Knowledge: Performance, Intermediality, and American Entertainment at the Turn of the Twentieth Century*, "In a series of short acts presented at breakneck pace, revues bombarded viewers with aural and visual stimuli, replicating the experience of urban life" (12). Nearly 100 years before Simonson, Caroline Caffin writes, in her 1914 book *Vaudeville*,

> More or less truly [vaudeville] throws upon its screen the current sentiment of the day. We cannot escape from its influence. The echoes of its songs are in our streets, our homes, our ballrooms, we hear them at our parades and public ceremonies and here, as I write these words, far from the busy streets, amid woods and hills, the sounds are borne to me over the water of young voices chanting in chorus, and the song is a song of Vaudeville. (226-27)

This link that Simonson and Caffin, writing nearly a century apart, both identify between the turn of the century variety show and the experience of living at the turn of the twentieth century parallels the link that many scholars see between intermedial theater today and twenty-first century life. Freda Chapple and Chiel Kattenbelt, for instance, note, "Intermediality is the whole recreated in performance: it is an everyday life experience of reality. This seems to us to be particularly appropriate to the twenty-first century, where we inhabit a world of the intermedial, within which we perform our lives and attempt to come to some understanding about our own reality" ("Key Issues" 24). Like the intermedial theater of today, the variety show of the late nineteenth and early twentieth century United States can be read as a synecdoche of the culture

that gave birth to it, appealing to audiences of its time because it feels experientially familiar to them.

Notably, from a contemporary perspective, many variety acts do not sound like what we would today call "theater." However, this should not preclude us from including them in our conception of theater in the late nineteenth and early twentieth century. As Elleström notes, media like theater are cultural constructs, defined as much by a set of aesthetic standards as by their modal characteristics. As such, they are subject to change with the evolution of culture. "There is a strong tendency," writes Elleström, "towards treating a medium as *a* medium, or an art form as *one* form of art, only when certain qualitative aspects can be identified. Such aspects are, of course, not eternally inscribed but formed by conventions" ("The Modalities" 25, emphasis original). In the case of theater, there has certainly been significant evolution in these qualitative aspects, so that performances that are today seen as media distinct from theater were then conceptually encompassed by theater. Indeed, the New Stagecraft, which in 1915 ushered in the aesthetic ideal of immersive unity that spelled the end of the hypermedial staging practices that interest me in this dissertation, was an aspect of this evolution in our conception of theater as a medium.

According to Lawrence W. Levine, in his *Highbrow / Lowbrow: The Emergence of Cultural Hierarchy in America*, around the turn of the twentieth century, culture in the United States was becoming for the first time split between "lowbrow" culture that addressed the general population and "highbrow" culture, suited for a culturally educated elite. This is an attitude we hear from David Belasco, for instance, when he writes, in a 1904 article in *The Cosmopolitan*, "Certain minds are blessed, or, if you will, cursed, with an oversensitive veneration for whatsoever is true and beautiful" ("The Theatrical" 193). It was at this moment of

cultural division that the different parts of the variety show began to go their separate ways. The theater that we know today, dominated by dramatic literature, staked out a position on the highbrow side of the divide, leaving other variety acts, like magic, comedy, and acrobats on the lowbrow side. The New Stagecraft was and remains an aspect of a philosophy of theater practice that embraced this newly elite cultural status. This furthermore remains an aspect of theater practice that often stands in the way of attempts to cultivate new audiences or re-establish theater's cultural prominence in today's world of diverse audiences and diverse media of entertainment and communication.

Levine believes that the upper classes of the early twentieth century, feeling threatened by immigration and industrialization, used culture as a means of excluding "strangers," such as immigrants, laborers, and people of color, from their enclaves. Among other things, these upper classes worked "to transform public spaces by rules, systems of taste, and canons of behavior of their own choosing" (*Highbrow* 177). The conception of theater embedded in the New Stagecraft's design philosophy requires this kind of consecrated cultural space and it assumes an audience equipped to decode the New Stagecraft's particular poetic subtlety, or at least an audience that is willing and able to be trained to do so. As Christin Essin says, in her *Stage Designers in Early Twentieth-Century America*, "designers 'encode' and spectators 'decode' stage images" (55). But only a particular, elite subset of the population, now, as in the early twentieth century, knows the behavioral guidelines and aesthetic conventions necessary to successfully decode New Stagecraft stage images. This is not to say that others cannot learn this code, but today, when theater has little cultural cachet, is expensive and inconvenient relative to

other media, and makes a habit of shaming patrons who behave improperly,[20] many people have no incentive to learn. And thus mainstream theater today is too often left struggling with a homogeneous audience in a heterogeneous world. Here is all the more reason for us to look backwards to a period when theater, more broadly defined, was accessible through broader practices to a broader population.

This is all to say that, in examining the theater of this historical period (or, indeed, of any historical period), we must take the definition of the art form as it was accepted at the time, not as it is accepted now and recall as well that an art form as broad and complex as theater will always have grey areas at the periphery. In any case, when the variety show was at its height, Levine's cultural divide between highbrow and lowbrow was still nebulous, so there was room for a conception of theater as a medium that accommodated all the disparate elements of the variety program. It was not the theater of unity that we see today, but a theater of fracture, disunity, and experiential multiplicity.

In fact, variety as an ethos of the theater was not confined to the variety show, per se. Even productions of full-length scripts often included introductory acts or entr'acte entertainments that contrasted with or interrupted the flow of the main drama (Lewis 9). These scenes explicitly reject any premise of the theater as a unified immersive experience. Sitting around and within the larger drama, they assert their own status as entertainment and representation and thus remind us as well of the mediating function of the theater event to which they relate, increasing the hypermediacy of the entire performance event, regardless of the immediacy of any individual scene.

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[20] See, for instance, Piepenburg, a 2015 interview with Patti LuPone about the time she snatched a phone away from a texting audience member during a performance of *Shows for Days*, and Robbins, who calls an audience member "dummy" because he tried to charge his cell phone at on onstage outlet during a 2015 performance of *Hand to God*.

Scene changes at that time, too, were often almost mini-scenes in their own right. Today, one of the central tenants of stage design and stage management is to minimize the duration of scene changes so as not to break the moment. A ten-second scene change today can feel interminable because the scene change is seen as a necessary evil, to be minimized when possible and endured when necessary.

Generally speaking, this attitude means that, not only do we minimize scene changes in our own time, but we also tend to neglect them when studying other historical periods. So scholars today often ignore the scene changes of the late nineteenth and early twentieth century. When they are mentioned at all, it is almost invariably to bemoan them as clumsy and disruptive. Probably some scene changes of the day were merely clumsy, but it is wrongheaded to paint all scene changes of the period with the same brush.

In the late nineteenth and early twentieth century, in contrast to today, a thirty-second scene change was considered brief (Krows 237). The scene for the famous chariot race in *Ben Hur* reportedly required eight minutes to set ("Some Stage Effects" 119). While some critics deplored the length of these changes,[21] for many artists the stage wait was just another aspect of performance to be deliberately exploited for effect or for applause. The scene change for *Ben Hur*, for instance, far from detracting from the subsequent scene, served on the contrary to emphasize the difficulty, the mechanical ingenuity, and therefore the mediality of the chariot scene that followed the scene change.

Arthur Edwin Krows, in his 1916 *Play Production in America*, which is part technical manual and part anecdotal theater history, notes, "the practice of nineteenth century managers, whereby no one entered upon a scene after the curtain rose until every detail of the setting had

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[21] See, for instance, Cheney, *The Art* 158.

been observed by the audience is commended. The setting thus is comprehended once and for all" (172). In other words, per Krows, the scene change was virtually a scene in its own right, occupying a similar medial position to the entr'acte. The scenery does not exist, as in New Stagecraft design, solely to support the work of the actor. It exists also as a crucial, self-contained element of performance.

As mini-performances in their own right, these scene changes are explicitly about representation. Their appeal is in the ingenuity with which they reproduce, an appeal that functions only by first reinforcing the fact that it is a reproduction. When the scene change transitions back into the main drama, this medial opacity is carried with it. In the case study at the end of this chapter, I will expand upon one of the period's most famous scene change technologies, Steele MacKaye's double stage. It's an invention that demonstrates the importance the scene change carried at the time, both as entertainment in its own right and as a hypermedial reminder of the representative function of theater as a medium.

Taken together, scene changes, opening acts, and entr'actes demonstrate that variety, in the late nineteenth and early twentieth century, was not just a particular theatrical form, but a fundamental aspect the entire medium of theater at this period. When variety acts, scene changes, opening acts, and entr'actes rub up against one another, they create a fragmented and heterogeneous experience. Seen one after another, they set up a hypermedial system of both contrast and continuity in which full medial transparency is neither possible nor desirable.

This is a dynamic that theater, as a medium, is uniquely able to set up because of the myriad multi-modal possibilities it offers, per the concept of medial modes propounded by Elleström and described in the previous chapter. Materially, the dominant modality of these variety acts varies between the solid three-dimensionality of scenery, the sound waves of musical

performances, the projected light of films, and the particular materiality of the human bodies of the performers. Sensorially, they variously emphasize sound, as in musical performances, spoken scenes, and verbal comedy; sight, as in scene changes, films, magic shows, animal acts, and dances; and a particular type of embodied mirroring response in the audience, as can happen in highly physical performances like physical comedy or acrobatics. Spatiotemporally, variety acts create contrasting impressions of space and time in various ways, from the real and coherent space and linear time of a dramatic scene; to the represented three-dimensional space that contrasts with the real two-dimensional screen of a film; to the temporal tension between the real passage of time and the frozen actors in the performances of statue artists. Semiotically, variety acts vary considerably in complexity as well as method of signification in Peirce's terms. Dramatic scenes rely heavily on the symbolic sign function of the words, but necessarily also involve multiple iconic and indexical signs in the form of props, set pieces, sound effects, and human actors. Scene changes and statue artists, for the most part, operate as iconic signs. Animals in animal acts might variously operate as iconic signs or indexical signs, depending on whether we see in the animal a resemblance to the human or evidence of the human's training. Still other variety acts, like jugglers or acrobats may have little explicit semiotic significance at all. It is the wonderful multiplicity of theater as a medium that allows for this fantastic diversity of variety acts.

Gilbert Seldes writes in his 1924 *The 7 Lively Arts: The Classic Appraisal of the Popular Arts*, "The good revue pleases the eye, the ear, and the pulse; the very good revue does this *so well that it pleases the mind*" (133, emphasis original). When all the disparate performances and multi-modal forms of expression found in variety shows are set alongside one another, the result is a delightful kind of hypermediacy in which a plethora of modes of medial expression build

upon and contrast with each other to create a vibrant experience that engages the body, the senses, and the minds of the audience with the act of medial representation.

This is a kind of sequential hypermediacy, in which each act is related to each other not by deliberate design or inherently meaningful resonances, but by often-coincidental proximity and by whatever idiosyncratic connections between them each individual in the audience makes. This dynamic is highly characteristic of theater as medium generally, though it is often ignored or suppressed in the immediacy-focused aesthetic practices of theater today.

In his *The Haunted Stage: The Theatre as Memory Machine*, Marvin Carlson describes a process by which an individual's personal history as a theater attendee builds up a unique intertextuality of performance. This intertextuality is born not of any particular or inherent connections between different works of theater, but rather of coincidental connections made in the mind of each individual, based on, for instance, other plays in which that audience member has seen a particular actor or other plays that audience member has seen in that theater space. As Carlson puts the case, "any theatrical production weaves a ghostly tapestry for its audience, playing in various degrees and combinations with that audience's collective and individual memories of previous experiences with this play, this director, these actors, this story, this theatrical space, even, on occasion, with this scenery, these costumes, these properties" (165). The sequential hypermediacy of the variety show is a kind of miniaturized, sped up version of the built-up individual lifetime of intertextuality of performance that Carlson describes. Thus, this hypermediacy of the variety show is a magnified version of hypermediacy inherent in theater as a whole.

Not only is the variety show experience not unified for each viewer, it is also not unified between viewers. Each audience member has a more individualized experience than is typical of

unified narrative drama, based on which portions of the program attract that individual's attention, which acts or types of act that individual has seen before, and even at what point in the program that individual arrives at the theater, leaves the theater, or chooses to get up to go the bathroom or take a smoke break. Lawrence Levine alludes to this in his "The Folklore of Industrial Society: Popular Culture and Its Audiences," when he notes, "In confronting popular culture, audiences did not necessarily encounter a coherent whole but a series of possibilities with which they could interact" (1398). The variety theater event thus is not fragmented only in itself, but also in that the experience is fragmented between individual audience members. This might remind us, on a smaller scale, of such contemporary individualized hypermedial experiences as the nonlinear hyperlinks of the internet in which "The multiplicity of windows and the heterogeneity of their contents mean that the user is repeatedly brought back into contract with the interface" (33) or the "hypermediated web site … where the user can select from a 'jukebox' of webcam images to generate her own paneled display" (9) described by Bolter and Grusin.[22]

The hypermediacy of the theater of the period was also encouraged by the operational conventions of the theater industry as a whole, as well as by the conventional variety structure of the individual theater event. Variety shows and combination shows, the dominant theater forms of the period, were, for the most part, touring shows. This introduced all kinds of constraints upon theater production with which we are unaccustomed to contending today. These constraints, too, contributed – albeit unintentionally – to the period's general tendency toward hypermediacy.

[22] Unsurprisingly, given that Bolter and Grusin's book was published in 1999, the specific hypermediated website they reference is no longer active, but websites operating along similar principles continue to thrive.

Virtually every touring show of the time rode the rails, relying upon the railroad to transport cast, crew, scenery, and props from one venue to the next. Indeed, without the transcontinental rail network that had only recently joined the nation's coasts with the 1869 Golden Spike at Promontory Point, Utah, the dominance of the touring show in the theatrical market would not have been possible. As Postlewait writes, "If there is one real thing that all performers had in common during this era, it was touring. Everyone – and every kind of company – toured: famous stars, vaudevillians, black performers on their separate booking circuit, and circuses" (150). This meant that the rail system exerted a profound influence particularly in the United States, not only on where and when theater artists played, but also on what they brought with them and on what audiences saw on stage. This influence was particularly important on scenery, because scenery is generally of a scale to be constrained by the size and shape of a train car, but other aspects of the performance could be affected as well.

Krows notes, in his chapter on "How Scenery is Made," "The American carpenter makes all his pieces of a size that will go through a car door that measures five feet nine inches" (142). The late nineteenth and early twentieth century scenic artist Edward G. Unitt similarly states, "the wall scenes must be folded so that they can be put through the six foot doors, for scenery must travel" (quoted in Humphrys vi). This makes a big difference aesthetically. Today's closest equivalent to this constraint is the number of designers today who routinely scale their designs to be built out of standard 4' x 8' sheets of plywood. In the case of the 5' 9" train car door, it required designers either to constrain themselves to small pieces of scenery or, as seems to have been more often the case, to accept visible seams, folds, and joins in set pieces that are meant to represent solid objects, which Krows admits "are not easy to conceal" (142). The case was undoubtedly even worse with weight-bearing set pieces. Krows, for instance, describes a flight of

stairs, built in pieces and assembled with pin hinges (142). The instability of these stairs must have been perceptible, not only in the visible seams, but also in the creaks, squeaks, and vibrations that must certainly have shaken a staircase built in this manner as soon as anyone climbed it. Krows himself clearly understands this, as even while describing the importance of turntables to theater practice of the time (103-07), he simultaneously bemoans the shaking of the scenery when the turntables move so that it "became palpably unreal" (106).

Unstable scenery, of course, is a factor of theater in every age. Any theater patron today has doubtless heard the creaking of an imperfectly built platform or seen a door slam shake a flimsy wall. I have personally put on stage any number of imperfect set pieces in my years as a scenic carpenter struggling with tight deadlines, small budgets, inexperienced and underpaid crews, and substandard lumber warped by the elements or battered by years of frugal reuse. In the late nineteenth and early twentieth century United States, though, the dominance of the road meant that virtually every set installation was profoundly temporary, to a much greater extent than scenery is today. The resulting aesthetics of instability must have been far greater and more ubiquitous than we are today accustomed to in any but the most poorly funded theaters, or those ideologically devoted to a poor aesthetic, such as El Teatro Campesino or the San Francisco Mime Troupe, in which cases the poor aesthetic is, in fact, an explicitly hypermedial strategy designed to expose the workings of performance. The fact that essentially all scenery in the late nineteenth and early twentieth century was unstable created an environment in which exposed mediation of this kind is not a deliberately transgressive aesthetic strategy but an expected, though not necessarily desired, aspect of theater generally.

The impact of the railroad was also sometimes felt on performances in other ways. Krows recalls, in a chapter about show routing, "I have seen a company omit whole scenes and even

destroy intelligibility of a play in order to conclude it in time to make the transfer and the train" (262). It was practices like this that caused many theater critics of the time, as well as many theater scholars of the present, to deplore the shameless commercialism of the touring theater acts. This is not to say, of course, that late nineteenth and early twentieth century theater artists were routinely massacring their scripts to make their trains. One hopes and historical records suggest that these were relatively isolated incidents.

I certainly do not mean to suggest that it is or should be a desirable or even acceptable practice for a touring company to pack up and leave in the middle of a performance in order to catch a train. But in reference to hypermediacy, it is hard to imagine a more effective means of exposing theater's uneasy vacillation between reality and unreality. Any sense of reality of the world of the play would be violently disrupted by this truncation, acceleration, or omission of scenes, reminding viewers of the inherent unreality of the play's fictional world. Furthermore, the fact that theater itself is governed not by the situation defined on stage but by the exigencies of the real world is impossible to deny when the actors rush offstage mid-scene to get to the train station. The world on the stage cannot sustain "reality" when the stage itself cannot avoid reality.

This aesthetic of instability, unintentional though it may have been in the case of these late nineteenth and early twentieth century railroad-based touring shows, conveys an unavoidable awareness of the mediation of the theater. The fact that the extreme instability of the scenery in this period was merely a heightened version of the same scenic instability that is hard to avoid in any era is just another proof that theater is, to a large extent, naturally inclined towards hypermediacy. Just underneath the surface of the constructed stage world lurks the real world, revealed in every tremor of a fragile wall and every creak of an unstable staircase.

Robert Edmond Jones, who we recall as a founding father of the New Stagecraft, writes, of the experience of walking behind the scenes in a dark theater, “I walk around the setting and go behind it. There is no back. Only a wooden framework covered with canvas, stamped with the name of the scene-painter and blackened by the handling of numerous stage-hands. Behind this scene, which will presently seem so real when viewed from the front, there is nothing. Nothing at all” (152). Poetic, certainly, but Jones is wrong. Behind the scenery is everything. Behind the scenery are the minds that conceive it, the people who build it, the actors who walk upon it, the trains that carry it. Behind the scenery are the medial workings of the theater. Behind the scenery is hypermediacy. And through the cracks between the pieces mandated by the trains’ 5’ 9” doors, the audiences of the late nineteenth and early twentieth century United States could not help but see it.

Furthermore, it was not just theater that rode the rails. Trains were the lifeblood of the country’s cultural economy, social economy, consumer economy, and political economy. If this stage world that peddled a blatantly fractured reality travelled in the same circles and by the same methods as did off-stage commerce, then the instability of the stage might begin to rebound back upon and destabilize the real world.

Recall that Jean Baudrillard, in his *Simulacra and Simulation*, argues,

> Disneyland is presented as imaginary in order to make us believe that the rest is real, whereas all of Los Angeles and the America that surrounds it are no longer real, but belong to the hyperreal order and to the order of simulation. It is no longer a question of a false representation of reality (ideology) but of concealing the fact that the real is no longer real, and thus of saving the reality principle. (12-13)

As Bolter and Grusin point out, though, this is not entirely the case, at least not now that our society has settled into hypermediacy as an unavoidable fact of life. “Disneyland does not conceal,” Bolter and Grusin write, “rather it exposes, even celebrates, the fact that contemporary American spaces are media space” (174).

Similarly, the effect of the railroad upon the theater of the late nineteenth and early twentieth century does not conceal, but exposes, the railroad’s parallel effect upon the spaces, times, and structures of the nation as a whole. In order to transport, the railroad must dissect. If cross-country train travel fractured the theater, then train travel might fracture other things as well. As filmmaker and theorist Jean Epstein wrote in 1922, “Man has seen a landscape not only with his naked eyes while walking, but blurred by speed through the window of a train, with eyes bitten by wind and dust from the front seat of an automobile” (6). This is a most profound form of intermediality, in that the medium, in this case, exposes not only its own manipulations of perception, and not only the manipulations of other media, but also those of the world at large.

In contending that unstable scenery participated in the period’s prevailing hypermedial aesthetic, I am not advocating for poorly built scenery or claiming that productions of the time were improved by its creaks, squeaks, and groans. Just as intermediality is not a value judgment, hypermediacy is not inherently better or worse, artistically speaking, than immediacy, so to say that a production or a period in theater history is hypermedial is neither to praise it nor to damn it.

But the fact that this unstable scenery, which I contend contributes to hypermediacy, was itself necessitated by the very operational and logistical processes of theater as a whole, suggests, perhaps, that hypermediacy is a natural condition of theater. A prevailing aesthetic, such as the one we have today, that prioritizes immediacy, is challenging because it sets itself in opposition

to the hypermedial tendencies of theater as an inherently intermedial art form. An aesthetic that accepts and embraces theater's instability may be creatively liberating.

Furthermore, theater artists and technicians of the time had no intent toward hypermediacy or intermediality when they built their touring shows. They just wanted their scenery to fit on the train. In one sense, then, the cracks in the scenery, the creaks in the platforms, the creases in the sky drops are all failures. The scenery promises reality, it strives for reality, and too often it falls short. Here we run into another very interesting topic in contemporary performance studies – failure.

Sara Jane Bailes, in her *Performance Theatre and the Poetics of Failure*, has a very optimistic conception of failure. "A failed objective," she writes, "establishes an aperture, an opening onto several (and often many) other ways of doing that counter the authority of a singular or 'correct' outcome. Whilst an intended outcome imagines only one result, the ways in which it might *not* achieve that outcome are indeterminate" (2, emphasis original). Theater in particular, according to Bailes, stages its own failure in its disappearance even as it comes into being, so experimental theater practices that emphasize this are playing on theater's inherent failure to ever fully be the thing represented (7). As Bailes puts it, "Regardless of its emphatic presence and authenticity, then, live performance (re)produces its own fundamental, provisional and often spectacular ineptitude. It makes failure occur just as failure enables its occurrence (7). "Spectacular ineptitude" strikes me as a particular apt description for many scenographic elements of the late nineteenth and early twentieth century United States, which combined lofty ambitions with insurmountable material constraints. And Bailes's contention that failure is an inherent characteristic of live theater is similar to my contention that the fractured hypermediacy

of unstable touring shows is an exaggerated version of the fractured hypermediacy towards which theater naturally tends.

Bailes's point is also strikingly similar to Boenisch's contention that, in intermedial theater, "The plurality of the perspectives might also spill over, crack and produce an untidy mess of meaning, either as a calculated result or as a somewhat subversive side effect. It is at this busy multi-dimensional junction of perspectives that intermediality and theatrical performance meet on the same platform" ("Aesthetic" 114). As failures, then, these unstable set pieces opened up at least the potential for the multiplicity of indeterminate and heterogeneous audience experiences characteristic of intermedial theater.

In this chapter, I have argued that the structures, operations, and aesthetics of the late nineteenth and early twentieth century theater in the United States were predisposed to hypermediacy and thus apt to intermediality. In doing so, I credit it with a level of interest and importance it is rarely granted. The theater of the late nineteenth and early twentieth century United States has dealt with considerable contempt from critics over the years for being commercial and shoddy and for pandering to a boorish audience. This was as true at the time as it is today. Cheney, for instance, writes in his 1917 *The Art Theatre: A Discussion of its Ideals, its Organization and its Promise as a Corrective for Present Evils in the Commercial Theatre*, "The American commercial theatre, organized as an all-embracing, interlocking system, is conducted as a speculative institution, with its first object the making of profits … Insofar as it touches within the boundaries of the art that is both true to life and spiritual, it does so through chance inspiration and accidental co-ordination" (15). The actor James O'Neill, in 1907, claimed, "I have for a number of years deplored the degeneracy of dramatic art, fostered by a combination of commercialism, sensational mechanical stage effects, and lack of dramatic

study" (quoted in "Actors and Managers"). There is undoubtedly some truth to these disparaging remarks, though they are also tainted by the kind of highbrow elitism discussed earlier in this chapter. Just as Higgins reminds us that "intermedia" is a descriptive term, not a value judgment, hypermediacy does not equate to quality.

Perhaps, however, hypermediacy does correlate to possibility. Free from today's mandate to create a performance that is unified and whole, theater practitioners of the late nineteenth and early twentieth century – and their audiences – were able to exploit the representational possibilities of each individual moment, whether that moment was a variety show skit, a scene in a full-length play, a scene change, or even a hasty exit to catch a train. At this particular moment in history, this freedom was especially valuable in confronting a world itself awash in uncertainty and disharmony, particularly as regarded the evidence of one's own senses. As Orvell writes, "As the abstract lessons of the new sciences of uncertainty and relativity were infiltrating popular consciousness, a feeling emerged of growing distance between the senses and the 'real world' whose physical structure seemed to defy our sensorium" (148). What better place than in a theater, itself fraught – intentionally and unintentionally, but always as a result of the inherent medial functioning of theater itself – with uncertainty and fracture, to navigate a world in which reality itself was no longer stable?

Case study: Steele MacKaye's double stage

As mentioned above, scene changes were an important aspect of theater practice in the late nineteenth and early twentieth century United States and one particularly conducive to hypermedial effect. Not only did scene changes participate in the overall variety ethos of theater practice in the period, but also scene changes, by their very nature, are explicitly concerned with

the process of generating a representation. In a scene change, one represented space is disassembled to be replaced with another. As such, scene changes are particularly apt to intermediality. One very good period example of this can be found in one of the most famous and ambitious scene change inventions of an age characterized by ambitious scenic technologies – Steele MacKaye's double stage.

Steele MacKaye (or Mackaye, depending on the source) was one of the more prominent theater practitioners of the late nineteenth century United States. As J.A. Sokalski writes in the book-length study of MacKaye's life, *Pictorial Illusionism: The Theatre of Steele MacKaye*, "Steele MacKaye (1842-94) was a unique figure in late nineteenth-century theatre. Typically remembered for his practical contributions for the American stage, this manager-régisseur was also an accomplished actor, dramatist, lecturer, and inventor" (xv). Today, MacKaye is remembered for numerous contributions to the theater, including introducing the Delsarte system of acting to the United States; working with Buffalo Bill Cody to convert Cody's Wild West Exhibition into the narrative *The Drama of Civilization*; and his ambitious "Spectatorium" theater, designed for the 1893 World's Fair in Chicago, but never completed.

MacKaye's double stage was introduced to the world when New York City's Madison Square Theatre re-opened in February 1880, newly renovated according to MacKaye's designs.[23] MacKaye's Madison Square Theatre fascinated as much with its technical innovations as with the plays it presented.[24] As Sokalski puts it, "The resulting public appeal of the Madison Square

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[23] The Madison Square Theatre had previously opened in April 1879 with a production of MacKaye's *Aftermath*, which ran for only four weeks, after which the theater closed again and MacKaye made extensive additions and alterations to the building, including the double stage (Sokalski 53-54, 56).

[24] The Madison Square Theatre was also notable for its unusually small house for the time, seating only 416, as compared to more typical New York City venues of the time that seated as many as several thousand (Sokalski 51-53).

Theatre owed as much to the spectacle of the theatre's operation as to the illusions created on the stage" (56). By far the most interesting feature of the space, both to me and evidently to audiences and critics of the time, was MacKaye's double stage, a novel architectural device that allowed an entire scene change to occur in less than a minute by means of a massive elevator.

As described in an 1886 article in *The Magazine of Art*, "The most important novelty in this theatre … is the double stage. This invention consists of two stages, one above the other, so arranged as to be moved up and down as a lift is in a high building" (Henderson, W.J. 402). This double stage was impressive both for its size – "The two stages are 55 feet in aggregate height, 22 feet wide, 31 feet deep, weigh 48 tons, and have a vertical movement of 25 feet 2 inches" (Henderson, W.J. 402) – and for its speed of operation – "When the curtain falls at the end of the first act the elevator is hoisted, and in forty seconds the lower stage is in position and the curtain is raised for the second act" (Henderson, W.J. 402).

MacKaye patented this invention in 1879, in a patent entitled "Improvement in Theater Appliances." MacKaye's colleague Nelson Waldron was later granted another patent in 1881 for a "Theater Appliance" that improved and expanded upon MacKaye's original patent. In his patent, MacKaye describes the ostensible purpose of the invention: "It will be seen that by this contrivance the time formerly lost between the acts in setting the scene for the succeeding act will be saved, and the audience spared the long and fatiguing waits that often intervene between the acts of elaborately-mounted plays at modern theaters" (1). Certainly, this invention did succeed in shortening the period of time necessary for changing between two complex sets. It also introduced constraints as to the structure of the sets that worked with it and the sequence in which the sets could be employed, but any theater space imposes at least some design constraints

of this sort. The real appeal of this double stage, however, was not, per se, in the speed with which it made the transition from one scene to the next, but in the process of transition itself.

At first glance, MacKaye seems to be striving towards greater immediacy, as his stated purpose is to reduce the wait between acts thereby, presumably, to create a more seamless audience experience. The actual effect, though, as attested by contemporaneous commentary and reviews, was almost the opposite. This invention may have minimized the time of the scene change. However, far from minimizing the importance of the scene change, the double stage, both in its novelty and in its sheer scale, made the process of change itself, and therefore the process of mediation, the center of attention.

The excitement generated by the technical innovation of the double stage is attested to in numerous published accounts from the period. In 1884, *Scientific American* ran an entire article, entitled "Moveable Theater Stages," devoted to this mechanical marvel of the Madison Square Theatre. Steele MacKaye's son, Percy MacKaye, in his 1927 biography of his father, *Epoch: The Life of Steele MacKaye Genius of the Theatre In Relation to His Times & Contemporaries*, quotes several glowing remarks about the Madison Square Theatre and its double stage. From an 1880 article in the *Spirit of the Times* he quotes, "Not to have seen the Madison Square Theatre is to be behind the age in theatrical intelligence and artistic knowledge" (340) and from an 1880 dispatch to the *New Orleans Picayune*, "The double elevator-stage, invented by Steele MacKaye, is one of the wonders of the century, and perhaps marks the beginning of a new stage era" (343). As one can tell from the title, Percy MacKaye's book, as an account of Steele MacKaye's legacy, is clearly biased by the son's admiration for the father, but the articles he cites indicate that the double stage did loom large in the public's admiration for the Madison Square Theatre.

The first production performed in the Madison Square Theatre after the installation of the double stage was *Hazel Kirke* (1880), a melodrama written by Steele MacKaye and consequently crafted with the double stage in mind. The length of *Hazel Kirke*'s run – 486 performances over more than a year – was not equaled for the next forty years (Sokalski 53). Some of this success seems to have been due to an unusually hot summer in New York City and the Madison Square Theatre's unusually effective ventilation system – another of Steele MacKaye's innovations (Sokalski 125-26), though this, of course, could account for its success only in the summer months. Some of *Hazel Kirke*'s success was also due to the script itself, as its success as a work of theater was not limited to its run at the Madison Square Theatre. Percy MacKaye recalls in *Epoch*, "A year and a half later (through duplicated productions) the play had exceeded its thousandth night. Forty years later, it was still playing 'in stock'" (339). Much of *Hazel Kirke*'s appeal, though, at least in its performances at the Madison Square Theatre, was due, as well, to the novelty of the double stage.

According to one reporter, "The play is called 'Hazel Kirke', and is a conventional and effective melodrama. It is calculated by mathematicians that the piece will run some two hundred nights, in consequence of the existence of a double stage, to avoid tedious intermissions between the acts, and the front of the house being rendered cool by an elaborate process of passing pure air over tons of ice" ("Amusements" *Puck*). According to another, "Mr. Steele Mackaye has no cause to complain of the patronage bestowed on his wonderfully beautiful theatre, with its marvelous double stage, elevated orchestra, and his fine company" ("The Theatres," 18 Feb. 1880). Another article, written when *Hazel Kirke* was in its fifth month of performances, predicts, "there is no reason why Mr. Mackaye's play should not run on for an indefinite period, which it will probably do if the double stage doesn't give out" ("The Theatres," 2 June 1880). Of

course, as is the case for virtually any work of art or technology, not everyone appreciated the double stage. One article in *Puck*, for instance, snidely remarks on *Hazel Kirke*'s "disadvantages of a double stage" ("The Theatres," 18 Feb. 1880). This attitude, though, definitely seems to have been in the minority.

The advertising for the Madison Square Theatre demonstrates that Steele MacKaye was fully aware of the fact that his theater owed much of its appeal to its double stage. Numerous ads for the theater and its productions highlight the double stage as an attraction in itself. One ad follows the heading "Madison-Square Theatre" with a parenthetical "(Mackaye's Double Stage)" ("Classified Ad 15"). Another advertisement proclaims, "A BRILLIANT TRIUMPH. Successful application of the DOUBLE STAGE, the improvements in Ventilating, Seating, Decorations, Embroideries and the Elevated Orchestra" ("Advertisement 9," emphasis original). The text of yet another ad promises, "The comfort of the audience has been sought in the ventilating, seating, heating and decoration and in the DOUBLE STAGE, which avoids tedious waits" ("Advertisement 8," emphasis original). This ad even specifies the waits between the acts:

> Between Acts I and II – Two minutes.
>
> Between Acts II and III – Five minutes.
>
> Between Acts III and IV – Five minutes. ("Advertisement 8")

Even by today's standards, these wait times are impressive, if they are accurate. One wonders how people in the audience even had time to go to the restroom, unless we recall that audience etiquette was looser then and assume that people simply came and went more or less as they pleased.

As these ads demonstrate, even as the double stage minimized the *time* taken up by the scene change, it simultaneously maximized the *importance* of the scene change as a component

of the performance. For all that its ostensible purpose was to eliminate the stage wait, the double stage in fact drew attention *to* the stage wait and thus accentuated, rather than diminished, its role in the play, at least in terms of its impact on the hypermediacy of the experience. It took less time, but more focus. It also focused attention on the set that had been introduced, which thereby became impressive not in itself but in how quickly it had appeared.

MacKaye and Waldron's double stage never really went anywhere after the Madison Square Theatre, largely because MacKaye signed a very unfavorable contract, which gave his patent to George and Marshall Mallory, investors in the Madison Square Theatre. According to a racially problematic and possibly somewhat hyperbolic 1883 article in *The Continent*,

> [Steele MacKaye] gave all that he had done into their [the Mallory brothers'] hands upon a contract so vague, illusory and shadowy in its provisions with regard to himself that even the enlightened consciences of the owners have never found that it compelled them to account to him for a single dollar of the million or so they have made out of the poor actor's brains. On the other hand, however, the clauses referring to his duties and the requirements for service and labor on his part were such as would make a West India coolie contractor blush at their far-reaching stringency. ("Migma" 473)

Thus, MacKaye was unable to make any further use of his own invention (Sokalski 61-64). MacKaye's patent, though, was of little use to the Marshall brothers, either, without Waldron's patent, which improved upon MacKaye's design and the rights to which Waldron himself retained. As the Mallory brothers did not own Waldron's patent, they were unable to do much with MacKaye's. The double stage, though, was seemingly an idea too good to give up on.

Marshall Mallory, evidently still desirous of using a double stage and unable to make use of MacKaye's, received a patent in 1880 for a "Theater-Stage." This is one of those patents that are more concept than concrete invention. Instead of MacKaye's two stages, one above the other, Mallory's two stages are set side by side and move laterally past the proscenium arch. It is unclear, though, whether Mallory's version of the double stage was ever built.

Other versions of the double stage concept that followed MacKaye's initial experiment became increasingly ambitious, though perhaps also increasingly impractical. In 1906, Gustav A. Miller received a patent for a "Theatrical Scenic Apparatus." "In its general nature," writes Miller,

> my invention comprehends an improved arrangement of a plurality of scenic effects or stages arranged one above the other, an endless curtain that incloses [sic] the stages and which has designed thereon scenic representations and is at intervals provided with sight-openings through which scenic effects or performances on the several stages may be readily observed, combined with a means for seating the audience and elevating them, so that they can be brought into position to view the scenic effects or performances in the several stages, and which also serves to lower them to a point of exit. (1)

In other words, Miller's audiences sit in two different elevators, each serving as a counterweight to the other. As one half of the audience slowly rises towards the roof of the theater, the other half of the audience slowly lowers towards the ground. As it moves, the audience can watch a continuous rolling drop, which is also in motion. This continuous drop has cutouts in it through which the audience can view scenes or other effects.

I have uncovered no evidence one way or the other as to whether Miller's invention was ever actually built. It certainly seems prohibitively impractical to me, but both my research into this period and my life experience have taught me not to underestimate stage carpenters. Miller, at least, claims, "My invention while simple and capable of being economically constructed can be put up either in a knockdown or permanent shape" (2). What is most important about it here, though, is not whether or not it was actually realized, but rather that it represented an extreme case of the approach begun more modestly with MacKaye's double stage. Miller never specifies what kind of scenes one might want to show in his invention. Indeed, the scenes themselves, whatever they may be, are quite clearly the least important aspect of the experience. What is important is not what is seen, but the process by which something is seen.

What is emphasized by these double stages, both MacKaye's and its imitators, is that scene changes can be an extremely important aspect of the experience of a complete theatrical performance. It's easy, I think, for theater scholars to forget this, because there is a kind of magic about scene changes when you read a play script. A scene ends, the reader turns the page, and – presto! – the scene has changed. This is, of course, not what happens in a real performance. The process through which a scene is set is actually a very interesting medial moment. Today, in general, we have trained our audiences to ignore those scene changes or, alternatively, we try to subsume scene changes into the general experience of the narrative by such devices as putting stagehands in costumes or choreographing the scene change to music.

The late nineteenth and early twentieth century approach, as epitomized by Steele MacKaye's double stage, was different. Not only did the scene change, like the introductory act or entr'acte, disrupt the linear flow of a production, but a prominent scene change like MacKaye's also explicitly and even deliberately exposes the process of representation. As such,

these scene changes are a central element of the logic of hypermediacy that dominated theater practice of the late nineteenth and early twentieth century United States.

Chapter 3: Technology

The introduction of a new media technology often initiates a period of negotiation. This negotiation takes place not just between the new technology and existing media, but also between the new technology and the people that use it. The net result of all this negotiation, at least in the case of new media technologies that ultimately become successfully established, can include any or all of:

1) The evolution of the new technology into an identifiable medium;
2) The adaptation of existing media to an altered medial ecosystem; and
3) The development, in the people using the new technology, of modes of perception appropriate to the new technology.

This dynamic is, naturally, particularly influential at historical moments in which multiple important new media technologies emerge.

Clearly, we are in such a time today, as new digital technologies transform the ways that we transact business, communicate with each other, disseminate information, interact with the world, record and remember moments in time, and generally operate in today's world. As Bolter and Grusin note, "New digital media are not external agents that come to disrupt an unsuspecting culture. They emerge from within cultural contexts, and they refashion other media, which are embedded in the same or similar contexts" (19). There was another such time of technological transformation in the latter years of the nineteenth century. Much as digital media technologies are reshaping the world today, society then was reshaped by new electric media technologies, including electric light, film projectors, and phonographs, each of which I will examine more closely later in this chapter. Because of its uniquely intermedial representational capabilities, theater played a pivotal role in the early hybrid years of these new electrical media technologies,

shaping and, in turn, being shaped by the new technologies and, at the same time, shaping audiences to understand and interact with the new technologies.

Digital technology, indeed any technology, is not required for intermedial theater or for intermediality generally. As Chapple and Kattenbelt note, “Although at first sight, intermediality might appear to be a technologically driven phenomenon it actually operates, at times, without any technology being present” (“Key Issues” 12). Yet digital technologies are strongly associated with intermedial theater, to the point where Robin Nelson, in his article “After Brecht: the Impact (Effects, Affects) of Intermedial Theatre,” can credibly write that he is “centrally concerned with ‘intermedial theatre’ defined in the traditionally established sense of theatre practices consciously performed ‘live’ before an aware audience but which overtly deploy digital media technologies” (32). I wouldn’t go as far as Nelson, in that I would not say that there is actually any “traditionally established” definition of intermedial theater, at least not yet. But certainly digital technology does rightly play a central role in contemporary intermedial theater studies, at least in part because the newness of these digital technologies in theater practice almost inevitably attracts attention in an intermedial way. Similarly, the newness of the various revolutionary analog technologies of the late nineteenth and early twentieth century United States, intertwined as they were with theatrical practice, strongly contributed to intermediality in performance at that time.

The decades on either side of the turn of the twentieth century were among the most transformative for media technology in the nation’s history, perhaps rivaled to date only by the few decades on either side of the turn of the twenty-first century. As Carolyn Marvin notes in her *When Old Technologies Were New: Thinking about Electric Communication in the Late Nineteenth Century*, “In the long transformation that begins with the first application of

electricity to communication, the last quarter of the nineteenth century has a special importance for students of modern media history. Five proto-mass media of the twentieth century were invented during this period: the telephone, phonograph, electric light, wireless, and cinema" (3). So it is that, just as Bolter and Grusin can, in 1999, speak of "our current media-rich environment, in which digital technologies are proliferating faster than our cultural, legal, or educational institutions can keep up with them," (4-5), a hundred years earlier, in 1899, the journalist B.O. Flowers could as accurately write of "dazzling, miracle-working discoveries and inventions which have literally transformed civilization and ushered humanity into a new world" (420). To a large extent, these media technologies that changed the world were initially shaped and distributed on theatrical stages. This was made possible both by the period's spirit of exuberant aesthetic experimentation and by the inherent intermedial flexibility through which theater can immediately incorporate and engage with new technologies.

This is not to say that theater artists today do not also experiment ambitiously with new technologies. Clearly, stage technology is developing rapidly, not only on intermedial stages, but also in more mainstream practice. As Nelson notes, though, referring to Steve Dixon's 2007 *Digital Performance*, "It is evident from Dixon's encyclopaedic review of digital performance, however, that a significant amount of practice in this domain aims – to use Bolter and Grusin's seminal distinction – at 'immediacy' rather than 'hypermediacy'" ("After Brecht" 32-33). In other words, when new technologies are employed onstage today, however innovative the technological use to which they are put, the aesthetic goal is still most often the old one of unity and experiential immersion. However successful this may be artistically, it is less likely to introduce audiences to new technologies or to shape human interactions with new technologies

than is the more hypermedial approach characteristic both of contemporary intermedial theater and of late nineteenth and early twentieth century popular theater practice.

This chapter deals specifically with the very first interactions between theater and the new electric media technologies of the late nineteenth and early twentieth century, as it is these first interactions that are the most clearly and predominantly about the technology per se. The relationship between theater and these new technologies obviously continued beyond these initial introductions and so the new technologies will continue to feature frequently in subsequent chapters focusing on other intermedial characteristics.

I need to pause here for a moment to draw a distinction between a "media technology" and a "medium," as I use the terms. As is the case with many terms related to media and intermedial studies, a survey of the literature will yield neither consistent definitions for these terms nor terms consistently applied to the concepts I wish these terms to express. In my usage, a "medium" is a cultural construct, defined as Elleström describes by four modalities – the material, the sensorial, the spatiotemporal, and the semiotic – as well as by culturally specific aesthetic, social, and operational conventions. Media include things like photography, oil painting, computer games, television programs, news articles, and, of course, theater. The "media technology" is the thing through which specific instances of those cultural constructs – what Elleström refers to as "individual media products" (*Media Transformations* 19) and Irina O. Rajewsky calls "medial configurations" ("Intermediality" 53) – come into being. The media technology is the pen and ink that write the poem, the television set that airs the sitcom, the film

reel and projector that manifest the movie, the computer and the digital code that allow us to access the internet.[25]

In the case of theater, the media technologies used in realizing a given theatrical production are numerous – paint and canvas, wood and steel, foam and plastic, electric lighting instruments, audio playback devices, musical instruments, fabrics, cameras, projectors, screens, motors, pulleys, human bodies … the list is virtually endless. It is precisely because theater can – and, in fact, must – be realized through such an array of media technologies that it can play such an important and interesting role at the advent of new media technologies.

The fractured operations and aesthetics of the theater of the late nineteenth and early twentieth century United States were particularly conducive to the inclusion of new media technologies. A prevalent desire for new variety acts encouraged experimentation with new technologies and, in the absence of any mandate for aesthetic unity, incorporating new technologies into existing forms and acts was relatively simple (artistically, if not operationally). Because of this, and because it was among the best ways to reach large audiences across the country, theater was an important factor in the initial promotion and dissemination of new media technologies of the period.

As a result, theater of the period played a major role in shaping the period's new media technologies, in their uses, their operations, and their aesthetics. Conversely, these new media technologies opened up new aesthetic and representational possibilities for the theater, so that,

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[25] Claus Clüver makes a distinction very similar to my distinction between "media technologies" and "media," using the terms "physical media" and "media" (30). I do not choose to use his terminology because in today's digital world a media technology need not be physical. Elleström also makes a similar distinction, using the terms "technical media" and "basic or qualified media" ("The Modalities" 30). Though I draw extensively on his framework, I do not choose to use his terminology in this instance because, for my purposes, I find its precision more cumbersome than useful.

even as theater shaped the new media technologies, the new media technologies reshaped theater. This is part of what Boenisch means when he suggests "that theatre turns into *a new medium* whenever new technologies become dominant" ("Aesthetic" 111, emphasis original). Because theater can and does use virtually every conceivable technology, each new technology that emerges is an opportunity for theater to expand and the theater is an opportunity for the new technology to develop.

Any such process of transformation is, of course, not instantaneous. As Lisa Gitelman and Geoffrey B. Pingree write in the introduction to *New Media 1740-1915*, "when new media emerge in a society, their place is at first ill defined, and their ultimate meanings or functions are shaped over time by that society's existing habits of media use (which, of course, derive from experience with other, established media), by shared desires for new uses, and by the slow process of adaptation between the two" (xii). In this chapter, we see this process of adaptation commence between theater and new electrical technologies.

For a period, at least, the new technology asserts its presence merely by virtue of its newness. As Petr Szczepanik writes in his 2002 "Intermediality and (Inter)media Reflexivity in Contemporary Cinema," "As one media form takes over and transforms the structural components of another, the hidden or automatised structural components of both media become defamiliarised. Thus, a new hybrid form emerges that reflects the structural features of each colliding media" (29). In other words, the new technology and the old technology, in their juxtaposition and their hybridization, render each other medially opaque, or "defamiliarised," as Szczepanik puts it. As such, the technologies themselves, along with the media they produce, become themselves a central concern of the resulting work of art. This happened in the hybrid

theatrical practices made possible by the new technologies of the late nineteenth and early twentieth century.

The impact of new technologies is not just on existing media, but also on the people who interact with them. After all, to quote Szczepanik again, “self-reflection of medium goes hand in hand with self-observation of the viewer” (31). As the early twentieth century filmmaker Jean Epstein notes, “all these instruments: telephone, microscope, magnifying glass, cinematograph, lens, microphone, gramophone, automobile, kodak, aeroplane, are not merely dead objects. At certain moments these machines become part of ourselves, interposing themselves between the world and us, filtering reality as the screen filters radium emanations” (6). Or, as Bolter and Grusin point out, “all media are at one level a ‘play of signs,’ which is a lesson that we take from poststructuralist literary theory. Media have the same claim to reality as more tangible cultural artifacts; photographs, films, and computer applications are as real as airplanes and buildings” (19). In other words, media technologies have a real and profound effect, not only upon other media, but also upon us and upon how we perceive, understand, and interact with the world.

Theater is uniquely medially apt to play a role in how people develop, define, and adapt to the new forms of perception and modes of representation of new media technologies. Theater, when it mediates, does not materially transform. By contrast, in film, for instance, the things represented are all compressed by the media technology into a single and unified material existence of projected light. This material compression does not happen in theater because theater involves not one, but many, media technologies and each one retains its own unique materiality and physical presence. If all of these media technologies are compressed into a unified whole, it happens in the perception of the observer, not in the materiality of the media technologies.

There is, of course, no guarantee that this perceptual compression will happen. Sometimes, as we saw in the preceding chapter on hypermediacy, artists are not attempting to create perceptual unity. And, as we also saw in the previous chapter, even when unity is the goal, the multi-modal complexity inherent to theater makes unity extremely challenging to achieve successfully. This striving and failing, perhaps even more than deliberate disunity, highlights the process of representation. Turning again to Sarah Jane Bailes's productive understanding of failure, this is why it can be so helpful, as Bailes says, "to interrogate rather than deny the difficulty of stage representation" (12). This very fact that stage representation is so difficult is why the stage can be such a powerful place for people to come to grips with new media technologies of representation.

Whether deliberately or accidentally, when a new media technology is used on stage, the audience does not just see *what* that new media technology represents, but also simultaneously *how* that new media technology represents. This is why Boenisch can claim that theater, at the advent of new media technologies, works by "implementing all relevant new cognitive strategies within the sensorial apparatus of its spectators" ("coMEDIA" 38) and specifically "that theatre today once more functions as a 'training centre' for new modes of perception" ("coMEDIA" 38). According to Boenisch, just as theater in classical Greece was an important means of teaching people to cognitively process the new phonetic alphabet, theater today can help people learn the new signifying practices of our digital culture ("coMEDIA" 38-39, "Aesthetic" 110-11).

Theater played this role as a training center at the introduction of new electrical media technologies in the late nineteenth and early twentieth century United States as well. Indeed, its role then was even more important than it is now. In the late nineteenth and early twentieth century, theater was still one of the most culturally influential media. Today, by contrast, as

Boenisch admits, "other media have replaced theatre at the centre of cultural attention, with theatrical live performance being shifted to the mere margins of electrONic culture" ("coMEDIA" 38). As Hans-Thies Lehmann more succinctly sums up the situation, in his *Postdramatic Theatre*, "Theater is no longer a mass medium" (16). In the late nineteenth and early twentieth century, though, it was. Therefore, theater was among the most important sites of development of new electric media competencies in the population of the late nineteenth and early twentieth century United States.

Boenisch further describes a divided and limited theater audience today, writing, "traditional drama today addresses (more or less: only) an equally traditional audience which might tend to be 'illiterate' with computer technology. Experimental performances, at the other end of the theatrical spectrum, at the same time have become a communal marketplace for the electrONic intelligentsia" ("coMEDIA" 39). Boenisch is right. Mainstream theater today addresses, generally speaking, a particular and limited audience and the audience for avant-garde theater is, for the most part, not the same as the audience for more conventional theater. In the late nineteenth and early twentieth century, though, in the absence of today's competing mass media, theater addressed a far greater segment of the population than it does today and a segment of the population that cut across a much greater swath of socio-cultural demographics.

Theater, therefore, was a key site in which people of the time developed cultural competency with, in particular, electric light, film, and phonographs. On period stages, audiences could both see and see through these new technologies. They could also see the operations of the new technologies alongside those of innumerable older technologies like painted drops, mechanical devices, optical effects, and human actors. Thus, even as the theater and the new

media technologies defined each other, the theater was also defining people's perceptions of and relationships to the epoch-making new technologies of the time.

Before I examine specific media technological interactions of the period, I have one caveat. Not every instance of new media technology on stage impacts people's perceptions in this way. The new technology has to make a perceptible difference from the perspective of the audience. Szczepanik makes this point specifically in regards to digital special effects in film, differentiating between films in which the special effects are seamlessly integrated into the fictional world and those in which the special effects "produce ineffaceable gaps and a sense of 'uncanniness' through their introduction of radically different types of imagery" (33). Szczepanik concludes that "not all the films using special effects can be called self-reflexive or intermedia" (34). Similarly, today, not all digital technologies used on stage create the kind of hypermedial experience that contemporary scholars associate with intermedial theater.

To give a relatively contemporary example, in the 1980s and 1990s most theaters transitioned from analog cassette tapes first to digital audio tapes and then later to tapeless digital technologies like CDs and MP3s for their recorded sound needs (Collison 103-04). Most audience members didn't notice. All of these technologies, digital and analog, were and are typically used in a very similar way, in sound effects and music that are already well established and accepted – and thus often transparent – elements of theater. The differences between cassette tapes, digital audio tapes, and MP3 players, while extremely apparent from the sound booth, are essentially imperceptible from the house except to those audience members with sound recording expertise or exceptionally acute hearing.

In a similar case involving electrical technologies, the first electric lights used in the theater were carbon-arc spotlights, records of the use of which exist as early as 1848 at the

Princess's Theatre in London (Palmer 183) and somewhere between 1836 and 1849 at the Paris Opera.[26] Like the more recent digital sound technologies, carbon-arc spotlights made little impression on audiences, because, from the spectator's position (though presumably not from the operator's), they were difficult to distinguish from the already familiar, non-electric limelight (Palmer 181-82). It was therefore not until the advent of the incandescent light bulb, which was perceptibly different in functionality and in quality of light than the gaslight fixtures it slowly came to replace, that the stage truly began to play a role in people's relationship to and understanding of electric light as a media technology.

In most cases, though, the use of new electrical technologies was overt. As Gwendolyn Waltz notes in a 2006 article in *Theatre Journal* entitled "Filmed Scenery on the Live Stage," an unobtrusive technological effect would generally not have been worth a producer's time or money (553). And, as noted in the previous chapter, the hypermedial practices of stage effects and theater operations in the period generally did not strive to attain the kind of transparency for which, for the most part, stage directors, designers, and technicians strive today. Theater artists and managers of the time wanted to use the new technologies and they also wanted people to know that they were using new technologies. It was a selling point.

Thus it is that Charles A. and Mary R. Beard can write, of the technological effects of this period, in their 1927 *The Rise of American Civilization*, "Appropriately enough, the mechanics of gorgeous lighting, scenic displays, and whirlwind motion fitted to the age of the higher physics tended to thrust the human stars off the stage and the cold glow of ideas into the background,

[26] Marvin writes, "The Paris Opera House was the site of the first practical electric arc light in 1836" (163). Brockett, Mitchell, and Hardberger give a date of first usage in Paris in 1846 (219). Nye finds an electric arc lamp at the Paris opera "As early as 1849" (29).

absorbing audience and players more and more in a kind of electronic storm" (806). This description resonates strongly with contemporary descriptions of intermedial performances.

Boenisch, for instance, describes a performance called *Circulation Module* by NEST, a Tokyo-based "intermedia performance unit," which was first produced in 1998:

> As theatrical sign-systems, the performance employs live performers – dancers and actors – huge slider machines, video projections and computer visuals, lighting as well as both live and pre-recorded music, thus amalgamating elements from performance, video art, techno culture and other manifestations of electrONic culture …
>
> No sign-system is privileged, not even the dancers who are physically present and only accidentally appear at the top of the list on the printed score. ("coMEDIA" 39)

Both the Beards' description and Boenisch's clearly capture a kind of exuberant, intermedial mise en scène that Andy Lavender, in his "Mise en Scène, Hypermediacy and the Sensorium," calls "flamboyantly hypermedial" (63). Both descriptions capture a philosophy of theatricality that foregrounds multiple media, multiple modalities, and multiple technologies.

The Beards may be right that, at least in some cases, human stars took a backseat to stage effects in the late nineteenth and early twentieth century, but they are wrong to say that *ideas* were therefore thrust into the background with them. The new media technologies, the "electronic storm," as the Beards so evocatively call them, did not thrust the cold glow of ideas into the background because the electronic storm was itself a glowing idea at the heart of the period and of much of the period's theater.

Electric technologies then and digital technologies today were and are transformative not only technologically but also culturally and philosophically. Today, we are aware of the ways that we have redefined important social concepts like communication, privacy, intimacy, friendship, and group membership based on pervasive digital media technologies. And, as Lavender writes in his "Digital Culture" section of *Mapping Intermediality in Performance*, "The digital domain of information and communication has been commodified (then re-commodified) in ways that have altered our experiences of creativity, ownership and distribution" (127). Electric technologies in the late nineteenth century exercised a similarly widespread influence, redefining ideas like truth, power, distance, time, and community.

Electricity itself was a profound and compelling mystery, almost as much so to the experts as to the laypeople. Ascott R. Hope writes in his 1881 *Wonders of Electricity*, "We, to whom the name is so familiar, who have so far traced its laws and brought its wonderful powers to obey the finger of a child, must still be content with Faraday, to confess our ignorance of what electricity is" (8). Writing of the 1893 World's Columbian Exhibition in *The Daily Inter Ocean* (Chicago, IL), Lilian Whiting says, "The very word, electricity, is invested with magic. It suggests a force as mysterious as it is potent; one that never fails to stimulate the imagination." The immense power granted by electricity over the world is contrasted with the immense ignorance about the world that electricity revealed. It was inevitable that the theater of the period should take up such a conflicted and fascinating aspect of society, not only to use for other scenic purposes, but as a topic in its own right.

What was true for electricity as a whole was true also for specific electric media technologies like electric light, film, and phonographs. They were both wonderful and terrible, invoking both hope and fear, neither of which was necessarily either rational or well informed.

For instance, an 1888 article in the *Milwaukee Sentinel* warns, of electric light, "We are gradually becoming a sightless race from too many hours of light; few eyes have the power they should have, and the electric lights of piercing blue rays will do still more to reduce our visual power" ("The Electric Light Nuisance"). *Scientific American Supplement*, in 1914, warned of the dangers of eyestrain from the movies, with symptoms consisting of "headache, vertigo, nausea and fatigue of the eyes, followed later by vomiting, sleeplessness and lack of energy" ("The 'Movies' and the Eyes"). Robert Grau, writing in *Scientific American* in 1911, complains of the deterioration of the voices of singers recorded on the phonograph (155).[27]

In reference to the use of new electric technologies on the stage, whether or not these fears had any real basis is less important than the fact that these fears seemed plausible at the time. In this environment, rife with wonder and worry, the theater operated as a prime venue within which to grapple with these fears, define the purposes and meanings of new media technologies, and help audiences learn to co-exist with the new technologies.

Electric light

Of all the new electrical media technologies of the period, those that made electric light a viable mass medium were perhaps the most culturally transformative, in that electric light quite literally revolutionized the spaces and times of human activities. For all that, though, it is perhaps not self-evident that electric light should be classified as a mass medium of communication.

Marshall McLuhan, whose 1964 *Understanding Media: The Extensions of Man* is foundational to much contemporary media studies, writes,

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[27] For more about the mystery, awe, and fear engendered by electricity at the time, see Marvin.

> The electric light escapes attention as a communication medium just because it has no "content." And this makes it an invaluable instance of how people fail to study media at all. For it is not till the electric light is used to spell out some brand name that it is noticed as a medium. Then it is not the light but the "content" (or what is really another medium) that is noticed. The message of electric light is like the message of electric power in industry, totally radical, pervasive, and decentralized. For electric light and power are separate from their uses, yet they eliminate time and space factors in human association exactly as do radio, telegraph, telephone, and TV. (24-25)

Electric light, in other words, might not always convey information in the sense that most mass media of communication do, but it most certainly does operate as a mass medium in that it is a pervasive institution in society that dictates how, when, and where communication can be transmitted, received, and understood.

McLuhan is not totally correct about electric light's lack of content, at least as it pertains to electric light in the theater. As a lighting designer myself, I can confidently assert that, today, electric light in the theater routinely conveys all sorts of specific messages about time, location, mood, style, and space. Electric light can today convey these messages in the theater at least in part because we are now accustomed to electric light conveying those messages not only in the theater but in the real world as well.

In its early days in the theater, though, before today's lighting conventions were established and before electric light had become a ubiquitous fact of daily life, the primary message of electric light in the theater, as in the world at large, was indeed the medium itself. Indeed, it was at this point, in its negotiation on the theatrical stage, that the message of the

medium of electric light – the changes that it would ultimately introduce in the spaces, times, and activities of social intercourse – was initially established and understood.

Theaters were among the first public buildings to employ electric light when electric light first made inroads into U.S. cities in the early 1880s with the advent of Edison's[28] incandescent light bulbs[29] and central power stations. Incandescent electric light shows up certainly by 1882 at the Bijou Theatre in Boston.[30] Chicago's McVicker's theater may have been electrified as early as 1880 ("Notes"). Chicago's *Daily Inter Ocean* lists two theaters – the Academy of Music and the Columbia – reportedly lit with electricity even prior to McVicker's ("Stage Illusions"). William Winter, in his dauntingly exhaustive two-volume *Life of David Belasco*, references, without providing any verifiable detail, an even earlier experimental use of electric light for stage illumination (reportedly attended by and inspiring to Belasco) in February of 1879 at the California Theatre in San Francisco (245), though the extent (or even veracity) of this experiment cannot be ascertained.[31] It is likely impossible (and ultimately not that important) to

[28] Although his was not the first incandescent light bulb, it was Thomas Edison who made the incandescent light bulb practical for theatrical use, both through improvements to the materials and manufacture of the light bulb itself and through the development of economically feasible systems for power generation and distribution. Thomas Edison filed dozens of patents for his incandescent light bulb and improvements and accessories thereto between 1878 and 1890, which can be found in the list of works cited.

[29] Early incandescent light bulbs, which consisted of a filament enclosed in a vacuum-sealed glass bulb, emitted light when an electric current passed through the filament caused the filament to heat up and glow. Incandescent light bulbs were not the first method of creating light using electricity, but it was the incandescent light bulb that made electric light viable as a mass medium. Though not as bright as earlier electric light technologies like the carbon-arc spotlight, incandescent light bulbs were considerably safer, cheaper, and easier to use. All of these practical considerations facilitated electric light's introduction on U.S. stages and ultimately made electric light the ubiquitous domestic and commercial necessity it is today, though the incandescent light bulb is today in the process of being supplanted by LEDs.

[30] Brockett, Mitchell, and Harberger give a date of 1881, but my own research suggests that the Bijou did not open until December of 1882 ("The New Playhouse," "Latest News").

[31] If McVicker's, the Academy of Music, and/or the Columbia were, in fact, wired for electric light in 1880 or 1879, they were quite possibly the first electrified theater(s) in the world, as the

definitely establish the very first appearance of incandescent electric light in a theater, but what is clear is that theaters were, in many places, early adopters of the new technology. Theaters therefore played an important role in establishing electric light as a mass medium.

Over the course of the next two decades of the 1880s and 1890s many, but by no means all, theaters adopted electric light. In Chicago, for instance, by 1889 only three-quarters of the theaters were wired for electricity ("The Stage" *Daily Inter Ocean*). In Bangor, Maine, the Bangor Opera House did not install electricity until 1899 ("Theatre Changes").

Furthermore, theaters that were wired for electricity did not necessarily use electric light exclusively. For instance, the brackets in the Bijou Theatre in Boston, which we recall was one of the very early theaters to be lit with electricity, were combined electric and gas brackets.[32] As described in the 1885 Volume 2 of *Electric Illumination*, "as managers naturally decline to place entire dependence upon electricity, the Edison Company has boldly faced the situation and has brought out a fitting which admits of the use of both illuminants, either of which can be turned up or down with equal facility" (Dredge 336). In other words, this very early installation of electric light in a theater did not usher in today's age of ubiquitous theatrical electric lighting so much as it ushered in a period of hybrid lighting practice in which gas lighting and electric lighting existed side by side in the same cities and even in the same theaters, each emphasizing the strengths and the weaknesses, the potentials and the dangers, of the other.

This hybrid medial environment is one particularly suited for a new medium to generate an intermedial experience, as the new media technology and the old naturally invite comparisons between them that make the media and media technologies themselves the subject of inquiry. To

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Paris Opéra, in 1880, is generally taken to be the first theater in the world completely wired for electric light (Brockett, Mitchell, and Hardberger 219).

[32] Whether these hybrid gas/electric fixtures were used to illuminate the stage or the house or both is not entirely clear.

quote Bolter and Grusin, “What is new about new media comes from the particular ways in which they refashion older media and the ways in which older media refashion themselves to answer the challenges of new media” (15). Putting the old and new adjacent to each other renders this refashioning all the more evident.

An example of the minute appreciation for the qualities of the medium of electric light that can be evoked by this direct juxtaposition with the older technology can be found in an 1880 article in the *St. Louis Globe-Democrat* titled “Edison’s Entertainment.” The titular “entertainment” in question was a private exhibition hosted by Thomas Edison, at which the Mayor, the Common Council, and other VIPs from New York City were invited to Menlo Park, New Jersey to experience an entire street newly illuminated by electric light.

This event was not theater in any widely accepted sense, even then when, as we have seen, the accepted sense of theater was broader than it is today. However, the fact that an event that was fundamentally about convincing influential people of the economic and social efficacy of a new technology could be plausibly labeled an “entertainment” does suggest the close connection at the time between technology and theater, as well as the influential role that theater of the time played, not only as entertainment, but also as a tool for promotion and education. Probably no one at the time understood that better than Edison, who was well known for his showmanship and deliberately and routinely employed theatrical techniques and the theater itself as a means of introducing his inventions to the public. In the case study at the end of this chapter, we will take a closer look at a production of *Excelsior*, for which Edison teamed up with the theatrical impresarios Imre and Bolossy Kiralfy, through which Edison used the theater to promote electricity as much as the Kiralfy brothers used electricity to promote their theatrical spectacle. Thus, it is not much of a stretch to claim that Edison’s 1880 “entertainment”

functioned theatrically and related to the technologies and other media it incorporated in a manner similar to that of the theater.

The *St. Louis Globe-Democrat* article chronicling this entertainment bears transcribing at some length:

> At 5:45 the gas was turned off from the street lamps. The electric lights were then seen to much better advantage. Under each lamp was a shadow comparatively dark, caused by the rims of the ground glass on the globes. Across the street stretched long, narrow shadows of the bars of the framework inclosing the globes. The gas in the shop windows looked dim. Near each lamp-post seen against a dark background, a cloud of minute particles of dust in the air could be distinctly seen. Fine rays of light seemed to shoot out in every direction. The lights were remarkable for their steadiness, but they seemed too widely scattered and somewhat dim. No flickering whatever was perceptible. About 7 o'clock the street lamps were turned on again and gas and electricity entered into competition. The electric lamps were 262 feet apart. Halfway between them it was possible to read a newspaper.
>
> Passers-by cast black, clearly defined shadows. These were perceptible even when they passed directly underneath the lights. The gas lamp-posts cast long shadows when contrasted with the electric lights. ("Edison's Entertainment")

Several things about this description are striking. There is the extremely detailed analysis of the quality of the electric light itself – its steadiness, its intensity, its reach, and its rays. There are also the direct comparisons between the electric light and the gaslight – the gaslight looks dim next to the electric light and it casts longer shadows. The length of the shadow would, of

course, really be dictated by the position of the light source relative to the objects casting the shadow, rather than by any quality particular to the two different light sources. This observation, though, while it shows the writer's lack of knowledge of the physics of light, nonetheless also demonstrates the depth of her or his interest in comparing the two technologies. The writer also takes note of the impact of the electric light on the things around it – the minute dust particles that the electric light reveals, the defined black shadows cast by the passers-by, and the newspaper that can be read at 131 feet from the electric light sources on either side of it. In other words, even in this seemingly simple demonstration, the writer is pondering not only the electric light itself and how it compares to gas light, but also the effect that the electric light has on what features of the world she or he can see, how she or he sees the people around her or him, and where and how the electric light affects her or his ability to understand and employ the already established medium of the newspaper.

The purpose of Edison's demonstration was to prepare the aldermen for Edison's planned bid to place his electric lights on the streets of New York City. But as we can see from the article quoted above, this event clearly demonstrated much more than just what electric light was or the potential it had in relation to city planning. This event demonstrated how electric light interacted with the things around it. It presented new possibilities of what could be seen and where and by whom. Even in this small demonstration, electric light had an immediate impact on how people behaved and what people noticed. And, in this theatricalized staging of the electric light side by side with the older technology of gaslight, the viewer is consciously aware that these changes are happening as a result of this new technology. This awareness of course could, and certainly in some cases did, happen outside of theatrical stagings of the new technology, but the conceptual frame of the theater event renders this medial opacity more likely.

Edison's event was only open to an elite few. In theaters, though, where gaslight and electric light also performed side by side, the public could certainly have had a similar experience, learning not only about what electric light looked like, but also about what the world, their neighbors, and other media looked like under electric light and how electric light requested or required that they look at the world around them.

Given the period's propensity for theatrical experiment and theatrical spectacle, it is not surprising that theater artists were soon probing the limits of what could be achieved with electric light. Often, these effects were described in terms of "realism," as electric light was used to reproduce in detail specific times, places, and atmospheric phenomena, actual or imagined. Remember, though, that this realism of the period is not a transparent window to reality. This realism is noteworthy not because audiences mistake it for reality but because they perceive how it approximates – or fails to approximate – reality. In other words, a kind of hypermedial opacity, in which the audience is aware of both the mediality of theater and the mediality of the electric light is inherent in the "realistic" use of electric light in the theater in this period. Indeed, this awareness was a necessary part of the spectacle of electric light on stages of the time.

A strong example of this is the Electric Scenic Theater at the World's Columbian Exposition of 1893. The point of the Electric Scenic Theater was to overtly demonstrate the capacity of electricity – and electric light in particular – to simulate nature. It consisted of a model of a town in an Alpine landscape. The operator used electric light, as well as sound and mechanical effects, to cycle this scenery from daybreak to midday to an afternoon thunderstorm to a post-storm rainbow to evening to a moonlit night.

This Electric Scenic Theater exhibition did not just showcase the electric light effects. It also showcased the process by which the effects were created. *The Milwaukee Sentinel* offers a particularly detailed description,[33] which reads, in part,

> Mr. Baker [the operator] climbs up to a loft that is just above and to the left of the curtain. Before him is a huge electrical switchboard and on all sides are innumerable electrical appliances … Mr. Baker begins to industriously turn a crank on the top of a high cylinder and the first haze of morning suffuses the picture. He is not idle a minute, but is first turning one crank and then another and the light gradually increases and the eastern sky warms up, a burst of sun reflection finally appearing from behind the most distant mountain in the scene. ("Seeing")

The article goes on in this vein for quite a while, describing the process by which Mr. Baker and his team employ electricity to create the scene with as much love and care as it describes the scene itself. This is not a performance about the beauty of nature. It is a performance about the electrical *reproduction* of the beauty of nature. Whether this is a utopian or a dystopian vision of the potential of electric light is perhaps left up to the discretion of the individual spectator.

The *Milwaukee Sentinel* article ends, "The curtain falls. The lights are turned on and the water turned off, and all is in readiness for the next show" (Seeing"). In other words, this reviewer's experience of the Electric Scenic Theater did not *end* with the fall of the curtain, it *included* the fall of the curtain. It included the conscious contrast of the stage world with the non-stage world, the conscious understanding that representation is embedded in the very concept of "realism," and the knowledge that the exhibit is not about the audience experiencing something

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[33] See also Whiting.

real but about the audience experiencing the reality of representation. In other words, the experience is intermedial.

The same can be said of the electric lighting effects that were part of dramatic productions, rather than, as in the case of the Electric Scenic Theater, self-contained performances in their own right. An 1893 article in Chicago's *Daily Inter Ocean*, for instance, declares, of the scenic effects in a production of *Urania*, "Stage lighting is in such perfect form as a few years ago nobody ever dreamed of. All the natural phenomena, as sunrise, sunset, water-falls, rain-bows, lightning, thunder, rain and moving clouds, and the magic glittering of the moon on the lake – in short, an endless number of natural phenomena which a close observer of nature may desire to see, are produced with astonishing fidelity" ("Amusement Addenda"). Also in 1893, Steele MacKaye, who we recall from the double stage profiled in the case study at the end of the previous chapter, received a patent for an "Apparatus for Producing Scenic Effects," which was one element of his famed Spectatorium that was meant to open at the same 1893 World's Columbian Exhibition at which the Electric Scenic Theater appeared. In this patent, MacKaye claims that the invention was "for imitating the shades and tints of light which color the landscape, from the darkness of night, through dawn, sunrise, early morning, noon, afternoon, evening, sunset, twilight, moonlight into the darkness of midnight again" (1). David Belasco, in his 1919 memoir, *The Theatre Through Its Stage Door*, recalls, "I experimented three months to secure exactly the soft, changing colors of a Californian sunset over the Sierra Nevadas, and then turned to another method. It was a good sunset, but it was not Californian" (56-57). These effects, like the Electric Scenic Theater, if they succeed, succeed not because they are mistaken for reality, but because they knowingly and overtly push the limits of the degree to which electric light can mimic or transform reality.

Electric light in the theater today does not generally function in this way, as long and ubiquitous use has rendered it among the most transparent of the many media that theater routinely employs. On our stages, as in our homes, our workplaces, and our public spaces, electric light today has become so commonplace as to be noticeable only in those rare moments like power outages at which it is suddenly not available at the flip of a switch.

Furthermore, theater today continues to embrace, as did the founders of New Stagecraft, the theatrical hierarchy propounded by Adolphe Appia that places light below the human actor in importance. Appia writes, in his “For a Hierarchy of Means of Expression on the Stage,” “the actor is light’s hierarchical superior; and if light is to rank as a means of dramatic expression, it must be put in the actor’s service – in service of the actor’s dramatic and plastic expression” (85). In the early days of electric lighting in the theater, though, it was not subservient to the actor, to the story, to the director, or to anything else. Electric light at this time was such a wonder and such a mystery that, fundamentally, electric light on the stage was about electric light. We will see an excellent example of this in the case study at the end of this chapter when we take a closer look at Imre and Bolossy Kiralfy’s 1883 production of *Excelsior*, with electric light effects courtesy of Thomas Edison himself.

Because the theater of the time was so eager to experiment with new technologies and because electric light on stage at this time was so obviously and profoundly about the light itself, the theater of the late nineteenth and early twentieth century United States was a critical site of encounter between people and new technology. This intermedial experience, in which the new medium of electric light is staged through the old medium of live theater, was formative in developing electric light’s relationship to natural light, gas light, and human society.

Film

Next to electric light, film was perhaps the most influential media technology to emerge from the late nineteenth century. As was the case for electric light, the role of theater in the technology's introduction to the public was immediate and profound. As a result of this intermedial relationship, film conventions were initially shaped in the theater just as theater conventions were redefined by film.

As we saw was the case with electric light, this was a process that took time. It was years before anyone could define what film was as a medium in its own right. As Elleström puts it, "'cinema' … did not become 'cinema' the day the technique was invented" ("The Modalities" 25). Jack T. Munsey, in a 1964 article entitled "From a Toy to a Necessity: A Study of Some Early Reactions to the Motion Picture," breaks early film history into three distinct phases. According to him, there was "The period of wonder, 1896-1900" and "The period of apathy, 1901-1908" before we finally reached "The period of recognition, 1909-1916" (96). Thus, as was the case for electric light, the early years of film and theater was a hybrid period wherein the new technology stood alongside and in contrast to the old, defining the medial qualities of cinema, while highlighting and redefining the medial qualities of theater.

The first commercially viable film projection technologies made their public debuts worldwide in the mid-1890s. Film-based technologies for private viewing were already extant prior to this. The best known of these latter is probably Edison's Kinetoscope, which allowed a single viewer to watch a film through a peephole in the top of an enclosed cabinet. The advent of film projection technologies, however, transformed the experience of viewing film from an individual experience to a collective experience, thus making film both more akin to theater and more viable as a mass medium of entertainment and communication.

The examples of early film projection technology best known today include Louis and Auguste Lumière's Cinématographe and Thomas Edison's Vitascope, but there were other evocatively named moving picture projectors invented and exhibited worldwide. These include, but are not limited to, in Germany, Ottomar Anshütz's Projecting Electrotachyscope and Max and Emil Skladanowsky's Bioskop; in France, George William de Bedt's Kinetographe De Bedts, Georges Demenÿ's Chronophotographe, Lucien Korsten, Georges Méliès, and Lucien Reulos's Kinétographe, Paul Mortier's Aléthoscope, Ambroise-François Parnaland's Photothéagraphe, and A. and J. Pipon's Cinographoscope; in England, Birt Acres's Kinetic Lantern, T. Moore Howard's Kineoptikon, the Lathams' Panoptikon, Robert William Paul's Theatrograph, Cecil Wray's Kineoptoscope, and Alfred Wrench's Wrench Cinematograph; and in the United States, Herman Casler's Mutoscope and O.A. Eames's Animatoscope (Rossell 129-165). This proliferation of various versions of the same essential technology is an indication of just how unsettled and ill-defined film was at the time, not only in its mechanism, but also in its aesthetics, its distribution, and its purpose.

The delightful names assigned to these inventions further highlight the profusion of important associations people had for the new film technology. The names variously conjure up, in their assorted languages, associations with movement, change, time, speed, photography, writing, optics, vision, electricity, animation, life, and, of course, theater. As *Rocky Mountain News* notes in an 1897 article called "Science and Discovery,"

> No invention ever introduced has been given as many names as that which reproduces motion pictorially … In the improved form it has been exhibited during the last two years as the kinetoscope, cinematograph, idoloscope, projectoscope, graphoscope, motograph, kinematograph, animatoscope, vitascope,

> cinematascope, veriscope, vivoscope, biograph, rayoscope, magniscope and at least a dozen others."

Over the course of this dissertation, then, we will encounter essentially similar technology under various names. In that they all used flickering projected light, moving reels, and a series of pre-recorded images to reproduce a simulacrum of living motion, for the purposes of this project, they all function in essentially the same way, medially speaking.

The debut of these film projection technologies, we should recall, is not the same as the advent of film as a medium. As André Gaudreault and Philippe Marion write in their "The Cinema as a Model for the Genealogy of Media," "the cinema's maturation is the result … of a slow process of maturation, despite its historically demonstrable irruption as technology. Ultimately, to view the birth of a medium as synonymous with the invention of a technique can only be, and not only in the case of the cinema, a 'Grand Illusion'" (13). These new film technologies then, were not initially producing "film," the medium we understand today, because the medium we understand today evolved over the course of decades as artists, audiences, and other media – theater in particular – experimented and interacted with the new technology. The role that film came to play and continues to play in society, then, was far from a teleological certainty dictated by the technology itself. On the contrary, film (the medium) is what it is today in large part because of what theater artists did with film (the technology) in the late nineteenth and early twentieth century.

Theaters were among the first and most successful places where film projection technology was publicly exhibited. As David Belasco notes in his *The Theatre Through Its Stage Door*, "The theatre, on account of its architectural arrangement, was instantly seized as a

convenient place for moving-picture exhibitions" (204). Thus, many people of the time first encountered film in theater spaces and as part of theatrical programs.

Theater, with its inherent array of material, technical, and sensory interfaces, was also well suited as a site to investigate and define the medial parameters made possible by the new technology. As we recall, on the theatrical stage, the film continues to exist materially as itself even as it participates in the theatrical performance. Thus, audiences of the time watching a film on the stage, even as they saw through the film to the people, events, or objects represented on the film, simultaneously saw the film as itself, presented via the theater as an object of interest in its own right.

The event that is often remembered as the advent of film projection technology in the United States is the April 23, 1896 premiere of the Edison Vitascope[34] at Koster and Bial's Music Hall in New York City. This was not actually the first film shown in the United States. Albert E. Smith, in his autobiography *Two Reels and a Crank: From Nickelodeon to Picture Palaces*, recalls giving public showings of his Vitagraph in New York City on January 6, 1896 at St. John's Hospital and March 23, 1896 at Tony Pastor's New Fourteenth Street Theatre (38). The Vitascope itself, under its original name of Phantoscope, was exhibited in September and October of 1895 at Atlanta's Cotton States Exposition (Rossell 136-37). Even earlier, Woodville, Gray, and Otway Latham; Eugene Lauste; and W.K.L. Dickson gave a press exhibition of their Panoptikon in New York City in April of 1895 (Rossell 133) and a public exhibition in Chicago in August of 1895 (Rossell 136). There is a possibility that Jean Aimé Le Roy projected films in New York City as early as February 25, 1894, though this cannot be definitely substantiated

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[34] Though it was promoted under Thomas Edison's name, the Vitascope was actually a renamed incarnation of the Phantoscope, patented in 1895 by Charles Francis Jenkins and Thomas Armat (Rossell 136).

(Rossell 127). Robert Grau, writing in the August 12, 1911 issue of *Scientific American*, claims to have been "in the audience at Keith's Union Square Theater, in New York, one evening in July, 1894, the eventful night when the motion picture was first revealed to American theatergoers" (155). It is possible that Grau attended an exhibition by Le Roy or some other projectionist, but I suspect Grau is simply mistaken about the date, as he then claims, "Inside of a year the cinematograph was installed in every vaudeville theater in America" (155). Given all the hype surrounding the Koster and Bial's exhibition almost two years after Grau claims to have seen this exhibition, this last is obviously untrue.

The fact that the Koster and Bial's exhibition is the one that has lingered in historical memory certainly owes something to Edison's personal fame and well-known talent for self-promotion. It could also relate to the fact that the Koster and Bial's event, unlike some of the earlier public showings, presented film in a designated theater space in an overtly theatrical context.

This theatrical incarnation of film in its appearance at Koster and Bail's in April 1896 borrowed liberally from the popular variety shows of the time, both in that it consisted of a series of short vignettes rather than a unified work and in that many of the vignettes were literally recordings of live variety acts. The description of the evening in *The New York Times* is informative:

> When the hall was darkened last night a buzzing and roaring were heard in the turret, and an unusually bright light fell upon the screen. Then came into view two precious blonde young persons of the variety stage, in pink and blue dresses, doing the umbrella dance with commendable celerity. Their motions were all clearly defined. When they vanished, a view of an angry surf breaking on a sandy

> beach near a stone pier amazed the spectators. The waves tumbled in furiously and the foam of the breakers flew high in the air. A burlesque boxing match between a tall, thin comedian and a short, fat one, a comic allegory called "The Monroe Doctrine"; an instant of motion in Hoyt's farce, "A Milk White Flag," repeated over and over again, and a skirt dance by a tall blonde completed the views, which were all wonderfully real and singularly exhilarating. For the spectator's imagination filled the atmosphere with electricity, as sparks crackled around the swiftly moving, lifelike figures. ("Edison's Vitascope")

This film exhibition was quite clearly intermedial in one very specific sense that Irina O. Rajewsky designates "medial transposition" ("Intermediality" 51), in which a work in one medium is transformed into another medium. The live variety show has been transposed onto film.

In this case, though, the intermediality is multi-layered. Not only did the film in this Vitascope exhibition reference, imitate, and transform the variety show, it simultaneously existed within a live variety show. The evening of theater at Koster and Bial's on April 23, 1896 included a full variety program. As reported in *The New York Times* the next day, "The vitascope is only one feature of an excellent bill at Koster & Bial's, in which, of course, the admirable art of the London monologue man, Chevalier, is a notable item" ("Edison's Vitascope"). Thus, like all variety acts, the Vitascope was subject to the hypermedial juxtaposition inherent to the variety show as described in the previous chapter, in which each act of the variety program acts as a medial contrast to the others.

Thus, this filmed variety show exists doubly in direct comparison to live variety shows – both the variety acts that it reproduces and the variety show of which it is, itself, a part. This

makes evident both the material differences between the new technology and the old and the expanded theatrical possibilities afforded by the new technology.

Some of the filmed vignettes, such as the umbrella dance, the boxing match, and the skirt dance, were simple reproductions of precisely the kind of variety acts of which the rest of the live portion of the Koster and Bial's show consisted. In these cases, then, audiences saw a direct comparison between film performers and live performers. Given the novelty of the new film technology, this was an important way for people to experience the new form of representation in comparison to the old, a way in which theater, to quote Boenisch again, "adapts and disperses the new cognitive strategies" ("Aesthetic" 111) relevant to the altered sensory interfaces provided by the new technology. This juxtaposition of live performers and filmed performers remains a common technique in intermedial performance to this day.

The moment from *A Milk White Flag* went even further in this contrast between the live version of performance and the film. It took advantage of the expanded possibilities of the new technology to manipulate the recorded performance in a way not possible – or at least not possible in the same way – for live performers. *A Milk White Flag* is a full-length farce by Charles Hale Hoyt, which was popular at the time of the Koster and Bial's Vitascope exhibition. The Vitascope film, though, reportedly did not show the entire farce, or even a scene thereof. Rather, it showed just "an instant of motion," not once, but "repeated over and over again." This goes beyond demonstrating the differences between film and live performance in a material sense. It demonstrates the particular way in which this new media technology can alter that which it represents by capturing and replicating a live moment ad infinitum.

In so doing, this filmed repetition of a theatrical scene both acquaints viewers with the possibilities of the new media technology and invites viewers to reflect upon the manipulations

the new technology performs on its subject, and even perhaps upon the manipulations inherent in media representations generally. Thus, the veracity of theatrical representation is perhaps as much at issue as the veracity of filmic representation. The subsequent history of film, in which artists experimented with all kinds of cinematic effects from the whimsical to the sincere, confirms that this experimentation with the potential of film not just to record and reproduce reality but also to contort and transform reality was a major preoccupation of artists of the period.

The vignette of the waves crashing, in contrast to the vignettes we've examined thus far, replicates not a theatrical performance, but a scene from nature. This vignette is described and analyzed in greater detail in a May 3, 1896 article in Washington D.C.'s *Morning Times*:

> It [the Vitascope] also presents moving nature. A sea view is given with the waves coming in and breaking with perfect realism. Who will write a play and use the vitascope instead of painted scenery? … How much more realistic to have it all photographed and reproduced from the original, than to employ a property man and blue cambric waves over half a dozen perspiring stage hands and a still-life drop at back. ("Gallery Pit")

Clearly, this was precisely the point of including this vignette in the presentation – not merely to show that the new technology can represent nature, but to suggest that it can represent nature *better* than the old technology. Particularly as this filmed scene was exhibited in a theater, audiences could not help but to make the comparison explicitly drawn by the *Morning Times* reporter, mentally contrasting this film of the sea with other representations of the sea formerly seen on stage, perhaps in that very theater. As Bolter and Grusin write, "Although each medium promises to reform its predecessors by offering a more immediate or authentic experience, the

promise of reform inevitably leads us to become aware of the new medium as a medium. Thus, immediacy leads to hypermediacy" (19). In its clearly deliberate promise of a more transparent view of nature – a promise made on the very stage on which property men wielded their blue cambric waves – this early film of waves crashing stages its own process of representation even as it promises to bring viewers closer to the reality of nature.

Simultaneously, this new way of representing a wave reflects back and changes perceptions of older ways of representing waves. This is an example of the phenomenon described by Szczepanik, wherein when two media collide, "On the level of reception, the converging media lose their transparency toward the represented fictional world. As a result, the viewer's attention turns to the structural components of specific technologies of seeing as such" (29). The blue cambric waves appear different in the perception of a viewer who has seen waves represented on film than in the perception of a viewer who has not. This is another part of what Boenisch means when he writes, "theatre turns into *a new medium* whenever new media technologies become dominant" ("Aesthetic" 111, emphasis original). Not only does the new media technology open up new possibilities for designers, directors, and technicians to use as an element of theater practice, but also the existing elements of theater practice, in the presence of the new technology, are exposed in a way that they had not been prior to the advent of the new technology. Once film came on the scene, the blue cambric waves would never be the same again.

I do not mean to suggest that Edison intended all of these complex technological, medial, and perceptual interactions when he showed his Vitascope at Koster and Bial's. Rather, theater was then simply the best way for him to reach a mass audience. However, because of the way that theater operates as a medium and because film technology first came to much of the public

through the theater, the Koster and Bial's show, as well as other early theatrical film presentations, did more than demonstrate the new technology. These exhibitions also began a process of medial negotiation between film and theater and between film and theater audiences that was pivotal both to the aesthetic development of both media and to the viewing conventions and cultural status of both media over the coming decades.

Over the coming decades, the medial interactions between film and theater became increasingly complex. For instance, at Koster and Bial's, the film presentation, while coexisting with and mutually referencing the live performance, was nonetheless separate from the live performance, temporally speaking. At any given moment, the performance the audience was seeing was either live or recorded, not both. Comparing the different media technologies, therefore, requires the audience to think back to what they had seen in the previous act, or even in previous visits to the theater.

In today's intermedial performance, on the other hand, the live and non-live portions of a performance are more likely to be simultaneous and certainly likely to be conceptually deliberate in a way that, for the most part, the Koster and Bial's exhibition was not. Scholars of today's intermedial performance generally trace the historical roots of these simultaneously staged intermedial practices to the combinations of film and live performance in the work of early twentieth century avant-garde theater directors. Chiel Kattenbelt, for instance, speaks of Vsevolod Meyerhold as "one of the first directors who experimented with film projections in the theatre" (24). Robin Nelson cites "a substantial history from Piscator onwards of combining mechanical, analogue media such as film with live action" ("After Brecht" 38). Birgit Wiens describes how "[s]lide projections and film also entered scenography – for example, it became part of the 'epic stage' of Erwin Piscator and Bertolt Brecht" (92). It is true, of course, that

Meyerhold, Piscator, and Brecht experimented with film in innovative and compelling ways. But they were not the first to do so.[35] There is a substantial history of mingled live and film performance in the popular theater dating back at least to April 1897 – a scant year after the Koster and Bial's Vitascope exhibition.

In 1897, cinema took an active role in the plot of a show called *The Good Mr. Best* by John J. McNally. An article in *Munsey's Magazine*, which overall considers *The Good Mr. Best* quite bad, notes, "It should also be set down as a matter of record that this is the first play to use the vitascope in connection with the working out of the plot" ("The Stage" 145). So, here in 1897 is perhaps the true beginning of film in dramatic scenography.

The Good Mr. Best is, in many ways, a typical unpretentious farce, replete with standard plot devices like mistaken identity and love triangles. The technologically unusual part of *The Good Mr. Best* comes in the third act, which takes place in the house of the late Tim Best, who, "shortly before he died perfected an invention by means of which he could sit in his library or general living room and by pressing an electric button could see everything that was going on in every room in the house" ("The Lobbyist"). Through this invention, several characters, in the best farcical tradition, are able to spy upon one another in various compromising situations. The scenes that *The Good Mr. Best*'s characters are thus able to observe were shown on stage by means of projected films.

[35] In *Staging the Screen: The Use of Film and Video in Theatre*, Greg Giesekam describes conjuntions of film and theater that predate Piscator, pointing out, "Discussions of the use of film in theatre generally begin with German director Erwin Piscator's politically inspired experiments from the mid-1920s onwards. Closer investigation reveals, however, that within a decade of the Lumière brothers exhibiting the films in Paris in 1895, theatre practitioners were employing film" (27). Giesekam, however, focuses solely on European theater and does not cite any specific examples of film used in the theater prior to 1911.

This, then, is not, like the Koster and Bial's exhibit, overtly an exhibition of film as film, per se. Film here functions in the plot not as film, but as a different (and at this point fictitious) invention very similar to what we now know as closed circuit television. Yet, because film technology was so new – as this was unquestionably among the first plays, and quite possibly *the* first play, to employ it as a plot element – it inevitably functions *also* as an exhibition of film and of its possibilities in and for the medium of theater.

Because *The Good Mr. Best* is a lighthearted romantic comedy, the invention, as a plot device, naturally results in hijinks like a husband spying on his wife's tryst with her lover and the wife seeing "her husband in an act which nearly drives her insane and the audience wild with laughter" ("The Lobbyist"). Yet, even as the audience was reportedly dissolving in gales of laughter, this scene in *The Good Mr. Best* also began to probe the representational, societal, and moral possibilities of the new technology.

An article in Philadelphia's *North American* describes how the surveillance was realized on the stage:

> The effect is not produced by the old-fashioned tableaux, but by the use of the kinetoscope and the projectoscope combined. The pictures are similar to those thrown upon the screen by the vitascope and other machines of that kind, but in this introduce the very characters of the play as they have been seen by the audience, and the action in which they take part is a part and parcel of the plot of the piece. The audience will see Mr. R. A. Roberts, Miss Georgia Caine, Miss Kate Dale, Mr. John G. Sparks, Mr. Joseph Coyne, Mr. Julius Witmark and Mrs. Yeamans acting an essential and very amusing part of the play in these motion

> pictures, while they are really in the wings, enjoying the novelty of seeing themselves act. (“The Lobbyist”)

What is immediately obvious in this description is that the film in *The Good Mr. Best* immediately prompts this reviewer to make medial comparisons, both to older technologies and to prior uses of the new technology.

In the first sentence of the quote above, the reviewer compares the new technology of film to the old stage technique of tableaux. It’s a little bit of a strange comparison, because it’s hard to imagine how the filmed scenes in *The Good Mr. Best* could possibly have been achieved through tableaux. Tableaux, a popular variety show element of the period that will make another appearance in this dissertation in the chapter dealing with humanity and cyborgs, involved living human performers mimicking inanimate images such as famous paintings. By very definition, then, tableaux are static and thus not at all suited to realize the active scenes viewed through Mr. Best’s surveillance system. In many ways, a tableau is the opposite of a film, in that a film animates a flat surface to resemble an active three-dimensional scene whereas a tableau uses live three-dimensional performers to create flat, static pictures. Nonetheless, the fact that this reviewer was led to make the comparison reveals a relationship between tableaux and film. Tableaux, by their very nature, are inherently about mediation, in that their appeal lies very explicitly in mimicking one medium with the tools of another. What the *North American* reviewer points out, then, in drawing a comparison between tableaux and the filmed elements of *The Good Mr. Best* is that the film elements of *The Good Mr. Best* are, like tableaux, fundamentally as concerned with representation and media, per se, as they are with the plot of the play.

In the next sentence, the reviewer pivots to make a comparison between the use of film on stage in *The Good Mr. Best* and the earlier exhibitions of film as film, such as the one at Koster and Bial's the previous year. Unlike these prior exhibitions, the reviewer points out, the film in *The Good Mr. Best* is critical to the plot of the play. Medially speaking, then, this film is both reality and representation. This reviewer obviously understands how and what the film is meant to signify within the context of the fictional world of the play. At the same time, largely because film was still so new, particularly as employed in this way, the film cannot yet sink transparently into the existing medium of theater. The film insists on its own existence as film even as it signifies within the story of the play.

The reviewer is not only interested in the fact that the filmed scenes are incorporated into the plot of the play. She or he is at least as interested in the fact that the characters in the film are the same characters that the audience has just seen live on the stage. Thus, unlike at the Koster and Bial's exhibition, this reviewer is experiencing the filmed performance not just in relationship to live performance generally, but also in relationship to the live performance of the very same actors in the very same play. The performances being even more analogous than those in the Koster and Bial's exhibition, the contrast between the two different technologies of representation – the live actor and the film projector – is consequently all the more explicit.

Even more than that, the reviewer then goes on to list each of the performers in the filmed scenes by name, thereby evoking a triple-layered presence – the filmed representation of the character, the live representation of the character, and the real actor who is the physical basis for both. On the one hand, it can be argued that this list of performers' names is just the reviewer telling the reader who they can expect to see in the performance. This was a standard practice of theater criticism then as it continues to be today. On the other hand, the reviewer goes out of her

or his way, not merely to list the names, but also to evoke the image of the actors standing in the wings, materially present while they watch their ephemeral doppelgängers on the screen.

This may be the first hint, in the joint history of film and theater, of a recurring theme of biological/technological doubling in intermedial performance. As Russell Fewster says of the 2006 performance *The Lost Babylon*,

> An intermedial presence was arrived at through the interpenetration of live and virtual presences. This kinetic play between the two presences resulted in a need for audience members to negotiate between the biological materiality of the live performer and the technological materiality of the projected performer.
>
> … This intermedial presence reinforced the play's commentary on media effects upon society and the potential for the virtual to become real. (68)

It is significant to note that even in *The Good Mr. Best*, perhaps the very earliest staged co-existence of human actor and filmic double, the medial workings of the theater immediately make the *North American* reviewer – as well, presumably, as the performers themselves – aware of this intermedial doubling of presence. We will see this theme emerge again in the cyborg chapter, which focuses specifically on relationships between human and technology in performance.

Another thing to note in the *North American* article is the specific technologies it mentions – the kinetoscope and the projectoscope. The projectoscope is essentially a relative of the Vitascope – a film projector designed for public viewing. The kinetoscope, on the other hand, is a different technology, which was introduced to the public a few years before the Vitascope. The kinetoscope, although it also relied on a moving filmstrip, was not a projection technology, but a cabinet-based device designed for individual, not collective, viewing. The combination of

these two technologies, then, suggests the same concern that is at the comedic heart of the plot of the third act of *The Good Mr. Best* – the technological blurring of the lines between public and private spaces. Although *The Good Mr. Best* approaches this concern in a lighthearted manner, as befits a farce, the concern itself is both real and highly relevant, both in the late nineteenth century and today. Media and communication technologies profoundly impact who can access our ostensibly private spaces and where, when, and how that access occurs. *The Good Mr. Best* is the precursor of today's fears – which are both existential and profoundly practical – about hackable cameras in our laptops and phones, Facebook privacy settings, identity theft, surveillance drones, and cell phone location tracking.

There is a hint of a moral dimension, as well, to the use of film in *The Good Mr. Best*. A commentator in the *Boston Daily Advertiser*, for instance, complains of the state of undress of a young woman, as her husband, via the filmed surveillance, watches her meeting her lover. This commentator writes, "is it too much to ask that the vitascope shall not reveal her in her bed-room, about to remove her corsets" ("Boston Museum"). Gwendolyn Waltz, discussing *The Good Mr. Best*, suggests that this kind of risqué performance was rendered at least borderline acceptable "by virtue of the fact that the 'shocking' scenes were only photographs, albeit moving ones. Such delicate incidents might have been more strongly objected to if they had been staged 'in the flesh' with live actors" ("Projection" 132). Both Waltz and the anonymous *Boston Daily Advertiser* writer hypothesize a kind of moral agency for the new technology that differs from that of conventional live forms of representation. This, too, is a prescient concern, when we consider, for instance, exploitation cinema or online bullying. *The Good Mr. Best*, an unassuming, fledgling conjunction of live theater and film technology in the popular theater of

the late nineteenth century, was also a foreglimpse of the power dynamics and the ethical quandaries with which we still grapple in regards to each new technology today.

Of course, these various questions about the new media technology and its role in theater, in the medial landscape, and in society as a whole are not worked out fully in *The Good Mr. Best*. Certainly no coherent concept of the new technology, its place in the world, or its relationship to live theater can be discerned in what was, after all, still a typical romantic farce. But the fact that this level of complexity appeared even in such an early union of film and live performance and even in such an unassuming narrative is a perfect illustration of the unique layers of representation that theater inherently imparts to the other media and technologies with which it interacts, often independent of conscious intent on the part of the theater practitioners responsible. *The Good Mr. Best*, like the Koster & Bial's exhibition before it, introduced these questions of mediality and technology not through the intent of the inventors and artists, but because of what theater does, medially and conceptually, to the technologies it employs. This effect fades with prolonged usage, as the technology in the theater is rendered transparent through familiarity, but in the case of new technologies it can be profound.

Subsequent to *The Good Mr. Best*, theater artists continued to bring film and theater together in numerous ways. The stage designer and inventor Frank D. Thomas, for instance, made a career out of designing and patenting apparatuses that brought together live actors, three-dimensional scenery, and filmed backdrops to create scenes like women swimming in the ocean ("Illusion Apparatus"), people in a rowboat on the water ("Stage Effect" 1910, "Stage Effect" 1916), bath houses on a beach ("Stage Effect" 1916), and people riding in trains, cars, and airplanes ("Stage Effect" 1916).[36] Like many effects of the period's popular theater, on the

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[36] See, also, Krows 223-24.

surface, Thomas's effects seem simple, playful, and perhaps gimmicky. Women stick their torsos out of slits in a drop on which an ocean is projected. A three-dimensional propeller sticks out of a drop on which an image of an airplane is projected. A three-dimensional boat full of live performers rocks back and forth between a backdrop and a groundrow on which ocean scenes are projected.

At the heart of these seemingly simple effects, though, the frictions between the three-dimensional and two-dimensional image, between stasis and motion, and between materiality and ephemerality remain. There is neither an expectation nor a real possibility that the different technologies, spaces, and dynamics within each effect will unify into a single image. Thomas's theatrical effects are about *being* theatrical effects as much as they are about *creating* theatrical effects. As Thomas's effects were numerous and interesting and created multiple spaces and dimensions, we will encounter Thomas's effects again in the chapter on spatiotemporality.

Herbert Knight, in 1914, patented a "Composite Dramatic Production" designed to create "a dramatic production which is partly carried on by living characters and real objects or accessories … and partly by accessory moving pictures" (1). Knight's invention consists of a three-dimensional interior set surrounded by a false proscenium on which an exterior scene is projected. Knight envisions characters stepping seamlessly from one environment to the other. As Knight claims,

> As I have shown it, the moving picture discloses a scene which not only coördinates with the action in the central panel but which, as the drama progresses, is consistent and merges with the action of the enacted scene. By merging I mean the gradual drawing toward the central enacted scene one or more of the characters in the moving picture, and so timing its action that, as the

> character in question appears to be entering upon the stage panel, a living performer similar in appearance in every way to the picture performer can enter from the wings at the same instant and continue, in living form, to enact the part of the picture performer, time, position, movement and appearance being nicely studied and carried out to create the intended illusion. This operation can, of course, be reversed with equally good results – the living actor quitting the stage being immediately taken up or reappearing in the picture, and his movements continued to any desired point. (1)

In Knight's invention, as in *The Good Mr. Best*, we see the same character in live and filmed form, but in this case without the plot frame around the filmed scenes. The transfer from the screen to the stage, or vice versa, is immediate and it lacks the intervention of the fictitious surveillance technology that sets the filmed characters in *The Good Mr. Best* apart from the live characters. The audience is evidently meant to accept the filmed and live versions of the characters as fully equivalent, each as "real" as the other.

Certainly, by 1914, film was less of a novelty to the theatergoing public than it was when *The Good Mr. Best* was performed in 1897. I find it very difficult to believe, however, that film could possibly have achieved the kind of transparency that would be required for Knight's effect to function in the seamless fashion that he suggests, particularly as Knight himself indicates, "This feat has never, to my knowledge, been contemplated or undertaken in connection with the dramatic art, in the presentation in fact of any play or stage scene" (1). Even today, when film, for the most part, has grown to be among the most ubiquitous and transparent of media, that transparency would be disrupted by the introduction of a living performer. We feel this, for instance, when moviegoers perform in front of *The Rocky Horror Picture Show* or when we see

an actor attend a screening of a film in which she or he appears. Our filmic worlds even today are perfectly transparent only so long as they remain clearly separated from live performance and live performers. Thus, even a contemporary audience and certainly a 1914 audience, I believe, would not accept Knight's filmed and live performers as equally real, but rather would be led to question which was the more real or how their respective claims to reality differed.

Indeed, Knight's invention prefigures contemporary theater experiments that are explicitly intermedial in character. Irina O. Rajewsky, for instance, describes Win Vandekeybus's 2002 *Blush*:

> repeatedly dancers seem to jump directly 'into' the screen and thus seemingly 'into the film, where, now in their filmic embodiment, they seem to continue their movements without interruption. This effect is made possible by a projection screen that actually consists of several panels put next to one another, leaving some 'slots' that allow the dancers to jump *behind* the screen. Yet, since the live action on stage and the pre-produced action on film are exactly synchronized, the dancers effectively seem to jump *into* the filmic underwater world and thus *into* the water … In this way the identity of the dancers on stage and on film, as well as their seemingly continuous movements, create the illusion of a continuity of what happens on stage and on film. At the same time, two worlds, two medial 'realities,' two time levels and two medial forms of embodiment are set against one another. ("Border" 57)

In the production that Rajewsky describes, the two different technologies of representation inevitably highlight one another as they mediate the same human performer. Knight's invention would have operated in a similar way.

1914 was also the year in which one of the period's most ambitiously and deliberately intermedial acts that relied on the interaction of film and theater debuted – Winsor McCay's *Gertie the Dinosaur*. McCay was primarily a cartoonist, known for such then-popular strips as *Little Nemo in Slumberland*, *Little Sammy Sneeze*, and *Dream of the Rarebit Fiend* (Waltz, "Projection" 163).[37] He has also been credited with having created the first animated film (Bragdon 40).

As a supplement to his work as a cartoonist, McCay had a live act in which he demonstrated his drawing and screened his own animated cartoon films. In 1914, McCay added *Gertie the Dinosaur* to his act (Waltz, "Projection" 170). In this portion of the act, McCay, dressed as a circus animal trainer, interacts with Gertie, an animated, on-screen dinosaur. As Claude Bragdon recalls the act in a 1934 article in *Scribner's Magazine*, "Presently, at his [McCay's] summons, on the screen behind him, Gertie is seen to emerge timidly from her cave. At his command she clumsily raises her right foot and then her left, and is rewarded with a large red apple, tossed to her from her master's hand" (41). This apple, thrown by the physically present McCay and caught and swallowed by the on-screen dinosaur, was the first object in the act to make the leap from stage to screen. Later in the act, McCay himself entered the film world with Gertie, simply by stepping behind the screen to be replaced on the screen with an animated cartoon version of himself. As Waltz notes, "The transformation was self-evident, a joke shared between McCay and his audience, especially amusing because of the juxtaposition between the simplicity of the trick and the complexity of the spatial statement it made" ("Projection" 174). So in the same year in which Knight's invention tried but almost certainly failed to equate film and

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[37] *Dream of a Rarebit Fiend* was medially transposed, in Rajewsky's sense, into a funny little film of the same name. The eight-minute film can be viewed in its entirety on archive.org.

live performance, McCay and Gertie, by contrast, successfully (and playfully) foregrounded the spatial and material differences between the two.

Through her presence on stage, Gertie exists simultaneously through three separate technologies of representation – pen and ink, film, and live performance. The same can be said of McCay himself, once he is quite literally *drawn* into Gertie's screen world. Lavender writes, of contemporary intermedial performance, "The actuality of the actor's presence is heightened by the co-presence of his or her mediatized selves, which are themselves staged as part of the theatrical mix" ("Mise en Scène" 62-63). McCay, in concert with Gertie, is even more complex. At the moment when he steps into the screen world, McCay is very much co-present with his mediatized self. At the same time, because McCay's act is first and foremost an expression of his own virtuosity as a cartoonist, he is also simultaneously the artist and the art, the creator and the creation. Waltz is correct when she writes, "*Gertie the Dinosaur*, as a multi-media performance, is conceptually the equal of anything that has succeeded it in this century" ("Projection" 180).

In short, as with electric light, the relationship between theater and film was, in the late nineteenth and early twentieth century, immediately, compellingly, and intermedially experimental. Film projection technology met its first audiences on late nineteenth century popular stages. Thus, while film was developing its own identity as a medium, it both created new representational possibilities for theater as a medium and uncovered the preexisting representational operations inherent to the theater. This type of medial juxtaposition and hybridity is a key component of intermedial performance.[38]

Phonograph

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[38] See, for instance, Bay-Cheng et. al. (123), Chapple and Kattenbelt ("Key Issues" 11), and Szczepanik (29-30).

The phonograph was ultimately perhaps less transformative of the theater and of the world at large than were electric light and film. And yet, as the first-ever means of capturing, reproducing, and manipulating sound in general and the human voice in particular, the phonograph seems to have been among the most existentially unsettling of the new electric technologies of the late nineteenth and early twentieth century. In an article in *New Media 1740-1915*, entitled “Media on Display: A Telegraphic History of Early American Cinema,” Paul Young writes, of the early instances of still photography, “They [photographs] seemed to undermine identity on one hand by producing copies of the unique individual, and cheat even death and nature on the other by allowing a perfect image to outlive its subject” (236). This can be said even more strongly of phonographic recordings in the late nineteenth and early twentieth century, by which time the recorded *image* had become more familiar, but the recorded *voice* was still a startling novelty. As such, it called into question, in a new way, identity, individuality, and mortality and it also reimagined such previous settled notions as information, virtuosity, privacy, and humanity. As we saw was the case for electric light and film, the theatrical stage offered a compelling intermedial space in which these notions could be excavated and interpreted.

Like electric light and film, the phonograph made its way on stage almost immediately. David Collison, in his book *The Sound of Theater*, as far as I know the only book devoted solely to a historical account of theatrical sound, writes,

> The invention of wireless telegraphy, the telephone, and the sound recording machine, [sic] all happened within a remarkably short period of time. These technical achievements not only changed forever how we communicate and how we listen to music, but they heralded a revolution in the use of sound in the

> theatre. The transition from live sound effects to the playback of recorded sound actually took its first faltering steps in the late 1800s. (65)

Collison seems to suggest that this transition was primarily about developing a new technological method for producing essentially the same sound effects for essentially the same purpose – the recorded sound of thunder replacing the cannonball rolling down a chute or the recorded sound of horses' hoofbeats replacing the clappers pounded on a board that William Gillette somehow managed to get a patent for in 1888.

That transition certainly happened eventually. Today's sound designers are more likely to download the sound of horses from iTunes than to foley the sound with clappers. But, as we saw with electric light and with film earlier in this chapter, the first experiments with the phonograph in the theater were not just about using a new technology to accomplish the same old goals. They were about exploring the new technology per se and discovering what that new technology meant in relation to existing media technologies.

Collison, in his book, glosses over these early years quite quickly. He cites the use of a phonograph to play the sound of a baby's cry in an 1890 London production of *The Judge* as perhaps the first verifiable use of recorded sound in theater history (65, 109) and does not cite another theatrical use of a phonograph until Herbert Beerbohm Tree's 1906 production of *Nero* (109-10). I believe that phonographs were used in theater numerous times well before this. As we have seen, theater, in general, is voracious in its adoption of new technologies and never more so than in the late nineteenth century United States. As we will see in the following examples, there is evidence – somewhat speculative in some instances, but quite persuasive in others – of quite a few theatrical uses of phonographs in the 1870s, 1880s, and 1890s. These uses, like the early theatrical uses of electric light and film, were experimental, creative,

innovative, and intermedial, exploring the potential of the new technology to transform both theatrical practice and human culture.

Thomas Edison filed a patent for his "Improvement in Phonograph or Speaking Machine" in 1877, which was granted in February 1878. As early as June 1878, the phonograph was performing both for audiences and for private parties at New York's Irving Hall. As described in *New York* Times advertisements, these "Phonograph Organ Concerts" employed "EDISON'S SPEAKING PHONOGRAPH" ("Classified Ad 14," emphasis original). The evening's program included "LEVY'S MARVELOUS CORNET SOLOS REPRODUCED BY THE PHONOGRAPH," as well as "The greatest musical sensation of the day, Mme. BELLE COLE'S CHARMING SONGS REPRODUCED BY THE PHONOGRAPH with a fidelity of tone and distinctness of articulation absolutely incomprehensible," and an "Illustrated lecture on Sound Motion as Exemplified in the Phonograph" ("Classified Ad 14," emphasis original) by Professor Robert Spice. The whole, it is claimed by the advertisement in the *New York Times*, "Formed the most delightful, unique, scientific, and musical entertainment ever witnessed in New-York" ("Classified Ad 14"). Since this was a musical performance and lecture, rather than a play or a variety show, this event probably can't be considered "theater," per se, but it can still be an illustrative example of the effect of staging this new technology.

On June 4, 1878, the *New York Times* ran an article entitled "An Evening with Edison," which describes in detail both the public exhibition of the phonograph at Irving Hall and a private VIP reception with Edison that followed. Both events clearly offer a glimpse of the potential that the new technology had to interact with existing media, both to their mutual benefit and to their mutual detriment.

The *New York Times* article describes the public portion of the evening:

> On the platform beside the organ were placed two phonographs, one of which was made to utter an address of welcome to the assembled audience, while the other declaimed, 'Now is the Winter of our discontent made glorious Summer,' &c., in the queer, piping, tones peculiar to phonographs and puppets of a Punch and Judy show. Levy then appeared upon the platform, cornet in hand. He was greeted with a storm of applause, which he answered by playing into the receivers of the phonographs 'Yankee Doodle,' 'Rory O'More,' 'Old Folks at Home.' 'Star Spangled Banner,' and 'We Won't Go Home till Morning.' The clear notes and intricate variations were repeated by the magical instrument so distinctly as to be audible in the remotest portions of the hall. Owing, however, to the crank being turned by hand instead of by clock-work, and the consequent irregularity of the motion, the key was changed, and many discords and false intonations were introduced that caused Levy to writhe in his chair, and sent shudders through the audience. ("An Evening")

One cannot help but to feel sorry for poor Levy, forced to listen to a technologically mangled version of his own performance from a few moments before. It would seem, if there is a medial message in this performance, it is a cautionary tale, not a utopian vision, and one enhanced by the immediate theatrical juxtaposition of the live and recorded performances.

This is a performance not only of the failure of the phonograph, but also of the failure of the phonograph specifically in relation to the success of the live performance that immediately preceded it. Presumably, Edison and the others involved in this performance did not intend this to be the case, which only emphasizes its status as failure. Turning again to Sara Jane Bailes's expertise on failure, she writes,

> The discourse of failure as reflected in western art and literature seems to counter the very ideas of progress and victory that simultaneously dominate historical narratives. It undermines the perceived stability of mainstream capitalist ideology's preferred aspiration to achieve, succeed, or win, and the accumulation of material wealth as proof and effect arranged by those aims. Failure challenges the cultural dominance of instrumental rationality and the fictions of continuity that bind the way we imagine and manufacture the world. (2)

The phonograph is itself a part of this historical narrative of progress to which Bailes alludes.

Presumably, this phonograph performance was meant to reinforce that narrative of progress, since probably no one at the time subscribed to this concept of technological, material, and capitalist progress more enthusiastically than did Edison. And yet, this public phonograph performance did precisely the opposite. Because the performance was staged such that the audience saw not only the action of the phonograph but also the vastly superior live performance that it remediated, the performance undermined the very technology that it sought to showcase. The presence of Levy himself, visibly suffering as he listened to the phonographic reproduction of his performance, heightened this denunciation of the phonograph's pretensions to medial superiority. This is another instance in which theater's built-in tendency towards hypermediacy and built-in capacity for failure (as Bailes puts it, "the probability of not being able to do something as well as hoped" [7]) eclipses the intent of the artists and leads productively to unanticipated meaning.

Thus, the theatrical conjunction of technology, live performance, and co-present audience created a powerful space within which both audience and performer could have a hypermedial experience specifically around the contrast between live and mediatized performance. The effect

of this contrast, reportedly, was so deeply felt as to evoke a visceral response, sending "shudders through the audience." This emphasizes that, as we shall see again in the chapters addressing space-time and cyborg-human hybrid performance, hypermediacy in the theater is not necessarily an intellectual activity. In the live, co-present context of theatrical performance, hypermediacy is often an embodied experience.

The *New York Times* article goes on to describe Edison's activities at the reception for about a hundred guests that followed the public exhibition. In an attempt to remedy the damage done to his invention's reputation by the earlier mutilation of Levy's performance, "Mr. Edison invited Levy to play once more into the instrument, while he turned the crank, his practiced hand moving with the regularity of a machine. The result was a revelation to those who had heard the previous attempts in the hall. The key in which the air had been played was perfectly retained; there were no more false intonations, and even Levy himself was satisfied" ("An Evening"). Here again, Bailes offers a useful idea. Failure, according to Bailes, "offers new conceptions of virtuosity and mastery" (13). That is precisely what has happened here. By cycling through the original failure of the phonograph and into the success of Edison's operation of the machine, virtuosity no longer belongs solely to the artist, Levy, but also to Edison's technological performance.

Bailes sees the new conceptions of virtuosity proposed by failure as a hopeful occurrence because, "Failure exposes the economy of value and exchange through which live performance conducts its business" (13). In a world that continues to feel more and more commercialized, I, too, am inclined towards Bailes's positive outlook towards failure. However, there is also something potentially worrisome and dehumanizing in the particular redefinition of virtuosity proposed by this Edison-Levy performance, as Levy's virtuosity is rendered almost irrelevant in

the face of the performance of it by the machine. In this, we may see an early relative of our auto-tune, through which vocalists may become as much commodities as they are artists. Nothing in the *New York Times* article indicates that Levy felt this, but in the upcoming chapter on cyborgs we will again see that the stage was an important place in which this kind of concern about the place of humanity in an increasingly technological world could be investigated.

Edison was not content merely to demonstrate the accuracy with which the phonograph could reproduce a live performance. Edison's exhibition also emphasized the phonograph's capacity to manipulate sounds in several ways. After accurately playing back his recording of Levy, "To further show what the phonograph could be made to do by an inexperienced operator, Mr. Edison turned the crank very rapidly, and irregularly. The result was the pitching of the tune an octave higher, and a horrible combination of discords" ("An Evening"). At a different point in the evening,

> Mr. Edison again sat alone at the instrument, and told half a dozen stories to the same piece of tinfoil. He repeated a verse of 'Bingen on the Rhine," which he followed with 'Rub-a-dub-dub, three men in a tub." Then he whistled to it two separate tunes, and finally, Levy played to it upon his cornet. The result was a babel of declamation, nonsense whistling, and corneting, as though half a dozen persons were concealed within the funnel, each of whom could be distinguished at times above the others. ("An Evening")

This is a fascinating performance because it is not just about the phonograph recording and replaying sounds, but also about the processing, retrieval, and manipulation of information and, as such, it feels like a very contemporary concern.

Edison's tin foil, with its overlapping ballad, nursery rhyme, whistling, and cornet playing, holds an unsettling superabundance of information. It resonates with Lehmann's description of certain post-dramatic performances, in which, through a superabundance of signs, "The stage is transformed into a playing field or rubbish tip littered with objects, inscriptions and signs, a field of chaotically splintered associations, whose confusing density communicates a sense of chaos, insufficiency, disorientation, sadness and *horror vacui*" (91). The confusing density of sounds on this recording generates a disorienting chaos that can be laid at the feet of this new technology.

At the same time, this tin foil is not just about the existence of an abundance of information, but also about the attempt to decode that information. As such, it becomes what Maaike Bleeker, in the "Corporeal Literacy" section of *Mapping Intermediality in Performance* calls a "performance of perception" (38). "Perceiving … is a mode of acting," Bleeker writes, "It is not something that happens to us but something we do" (38). Whereas, according to Bleeker, conventional dramatic theater practice "supports a sense of the world that exists as a perceptual unity independent of our perception of it" (38), intermediality in theater "may also be used to undermine seemingly self-evident modes of perceiving and to draw attention to the performativity of perception: how perception actually produces what appears as the object of our perception" (38). With its overlapped recordings, the phonograph's performance engages its listeners in an active, not a passive, act of perception. The listener must make her or his own sense of the little piece of tin foil, by choosing which element to attend to, which element "could be distinguished at times above the others," as the *New York Times* writer puts it. The listener is learning how to listen to the phonograph.

We can't know what Edison's thought process was in conceiving this particular performance to introduce his phonograph to his VIP guests. Clearly, though, his intent was not merely to present his phonograph as a straightforward technology of reproduction. Just as projected film's very earliest performances consciously demonstrated its capacity to manipulate the images it captured, the phonograph's potential, both in the real world and on the theatrical stage, obviously and immediately went far beyond simple playback. Looking back from today's world, in which we sometimes feel bombarded by instantaneous and simultaneous communications, there is something almost prescient about Edison's cacophonous piece of tin foil.

Although the Irving Hall performance was perhaps not theater, strictly speaking, there is ample evidence that phonographs were also used in theaters numerous times in the 1870s, 1880s, and 1890s. In most cases, we are left to guess from scanty reports in newspapers as to how or even whether the actual piece of technology was used, but there are a few instances in which more detailed accounts are available. I begin with the productions about which I have little detail because they at the least serve to reinforce my contention that the phonograph, like the other new technologies of the period discussed earlier in this chapter, was immediately seized upon by the exuberantly experimental technical theater practices of the era. Then I proceed to productions about which I have more information, as they offer more opportunity to examine the multi-modal functioning of the phonograph in the theater.

In November 1878, the same year in which Edison received his patent for the phonograph, I find reference in Cleveland, Ohio's *Plain Dealer* to "a play in which an Edison phonograph has a conspicuous part in the unfolding of the plot" ("Amusements" *Plain Dealer* 2 Nov. 1878). Of course, as the article says nothing further about the play, not even its title, it is

possible that the phonograph was referenced in the play, but not actually used. I find it very likely, however, that any play that hung upon a phonograph would require the actual use of a phonograph, not only because the phonograph was likely necessary to move the plot, but also because the use of a new technology was clearly a selling point for a production in and of itself, of which a theater impresario of the day would have wanted to avail himself. As we saw above in the case of film, the staging of a media technology as new and unfamiliar as the phonograph was in 1878 always becomes as much about seeing – or, in the case of the phonograph, hearing – the new technology itself as it is about seeing or hearing that which the new technology represents.

A phonograph likely was also used in 1887 in a play called *The American Claimant*, by Mark Twain and William Dean Howells, though again it is impossible to be absolutely certain. A character in the play, Colonel Sellers, is in possession of "an improved phonograph to store up profane language for use on shipboard" ("Mr. Burbank's"). An article published in *The New York Times* several years later, in 1890, suggests that it may not have been a real phonograph: "Only a few years ago … in Mark Twain's 'American Claimant,' a make-believe phonograph was exhibited with a big funnel attachment to carry its sounds quite a distance" ("Twenty-Third"). On the other hand, *The Dallas Morning News* reported in 1886, "Mr. Edison will furnish Mr. Burbank [the producer and star of *The American Claimant*] with a speaking phonograph and other appliances" ("Footlight Flashes"), implying the phonograph used in the production was real and functional. Edison and Twain were certainly acquainted, so it is quite possible that Edison could have furnished a phonograph for the production.

The American Claimant was not successful as a play. The *New York Times* critic who reviewed the play concluded that, "Mr. Clemens lacks something, may be it is patience, perhaps it is talent, that a playwright should possess" ("Mr. Burbank's"). Thus, according to Clyde L.

Grimm, in an article in *American Quarterly* entitled "The American Claimant: Reclamation of a Farce," it played for only a few performance before it "was soon withdrawn, never to be staged again" (88). In another instance of Rajewsky's medial transposition, Twain subsequently turned *The American Claimant* into a novel, which was published in 1892.

Although the phonograph plays quite a minor role in the plot of the novel, as it did in the plot of the play, it is clear from the way the book was written that the phonograph actually loomed large in Twain's mind at the time. In another interesting medial interaction, when Twain wrote the book, he did so, in part, by dictating portions of it into a phonograph. Twain claimed, probably correctly, that this was the first use of a phonograph for such a purpose ("Edison and Mark Twain"). Apparently, though, Twain was disappointed in the phonograph, as he wrote to Howells, with whom he had co-authored the play version of *The American Claimant*, "because it hasn't any ideas and it hasn't any gift for elaboration, or smartness of talk, or vigor of action, or felicity of expression, but is just matter-of-fact, compressive, unornamental, and as grave and unsmiling as the devil" (quoted in "Edison and Mark Twain"). Clearly, Twain is in the process of exploring the capacity of the phonograph – or lack thereof – not merely to transcribe his work but to contribute to his work. Most people of the time, of course, were not able, like Twain, to perform these experiments themselves. Productions like *The American Claimant*, which (probably) staged phonographic performance in direct comparison to live performance, offered a more widely accessible means of understanding the potential of the phonograph to impact communication and for constructing the role of the phonograph in society.

In the novel *The American Claimant*, Colonel Sellers explains his phonograph:

> It's my grand adaptation of the phonograph to the marine service. You store up profanity in it for use at sea. You know that sailors don't fly around worth a cent

> unless you swear at them – so the mate that can do the best job of swearing is the most valuable man … Well, a ship can't afford a hundred mates; but she can afford a hundred Cursing Phonographs, and distribute them all over the vessel … Imagine a big storm, and a hundred of my machines all cursing away at once – splendid spectacle, splendid! – you couldn't hear yourself think. (176-77)

We should, of course, not be surprised that Twain's take on the phonograph is humorous. Under its amusing cloak, though, the question here is the same one we saw raised earlier by the phonographic reproduction of Levy's cornet recital. The phonograph is presented as a potentially powerful new media technology with the potential not only to mimic humanity, but to replace it or clone it ad infinitum. And today, when the barrage of alerts coming from our phones and computers can, indeed, feel like one cannot hear oneself think amidst a maelstrom of cursing machines, Sellers's whimsical invention actually feels very relatable.

In the novel, Twain does a good job of conjuring up a mental image of a hundred swearing phonographs, but imagine how much more powerful this would be as a staged experience! Sadly, the stage production of *The American Claimant*, if it involved a real phonograph at all, almost certainly did not involve a hundred phonographs. Nonetheless, together the play and the novel of *The American Claimant* stand as a reminder of the importance of the hypermedial stage in helping people relate to new technology.

Opening in 1898, a comedy called *Who is Who* had a plot that hinged on a phonograph. Wrongly accused of a crime, the main character, Jack Hartland, is cleared "by the lucky intervention of a phonograph, which becomes a timely witness to the integrity of Hartland's moral character" ("Who is Who"). The phonograph unmasks the true thief, Artie Barclay, who was incautious enough to count his ill-gotten gains within range of a recording phonograph

("Amusements" *Plain Dealer* 8 Apr. 1900; "Ignored"). It is impossible to be sure, but we can infer that *Who is Who* likely involved the playback of an actual recording of the voice of the actor playing Artie Barclay.

Like the filmed scenes in *The Good Mr. Best* that we discussed above, then, the phonograph in *Who is Who* juxtaposes the real performer with the recorded, though in this case, the reproduction is of the auditory portion of the performance, rather than the visual. As such, this production very likely also contained some of the same uncanny experience of intermedial doubling of presence that likely occurred in *The Good Mr. Best* in which the audience is confronted simultaneously by the same performer in both live and mediatized form.

Another interesting example of this can be found in a production for which evidence of phonograph usage is somewhat more concrete and detailed. In 1890, the Columbia College Dramatic Club presented a burlesque called *Lafayette, or the Maid and the Marquis* by George Austin Morrison, Jr. In *Lafayette*, a scheming Abbé uses a phonograph to learn secretly of a conspiracy against him. As the Abbé says, "With this *machine* I learn *machin*ations" (31, emphasis original). According to the stage directions, "Abbé opens the box and discloses an Edison Phonograph. He sets it in motion and the Phonograph repeats the conspiracy plot and sings the last verse of the Quintet" (Morrison 36).

In this case, the scene clearly did employ a real phonograph. As colorfully reported in the *New York Times*, "The youngsters from the Swedish Episcopal Mission, many of whom had evidently the usual city urchin's experience of the 'variety legitimate,' expressed scorn for the attempts at jig and clog dancing made by the performers, but they enjoyed the rest of the show, and the introduction of a real phonograph pleased them beyond measure" ("A Preliminary"). Indeed, given the stage directions, it is difficult to imagine that this scene could be staged

without employing a real phonograph, though the cylinder was probably pre-recorded and not etched during the live scene that preceded its playback. At any rate, if I were in charge of the effect, I would not be willing to trust to a live recording.

Essentially, what the *Lafayette* stage direction indicates is that the audience experienced the same scene twice in quick succession – once in a traditional theatrical performance format and once as reproduced via the phonograph. This furthers the plot, of course, but it also has the effect of disrupting the linear time of the stage narrative, an idea that is relevant also to the next chapter that focuses specifically on spatiotemporality.

In the section addressing time in his *Postdramatic Theatre*, Lehmann notes, "Hardly any other procedure is as typical for postdramatic theatre as repetition" (156). Lehmann's concept of postdramatic theater is not identical to my concept here of intermedial theater, but it does have many similarities. Indeed, Lehmann's fundamental interest in theater that is not centered in the dramatic text resonates with my contention that the theater of the late nineteenth and early twentieth century United States can best be understood through an intermedial perspective that foregrounds the non-textual elements of production.

Lehmann goes on, "repetition is also capable of producing a new attention punctuated by the memory of the preceding events, *an attending to the little differences*. It is not about the significance of the repeated events but about repetition itself. *Tua res agitur*: the temporal aesthetic turns the stage into the arena of reflection on the spectators' act of seeing" (157, emphasis original). This effect of attending to the act of seeing that Lehmann attributes to repetition in performance is akin to the hypermediacy that I described above in reference to performances in which the same performer appears in both filmed and live versions. Just as this doubling of the actor's presence calls attention to the differences between the two forms of

representation, and thus to representation itself, Lehmann's repetition draws the audience's attention to repetition per se, which is a kind of mediation.

I am not trying to claim that *Lafayette*'s plot device is on the same conceptual level as the examples of repetition that Lehmann cites, which include the works of Tadeusz Kantor, William Forsythe, Heiner Goebbels, and Erich Wonder (156). But, even embedded in a lighthearted piece like *Lafayette*, medial complexity can still occur and it can still prompt this kind of hypermedial awareness of the process of mediation. For an audience of the late nineteenth century, for which recorded sound remained a novelty, the transformation of the narrative effected by *Lafayette*'s phonographic playback could have been as startling as anything offered in the intermedial theater today.

Lafayette's employment of the phonograph is also in the lineage of the film effects that we saw in *The Good Mr. Best*, wherein the function of the new technology in the plot is to render public an interaction that the participants believe to be private. This is, again, not merely a plot device, but a real concern created by a technology that did not yet have a settled role in society. Covert audio recording remains a contentious issue of privacy even today, so we ought to be impressed by the foresight of theater of the late nineteenth century that began to grapple with the question almost the very moment that it was technologically feasible to do so.

Lafayette was not even the first play to use a phonograph in this way. In July 1878, which, we recall, was the very year in which Edison received his patent for the phonograph, *The New York Times* describes the plot of "An amusing trifle entitled 'Le Phonographe,'" that played at Paris's Palais Royal:

> One M. Bernardet, having gone crazy about the last scientific marvel, places one of Edison's instruments under a bust of Midas in his drawing room, calculating

> thereby to have certain tender interviews between Mme. Bernardet and her lover reported to him. But the lover happens to stammer badly, and this baffles the instrument. However, a young man, who is courting his niece, brings him a phonograph in a bottle, which has been standing in the room of a deceased friend who died too suddenly to make a will. ("Amusements: General Mention" 14 July 1878)

Again, we cannot be sure of if or how the phonograph, as a technology, actually operated in the context of the performance, though one would think that a play entitled *Le Phonographe* would be likely to employ an actual phonograph. As a plot device, though, this phonograph operates like the phonograph in *Lafayette* and the film in *The Good Mr. Best* to infiltrate spaces that, prior to the advent of the technology, would have remained private.

It is interesting, too, that the phonograph, in its attempt to record Mme. Bernardet's meeting with her lover, is foiled not by technological failure but by human imperfection. The phonograph fails to capture the conversation, not because the phonograph itself is faulty, but because the lover stammers. Again, this is a plot device, but it is also a preface to a long and troubled negotiation between humanity and machinery that continues to this day in which technology is posited as a means of correcting the imperfections – physical or spiritual – of organic life. Here again, is a dynamic we will encounter again in the chapter focusing specifically on staged interactions of humanity and technology.

Melodramas, of course, by their very nature, often require some kind of contrived plot device of this ilk. A September 1888 article, also in *The New York Times*, notes, "The phonograph has made its first appearance on the stage in an English play called 'Fair and Square,' by A. B. Bell. The London *Stage* thinks the new invention may take the place in

melodrama of the long missing marriage certificate, which has become tiresome" ("Amusements: Notes"). I, of course, don't believe this article is correct in calling this the first appearance of a phonograph on stage. But the article is astute in perceiving that the phonograph was well suited for this clichéd melodramatic purpose because the phonograph truly was an entirely new way for information to be captured, processed, preserved, and transmitted. The role the phonograph played in these melodramas reflected the essential structure of a melodrama, certainly, but it also reflected upon the role the new technology could, for better or for worse, play in people's lives.

The sounds that were captured by the phonograph seemed revolutionary not only because they could render the private public but also because they could render the ephemeral permanent. Again, the world of the theater, so often conceived as the most ephemeral of space, provided a fertile space through which to experiment with the implications of this aspect of phonograph technology.

For instance, in the wake of the death of the actor William J. Florence in 1891, the *New York Times* reported,

> While playgoers will never again see the genial face of William J. Florence, or listen to his voice on the stage, there are persons in this city who can at any time resurrect the dead comedian, so far as his voice is concerned, and introduce him to their friends … There are three phonographic records of the dead actor in existence and by means of them his hearty voice can at a moment's notice be called from the grave in which his mortal body will rest. ("The Actor")

The phonograph, then, seemed even to bridge the gulf between life and death, or to turn back the clock to make the dead live again. Even today, when it is absolutely commonplace to hear

someone's recorded voice and we routinely watch films starring actors who have long been in their graves, a recording of the voice of someone we know who has died can still feel uncanny. This must have been infinitely more the case in these early days of the phonograph.

This article about Florence in the *New York Times* goes on to describe one particular recording, made only about a month before the actor's death, of Florence and Joseph Jefferson playing a scene from *The Rivals*: "Mr. Jefferson momentarily stumbled in his part and Mr. Florence prompted him in his every-day tone of voice. This 'prompt' went on the record, and is repeated every time the scene is reproduced, making the cylinder more curious as a souvenir than if it contained only the words of the scene" ("The Actor"). This recording, then, captures and reproduces ad infinitum a moment of failure. Hearkening back to Sarah Jane Bailes and her "poetics of failure," this failure increases the value of the recording. It preserves a moment of fracture and duality in which Florence's character co-exists with Florence, the actor, who speaks in his everyday voice.

Both Florence the actor and Florence's character speak from the past and from beyond the grave, yet they speak into the future, too. The *New York Times* writer suggests, "By means of these records the world may, thousands of years from now, know William J. Florence as he was on the stage unless they become broken or otherwise destroyed in the future" ("The Actor"). Sadly, this writer was evidently overestimating the permanence of a phonograph recording and I have not been able to discover an existing imprint. If one simple recording, however, can raise the dead from the grave, reveal the actor behind the character, and (in imagination at least) carry the past a thousand years into the future, then certainly the phonograph's presence on period stages amounted to much more than a simple sound effect or a banal plot device.

Perhaps that is why an 1898 article in the *Kansas City Star*, in describing a play called *On and Off*, writes, "There is a phonograph in the cast and the machine has able assistance from E.M. Holland, Fritz Williams and Katharine Florence" ("Some People"). The writer's choice to refer to the phonograph as a cast member and even to suggest that the human performers were secondary to the phonograph is presumably somewhat tongue-in-cheek. Nonetheless, it does capture a truth about the performance of the phonograph on the stage, which really could seem to have a weight and impact equal to or perhaps even greater than that of a human actor. Indeed, the hypermedial contrast of the phonograph's performance and the humans' performances is what made phonographic performances interesting to audiences of the time, just as they continue to interest me today.

Furthermore, whether hopeful or fearful, there was a very real feeling in the period that some or all of the elements of live theatrical performance – up to and including the human actor – were on the verge of being replaced by the new technologies. As a technology that could speak with a human voice, the phonograph was perhaps the most promising (or the most existentially threatening) in this regard. An 1878 article in Chicago's *Daily Inter Ocean*, for instance, imagines – even before the commercial advent of film – a future in which the phonograph is used in tandem with moving picture technology. "By an instantaneous process," the *Daily Inter Ocean* writer hypothesizes, "the scenes of the play might be photographed on a long slip of paper, to be afterward gradually unrolled in a machine somewhat resembling that well-known toy, the wheel of life, and, being viewed through suitable magnifying lenses, and used in conjunction with the phonograph, would have the full effect of a genuine theatrical performance" ("The Possible"). In such a future, according to the article, "No one will then think of such a thing as going to a theater. Who will pay a dollar for a theater ticket when he can step out on the street and buy an

electrotyped copy of 'Richard Third' for a quarter, or walk around the corner and have measured off to him a dime's worth of Wagner's latest composition on tin-foil?" ("The Possible"). This 1878 writer, for all of her or his hyperbole, is remarkably prescient. Writing years before the first public showing of a film and nearly half a century before the first talking feature film, she or he correctly anticipates that cost and convenience are today some of the major virtually insurmountable advantages that film has over theater from the perspective of a potential audience member.

This 1878 writer, though, is not just fearful that virtual actors will replace real actors. She or he fears, too, that virtual *audiences* will replace real audiences. It is this development that she or he fears will truly sound the death knell for theater. "At this stage of phonographic and photographic advancement," the writer warns, "will commence the decline of the drama. No actor will study and toil half a lifetime, fitting himself for the stage, to play to audiences composed of senseless, clicking machines, and great, staring cameras. Not even Barrett, Booth, or Sullivan could, under these circumstance, feel the inspiration necessary for a satisfactory rendition of their parts" ("The Possible"). This vision of an actor desperately trying to emote to an auditorium full of soulless machines is more dystopian than the reality of a film studio and of course actors today study as hard as ever they did in the pre-film era. But this writer's fears do emphasize that new media technologies – particularly those that replicate or duplicate human traits or characteristics – could be as existentially destabilizing then as technologies like virtual reality and artificial intelligence are today. Thus it was that the theater then had as important a role to play in regards to electrical technologies as does intermedial theater today in regards to digital technologies.

The *Daily Inter Ocean* writer is wrong, of course, in this prediction that theater would disintegrate in the face of the coming technologies of reproduction (thus far, at least). Perhaps one reason for this is that, like our predecessors playing with electric light, film, and phonographs, we still feel the need for the material and medial complexity of a hypermedial theatrical stage to understand our relationship to the next new technology that comes along.

Case study: *Excelsior*

On August 21, 1883 theatrical impresarios Imre and Bolossy Kiralfy opened *Excelsior* in New York City's Niblo's Garden Theatre. The show, according to *The New York Times*, was "a grand spectacle, which, if any judgment can be formed by the enthusiasm of a great audience, bids fair to rival the 'Black Crook' as a successful managerial venture" ("'Excelsior'").[39]

Excelsior was a wordless spectacle, explicitly about showcasing some of the thrilling new inventions and achievements of the age including, according to Bolossy Kiralfy's self-aggrandizing autobiography *Bolossy Kiralfy, Creator of Great Musical Spectacles: An Autobiography*, "the steamboat, the electric battery, and the breakthrough of the Mont Cenis tunnel in the Alps" (239). *Excelsior* had previously opened at Paris's Eden Theatre, but the United States premiere was different because the Kiralfy brothers enlisted Thomas Edison's personal assistance to produce the most magnificent display of electric light yet seen on the

[39] *The Black Crook*, which premiered on September 16, 1866 at Niblo's Garden and ran for 475 performances, was one of grandest and most successful spectacular dramas of the nineteenth century – though it did not quite equal the 486-performance run that, we recall, Steele MacKaye's *Hazel Kirke* enjoyed thanks to his innovative double stage. A detailed description of *The Black Crook* can be found in Leigh George Odom's "'The Black Crook' at Niblo's Garden." Many critics, in reviewing *Excelsior*, made favorable comparisons between the two productions. See, in addition to "'Excelsior,'" "Amusements: General Mention" 12 Aug. 1883, and "Niblo's Garden."

world's stages, not merely because of the scale and intensity of the light, which was unprecedented, but also because of the conceptual resonance between theme and technology.

The audience's enthusiasm for *Excelsior* was, in large part, for the show's groundbreaking finale, the "Apotheosis of Light in the Palace of Peace and Union," in which the production's allegorical battle of darkness against light culminates in the unequivocal triumph of light, knowledge, and civilization. The description of this scene from *The New York Times* bears quoting at some length:

> the grand climax of the performance is reached in the final scene, which is called the "Apotheosis of Light in the Palace of Peace and Union." The palace is composed of brightly colored towers, on which the emblems of all nations hang, and from the roof depend 500 globes of glass, hung in festoons and swinging to and fro. The ballet, dressed in costumes to represent all nations, once again march and dance through a maze of wonderfully beautiful figures, and at the conclusion range themselves in picturesque groups on either side and at the back of the stage. Each rest [sic] gracefully on a large wand, on the top of which is a glass globe, similar to those swinging from the roof. Suddenly the rear end of the palace sinks slowly down, disclosing the earth in the form of a huge globe, with Excelsior, a beautiful young girl, sitting in triumph at the North Pole. At this moment the globes above and in the wands of the coryphées burst into a blaze, and the whole beautiful scene is illuminated by the electric light. This effect is produced under the supervision of Mr. Thomas A. Edison and is startlingly realistic. It makes a fitting climax to what will prove, when it begins to run smoothly, the grandest spectacle ever produced on the New-York stage. ("'Excelsior'")

As this description indicates, *Excelsior* used electric light not as a merely as a trick of the stage, but as a tangible example of the progress of civilization that *Excelsior* asserts and celebrates.

Electric light, in *Excelsior*, exists to assert and, indeed, to construct its own power to dazzle and to transform. In doing so, it encompasses electric light not only in the theater, but also in the world at large. Articles about the production focus on Edison as much as on the Kiralfys. In a very real way, *Excelsior* was an enlarged version of the "entertainment" discussed earlier in this chapter that Edison gave to convince the New York City alderman of the efficacy of electricity for street lighting. *Excelsior*'s enchanting world of blazing electric light didn't exist *yet*, but by staging it, *Excelsior* worked (on stage) to call its own world into being (off stage). Like all theatrical stagings of new technologies in this period of dramatic technological change, *Excelsior* does not sit outside of a changing medial landscape. *Excelsior*, and theater generally, sits at the intermedial heart of the period, shaping in real time the world that it represents and explores.

And yet, the theatrical stage is a complex place, which may or may not convey precisely the message that its artists intend. It is relatively easy, on the page, to write of grand spectacle and blazing light. But a theater is a real space that will show the failing of the new technology as easily as (or more easily than) it will show its glory. And on *Excelsior*'s opening night, at least, the reality of electric light – as a new technology still fraught with challenges and failures – obtruded into the metaphorical electric light as presented in the show, despite the best efforts of Edison and the Kiralfy brothers.

Excelsior's opening night began forty-five minutes late, according to the *New York Times*, due to "the imperfect working of some of the machinery" ("'Excelsior'"). Kiralfy, in his autobiography, admits only to a forty-minute delay, which he claims was "because Edison's

assistant, Frank Connor, had to check all the equipment" (117). Given the generally self-congratulatory tone of Kiralfy's autobiography, it is perhaps not surprising that he chose to couch the evident technical difficulties of his spectacular production in such gentle tones.

According to the *New York Times*, "The spectators bore the delay good humoredly enough, although some of the gallery gods, who sat in their shirt sleeves and presented an amusing spectacle in themselves, indulged in their customary stamping and clapping of hands" ("'Excelsior'"). There is already a hint here as to the audience's pre-existing orientation toward intermedial experience. An emancipated audience accustomed to freely making such overt demands before the performance is likely also an audience with the freedom to see the production itself with an eye to the medium.

Furthermore, in its failure to perform as expected and as advertised, electricity's status and meaning in the production become ambiguous. Presented in the production, once it finally got underway, as the epitome of progress, in the forty-five-minute interval (or forty-minute, if we believe Kiralfy) in which it failed to operate, electricity instead revealed its own challenges and limitations. On opening night, then, at a historical moment in which electricity was an untested technology that promised (or threatened) to transform society in ways not yet defined, this failure made for a much more complex, intermedial, theatrical experience than the one intended by the Kiralfys and a much more complex engagement with electricity than the one intended by Edison.

Not all problems came from the electricity itself, either. Some resulted from the attempt to marry the new technical medium with the old. *Excelsior*, for instance, was a success as an electrical spectacular, but, as one *New York Times* reviewer felt compelled to note, "this scenery is merely noticeable, as a matter of fact, for its cheapness and unskillful painting" ("Plays and Actors"). Over the several decades that followed this production of *Excelsior*, scenic artists of

the day routinely complained of the effect electric light had on their work. Scenic artist Homer Emens, for instance, believed, "Nothing is better than gas for stage lighting – it is softer, it contributes more to the atmosphere of the stage than the electric light" (quoted in Humphrys v). Ernest Gros, principally known for his work as a scenic artist for David Belasco, complained, "The electric light is brutal. We try to control it by the use of different media, but in no way can we get at the softness and mystery of gas" (quoted in Humphrys vi). Gros is getting at a very important lesson of intermedial theater – each new media technology redefines the media technologies that preceded it. We no longer see the older media technologies the way we did before. As such, it seems likely that the scenery for *Excelsior* was not, in fact, unskillfully painted, but rather suffered directly by its relationship to the production's "brutal" electric lighting.

I can only imagine the audience experience of *Excelsior* in 1883, but I can speak to my own related experience in the audience for a show called *The Demo* in 2015 at Stanford University's Bing Concert Hall. The comparison, I think, is instructive not just because *The Demo* is an instance of contemporary intermedial theater, but also because *The Demo*, like *Excelsior*, is a production designed to highlight technology itself. And, as with *Excelsior* on its opening night, on the night that I saw it, *The Demo* was disrupted by the very technology it intended to showcase. A contemporary example can therefore help to elucidate the historical performance, just as I argue throughout this dissertation that history has the potential to inform contemporary practice.

According to the description on the Stanford Live website, "*The Demo* is a music-theater work based on Douglas Engelbart's historic 1968 demonstration of early computer technology. The piece reimagines his demonstration as a technologically infused music and media event, a

new form of hybrid performance, equal parts meditation, elegy, and fantasia, set simultaneously in the 1960s and today" ("The Demo"). The claim that this production represents "a new form" of performance is mostly hyperbolic marketing-speak, but the hybridity and mediation of the production are undeniable.

The Demo features two main live performers, co-creators Mikel Rouse and Ben Neill, respectively portraying Douglas Engelbart and his colleague William English. Throughout the performance, Rouse manipulates on-screen imagery with a replica of Engelbart's five-key keyboard adapted to serve as a MIDI trigger and Neill plays his "mutantrumpet," a hybrid acoustic-electronic instrument that allows him to digitally manipulate the acoustical sounds in real time. Behind massive, layered semi-transparent projection screens, a chorus representing Engelbart's team sings an operatic libretto based on text projected by Engelbart over the course of the 1968 demo. Actual footage of Engelbart's demo from 1968[40] is often juxtaposed with Rouse's live performance. The production also incorporates more conventional theatrical effects such as moving lights. The structure of the Bing Concert Hall allows for projections that at times encircle the audience. The overall effect was, for me, immersive, layered, and sensorially complex, yet at the same time often repetitive and periodically tedious. In this, too, *The Demo* was perhaps not unlike *Excelsior*, as *The New York Times* noted that several of the tableaux "are simply thrown in to give the stage carpenter and the artist sufficient time to prepare for the *pièces de resistance*" ("'Excelsior'").

Engelbart's 1968 presentation, which famously introduced nascent versions of such now-ubiquitous features of computing as word processing, video conferencing, collaborative real-time editing, hypertext, and the mouse, has been dubbed "The Mother of all Demos." It took place at

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[40] The original 1968 video is housed in the Engelbart Collection in Special Collections of Stanford University and can be viewed online.

San Francisco's Civic Center Auditorium, with a live link to Engelbart's lab down the peninsula in Menlo Park.[41] It is hailed as the precursor of much of the innovation in computing for which Silicon Valley is now known. As such, there could hardly have been a more appropriate location for this world premiere than Stanford. Indeed, some of the audience members at the sold-out two-performance run (including William English himself) had been in attendance nearly 50 years earlier at Engelbart's actual demo.

This is not to say that, because the production was appropriate to the location, it was successful in the location. As I was walking back to the car after the performance, I overheard another audience member, clearly a technophile familiar with Engelbart and his legacy, complain that *The Demo* had displayed no real engagement with the substance of Engelbart's demo, but rather that the artists had simply thrown together a host of technical tricks to no real effect. Megan Geuss, writing in arstechnica, similarly reports an interaction with an audience member who told her at intermission, "Well I worked with Doug and I don't understand any of it."

Like *Excelsior* before it, *The Demo* is deliberately and explicitly about the technologies that it employs. They are not means to achieve other ends or to represent other ideas. They are employed in order to stage themselves. The production is deliberately hypermedial in Bolter and Grusin's sense of opacity.[42] Through the multiple conjunctions of live performance and digital video and audio, which themselves are manipulated live, the audience is confronted with the lack of clarity between live and mediatized experience in a world that, in at least some ways, began with the very demo that *The Demo* resurrects.

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[41] Menlo Park, California is not to be confused with Menlo Park, New Jersey, in which earlier in this chapter we saw Thomas Edison demonstrating electric light for VIPs from New York City. Menlo Park, New Jersey was named after Menlo Park, California (*The Origin*).
[42] Bolter and Grusin, in fact, reference Engelbart in the section of their book called "The Logic of Hypermediacy" (31).

Unlike *Excelsior*, which – at least until it was failed by its own technical equipment – was unambiguously pro-technology and pro-progress, *The Demo* does not offer that kind of value judgment on its subject matter. Rather, the hypermedial world that *The Demo* presents is seemingly offered up as a fact of contemporary existence (at least in Silicon Valley). This hypermediality of modern life is often noted by scholars of media studies, such as Erkki Huhtamo, who, in his 1995 "Encapsulated Bodies in Motion: Simulators and the Quest for Total Immersion," notes, "Technology is gradually a second nature, a territory both external and internalized, and an object of desire. There is no need to make it transparent any longer, simply because it is not felt to be in contradiction to the 'authenticity' of the experience" (171). Twenty years later, *The Demo* seems to bear out Huhtamo's prediction. Technology is indeed a second nature and the swirling, overlapping, cacophonous, redundant images and sounds of *The Demo* are an amplified and externalized version of what today comprises, in Bolter and Grusin's words, "the rich sensorium of human experience" (34).

However, though it hearkens back to technologies now half a century old, *The Demo*, like *Excelsior*, relies on technologies still new and still quite vulnerable to failure. And also like *Excelsior*, *The Demo* suffered from glaring technical difficulties. I attended the second night of a two-night run. The show initially started on time, but only a few minutes in, the production was halted because the projections kept cutting out to be replaced by a blue screen and the logo of the Christie projection system. It took an hour and fifteen minutes for the show to restart (even worse than the delay caused by the technology at *Excelsior*), giving the audience plenty of time to chat amongst ourselves, to ponder the technological or thematic implications of the delay, to get restless, or, in some cases, to go home. For those of us that stuck it out, this delay added a

new layer to what was already an intermedial performance, just as I imagine the delay in the opening night of *Excelsior* would have done for audiences in 1883.

For one thing, it disrupted the usual sequence of events that induces the passivity typical of today's audiences. This crack in the conventions of spectatorship put the audience into what is, today, an atypically active relationship to the piece, reminiscent of the less restrained audiences of yesteryear. At one point, a group of people in the audience began to stamp and clap, in a manner, I imagine, very much like that of the gallery gods at *Excelsior* back in 1883. In this case, the dissidents were quickly shushed down by the more restrained members of the audience but it was nonetheless a challenge to the typical passivity of today's audiences. When the show restarted, we were already primed to continue to engage actively in assessing and creating the meaning of the experience that surrounded us, specifically with reference to the technology.

Furthermore, as was the case for *Excelsior* 132 years before, the evident failure opened up more interpretations than might have been supported by a conventionally successful version. The failure called into question what seemed to be a fundamental assumption of *The Demo* – that the hypermedial world we live in today (at least in Silicon Valley) followed inevitably from Engelbart's 1968 demo. In the technology's failure and in the obvious struggle of the technicians we all saw running back and forth amongst the projectors situated throughout the space, it revealed not only the oft-hidden work of technical theater but also the instability of the technology itself. Given that frame, technological uncertainty hovered throughout the performance on the margins of a production that otherwise tended towards technological determinism. Indeed, I, at least, spent the entire performance half expecting the technology to fail again. I wonder how many *Excelsior* audience members in 1883 had a similar experience.

One lesson from these examples – one historical, the other contemporary – is that theater that uses technologies that are not yet fully understood is never just presenting new technologies to the public. It is (intentionally or unintentionally) exploring new technologies *with* the public – a much more interactive and therefore a much more potentially intermedial project. We here find ourselves perhaps in the neighborhood of Jacques Rancière's emancipated spectator. Rancière writes,

> In the logic of emancipation, between the ignorant schoolmaster and the emancipated novice there is always a third thing – a book or some other piece of writing – alien to both and to which they can refer to verify in common what the pupil has seen, what she says about it and what she thinks of it. The same applies to performance. It is not the transmission of the artist's knowledge or inspiration to the spectator. It is the third thing that is owned by no one, whose meaning in owned by no one, but which subsists between them, excluding any uniform transmission, any identity of cause and effect. (14-15)

An artist or a technician of the stage, seen through Rancière's concept, does not fully articulate or understand the technology they are using. The technology – digital, in the case of *The Demo*; electrical, in the case of *Excelsior* – is the third thing, which the artist (voluntarily or involuntarily) controls no more than the audience. This empowered audience, aware that it is participating in a collaborative exploration with the artist, is a key component of intermedial theater.

Chapter 4: Space-time

At the beginning of his 1968 *The Empty Space*, Peter Brook writes, "I can take any empty space and call it a bare stage. A man walks across this empty space whilst someone else is watching him, and this is all that is needed for an act of theatre to be engaged" (9). There are three critical elements to this vision of theater – the actor, the spectator, and the space-time of performance, in which the actor walks across the space in the temporal co-presence of the spectator. Brook goes on,

> Yet, when we talk about theatre this is not quite what we mean. Red curtains, spotlights, blank verse, laughter, darkness, these are all confusedly superimposed in a messy image covered by one all-purpose word. We talk of the cinema killing the theatre, and in that phrase we refer to the theatre as it was when the cinema was born, a theatre of box office, foyer, tip-up seats, footlights, scene changes, intervals, music, as though the theatre was by very definition these and little more. (9)

This theater at the time the cinema was born, to which Brook refers, is, of course, the very theater that interests me here. Unlike me, Brook evidently has little love for it. Nonetheless, Brook's summary of theater of the period, dismissive though it is, is apt, particularly in a chapter devoted to the spaces and times – both actual and represented – of the late nineteenth and early twentieth century stage. The spaces and times of this stage *were* messy and confused and constantly interrupted by scene changes and intervals. They *did* bleed out beyond the stage itself, not just into the auditorium of tip-up seats, the foyer, and the box office, but even into the street. These complex and multilayered spaces and times of the late nineteenth and early twentieth

century stage were a key site of intermedial negotiation and investigation of technologically and culturally changing spaces and times, not only of theater, but also of the world at large.

According to Lars Elleström, the spatiotemporal modality is one of the four modalities through which every medium is defined. "The *spatiotemporal modality* of media, " Elleström writes, "covers the structuring of the sensorial perception of sense-data of the material interface into experiences and conceptions of space and time" ("The Modalities" 18). This understanding of the spatiotemporal modality encompasses the notion that the space-time of a medium can be both actual and perceptual, both real and virtual.

Theater, spatiotemporally speaking, is complex and multi-modal in multiple ways, both physical and conceptual, real and represented. A theater is not just a physical space; it is a conceptual space, as we can see in Brook's quote above. It is not enough, according to Brook, that the space merely exists. Brook must first "call it a bare stage." The theater space must be named as such in order for the "act of theatre to be engaged." Physically, any space can become a theater, but a space becomes a theater only when someone decides that it is a theater, because that decision creates a division between stage space and non-stage space. For all that this division is immaterial and can be impermanent, it is no less profound and no less real. Similarly, Brook's act of theater is engaged at a particular moment in time and, presumably, at some point it will disengage. This division into theater time and non-theater time, too, is purely conceptual and yet indispensible to theater practice.

In between the stage space and the non-stage space are the transitional backstage spaces that exist in a kind of limbo, belonging neither quite to the one space nor to the other. Similarly, intermissions, bathroom breaks, box office visits, and trips to and from the theater are elements of experiencing theater that are neither quite part of theater time nor entirely separate from it.

The audience space, too, is a liminal space. It is not a part of the stage space, but neither is it quite part of the "real world" outside the theater. Physically, though, all of these spaces and times are continuous, which opens up the strong possibility of crossover – intentional or not – between these separate, or semi-separate, physical and conceptual spaces and times.

I am reminded of what Alice Raynor, in her "Presenting Objects, Presenting Things," says of the status of the backstage prop table: "The table is a holding space in which their [props'] identities are meaningful only in reference to their future use … Though they are destined for the stage, for use, and for reidentification by an audience, it is at this point of stillness that they contract into their material specificity that is neither aesthetic nor representational, neither messengers nor message" (182-83). These liminal spaces and times adjacent to the theater event, like Raynor's prop table, are places in which the representative function of theatrical objects and performers is vested and divested. As such, a theater practice, like that of the late nineteenth and early twentieth century stage, that implicates these liminal spaces more directly in a performance event attracts attention as well to the mechanics of theatrical representation.

Superimposed over the real physical space and time of the performance is the represented space and time of the production. In some performances, the extent of this represented space-time is strictly delimited by the physical spaces, objects, and concepts of the stage, like the back wall, wing and drop scenery, the fourth wall, the dimming of the house lights, and the fall of the curtain. In other performances, the represented space and time of the performance may bleed off of the stage into the wings, into the audience space, into one's trip to the restaurant before or

after the performance,[43] or, in extreme cases, into the world at large. Conversely, of course, the real space and time of the theater is virtually never entirely effaced by the represented space and time of the performance and lurks always, more or less obtrusively, just below the surface of the theater event.

To this, we must add that representations and perceptions of space and time can and do differ significantly both from external reality and between individuals. Elleström notes, "virtual space and virtual time can be said to be manifest in the perception and interpretation of a medium when what is taken to be the *represented* spatiotemporal state is not the same as the spatiotemporal state of the *representing* material modality considered through the spatiotemporal modality" ("The Modalities" 21). This mismatch between representing and represented space-time is a common occurrence in the theater because it is often necessary in the theater to represent on stage a space or time that does not correspond to the material space and linear time of the stage itself. As Krows writes, in his 1916 *Play Production in America*, which we recall from the earlier chapter on hypermediacy, "The stage is a narrow place whereupon large things are suggested; and it cannot employ the system of universe without reducing everything in it, characters included, to scale" (201-02). Krows (in a delightful turn of phrase far more poetic than any I have encountered in more contemporary technical theater manuals) captures one of the central challenges of theatrical design. The spaces and times of the stage, as well as the objects and people that inhabit it, must often be stretched, compressed, or otherwise distorted in order to convey a desired location, narrative, or feeling.

Taken together, all of these aspects of theatrical spatiotemporality paint a very complex picture of how space and time operate in the theater. The question, then, is how and whether

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[43] As we saw, for instance, in Chapter 2 in the case of the Childs Restaurant set in David Belasco's production of *The Governor's Lady*.

these disparate space-times come together into a unified experience for the audience. As we have seen, unity is an ideal specific to theatrical design of New Stagecraft lineage. Thus, relatively linear time and coherent (though, again, not necessarily realistic or literal) stage space remain generally typical choices of mainstream theater today.

Intermedial performance today, by contrast, frequently probes and exploits these spatiotemporal domains, particularly in relationship to today's digital technologies. As the editors of *Mapping Intermediality in Performance* write in their introduction to the book's section on time and space, "Other than notions of *the body*, perhaps no other elements receive as much scrutiny from collisions among theatre, performance, and digital culture as the resulting transformations of time and space. One of the most salient of these transformations has been the ability to access information outside progressive linear time and defined material spaces" (Bay-Cheng et al. 83, emphasis original). As we have glimpsed in the previous chapter on technology in the theater and as we will see in greater detail throughout this chapter, technologies and cultural shifts of the late nineteenth and early twentieth century United States transformed their spaces and times, both onstage and off, as profoundly as digital technologies have transformed and continue to transform our spaces and times today. When placed on the period stage, these transformations produced performance moments that we would now recognize as characteristic of intermedial theater, in that they emphasized the act of theatrical representation and created an experience that transcended the space and time of the dramatic narrative to incorporate and address the audience's physically present experience in the real space and time of the theater venue.

I find it useful to distinguish three different levels of this intermedially contradictory theatrical space-time, though the boundaries of these levels are nebulous and experiences of the

same effect can naturally vary between individual audience members. Each of these three forms of contradictory space-time will be illustrated with specific examples from the period in designated sections later in this chapter:

1) The represented space-time on the stage is internally inconsistent, thereby reflecting a contemporaneous spatiotemporal experience of the real world, leaving spatiotemporal interpretation up to the audience, and drawing attention to the media technologies through which those inconsistently represented space-times are constructed.
2) The represented space-time on the stage comes into conflict with the real space-time of the theater facility that defines the stage, thereby making the audience's embodied experience a component of the performance and highlighting the mediation of the theater event.
3) The conceptual "wall" that separates the represented space-time of the stage from the space-time of the real world, either in the theater or beyond, is broken, thereby suggesting that the space-times we perceive in the real world may be as constructed and as contingent on media and media technologies as are the space-times we see on stage.

Evidence of all three of these levels can be found throughout theater history. Indeed, given theater's inherent medial complexity, it is in many ways far easier to create these spatiotemporal contradictions – deliberately or accidentally – than it is to combine them into a unified experiential whole. However, I find these contradictory space-times particularly prevalent, deliberate, and interesting, both in today's intermedial theater and in many of the popular stage effects of the late nineteenth and early twentieth century United States.

Today's intermedial theater is particularly deliberate and ambitious in mining the potential of theater's multi-layered spatiotemporality in part because life today, in general, is spatiotemporally complex, with virtual presence, community, and space co-existing, often uneasily, with their material counterparts. As Johan Fornäs writes in his 2002 "Passages Across Thresholds: Into the Borderlands of Mediation," "Modern communications let people and their works flow back and forth across an increasing number of borders, dynamising space and time by accelerating passages through physical, experiential, social and cultural spaces or spheres" (91). Sarah Bay-Cheng and her co-editors, introducing the "Digital Culture and Posthumanism" portal of *Mapping Intermediality in Performance* similarly note, "the digital is foundational, for it has changed our experience of time, space and bodily implication … There is a sort of inexorable refunctioning at work – of the spaces, bodies and media of performance, and not least of our own expectations and experiences in the face of such developments" (124). This spatiotemporally complex modern world cries out for exploration in the equally spatiotemporally complex environment of the theater.

Furthermore, the contemporary experience of spatiotemporal complexity inherent to modern life may dispose a modern audience towards experiencing and appreciating spatiotemporal intermediality in performance. As Nelson writes, "the strategic deployment of new technologies in live theatre events has considerable potential to produce experiential dislocations at this historical moment because, in themselves, digital media have the capacity to create new viewpoints and dynamics" ("After Brecht" 35). When the technologies, objects, or innovations that establish spatiotemporal complexity on stage are the very same ones that are reshaping experiences of times and places in the real world, not only is an audience more apt to

appreciate the spatiotemporal complexity of the stage world, but also the significance of the stage world is heightened by its parallelism with the world outside the stage.

Boenisch, discussing the work of Merce Cunningham, gives a contemporary example of this kind of spatial intermediality in performance:

> [Cunningham] still presents the observers with very well chosen and highly structured spaces but they are no longer reducible to *a single coherent, unified topology*: rather than creating a universe, Cunningham puts *multi-verses* on stage.
>
> The observers face a multitude of simultaneous actions that do not even seem to stop at the edge of the stage … The observers are encouraged to make their own choices, and to focus away from centre-stage to the distant background, or even beyond the limits of the actual stage-space. ("Mediation" 157, emphasis original)

In other words, according to Boenisch, the influence of the multiple and internally inconsistent spaces of Cunningham's stage extends beyond the stage itself and into the space of the audience, encouraging active spectatorship and shared meaning-making. This resonates not only with the mediality of theater, which inherently facilitates joint meaning-making in that the creation of the work is co-spatial and co-temporal with the viewing of it, but also with changing contemporary spatiotemporal concepts like digital co-presence and distributed cognition.

Life in the late nineteenth and early twentieth century United States was unusually spatiotemporally complex and confusing as well. As Warren Susman writes in his *Culture as History: The Transformation of American Society in the Twentieth Century*, "Consciousness itself was altered; the very perception of time and space was radically changed" (xx). Or, as Lehmann writes of the turn of the twentieth century, "The transformations in the scientific image

of the world (relativity, quantum theory, space-time) contributed to this [crisis of time] as much as the experience of a chaotic mixture of the different speeds and rhythms of the metropolis and new insights into the complex temporal structure of the unconscious" (154). It makes sense, then, that the theater of that period was also unusually rich in the kind of spatiotemporal complexity that is associated with intermediality in theater today and that audiences of the period would be primed to perceive and appreciate it.

Many of the major influences on spatiotemporal experience in the late nineteenth and early twentieth century were technologies of transportation that transformed the way that people, consumer goods, information, ideas, and media (including the theater) travelled around the country and around the world. Alfred Russel Wallace (who most of us will recognize best as, with Charles Darwin, one of the earliest proponents of the theory of evolution by natural selection), in the revised 1903 edition of his *The Wonderful Century, The Age of New Ideas in Science and Invention*, writes, of the period's new methods of locomotion, "This vast change in the methods of human locomotion … is of itself sufficiently striking and important to justify the appellation of 'The Wonderful Century' to that period which witnessed its rise, its progress, and its maturity of development" (59-60). Among the modes of locomotion to which Wallace refers are railroads, bicycles, motorized bicycles, motorcars, and steamships. Had he been writing a few years later, he would likely also have mentioned airplanes and dirigibles.

All of these modes of transportation crop up again and again in plots and stage effects of the late nineteenth and early twentieth century stage. These technologies of transportation appealed on stage in the same way that digital technologies appeal on stage today, not only in themselves, but also in how they reflect and shape a changing world. The lesson of these staged versions of spatiotemporally transformative technologies is that, even as the spatiotemporal

modality is a defining characteristic of a medium (including theater), media (including theater) also define our spatiotemporal experience of the world.

Developments in transportation were, of course, making a difference in how people lived and traveled the world over, but especially so in the United States. As Louis P. Cain notes in the "Transportation" section of *Historical Statistics of the United States*, "Much of the technology involved in transportation was invented and developed in the United States, and this makes American transportation history especially interesting" (4-761). Furthermore, as Joseph P. Ferrie writes, in the "Internal Migration" section of the same publication, "Americans are an unusually peripatetic people, as both historical and contemporary observers have noted" (1-489). In other words, while the shape of life was changing worldwide, the changes in the shape of the United States were particularly noteworthy. Spatiotemporal intermediality in performance, therefore, may have been particularly important in the United States.

Though many transportation technologies affected the space and time of the world in the late nineteenth and early twentieth century United States, the railroad was certainly the most transformative, both onstage and off. Through the railroad, the world of the time became both larger and smaller. Taken as a whole, the country became smaller in that the railroad made it much easier than it ever had been before to reach distant places. Yet, in that the railroad opened up the possibility of travel to people who might otherwise have spent their entire lives close to home, many people's personal worlds became much larger.

The railroad had an equally profound impact on people's understanding of time because it was the railroad that necessitated the standardization of timekeeping, imposed in the United States on November 18, 1883, "the day of two noons" (Kern 12). As was the case for the impact of the railroad on perceptions of space, the effect of these changes on popular understandings of

and relationships to time was multiple and contradictory. As Stephen Kern writes in his *The Culture of Time and Space 1880-1918*, "The introduction of World Standard Time created greater uniformity of shared public time and in so doing triggered theorizing about a multiplicity of private times that may vary from moment to moment in the individual, from one individual to another according to personality, and among different groups as a function of social organization" (33). Just as space became both larger and smaller, then, time became both more uniform and more personal.

We have already seen, in the chapter on hypermediacy, the impact that the railroad had on theater operations. It was because of the railroad that the touring show was able to dominate theater practice. Because of the railroad, people all over the country were able to see the same productions, the same performers, and the same stage effects and technologies. This, itself, is illustrative of the changing shape of the world wrought by the railroad, as we can speak of the same event occurring in innumerable different places and over the course of years. Theater was just one of many industries and life experiences reshaped by the railroad in this way.

Communication technologies, too, had spatiotemporal implications. The telegraph and telephone, by connecting places that were physically distant, not only reshaped space but also introduced new theories about presence and simultaneity. As Kern writes,

> The ability to experience many distant events at the same time, made possible by the wireless and dramatized by the sinking of the *Titanic*, was part of a major change in the experience of the present. Thinking on the subject was divided over two basic issues: whether the present is a sequence of single local events or a simultaneity of multiple distant events, and whether the present is an infinitesimal slice of time between past and future or of more extended duration (68).

At the same time, electric light was blurring previously clear boundaries both between public and private space and between night and day, while new film projection and phonograph technologies allowed operators – as we saw in the earlier chapter about technology – to replicate, manipulate, and even reverse time in recorded events.

It is no wonder, then, that, as Kern writes, "In the *fin de siècle*, time's arrow did not always fly straight and true," (29) and, "The proliferation of perspectives and the breakup of a homogeneous three-dimensional space in art seemed to many to be a visible representation of the pluralism and confusion of the modern age" (147). This spatiotemporal pluralism and confusion was perhaps even more evident in the inherently spatiotemporally confusing medium of theater than it was in other art forms.

The ways in which these ideas appeared on stages varied, as did the intent of the artists involved. In some cases, artists seem to have engaged deliberately with spatiotemporal questions. In other cases, spatiotemporal intermediality seems to have been an unintended consequence of the conjunction of popular plot devices and staging techniques with the inherent spatiotemporality of theater as a medium and the period's general lack of concern for cohesiveness that we encountered particularly in the chapter on hypermediacy. As Gwendolyn Waltz puts it, "The enclosing 'box' that characterized the proscenium stage seemed too small to hold the nineteenth and early-twentieth-century world" ("Projection" 60). In any case, the late nineteenth and early twentieth century stage emerged as an important time and place (or multiplicity of times and places) in which to grapple with the questions of times and places of life as newly redefined by the other technological, social, and cultural influences of the day.

<u>Level 1: The represented space-time on the stage is internally inconsistent</u>

The simplest effects of spatiotemporal intermediality are those in which the represented space or time on the stage is internally inconsistent. This inconsistency can prompt the audience to be aware of the performance as mediation and of the media technologies by which that mediation is achieved. This is thus a spatiotemporal approach, distinct from but complementary to the technological approach examined in the previous chapter, that can offer the audience an intermedial theatrical experience.

Internally inconsistent space-times are actually extremely common in the theater and it certainly does not necessarily follow that spatiotemporal inconsistency is always intermedial. The ubiquitous painted backdrop, for instance, is a two-dimensional representation of a three-dimensional space that routinely co-exists with three-dimension furniture and props and with the three-dimensional form of the actor. This is a basic form of spatial inconsistency – the two-dimensional backdrop contradicts the three-dimensional actor and props. This spatial inconsistency, though, generally passes unnoticed because it is so familiar. Thus, it does not generally contribute particularly to intermedial effect.

It does bear noting, however, that even this most common of all spatiotemporal inconsistencies became uniquely obtrusive in the late nineteenth century because of the visual changes wrought by the new medium of electric light. Edward G. Unitt, a prominent scenic artist of the late nineteenth and early twentieth century, notes, in an interview published in a 1908 issue of *The Theatre*, the difficulty of

> harmonizing real things with artificial. The use of real antiques, real palms, real flowers and foliage does not produce as successful results as when purely artificial scenery and stage properties are depended upon.

> Nor have later developments in science proved as helpful as might be expected. Better effects were obtained by gas than by electric light. In fact, today the stage is overlighted. (quoted in Humphrys v).

Dame Ellen Terry, in her 1908 autobiography *The Story of My Life: Recollections and Reflections*, similarly complains, “The thick softness of gaslight, with the lovely specks and motes in it, so like *natural* light, gave illusion to many a scene which is now revealed in all its naked trashiness by electricity” (189-90). In other words, in the late nineteenth and early twentieth century, the new medial interaction of electric light and scene painting made even the most basic form of spatial inconsistency more disruptive than it might otherwise have been.

More complex or unfamiliar spatial inconsistencies are more likely to draw attention to themselves, creating a multiplicity of perspectives between which an audience member can choose or can vacillate. Whether conscious choice or involuntary vacillation, this can prompt awareness of the theatrical process of mediation in the same way in which ambiguous images, like the popular rabbit-duck illusion or young girl-old woman illusion, prompt one to consciously experience the process and nature of visual perception.

As Freda Chapple says of the contemporary intermedial opera *The Forest Murmurs: adventures in the German Romantic imagination* (Opera North, 2001), “Although the audience viewed the fictional world of the stage through a traditional theatre proscenium arch, the choices of perspective offered through the arch were multiple through the manipulation of stage space and multi medial representation, which created a hypermediacy in performance” (90). So even when the conventional stage space as defined by the proscenium is preserved inviolate, hypermediacy can emerge from an unfamiliar spatiotemporal fracture and multiplicity within that defined theatrical space.

Andy Lavender gives another contemporary example of this kind of spatiotemporal intermediality when he describes the Builders Association's *Jet Lag: "Part One: Roger Dearborn*" (1998-2000), in which an actor performs in front of a rear projection screen. The actor's performance is captured by an onstage video camera, which feeds live to another large projection screen. The audience therefore simultaneously sees the actor's live performance within the real space of the stage and his film performance within the represented space of the screen, which is itself situated within the real theater space. As Lavender explains, "in terms of *mise en scène*, the production exploits phenomenal differences between stage space and video space to stimulate the spectator's perceptual awareness of both. Time, space and presence simultaneously contract and expand" ("Mise en Scène" 58). This is an effect with a strong awareness of how theater operates spatially, as well as an ambition to experiment with that theatrical space. A similar awareness and ambition are evident in the effects of the late nineteenth and early twentieth century United States as well, particularly in effects that attempt to capture the period's massive technologies of transportation.

Trains were the most prominent transportation effects of the period stage, as they were the most prominent modes of transportation of the age as a whole. Trains on stage were symbols of progress and change and so train effects of the period are as much about conveying the movement and speed of a train as they are about representing the train itself. As an article in the December 5, 1878 issue of *Nature* points out, "The emotions produced by rapidly-moving masses, such as a train bowling up to a bridge … have been felt by all, and those excited when the moving bodies are very large do not seem to be producible by anything else in nature" ("The Music" 101-02). It was this challenge to which train effects of the time aspired. This aspiration involves the audience with the effect in an embodied, visceral way that is uniquely achievable in

the physical co-presence of the theater. It is an aspiration that disrupts any clean separation between the stage space and the audience space, because it asks the audience, in their space, to respond physically to something taking place in the stage space. Thus, it is an intermedial aspiration.

Furthermore, a moving train is a very challenging thing to stage, spatiotemporally speaking. Trains are large and fast; theaters are comparatively small and stationary. Putting a moving train on stage, then, requires some ingenious spatiotemporal trickery. Trains warped space and time in the world outside the stage, but the train itself must be warped in order to fit on the stage. This kind of trickery is generally neither subtle nor integrated with the other elements of the production and it is thus not a transparent representation of a train, but an opaque intermedial experience in which the medial operations of theater can be clearly seen as they relate to the represented medium of the railroad.

The railroad, to be sure, is not a medium in precisely the same sense as theater, or film, or the other media I reference throughout this dissertation, in that it does not typically represent or mediate a thing outside of itself. "Medium," though, like "intermediality," as I have noted before, is not a term with a single definition upon which everyone agrees. Elleström writes, in his introduction to *Media Borders, Multimodality and Intermediality*, "The notion of a medium is fairly inclusive and offers a way to bring together scholarly efforts within a considerable number of disciplines" (Introduction 4). If we are willing to be inclusive in our conception of media, we can turn again to Marshall McLuhan, as we did in reference to electric light as medium in the earlier chapter on technology. McLuhan's conception of "media" is vast and includes phenomena as varied as electric light (23), the written word (24), speech (24), abstract painting

(24), the telegraph (25), money (33), steel or stone axes (37), and railways (24). According to McLuhan,

> the "message" of any medium of technology is the change of scale or pace or pattern that it introduces into human affairs. The railway did not introduce movement or transportation or wheel or road into human society, but it accelerated and enlarged the scale of previous human functions, creating totally new kinds of cities and new kinds of work and leisure. This … is quite independent of the freight or content of the railway medium. (24)

In other words, in McLuhan's view, the railroad is a medium in the sense that it reshaped the operations and perceptions of human society. This, too, is what the train stage effects of the late nineteenth century explore – not just how the train moves, but how the train moves *us*. This, too, is an intermedial experience, and one that carries beyond the perimeter of the stage. We will encounter this idea again in the case study on approaching train effects at the end of this chapter.

Not every train effect of the time, of course, was particularly experimental or intermedial. There were train effects that relied on familiar strategies like scene paintings and panoramas. According to Arthur Edwin Krows, for instance, in Lincoln J. Carter's 1890 *The Fast Mail* (which Krows refers to as "one of the earliest American 'scientific' attempts to show a train of cars speeding across the stage" [228]), "The train was merely a strip of canvas about three hundred feet long, unwound from a drum on one side of the stage and wound upon another in the opposite wings" (228). Krows also describes Carter's train effect for a show called *Bedford's Hope*, which involves a climactic race between train and automobile: "Both were stationary save that their wheels turned furiously. But the scenery moved. There were a series of panoramas, those in the foreground moving very rapidly, those in the middle more slowly, and those in the

background scarcely at all" (229). These two effects are alternate and complementary ways of deploying the then-popular scenic device of the moving panorama. In one, the panoramic train moves past a stationary background. In the other, a panoramic background scrolls past a stationary prop train. Both effects, in fact, do involve rather significant spatial contradiction between scenery and performer, as the two-dimensional panorama, whether it is used for the scenery or for the moving vehicle itself, stands in contrast to three-dimensional actors and set pieces. At this point in theater history, though, panoramas were commonplace, and thus quite possibly familiar enough to fade into transparency as scene painting, for the most part, does today.

More ambitious and more intermedial effects combine elements of both of these relatively simple approaches, without evident regard to the impossibility of marrying them into a coherent or unified audience perspective. One example of this comes from Walter Fessler and his 1895 patent for a "Theatrical Appliance." In this effect, the main body of Fessler's train is stationary, just as are Carter's *Bedford's Hope* vehicles. Rather than creating the illusion of motion by moving panoramic scenery behind the train, however, as in *Bedford's Hope*, Fessler turns each individual train car into a small panorama. Fessler intends for this to "give off the glint or have the shimmering appearance that the originals have when in a bright light or when the locomotive and tender are moved rapidly on the track" (2). The motion of these panoramic train cars, then, is not really meant to indicate motion per se, but rather to mimic an interaction between a bright light and a metallic surface.

The illusion of movement in Fessler's effect is further supplied by rotating wheels and by steam coming out of the smokestack, complete with "a continuous or intermittent blast of air that will blow the artificial smoke and the steam toward the rear of the train and blow off the caps

and make the hair and clothing of the persons in the cab stand outwardly in the same manner as they actually would if going at the rate of speed that the locomotive is supposed to be going for the scene presented" (2). A large horizontal screw mounted at stage floor level in front of the train both masks the frame underneath the train's wheels and purportedly imparts a sense of backwards movement to the ground in front of the train. Whether Fessler intends the scenery around his train to be in panoramic motion is not specified in the patent, though one would imagine that background panoramas would also complement the effect. Fessler further intends for live actors to sit in the cab of the train.

Each of Fessler's particular choices, by itself, might successfully mimic an aspect of a moving train. The panoramic cars express the light twinkling on a moving surface. The screw alludes to the ground slipping away beneath the moving train. The rotating wheels essentially reproduce those of a real moving train, as does the smokestack with its billowing clouds of steam. The overall shape of the piece, as well as the human actor in the cab, define the massive scale of the object.

Taken together, though, these pieces do not add up to a coherent total train. While the piece as a whole is dimensional, the individual car panoramas are flat. Where the piece as a whole is stationary, the individual cars are in motion. The wheels, which rotate but do not advance laterally, imply that the audience is moving along with the train, but the lateral movement of the train car panoramas suggests that the cars may be moving past a stationary viewer. To this, we add the odd, large screw at the base of the train, which represents no discernable physical object, but rather represents movement itself. And, while there is linear directionality to the movement of a screw due to the threading, the primary movement of the screw is rotational, not linear. This, then, is an indication of motion that relates only loosely, if at

all, to any ostensible motion of the train behind it. Thus, it does not even really suggest motion specific to the train, but rather motion itself, as a general concept.

Ultimately, then, Fessler's effect does not really mimic a train in motion as a whole, so much as it mimics a cluster of discrete elements of a train in motion, or even the concept of motion itself. There is no coherent vision presented of the space-time of the train, a fact that, in his patent, seems to bother Fessler not at all. The audience must choose a perspective to prioritize, or else choose to vacillate between the available perspectives. Much as when, as we recall from the previous chapter, listeners had to choose amongst an overabundance of sounds to attend to on Edison's multiply recorded strip of tin foil, the act of perception itself becomes an experiential component of the effect. This is related to the type of simultaneous spatiotemporal representational possibilities that often characterize intermedial theater today, though admittedly Fessler's is a less sophisticated version. As Andy Lavender writes of Complicité's 2003 *The Elephant Vanishes*, "The effect is a dynamic interaction of discrete elements held in relation by the *mise en scène*" ("Mise en Scène" 62). The same could be said of Fessler's train.

This approach, in which contradictory spatiotemporal choices capture specific important elements of an object or its motion, was prevalent on late nineteenth and early twentieth century U.S. stages as a means to represent on stage those objects, ideas, or movements too large or unwieldy to be contained by mono-spatial techniques. Other effects patents of the period that employ diverse spatial strategies in order to represent large moving vehicles include John F. Bryne's 1893 patent for a "Stage Apparatus," which describes a miniature air ship, open on one side to reveal live actors, that rocks and sways along several different axes of motion while its linear travel through the air is conveyed by a passing series of cloud cut-outs, drifting continually around the air ship like a kind of moving picture frame and Howard Thurston's 1914 patent for

an “Apparatus for Producing Stage Effects,” in which a car race is simulated first using real cars, then dummy cars, alternating either with filmed cars or with projected shadows of cars or with tiny toy cars.

To be clear, I am not saying that the nineteenth century audiences seeing Fessler’s effect or Bryne’s or Thurston’s would have consciously thought through or dissected the effect as I have just done, any more than I think Boenisch, in his description of Cunningham’s performance quoted above, is arguing that most contemporary audience members consciously dissect the spatial significance of Cunningham’s “multi-verses.” Rather, I am pointing out that Fessler’s effect is typical of an approach to stage space that simultaneously embraces the multiple and inconsistent spatial strategies of representation available in the theater and that, in embracing those multiple and contradictory perspectives, it both embraces intermediality and reflects the newly apparent spatiotemporal complexity of the world at large.

Level 2: The represented space-time on the stage conflicts with the real space-time of the theater facility that defines the stage

The next level of spatiotemporal intermedial complexity comes when the represented space is obviously experientially inconsistent not only within itself, but also relative to the real space of the theater. This does not mean that the conceptual barrier between the stage space and the non-stage space is broken, as happens in some of the effects I’ll discuss later in Level 3. On the contrary, these effects often rely on that conceptual barrier. They operate by accentuating that barrier, which highlights the act of mediation, contrasting represented space-time with real space-time, particularly in the embodied experience of the audience.

In their *Multimedia Performance*, Rosemary Klich and Edward Scheer introduce a useful distinction between "cognitive immersion" and "sensory immersion." Cognitive immersion describes the ideal of "traditional theatre," in which "the stage fiction creates a discrete alternative world, and the house lights are blackened so as to help the audience forget their physical reality and become part of the fictional realm" (128). Sensory immersion, by contrast, is

> not immersion in an alternative world, but immersion in the spatial 'here and now', an enhanced state of being in relation to the surrounding space and responding to immediate stimuli. Here the concept of immersion relates to the audience members' level of sensorial stimulation at any one moment, and their awareness of being within the present of the performance and its capacity to engage them emotionally and corporeally (heart racing, hair-raising, sweating and fidgeting). (131)

Klich and Scheer go on to relate their concepts of cognitive immersion and sensory immersion to Bolter and Grusin's concepts of immediacy and hypermediacy. Klich and Scheer write, "Whereas cognitive immersion creates 'immediacy', and manifests as immersion in the mediated form, sensory immersion is consistent with 'hypermediacy' and involves immersion in the media itself, the performance text" (135). This description of an audience member sensorially immersed in a hypermedial performance is quite apt to many of the spatially manipulative performances and inventions of the late nineteenth and early twentieth century United States.

Mechanical effects that operated on audiences corporeally by staging apparently impossible physical feats were popular in the late nineteenth and early twentieth century U.S. theater. A simple example is Richard B. Smith's 1905 patent for an "Illusion Apparatus," in which a car, complete with live human occupant, apparently drives across the stage while

floating upside down in the air.[44] It is not a particularly sophisticated effect, either mechanically or conceptually. Mechanically, the effect is achieved by mounting the car on a large wheel, which, in turn, is mounted on a rolling platform. This mechanism conveys its illusion simply by painting the support structure black and pointing dazzle-lights at the audience.

Even this simple effect operates viscerally as well as visually, and not only because the effect involves shining blindingly bright lights in the audience's eyes. It offers, as Klich and Scheer put it, "immersion in the performance text as a sensory experience rather than a purely cognitive one" (131). The human occupant of the car is what really the sells the effect, encouraging the audience towards an embodied identity with the performer in the car. The effect, then, is not compelling merely because the audience sees the car upside down, but because the audience can feel the contrast between the laws of physics that operate upon them in the audience space and the laws of physics that, through this effect, apparently operate on the stage. This is what Nelson, in reference to a contemporary work called *U Right Standing*, refers to as "A play between the cognitive and felt experience" ("After Brecht" 38). Nelson describes *U Right Standing* as a sophisticated intermedial performance event experienced individually through a virtual reality headset. As such, it is clearly light years ahead of Smith's invention, technologically and conceptually.

In other words, I am not trying to impart any kind of conceptual weight to Smith's effect, which is fundamentally nothing more than a gimmick. There is no indication that Smith imagines his effect as part of any larger production or narrative. Presumably, assuming Smith's effect was ever implemented, it would have been simply a brief moment in a larger variety program. But the

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[44] In 1912, John B. Fitzpatrick patented a similar "Stage Device," "by the operation of which a performer is enabled to perform or accomplish the seemingly impossible feat of walking around the interior of a vertically positioned circular frame or track" (1).

fact that it is not particularly complex or important does not mean that it is not intermedial. This effect relies upon the particular spatiotemporal mediality of theater to function, and particularly upon the oddly theatrical dichotomy of stage space and audience space. Thus, Smith's effect is indicative of the period's overall intermedial approach to theatrical space that exposes mediation through a deliberate and playful manipulation of the audience's physical experience across the conceptual spatial barrier of stage and audience space that is uniquely characteristic of theater.

A more ambitious effect that operates on the same principle comes from Frank A. Beard and his 1923[45] patent for a "Theatrical Device," which provides "a stage setting by means of which an appearance is presented as if the audience were viewing the scene from above" (1). One might think that this effect would involve mirrors or projections of some kind. But no, the effect is purely mechanical. Thus, it is not an optical trick but rather, like Smith's "Illusion Apparatus," a physical engagement with the complexity of theatrical space.

Beard's invention consists of a platform angled almost perpendicular to the stage floor. People perform on it with special shoes that hook into fasteners embedded in the floor. An irrigation system of spray pipes mounted at the top and bottom of the platform gives the option of misting the entire platform with a film of water in order to obscure various gaps and openings in the platform. The patent also provides suggestions as to how a performer could dive through, row a boat across, or jump rope on this near-vertical stage.

The effect sounds frankly more than a little silly reading the patent, not to mention physically grueling and/or terrifying for the performers. But like Smith's upside down car, it is also an effect about the contrast between the space that the audience feels in their own bodies

[45] Although this effect was patented after 1915, which I consider to be the end of the height of this intermedial period in mainstream theater practice, it continues to adhere to the philosophies of performance evident in earlier effects and thus is relevant to my study. Furthermore, it's just too delightfully ridiculous to resist including it.

and the space that the audience sees through the proscenium arch. An instructive comparison can be made to the cinematic top shots that Busby Berkeley would famously employ a few years later. On film, Berkeley's top shots are primarily aesthetic. We admire them for the beautiful patterns they create and for the grace and virtuosity of the performers. In the theater, Beard's effect is primarily corporeal. We feel the effort of the performers and we fear for their safety because, however the represented stage space seems to be oriented, the audience knows in its bones that the real stage space is contiguous, and therefore gravitationally equivalent to, their own audience space. Thus, where the cinema audience is enchanted, the theater audience is disconcerted and quite probably alarmed. Beard's mechanical contraptions seem to make physics operate differently onstage than it does offstage. This makes it impossible to ignore the mediatizing effect of the proscenium arch, not on a conceptual level, but on a physical level.

Jennifer Parker-Starbuck, in her 2011 *Cyborg Theatre: Corporeal/Technological Intersections in Multimedia Performance*, describes a contemporary performance that is extremely resonant with Beard's "Theatrical Device." In *Hotel Methuselah* (2005-07) by the company "imitating the dog":

> in one scene bodies assimilate the idea of the camera into their action as actors converse across the hotel desk, facing each other on either side of the screen, but with the desk somehow turned up at a right angle so that we see it from above. The phone, lamp, and even the hotel's large paper register are in place, somehow defying gravity, the actors too are turned, perhaps sitting in some theatrically rigged device that makes them look as it they are standing sideways with their feet where we understand the wall to be. (139-40)

In short, in *Hotel Methuselah*, like in Beard's effect, a mechanical device is employed so as to alter the apparent spatial orientation of the acting space and the actors in it. The actors appear to be standing perpendicular to where the audience physically knows the axis of gravity to be. According to Parker-Starbuck, "This strategy guarantees a focus on the bodies, if only to cause us to think, 'how did they do that'?" (140). I heartily agree that this effect puts the focus on the bodies, though I suggest that the wonder that the audience experiences as a result is less a thoughtful response than a physical response. Like Beard's effect more than 80 years earlier, *Hotel Methuselah*'s effect works because of the overlapping and contradictory spaces of the theater, which are both real and represented, both separate and contiguous.

Another example of a period effect of this kind comes from Charles F. De Soria and John F. Corrigan's 1909 patent for a "Stage-Setting," of which the object is "to provide an illusion by which a complete scene, including all the performers and everything else which can be observed by the audience, appears to become suddenly inverted or turned upside down, during a momentary interval while the lights are dimmed" (1). In this case, most of the scenery, including floor, ceiling, and walls, is essentially constructed like a page of a book so that the top halves of the walls can be folded down to reveal the upside down version of the same room. The actors all have to stand with their backs to columns because they are strapped into little seats that hug them around their shoulders and butts. These little seats are connected to a counterweight system hidden inside the column so that the seat can be raised to the ceiling cum floor when the scene is changed. The seats also rotate around a pivot point through which the actor is flipped entirely upside down.

De Soria and Corrigan's effect literally turns the stage space on its head. In so doing, it, like Beard's "Theatrical Device" and like the effect in *Hotel Methuselah* described by Parker-

Starbuck, plays with the dichotomy of the stage space and the audience space. The audience sees that the stage space has been inverted, but it feels the falsity of this illusion. Thus, what the effect highlights – in addition to the courage of the performers who have allowed themselves to the raised to the ceiling and turned upside down – is the illusionary nature of the spatial division itself.

None of these late nineteenth and early twentieth century effects operate within any kind of narrative context. As Klich and Scheer write, "Elements of staging are not designed to represent an alternative reality, but are used to shape a certain experience of the immediate space and time of the performance" (135). They are simply mechanical, spatial tricks, the sole purpose of which is to overtly play with theatrical and physical space.

In all of these effects, the human performers relate to the human audience members through theatrical space so as to create an experience that is visceral rather than cognitive. To quote Klich and Scheer once again, "Sensory immersion is a state of being in which one develops an awareness of the self through proximal experience of the other, osmotically absorbing and intuitively responding while simultaneously reflecting on the process" (152). The audience both sees and feels the relationship between the physical space of the stage and the physical space they occupy in the audience. This is a particularly theatrical effect that makes the audience hypermedially aware of the medial operations of theater, not intellectually but physically.

The preceding examples all play with the physics of the theatrical space with reference to gravity. This is not the only axis along which to play with theatrical space, however. Scale is another, which comes into play both in contemporary intermedial performance and in the stage effects of the early twentieth century. Sigrid Merx writes, in her article "*Swann's Way*: Video

and Theatre as an Intermedial Stage for the Representation of Time" in *Intermediality in Theatre and Performance*, "Video raises possibilities playing with the scale in theatre as well; especially in the use of extreme close-ups or grand establishing shots, where the physically present actor can be reduced to a tiny figure and the audience is confronted with different sizes of the images" (71). As some stage illusions from the early twentieth century illustrate, video is not required in order for theater to play with scale in this way.

In 1910, for instance, James Gorden Bostock received a patent for a "Stage Illusion." As described by Bostock, it "relates to a novel stage illusion by which an action in miniature can be carried on before an audience to whom the actors will appear to be miniature men and women less than a foot high" (1). The illusion is designed to be installed in a normal-sized theater. Immediately behind the proscenium is mounted a drop with a scene "painted or done in miniature to represent a landscape or other desired setting" (1). Visible through a rectangular opening in this drop is a double concave lens and, behind the lens, an acting area backed by a full size drop. When performers act in this acting area, the audience sees them through the lens so that they appear to the audience in miniature. According to Bostock, "The total effect is a highly pleasing and apparently inexplicable illusion of extremely small actors performing before the audience" (1).

Nor was Bostock's the only such illusion. There was apparently something compelling about miniature performers because as late as 1930, William Herrschaft of New York was patenting his "Means for Producing Theatrical Effects." It consists of an arrangement of convex or concave mirrors (Herrschaft offers two different setups to achieve his effect) designed to reduce a performer in apparent size to be viewed through a little hole in the wall. According to Herrschaft, "Miniature theaters are known wherein a reduced image of a concealed stage and

actors is formed and made visible to the audience by means of a concave (spherical) mirror, into which an inverted image is reflected by other mirrors" (1). Herrschaft's version is intended not so much to improve upon the impact of the existing effect as to make it cheaper to produce and therefore accessible to more producers. In other words, Herrschaft's patent offers evidence that this effect existed in multiple forms over the course of decades. That suggests that the miniaturized actor effect appealed as more than a novelty. Its interest, I think, lies in the overt exploration of spatial and medial manipulation.

From our perspective today, these effects might put us in mind of television, with their little images of people seen through a curved glass. A television would obviously not have been evoked for someone observing these effects in 1910 or even 1930. Viewers at that time might have been reminded of something like a kinetoscope, which was a cabinet with a viewport on top through which one could watch a short film.

I think, though, that the real medial interaction here is with projected film. The poet and early film theorist Vachel Lindsay, in his *The Art of the Moving Picture*, first published in 1915, writes of "The little far-away people on the old-fashioned speaking stage … while, on the other hand, the photoplay foreground is full of dumb giants" (122). This question of scale, particularly in relation to the human actor, was brought to the fore by the advent of film. In that context, the optical manipulations of scale in Bostock's and Herrschaft's effects are part of a much larger cultural conversation about media technology and perceptions of space. The human actor of the theater, as Lindsay indicates, has already been scaled down by contrast to the newly ascendant giants acting on the film screen. By using curved lenses to further shrink those live actors down into tiny toy people, effects like Bostock's and Herrschaft's emphasize and play with this intermedial interplay between film and theater.

Furthermore, these huge theatrical lenses are just one type of innumerable lenses that were proliferating in the late nineteenth and early twentieth century world. As Jean Epstein describes,

> The machine technology of civilization, the innumerable instrumentations that encumber laboratories, factories, hospitals, photographic studios, and electrical shops, the engineer's table and the architect's drawing-board, the aviator's seat, the moving picture theatre, the optician's show window and even the toolkit of the carpenter allows man an infinite variety of angles of observation. (6)

All of these lenses affected what and how people could see, particularly at microscopic and macroscopic scales. Miles Orvell writes, "What had been invisible was made visible in the form of X-rays; infinitesimal temporal moments were revealed through high-speed photography; the atomic world of the infinitely small, and the astral world of the infinitely large, opened up unimaginably on either side of humanity's normal vision" (xviii). The theatrical lenses that created Bostock's and Herrschaft's miniature performers existed specifically in the historical context of a world in which lenses and the instruments of which lenses are a part were radically changing how people understood scale and space, not only on stage but also in the world at large.

Epstein points out, specifically, the ways in which lenses alter the things they reveal to us:

> Innumerable apparatuses, complicated and delicate, supplement the information about the world given us by our eyes, ears, and finger-tips. Just according to the number of the apparatuses by which we extend one or other of our senses – be there five or more – just so many new deformations are recorded by the intelligence. By deformation, I do not mean error or false information … A line

> appears straight to my naked eye, and curved seen through a glass; this is a deformation. That is all I intend to say. (6)

This deformation is the real subject of optically manipulative theatrical effects like Bostock's and Herrschaft's.

Each of the effects that I have described in this section – Smith's upside down car, Beard's almost vertical stage floor, De Soria and Corrigan's inverted scene, and Bostock's and Herrschaft's miniature actors – is, by itself, perhaps not terribly important. Taken together, however, they demonstrate a prevailing understanding of the complexity of theatrical spatiotemporality combined with a fun and experimental approach to the spatiotemporal border between stage and audience. This approach allowed theater to take its place in a newly spatiotemporally complex world.

Level 3: The conceptual "wall" that separates the represented space-time of the stage from the space-time of the real world, both in the theater building and beyond, is broken

The most profound, or at least the most medially disruptive, spatiotemporal intermediality is perhaps in those effects that break down the conceptual wall that generally separates stage space-time from real space-time. The representation that is called into question here is not just that of the theater or of any other medium represented on the stage, but also that of the real world itself.

Today's intermedial theater studies encompasses numerous contemporary examples of this kind of spatiotemporal intermediality. Klich and Scheer describe how "These works transform notions of space, overlaying the everyday with the virtual and creating 'mixed realities'" (153). Generally speaking, in today's intermedial performance, these mixed realities

blend a live theatrical experience with an experience mediated through a digital technology, such as a computer or a virtually reality helmet.

Gabriella Giannachi, for instance, in her 2004 book *Virtual Theatres: An Introduction*, describes an installation called *The Legible City* (1988-91), “an interactive installation in which the spectator, by riding a fixed bicycle, can move across the virtual cities of New York, Amsterdam and Karlsruhe” (29). According to Giannachi, “The viewer is therefore both present in Karlsruhe’s real topography, and in the virtual, which remaps the real, so that they are able to travel through the virtual while remaining immobile within the real” (30).

Another example is Blast Theory’s *Rider Spoke*, first presented in 2007 and analyzed by Rosemary Klich in her 2013 “Performing Poetry and the Postnarrative Text in the Theatre of New Media.” In *Rider Spoke*, participants rode bicycles around London,[46] equipped with a computer, a microphone, and headphones, with instructions to ride around the city for an hour, recording personal messages in response to prompts and listening to messages recorded by previous participants. According to Klich, “There is no sense of chronology, of the stories being ordered; they exist in parallel, interwoven within the geography of the present. The past and the present become one and the boundaries between public and private merge as the rider navigates an archive, a repository of the city’s stories” (423).

Late nineteenth and early twentieth century examples of this intermixing of theatrical space-time and real space-time tend to be, in keeping with the general practices of the time, driven by spectacle, as contrasted with the more thoughtful theoretical underpinning of the contemporary works described by Giannachi and Klich. They are rooted, though, in the same understanding that theater is uniquely apt towards creating experiences of “mixed realities” and

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[46] The performance was later reproduced in other cities, including Adelaide, Athens, Brighton, Budapest, and Sydney (Klich 422).

that, through the theater, a space can be simultaneously represented and real and that there can be, in that conjunction, both danger and discovery.

To begin with a straightforward example from the period, Samuel E. Hoopes obtained a patent in 1896 for a “Stage Race-Track,” through which the stage space explodes into the audience space. “Heretofore,” notes Hoopes, “theatrical races composing a chief part of the play have taken place entirely upon the stage, and usually before a moving panorama, by which the illusion of movement was obtained” (1). Hoopes is, of course, referring to exactly the kind of effect that Carter used in *Bedford’s Hope*, which we saw Krows describe earlier in this chapter.

Hoopes is not satisfied with this effect. “It is the object of my invention,” he says, “to provide means whereby a real race upon a track, all parts of which are clearly in view, may be performed in a theater as an adjunct to a play” (1). Hoopes’s invention consists of a track that can be installed in an oval shape, elevated above both the stage and the audience space. Hoopes intends his track to be in place for the entirety of a performance, finally used to run a real bicycle race as the last scene of the play.

Hanging above and connecting the stage space and the audience space throughout the evening, Hoopes’s track is already a visual reminder of the physical continuity between stage space and audience space. Particularly when performers begin to ride real bicycles around the track above the audience members’ heads, this track’s refusal to confine itself to the safe constraints of theatrical representation is made viscerally apparent. Although Hoopes does call for safety nets to prevent errant riders from falling into the laps of the patrons, we must imagine that part of the intended thrill of this invention is that it must certainly have felt dangerous to the audience, particularly as Hoopes recommends that the track be made of wire netting, so that people can see through it to the racers directly above their heads. Given the lax safety regulations

of time and the fact that Hoopes imagines this as a temporary installation, the danger to the audience would, in fact, likely have been to some extent actual, not just implied.

It is interesting that these three preceding examples – two contemporary and one historical – all rely on bicycles as the vehicle of choice to defy the conceptual barrier between staged and real. As a mode of transportation, the bicycle offers a more embodied connection than most to the process of movement through both time and space, since a bicycle is perhaps the only mode of transportation that is both human powered and fast enough to feel the wind of motion on your face. Thus, the bicycle is a profoundly corporeal way to travel, an aspect that theater, as an embodied medium for both performer and audience, is uniquely able to exploit.

Although the preceding examples rely profoundly on the physical spatial co-presence of the theater, this effect of merging of stage space and audience space need not be done by a physical object. For instance, *The Bangor Daily Whig & Courier* (Bangor, ME), reported in 1885 on a melodrama called *Storm Beaten*, in which "The mechanical arrangements ran with remarkable smoothness, and the cold wave that struck the audience with the appearance of the icebergs was a decided hit, if not remarkably pleasant to the audience, some of whom were seen to don overcoats" ("Storm"). The actor William H. Crane, writing in the *New York Tribune* in 1913, recalls a similar effect:

> Some nine years ago there was a cheap, ten-twenty-thirty melodrama company traveling through the West that presented the old-fashioned thriller called "Siberia." You will remember that one of the chief scenes was an out-of-doors scene, which showed a heroic sled pursued through the ice and snow and held up by the villains of the piece. The story goes that, directly previous to the disclosure of this sensational scene to the audience, the management would seek ingeniously

> and slyly to heighten the realistic effect of the scene in the audience's mind and on its body by opening the doors and windows for a few moments, chilling the auditorium, and thus making it *feel* the imitation snow and ice that its eyes beheld on the stage. (9)

In both of these cases, the barrier between stage space and audience space is breached by a feeling of coldness, suited to the represented space on the stage, but not to the real space of the audience. In both cases, the stated goal is realism. In actuality, though, the result is not the audience's immersion in a more detailed and complete represented world, but rather an incongruous experience in which the audience becomes aware of the process of representation precisely because that representation reaches beyond the established boundaries of the stage space. As Crane goes on, "Whether or not this story is true does not matter. It presents an interesting experiment. The fact is, however, that, had such a trick been indulged in by the sponsors of the traveling 'Siberia' company, the latter would have deliberately alienated their audience" (9). Crane, of course, does not mean "alienate" in anything like the Brechtian sense in which the term is usually used in the theater today. He means something more like what Robin Nelson refers to as "a dislocation in perception" ("After Brecht" 35). According to Nelson, "The potential [for a dislocation in perception] lies in any kind of disjunctive mix of media, or mediated presentation with actual experience, wherein juxtaposition creates a *frisson*" ("After Brecht" 35, emphasis original). This cold air that suffuses the audience chamber dislocates the audience by creating a frisson within the audience member who is simultaneously experiencing, physically, the space of the audience and the space of the stage.

In general, when we think of breaking down the barrier between stage space and real world space, we think of breaking the "fourth wall," the invisible division through which the

audience looks into the stage space. This fourth wall is clearly the easiest "wall" of a stage to break because it is not a physical wall at all but a conceptual borderline so strongly entrenched in our understanding of theater that breaking it can, as in the case of the cold effects described above, feel like a physical disruption. But far more solid and harder to breach than the invisible fourth wall, which divides the space of the stage from the space of the house, is the back wall, which divides the space of the stage from the space of the world. As a theatrical convention, the back wall is even more prevalent and more enduring than the fourth wall. It is also far older, dating all the way back to the skene of ancient Greece. We might, in fact, chronologically speaking, call it "the first wall." Breaking it can, therefore, be even more unusual and unsettling than breaking the fourth wall.

A theater audience member is, after all, a voluntary and aware participant in a theater event. She or he knows that what she or he is watching is constructed and spatially limited to the confines of the theater building and therefore safe. To paraphrase a patently false marketing slogan, which itself explicitly acknowledges the slipperiness of any distinction between "real life" and any other experience, "What happens in the theater, stays in the theater." This remains true even when the fourth wall is broken because, when that happens, stage space and audience space mix, but the outside world remains safely at bay. When the back wall is broken, on the other hand, no safety net remains to contain the constructed reality. Theater can start to feel dangerous when you no longer know where it ends.

Film technology offered theater one way to penetrate this back wall, at least in appearance. Gwendolyn Waltz recalls an 1898 production of *Chattanooga*, in which, "On the stage, the audience saw the back of the coal bunker and the smokestack of the locomotive, represented by set-pieces placed downstage, near the footlights. Upstage hung a large screen on

which the 'historic scenery' was projected. The view down the tracks appeared to fall away naturally at the sides of the locomotive as the engine 'entered' the perspective of the picture" ("Filmed" 566-67). According to Waltz, this filmic effect created a real spatial transformation: "now, with film, the depth of that surrounding space was not a mere indicator of background distance, placed behind the actors; it was space that the actors appeared to penetrate – a breakthrough illusion of 'limitless' depth in which stage action could occur, as if the outside world were funneled forward onto the stage through the screen at the back of the theatre" ("Filmed" 567). Instead of the space bleeding out into the audience space, in Waltz's view, the stage space has here sucked the entire world into its orbit.

This idea, though, did not have to wait for film, through which the world can be visually and virtually drawn into the stage. Even before the effect that Waltz described, there was at least one production that broke down the back wall of the theater quite literally and physically. The July 25, 1896 issue of *The New York Dramatic Mirror* describes a show called *The Lyons Mail*, in which, "In the mail-coach scene a most realistic effect was obtained, which caused great applause. The entire rear of the stage was opened and the real stage coach with four galloping horses came up in full view from over 500 feet away to the rear" ("Kansas City").

It's not clear from this description whether a hole was cut in the wall of the theater specifically for this production or whether there was some kind of existing loading door. Whether or not this performance of *The Lyon's Mail* cut a hole in a physical wall, however, it definitely cut a hole in a conceptual wall. When the back wall of this theater opened up, the representational stage space had to inflate in order to accommodate the horses 500 feet away. Or perhaps the real space of the street in which the horses waited rushed into the breached stage space. This, too, is a matter for audience interpretation or oscillating perceptions, which

resonates with Giannachi's examples of contemporary performance, in which "the viewer can *double* their presence and be in both the real and the virtual environment simultaneously" (95). Those four horses, simultaneously on a stage and in the street outside suddenly become the center of an intermedial exploration of the spatial limits of theatrical representation.

The Lyon's Mail was not the only instance from the period of this type of practice. The *Denver Evening Post* reports, of an 1899 Denver production of *The Prodigal Daughter*, "in order that the horse race may be run properly it has been necessary to cut huge openings at either side of the stage, enabling the horses to obtain their start upon the grounds in order that they may be running full speed as they cross the stage and make their exit into the grounds upon the other side" ("Midsummer"). Reportedly, "The scene in its entirety will probably be the most magnificent stage effect ever witnessed in Denver" ("'The Prodigal Daughter'"). In its striving towards this magnificence, the theater of the time was willing to breach even the most physical of barriers around the stage space, with unintentional intermedial effect.

The late nineteenth and early twentieth century even boasted fully physically participatory audience experiences comparable to the contemporary examples *The Legible City* and *Rider Spoke*, with which this section began. Again, recall that, although these historical effects employed some of the same physical strategies seen in contemporary intermedial performance, I make no claim that the historical effects shared the same conceptual ambitions.

One example is described in Albert A. Hopkins's *Magic: Stage Illusions, Special Effects and Trick Photography*, originally published in 1898 (91-94). He calls it the "haunted swing." It consists of a large swing, which he shows in an accompanying illustration seating sixteen, suspended from a pipe in the middle of a closed, fully furnished room. From the perspective of the people in the swing, it seems that the swing then flips entirely around the pipe and upside

down multiple times. “Those who have tried it,” according to Hopkins, “say the sensation is most peculiar and the deception perfect” (94). In fact, though, what actually happens is that the swing sways a bit and then the operators outside the room flip the entire room upside down around the swing, while the people in the swing remain right side up. “Even though one is informed of the secret before entering the swing,” writes Hopkins, “the deception is said to be so complete that passengers involuntarily seize the arms of the seats to avoid being precipitated below” (94).

This trick that Hopkins describes bears a striking similarity to *U Right Standing*, described by Nelson and referenced above. Nelson writes,

> This intermedial performance event involved an individual experience through a virtual reality head-set combined with a sense of substantial physical dislocation. Having seemingly ascended an escalator and been backed against a wall, the experiencer senses that wall slowly, almost imperceptibly, but palpably, inclining forward until he is laid flat out on his stomach before being returned to the vertical. This example instances a mix of digital media and physical performance juxtaposed in a playful but, at the same time for the experiencer, significantly disorienting way being disposed towards a new perception. (“After Brecht” 37-38)

The technology Nelson describes is, of course, radically different than that described by Hopkins. But the disorientation and altered perception, which is rooted in the conflict between the sensory input of the eyes and that of the proprioceptive body, is the same.

A less physically involving but more narratively representational example is found in a better-known and more successful attraction of the period called Hale’s Tours. Hale’s Tours, named for proprietor George C. Hale, first premiered at the 1904 St. Louis Exposition (Fielding

38). It consisted of a train car, or an interior space fitted out to resemble a train car,[47] in which audience members were seated. Through the front window of the train car, the audience viewed a film that had been shot from a moving train. This illusion of motion was enhanced with characteristic train sounds, artificial air currents, and real swaying motion of the seating area.

According to Hale, in his 1905 patent for this "Pleasure Railway," "It has been found by actual operation of this amusement device that the illusion is extremely realistic, some of the passengers having been known to clutch the arms of their seats in fright at the apparent great speed of the car and the way it swung over to the side as it took the curves" (2). Raymond Fielding also reports, in his article "Hale's Tours: Ultrarealism In the Pre-1910 Motion Picture," "the illusion was so good that when trolley rides through cities were shown, members of the audience frequently yelled at pedestrians to get out of the way or be run down" (41). These responses – clutching and yelling – are involuntary and instinctual, not intellectual. They do not mean that participants were fully taken in by the illusion, but rather that the impact of the experience lies once again in the friction between what is known and what is felt. Like the bicyclists in *The Legible City*, these people might be said "to travel through the virtual while remaining immobile within the real" (Giannachi 30).

According to Bolter and Grusin, "We go to films in large part to experience the oscillations between immediacy and hypermediacy produced by the special effects" (157). They describe these oscillations as temporally sequential:

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[47] Hale's patent actually describes two cars. Patrons get onto one car, which moves a short distance along a track, where it couples with a second, stationary car. The patrons transfer to this stationary car, where they view the film. It is probably not surprising that, in commercial practice, the show generally consisted of only the stationary car for practical reasons (Fielding 39).

> the amazement or wonder requires an awareness of the medium. If the medium really disappeared, as is the apparent goal of the logic of transparency, the viewer would not be amazed because she would not know of the medium's presence … The amazement comes only the moment after, when the viewer understands that she has been fooled. This amazement requires hypermediacy, and so the double logic of remediation is complete. (158)

Hale's Tours, though, is a more intermedial experience than the experience of film described by Bolter and Grusin because it is more embodied. I would argue that, in the case of Hale's Tours, the hypermediacy that Bolter and Grusin describe is therefore not sequential but simultaneous. You know very well that what you are seeing is not real, but you are physically incapable of not reacting to it as if it were real. The power of the medium thus revealed through Hale's Tours is therefore not only impressive, but also a bit cautionary. In an age in which new media and new technologies were reshaping space and society, Hale's union of multiple media and technology demonstrated – albeit playfully – just how irresistible their influence could be.

Taken together, the examples in this section vary widely in their operations, but what they share is a destabilization of the usually secure boundary between stage space and real space, between representation and reality. This is what Herbert Blau alludes to when he suggests that theater is set apart from other media – specifically film – by "the unnerving prospect that what doesn't touch *could*, and could *right there*, not just in the mind's eye" (53). In highlighting this prospect, these effects both embrace and highlight this medial particularity of theater.

In the late nineteenth and early twentieth century United States all sorts of things and places and people were touching that hadn't previously been able to touch, thanks not only to the transportation possibilities afford by the railroad, bicycles, automobiles, and airships, but also to

technologies like the telephone, telegraph, phonograph, and film and to scientific discoveries about space and matter that ranged in scale from the atomic to the planetary. It is a small wonder, then, that the conflicting spaces of the theater came to reflect the changing spaces of the world at large.

Case study: Approaching train effects

Of all the spatiotemporal effects of the late nineteenth and early twentieth century U.S. stage, undoubtedly the most popular were those of the approaching vehicle, most often a train. Like today's intermedial performances that conjure up today's digital society, approaching train effects were both technologically interesting and engaged with the real spatiotemporal transformations that trains (and other scientific and technological innovations) were making in the world. They did this through the specific spatiotemporal multimodality of the theater, calling upon multiple onstage perspectives and troubling the barriers between stage and audience spaces.

These approaching train effects, though they share the common goal of representing a vehicle approaching the audience head-on, were accomplished in a variety of ways, using a variety of technologies and techniques both mechanical and filmed. Spatially, they are among the most interesting effects of the period, in that they often combine multiple levels of spatially contradictory intermediality. The rush towards the audience is clearly to destabilize, if not downright break, the fourth wall that separates audience from stage. At the same time, fitting something as massive as a train on stage requires spatial manipulation of the object itself as well, whether by flattening it onto film – which can put it at spatial odds with the other three-dimensional spatial objects of the stage – or by flattening or abstracting it mechanically, often in internally inconsistent ways.

Not only do these effects engage with the massive new transportation technologies of the age on a narrative and thematic level, but also, in their violent and direct assault on the audience, they mirror the feelings of a society buffeted by a seemingly unstoppable barrage of new discoveries, media, and technologies. These are feelings with which many of us today are familiar as well. We thus can see the intermedial characteristics of approaching vehicle effects not only in their multiple and conflicting spatial perspectives and their irruption out of a contained representative space but also in their participation in a network of media-cultural connections reflective of an intermedial approach to culture and society.

Blau's unnerving prospect that what shouldn't touch could is undoubtedly a large part of the appeal of these effects. The unavoidable (and in most cases deliberate) implication is that the vehicle *could* keep travelling past the invisible barrier of the proscenium and into the house. The stated intent behind these effects was generally to amaze and to startle. But in the particular way in which they startle – by threatening to irrupt into the audience space – they force us to acknowledge the conflict between the conceptual separation and the material continuity of the stage space and the audience space. Thus, these effects partake of the spatiotemporal complexity characteristic of intermedial theater. This head-on vehicle effect shows up repeatedly on the late nineteenth and early twentieth century U.S. stage in versions simple and complex, filmed and live, literal and abstract.

Probably the best-remembered examples of approaching vehicle effects are short films of approaching trains, the earliest of which date to the mid-1890s, the very earliest days of projected film. Thus, while they are films in the technological sense, recall that they would have been experienced by period audiences in theaters and as theater, appearing often as part of a variety program alongside live performances and with live narration. Examples of these

approaching train films include Louis Lumière's *Arrivée d'un train a Perrache* (1896), Albert E. Smith and Jim Blackton's *The Black Diamond Express* (1896), Edison Studios's *Fast Mail, Northern Pacific Railroad* (1897), and Edison Studios's *New Black Diamond Express* (1900).

One of these films is vividly described by Albert E. Smith, an early film director and producer and co-founder of Vitagraph Studios,[48] in his autobiography, *Two Reels and a Crank*, published in 1952, recalling his days in the nascent film industry. "The *Black Diamond*," Smith writes, "was our pride and joy. Its effect was fearsome, roaring toward the audience like a giant gone berserk. It would be hard for modern patrons to understand the feeling of panic that swept the audience at sight of this smoking monster rushing down upon them" (38-39). According to Smith, this exhibition was prefaced with a speech by his partner, Jim Blackton, who would claim, "Ladies and gentlemen, you are now gazing upon a photograph of the famous Black Diamond Express. In just a moment, a cataclysmic moment, my friends, a moment without equal in the history of our times, you will see this train take life in a marvelous and most astounding manner. It will rush towards you, belching smoke and fire from its monstrous iron throat" (39). The film was also enhanced with audio accompaniment provided by Blackton, who "then would withdraw quickly into the wings where, to simulate the noise of a train, he beat furiously on dishpans, pie plates, metal sheeting, and large hollow pipes" (Smith 39). We can recognize, in these foley effects, the lineage of the headlight, smoke, and sound effects that we saw used in Carter's *The Fast Mail* train effect described above. Like Carter's enhancements, Blackton's sound effects strive to counteract the inherent deficiencies in the primary means of representing a train – a panorama in Carter's case, a silent film in Blackton's. In striving to overcome them, though, they just as often accentuate them.

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[48] One of the busiest film studios of the early twentieth century, Vitagraph would eventually be bought by Warner Brothers.

These train films are often recalled as having been so new and so stunning that audiences supposedly reacted with visceral terror. Smith, for instance, says of his *The Black Diamond Express* screenings, "At the point where it appeared certain the monster would hurl itself from the screen, babies yowled, youngsters trembled like aspen leaves, women screamed, and men sat aghast" (39-40). Smith goes on, "The second showing at Pastor's almost ended in disaster. An assistant manager rushed into my booth. 'Turn that goddamned thing off!' he bellowed. 'Two ladies in the audience have fainted!'" (40).[49] Film historian Tom Gunning similarly notes, in his article "An Aesthetics of Astonishment: Early Film and the (In)Credulous Spectator," "According to a variety of historians, spectators [at early train films] reared back in their seats, or screamed, or got up and ran from the auditorium (or all three in succession)" (31). Opinions are mixed as to the veracity of these reports. Gunning, urging caution in accepting this myth at face value, points out, "Contemporary film theorists have made careers out of underestimating the basic intelligence and reality-testing abilities of the average film viewer, and have no trouble treating previous audiences with similar disdain" (32). Stephen Bottomore, in his 1999 "The Panicking Audience?: Early Cinema and the 'Train Effect,'" takes a contrasting approach, arguing from a psychological point of view that this so-called "train effect" did, in fact, really happen on some occasions.

For my part, I think it makes a considerable difference which of these early train films we look at. In the case of Lumière's *Arrivée d'un train a Perrache* it is difficult to imagine anyone responding with paroxysms of terror. In fact, it seems deliberately rather staid. The camera is clearly positioned safely on a station platform, not on the track. The train's approach, therefore, is not directly, but obliquely, toward the viewer. The train slows and eventually stops as it pulls

[49] It is, of course, possible that Smith is exaggerating these incidents.

into the station. Ordinary people mill calmly about near the train, in some cases even stepping nonchalantly on or off the slow-moving locomotive. It is these travelers on the platform, in particular, that make this film feel fundamentally safe. Spatially speaking, the live audience watching the film shares the platform with these calm people, who quite clearly feel perfect safe and relaxed. They have nothing to fear, so neither should we.

The two Edison films cited above – *Fast Mail, Northern Pacific Railroad* and *New Black Diamond Express* – though generally of the same category of approaching train films, are quite different. In these films, the camera is set not at the station but by the side of the track. When the trains pass, therefore, they pass at full speed without slowing or stopping. The people in the foreground of the two Edison films are not travelers, but workmen. As the trains approach, they hurry out of the way, thereby suggesting that the film's audience might do well to do the same. This effect is particularly heightened in *New Black Diamond Express* because the camera, in this case, is set just beyond a bend in the track so that the train initially approaches the audience directly, only later veering off to the side as the train takes the corner. By contrast to Lumière's film, it is quite easy to picture alarmed audience reactions to Edison's films and, based on Smith's description quoted above, to Smith and Blackton's film as well.

It is interesting to note that it is the films from the United States that appeal most overtly and aggressively to the perceived threat of violating the audience space, whereas the European film leaves its audiences in relative safety. It may be that U.S. audiences were especially receptive to this kind of playful approach to theatrical space because, as noted earlier, new transportation technologies were perhaps more transformative of life in the United States in this period than they were of life in Europe.

Furthermore, the fact that the chronologically latest film is the one in which the particular aspects of the film that make it feel physically threatening are most fully developed suggests that this is a deliberate choice on the part of the filmmakers. Certainly Smith's narrative indicates that he and Blackton meant to sow fear in their viewers. The root of this fear is the manipulation of the theatrical space, the deliberate suggestion of a stage object irrupting into the audience space. The fact that this does not actually happen, as it did in Hoopes's track, is ultimately less important to the mindset of the audience member than the activation of the belief that it could.

Although the film scholars who write on early train films seldom recall this, oncoming train effects were by no means confined to film. Live versions, too, were popular and, given the heightened spatial possibilities of three-dimensional representation, even more varied and interesting than filmed versions. In the absence of the imposed flatness of film, designers invented various ways to contract or abstract and propel supposedly huge trains through the stage space and towards the audience space.

One such effect comes from Lincoln J. Carter, who we will recall from his train effects for *The Fast Mail* and *Bedford's Hope*. In 1898, Carter received a patent for a "Theatrical Appliance" intended to give the illusion of a train coming directly at the audience (or backing away from it, though the patent makes clear that this is of secondary importance). The invention consists of a two-dimensional cutout of the front of a train on which is mounted a lamp behind a glass lens, which can be raised or lowered by means of a pulley. When the effect desired is that of a train approaching the audience, the lens begins the scene at the lower end of its vertical travel, near the stage floor, and covered with an opaque substance like lampblack. This lampblack is then wiped away from the center outwards in successively larger circles by a sponge mounted on a stick and operated with a crank. Simultaneously, the lamp is raised by

means of the pulley until it reaches its typical position in the center of the train cutout. The effect of this is that the circle of visible light from the lamp becomes steadily larger and larger and steadily further and further from the stage floor, thereby suggesting that the train is getting closer and closer to the audience. When the effect desired is that of a train moving backwards away from the audience, the lens begins the scene clean and in its upper position, from which it is gradually lowered while the sponge applies lampblack to the lens from the perimeter in to the center in successively smaller circles.

It is, frankly, a silly-sounding invention at first glance and it is difficult to imagine either that it worked with any degree of reliability or that the illusion was particularly convincing. That is, it is silly-sounding if we take too literally Carter's claims "to impart an appearance of reality" (1) or to secure "as far as possible realistic effects" (1). From today's understanding of "realism" this effect seems anything but. But Carter also states, "The object of my invention is to make an appliance by which the impression of movement and change of distance may be created on the mind of the beholder" (1). This is a very different claim than that of realism and one that I think Carter's invention could have delivered on. What he has done is to extract from the experience of seeing an approaching train a single defining characteristic. He has distilled the entire train down to a single growing (or shrinking) light source. In this way, not only does Carter's effect partake of the same fourth wall shattering threat as the oncoming train films, but it also shares the interesting spatial technique that we saw Fessler employ earlier that dissociates the motion itself from the object ostensibly in motion. When Carter's effect commences, the audience sees nothing but the glowing and steadily growing headlight. Not until after the motion has been conveyed is the object itself – the train cutout – revealed.

Langdon McCormick, another prolific effects inventor of the period, patented an "Illusion Device" in 1913 that takes the spatial complexity of the effect even further. Like Carter's "Theatrical Appliance," McCormick's invention simulates a train approaching (or receding from) the audience head-on. Like Carter's invention, it relies heavily on the apparent growth (or shrinkage) of the train's headlight. Unlike Carter's invention, McCormick's train prop is three-dimensional, consisting, based on the drawing that accompanies the patent, of a prop version of the first few feet of a locomotive engine mounted on a platform. The headlamp is mounted on the top of this engine. Unlike Carter's fascinating sponge and lampblack contraption, McCormick's mechanism calls for a standard "iris diaphragm *c* of the usual construction" (1) (which, incidentally, begs the question of why Carter didn't also employ this much simpler strategy).

There is also a major additional element to McCormick's effect. McCormick describes a painted canvas image of a railroad track in perspective (though he also notes that the image "may be established in a multitude of ways" [2], for instance projected from a lantern or "made up of slats of board or card-board" [2]). At the top of the scene, this canvas is mounted in front of the prop locomotive, so that it obscures the entire object with the exception of the headlight. As the train "approaches" the audience and the iris opens to make the head light appear larger, this canvas rolls down so that it reveals the locomotive from the top down.

Taken together, this effect encompasses a fascinating concatenation of perspectives, as the locomotive itself neither moves nor grows, though its headlight does. It is simply revealed. Thus, there are at least three contrasting perspectives involved – the forced perspective of the railroad track, which makes a non-perspective disappearance onto the roller at the base of the locomotive; the time-based perspective of the growing head light; and the stationary perspective

of the prop locomotive. McCormick does attempt to minimize this third perspective (or non-perspective) of the locomotive, noting, “As the curtain [by which he means the canvas upon which the perspective track is painted] finally disappears, the theater lights will be manipulated to accentuate the scenic representation of the locomotive, which has, upto [sic] this time, been represented by the head light” (2). Possibly this lighting suggestion would unify the perspectives to some extent, but it nonetheless remains an almost deconstructed version of an approaching train. McCormick extracts the most prominent features – perspective tracks, enlarging head light, front-on view of a locomotive – and then sets them next to one another rather than unifying them into a single image. As was the case with Fessler’s effect earlier in this chapter, the choice of whether and how to assemble these perspectives to create a single object is left to the devices of the audience, but in this case the audience must make this complex perceptual decision while a massive train is apparently bearing down upon them.[50]

Some oncoming vehicle effects combined film and live techniques. The period’s inventor par excellence of effects combining three-dimensional props, human actors, and projected scenery was Frank D. Thomas. Thomas’s invention that most directly relates to space and transportation is his 1916 “Stage Effect,” in which he describes ways to represent a moving rowboat, car, airplane, and train, all positioned so as to be directly approaching or moving away from the audience.[51] All of these effects essentially consist of a painted backdrop, activated with

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[50] McCormick went on to patent a number of different effects that involved vehicles approaching the audience in one way or another, including his 1914 “Apparatus for Producing Scenic Effects,” in which a train and a car simultaneously race towards the audience down a long mountain road; his 1915 “Apparatus for Producing Illusionary Effects,” in which a steamship seems to sail towards (or away from) the audience; and his 1919 “Theatrical Appliance,” in which a ship can seem to approach the audience or turn away from the audience towards the wings.

[51] In this patent, Thomas also illustrates how the effect could be used to show people emerging from bathhouses on a beach.

overlaid film projections, combined with a 3-D prop of either a part of or the entire vehicle in question and human actors, either seated in the 3-D prop or visible through a hole in the projection drop. His airplane, for instance, consists of an airplane painted on a drop, but with a real, rotating propeller sticking out in front of the drop. There is a hole in the drop and a platform behind so that actors can stick their heads through the drop and appear to be seated in the airplane. A projector throws scenes of the landscape moving away beneath the plane onto a slanted groundcloth underneath the plane, while another projector casts images of moving clouds onto the drop around the plane.

In their multiplicity of technologies, techniques, and perspectives, which overall create a jumbled texture of object, space, time, and motion, these theatrical approaching vehicle effects resonate with contemporary intermedial performance. Andy Lavender, for instance, describes a scene in Complicité's *The Elephant Vanishes*, in which "A character sits on a chair as if driving. The Japanese screen behind him shows an image of an illuminated road tunnel, as if seen through the rear window of a speeding car. The image is doubled on the large rear screen, and trebled on a TV monitor high to the performer's right" ("Mise en Scène" 61). Like the effects of Carter, McCormick, and Thomas, this description suggests a disjointed spatial experience, in which the visual experience does not collapse into a unified whole, but the visceral sense of motion is clearly conveyed.

In an era like today and like the late nineteenth and early twentieth century United States, when the spaces and times of the world itself are and were similarly seemingly in a state of flux, this sense of unsettled motion is perhaps existential as well as physical, both unfamiliar and exciting. Lavender goes on to say, of the effect in *The Elephant Vanishes*, "The effect is of an intoxicating rush of movement, vivid, intense and pleasingly disproportionate" ("Mise en Scène"

61). This strikes me as an apt description as well of the spatial intermediality of approaching vehicle effects of the late nineteenth and early twentieth century United States.

Chapter 5: Electric Cyborgs

Donna Haraway describes the cyborg in her "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century" as, "a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction" (149).[52] Haraway believes that "By the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs" ("A Cyborg Manifesto" 150).[53] If we are all cyborgs today, the process by which we became so began a long time ago and it accelerated considerably in the nineteenth century. Like so many digital technologies today, the analog technologies of the late nineteenth and early twentieth century redefined what could be done with, to, and by the human body. Like digital technologies today, these analog technologies affected the way many people lived and understood their lives, ordinary people as well as the cultural and scientific elite. The cyborgs that emerged at the intersections between these technologies and human beings, offstage as well as onstage, were variously exciting, threatening, and baffling, just as digital cyborgs – real and fictional – are today. These cyborgs, moving as they did between the onstage and offstage worlds, encouraged intermedial perceptions in theatrical audiences. At the same time, because the theater of the time was intermedial, it provided a necessary space within which artists and audiences could come to terms with the cyborgs springing up in the world all around them.

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[52] "A Cyborg Manifesto" was first published in 1985. Quotes in this dissertation are from the essay as it appears in Haraway's 1991 book, *Simians, Cyborgs and Women: The Reinvention of Nature*.

[53] Since the publication of "A Cyborg Manifesto," Haraway has relegated the cyborg to a position of lesser importance within her larger concept of "companion species." As she writes in her 2003 *The Companion Species Manifesto: Dogs, People, and Significant Otherness*, "cyborg reconfigurations hardly exhaust the tropic work required for ontological choreography in technoscience. I have come to see cyborgs as junior siblings in the much bigger, queer family of companion species, in which reproductive biotechnopolitics are generally a surprise, sometimes even a nice surprise" (11).

The idea that mankind might combine with machine, or that mankind might in fact be machine itself, was not new even in the nineteenth century. Multiple thinkers of the Enlightenment posited a kinship between human and machine. Among the most explicit explorations of this idea at that time, for instance, came from Julien Offray de La Mettrie, in *L'Homme machine* [Man a Machine], originally published in French in 1747, in which he argues, "The human body is a machine that winds up its own springs" (11). Humanoid automata, which also inquire into the distinction between man and machine, date at least to classical Greece and have interested artists and thinkers from Heron of Alexandria to Al Jazari to Leonardo da Vinci.[54] In the late nineteenth century, however, as machines themselves became ever larger, louder, smellier, and more obtrusive components of day-to-day life, these questions took on a new urgency. Ideas that had been scientific hypotheses or aesthetic conceits became materially embodied in the massive machines newly employed alongside human workers in industries like transportation, manufacturing, fishing, agriculture, communications, mining, and entertainment.[55]

Thus, in the late nineteenth century, there was a more pressing need than ever before for a space in which to explore humanity's relationship to machinery. The theatrical stage was uniquely suited to such a purpose. Thus, the variety acts, scenographic practices, and theatrical inventions I describe in this chapter, though often trivial on the surface, were engaged with

[54] See, for instance, Beachum; Ceccarelli; Gasparetto; and Rossi and Russo 353-380.
[55] Haraway, in fact, specifically argues, "cyborgs are recent" (Gane and Haraway 147). As she says, "I think the cyborg way of doing who we are has a pretty recent history. Maybe you could date it from the late 19th century, or maybe it's better to track it through the 1930s, or through the Second World War, or after. Depending on what you want to foreground, you could track it in different ways, but it's pretty recent" (Gane and Haraway 146).

fundamental questions about the reality of the world around them and the place of the human in that world.

I should note that not everyone agrees that we are now all "cyborgs" in a literal sense. As Margaret Morse points out, in *Virtualities: Television, Media Art, and Cyberculture* (1998), "the actual status of the cyborg is murky as to whether it is a metaphor, a dreamlike fantasy, and/or a literal being; and its mode of fabrication and maintenance is, practically at least, problematic" (126).[56] N. Katherine Hayles also notes, in her *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (1999), "actual physical operations … act as a reality check on fantasies about cyborgism" (85). Certainly most of us don't much resemble either stereotypical cinematic cyborgs like RoboCop, Terminator, and Cyborg from the Justice League or extreme real-life cyborgs like the performance artist Stelarc. When I say that modern humans are cyborgs and that the process of becoming so was an important experience in the late nineteenth century I mean something more like what Marshall McLuhan means when he writes, "an American is a creature of four wheels … the car has become an article of dress without which we feel uncertain, unclad, and incomplete in the urban compound" (194). We are cyborgs now in the sense that the importance of machines and technologies to our ability to explore, experience, and interact with the world around us can seem equal to or even greater than that of our own bodies. As Kara Reilly writes, introducing *Theatre, Performance and Analogue Technology: Historical Interfaces and Intermedialities* (2013), "Humans shape technology but … technologies can help shape human ways of knowing (epistemology) and by extension our

[56] Dixon addresses this question by concluding that "Ultimately, the question of whether or not we are *already* cyborgs (or the extent to which we are) must rest on individual perceptions, in common with Katherine Hayles's analysis that people become posthuman when they think they are posthuman" (305).

ways of being (ontology)" (3). Technologies do not just mediate our experience of the world. They mediate our experience of ourselves.

Similarly, when I say that people in the late nineteenth and early twentieth century were becoming cyborgs, I do not mean that they all went around with machines strapped to their backs or electric lights stuck to their heads – although some of them did. What I mean, rather, is that, as a result of living in a period of virtually unprecedented technological innovation that suffused so many aspects of life,[57] people of that time were developing something like what Haraway, in a

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[57] Howard Mumford Jones, who christened the period from 1865 to 1915 "The Age of Energy," provides "a partial list of important innovations":

1863	the first "Mogul" locomotive
1864	the first Bessemer steel plant (Wyandotte, Michigan)
	the first practicable Pullman car
1865	the first oil pipeline
1866	the Atlantic cable in operation
1867	the first practicable refrigerator railway cars
1868	the Westinghouse air brakes for railway cars
1869	the first transcontinental railway track completed
1870	the first silos
1871	Hoe's web perfecting press used for the New York *Tribune*
	the Ingersoll compressed air drill
1873	Janney's automatic car coupler
	the first cable cars in San Francisco
1874	the third rail for subway and elevated traction
1875	the first cash carrier for stores
1876	the Bell telephone
	the hydraulic dredge
	machines for making cigarettes
	barbed wire manufactured on a large scale
1877	the phonograph
	Selden's automobile
1878	the first public telephone switchboard (New Haven, Connecticut)
	Wanamaker's store in Philadelphia lighted by electric lamps (carbon)
	the Sholes typewriter
1879	the first hydroelectric plant at Niagara Falls
	the streets of Cleveland, Ohio, lighted by carbon lamps (arc lights)
	the first automatic railway signal system
1880	the first successful incandescent electric lamp
1882	the first public electric lighting system (New York)

1995 essay entitled "Cyborgs and Symbionts: Living Together in the New World Order," calls "the cyborg point of view." According to Haraway, "The cyborg point of view is literal, material, and technical; it is built, located, and specific – like all meaning-making apparatuses. Whatever else it is, the cyborg point of view is always about communication, infection, gender, genre, species, intercourse, information and semiology" ("Cyborgs and Symbionts" xiv). This cyborg point of view is part of Haraway's "imploded story," which "insists on the inextricable weave of the organic, technical, mythic, economic, and political threads that make up the flesh of the world" ("Cyborgs and Symbionts" xii). Through this cyborg point of view, people of the late nineteenth and early twentieth century were coming to feel what has become almost undeniable today – that the human is not organized solely by its organic body and/or by its thinking mind, but by the web of devices, technologies, objects, creatures, and ideas through which the human interfaces with the world. The theatrical stage, on which the human body co-exists as a technical

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1883 the first elevated electric railroad (Chicago)
1886 the linotype
the alternating electric current commercially viable
1887 the vestibule passenger train
1888 Dunlop's pneumatic tire
the first municipal trolley car system (Richmond, Virginia)
1889 the De Laval turbine
1892 the first electric passenger elevator
the Ford car
1896 the first commercial movies (New York City)
1900 American tinplate processing perfected
1903 the apparent failure of Langley and the success of the Wright brothers in flying (157-58)

Jones goes on to note:

> The list does not include the creation of new tools and machines for flour milling, mining, lumbering, the loading and discharge of bulk cargo, vast changes in industrial chemistry that only an expert can chronicle, various advances in ice-making, textiles, woodworking, metalworking, the operation of hospitals, new tools and instruments in dentistry and surgery, the creation of patent foods, new modes of sinking caissons and building bridges, progress in printing, computing machines, paper-making, and much else. (158)

medium of representation and a co-creator of meaning alongside innumerable other technologies, both old and new, was uniquely suited to demonstrate, dissect, promote, and/or resist this cyborg point of view.

In discussing technology in Chapter 3, I noted that new media technologies – whether the phonetic alphabet of classical Greece, the optical technologies of the Enlightenment, the electrical technologies of the nineteenth century, or the digital technologies of today – define the possibilities of how human beings can perceive the world. The cyborg point of view takes this idea a step further. To quote Haraway once again, "Cyborgs are about particular sorts of breached boundaries that confuse a specific historical people's stories about what counts as distinct categories crucial to that culture's natural-technical evolutionary narratives" ("Cyborgs and Symbionts" xvi). The cyborg point of view, which manifests in distinct ways in different historical periods, suggests that not only do technologies define what we see; as a part of our evolutionary narrative, they also define who we are and what we become. Or, as Hayles writes in her 2005 *My Mother Was a Computer: Digital Subjects and Literary Texts*, "what we make and what (we think) we are coevolve" (216).

The cyborg is a conflicted figure, both in representation and in reality. As Giannachi writes, "Cyborgs represent the ultimate in human aspiration to freedom while simultaneously indicating its end. They are paradoxical and uncanny: they appear to be setting a new frontier while pointing to something that was always already within. They appear to be enhancing our individual potentials while representing the end of the human as an independent individual" (47). Or, as Haraway writes, "these practices are the simultaneously fiercely material and irreducibly imaginary, world-destroying and world-building processes of technoscience" ("Cyborgs and

Symbionts" xii). The cyborg is both thrilling and threatening, promising and ominous, simultaneously more than and less than human.

Two examples of cyborgs in contemporary intermedial theater can serve to illustrate this point. Jennifer Parker-Starbuck, in her *Cyborg Theatre: Corporeal/Technological Intersections in Multimedia Performance*, describes the Wooster Group's 2001 *To You, the Birdie!*, in which live actors perform behind a floor-level flat screen TV on which appear larger-than-life, pre-recorded images of the actors' feet and legs. According to Parker-Starbuck, "the moving, linked screen view develops an 'embodied technology' situated in a cyborgean relation to the actors who interact with it and with us. As our eyes instinctively go to the segmented and closer-up view of the lower bodies, these composite images simultaneously gaze back at us forcing us to see both the screens of regulation and the bodies they objectify" (120).

Andy Lavender describes a different kind of theatrical cyborg in a 2002 production called *D.A.V.E*, presented by Klaus Obermaier and Chris Haring. In *D.A.V.E.*, a human actor – Haring – performing as the eponymous D.A.V.E. (Digital Amplified Video Engine), is both doubled and transformed by a "digital video self" that is projected onto the live performer's body. Through projections, Haring seemingly attains superhuman proportions and movement patterns, changes from a man to a woman, transforms into an urban landscape, and juggles with his own head. In Lavender's estimation, the result is a negotiation between corporeality and virtuality, in which "an actual body is with us throughout, an organic screen, an irreducible presence and a place of volatile mediation even whilst it is simultaneously erased by the digital cyborg that flexes on its surface" ("Mise en Scène" 60).

In *To You, the Birdie!*, the cyborg is a dissection of the organic. The performer that Parker-Starbuck describes is chopped apart and magnified and in the process its status as a

unified human entity is objectified and scrutinized. In *D.A.V.E.*, by contrast, the cyborg is an enhancement of the human. D.A.V.E., and through him, Haring, can achieve feats that no fully organic human could manage. Together, these two examples capture something of the uncertainty of the relationship between human and technology embodied in the hybrid cyborg. Is the cyborg a promise or a threat? Does it point the way to a future of superhuman possibility, or is it a step down the path of dissolution for humanity, or at least for the self-contained Cartesian subject?

These questions, as contemporary as they feel today, were also familiar in the late nineteenth and early twentieth century United States. Perhaps the best literary encapsulation of this can be found in Samuel Butler's *Erewhon*, a satirical novel first published in 1872 and republished in an expanded edition in 1901.[58] In the bizarre land of Erewhon (an anagram of "nowhere"), from whence all machinery has been banished, Butler's narrator encounters conflicting perspectives on the relationship of humanity to machines. On the one hand, he is warned of the dystopian possibility of humans rendered subservient to increasingly ubiquitous machines: "May not man himself become a sort of parasite upon the machines? An affectionate machine-tickling aphid?" (123). On the other hand, there is the possibility, both enthralling and disturbing, of human bodies enhanced and expanded by technological additions:

> The lower animals keep all their limbs at home in their own bodies, but many of man's are loose, and lie about detached, now here and now there, in various parts of the world … A machine is merely a supplementary limb; this is the be all and end all of machinery. We do not use our own limbs other than as machines; and a leg is only a much better wooden leg than any one can manufacture. (136)

[58] Quotes in this dissertation are from a 2002 republication of the expanded 1901 edition.

Today, when some prosthetic limbs do, in fact, offer performance advantages over organic limbs, we are perhaps even more able to appreciate the truth of this passage than was Butler himself in his time. As Hayles puts it, "the cyborg signifies something more than a retrofitted human. It points toward an improved hybrid species that has the capacity to be humanity's evolutionary successor" (*How We Became* 119). *Erewhon* is just one example of a nineteenth century thinker grappling with the cyborg. It demonstrates that the cyborg then, as now, was both fascinating and frightening, offering both the possibility of humankind raised to superhuman heights and that of humankind deteriorated and debased beyond recognition.

This is not to say that any of these utopian or dystopian possibilities have come to pass today or came to pass in the late nineteenth and early twentieth century – the cyborg is a creature of the future as much as of the present. To quote *Erewhon* one more time, "I fear none of the existing machines; what I fear is the extraordinary rapidity with which they are becoming something very different to what they are at present" (Butler 122). This, too, is a statement with which I think many people today would agree. Then, as now, the fascination of the cyborg is as much in the possible futures that it represents as in the present that it inhabits. This fascination played out on popular stages of the late nineteenth and early twentieth century just as it does in intermedial theater today.

Lehmann suggests that the arts offer our best hope of understanding our transformation into cyborgs, writing, "It seems that the ever accelerating technologization and with it the tendency of a transformation of the body from 'destiny' to controllable and selectable apparatus – a programmable techno-body – announces an *anthropological mutation* whose first tremors are registered more precisely in the arts than in quickly outdated judicial and political discourses" (165, emphasis original). I argue that theater, specifically, is medially suited to address this

anthropological mutation and not only because the theater, like the cyborg, is a hybrid thing – simultaneously real and fiction, animate and inanimate.

In the context of theater, the human body is itself explicitly a media technology like any other, a formulation that is inherently relevant to this question of the human as the hybrid cyborg. Lars Elleström, in his "The Modalities of Media: A Model for Understanding Intermedial Relations," writes, "A theatre performance can only be realized by a combination of technical media such as, for instance, human bodies, an orchestra and properties" ("The Modalities" 31). Elleström writes from the perspective of a contemporary scholar of media and communications, but artists and critics of the late nineteenth and early twentieth century understood this as well. Edward Gordon Craig writes, in his 1908 "The Actor and the Über-Marionette," "authors found it an excellent thing to use handsome and buoyant men *as instruments*. It mattered nothing to them that the instrument was a human creature" (4-5, emphasis original). The poet and film critic Vachel Lindsay gets at the same idea in his 1915 *The Art of the Moving Picture* when he suggests, "The little far-away people on the old-fashioned speaking stage … are … mere bits of pasteboard with sweet voices" (122-23). In other words, the human body of the actor is, on stage, already a technology like any other.

In conventional theater today, this human actor – along with theater's other media technologies – is most often envisioned as a transparent pass-through. In an extreme version of this idea, described by Konstantin Stanislavski in his *An Actor's Work*, the human actor is transparent even to himself. In the words that Stanislavski puts into the mouth of the acting instructor Arkadi Tortsov, "it is always best when an actor is completely taken over by the play. Then, independent of his will, he lives the role, without noticing *how* he is feeling, not thinking about *what* he is doing, and so everything comes out spontaneously, subconsciously" (17,

emphasis original). There is a clear relationship here between Stanislavski's conception of the actor and the New Stagecraft ideals for scenography, discussed in earlier chapters. Indeed, the New Stagecraft shares formative history with Stanislavski's school of acting, as Stanislavski worked on an iconic production of *Hamlet* at the Moscow Art Theatre in 1911 with Edward Gordon Craig, whose ideas of design form much of the basis of the New Stagecraft.[59] In both Stanislavski's acting and Craig's stagecraft, the materials of theater strive to render themselves transparent, in Bolter and Grusin's sense of immediacy, so that the viewer is unaware of the presence of the medium or the process of mediation.

This transparency, though, is not so easy to achieve through the media technology of the human body. Even in the most conventional representational theater, the actor remains a stubborn physical reality. As Dixon writes, "performance's ontology has for centuries been virtual and simulacral, and the flesh of even the virtual performer remains too solid, and will not melt" (215). We saw earlier, in the chapter on hypermediacy, how easily seemingly trivial material realities of theater operations, such as train car doors, can encourage hypermedial scenography. Similarly, the ever-present real body of the actor is, by its nature, not easy to submerge transparently into a character, but is conducive, rather, to a kind of hypermedial hybrid doubling of presence. This hybrid doubling, in turn, is conducive to an exploration of the cyborg point of view, which is also a hybrid experience inextricably tied to the physical human form.

This hypermedial hybrid doubling of presence comes about because the human actor can never be only a technology of representation like any other. It is always also a living, co-present human being. Peter Handke makes this point effectively in his 1966 *Offending the Audience*.

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[59] See Osanai and Tsubaki for a first-person description of this production from the memoir of Kaoru Osanai, a Japanese theater critic and practitioner who was instrumental in introducing Western theater practices to Japan in the early twentieth century.

Addressing the audience, Handke's performer says, of her- or himself and her or his castmates, "We are no pictures of something. We are no representatives. We represent nothing. We demonstrate nothing. We have no pseudonyms. Our heartbeat does not pretend to be another's heartbeat. Our bloodcurdling screams don't pretend to be another's bloodcurdling screams" (10). What this monologue highlights is not only the fact that, in conventional theater, people (like other objects) on the stage pretend to be what they are not, but also that, even as they more or less successfully pretend, these people and objects always remain simultaneously stubbornly themselves.

Indeed, it is this irrepressible existence of the human actor that prompts Craig to pine for his über-marionette. According to Craig, "The whole nature of man tends towards freedom; he therefore carries the proof in his own person, that as *material* for the theatre he is useless" (3, emphasis original) and therefore, "The actor must go, and in his place comes the inanimate figure – the über-marionette we may cal [sic] him" (11). This is, perhaps, a valid point in regards to the theater as Craig wishes it to be (and we recall that Craig's wish remains very influential in scenography even today.) But if we see theater differently, this weakness of the human actor can conversely be theater's great strength. In Sara Jane Bailes's sense, Craig's useless actor can be seen as the kind of failure that "in terms of performance imagines a rich lexical field in which degraded form and instability thrive" (Bailes 22). Even as the human actor disrupts the kind of perfect theater Craig yearns for, it generates a different kind of hypermedial performance, rife with other meanings, which, if they are unintended, are nonetheless productive. This is particularly the case in the context of a cyborg point of view, in which all humans are, like the actor in a hypermedial performance, hybrids of subject and object, of organic and technological.

Lehmann notes,

> Modernist theatre and postdramatic theatre gain new potentials from overcoming the semantic body. A characteristic factor of the theatre now comes into its own, to which the following formula applies: sensuality undermines sense. It required the emancipation of theatre as a proper dimension of art in order to grasp that the body did not have to content itself with being a signifier but could be an *agent provocateur* of an experience without 'meaning.' (162, emphasis original)

In short, the human actor need not (or perhaps even *cannot*) be confined to straightforward representation. As Lavender writes of hypermedial theater in general, "the actual and the virtual are simultaneously in play, simultaneously emphasizing each other" ("Mise en Scène" 64). This dual formation, in which the actor is always both self and other, is why a hypermedial approach to the actor is consonant with the operations of theater as a medium. In turn, the hybrid presence of the hypermedial actor is why the theater, as a medium, is uniquely conducive to the kind of experimentation that a cyborg world – digital or analog – demands.

Intermedial theater today is rife with examples of performances that employ this hybrid theatrical actor to generate and/or explore the equally hybrid figure of the cyborg. I mentioned two examples – *D.A.V.E.* and *To You, the Birdie!* – earlier in this chapter. Dozens more can be found, particularly in Parker-Starbuck's *Cyborg Theatre*, in the "Cyborg Theatre" chapter of Giannachi's *Virtual Theatres*, and in the "Cyborgs" chapter of Dixon's *Digital Performance*.

Generally, these contemporary performances rely both on human performers and on (usually) digital technologies, which can co-exist and intersect in many different ways. As Robin Nelson writes in his introduction to *Mapping Intermediality in Performance*,

> In intermedial theatre, 'embodied man' as represented by the actor in Brook's empty space had been displaced by microphones, cameras, TV monitors, laptop

> PCs, projection screens, motion sensors and related technologies … The digital doubling of bodies, virtual bodies, robots and cyborgs have entered the intermedial stage, if not to displace humans, then most assuredly to engage with them and question some of their most fundamental assumptions. (23)

Parker-Starbuck similarly writes, summing up a chapter in *Cyborg Theatre*,

> The object bodies in this chapter sit in multiple relations to the technologies around them: playfully veering in and out of monitors, looking back beyond fixed screens, or working in conjunction with cameras … Object bodies in the cyborg theatre negotiate ideas about the representation and signification of the body, whether they flirt with, press up against, engage in a dialogue with, or affect change through their technological counterparts. (134)

Parker-Starbuck goes on, "The potential of these cyborgean engagements is that both bodies and technologies can be re-marked/re-imagined. The object body turns our attention to the technologies and the subject technologies turn our attention to the bodies. As bodies merge with their technological counterparts they refocus our viewing, they are reimagined as cyborgean transpositions" (140). These descriptions, with their emphasis on screens, cameras, monitors, and laptops, feel uniquely modern. Indeed, Giannachi goes so far as to say, "this use of cyborg technology, in which the machine and the human cohabit, is new" (43). In the late nineteenth and early twentieth century United States, however, we can find similarly playful and exploratory interactions between bodies and technology. The specific technologies employed were, naturally, different, but the provocative engagement between human and machine happened on popular stages then just as it does on intermedial stages today.

On stage, too, just as intermediality in theater is effected not only through the use of technology but also in the experience of the viewer (Boenisch, "Aesthetic" 113-14), the cyborg point of view can be reflected even in the absence of literal cyborg technologies, digital or otherwise. This is because the cyborg point of view is a real experience of the world at large, and thus comes not only from the stage, but also from the audience. As Ralf Remshardt notes, in his section on "Posthumanism" in *Mapping Intermediality in Performance*,

> Today a spectator, or experiencer … of digital performance comes into the realm, site, or space of the performance already as a thoroughly initiated citizen of the cyberworld, conversant with the raft of devices she owns and/or manages, some of which are still attached to her body, steeped in the mythology of techno-culture (is she Mac or PC?), flexible in extending herself locally and globally, practiced in dividing her attention simultaneously between screened and non-screened versions of reality. That is, even without being fitted with any prosthetic gear connected to the *specific* performance at hand – a walkie-talkie, VR helmet, datagloves, and so on – the experiencer is already a cyborg. (137, emphasis original)

Today, then, the cyborg is a highly relevant component of digital and/or intermedial performance for two reasons. First, the performances themselves may contain, address, or generate hybrid cyborg characters and/or performers. Second, the audiences who come to see such performances see them through a perceptual lens born of living the cyborgean experience of contemporary society.

Examining stage effects of the late nineteenth and early twentieth century United States, we can also find there an affinity for the theatrical cyborg that comes both from the stage and

from the audience and that owes much both to the hybrid presence of the intermedial performer onstage and to the hybrid conceptual and physical presence of the cyborg offstage. Thus, in the examples in this chapter, we will see the cyborg point of view manifested both through effects that foreground the inherently hybrid status of the theatrical actor as simultaneously an organic human being and a technology of representation and through effects that literally combine human performers with technology.

Hybrid human actors on the late nineteenth and early twentieth century U.S. stage

Perhaps the most illustrative example from the late nineteenth and early twentieth century of effects highlighting the hybrid status of the human actor are the tableaux vivants or "living pictures" popularized most famously by Edouard von Kilanyi. According to Kilanyi's 1895 obituary in *The New York Times*,

> Kilanyi was the first to see the pleasing and money-making possibilities of living representations of the works of master artists … He set New-York a-craze for them two years ago when his first series was put on the stage at the Garden Theatre. His imitators at once became numerous, and from one end of the country to the other living pictures were the fad of theatrical managers and the amateurs of churches and society. ("Von Kilanyi")

Essentially, Kilanyi's living pictures, and tableaux vivants generally, consisted of live actors posed, framed, and lit to appear to be masterpieces of painting.

These living pictures are, of course, an example of medial transposition in which the content of one medium (painting) is converted into another medium (theater). But they are also most certainly intermedial theater in the sense that the core appeal of this effect is in the way that

they foreground theatrical representation and the experience of theatrical spectatorship. As Rajewsky says of Sasha Waltz's 2000 dance piece, *Bodies*, "the medial difference between the referencing medium and the medium referred to (that is, between live performance and painting …), becomes apparent in quite an obvious way, as is typical of intermedial references in general" ("Border" 59). Furthermore, because they do this specifically through the human form, living pictures can also be read as reflections of a cyborg point of view. In this, there are instructive comparisons to be made to contemporary performance.

Lehmann, for instance, describes a 1995 production called *Oresteia*, from Socìetas Raffaello Sanzio. *Oresteia*, like Kilanyi's living pictures, draws extensively on the visual arts. At one point, as described by Lehmann, "Cassandra is locked into a box-like framework, her features distorted through frosted glass, so that one seems to be looking at a painting by Francis Bacon. Theatre here exists in closest proximity to the visual arts" (164-65). As Lehmann reads the scene,

> The performer balances on a knife edge between a metamorphosis into a dead exhibition piece and her self-assertion as a person … As the performer faces him as an individual, vulnerable person, the spectator becomes aware of a reality that is masked in traditional theatre, even though it inevitably adheres to the gaze's relationship to the 'scene': to the *act of seeing* that is voyeuristically applied to the exhibited performer as if she was a sculptural object. (165, emphasis original)

In other words, within this constructed frame that turns the actor into a work of visual art, the actor is exposed as the media technology she has always been. Yet, even within that frame, the actor remains also a live and present human being, exposed and vulnerable to the eyes of the audience. The doubled presence of this performer creates a hypermedial performance in which

the process of representation and the experience of viewing that representation are the real content of the performance.

The same can be said of Kilanyi's living pictures. As hard as Kilanyi's performers strive to mimic the painting – the "dead exhibition piece" – the audience is always simultaneously aware of the performer as a human presence. Indeed, Kilanyi's effect relies not on mimicking a static painting with live actors, but on setting up a contrast between the painting as produced by the traditional technical media of paint and canvas and the painting as produced by human bodies. As Mary Simonson notes, "Watching tableaux vivants, audiences engaged in a process of differentiation, resurrecting medial boundaries as they parsed performance and painting, and 'dispelling the reproduction's magic' even as they reveled in it" (112). Thus, as in *Oresteia*, the hybrid presence of the stage actor comes to the fore and the performance becomes as much about the process of representation itself as it is about the scene or the painting being represented. Kilanyi's living pictures are thus one more example of the period's intermedial approach to theater and performance.

Kilanyi took his experiments with these hybrid living pictures even further, though, and in a way that made them not only intermedial but also more explicitly cyborgean. In an effort to top his own success with the living pictures, Kilanyi next created what he intended as his masterwork, the "glyptorama."[60] The glyptorama was essentially an expansion of the living pictures. Instead of obscuring the actors with a manually operated curtain to change the poses, as had been Kilanyi's practice in the past, the glyptorama employs a complex arrangement of panorama rolls, switches, cranks, and platforms to transform one scene into another

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[60] Kilanyi fell ill and was unable to attend the glyptorama's premiere at Koster & Bial's. He died the next afternoon, having never seen the success of his own project. According to *The New York Times*, the glyptorama's first night was a great success and, "the spectators called time and again for Kilanyi, its inventor" ("Von Kilanyi").

("Kilanyi's"). In addition to the mechanical enhancements, the glyptorama was also larger scale in terms of the number of performers than previous living pictures. Interestingly, not all of these glyptorama performers were alive. The living actors were supplemented with paper maché characters. In this context, then, the paper maché people were inanimate objects, imitating human actors, which were in turn imitating an inanimate image.

According to Lehmann, "Theatre that rejects the dramatic model can retrieve the possibility of returning to things their value and to the human actors the experience of 'thing-ness' that has become alien to them" (165). This sounds very much like Kilanyi's glyptorama, in which organic and inorganic human (or human-like) performers iteratively mimic one another. In the context of the glyptorama, the real humans and the human simulacra both give to one another and take from one another the spark of life. Lehmann goes on, "At the same time, it [theater that rejects the dramatic model] gains a new playing field in the sphere of machines, which connects human beings, mechanics and technology" (165). This sounds very much, not only like Kilanyi's glyptorama, but also like Haraway's cyborg point of view, in which humans and machines, animate and inanimate beings are inextricably interwoven. As Haraway writes, "Our machines are disturbingly lively, and we ourselves frighteningly inert" ("A Cyborg Manifesto" 152). In other words, Kilanyi's glyptorama, while it is first and foremost a fun visual gimmick, is also an example of the cyborg point of view that treats the human and the thing in a non-hierarchical fashion.

This "thing-ness" of the human being that we see in Kilanyi's glyptorama is clearly evident, too, in the zeitgeist of the late nineteenth and early twentieth century United States. Edward C. Bruce, for instance, reflecting upon the crowds at Machinery Hall at the 1876 Centennial Exhibition in Philadelphia, notes, "The human machine, impelled by an internal

motor that rests not day or night, looks around at those of iron without recognizing brotherhood" (150-51). Mark Twain, in an essay called "What is Man?," first published in 1906, writes, "There are gold men, and tin men, and copper men, and leaden men, and steel men, and so on – and each has the limitations of his nature, his training, and his environment. You can build engines out of each of these metals, and they will all perform" (n.p.). Kilanyi's glyptorama, then, in its hypermedial approach that exposes the "thing-ness" of its human performers, is using the unique intermedial capacity of the theater to engage with the cyborg point of view that was a growing experience of life in the late nineteenth and early twentieth century United States.

The living pictures were not the only way that the theater of the late nineteenth and early twentieth century United States engaged with the period's cyborg point of view by interweaving the thing-ness of the human actor with the influence of the inanimate object. Combining live and inanimate performers was actually relatively common practice at the time. As we have seen in previous chapters, large-scale spectacles were one of the prevailing theater practices in the late nineteenth and early twentieth century United States. Often these spectacles required vast numbers of people. Thus, large crowd scenes and battle scenes were important parts of many productions of the time. In such cases, human actors were often supplemented, combined, or replaced with inanimate performers of various kinds. This in itself is telling, in that it indicates a belief – indicative of a cyborg point of view – that an inanimate substitute *can* stand in for a human being. In mainstream theater practice today, which tends to glorify the live presence of the human actor, this belief is generally no longer current. As Remshardt notes, "The question 'who performs?' leads directly to 'what is human?'" (137). So while these inanimate performers were not deliberately cyborgean, in the context of the period's intermedial stage and the period's

growing cyborgean consciousness they become a site for negotiating the status of the human in a world of machines.

False actors were common enough in the late nineteenth and early twentieth century that their place within the technical theater departments was established. According to an 1887 article in *The Bangor Daily Whig & Courier* (Bangor, ME), which derives from a *New York Mirror* article I have been unable to locate, “Dummy men are strictly within the property department” (“Fooling the Audience”). This same article goes on to describe a scene in *Henry V* in which

> There were two or three hundred supers well drilled as soldiers; every three of these did duty as eight soldiers – a large quantity of dummies had been prepared and carefully clothed … These realistic dummies were arrayed in this way: The formation was eight abreast. The end files were living men, and one was in the middle. These living men had an iron rod on which five dummies were fixed …
>
> The swing of the march made the dummies sway together. In this way there was a seeming army of thousands a complete march past. (“Fooling the Audience”)

The intent here is evidently not a deliberate exploration of the nature of humanity, but merely the desire to evoke a massive army without the need for eight hundred human actors.

These human-scale puppets, though, exist in an inextricable symbiotic relationship with their human counterparts. Animated themselves solely by the power of the human actors to whom they are bound, the humanoid puppets at the same time circumscribe the possibilities of movement open to those human actors. Even as the motion imparted by the human actors brings the puppets closer to the human, the rigidity of the iron rods on which the puppets are mounted brings the human actors closer to the machine. The human actors are not really the masters of

their prop actors; they are their equals. Together the human and dummy performers are a kind of hybrid creature that is, like a cyborg, both human and mechanical. Like Butler's *Erewhon*, or like Bruce's and Twain's essays, they ask whether we can really separate human from machine after all.

An example of mechanical human surrogates that takes a different approach is found in Neilson Burgess's 1905 patent for a "Stage Apparatus." Rather than reproducing a full human, Burgess's invention extracts specific salient features of humanity to stand in for the whole. Any cyborgean overtones of Burgess's invention are presumably as unintended of those of *Henry V*'s dummy men. The stated object of Burgess's invention, rather, "is to simulate and portray as nearly as possible the effects produced by a multitude of people in certain states of excitement, and one of the principal objects is to represent and reproduce as nearly as possible the character of sounds and signs of a mass of people assembled to witness some particularly interesting feat" (1). The invention consists of a platform, raked like stadium seating, with faces painted on it. Amongst the faces are mounted "arms" (which, in the illustrations accompanying the patent, actually look more like socks), each of which holds a handkerchief. Underneath the platform, the arms are connected to gears which, when rotated, cause all of the arms to flap up and down, thereby waving their handkerchiefs. The idea is to make them look like a crowd of people sitting in the bleachers at a racetrack or sporting event, waving their handkerchiefs in the air in a display of appreciation. The same principle of crowd movement, though employing a different mechanism to set the props in motion, was used in a production described by Krows in *Play Production in America*: "The New York production of 'The Suburban' made an advance with painted spectators in a grandstand, having real handkerchiefs, hats, and parasols set in motion of frantic waving by a battery of electric fans offstage" (128). In both cases, humanity is reduced to

representative components – arms and faces – and mechanized motion, whether imparted by rotating gears or by electric fans.

Both effects, on the surface, merely seek a feasible means of representing a large crowd. In doing so, however, each dissects and dehumanizes humanity. Burgess, in his patent application, claims, “From observations of photographs taken when a large assemblage of persons is showing its pleasure it has been found that only the faces and waving handkerchiefs make an appreciable showing” (1). There is something very unsettling about Burgess’s observation. Particularly in a world in which growing cities and an industrializing workforce already threatened to render the human less unique and less autonomous, an effect that reduces a crowd of human individuals to a sea of waving handkerchiefs might be existentially disturbing.

Furthermore, we should recall that the audience watching a crowd of humans reduced to waving handkerchiefs and painted faces was, itself, a crowd of humans. Indeed, the real human audience was watching, through the lens of the play, the same staged event that the false human crowd was watching. This makes it all the more likely that the real human audience would feel a kinship with the false audience. The minimization of humanity that takes place on the stage, then, might rebound upon the human audience. Particularly in the context of a cyborg point of view, the question then arises of whether the human audience is really any more unique or individuated than the painted faces on the stage.

All of these period effects – the living pictures, as well as the mechanized people of *Henry V* and the deconstructed crowds of *The Suburban* and Burgess’s “Stage Apparatus” – reinforce the hybrid status of the actor as both a human being and a technology of representation. Thus, these effects are another example of the intermedial approach characteristic of popular theater practice in the late nineteenth and early twentieth century United States. Through that

intermedial approach, whether intentionally or not, they focus on the relationship between the human and the machine, the organic and the inorganic, demonstrating how an intermedial approach to theater is an effective tool in engaging with a cyborg point of view.

Human-technological cyborgs on the late nineteenth and early twentieth century U.S. stage

The effects discussed above reflected and operated in the context of a cyborg point of view, without particular recourse to literal marriages of human and new technology. Ultimately, though, the most interesting stage explorations of cyborgs, both today and in the late nineteenth and early twentieth century, tend to be those that overtly juxtapose or combine the human actor with technology. Particularly because these effects employ the self-same technologies that create the cyborgean experience of life outside the theater discussed earlier in this chapter, these stage conjunctions of human and technology can be read not just as entertaining gimmicks but also as mirrors held up to a cyborgean offstage world.

Electricity, and electric light in particular, were major drivers of cyborgs of the time, both onstage and off, both in reality and in the nervous fancies of people who didn't, for the most part, really understand electricity or the impact that it was having, would have, and could have on their lives. The case study at the end of this chapter examines one of the period's richest embodiments of this idea, the so-called "electric girls" and "electric boys." In addition to the electric girls and electric boys, other ways in which people experimented with electric light specifically in relationship to their own bodies speak to the ways that electricity participated in the period's growing cyborg point of view.[61]

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[61] Many of the experiments with electricity that I will discuss in the remainder of this chapter were performed primarily on women's bodies, specifically. The fashion of electric light as personal adornment was enacted primarily by women, both offstage and onstage. The supposed

In the late nineteenth century in the United States and in Europe, there was a fashion trend of adorning the body with electric light, before electricity or electric light were commonplace in either public or private spaces. Electric hatpins, electric walking sticks, electric brooches, electric earrings, and electric bouquets made sensational appearances at society parties in the 1880s (Marvin 123, 138-39). To give just one example, an 1886 article in *The Electrical World* reported on an extravagant electricity-themed New Year's Eve party at the home of one of Edison's colleagues, William J. Hammer, at which Hammer's daughter appeared, "dressed as the Goddess of Electricity, with tiny Edison lamps in her hair, also as earrings and breastpin, and held a wand surmounted by a star containing a tiny lamp" ("An Electric Supper"). By 1892, Mrs. J.E.H. [Alice] Gordon, in her handbook *Decorative Electricity*, was offering the practical advice, "Dress decorations can be carried out with tiny one-candle electric lamps, fed from a small secondary battery concealed in the dress, but perhaps now they are only suitable for fancy balls, as dress electric lights have become common since the theatres have adopted them" (121). In other words, bodily adornment with electric light was not the sole province of experts like Hammer. It was a legitimate fashion.

"Electric Girl Lighting Company" was said to exclusively employ young women (though electric boys and footmen were in development) ("Electric Girls" *New York Times*). The majority of the electric people in the case study at the end of this chapter were women. Graeme Gooday, in her *Domesticating Electricity: Technology, Uncertainty and Gender, 1880-1914*, devotes considerable attention both to the roles played by women in the integration of electricity into daily life and to the changes ostensibly or actually wrought by electricity on women's lives and socio-political positions. There is, in the prominent role of women in historical cyborgean experiments, perhaps an interesting addition resonance with Haraway's "A Cyborg Manifesto," in which a major focus is the relationship of the cyborg to feminism. As Haraway writes, "there are also great riches for feminists in explicitly embracing the possibilities inherent in the breakdown of clean distinctions between organism and machine and similar distinctions structuring the Western self" ("A Cyborg Manifesto" 174). Whether and how the cyborgean interaction between women and electrical technologies in the late nineteenth and early twentieth century relate to feminism is beyond the scope of this dissertation, but it does bear remembering that Haraway's concept of the cyborg is not limited to technological analysis.

Probably, it would go too far to suggest that these women and men wearing electrical brooches and hatpins were fully cyborgs. Not only is there minimal physical or conceptual integration between human and technology but, more importantly, the technology in these cases seems to have little effect on what the body is able to be or do. Nonetheless, even in these most simple of conjunctions between human and electric light, it is telling that, long before electricity was generally scientifically understood, the human body was a site of electrical expression and exploration. As Carolyn Marvin writes, in *When Old Technologies Were New*,

> Because men use what is known to them to make sense of what is not, a deep inquisitiveness about the relationship between electricity and the human body was part of the process of becoming socially acquainted with that novel and mysterious force in the late nineteenth century. And though electricity might be discussed either as an extension of nature or of the body, or as something opposed to and outside them, it was defined in any case inescapably with reference to them. (110)

In other words, if they were not cyborgs themselves, these electrically adorned socialites were at least indicative of the growth of Haraway's cyborg point of view, in that they chose their own bodies as a site of negotiation with an ill-understood but obviously transformative technology.

Some scholars, such as Carolyn Marvin and David Nye, indicate that there were also more profoundly cyborgean conjunctions of human form and electric light, in the persons of young women engaged to take on the role of domestic light fixtures (*When Old Technologies* 137-38, *Electrifying America* 244). This claim is based on an April 26, 1884 *New York Times* article about "the Electric Girl Lighting Company." This company purportedly promised "a great future awaiting the grand idea of incandescent girls, and there is reason to believe that in a very

short time private houses will be lighted by girls instead of stationary electric lights" ("Electric Girls" *New York Times*). This would supposedly be a great advantage because "One girl can be made to give as much light as a large-sized drawing-room chandelier, and she can be moved from one room to another, leading the way to supper, for example, and placed wherever she can do the most good" ("Electric Girls" *New York Times*). Or even, "The student who is now troubled by the flicker of his gas light, or his inability to move the electric light from one part of his desk to another, can be made perfectly happy by an electric girl with a ground-glass shade, who will take any position that the student may desire in order to throw light on his book or paper" ("Electric Girls" *New York Times*). If the Electric Girl Lighting Company was real, it would seem to be a ghastly portent for the cyborgean future, with a dehumanized cyborgean lower class at the beck and call of an elite – and more purely human – upper class.

The good news is that I think it is highly unlikely that the Electric Girl Lighting Company was real. I can find no evidence of the Electric Girl Lighting Company or its walking light fixtures anywhere other than this one *New York Times* article and a few iterations picked up and repeated in other newspapers.[62] It is also probably significant that this article dates from 1884, the same year in which, as we will see in the case study at the end of this chapter, the electric person phenomenon was at its height. In this context, I find it most probable that the article is satirical. Its satire works, though – to the extent that it seems realistically plausible to scholars today who report the existence of the Electric Girl Lighting Company as fact – because even this level of cyborgean melding of human and electric light felt, at that time, within the bounds of (utopian or dystopian) possibility. This highlights the need for a venue like the theater in which

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[62] See "Electric Girls" *Rocky Mountain News* and "The Use of Illuminated Girls."

the extent, meaning, and veracity of cyborgean possibilities could be made the subject of experimentation and critical scrutiny.

In the case of electric light adornment in the late nineteenth century, it is difficult to draw a clear distinction between onstage and offstage. The same electric ornaments were worn by actors and attention-seeking socialites and not only did these socialites perform metaphorically by dressing so as to deliberately draw attention to themselves, in many cases they performed literally, appearing as embodiments of electricity in local parades, pageants, and carnivals. Thus, it is not easy, in reference to these cyborgs of electric light, to draw a distinction between reality and theater, between onstage and offstage. In this way, electric cyborgs highlight the inherently unstable boundary between theater and reality, just as theater highlights the unstable boundary between human and technology.

Western Electrician, for instance, reports on an 1890 "Merchants' Carnival," which was said to be "The greatest event in the history of Brookings, South Dakota" ("The Representative"). At this carnival, Mrs. E. E. Gaylord, the wife of the manager of the local electric company, personified electricity. "On the floor of the stage," the *Western Electrician* article describes, "were two small copper plates connected to a small dynamo. When Mrs. Gaylord reached the plates the 21 lamps of her crown, banner and costume instantly flashed up and she stood clad in 'nature's resplendent robe without whose vesting beauty all were wrapt in unessential gloom'" ("The Representative").

In this performance, Gaylord is a hybrid entity in more ways than one. Gaylord's physical existence, as well as her social existence, is intertwined with that of the electric light through the physical space of the stage. Unlike someone who wears a light-up pin to a party carrying her or his own battery in her or his dress or pocket, Gaylord forms a part of a circuit that encompasses

the copper plates on the stage and the external dynamo. Neither the stage nor Gaylord can function electrically without the presence of the other, so in order to personify electricity, Gaylord must herself become a part of a hybrid human-electric creation.

Furthermore, as a performer in this carnival, Gaylord is not quite an actor in the theater, but nor is she entirely a private individual. Her appearance at this event is both about her own personal status in society and about the status in society of the electricity that she represents and transmits. Here we see again Haraway's cyborg point of view, in which human, technology, and society are inextricably interrelated, just as Gaylord's status and that of electricity itself are demonstrably linked through this public performance.

The increased complexity of Gaylord's meaning and status imparted by her appearance on stage at her local carnival offers a glimpse of the importance of the hybrid presence of the theatrical performer. So it should not surprise us that when these kind of electric-human hybrid cyborgs appear in fully theatrical settings, they offer more interesting ways to explore the cyborg experience.

In a fully theatrical setting, electric light cyborgs date probably as far back as the mid-1870s. Bolossy Kiralfy, who we remember as one of the impresarios responsible for the 1883 electric spectacle *Excelsior*, recalls in his autobiography, "In 1865 I had discovered in a Berlin optician's shop little glass tubes which held illuminated fluids charged by miniature electrical batteries … I used them in the wand of the Fairy Queen in *The Black Crook* [1873] and on a crown in *Around the World in Eighty Days* [1875]" (266).[63] Once the advent of the incandescent

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[63] What Kiralfy saw and subsequently used on stage was almost certainly some form of Geissler tube, an early electric lighting medium consisting of a gas-filled glass tube with electrodes inserted into it so that an electric current can be passed through the gas. This precursor to today's gas discharge tubes, such as those employed in neon lighting, invented by Heinrich Geissler in

light bulb made these effects both easier and more effective, electric light showed up in headdresses in a January 1883 New York City production of *Iolanthe* ("Music") and in the coryphées' wands in the Kiralfy brothers' *Excelsior* in August 1883, as we recall from the case study at the end of Chapter 3.

Thereafter, electric lights were used in this way throughout the 1880s and 1890s, with varying degrees of technical success. A *Scientific American Supplement* from 1892, for instance, describes an electric headdress for which

> A special feature in these batteries is the precaution taken to prevent any possibility of leakage of the electrolyte, the escape of which has unfortunately been the great drawback to the employment of all forms of batteries for personal or stage decoration; and as a consequence, although 39 of these batteries have been used at each of the 100 performances given, no accident or damage of any kind arising from this cause has occurred. ("Portable")

This example reminds us that the dangers of uniting human with technology were not all conceptual or esoteric. There was also a very real danger of physical injury inherent in wearing electric light, whether onstage or off. My favorite example of this comes from Gordon's *Decorative Electricity*, in which she relates the trials and tribulations attendant upon the early adopter of electrical jewelry:

> In those days batteries were difficult to manage. Once the case was upset on the floor and the acids burnt a hole in the carpet. Sometimes the battery heated, and leaked, and once I well remember, the old lamps having worn out, I had some new ones given to me that were a wrong resistance for the battery. It heated, and

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1857, was an entertaining novelty and a subject of scientific research, primarily in the 1860s and 1870s, but never a viable commercial lighting technology (Hessenbruch).

> we had barely time to cast the battery into the bath before the gutta-percha sides gave way, and the acids poured out, taking off all the paint. So having spoilt a dress, a carpet, and a bath, I abandoned personal electric light decorations. (122-23)

The fact that people were actually injured by their electrical adornments should both make us grateful for today's stricter safety regulations and remind us that the interest in this kind of human-electric experimentation, both onstage and offstage, was intense enough to outweigh real physical danger.

On stage, the possibilities of electric cyborgs expand beyond what can be easily achieved offstage, both in terms of technology and in terms of overt engagement with hybrid presence. One good example is a performance by the so-called "Electric Clowns," whose 1894 appearance in Portland was the subject of an article in the *Morning Oregonian*. In this act, electric light was not so much added to the human body as made a part of the human body. Of these clowns, the paper reports, "Their eyes, noses, cheeks and ears are so arranged, being supplied with miniature electric lights, that upon contact being made by means of metal plates in their shoes, the intense rays of the lamps, burning above candle-power, shine forth in the darkness of the stage. The effect is decidedly unique" ("Electricity on the Stage"). A clown is, of course, already an exaggerated manipulation of the human, so it perhaps makes sense as a site of electrical alteration of humanity. In these clowns, the electric light does not so much enhance or adorn the human body as become an integral part of the human body. As Haraway writes, of "the world's first being to be called a 'cyborg' – a white laboratory rat … with a tiny osmotic pump implanted in its body" ("Cyborgs and Symbionts" xi), "Like all cyborgs, this white rat has that something extra, that sign of excess that marks the creature as somehow 'trans' to what once counted as

normal and natural" ("Cyborgs and Symbionts" xv). The electric lights are the clowns' "something extra." The electric lights here have, in other words, progressed from being earrings to being ears.

Obviously, these Electric Clowns do not achieve or even aspire to the same conceptual or technological heights as many contemporary cyborg performances in which human performers augment their bodies with machines. The little light bulbs on the clowns' faces are a far cry from, for instance, Stelarc's robotic third arm or his surgically created extra ear.[64] But they live in the same lineage.

According to Stelarc, "It is no longer meaningful to see the body as a site for the psyche or the social but rather as a structure to be monitored and modified. The body not as a subject but as an object – NOT AS AN OBJECT OF DESIRE BUT AS AN OBJECT FOR DESIGNING" ("Prosthetics" 591, emphasis original). Stelarc's idea that the body can be productively redesigned through technology is not new. It was understood in the late nineteenth century as well. We can find this idea, for instance, in Butler's *Erewhon*: "Observe a man digging with a spade; his right fore-arm has become artificially lengthened, and his hand has become a joint. The handle of the spade is like the knob at the end of the humerus; the shaft is the additional bone, and the oblong iron plate is the new form of the hand which enables its possessor to disturb the earth in a way to which his original hand was unequal" (136). Thus, it is not a stretch to suggest that the Electric Clowns in their day, like Stelarc in ours, perform technological body modification so as to suggest the potential for technological enhancement of the organic human form.

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[64] For more about Stelarc's cyborg performances, see Dixon 312-21 and Stelarc's website at stelarc.org.

It is important that these body modifications are performed on stage. There is a reason that Stelarc frames his robotic arm in a live performance rather than simply walking around in the world with it. On stage, Stelarc and the Electric Clowns are hybrid both in the sense that they are cyborgean hybrids of human and technology *and* in the sense that they are hybrid intermedial actors who exist simultaneously as representation and reality. As such, in the performance context, they both exist as real cyborgs and represent the possibilities of a cyborg future. As real and present cyborgs, the response they evoke in the audience is visceral. They perform body modification in front of an audience composed of people with bodies and so those people with bodies respond to the performance in an embodied way, feeling both the power and the peril that the technological modifications bring to the human performers. As staged representations of cyborgs, the response they evoke in the audience is conceptual and, presumably, could vary from rapturous hope to existential dread. As intermedial actors, Stelarc and the Electric Clowns, in different ways and to differing degrees in their different cultural contexts, embody the techno-human crises of their respective eras.

Another twist on the coexistence of human and electric light in the late nineteenth century can be found in a performance called "A Mystic World," in which two performers (the Hoevets) became, in essence, an electric lamp themselves (though a carbon-arc lamp, not an incandescent bulb). An 1896 article in *Rocky Mountain News*, aptly titled "Sparks from the Footlights," recounts, "One part of this act is past the understanding of ordinary people. Carbons are placed between their teeth, and then the two Hoevets place the points together, forming an arc light, the electric fluid passing through their bodies." The fact that the article refers to electricity as a fluid reminds us how poorly most people understood electricity at the time. Furthermore, it is probable that the electricity passed through hidden wires, rather than through the bodies of the performers

themselves. At least I certainly hope that it did. Regardless of any such inaccuracies in the newspaper report, "A Mystic World" was clearly delightfully idiosyncratic, if somewhat dangerous, and I do not doubt that many audience members greeted it with the same stupefaction as did the *Rocky Mountain News* reviewer. Where, in the case of the Electric Clowns, electric light became part of the human body, in this case, human bodies became an electric light.

Here, again, we can see a fledgling version of more sophisticated theatrical cyborgs of today, such as, for instance, Stelarc's 1995 *Ping Body*, in which internet activity is translated to movements of Stelarc's physical body through electrical impulses that create involuntary movements. Much as the Hoevets in "A Mystic World" turned their own bodies into an electric light, in *Ping Body*, as Stelarc writes in "Parasite Visions: Alternate, Intimate and Involuntary Experiences," "the body had sensors, electrodes and transducers on its legs, arms and head that triggered sampled body signals and sounds and that also made the body a video switcher and mixer" (122). Both the Hoevets and Stelarc dramatically invert the usually presumed relationship of human and technology. As Stelarc writes of *Ping Body*, "The usual relationship with the Internet is flipped – instead of the Internet being constructed by the input from people, the Internet constructs the activity of one body" ("Parasite" 123). Similarly, the Hoevets, rather than using electricity to serve their needs, put their own bodies in service of electric light. This is a dramatically staged reflection of what we have already seen was a real question of the relative subject/object position of human and technology, both today and in the late nineteenth and early twentieth century United States.

A Mystic World and the Electric Clowns are both entertaining spectacles. They are both also meditations on humanity and electricity and on humanity and theatricality. In their striking and perhaps shocking (hopefully figuratively, but conceivably also literally) integrations of

human actors with electric lights, these acts explicitly confront, in a complex yet lighthearted way, a major preoccupation and fear of the age. On the one hand, these performers, who presumably generally come through their acts unscathed, model an apparently safe, intimate relationship between human and electricity. On the other hand, the hybrid cyborgs of which these performers become part are viscerally disturbing, undoubtedly deliberately so. Even today, when electricity is an accepted and ubiquitous fact of everyday life, the particular physicality of these cyborgs feels uncomfortable, as Stelarc's performances continue to feel today. They feel wrong. They feel dangerous. In the late nineteenth century, when many people were still uncomfortable with or even fearful of electricity itself, I imagine many audience members at these performances must have oscillated between wonder and discomfiture.

At the same time that they highlight concerns about electricity, these acts also highlight the operations of theater itself. Since, as we have seen, the actor onstage is always a technology of representation, these performances, in which the human actor literally merges with non-human technology, make that fact difficult to ignore. In their conjunctions between their human actors and electrical technologies, *A Mystic World* and the Electric Clowns insist upon the mediality of theater just as they insist upon the growing interpenetration of organic and inorganic technologies.

Film, like electric light, came to play a major role in cyborgean manifestations on period stages, as film's digital descendants continue to do today. In her 1914 *Vaudeville*, Caroline Caffin describes, "Another combination of scientific mechanism with entertainment" (222), in which "a living model, clad in a full suit of white tights, poses before a white cloth, and the stereopticon playing on her makes her appear in varying guises, while the picture it throws on the screen affords a suitable setting. Anything, from a mermaid to a lady in a winter suit with furs

going to church, may be presented in this way and from these materials" (222-23). On the one hand, this is a fun little game of virtual dress-up. On the other hand, it is also an approach that relies upon technological manipulation of the human form that troubles any clear boundaries of where the solid human form is.

This performance that Caffin describes perhaps lacks the conceptual ambition of Haring and Obermaier's *D.A.V.E.*, described above, but the essential premise of a human body transformed by, yet evident through, a projected body is the same. As Dixon writes, "The body itself becomes a type of kinetic liquid architecture in performances where digital projections are mapped directly onto the performer" (406). This is as true of Caffin's vaudeville performer as it is of D.A.V.E. or the contemporary digital performances to which Dixon refers. Like Haring in *D.A.V.E.*, Caffin's model undergoes repeated fluid transformations and, like Haring's, these transformations run the gamut from subtle to extreme and from realistically plausible to fantastical. Caffin even foresees the future potential of this kind of performance when she asserts, "Very ingenious and sometimes beautiful as they are already, there is no doubt that this idea is capable of being worked out to a higher degree of artistic merit" (223). As *D.A.V.E.* demonstrates, Caffin was right.

Lavender finds *D.A.V.E.* and other intermedial performances exciting because "we are presented with the meeting between the live actor and mediated actor-as-other, seeing the same person as two people and the human figure as both actual and expanded. The actuality of the actor's presence is heightened by the co-presence of his or her mediatized selves, which are themselves staged as part of the theatrical mix" ("Mise en Scène" 62). The same could be said of the vaudeville performance Caffin describes. By uniting the live actor with a projected double, this vaudeville act, like Obermaier and Haring's production, foregrounds the physicality of the

live performer, the mediatization of the projected image, and the theatricality of both in the context of a stage performance.

In "The Actor and the Über-Marionette," Edward Gordon Craig decries the imperfection of the human actor, whose muscles and voice are at the mercy of his emotions. According to Craig, because of this, "the body of man … is *by nature* utterly useless as a material for an art" (5, emphasis original). Craig wants to trade the human actor in for his über-marionette, writing, "The actor must go, and in his place comes the inanimate figure" (11). With this inanimate figure, Craig imagines, theater can rise to the level of art because, according to Craig, "Art is the exact antithisis [sic] of Pandimonium [sic], and Pandimonium is created by the tumbling together of many accidents; Art arrives only by design" (3). In this concept of art, we can see how Craig's ideas influenced the New Stagecraft, with its ideals of harmony, unity, and immersion that manifest in a striving toward transparent immediacy, in Bolter and Grusin's sense.

I have seen enough bad acting and known enough imperfect actors in my career to have some sympathy for Craig's position, but ultimately, where Craig sees the intransigent presence of the human actor as theater's insurmountable weakness, I see it as one of theater's most unique strengths. The cyborgean examples above show us that we need not choose between the human and the inanimate, at least not if we are comfortable with "Pandimonium," with hypermediacy, and with the "fragmentation, indeterminacy, and heterogeneity" of intermedial performance. In that context, the animate and the inanimate performer, the organic and the mechanical performer, the live and the projected performer, the human and the digital performer not only co-exist but thrive in each other's staged presence. As Haraway writes, "a cyborg world might be about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanently partial identities and contradictory standpoints" ("A Cyborg

Manifesto" 154). The cyborg exists somewhere between the human actor and the über-marionette and it is because of the imperfections of the human actor and because of the imperfections of the union between that human actor and other technologies of the stage that the intermedial stage is such an apt venue for the theatrical cyborg.

Case study: Electric people

The word "cyborg" (a portmanteau word made up of "cybernetic" and "organism") wasn't coined until 1960 (Clynes and Kline) so, of course, it was not used in the late nineteenth century. A preferred term at the time that captures some of the same vibe of the technologically augmented and/or destabilized human was "electric girl" or, less frequently, "electric boy."

These electric people are particularly interesting in relationship to intermedial theater because they existed in almost exactly the same form both onstage and offstage. Offstage, they were understood to be a real phenomenon. Onstage, the same activities, and in some cases, the same people, were presented as entertainment. As such, these electric people offer a unique view into both the era's cyborg point of view and the medial functioning of the theater.

The term "electric girl/boy" was used primarily to label two different human-electric phenomena, reportedly most often observed in young women, which were sometimes found separately and sometimes together. In the first, the electric person is imbued with evidently superhuman strength, able to exert a powerfully repulsive force against heavy physical objects or to lift seemingly impossibly heavy people or things. In the second, the electric person seems to supply electricity from her or his own body, often delivering a surprising or painful electric shock through physical contact or having the ability to light gas burners or power household machines with a touch.

To the best of my knowledge, the electric person phenomenon, identified as such, originated in France in 1846, when a Dr. Verger described the electro-magnetic feats of a teenager named Angélique Cottin in letters published in *Journal du Magnétisme*.[65] The 1880s, though, as electricity became more and more prevalent in U.S. cities and towns, was the height of the electric person phenomenon in the United States.

The Cleveland Herald, for instance, reported in 1884 on two young brothers who "can scarcely touch anything in the shape of metal without producing electrical sparks, and when thoroughly charged either one can, merely by bringing his finger within an inch or two of a gas bracket, make the flames start out" ("Electrical Boys"). Furthermore, "A book was placed on the floor, and a gentleman cousin of the family induced to lie at full length upon it, and by placing his hands under the supporting volume the little fellow yet in kilts, was able to lift him clearly in the air" ("Electrical Boys"). In 1887, the *New York Times* reported on Julia Lockaby of Greenville County, Georgia, who "began to have strange sensations … similar to shocks of an electric battery – at times so severe as to be painful – and then it was that she discovered her extraordinary power to lift and move large and heavy bodies" ("Another Electric Girl"). In the

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[65] Verger writes,

> Angélique Cottin, âgée de quatorze ans, de la commune de La Perrière, est devenue depuis quelques jours un instrument vivant et singulier de physique. Elle fait éprouver à tous les corps qui l'approchent et avec lesquels elle est mise en contact par un conducteur, tel qu'un fil de soie ou l'extrémité de ses vétements, de son tablier, un mouvement de repulsion qui les déplace et tend à les renverser. En meme temps elle éprouve une attraction instantanée et irresistible qui l'entraîne vers les objets qui fuient devant elle.
> Angélique Cottin, age fourteen, from the township of La Perrière, has been for several days a unique, living instrument of physics. She causes everything that approaches her and with which she is brought into contact by a conductor, such as a silk thread or the end of her clothes, her apron, to experience a repulsion that moves and tends to flip them. At the same time, she experiences an instant, irresistible attraction that draws her towards the objects that flee before her. (80; translation my own)

same year, the *Los Angeles Times* notes, "California has an electric girl, and when she rubs her hands together they emit flashes" ("Gossip for the Ladies"). As late as 1895, *The Evening Post* of Denver, Colorado was describing Mary Birchall of Henderson, New York, who could power machinery with her electric charge: "All the family sewing is performed on an old-fashioned affair driven from an electric current from the girl's finger tips, while the edged tools of the farm are sharpened on a grindstone revolved by the same force. She can light up a dark room at her will by her presence" ("An Electric Girl"). The thing to note about these reports is that none of these people are performers. They are, ostensibly, real people who, in the course of their ordinary lives, discovered extraordinary talents (became cyborgs), as emergent phenomena of a society in which electricity was becoming daily a more prominent aspect.

Some of these manifestations are, of course, to a modern reader at least, clearly static electricity. Others are presumably some combination of exaggeration, misunderstanding, and/or outright trickery. What is important about all of them from the perspective of an inquiry into cyborgs is that, whether the reports are true or false, accurate or exaggerated, they are manifestations of the muddled hope and fear that, in combination with electricity, the human being is becoming something other than what it has been, or perhaps something other than what it ought properly to be.

Often, these electric people felt that the human part of themselves, as they had always understood it, was no longer fully in control. The article about Lockaby, for instance, notes that she initially mistook manifestations of her power for the work of malevolent spirits and that both Lockaby and her husband "regard the matter very seriously, and express great alarm lest it should lead to something dreadful" ("Another Electric Girl"). Birchall's powers, too, as useful as they sound, were also reportedly dangerous and not fully within her conscious control:

> When producing the phenomena she seems to be charged with all the electric energy of a live wire and it is extremely dangerous for a person to touch her. The atmosphere that surrounds her at such times repels and thus has saved many from injury. A large shepherd dog owned by the family rubbed his nose against her when she was transmitting force to the grindstone and received a shock that stretched him lifeless. In illuminating the cow stable one night a vicious heifer kicked the girl on the hand. Instantly the animal received a shock that nearly knocked it over. ("An Electric Girl")

Electricity may be a fairly docile servant today, but in the late nineteenth century it threatened to run amok with people's very humanity.

Here is where the human becomes the posthuman. As Hayles writes, "Each person who thinks this way begins to envision herself or himself as a posthuman collectivity, an 'I' transformed into the 'we' of autonomous agents operating together to make a self. The infectious power of this way of thinking gives 'we' a performative dimension. People become posthuman because they think they are posthuman" (*How We Became* 6). Electric people showcased this transition from "I" to "we" and confronted people with the possibility that it could happen to anyone. If these young women and boys of humble stature from all over the country were changing, what is to say that the rest of the world would not change too? And then what? As the *Atchison Globe* of Atchison, Kansas notes, in an 1884 article about a house mysteriously pelted with stones from the sky, "when taken in connection with the number of electrical girls who are coming to the front, some folks assert that end of the world is at hand" ("Pelted with Stones"). Hyperbolic, perhaps, but electric people were a symptom of a confusing new electric world that really might have seemed to have fallen from the sky.

The absolute height of the electric person as a theatrical phenomenon in the United States was the 1884 appearance of Georgia's Lula (or Lulu, depending on the source) Hurst. Mattie Belle Price, a less well-known "electric wonder," also from Georgia, also began performing in 1884. Reportedly, Hurst, an otherwise unremarkable eighteen-year old, among other feats of strength, could lift chairs held down by strong men with just a touch of her finger, "throwing the gentlemen about as if they were babies" ("Georgia's"). Similarly, Price, "a trim-built and not unprepossessing miss of apparently 16 or 17 years of age" ("What is It?"), was said to be able to lift a chair on which "three or four heavy men" sat "without apparent effort" ("What is It?").

Unlike the other electric people discussed above, Hurst and Price chose to exhibit their feats on the variety stage. Reportedly, by the time that Hurst retired from the stage to attend college, her act had earned $100,000 ("Telegraphic Sparks"), the equivalent of over two million dollars today. This may, of course, be an exaggeration.

In many particulars of their reputed powers, Hurst and Price were virtually indistinguishable from Cottin, the unnamed electrical boys, Lockaby, or Birchall and they made the same claims as to the authenticity of their powers. But when Hurst and Price made the decision to take their powers onto the stage, their powers became staged – mediatized – in a way that the others' powers were not. On stage, Hurst and Price participate in the hypermediacy inherent to the variety show, as explored in Chapter 2. They exist in explicit relation to the other variety acts in the program, which, as we recall, included a huge array of performances like skits, dances, musical acts, juggling, animal performances, comedy numbers, magic acts, and tricks and gimmicks of all sorts. That is why, on stage, Hurst and Price invite audiences to scrutinize them in a way that offstage electric people do not.

The variety stage was, among other things, a realm of dazzle lights and trickery. Caffin writes, of illusionists on the variety stage, "A scientific phenomenon hitherto unknown is the nearest to the insoluble that they will allow themselves. But much more often … they frankly own that they are tricking you and put it up to you to solve the secret if you can" (187). Once they set foot on stage, Hurst and Price became implicated in this as well, implicitly inviting audiences to penetrate their trickery even as they asserted that their powers were real.

The most common response to Hurst's and Price's acts was confusion. According to San Francisco's *Daily Evening Bulletin*, for instance, writing of Hurst's performance in July 1884, "if there is any trickery connected with her performance no person who witnessed it last night can be made to believe it by any course of reasoning. What the force is that manifests itself so strongly through her is a proposition the most of them expressed themselves ready to give up" ("News by Telegraph"). The *St. Louis Globe-Democrat* reports in January 1884, of Hurst's act, "Some think it electricity, others magnetism, many spirits, and a few the devil. Your correspondent was on the stage and watched closely. The girl is no humbug, but has the faculty of surcharging inanimate objects, including nonconductors of electricity, such as glass and marble, with a mighty and mysterious force, which science is left to explain if it can ("Georgia's"). An October 1884 article in the *Galveston Daily News* evinced even more profound uncertainty about Hurst and her powers:

> It certainly does not come under the head of either the drama or the opera; it is denied that it has any connection with spiritualism or sleight-of-hand, and while the attraction is styled the Electric Girl, it is questionable that electricity has much to do with the performance; at all events, judging from the newspaper notoriety that has preceded her, the so-called Georgia Wonder must indeed be a remarkable

> being. The young lady is billed as Lula Hurst, though whether or not she be the real Lula Hurst seems to be a debatable question. But aside from the question of her identity, her marvelous performances have attracted a very general attention, and seem to be as wonderful as they are inexplicable. ("Tremont Opera-House")

The degree of uncertainty in this description, not only as to the source of Hurst's powers, but also as to the genre of her performance and even her very identity, is fairly staggering, though it apparently didn't prevent this reviewer from enjoying the performance.

There were also plenty of people who vehemently dismissed the electric girl acts as fakery. A July 1884 article in the *Galveston Daily News* (Houston, TX), for instance, quips,

> Lulu Hurst, the electric girl, says she first became aware of the power she possesses eight or nine years ago when an umbrella began to move about in her hands, 'and since that day she has never been able to hold an umbrella.' There is nothing very remarkable in this feature of her power. There are thousands of persons who are unable to hold an umbrella for any length of time, if it is a good one, and yet they don't possess a particle of magetism [sic]. ("Nothing Wonderful")

An August 1884 article in the *St. Louis Globe-Democrat* similarly derides Price, writing,

> Although Mattie Lee Price is styled an electric girl there is nothing electric about her. Her art is a trick, as are all such things. I can not explain how she attains her results, but if she were an electric boy and a personal examination were possible, I might discover a number of layers of metal concealed in her clothes for the storage of electricity, or a small electric battery tied to the calf of the leg. ("The Tattler")

An 1892 article in Atchison, Kansas's *Atchison Champion* claims to explain all of the electric girl tricks as "only a skillful application of certain laws of physics" ("Some Tricks").

The point, for us, is not so much how Hurst or Price or anyone else achieved their feats. The point is that Hurst and Price, like Lockaby and Birchall, could present themselves as electric people because of the prevailing confusing, expectation, and fear around electricity and its effect on humanity. Unlike Lockaby and Birchall, though, who existed only as real people, Hurst and Price were both real people and performers. As such, they offered interpretive space and interpretive possibilities less easy to access off of the stage.

What all the confused and conflicted impressions of Hurst's and Price's performances highlight is that on stage Hurst and Price were simultaneously performers and real phenomena, with powers that could be variously interpreted as, and sometimes oscillated between, magic, science, entertainment, and charlatanism. As both real electric cyborgs and stagings of electric cyborgs, Hurst and Price onstage presented late nineteenth century audiences with a theatrical lens through which to consider the evolving relationship between electricity and humanity.

Chapter 6: Conclusion

I have enjoyed reading and writing and thinking about these stage effects from more than a century ago. I hope that my reader has enjoyed them as well. They're funny. They're quirky. They're daring. Sometimes they're baffling. As a designer and as a technician, they make me smile; they make me laugh; they make me think about possibilities that might not otherwise have occurred to me because they're just not the way we generally do things today. In itself, that makes these historical examples worth remembering as individual effects, inventions, and productions.

But I think the importance of studying these effects and remembering them at our precise moment in theater history goes beyond theories of design or methods of production. Collectively, these late nineteenth and early twentieth century effects speak to a philosophy of theater, discernable now, though it was not articulated as such at the time, that takes advantage of the uniquely multimodal medial complexity that makes theater predisposed to intermediality. This philosophy deserves at least some of the credit for the fact that theater of the late nineteenth and early twentieth century United States was able to survive and thrive at a time of financial challenges, changing audiences, and rapid and confusing technological development.

Mainstream theater in the United States today faces many challenges not unlike those of the late nineteenth and early twentieth century. We, too, have just come through a major economic recession. We, too, draw our audiences from a demographically shifting population. We, too, are surrounded by new technologies, many of which offer new and competing ways for our audiences to access information, art, and entertainment.

The situations are analogous but certainly not identical. As Howard Mumford Jones writes, of the late nineteenth and early twentieth century United States in general, "the period did

not exist as an imperfect prophecy of twentieth-century America; it lived in its own right" (16). I am by no means suggesting that we should imitate the specific practices of the past. But the philosophy that underlay those practices, of fracture and indeterminacy, of technological ambition, of spatiotemporal contradictions, and of cyborgean conjunctions of the human and the inhuman might inspire us to broaden our own vision and practices in productive ways, especially when compared to contemporary mainstream theater practice and audiences and to the more circumscribed aesthetic conventions that evolved with the advent of the New Stagecraft.

Economically, just as the Great Recession of 2008 to 2012 decimated funding for not-for-profit theaters today, the financial crash that resulted from the Panic of 1873 left theaters owners, managers, and producers in the late nineteenth century bereft of past sources of revenue and credit. Innumerable theaters closed their doors in the 1870s, just as so many established theaters closed their doors in the early decades of the twenty-first century.

Obviously, the two situations are not identical. Today's not-for-profit model relies on a very different premise about the place and value of theater in society than did the for-profit stock companies of the past and exists in an entirely different media-cultural landscape. Furthermore, where the effect of the Panic of 1873 was sudden and unexpected, the effects of the Great Recession were more gradual and prolonged. In both cases, though, a changing economic landscape put tremendous financial pressure on theater organizations, such that many previously successful funding models became untenable.

In the 1870s, the old stock companies were almost completely replaced by the touring variety shows and combination shows. In the 2010s, many of us (myself included) are working hard to rebuild theater companies that struggled in the recession but, for the most part, we are rebuilding in much the same operational and financial models as before. I am not, of course,

suggesting that we all cut our scenery down to 5’ 9” and jump on a train. But it cannot hurt us to look back to the nineteenth century and remember that there are others ways of conceiving, making, and distributing theater and that theater aesthetics, theater operations, and theater audiences are inseparably intertwined.

Audiences, too, were changing in 1873 in ways that may sound familiar to us today, though again the parallel is instructive, not exact. The demographic makeup of the population of the United States was changing at least as rapidly then as it is today. As a percentage of population, international immigration to the United States has never been higher than it was between 1850 and 1910 (Barde, Carter, and Sutch 1-524).[66] By 1910 almost 15% of the population was foreign-born, compared to about 10% in 1850 (Haines 1-21). For comparison, the foreign-born percentage of the population was about 13% in 2015 (United States Census Bureau). Internal migration, too, was at a height, as the U.S. population overall moved from east to west (Ferrie 1-491) and from farms to cities (Ferrie 1-492). The result was city populations increasingly diverse in geographic origin, spoken language, socioeconomic status, and racial and cultural backgrounds.[67] A similar situation exists today as a diverse and diversifying populace is a defining characteristic of U.S. identity, though not yet of U.S. theater.

Again, the two situations are far from identical. The majority of immigrants in the late nineteenth and early twentieth century were European, whereas today immigrants from Latin America and Asia predominate (Barde, Carter, and Sutch 1-525). In both eras, though, diversification of the cultural, aesthetic, and language backgrounds of the population have

[66] The period was punctuated by significant fluctuations tied to transitory economic and political conditions both in the U.S. and in immigrants’ countries of origin (Barde, Carter, and Sutch 1-525).
[67] See also Postlewait 136-49.

implications for any theater industry with pretentions towards mass appeal or cultural importance.

Today, there are some industry-wide efforts underway to diversify both audiences and artists, though these efforts clearly have a long way to go before we can say that the stage is a true reflection of the nation. Many (though by no means all) theaters are now consciously programming plays by or featuring women, people of color, non-gender binary people, and/or other underrepresented groups. Outreach efforts specifically targeted towards communities of color and other theatrically underrepresented communities are also on the increase. These efforts are valid and valuable.

However, outreach plans and diverse themes and artists can only do so much in the face of an art form that has, for the last hundred or more years, evolved not only its artists and its scripts, but also its aesthetics, its forms, its cultural norms, and its physical spaces, to appeal to a particular, limited audience demographic. As we saw earlier in the chapter on hypermediacy, New Stagecraft aesthetics were, intentionally or not, part of a "highbrow" cultural movement explicitly desirous of exclusivity. The particular aesthetic and semiotic codes of the New Stagecraft and the particular cultural spaces constructed to showcase them can be as strong a barrier to diversifying audiences as lack of representation on stage or a lack of directed outreach. This may be one reason why, as Nelson writes, "audiences, at least for building-based theatre, appear to be in decline worldwide" ("After Brecht" 31) and continue to be dominated by what Boenisch call a "traditional audience" ("coMEDIA" 39). This is where I think that both theater of the late nineteenth and early twentieth century and intermedial theater today offer models that may be instructive.

The intermedial forms of theater in the late nineteenth and early twentieth century, as we have seen, allow for more individuation of experience than does the narrative drama that is more conventional today. Moreover, they often relied on non-textual elements like spectacle, music, or physical comedy. By de-emphasizing language-based ways of signifying in favor of more visual or proprioceptive modes of understanding, they are even comprehensible to audience members who don't understand the language in which the piece is written or to people who just can't hear what's going on, whether due to poor theater acoustics or noisy audiences. The intermedial theater choices of the late nineteenth and early twentieth century United States, then, were more workable solutions for immigrant audiences who might have limited English proficiency, for theaters with suboptimal acoustics, or for audiences not culturally conditioned to listen quietly to dialogue. As Owen Davis, a playwright of the period, writes in his 1931 autobiography, *I'd Like to Do It Again*, "one of the first tricks I learned was that my plays must be written for an audience who, owing to the huge, uncarpeted, noisy theaters, couldn't always hear the words and who, a large percentage of them having only recently landed in America, couldn't have understood them in any case" (36). Considering that Davis estimates that he wrote 300 plays (146), we must assume he knows what he's talking about.

Many critics of Davis's period and of our own have considered this a major failing of the late nineteenth and early twentieth century stage, blaming mediocre audiences and the playwrights that catered to them for contributing to the deterioration of drama. The novelist Hamlin Garland, writing in *The Arena* in 1894, asks, "The great mass of people in America toil from ten to fourteen hours per day, and each day of the year. When they are able to gratify a desire for art, what sort of patrons would you expect them to be? How is it possible for such worn and warped natures to appreciate a quiet play, a fine actor, a thoughtful novel? They

absolutely require force, farcical acting, ranting unreality" (166). An 1898 article in *Nature* complains,

> the average playgoer is not very critical; he is satisfied, as a rule, with the highly coloured picture and the blaze of light, and having been equally blind to the beauties of nature, sees nothing of the incongruities of the scene. He 'sees' an actor with a streak of limelight following him round the stage, but does not grumble; he 'sees' the actress, with her features distorted owing to a brilliant light from the footlights on her chin and a dark shadow on her forehead, but he does not know that there is anything wrong about this. ("Science in the Theatre" 164)

Even Davis, in the quote above, is being humorously self-deprecating as to the value of his work.

I do not attempt to argue for the literary value of late nineteenth and early twentieth century scripts. I do not even argue for the artistic quality of late nineteenth and early twentieth century theatrical design and production. Recall that Dick Higgins, who coined the term "intermedia," specifically points out that the term is a classification, not a value judgment (52). What I do argue is that the intermedial characteristics of the period's theater, the same characteristics that avail themselves of specifically theatrical multimodality, also helped theater of the period communicate to a more diverse audience than mainstream theater is generally able to reach today.

To reiterate a point I made earlier, the fact that the popular theater of the day had a broad appeal does not mean that it was equitable or unproblematic. The theater of the period was rife with racial and ethnic stereotypes just as many theater artists, managers, and audience members of the day held and exhibited unforgivable prejudices. I fear that in my enthusiasm for the exuberance and creativity of the period's stage effects, I have, in this dissertation, glossed over

these profound problems in the theater of the period. Because they are not my focus in this study, I do not wish to imply that we should forget these troubling aspects of the period. But for all that the content of many works of theater in the late nineteenth and early twentieth century was highly problematic, more so, overall, than theater is today, I still believe that the structure and semiotics of theater of the period had more potential for inclusivity than the structure and semiotics of theater practice today.

As regards technology, like the theater practitioners of the late nineteenth and early twentieth century United States, we live in a world awash in ever-increasing technologies of representation. Unlike our predecessors, though, we find it hard to coexist with this technology. Philip Auslander asserts on the very first page of his *Liveness: Performance in a Mediatized Culture*, "at the level of cultural economy, theatre (and live performance generally) and the mass media are rivals, not partners. Neither are they equal rivals: it is absolutely clear that our current cultural formation is saturated with, and dominated by, mass media representations in general, and television in particular" (1). Theater, in other words, according to Auslander, has already lost to television (and, presumably, to the more recent technologies that have become dominant since Auslander's book was first published in 1999).

This is not to say that theater artists today do not employ new technologies with the same enthusiasm and creativity as our late nineteenth and early twentieth century forebearers. Unlike our forebearers, though, with the exception of avant-garde productions now understood as intermedial theater, when we employ new technologies on the stage we usually attempt to use them in the service of immediacy rather than hypermediacy (Nelson, "After Brecht" 32-33). This is an approach that plays to the strengths of the new technologies, but it is not an approach that plays to the strengths of theater. There are many ways in which theater will likely never be able

to compete with more recent mass media technologies, such as reach, affordability, ease of access, and a certain kind of visual verisimilitude. But we might look to the theater of the late nineteenth and early twentieth century United States for a way of approaching theater's relationship to technology that uses theater's unique representational capabilities to probe the new technologies we use in new ways, rather than employing them towards the old aesthetic goals.

Intermedial theater today, of course, does just that. And so intermediality today has come to be seen as the exclusive domain of the avant-garde. And yet in many other fields, as Mikko Lehtonen writes in his "On No Man's Land: Theses on Intermediality," "intermediality is a phenomenon expressly characteristic to popular culture – be that it is gaining a firmer foothold also in the circles of high culture" (82). In the late nineteenth and early twentieth century, intermediality is part of what allowed the theater to play a full and important role in an era of profound technological change.

An intermedial approach is not a panacea. There are any number of economic, social, and cultural factors at play in theater's diminished cultural prominence that are beyond the control of any theater artist, theater company, or the theater industry as a whole. And, of course, it would be nonsensical to copy the particular approach to hypermediacy, technology, space-time, humanity, intermediality, or theater practice as a whole that we saw artists and managers take in the late nineteenth and early twentieth century United States.

But it might behoove us to look back and remember that theater can take many shapes, or multiple shapes, or broken shapes, or no discernable shape at all. As Sarah Jane Bailes writes, "It helps to think about theatre as this: as a perceived (rather than given) system of production, distribution, and exchange, for if nothing else, this communal, fluid sense reminds us of its

proximity to other systems of value and exchange, and, equally, of the possibility for change within that system" (13-14). This lesson is for artists, technicians, and managers alike and it pertains to the shape of the industry as a whole as much as it does to a script, a stage space, or a design concept. The great lesson of intermediality is that borders are constructed; they are both illusory and real; they emerge or disintegrate only at the moments they are defined or the moments they are transgressed.

Theater in 1873 survived because it reinvented itself, not just in the plays that it produced, but in its conception of the entire theater industry and the entire theater event along lines that played to the inherent omnimediality of theater itself, in technology; in hypermediacy; in spatiotemporality; and in the role of human, inhuman, and partially or ambiguously human actors. Intermedial theater today is doing something similar on the level of the individual performance, but it is not yet happening on the scale of the entire industry. If we can pull that off again, we may be able to say again what the New Stagecraft designer Lee Simonson wrote in his 1934 article "The Designer in the Theatre," "this theatre that has died so many deaths continues to live many lives" (21).

The great lesson of theater in the United States in the late nineteenth century is that if something stops working we can try something else. To quote Georg Simmel, in his "Bridge and Door," initially published in 1909,

> the human being is the connecting creature who must always separate and cannot connect without separating … And the human being is likewise the bordering creature who has no border … But just as the formless limitation takes on a shape, its limitedness finds its significance and dignity only in that which the mobility of

> the door illustrates: in the possibility at any moment of stepping out of this limitation into freedom. (10)

Whatever borders theater has today, whether aesthetic, technological, demographic, or operational, they are ours to transgress or to redefine. They are our doors to step through – and they are much larger than 5’ 9”.

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