

**Storytelling Within the Theatre:  
How the Work of the Projection Designer Pushes the Boundaries of Art, Collaboration,  
and Technology**

by

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This thesis examines the role, art, and contribution of a projection designer within a theatrical design process. The research encompassed a self-reflective analysis on my time as projection design student at the University of Pittsburgh, with the hope of synthesizing many of the lessons learned into one possible approach to projection design. This document contains examinations of four productions: the Broadway production of *American Psycho*, the University of Pittsburgh Stages' productions of *Nine* and "Aglaonike's Tiger," and the Point Park University Conservatory of Performing Arts' production of *The Who's Tommy*. When examining both my work as a projection designer and my work on teams with other designers, three questions served as the guideposts for the analysis. They were: 1) How do projections change how stories are told and how can they be used to propel story; 2) How does a projection designer fit into the theatrical collaborative process; and 3) How does a projection designer use and push the boundaries of technology in theatre? After studying the projection design of the four shows, I found that the work of a projection designer can play a large, and sometimes very integral role within theatrical storytelling. Additionally, the exploration into my previous work allowed me to see threads between each show, from techniques to different design methodologies, that I brought from one show to the next.

## TABLE OF CONTENTS

<b>PREFACE.....</b>	<b>IX</b>
<b>1.0 INTRODUCTION.....</b>	<b>1</b>
<b>2.0 AMERICAN PSYCHO.....</b>	<b>4</b>
<b>2.1 STATIC .....</b>	<b>5</b>
<b>2.2 A NICE THOUGHT.....</b>	<b>8</b>
<b>2.3 THE EIGHTIES: CHARACTERIZATION OF AN ERA .....</b>	<b>9</b>
<b>2.4 AMERICAN PSYCHO CONCLUSION .....</b>	<b>12</b>
<b>3.0 NINE.....</b>	<b>15</b>
<b>3.1 PRESHOW.....</b>	<b>16</b>
<b>3.2 GUIDO’S SONG .....</b>	<b>18</b>
<b>3.3 NOT SINCE CHARLIE CHAPLIN .....</b>	<b>20</b>
<b>3.4 MY HUSBAND MAKES MOVIES .....</b>	<b>21</b>
<b>3.5 A CALL FROM THE VATICAN AND BE ITALIAN.....</b>	<b>23</b>
<b>3.6 THE GRAND CANAL .....</b>	<b>25</b>
<b>3.7 SIMPLE AND BE ON YOUR OWN .....</b>	<b>28</b>
<b>3.8 GETTING TALL.....</b>	<b>29</b>
<b>3.9 NINE CONCLUSION .....</b>	<b>30</b>
<b>4.0 AGLAONIKE’S TIGER .....</b>	<b>33</b>

4.1	THE TREE .....	34
4.2	THE MOON .....	35
4.3	AGLAONIKE'S TIGER CONCLUSION.....	37
5.0	THE WHO'S TOMMY .....	39
5.1	OVERTURE.....	40
5.2	DATE AND TITLE CARDS.....	41
5.3	SPARKS.....	42
5.4	PINBALL WIZARD.....	45
5.5	TOMMY CONCLUSION .....	46
6.0	CONCLUSION.....	49
	BIBLIOGRAPHY .....	55

## LIST OF FIGURES

Figure 1. Normal Static Content Example, <i>American Psycho</i> , 2016.....	6
Figure 2. Ending Static Content Example, <i>American Psycho</i> , 2016 .....	7
Figure 3. <i>Nice Thought</i> , Photographer Jeremy Daniel, <i>American Psycho</i> , 2016.....	9
Figure 4. <i>Selling Out</i> , Photographer Jeremy Daniel, <i>American Psycho</i> , 2016 .....	11
Figure 5. Preshow, Photographer Vincent Noe, <i>Nine</i> , 2016.....	17
Figure 6. Preliminary Sketch 1, <i>Nine</i> , 2016.....	19
Figure 7. Guido in Chair, Film Shoot, <i>Nine</i> , 2016.....	19
Figure 8. <i>Not Since Charlie Chaplin</i> , Photographer Vincent Noe <i>Nine</i> , 2016 .....	21
Figure 9. <i>My Husband Makes Movies</i> , Screen Capture from Rehearsal Video (Unfinished Masking), <i>Nine</i> , 2016.....	22
Figure 10. Prelim Sketch 2, <i>Nine</i> , 2016.....	24
Figure 11. Prelim Sketch 3, <i>Nine</i> , 2016.....	25
Figure 12. <i>Grand Canal</i> , Photographer Vincent Noe, <i>Nine</i> , 2016 .....	27
Figure 13. <i>Be On Your Own</i> , Screen Capture from Rehearsal Video, <i>Nine</i> , 2016 .....	29
Figure 14. “Aglaonike’s Tiger”, Photographer Jennifer Mikitka, <i>Aglaonike’s Tiger</i> , 2016.....	34
Figure 15. Moon Projection Surface, Photographer Amanda Olmstead, “Aglaonike’s Tiger”, 2016.....	37

Figure 16. London. 1940. Title Card, Photographer John Altdorfer, <i>The Who's Tommy</i> , 2016 ..	42
Figure 17. <i>Sparks</i> , Photographer John Altdorfer, <i>The Who's Tommy</i> , 2016 .....	44
Figure 18. <i>Pinball Wizard</i> , Photographer John Altdorfer, <i>The Who's Tommy</i> , 2016.....	46



## PREFACE

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## **1.0 INTRODUCTION**

The work of a projection designer exists in a unique place. Often charged with solving problems and making moments look ‘cool’, their roles extend far deeper than the aforementioned tasks. From telling and propelling story, collaborating in unique ways with other designers, and using new technology, projection designers are at the forefront of some of the most innovative and story-focused work within theatre. The original impetus for this research occurred when I first found projection design as a interesting extension to lighting design; as I began to work within projection design more and more, however, I became extremely interested in how projection design functions within the theatrical process and as part of a production. This thesis started there and then quickly became a self-reflective look at my own work and storytelling process throughout my time as a student and early career projection designer.

When I started to look back at my own work and think about how it functioned, I began to develop a series of questions that would begin to guide my work and my exploration. As I continued my research, I began to pare that list of questions down until I was left with three broad questions dealing with projections and the work of projection designers within theatre:

1. How do projections change how stories are told and how can they be used to propel story?
2. How does a projection designer fit into the theatrical collaborative process?

3. How does a projection designer use and push the boundaries of technology in theatre?

These questions were important because they allowed me to begin to divide the work of the projection designer into its component parts. It was also key, however, after analyzing the work using these questions to then be able to look at the work of myself or of another designer throughout a show as one cohesive piece of art. My process involved looking at how each moment of projection in a show fit within the larger contribution of the projection designer as well as how it functioned within the fabric of the show. Overall, once I had the answers to these questions, I was most interested in how the piece of art that was created with their combination functioned as a piece of theatrical storytelling and how it worked within the story.

The combination of the work of the projection designer, the rest of the artistic team, and the actors on stage can lead to many exciting possibilities. The work of a projection designer exists at the crossroads between many art forms. Projection Designer Rasean Davonte Johnson discusses projection design as being able to capture “the immediacy of theatre, as well as the density of film; and, you can go so many more places [...] when you allow those two worlds to interact” (Yale School of Drama). The inclusion of projection design in a piece of theatre allows the projection designer to bring visual elements to the stage which have not been present before. A projection designer could use projections to examine the inner monologue of a character, locate the play within time and space, or to provide a new point of view on the action using live video.

The addition of projection design, however, adds a new wrinkle to the fabric of storytelling decisions; does this show need or support projections? Wendall K. Harrington, a Projection Designer colloquially known as ‘the godmother of projection design’ and the Head of

Projection Design at the Yale School of Drama, has been known to walk out of meetings with directors and producers simply because she did not feel as though the show could support or needed projections. A show like *The Curious Incident of the Dog in the Night-time* (Playwright: Simon Stephens) could be considered a good candidate for the addition of projections, allowing the artistic team to further examine the inner monologue of Christopher Boone, quickly travel from location to location, and to create an immersive experience for the actors on stage and for the audience. A show like Samuel Shepard's *Curse of the Starving Class*, however, would most likely not be a good candidate for projections. The play is focused directly on the realistic world surrounding the Tate family which would most likely be completely subverted by the inclusion of projections. The projections would take the focus away from the realistic elements and shift them into a more removed, liminal space. It is important to note, however, that this decision needs to be made on a production-by-production basis. One production of 'Show X' might not be able to support projections, but a second production of the same show might be a perfect candidate. While there is not a one size fits all when it comes to deciding upon the inclusion of projections in a piece of theatre, it is important to seriously consider the implications of the addition, and to make sure that the addition will work in support of the goal of storytelling. In this thesis, I will examine what constitutes the work of a projection designer and how that work pushes the boundaries of art, collaboration, and technology in theatre. In the following chapters, I will use case studies of several shows to examine how the inclusion of projections enhances storytelling within each production. These shows include *American Psycho, Nine*, "Aglaonike's Tiger," and *The Who's Tommy*.

## 2.0 AMERICAN PSYCHO

Composer/Lyricist Duncan Sheik (*Spring Awakening*) and Librettist Roberto Aguirre-Sacasa (*Spiderman: Turn Off the Dark*) adapted Bret Easton Ellis' 1991 novel into a musical that premiered in London at the Almeida Theatre in 2013, directed by Rupert Goold. A Broadway production, also directed by Goold, opened in 2016. The design team of the Broadway production included Scenic Designer Es Devlin, Costume Designer Katrina Lindsay, Lighting Designer Justin Townsend, Sound Designer Daniel Moses Schreier, and Projection Designer Finn Ross. For this production, I was the video intern and worked under Projection Designer Finn Ross. It was a mostly observational role due to union rule, but I was able to do some administrative work and to watch the process of another Projection Designer.

The show follows the story of Patrick Bateman, a Manhattan investment banker turned serial killer in the 1980s. As the show progresses, Bateman's mental state begins to decline and he becomes more and more focused on murder and bloodlust. The Broadway production of *American Psycho*, like *The Curious Incident of the Dog in the Night-time*, was a good candidate for the addition of projections. The set was, at its core, a white box that could be molded and flexed into whatever locale of mood necessary to tell the story. During my time on *American Psycho*, all three of my research questions became important lenses through which to view the production process. *American Psycho* was the first show that I worked on that scale with projections integrated so tightly into the storytelling. Additionally, with the size of the show was

matched with the use of technology and with this technology came intense collaboration across all departments. With the inclusion of projections, the inner monologue of Patrick Bateman can be visually analyzed and the consumerist culture of the 1980s can be characterized.

## 2.1 **STATIC**

One of the central motifs in the projection design throughout the show is the use of static. The static is both a connection to the analogue world of the 1980s, in which this show lives and flourishes, as well as a window into the mind of Patrick Bateman. As Bateman evolves throughout the show, the static evolves with him.

When the static first appears towards the beginning of the show and of Bateman's story, it is simple, 'normal' static - the kind one might see when a television isn't receiving signal through an antenna.



Figure 1. Normal Static Content Example, *American Psycho*, 2016

As the show continues to move forward, however, the static continues to evolve/devolve into something much more ‘sinister,’ chronicling the devolution of Bateman’s mind. Towards the end of the show, Patrick Bateman ends up in the apartment of a man he believes he has killed, Paul Owen, and Aguirre-Sacasa provides the following stage direction:

Patrick is completely perplexed, standing there, in the bar. He crosses the stage, to Paul Owen’s apartment—now a blinding white space. The whole stage, everything’s white, immaculate, untouched, like a virgin field of snow. a real looking Woman, wearing a suit-jacket and skirt is in the apartment.

In this transition, the audience is met with a type of static they've never seen before, one made up of strange colors and shapes, one that moves in a completely different way than the ‘normal’ static at the beginning of the show - this static is extremely alien; it looks like there could be something within it, just waiting to come out.



Figure 2. Ending Static Content Example, *American Psycho*, 2016

The change in these statics throughout the show very clearly and very visually shows the audience the shift that occurs in Patrick Bateman. The normal television snow at the beginning of the show, while fuzzy and hard to read like Bateman's character, provided some sense of order and predictability. At the end of the show, however, the alien static clearly portrays that any predictability and order that may have existed at one point has now completely disappeared and has been replaced by emptiness and chaos.

This use of projection, in conjunction with Walker's performance, strengthens the characterization and story of Patrick Bateman. It not only allows the audience to see the physical and verbal manifestation of the character, it also gives them a window almost directly into his head and allows them to see his characterization develop visually throughout the show. This characterization helps to propel the story and allows another view of the devolution of his character and world.



## 2.2 A NICE THOUGHT

A second major section in the show that provides the audience with a view in to the mind of Patrick Bateman is the song, *A Nice Thought*. In this song, Patrick's secretary, Jean (Jennifer Damiano), and his mother, Mrs. Bateman (Alice Ripley) sing about Patrick Bateman as a small child. Mrs. Bateman misses those years; Jean wonders whether the nice Patrick is still there, underneath his current cover, and imagines a possible relationship between the two of them. Mrs. Bateman sings, "He was a beautiful child / he made me laugh, me made me smile / a golden path was paved / still, he was so well behaved // (and) it's a funny thing / he loved to dance / he loved to sing / such beautiful blond curls / I knew one day he'd rule the world."

This song takes place when Mrs. Bateman, Patrick, and Jean all meet each other in a park. While the set keeps us firmly in the world of Patrick's apartment, office, and other buildings that he visits - the projection design is free to change and adapt the world to be whatever it needs to be. In this case, the stage is taken over by what looks to be a child's drawing of New York City when looked at from the middle of Central Park; while this might seem like this design choice is using projections to put the show firmly in a specific place and time, it still provides a window into the mind of Patrick Bateman. First, the drawing is a simple line drawing, but instead of being displayed as simply white lines, the lines are a bright, almost neon green. This color comes across as a very specific choice. The green stands out against the light grey walls of the set, it is a color that has not been seen yet in the show. The choice of green already predisposes the audience to see Patrick Bateman, even the young Patrick, as a human with something wrong, someone at the brink of a break. Additionally, as the song progresses, the drawings begin to double, distort, move and multiply. This further adds to the idea that there is something wrong with Patrick; and because it happens as the song progresses, Jean and Mrs.

Bateman talk about Patrick aging throughout the song, so the distortion of the images allows the audience to see that Patrick's mind has become even more distorted and cracked as he's grown older.



Figure 3. *Nice Thought*, Photographer Jeremy Daniel, *American Psycho*, 2016

### 2.3 THE EIGHTIES: CHARACTERIZATION OF AN ERA

The story takes place in New York City in the 1980s - a world of superficiality and consumerism. The world of Patrick Bateman and his friends was one in which people were only concerned with how they looked, what they owned, and how many times a week they had sex;

the novel, and subsequent adaptations, are very much a commentary on these ideas as well as commentary and critique on the “shallow and vicious aspects of capitalism” (Contemporary Literary Criticism). In addition to how projections worked to tell the story of Patrick Bateman, they were also used throughout the show to help characterize the period. It is worth noting, that in discussing the characterization of the period, I do not mean that seeing images of 1980s New York City lets the audience know where they are in history – it is more focused on the characterization of the invisible, extremely important character: the society in which the story takes place.

Though the characterization of society plays a large role throughout the musical, the two standout examples in which projection aides in this characterization are during the songs *Selling Out* and *You Are What You Wear*. *Selling Out* is a rousing anthem to consumerism and capitalism. The song’s chorus(es) contain the lyrics “I want it all! /Ugh oh, the next transaction / come on, sell it out / ugh oh, you’re my next attraction / come on, baby sell it out” and “You bought it, bought it / Ugh oh, bought it, bought it even when we were selling out / you bought it all!” (American Psycho) These lyrics call back to some of the central themes in the show, the objectification of women, and the critiques of the culture of the 1980s - a culture which was driven by capitalism and consumerism. The design of the projections for this moment in the show acts like an advertisement, punctuating lyrics and words throughout the chorus with text that flies in from upstage to downstage, figuratively shouting at the audience and making sure they ‘get the message.’



Figure 4. *Selling Out*, Photographer Jeremy Daniel, *American Psycho*, 2016

*You Are What You Wear* tells the story of Bateman's girlfriend Evelyn Williams planning a dinner party for his birthday, all the while only being concerned with which designer label she and her friends are sporting that day. The beginning of the chorus of *You Are What You Wear* contains the lyrics "Chanel Gautier Or Giorgio Armani / Maschino, Alaia or Norma Kamali / Should I rock the Betsy Johnson / Or stick with classic Comme de Garçon" (*American Psycho*). In a very similar manner to *Selling Out*, the names of every fashion house and designer are punctuated with large, bold text on the walls of the set - further driving home the consumeristic message, one that is even displayed by the title of the song: *You Are What You Wear*. Additionally, throughout the rest of the verses, the walls are coated in different patterns reminiscent of high fashion outfits, including argyle, plaid, and herringbone. In fact, one section of the song is punctuated by a modified version the famous *Louis Vuitton* pattern; instead of the

easily recognizable 'LV' monogram, the pattern has been altered to contain the letters *E* and *W*, the initials of Patrick Bateman's girlfriend, Evelyn Williams.

## 2.4 AMERICAN PSYCHO CONCLUSION

My experience working on the projections team for the Broadway Production of *American Psycho* was enlightening. It allowed me to experience a production at the Broadway level, use technology that I do not have easy access to at the University of Pittsburgh, and to take a step outside of the design process and to look at the work of another Projection Designer during the production process. Interning on a Broadway production was very informative. Contrary to what I originally thought, I found that with the exceptions of a different schedule, as well as additional people and money, the process of theatre does not experience drastic change. While the accessibility of tools and people might be different, the drive to tell stories remains constant.

The Broadway production also made extensive use of D3, a media server, and was the largest D3 show on Broadway. Technology was one of my original doorways into Projection Design and the working on *American Psycho* provided the opportunity to work with some of the newest and growing technology in the field. Ross' use of D3, as well as multiple projectors, allowed projection content to be placed anywhere on the set at any time. These tools allowed Ross and the rest of the projection team to be extremely flexible throughout the technical rehearsal process, responding rapidly to changes. D3 also enabled previsualization of possible changes to content, allowing Ross to have more informed conversations with the director and other members of the design team.

Being able to look from an observational point at the work of another Projection Designer was an invaluable experience. Working with Finn Ross not only provided me with the opportunity to learn from a Projection Designer at the top of the industry, but also provided me with the opportunity to work with a British projection designer. Prior to this experience, I had only worked with American projection designers and American designers in general, so being able to see projection design as thought about by a designer from another culture and school of thought when it comes to design was extremely helpful. Ross' flexibility both in terms of the tools that he uses and as a designer is something that I hope to take with me and develop into my own work. It is an attribute that makes him both a phenomenal collaborator and designer because he can respond rapidly and aptly to the changing needs of both the rehearsal and the show. Additionally, he can produce many options quickly to have more informed conversations with his collaborators and to quickly pivot and respond to the needs of the show and the process.

My experiences working on *American Psycho* taught me many things about working as a professional Projection Designer. They also introduced me to new technologies and new ways of approaching design that I have since brought back to use on my own shows. On a production of *1984*, for example, I approached the creation of content in the same way that Ross created content for *American Psycho*; because of this, I only had to map one test pattern to the set of *1984* and since the rest of the content was built on top of that test pattern, it all automatically lined up. Additionally, working on *American Psycho* allowed me to experience a show where projection is part of almost every moment throughout the show, rather than just a moment here and a moment there. Ross' integration of Projections as a living layer of paint allowed deeper analysis of the characters, the inner monologue of Patrick Bateman, and deeper characterization of the society that surrounded the show. Overall, I believe that the show gained strength through

the inclusion of projections and that projections were able to create strong, connective tissue across moments, ideas, and themes throughout the production.

### 3.0 NINE

As part of a class project for Lehman Engel's BMI Music Theatre Workshop, Maury Yeston wrote the first drafts of *Nine*, based on Federico Fellini's semi-autobiographical film *8 ½*. The show was developed further with books by Mario Fratti and Arthur Kopit, eventually leading to the creative team of composer and lyricist Maury Yeston and librettist Arthur Kopit for the original Broadway production. In the spring semester of 2016, the University of Pittsburgh Department of Theatre Arts produced *Nine*. The artistic team for *Nine* included Director Dennis Schebetta, Scenic Designer Gianni Downs, Costume Designer KJ Gilmer, Lighting Designer Annmarie Duggan, and Sound Designer Zachary Beattie-Brown and myself as Projection Designer.

*Nine* displays the inner workings of a human being going through mid-life crisis. Contini struggles to keep his relationships with all the women in his life while failing to direct a new film. As *Nine* is a musical about a filmmaker, adding projections to *Nine* provided a great vehicle to help bring the world and story of Guido Contini to the stage. Combining the world of theatre and film was a fine line to toe. I had to be careful that *Nine* did not become a movie - that in the quest for the density of film, I did not lose the immediacy of the theatre. There needed to be a healthy balance between the two.

When looking back at my design work for *Nine*, the first of my research questions - how do projections change how stories are told and how can they be used to propel story - became the



most important lens for analysis. To understand Guido Contini, and why he makes the choices he does, one must understand what happens in his head. In this instance, projections can aid in the understanding of character and of motivation. In much the same way that the work of the Projection Designer helped to unpack the story of Patrick Bateman in *American Psycho*, the inclusion of projections in *Nine* was immensely helpful in unpacking the great director Guido Contini. Throughout the show, the inclusion of projections helped to characterize both Guido Contini and the world around him. It could bring to light both his art and his inner monologue in a time when he was struggling to find himself. Additionally, working in tandem with the Lighting Designer Annmarie Duggan, projection could create space in the world for moments that were happening inside of Contini's head. In this chapter, I will explore the inclusion of projection in *Nine*, how it helped to analyze character, and how it aided in bringing the world of film to the stage.

### 3.1     **PRESHOW**

The world of *Nine* is a special place. It is a world of art, a world of film, a world of love, and a world of nostalgia. Throughout the show, projections worked to characterize the world of Contini. This role began as the audience walked through the door. For the preshow, I created a few montages from older films, that could play on four fabric panels hung from a set of scaffolding placed in the middle of the stage before the show.

These montages included scenes from the movies of Federico Fellini, scenes of kissing scenes from older Fellini movies and contemporary films as well as film grain and projector flashing. The montages, playing for half an hour before curtain, took the audience out of the

modern day and transported them back in time to the lush, opulent, and over-the-top world of Guido Contini and Federico Fellini.



Figure 5. Preshow, Photographer Vincent Noe, *Nine*, 2016

### 3.2 GUIDO'S SONG

Very early in the show, we see Guido's struggle begin in *Guido's Song*; he sings, "I would like to be here. / I would like to be there. / I would like to be everywhere at once — / I know that's a contradiction in terms. / and it's a problem, especially when / my body's clearing forty as my mind is nearing ten" (*Nine* 19). *Guido's Song* is about his internal struggle, of having to deal with adult life that he has built for himself, but also yearning for the ability to be a much younger Guido in a much simpler time. As the song continues, he ends up wishing for a twin. "One limitation I dearly regret: / There's only one of me I've ever met. / I would like to have another me to travel along with myself. / I would even like to be able to sing a duet with myself."

I capitalized on this song lyric and used it to bring in footage of Ricardo Vila-Roger - the actor playing Guido – onto the large, upstage arcade wall. The use of this footage in conjunction with *Guido's Song* on stage created two powerful statements. The first was one of Guido as the director, taking charge of the situation, something that he fails to do more and more throughout the show. The second was the imagery of Guido's twin – juxtaposed with the Guido onstage who was jumping and pretending to play these different roles including "Proust / or the Marquis de Sade [...]" (*Nine* 20-21). The projected Guido was the successful, 40-year-old film director whereas the Guido on stage was the ten-year-old longing to play.



Figure 6. Preliminary Sketch 1, *Nine*, 2016



Figure 7. Guido in Chair, Film Shoot, *Nine*, 2016

### 3.3 NOT SINCE CHARLIE CHAPLIN

As much as the video in the show was about exploring the mind of Guido Contini, it was also about exploring the minds of the characters that surround Guido, one of the most important being his wife Luisa. The show opens with Luisa threatening to divorce Guido. To dissuade her from the idea of a divorce, Guido takes her to a spa so that they can spend time together. Upon seeing Guido hiding from the public, Luisa asks, “Guido, if you don’t want to be recognized, why didn’t we go to a spa that’s less well known?” and Guido responds, “Because if I did that, people would get the idea that I was hiding” (*Nine 18-21*).

Suddenly, Guido and Luisa are noticed by reporters and paparazzi and subjected to a flurry of questions throughout the song *Not Since Charlie Chaplin*. For Guido and Luisa, this has been their entire public lives - seeing their faces and stories about them splashed across the front pages of newspapers and tabloids. I to show this idea within projection. In my preliminary notes for the show, my thoughts for *Not Since Charlie Chaplin* were “Newspaper Articles, Photos. Shifting, Fading in and out. Bringing in elements of lyrics - Article on film flops for ex.- Overlaid - creating chaos the world of the paparazzi and the tabloids” (Spinogatti). When working in the space, the moment was pared down to headlines. They became an important way to show the constant intrusion of the paparazzi into the lives of Guido and Luisa, as they are one of the most important parts of a tabloid. The headlines appeared throughout the entire song and covered the arcade wall and I found that when the headline is the size of or even bigger than the person its addressing on stage, it becomes that much more poignant.





Figure 8. *Not Since Charlie Chaplin*, Photographer Vincent Noe, *Nine*, 2016

### 3.4 MY HUSBAND MAKES MOVIES

In keeping with the theme of Luisa being assaulted by paparazzi, before the song *My Husband Makes Movies*, Luisa is cornered by reporters asking her questions about her husband's movies, his alleged affairs, and the women he knows. In response to one of the questions, Luisa asks, "when will you understand," and begins to sing about Guido Contini's habit of movie making and his relationship to his own life and his work. She talks about how he is different from "some men [who] buy stocks [and] some men [who] punch clocks" and that "her husband makes movies instead" (*Nine*). Luisa talks about how her husband is obsessed with his craft, and

eventually gets to a point where it draws him away from their relationship; the song evolves from Luisa simply talking about her husband and his craft to a song of longing and the want for a better relationship between the two of them.



Figure 9. *My Husband Makes Movies*, Screen Capture from Rehearsal Video (Unfinished Masking), *Nine*, 2016

Visually, the projection started off with imagery of the glitz and glamour of movie making. They portrayed the fun, joy, and happiness that making movies could bring but also the work it involved. As Luisa's song evolved, however, the video evolved with it. About halfway through, there is a musical shift towards the minor and Luisa sings:

Long ago — twenty years ago. / Once the names were — / Guido Contini, Luisa del Forno; / Actress with dreams and a life of her own, / Passionate, wild and in love in Livorno, / singing with Guido all night on the phone / Long Ago — someone else ago. / How he needs me so, / and he'll be the last to know it" (*Nine* 27).

With the change in music, the projected visual imagery shifted as well. Gone were the glitzy, glamorous and working shots of people on movie sets; they were replaced with imagery that was very reminiscent of film noir - a world in which one sees lights, shadows, and the shapes that they create together. It was a much darker, grittier, and grounded view of the world surrounding making movies, the world Luisa came to know as her relationship with Guido evolved over the twenty years that they have been together.

### 3.5 A CALL FROM THE VATICAN AND BE ITALIAN

Guido is obsessed with all the various women that he's encountered throughout his life; two of the most prominent and sexually playful are the characters of Carla and Saraghina. Carla is a socialite and a woman that Guido is having an affair with because she has that playful spark that part of Guido needs and misses. Saraghina is a prostitute that lived on the beaches on the outskirts of town who Guido met when he was at St. Sebastian, a Catholic boarding school.

Throughout the early research and design phases, I was drawn to the movement silk, smoke, and ink in water; how they can interact and slide past the world around them - almost sensually - and being almost perpetually out of reach. I wanted a way to draw that imagery into both songs. For *A Call from the Vatican*, my original notes included the words, "Moving silk ribbons/ink, creating an entire silken world, evolves and grows in intensity as the song does" (Spinogatti). While not completely originally in the same world for *Be Italian*, they evolved to be very similar songs in visual thought throughout the process. The ink and silk ideas were further cemented by the director's original concept to have Carla fly on aerial silks; an element which added to the extreme fantasy of the moment that surrounds *A Call from the Vatican*.



Unfortunately, the aerial silks were cut from the final production, but the idea of them, and the inky imagery remained.

For both songs, the inclusion of the imagery of ink in water allowed us to visually explore the sensual and sexual elements of the song in tandem with the lyrics and the performances of the actors on stages. Additionally, the ink imagery created a visual representation of how these women slip in and out of Guido's life. Their relationship with Guido is also never as tangible as his relationship with Luisa and the ephemeral quality of the ink allows this to be displayed visually.

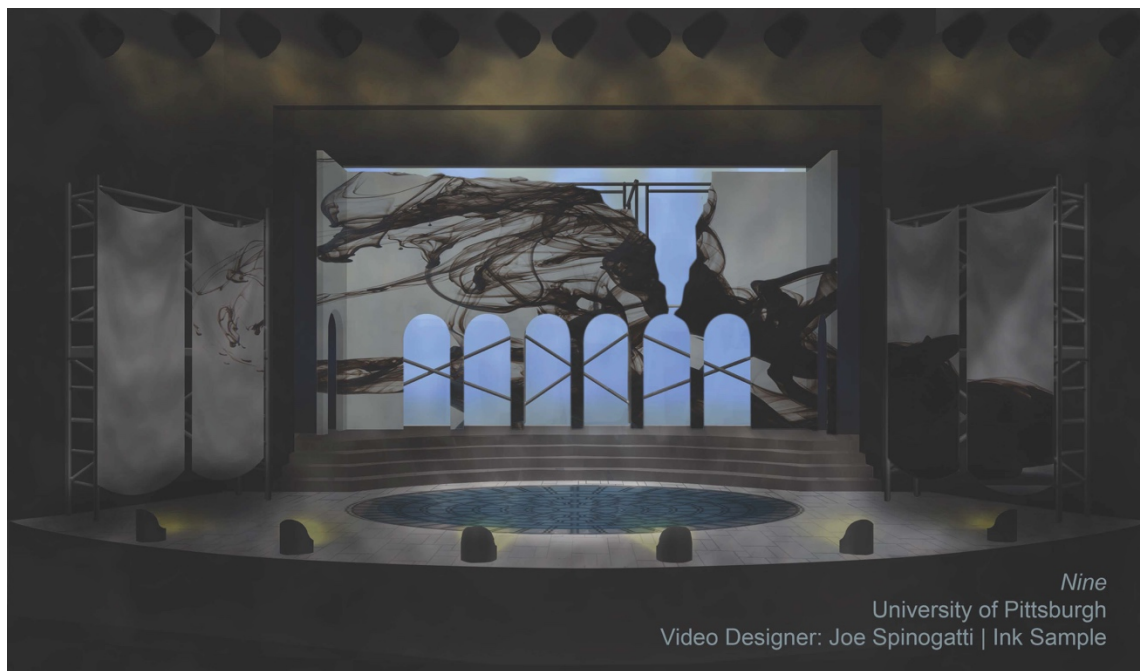


Figure 10. Prelim Sketch 2, *Nine*, 2016

### 3.6 THE GRAND CANAL

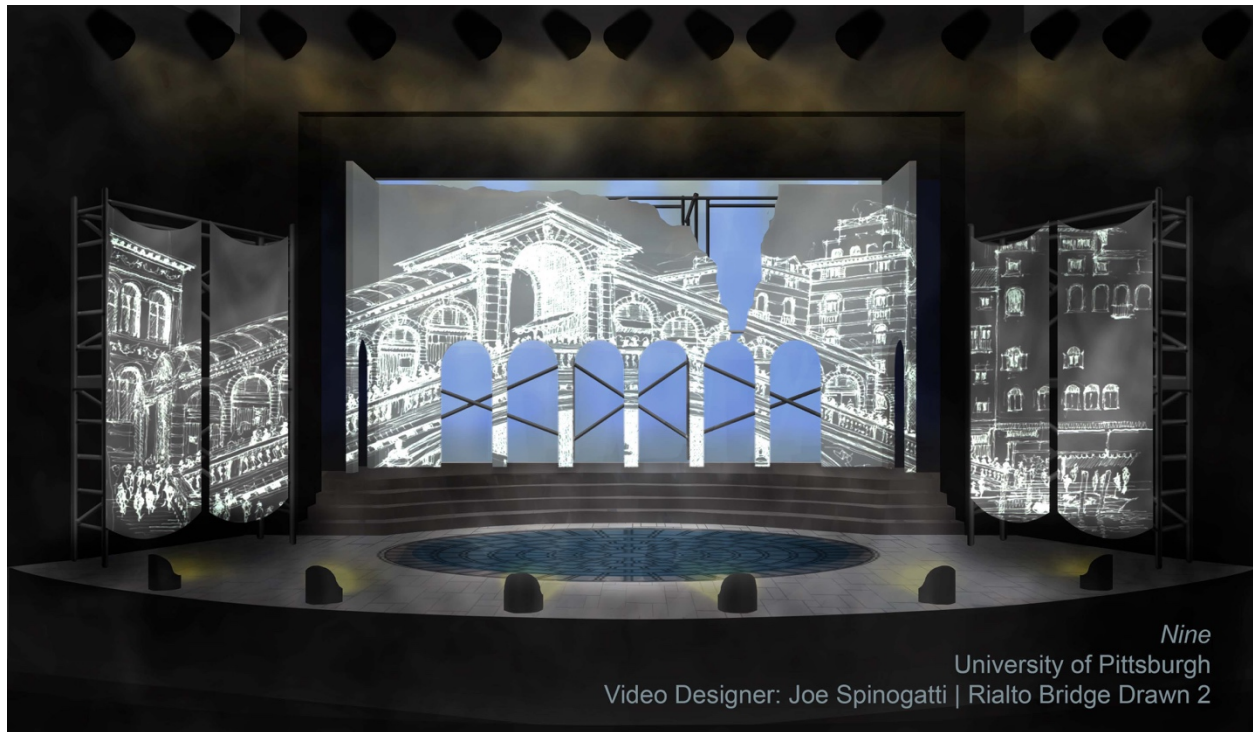


Figure 11. Prelim Sketch 3, *Nine*, 2016

For much of the second act of Yeston's *Nine*, Guido Contini tries to improvise his way through filming his own version of the Casanova story in *The Grand Canal*. This moment in the show is an extremely important moment for many reasons. First, it is a pivotal shift in the plot structure because instead of procrastinating and simply trying to get out of what he should do, Guido is finally trying to make a movie. Additionally, *The Grand Canal* is a poignant moment in Guido's relationships with all the women he interacts with throughout the show; for all of them, their relationships with Guido shift and change, with most of them ending up in a much worse place than where they started.

As the song begins, Contini declares that he has found a location to film his movie, video provided a sketched, almost storyboarded view, of the Rialto Bridge in Venice, Italy over the

Grand Canal. As the song continues, Guido becomes more and more absorbed with the Casanova story and the movie he's making and less concerned with his real life and the world around him. Surprisingly, however, the movie he makes is essentially about his own life and his own experiences.

Moving forward, things begin to go south for Guido and everyone involved and the movie making process becomes more and more hectic, hap-hazard, and insane. As this occurs, the image of the Rialto Bridge that was plastered across the arcade wall slowly began to morph and warp, calling extra attention to the collapse of Guido's view of reality. The distortion of the bridge removed any connection that he might still have had to the real world and at the end of the piece, what was a beautiful sketch of the bridge was left beyond recognition, much like Guido's life and relationships.



Figure 12. *Grand Canal*, Photographer Vincent Noe, *Nine*, 2016

### 3.7 SIMPLE AND BE ON YOUR OWN

Throughout the show, Contini perpetually distances himself from reality. This theme comes to the forefront with two songs close to the end of the show, *Simple* and *Be On Your Own*. In both songs, we see women who Guido loves and cares about leave him; In *Simple*, the audience sees the departure of Carla and Claudia Nardi and in *Be On Your Own*, they see the departure of Guido's wife, Luisa.

In my early research, exploring the world of Fellini's movies, I found many images of screen tests. As a director, Contini's world is filled with screen tests, and he will never be able to get past them; he will only ever know the woman that he first met in the screen test. Guido can only ever see these women through the lens of the camera and they will forever be stuck as the young, playful actresses that he met early in their career. Guido even talks about this problem in his own way in *Guido's Song*. He wants to be successful and be the great film director that he has become later in life, but he also longs to go back to many different earlier times. For Guido, these women will always be in that earlier time; he will never be able to see them grow and mature. While the idea of the screen tests was not originally part of my preliminary design sketches for *Simple* and *Be On Your Own*, I found that throughout the rehearsal process, they seemed to mesh much better there than in *Only With You*. I had originally placed them in *Only With You* because in that song, Guido interacts with all three women - Luisa, Carla, and Claudia. During *Simple*, Carla and Claudia's screen tests were featured and during *Be On Your Own*, Luisa's screen test was featured. This created an interesting juxtaposition on stage during both moments because it featured the woman that Guido has always thought he has known and seen, the woman that a character is today, and Guido's inability to see and react to the change.





Figure 13. *Be On Your Own*, Screen Capture from Rehearsal Video, *Nine*, 2016

### 3.8 GETTING TALL

The projections in *Nine*, working in tandem with lighting, could differentiate moments that were happening inside of Guido Contini's head. Towards the end of the show Guido has essentially lost everything - his life, his love, and almost his mind. He sings a song entitled *I Can't Make This Movie* in which he laments not being able to complete the movie and how he "can't bear to see the cameras roll" (*Nine*). This moment in the production was staged with fabric panels flown in behind him that he could pull down throughout the song. Because one of the strong threads throughout the projection design, as well as throughout the show was the process of making movies, I used the flashing of an empty projector to show that Guido has nothing left and nothing

to show for it - he has lost everything. This moment was cut during the technical rehearsal processes - but from a visual point of view worked well when we saw it a few times onstage.

At the end of *I Can't Make This Movie*, we are left with Guido pointing a gun at his head contemplating suicide. At this point, Young Guido comes on stage and sings *Getting Tall*, a song about growing up — “Finding there’s no way / we can spend a lifetime playing ball — / part of getting tall.” To separate this moment from the real world, to further emphasize that it is happening inside of Guido’s head, and to add just a bit more punch to the theatrical magic happening onstage I added small stars across the entire stage that slowly moved outward and twinkled. The addition of the stars helped move the audience through the story within Contini’s head and helped to create the magic in which he has a dialogue with his younger self.

### 3.9 NINE CONCLUSION

This production of *Nine* proved to be an important and formative show within my time as a student projection designer. First, having previously worked on *Avenue Q*, *Nine* was the first show that I worked on as a projection designer that had an open-ended video concept; that is, that the projections could explore many possibilities within the show and were not focused or directed by any time of projection called for in the script. Next, when looking at collaboration, *Nine* was also the first show that I had both an associate and an assistant designer. I learned how to delegate tasks and to play to the strengths of my team when creating and designing content. Finally, *Nine* was also the first show that I used more than one projector, which proved to be a large challenge when deciding projector placement and how each projector would be used.

*Nine* was also a show that pushed me to make sure that every decision that I made worked in support of the story; while I do not think that every decision that I made in terms of projection content was necessarily the right decision, I do know that having to make these decisions allowed me to become a more critical and discerning designer, making sure that a moment will support projections before trying to shoehorn something in that will not work in the long run. The empty flashing projector that appeared at the end of the show before being cut in the technical rehearsal process is a perfect example; while the content created a visual storytelling arc from the beginning of the show to the end of the show, it did not work well in conjunction with the story of the production at that specific moment. The lessons that I learned on *Nine*, specifically about how to begin to find moments that will support the inclusion of projections are lessons that I will take with me, drawing and building upon for the rest of my career.

Overall, one of the biggest challenges that I faced when working on *Nine* was the fact that it was a musical about a film maker. From the beginning, I knew that I did not want to let myself get caught in the trap of simply adding old movie footage on top of the action on stage. I needed to find the balance between film and theatre; drawing the audience into the filmic world, but still letting them experience the power of theatre without smothering it with film content. This discussion between theatre and film led me to another lesson that I have taken away from the process: a piece of recorded content should rarely be shown at full speed with actors on stage. There are certainly exceptions to this idea, but from my experience on *Nine*, I found that if projected video was playing at original speed, it took the attention away from the actors and made itself the focus of the scene; because of this, I found myself slowing down any film content (except for Preshow) so that it became an ethereal layer in the background rather than the focus



of the scene. *Nine* allowed me to personally design a show that enabled the visual exploration of an internal narrative as well as to weave projections into the fabric of the show tighter than before. I will take both ideas with me onto future productions.

#### **4.0     AGLAONIKE’S TIGER**

In October 2016, the University of Pittsburgh Stages produced the world premiere production of “Aglaonike’s Tiger” by Claudia Barnett. The production was directed by Shelby Brewster and the creative team included Co-Scenic Designer Jennifer Mikitka, Costume Designer Dorothy Sherman, Lighting Designer Elliot Konstant, Sound Designer Ryan Guild and Co-Projection Designer Jennifer Mikitka. I was the Co-Scenic Designer and the Co-Projection Designer for the production with Mikitka. “Aglaonike’s Tiger” tells a fictionalized version of the story of Aglaonike, the world’s first female astronomer. According to legend, she discovered the reasons behind the timings of lunar eclipses, but no one would believe her. Throughout the show, she works to prove to everyone that she can predict an eclipse.

Mikitka and I created a space that could function as a home base for the show. The first part of the base look was the giant tree on the back wall, created using black paper and chalk. The second element was the hanging moon, which could be used by both lighting and projections. This base was then molded and flexed to fit the needs of each specific moment within the show. When examining the role of projections with the original three questions of inquiry, the projections within “Aglaonike’s Tiger” worked in all three categories. They became important elements to explore the magical elements within the show and to propel the story from location to location. Additionally, the projection surfaces were used by many different departments throughout the production, requiring all the designers to collaborate and divide

moments between them. Finally, “Aglaonike’s Tiger” became a place to experiment to see how much projection could be added without the projection calling attention to itself, essentially using technology to create additions to art without subverting the story or the message.



Figure 14. “Aglaonike’s Tiger”, Photographer Jennifer Mikitka, *Aglaonike’s Tiger*, 2016

#### 4.1 THE TREE

In *Aglaonike’s Tiger*, one of the most important elements is the tree. Almost like Grandmother Willow from *Pocahontas* or Home Tree from *Avatar*, the tree becomes the center of Aglaonike’s universe; she discovers it early in the show as the perfect place for stargazing and it is where she

goes with Tiger to escape the world around her. Scenically, the tree dominated the set and was ever present. Additionally, the tree was not just a tree, it was the center of Aglaonike's universe and it had, whether real or applied, some type of magical powers. As such, we wanted to allow the tree to be a living, breathing thing. Mikitka created the drawing of the tree on her computer so I could bring it into After Effects and apply a subtle rippling effect to the drawing of the structure of the tree. We created this in many different colors to suit different parts of the show and applied the effect over the tree drawn in chalk whenever the characters were in the tree or whenever something especially magical was happening with Aglaonike or Tiger. The added ripple texture made the tree more magical but also, because it was projected on top of the reflective lines of white chalk, made the tree glow bright and become present. This also had the added benefit that when we removed projections from the chalk, it allowed the tree to fade into the background of the scene in front of it.

## 4.2 THE MOON

In addition to the tree, another large part of the Projection Design for *Aglaonike's Tiger* was the moon. The moon became the primary projection screen for most of the show. Physically, the moon was a circle that was about 5 inches deep that was filled with LED strips allowing it to light up. This circle was then covered by painted and stretched elastic fabric that was then covered again by starched muslin. This combination of the two coverings for the moon allowed it to be both a blank white circle for projections (the faintest hint of the moon was visible behind it) and when lighting turned on the lights from the inside, the muslin became almost nonexistent and the detail and light of the moon were easily visible. The collaboration between lighting and

projections to see who had control of the moon when was also an interesting experience - for all of us on the team, it became what would most effectively tell the story.

Throughout the script, time passing as well as magical moments were highlighted by seeing the moon cycle through phases. While this was not easily accomplished by lighting, it was, overall, a relatively simple task for projection. It was also an opportunity to bring in imagery of the real moon and to drive home the importance of the moon in a world where the rest of the scenic and imagistic elements are stylized and abstracted. This use of the moon to show time passing was one of the largest ways that the inclusion of projection design throughout “Aglaonike’s Tiger” helped to define and shape place.

While the physical moon was used as a moon throughout the show, when not lit up, it was also highly effective as a circular projection screen. The screen was also used throughout the show to help define place, most often with title cards. Early in the show, Aglaonike goes to visit the Oracle. Scenically, the temple in which the Oracle lives and works was only defined by a chair. Video added a faux-neon sign title card that drew itself on and lit up that said ‘Oracle’ to further define the place where the action took place. In addition to the temple, Aglaonike also visits the circus tent of the Witches of Thessaly. Because we did not have any specific scenic item to define this change in place aside from a rope on a pulley, we created a title card that drew itself in and said ‘The Witches of Thessaly.’ This title card helped to define place but also helped in creating the spectacle surrounding the Witches because they claimed that they could cause an eclipse at will — a claim which Aglaonike proved to be false over the course of the show.



Figure 15. Moon Projection Surface, Photographer Amanda Olmstead, “Aglaonike’s Tiger”, 2016

#### 4.3 AGLAONIKE’S TIGER CONCLUSION

Overall, the projections in “Aglaonike’s Tiger” originally set out to serve two very specific purposes. These purposes were to explore the magic within the play and to help to establish setting without the use of specific scenic elements. After working on the show, I believe the most effective utilization of projections was in exploring the magic, most specifically the ‘breathing’ overlay for the tree. While certain elements of the narrative called attention to the theatricality and moments within the show broke the fourth wall, the key to projections within

the show ended up being subtlety. The use of the chalk throughout the production created an organic, malleable experience and if we tried to force something upon it that did not seem natural or wanted, it did not fit. Many of the projections within the show fit this mold, but the one that I feel still stands out is the map that was projected onto the moon. While humorous, it was a little too on-the-nose in terms of location and there was most likely a more organic way to locate the action. Many of the other elements in the show drew themselves on or faded in in parts, but the map faded in as one large piece. Perhaps if the map had been animated to draw the outlines of the countries it would have worked better within the fabric of the rest of the show. Looking back, I found that the addition of projections to “Aglaonike’s Tiger” was a successful venture that added another layer to the story.

## 5.0 THE WHO'S TOMMY

Point Park University's Conservatory of Performing Arts produced *The Who's Tommy* at the Pittsburgh Playhouse in October 2016. The production was directed by Zeva Barzell. The creative team included Scenic Designer Britton Mauk, Costume Designer Cathleen Crocker-Perry, Lighting Designer Andrew David Ostrowski, Sound Designer Aaron Vockley, and myself as Projections Designer. Based on the original concept album and rock opera of the same name, *The Who's Tommy* has music and lyrics by Pete Townshend, libretto by Pete Townshend and Des McAnuff.

The show tells the story of Tommy Walker, “a deaf, dumb, blind, pinball-playing kid who overcomes long odds to triumph” (Pittsburgh Playhouse). Tommy witnesses the murder of his mother's lover and becomes obsessed with the mirror through which he saw the crime. That mirror is eventually smashed and Tommy rises to pinball-playing stardom. The story of *Tommy* takes place over three decades, from the early 1940s during World War II, through the 1950s, and into the late 1960s. The production of *Tommy* also hit on all three research questions. A large part of the role of the projection design in this production of *Tommy* was to ground most of the show in specific times, location, and years, as well as to propel certain sections of the plot. Additionally, much like “Aglaonike's Tiger,” the use of projection surfaces also had to be orchestrated between departments because many of the surfaces also lit up or moved throughout the show.



## 5.1 OVERTURE

From the very beginning of the show, *Tommy* moves non-linearly throughout time. For this specific production, we started the overture with a scrim in far downstage. Behind the scrim, lights fade up on a 1968 scene in London with Tommy at the center. Halfway through the overture, the date rolls back to London in 1940, during the middle of World War II, when Tommy's father is sent off to fight. Projections added this date roll back and location title card as a scrim projection that would 'float' in front of everything, further emphasizing the flashback.

During the second half of the overture, London undergoes the bombing that occurred during the Battle of Britain and British soldiers take off to parachute into Germany. The scrim projections continued throughout the overture and after the London Date title card, I created a montage from many different sources of archival footage that told the previously mentioned story. The shift to the film for this moment rather than trying to act something out onstage brought the focus forward to the projection and created a movie theatre for a minute within the theatre. The projection content allowed the artistic team to immediately place the audience in London during the bombings as well as placing them in the moments in the plane before parachuting down into Germany. What was most interesting about this moment is that it was a scrim projection. As such, before, during, and after the moment, the Lighting Designer, Andy Ostrowski could highlight certain places and actors, 'scrimming-through' and allowing them to be seen through the scrim. This created an important and symbiotic relationship between the theatre and 'the film.' While the actors who were portraying the soldiers ready to jump out of

their airplane were simply sitting on benches upstage left on top of the platform, the combination of seeing the actors along with actual wartime footage created a beautiful moment of anticipation and dread when thinking about what could happen next.

The ‘floating properties’ of scrim projection were stretched even further when the soldiers finally jumped out of the airplane and they became images of paratroopers floating down across a dark scrim. There were four jumps in total and after the last jump, the lights that were on the benches offstage left went dark. After the paratroopers were floating on the scrim for a moment, however, the production team did another scrim-through and we see two Nazi soldiers with machine guns shoot the paratroopers out of the sky, furthering the narrative and placing Tommy’s father, Captain Walker, as a prisoner of war in Germany.

## 5.2 DATE AND TITLE CARDS

*The Who’s Tommy* travels through time very quickly. Starting with the overture, I created the theme of using typed locations and dates to denote time and location. These title cards were created in Adobe After Effects. Throughout the rest of the show, as time went on and changed, more date ‘title’ cards would show up around the set to place the audience and the action on stage in a specific period. For example, during the second, third, and fourth songs in the show, we see the time move forward by five years, from 1940 to 1945, to setup the end of World War II during the fifth song, *We’ve Won*. Date cards also show up throughout the rest of the show as time progresses through the 1950s and into the 1960s.



Figure 16. London. 1940. Title Card, Photographer John Altdorfer, *The Who's Tommy*,  
2016

### 5.3 SPARKS

After seeing his mother's lover killed by his own father through a mirror, young Tommy Walker becomes totally insular — he is drawn into his own mind and, while still conscious, will not respond to anyone or anything around him. He simply stares straight forward, blank and expressionless. Throughout much of the first act, Tommy's parents, Captain and Mrs. Walker, take their son to many different places, hoping that someone or something will be able to cure him and bring him out of his almost trance-like state. This process begins with the fifth song in

the show, *Sparks*. During this song, Tommy and his parents first visit a church, then a doctor's office, and then a psychiatrist. Unfortunately, none of these methods seem to have any effect on Tommy.

From a staging perspective, each of these offices occur within the same song on stage, physically separated only by two to three feet. To help differentiate between the three different places and the two offices, I used the back 'band panels' (called such because they were the panels that hid the band for most of the show) to display images that were reminiscent of each place or office: the church was a stained-glass window, the doctor's office had an eye chart, and the psychiatrist's office had an image of a human skull and brain. These images came up one by one as Tommy and his parents visited each office, creating both time and location line as they went from place to place. Continuing through the rest of the show, the song *Sparks* is reprised twice with Tommy and his parents going back to the doctors each time. For each reprise, I kept the eye chart and swapped out two images that would have been in a 1950s-doctor's office on the stage right and stage left band panels, with different images for each reprise.



Figure 17. *Sparks*, Photographer John Altdorfer, *The Who's Tommy*, 2016

## 5.4 PINBALL WIZARD

Pinball plays a large role throughout all of *The Who's Tommy*. It is part of what brings Tommy Walker 'back to the real world.' As such, part of Scenic Designer Britton Mauk's design for the Playhouse's production of *Tommy* worked to convey the idea of being on the inside of a pinball machine, filled with circuit boards and lights.

At the end of Act One, the show knocks the house down with its first rendition of what is arguably the most famous song from the album, "Pinball Wizard," in which the lyrics talk about 'this deaf, dumb, and blind kid [who] sure plays a mean pinball.' (Pinball Wizard - The Who's Tommy). For the second half of the song, we see Tommy begin to play pinball as a celebrity for the first time, with everyone watching him. To further the illusion of being inside a pinball machine, I created a large pinball score counter that was projected across the band panels at the top of the set. This score counter continually increased throughout the song and disappeared at the end of the song, helping to place audiences in the world of the Pinball Wizard himself.





Figure 18. *Pinball Wizard*, Photographer John Altdorfer, *The Who's Tommy*, 2016

## 5.5 TOMMY CONCLUSION

Throughout the entire show, projections became a very integral part of *Tommy*. Their inclusion allowed me to experiment with using projections to solve the challenge of a show traveling back and forth throughout time. In addition to that, *Tommy* was another show that gave me the opportunity to use projections as a tool to help define place, on top of a unit set. Finding the correct design vocabulary to help locate the show without just having the projections for the sake of a title card and the image of a stained-glass window was a challenge. In addition to that,

allowing the definitions of place and time to be as fluid as the show was also something that I worked toward throughout the production process.

Next, *Tommy* presented another challenge within the scrim projection that occurred during the Overture. I had observed scrim projection done once before on the 2014 Broadway production of *Hedwig and the Angry Inch*. I, and the rest of the artistic team, liked the effect, so we wanted to bring it to the stage for *Tommy*. During the technical rehearsal process, projecting on the scrim proved challenging, both in terms of image definition and the bleed of light back onto the stage behind the scrim. From this, I learned that to attempt scrim projection, the tighter the weave of the scrim, the better. That way, more light will reflect off the surface of the scrim instead of going through the holes and continuing to light up whatever is behind it. Additionally, I also learned that it is important to have a backup plan for dealing with the light leak through the scrim. On *Tommy*, we had to install two additional tabs in order to have a choreographed reveal of certain parts of the stage for scrim-throughs, while leaving other parts backed in black to have better defined projection content. Even with its challenges and idiosyncrasies, I enjoyed projecting on the scrim for *Tommy* and hope to be able to bring the technique to other shows in the future.

Finally, *Tommy* gave me the opportunity to work professionally with a second company in the city of Pittsburgh, Point Park University's Conservatory of Performing Arts at the Pittsburgh Playhouse. As with any professional experience, I value the opportunities that I have to work outside of the educational setting at the University of Pittsburgh. When removed from the environment I am in every day, I have the opportunity to work with other artists that I do not normally have the chance to collaborate with. Additionally, I am exposed to other ways of working within theatre that may not be present at the University of Pittsburgh. Overall, I able to



see how other theatrical artists outside the University of Pittsburgh collaborate with projection designers and bring the lessons of those collaborations back to Pitt.

## 6.0 CONCLUSION

What began as simply an interest in projection design as an interesting offshoot to Lighting Design has become much more than that. Working within the medium of projection design has enabled me to learn about the importance of storytelling within a theatrical context, allowed me to examine the collaborative process inherent within theatre and how that process evolves with the addition of a projection designer, and has allowed me to explore the intersection between art and technology. The exploration of this intersection has provided both the impetus for my original interest in projection design as well as a driving force behind all my further investigation. This path has become a quest to find the balance between the integration of technology and the humanity and raw power of art without that technology subverting the power of the art.

The self-reflective process provided by the Bachelor of Philosophy thesis process provided a concise and succinct way of examining my work as a projection designer both inside and outside of the University of Pittsburgh. I could look at my work as a Designer from my first projection design credit, *Avenue Q*, to my most recent *1984*, and see how both my art and my process as a designer has evolved over time. With each successive project, I found that I could point to subtle shifts within both the process and the art. For example, two shifts that I noticed throughout were different ways of approaching the initial research to provide a more solid framework from which to design and a change in my technical approach in content creation and

delivery. I was also able to see my specific strengths and weaknesses as a designer and began to develop a plan for how to move forward in a post-undergraduate world. While looking back, I've found that as a projection designer, I have a strong core technical background and that I enjoy the challenge of working across different content mediums as well as complex technical challenges – the Video Synchronization Calculator that I built for *American Psycho* is a great example of a that type of challenge. Where I've found that I need to focus more of my attention is on the conversation between the projection content and the actors on stage and making sure that I'm making the best storytelling decisions. That said, I feel that making these types of decisions will be a life-long learning experience for me as a projection designer and that the types of decisions that I need to make will change from production to production.

Beginning chronologically with *American Psycho*, my time spent interning on the production was an amazing experience. On top of being able to experience the changes inherent in a production on the Broadway scale, the biggest thing that my time on *American Psycho* taught me was the true power of projections as a medium for storytelling. Projections brought what could best described as a living layer of paint to the stage; the fact that they could change and adapt is powerful. It allowed them to be in direct conversation with each moment of the play in which they appeared. It also provided the opportunity for them to open an almost direct dialogue between themselves and the characters onstage, responding to their actions and allowing for the examination of the inner monologue of characters. Within Ross' projection design for *American Psycho*, the projections not only became a way of examining the devolution of Patrick Bateman's psyche, but also as a storytelling tool, used to locate the play in time and space and to call attention to the consumeristic, shallow culture surrounding the 1980s. They

became a strong piece of connective tissue that linked the characters onstage to the world around them and allowed the show to respond and react as quickly as an actor could.

Additionally, it also allowed me to step back and examine the work of another projection designer during the technical rehearsal process, an activity which designers seldom can partake in because if they are in the room, they cannot step back and observe themselves. When looking at *American Psycho*, Ross was an extremely nimble designer. This made him a great collaborator, able to respond to the needs of the production and his fellow designers quickly, efficiently, and easily. I hope that I can take this quality and apply it to my own work.

Moving forward to the University of Pittsburgh Stages production of *Nine*, the lessons that I learned from *American Psycho* about projections as a tool for both storytelling and, more specifically, examining the internal narrative of a character played a large role. Following the world of Contini's head throughout the entire show provided a clear path and direction for the projections. From the screen tests during *Simple* and *Be On Your Own* to the destruction of Contini's world in *Grand Canal*, using projections within *Nine* as a way to examine character and internal narrative was both a challenge and a good exercise for me as a projection designer. It made me check that every single decision that I made was the best decision that I could make to best support the story within the production. *Nine* also enabled me to work to tightly integrate the projections within the larger fabric of the show, rather than something just placed on top. Personally, this is one of the biggest lessons that I took from *Nine* and used in future productions.

"Aglaonike's Tiger" was a continued lesson in weaving projections tightly, yet subtly, throughout a production. While projections played an integral part throughout the entire show, allowing the production to further the exploration of magic within it, Mikitka and I needed to find the balance between the projection magic and the exploration of magic onstage; had the

projections been too over the top, it would have taken the focus away from the simple world created onstage. Finding the balance between too little and too much projection, much like the balance between theatre and film that I tackled in *Nine*, was one of my biggest takeaways from the “Aglaonike’s Tiger” process.

Finally, when looking at *The Who’s Tommy*, the projections throughout the show took cues from and were informed by the lessons from the other productions that I have discussed. The projections in *Tommy* became a large storytelling force when locating the play in time and space – allowing the production to travel forwards and backwards in time. Additionally, *Tommy* was the first show that I programmed in Isadora, a program by Troikatronix, that is built on node-based programming and different than other programs that I had previously used. Finally, *Tommy* required intense collaboration, both when using the projections to drive the story and technically, to accomplish the scrim moments as well as when working with live video within the production.

Next, jumping from that collaboration, the collaborative role of the Projection Designer and how the Projection Designer fits into the greater collaborate whole was another important part of the seed for this thesis. I’ve found that the Projection Designer is uniquely situated to form connections across design disciplines and to work in close collaboration with almost every member of the team. This position, in some instances, allows them to become a type of ‘mediator’ or connector that falls in between the other disciplines. Additionally, the work of a Projection Designer can involve filming the actors to project footage of them; providing an example of one of the most involved collaborations within the discipline as almost every department has the potential to be involved when shooting video content.

Finally, projection design, along with lighting and sound, exist directly at the intersection between art and technology. While technology in the way we think of it today for Projections could be labeled as starting with the Magic Lantern, the inherent link between Projection Design and technology started from the very beginning of the art form. Without technology, Projection Design would not exist in the form that we know it today. This work has made me even more interested in how human beings use technology to create the human experience; using technology to create art.

The never-ending march of technology is only getting faster and faster. Even as I type this sentence, the technology and the capabilities provided because of it have grown. What will the design fields look like in ten years? Twenty? Will there be something like 3D projection on stage? Everything now is purely speculation, but at the rate that things are growing now, I am excited to see what the future holds, not only for Projection Design, but for all theatrical design disciplines, and for art.

If this research were to be extended, I would be interested in studying how the use of technology in a piece of theatre changes the experience for the audience. Do audiences notice the use of technology? Do they care? What constitutes a 'good' use of technology? Does technology best serve the art when it fades into the background, should it be front and center, or somewhere in the middle of the continuum?

Overall, this process allowed me to take a self-reflective look at my body of work as a designer and I am grateful for that opportunity. Throughout my time as a student and as an early career designer, I have learned that storytelling, and working in support of that goal, is the most important part of my work as a projection designer; this pillar will guide many of my future decisions. I also am interested to see the blurring of the lines between lighting, projections, and

scenery and how the three disciplines will change and play off one another in the future. Finally, the questions I raised in my introduction and throughout this research will continue to have changing answers and these questions will continue to define how I approach my work as a designer and as a theatrical artist.

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