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The Modern Sound Designer in a Theatrical Team

THESIS

submitted in partial satisfaction of the requirements
for the degree of

MASTER OF FINE ARTS

in Drama

by

Matthew Robert Glenn

Thesis Committee:
Associate Professor Vincent Olivieri, Chair
Professor Michael Hooker
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ABSTRACT OF THE THESIS

The Modern Sound Designer in a Theatrical Team

By

Matthew Robert Glenn

Master of Fine Arts in Drama

University of California, Irvine, 2014

Associate Professor Vincent Olivieri, Chair

Sound design is a comparatively young member of the theatrical design family. Computer technology for sound and music, much of which emerged over this past decade, continues to become cheaper and more widely available, making intricate sonic designs more accessible now than in the past for designers and theaters alike. While this is a big step for the art of sound design, the field is still adolescent in comparison to the scenic, costume, and lighting design fields. Sound design has become a regular part of the creation of modern theatre; that said, modern sound designers might collaborate with other theater professionals who trained without significant collaboration with or influence from sound designers and sound design. As such, collaborative practices between a sound designer and the rest of a theatrical team continue to develop. Through this thesis, I hope to provide a comprehensive snapshot of the role of sound design and sound designers in modern theatre, and to illuminate important strategies for successful collaboration between sound designers and a theatrical team.

Introduction

I have always been fascinated by interactivity amongst people who work in teams. I suspect that my socially tumultuous childhood sparked this interest. I always found difficulty engaging with peers, so I often resorted to observation. I speculate that every child traverses some social hurdles, but I took a methodical and introspective approach to exploring what “worked” and what didn’t “work” with my friends. I learned, for instance, that it is always better to be supportive than critical, better to listen before you speak. As I grew through secondary school and college, collaborative work in theater and the arts became a larger part of my life. It relieved me to discover that, even in a professional setting, these childhood lessons continued to apply.

I am a professional sound designer and a sound design student. The professional setting I speak of is the theater. For the sake of this analysis, I ought to clarify my job and my definition of ‘sound design’: I call myself a sound designer because the ‘product’ that I create is designed for the human ear. This product may consist of recorded sound effects, sonic atmospheres, musical composition and the creation of music and musical sounds, production and ‘mixing’ of sonic and musical elements, and the design of the delivery system — usually speakers or headphones — from which the target audience hears the design. I purposefully describe these creations as the ‘product’ of my work, and

not my work itself: my true 'duty' lies in the translation of ideas into the sonic realm. These ideas may come from a script, from a leader or directorial figure, from other designers, from performers, or from writers; they may come from my own musings. My craft centers upon this translation. If the description of my 'product' above introduced unfamiliar terms or ideas, worry not: I will explain. It is, by my own standard, my duty.

My experience and my conversations with others has taught me that the creation of theater 'takes a village.' The execution of a modern theatrical production requires such a commitment of time and plethora of skills as could never realistically fall upon a single individual. A team of theatrical "creators" can divide the necessary duties, both mental and physical, and an ideal team of creators features a group of specialists, each of who translates the ideas and needs of the theatrical project into the project's many moving parts. In this model, a sound designer is the "sonic specialist" of the group.

The goal of this thesis is to explore a sampling of the infinite expanse of approaches to collaborating with others to design sound for theater, and to examine the historical and technological reasons why the craft of sound design for theater is what it is today.

A History of Sound Technology in Theater

Before exploring the role of sound designers in the creation of theater, it is important to examine the development of theatre's relationship with sound. The expansive history of the theatrical arts over the past few millennia dwarfs the recent era of theater during which sound design has existed as a commonly acknowledged theatrical design element. This is mostly due to the close tie between sound design and the development of electronic audio technology: modern sound designs are often considered to be synonymous with the strategic use of sound amplification and loudspeakers to create the sonic experience for the audience. Theatrical artists of the past, however, employed sonic and musical devices that pre-dated electricity by thousands of years.

As early as the fifth century BC, the construction of theaters in Ancient Greece suggested that the Greeks were aware of sound when engineering their performance spaces. Greek theaters often sat 14,000-17,000 people in a semicircular seating formation, radiating from a central stage (see Fig. A). Once Greek plays began to incorporate dialog, a solid wall was added behind the actors. This wall reflected any sound radiating backwards from the actors' voices back into the audience, increasing their audibility. Early accounts of theatrical sound effects exist as early as the theaters of Ancient Greece and Rome. Julius

Pollux, a 2nd-century Greek scholar, mentions the use of a 'Bronteion', or thunder maker, consisting of sacks of hide filled with stones that strike plates of brass to produce a loud, thunder-like effect (see Fig. B). A similar effect was adapted from earlier designs by the Roman Heron, an inventor and engineer, who created a kind of 'shoot' filled with baffles through which brass balls fall and contact a large stretched hide which, acting like a drum, creates a large, thunderous sound. Many other devices — hung sheets of metal, cannons firing portions of gunpowder, and even early types of pipe organs — appeared throughout theatrical history in service of the creation of thunder and other effects. (Collison 4-8)



Figure A: The Ancient Greek Theater of Epidaurus, active in the 4th century BC, had a seating capacity of 15,000 spectators.

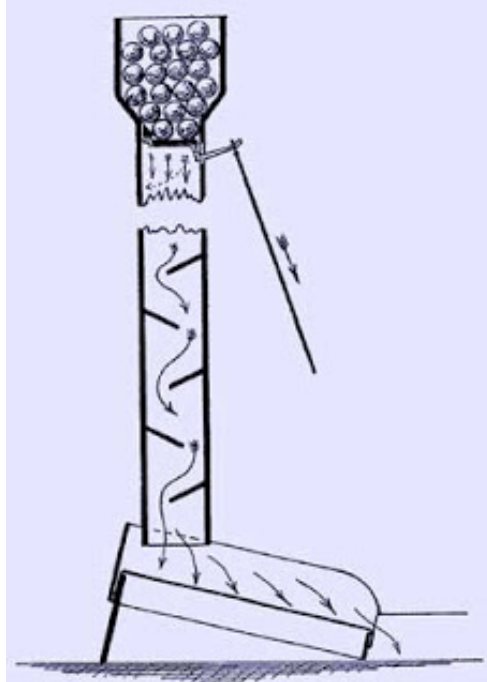


Figure B: A conceptual sketch of the likely construction of Heron's *Bronteion* thunder-making machine.

As theater evolved throughout the medieval times and into the renaissance, so too did the use of sound and music. Musical instruments such as stringed lutes, drums, horns, and flutes were used for songs in plays, as transitional gestures to allow the actors to change costume, and for key moments in the plays such as a fanfare for a king's entrance. Sounds effects were used to create a sense of setting or atmosphere, to enlarge a scene for dramatic effect (e.g., drums during a toast), and as direct devices to support an event written into the script. Prominent Shakespearean-era theaters in England featured hidden or curtained-off portions of the performance space dedicated to the "noise-makers." Occasionally, these artists, along with the actors, were

tasked with the duty of vocally creating sound effects such as calls of birds and other creatures. (Collison 16-17)

The invention of electronic equipment was an indisputable catalyst in the development of modern sound design. Electronic playback systems revolutionized the world of audio and human hearing. Suddenly, it became possible for humans to capture a representation of an acoustic event and fix it in an electronic format that could be played back, identically, time after time. This fundamental ability sparked the development of modern sound design as it exists today.

The first device that could effectively, if coarsely, record and play back sound was Thomas Edison's phonograph, patented in 1877. The device featured a stylus, which, when vibrated by sound waves, etched an indentation on a rotating cylinder wrapped in tin foil. The cylinder could then be rotated again with the stylus placed in the 'groove', and the recording would play back. Edison and other inventors released numerous improved models of the phonograph, which formed the basis of wax cylinder playback of the early 20th century and vinyl record technology still widely in use today. (Collison 77-80)

In 1928, Dr. Fritz Pfleumer created the first iteration of magnetic recording tape, a strip of paper with magnetic powder applied to one side that recorded sound in the form of magnetic fluctuations in the powder. This tape

became the recording and playback medium of choice for recording studios and film productions. (Collison 87) Tape was the first widely used medium of sound designers for theater, as tape machines provided sound designers with reliable playback and high quality sound. Sound playback operators would mark reels of tape with the sound cues present and, when an effect was called for, would wind the reel to the proper cue and hit play. While quite mechanically reliable, the cost of tape systems, combined with the time needed to make adjustments to cues, limited the complexity of designs that sound designers could achieve in the magnetic tape medium.

In 1979, Sony and Phillips demonstrated a technology they called the Compact Disc, or 'CD.' (Collison 103) These discs store sonic information encoded into digital binary 0s and 1s. To play the sound back, the disc spins like a vinyl record while a laser scans the surface and converts the stored binary data back into sound. Like magnetic tape, sound operators would need to cue up CDs and fire them manually at the appropriate time; however, the CD is digital and contains tracks which operator can cue up instantaneously, and in any order. This offers a distinct speed advantage over tape, which requires the operator to wind a reel to a marked-off spot to cue up an effect. Also, unlike magnetic tape that deteriorates in sound quality over time and through significant use, CD audio retains its original quality as long as the physical disc is undamaged. This

is possible because the audio information is encoded digitally. Digital encoding also allows the data on the CD to be duplicated in faster-than-real time, another distinct advantage over magnetic tape. Because of these conveniences, the CD—as well as the MiniDisc, another very similar technology—became the favorite method of sound playback for theatrical sound designs.

Sound Playback Now

Personal computers have been a part of sound and music creation for multiple decades. Throughout the 1970s and early 1980s, companies like Electronic Music Studios (EMS), New England Digital (NED), and the Roland Corporation released multiple digital sequencing systems for synthesizers. In 1983, music industry representatives created the Musical Instrument Digital Interface, or MIDI, standard — a hardware system developed to allow synthesizers from different manufacturers to communicate with each other. The Atari ST computer, released in 1985 to compete with Apple's Macintosh, was notable because it was also the first, and only, computer to feature a MIDI connection built in to the motherboard. This opened the door to the use of a computer as a practical music-making device. ("Atari ST")

The first major player in the world of computerized sound playback came from a company called *Level Control Systems*, founded in 1992 by engineer Steve Ellison and sound designer Jonathan Deans. The company's flagship product, the Matrix3 audio control system, is a hardware-based digital system that allows for the playback, routing, and processing of audio. Designers access the system via a networked connection to a personal computer, but the actual processing takes place within the system's dedicated, rack-mounted 'brain.' This configuration allows for extensive and complex designs that run without the need for a personal computer; however, because of the proprietary hardware required, the price point of a Matrix3 system proved well out of reach for anyone but large or well-funded theaters and productions. In 2005, the loudspeaker company Meyer Sound purchased Level Control Systems and incorporated the Matrix3 technology into their own product line. In 2009, Meyer introduced the next generation of LCS technology in their modular *D-Mitri* system.

In 1997, a company called Stage Research introduced *SFX* to the world of theatrical sound. *SFX* is a piece of software that operates from within a personal computer — specifically a Windows PC. Like the Matrix3 system, *SFX* allows sound designers to play back and route audio, though it does not offer processing. With *SFX*'s routing tools, designers can send the sounds out to a

large number of audio channels — usually into a collection of loudspeakers — and to control the level at which the sound is sent to each channel. Because this routing is done primarily in the confines of the computer, the sound designer is able to expand the scale of his/her designs without relying as heavily upon the skills of a sound operator. The graphical user interface also simplified the duties of the operator. Designers can compile their sound cues into a visual list and play them back in order.

In 2005, a company called Figure 53 released *QLab*. With *QLab*, Figure 53 brought computer-based audio playback to the Apple Macintosh platform and offered an alternative, though similar, graphical user interface to Stage Research's *SFX*. While the two pieces of software possess a similar set of basic features, *QLab* simplifies the interface allowing for a speedier learning curve and faster workflow processes. Since version 1, Figure 53 has updated *QLab* twice—once in 2009, introducing a slew of new features and a new graphical user interface (GUI), and once in 2013, expanding the depth of features in version 2.

Los Angeles sound designer Drew Dalzell has a unique perspective as a skilled user of all three systems — he even served as a national trainer of *SFX* for Stage Research. "I rarely find myself using *LCS* because very few [producing entities] can afford it," Dalzell notes. "*QLab* is superior to *SFX* for the simple stuff like [most theater shows]. Beyond that, *SFX* offers more flexibility, especially

when I am working on a large installation like [Universal Studios'] Halloween Horror Nights. I still use both, but they serve different purposes." (Dalzell 2014)

Although the full-featured versions of QLab and SFX are similarly priced, QLab has become the accepted industry standard audio playback software for theaters and many other performance venues. This is due in part to its simplicity and free option, but also because of its compatibility with Apple computers. Audio editors and computer musicians historically favored the Macintosh platform for its ease of use, hardware design, and resilience against malware, making QLab a natural choice for this user base.

Technology and Sound Designer Capability

The limitations of early playback devices and speaker systems prevented designers from executing complex designs without significant investment of human labor, time, and money—advantages enjoyed only by the high-end, well-stocked, and well-funded of theatre organizations. As playback technology evolved, however, so too did the creative capabilities of the sound designer. The use of magnetic tape, for instance, involved significant preparation time in a sound studio on the part of the designer; once the sound cues were properly mixed to the reels of tape, the tape machines required skilled operators to

execute the sound cues at the right time and volume level. Even early digital technology (compact disc and mini-disc players) presented designers with limitations. CDs allowed for easier cueing than tape, as operators did not need to “wind” through a reel of tape to prepare a sound cue, but CD preparation still involved significant amounts of time in the studio pre-balancing the sound cues for the theater. A skilled operator is also required when using CDs, as she is responsible for cueing the tracks on time and at the correct level.

The release of software like SFX and QLab introduced a more precise, consistent, efficient, and flexible sound design process to theatrical designers. The software allows sound designers to place their cues in an exact order, greatly decreasing the potential that an operator will play back the wrong sound. While designs using tape and digital decks required operators to set the volume of each sound effect to a pre-established level, playback software allows designers to set the precise or relative levels of each sound cue to an exact numeric value.

In addition to minimizing errors, this feature gives designers the opportunity to separate cues into individual components, or “stems”, and control each component separately. Dalzell illustrates the advantage of this approach using a hypothetical thunderstorm cue. A thunderstorm could be said to have three primary sonic components: rain, thunder, and wind. If a single CD

player were the chosen playback device, Dalzell would need to mix these components together in a studio before entering the theater, hoping that his balance worked in the theater's loudspeakers. If the director dislikes the balance, Dalzell would be forced to return to the studio and re-create the CD. Alternatively, he could create three discs and rely on the sound operator to set the correct balance between the three sources; this, however, requires both a skilled operator and the presence of three CD players and a mixing console to accommodate them. In either case, should the director request a different rain and or wind, Dalzell would need to return to his studio, create a new track, burn or press a new CD (or three), and audition the result in the theater again—a process which could consume precious time in a quick theatrical tech process.

With software like QLab or SFX, however, Dalzell can compile the separate components of the thunderstorm and trigger them simultaneously, as a group. If the director requests less wind and more rain, Dalzell can make a quick volume adjustment to that particular component in the software; if the director requests a different thunder sound effect, Dalzell can swap a sound file in a matter of seconds. (Dalzell 2014)

Sound's Dramaturgical Role in Theatre

Regardless of the technology employed, sound design has the ability to contribute to a theatrical work in numerous ways. In its simplest form, the sound design appears to emanate from the world of the play, blending in with the scene without drawing the audience's attention. For instance, a conversation between two characters in a country meadow may be underscored with the chirping of insects or birds; a doorbell from offstage signifies that a character has arrived at a house; if a character drives a car, the audience will likely hear the sound of a car motor.

Despite the seeming simplicity of these situations, these sonic gestures may contribute significant dramaturgical information about the play. For instance, the presence, or lack thereof, of insects in the aforementioned scene in a field may suggest the season in which the scene takes place. In the case of the doorbell, the sound of the bell could suggest the era in which the house was built — a particularly handy tactic if the scenic designer has employed minimalistic scenery. The same doorbell could suggest the size of the house by sounding apparently close to or far from the stage; multiple fast rings of the bell could suggest an anxious doorbell-ringer. The doorbell tones may even resemble a musical melody that hints at the character or intentions of the

homeowner. The sound designer may even incorporate the melody in later sound cues as a subliminal motif.

The above examples focus primarily on diegetic sounds, or sounds which occur within the world of the play (in other words, sounds which the characters can hear). Sound designers also regularly employ non-diegetic sounds and music. Non-diegetic sound design techniques allow a sound designer to 'comment' upon the emotional, sub textual, or temporal elements of a moment or scene as a narrator. A clear example of this is the use of musical underscore. Music has been a known element of theatre for centuries, especially as the driving force behind operatic performances. According to theatre director Dr. Robert Cohen, music can be used to "evoke a mood, support an emotion, [or] intensify an action." (Cohen, *Theater*, 391).

Music and sound can also act as transitional devices, simultaneously delivering context and mood while diverting the audience's aural focus away from a change of scenery, lighting, costumes or actor position. One example of this occurs in Sarah Ruhl's *Eurydice*. In the scene before Eurydice's arrival in Hades, she leaves her own wedding and ends up at the top of a tall building in conversation with an 'Interesting Man.' As she tries to return to the wedding, he causes her to fall down the endless flight of stairs to her death. While there is little change of scene, Ruhl writes instructions for the sound designer to create a

montage of “strange sounds” to support lighting in the change of perceived location, as well as to allow the actress playing Eurydice to change into a “kind of 1930s suit.” (Ruhl 359).

Sound also possesses the unique power to change the audience’s perception of time. Imagine, for instance, a scene in which two pairs of characters engage in separate conversations: each pair exchanges a few lines of dialog, after which the other pair does the same, et cetera. If the scene takes place with no sound added, an audience might naturally suspect that the two conversations are happening simultaneously and in real time—switching off to allow the audience to comprehend each, and perhaps to create some kind of dramatic juxtaposition. Imagine, now, the same scene with the addition of a piano underscore that comes from the theater’s main speaker system. Suddenly the split timeline of the two conversations is re-contextualized against the continuous timeline of the piano piece, suggesting to the audience that the scene might be a montage rather than a real-time portrayal of two conversations. If a montage is not the desired effect, the designer could alternate the music between two pieces each time the perspective switches from one conversation to another. In this way, the sound design alters the audience’s perception of the scene as a whole.

Sound Design Process

In the same way that there are infinite approaches to the creation of theatre, so are there infinite workflows for the design of theatrical sound. It is not my goal to create a comprehensive “census” of sound design processes, but rather to highlight certain principles that emerged from my interviews with active designers, directors, and other theatrical professionals.

The people I interviewed are all active professionals. Some are or have been educators. Most studied theatre at some level past high school. I chose, primarily, to interview artists with whom I have had some form of contact — while it was tempting to interview new faces, my familiarity with the work of each artist proved beneficial in our discussions. Within these confines, however, I sought out a group of interviewees with as diverse a set of ideas and practices as possible.

As their accounts represent the majority of my conclusions, here is a brief background on each of my interviewees:

James Mellon is co-owner and resident director of the NoHo Arts Center, as well as the founder and lead pastor of the Global Truth Network. Prior to becoming a director and minister, Mellon had a successful career as an actor, playing such roles as ‘Riff’ in the revival of *West Side Story* and ‘Jesus’ in the national tour of *Jesus Christ Superstar*.

Cricket Myers has worked as a sound designer on over 300 productions in the past 10 years, in dozen of theaters across Los Angeles and across the country. Her design for *Bengal Tiger at the Baghdad Zoo* traveled with the show to the Richard Rogers Theater on Broadway. Her design for the show earned Myers a Tony nomination.

Drew Dalzell is an award winning sound designer, show control programmer, and theatrical consultant based in the Los Angeles area. His experience encompasses theme parks, cruise ships, theatre, television, film, industrials, and installations.

Jill BC Du Boff is a sound designer for theatre, radio, television, film and special events. She has worked in audio since 1994, designing on and off-Broadway in the process. She also worked for National Public Radio and on various popular television shows, and independent films. She currently teaches sound design at Sarah Lawrence College. She calls New York City home.

Jane Page is a professional director whose work is well known across the United States and abroad. In the US, Jane has been particularly active with Shakespeare, staging highly acclaimed productions at the Colorado, Utah, Kentucky and St. Louis Shakespeare Festivals. In addition to her professional work, Jane has taught and staged productions at numerous universities. She currently heads the directing program at UC Irvine.

Lap Chi Chu is a lighting designer based in both Los Angeles and New York City. His designs have been seen on and off Broadway, as well as regionally and internationally. He currently teaches lighting design at the California Institute for the Arts.

Brian Svoboda is a second-year MFA candidate in theatrical sound design at UC Irvine. Before joining the UCI team, Brian worked as sound supervisor at the Gallo Center for the Arts in Modesto, CA for five years.

A Note about Music in Sound Design

From a theoretical standpoint, there is little to distinguish between 'sound design' and 'composition.' What may begin as a sound recording of a non-instrumental object may be treated musically; correspondingly a musical instrument — or a recording thereof — may be manipulated to take on atonal character more often associated with 'sound effects.' And then there are synthesizers ... it is difficult to place them fully in either category. I prefer, instead, to refer to the inherent *musicality* within the craft of sound design. One could easily describe a sound or sonic design using the vocabulary of classical music: dynamics (e.g., *piano*, *fortissimo*), *crescendos* and *decrescendos*, *leitmotifs*, and assonance vs. dissonance — all of these terms describe sonic gestures and characteristics that transcend the context of classical music analysis.

Theatrical sound designers and composers may be tasked with very similar responsibilities, yet have separate titles (and contracts). Some sound designers, myself included, consider themselves competent in both sound design and composition; others are adamant about their lack of ability in one of the two areas. Drew Dalzell and Cricket Myers both fall under the latter category: both make it clear to inquiring directors that composition is not in their

vocabulary. Dalzell explains, "If a show demands significant contribution from music, it would do the show a disservice to hire me." Unfortunately, theaters rarely wish to commit the funds to hire both a sound designer and a composer for a single show, potentially putting significant pressure on a single individual who is not well versed in both crafts. "I am very up front, from the beginning, that I am not a composer," says Dalzell. "I have serious beef with composers who [falsely] think they can also sound design. The two tasks are very different, and it is not easy to make the switch." (Dalzell 2014)

While many active sound designers do not claim to be composers, knowledge of and appreciation for a wide variety of music is often key to the creation of successful designs. Jill Du Boff, who has only childhood piano, clarinet and saxophone lessons as under her belt, boasts significant skill in the selection and re-contextualization of commercially recorded music (henceforth known as 'pulled music') to be one of her strong suits. "I focus on matching the energy of the music to the scene, rather than on the familiarity of the music." (Du Boff, 2014)

Renowned Broadway sound designer Tony Meola (*Wicked*, *Man of La Mancha*) cites his extensive musical training — years of playing clarinet — as a key influence of his style as sound designer. For instance, his fluency with musical performance helps him to communicate with musical directors:

“[On my first musical,] the composer liked the fact that I had a musical background and could talk bars and tempos instead of just amplifiers and speakers. I started to get work.” (Viagas 226)

Diligent use of dynamics (the range of loudness to softness in a sound design) is also immensely important to Meola, and he speaks about the sound design with the vocabulary of musical dynamics (pianissimo being extremely quiet, fortissimo being extremely loud, etc.):

“I am a classically trained musician. I love to go to the symphony. I am reminded what pianissimo is at the symphony. I almost never hear pianissimo in the theater anymore. [...] When your quietest is mezzo forte, fortissimo isn't loud enough and you are charged with making it louder to make it more exciting. If we could just get back to pianissimo then fortissimo would be loud enough.” (Viagas 230)

When working on *Wicked*, however, Meola collaborated closely with the composer, director, musical director, and orchestrator to ensure an effective use of dynamics in the show. “[...] *Wicked* has pianissimos but they're getting rarer on Broadway. I know other shows where they just don't care about it.” Classical music training not only gives Meola an edge in terms of communicating with the music team, it also sets his designs apart.

As a composer-designer myself, I tend at any given point in the process to embrace and appreciate the musical qualities of sound design as well as the

sonic properties of music. In a sense, I treat all elements of the overall design as elements in a 'musical score' of sorts. This provides me with a couple of advantages. As a composer, I am not limited to using commercial recordings for musical material. Furthermore, the control I have over the sound quality of my musical material allows me to customize the auditory experience of the music to match the needs of the show for which it is designed. For instance, in *Orlando* by Sarah Ruhl, for which I composed and designed, the title character travels through time from the sixteenth century to the twentieth, with significant scenes at each century in-between. The music I composed needed to reflect the characteristics of each era, but also to embody the playful, impressionistic and explorative nature of the show. My ability to control the tone, tempo, and instrumentation of each piece allowed me to not only create a custom piece of music for each necessary moment, but also to adapt the music cues throughout based upon the responses of the actors and director in rehearsals. In theory, I could accomplish the same musical goals by searching for ideal commercial music recordings; given my preferential workflow, however, this would take a longer time and sacrifice a significant level of finesse — a finesse that ultimately helped the music for *Orlando* integrate with the other elements of the show.

Sound Designer Preparations

When a theatrical team begins a new project, the first steps — like first impressions — very often shape the remainder of the collaborative process. A team that is able to address creative decisions early on often saves time and avoids problems later in the process.

Step one for designers is generally to read the script of the show, assuming that such a document exists. While a designer will have his or her needs in mind, this first read offers an opportunity to take in the show as a whole. “The first thing I do is just read the script for the story,” says Myers. “Just relax and enjoy the storytelling.” Dalzell has a similar approach. “I try to appreciate the play as the audience will,” he says. “It’s the only opportunity I get to do so.”

Once the designer has had a chance to absorb the story, he or she generally reads the script once or twice more to delve deeper. These following reads allow the designer to explore the details of the story’s structure, pace, style, setting, and history. Myers generally does a second read, but avoids making detailed conclusions while reading:

“The next read is for big ideas and concepts. Then I sit on it for a while. I will have conversations [...] about the concept and ideas that the

director is looking to explore, but it's the thoughts that drift into my mind when I am not consciously thinking about the show that tend to stick with me. They are the ideas that my subconscious responded to. It's not uncommon for me to dream about a script and wake up with a much clearer sense of what the show should be." (Myers 2014)

This approach is particularly effective when working on a project for which the director's approach may evolve through the process — scenic designer Robin Wagner says, "As a designer, it's very important to [avoid marrying] your first idea." (Viagas 193) Myers has worked on many new works for which this has been the best approach: "I am used to concepts changing and adjusting as rehearsals develop, so I don't spend a lot of time getting too specific, or actively building cues." (Myers 2014)

Conversations with the Director

The next major step for most designers is to begin conceptual talks with the director. Whenever possible, the other members of the design team are also present, as is the playwright if the play is a work in progress. This is the first opportunity for the designer to absorb the Director's approach to the show. Cohen writes, "Even with the rise of the designer in the theatre universe and the rise of collaboration in the theatre's working process, the director is still

expected to provide substantial leadership.” Lighting designer Jaymi Smith echoes this sentiment, saying that she “need[s] someone to steer the ship.” (Cohen, *Working Together* 104) If the designer has not worked with the director before, this is also the first opportunity for the two to form a working relationship and rapport that will be key for the rest of the process.

As a director, James Mellon values greatly what a sound designer brings to initial discussions — so much so that he waits until after the first meeting before hiring the designer onto the project:

“I will not hire a sound designer unless I can tell that they are engaged and excited about the script. [...] To me, a director, a choreographer, a lighting designer, a sound designer, a costume designer... They have to be creative enough to bring what they do to the table. I don’t want a sound designer to come in and do what I ask them to do... I want them to show me things I hadn’t thought of.” (Mellon 2014)

Mellon goes on to describe an ideal early collaboration on a premier production a new play entitled *The Red Room*. The sound designer for the production brought to the early meetings a spectrum of ideas related to his personal vision of the play. In one circumstance, one of his and Mellon’s ideas clashed with the vision of the playwright — it was not until the playwright saw the cue in practice during rehearsals that the playwright agreed upon the cue’s effectiveness.

Jane Page also appreciates early discussions with designers, but adamantly refuses to make conclusive decisions about the show until the rehearsal process begins. “Especially with new collaborators, it’s a game of ‘how quickly can we create a shared vocabulary,’” Page says. “It’s good to start discussions and [exchange] ideas, but things almost always change during rehearsals.” (Page 2014)

Du Boff values the chance to absorb the director’s vocabulary at an early stage. To enable this process, she often creates a folder of music and sound examples that she feels fits the play either in concept or as actual cues. Using a file sharing service called *Dropbox*, Du Boff is able to share the compilation with the director and begin conversations. (Du Boff 2014) Myers, too, uses these first conversations to learn the director’s language. “I pick up on the words the director uses to describe the play and the characters,” she says. “I begin to use these words to [develop a vocabulary with the director].” (Myers 2014)

Dalzell approaches his first conversations with a greater emphasis on conceptual discussion about the play as a whole. He creates what he calls an “audio collage” — a collection of music/sound clips that relate to his interpretation of the script. He hopes that the audio can provide a springboard to kick off a dialog with the director: “It’s my chance to scratch the surface with the director, and eventually reach a deeper understanding about the show. If I

can be that guy for the director — the one that understands the show beyond just the sound design elements — he/she will want to work with me again.” This method creates a solid framework for future discussions between the sound designer and director. (Dalzell 2014)

Regardless of the specifics, it is clear that healthy communication with the director is key for each designer — especially in the case of a first-time collaboration. Early conversations establish an initial framework of understanding that has the potential to influence future decisions made by the director and other team members.

Communication Between Designers

In most theatrical productions, each design element bears some degree of effect on the others. The color of paint on the set and/or floor can influence tremendously the color choices made by both the costume and lighting designers; the nature of a transition between scenes may require sound and lights to match the cadence of each other’s gestures; in a show with microphones, the sound and costume designers must understand which actors will wear microphones in order to conceal the equipment and assure the actors’

comfort. It is therefore extremely beneficial that this team of designers begin communication as early as possible in the show's development stage.

As has been a motif so far, the realities of producing professional theatre often prevent such early communication. Directors and designers will often accept design positions with a show months ahead of time while they are still busy with earlier projects, making it difficult for the entire "team" to connect early in the process. In some cases, the scenic and costume designers may sign on five months ahead of time while the lighting and sound designers join the team a few days before technical rehearsals in the theater. These challenges significantly shape the design process for the show.

Du Boff rarely converses extensively with the design team at an early stage because she relies primarily on communication with the director. "I rarely make conclusive design choices early on, anyway," she points out. "Early design choices tend to change later on anyway." Early exchanges tend to be practical in nature: "I'll talk with the scenic and lighting designers about equipment placement, transitions, and other decisions." As rehearsals begin and in the time leading up to tech, she sometimes checks in with the lighting designer "to discuss timing and/or tone for specific moments to make sure [the two of them] are in sync." (Du Boff)

Myers, on the other hand, likes to be involved with the conceptual development of the show as early as possible in the process. While she, too, uses early communications to address practical, technical issues, she also uses the time to develop a language between her and the other designers. "I often keep a note on my iPad and jot down key phrases that the director uses a lot," says Myers. "I use those phrases when discussing the show with the rest of the team." (Myers 2014) Dalzell, too, appreciates early communications, although he notes that such opportunities are extremely few and far-between. "I rely on the director to steer everyone in the right direction, especially when the design team is spread apart [geographically]." If technical questions arise, he calls a separate "break out" meeting with the specific designer in question.

It is clear that the ideal approach depends upon the designer involved as much upon the production in question. Conversing early with the other designers gives the sound designer the opportunity to influence the early development of the design as a whole. This can be extremely beneficial on a show with significant sonic involvement, as the other designers may benefit from knowing the scope of the sound designer's needs. This approach involves a certain amount of additional time and focus, often months before the production, which some designers may not have available. For these designers with limited schedules, though, the lack of early communication is not

necessarily a handicap. As Page says, “they simply work quickly.” (Page 2014)

Dalzell notes that designers who cannot participate in early discussions must shift their design methods. “You may no longer be able to change what was discussed in earlier meetings, so you focus on the design,” he says. “Sometimes you aren’t even hired until ten days before the show opens — at that point, you are more of an editor than a collaborator. You simply have to adapt to the situation.” (Dalzell 2014)

In a similar vane as the conversations with the director, healthy communication between designers is key. While some sound designers rely upon the director to actively guide their preparations, others — myself included — take a more active approach in sharing ideas with and seeking information from the team. I find that building a vocabulary with fellow designers, as with the director, is key to forming a unified understanding of the project. Ideally, each designer contributes equally to this exchange of ideas: I hope to understand the scenic, lighting, costume, and staging elements as much as the sonic. In the latter portions of the rehearsal process, this understanding is key to forming a conceptual framework for the show off of which design decisions are made.

Sound Design in Staging Rehearsals

For most theatrical productions, the story and script 'come to life' for the first time during staging rehearsals. Rehearsals are an intricate collaboration between the director and the actors to discover meanings, character objectives, and other specifics of the play. It is advantageous for the designers, therefore, to be present in as many rehearsals as possible in order to observe, react to, and possibly participate in the discovery process. Sound designers can even, with the help of software like QLab and SFX, build an entire show session in the rehearsal room using a condensed speaker system to play back the reference sounds.

Because she makes most of her decisions about a project in rehearsals, Page relishes any opportunity to have the designers present with her. "It's very rare to have the whole team in the room before tech," she acknowledges. "At [UC Irvine], the sound designer and composer have more opportunities to be present in rehearsals... and it's a gift. For one thing, it speeds up the notes process between me and the design teams—if they bear witness to changes themselves, they can react themselves without my prompting." (Page 2014)

Unfortunately, the limitations of time and theater budgets often prevent professional designers from devoting large portions of time in rehearsals. "It's a

rare week that I am not in tech for something," says Myers. (Myers 2014)

"Getting to rehearsals for something else can be pretty hard." Even so, the fact remains that the cast, director, and stage management team benefit from rehearsing with the sound designs. As such, sound designers who cannot be physically present often deliver cues, or demo versions of cues, to the stage management teams for use in rehearsals. "It's always best to give the actors the real sound cue," says Du Boff. "If the stage manager grabs a sound cue, or 'voices' the sound, then the actors will get used to the temporary sound's cadence." Du Boff uses the Dropbox file-sharing service for this purpose as well, sharing updated versions of cues directly with the stage manager. It is worth noting that this approach, however swift or convenient, can only work if all parties involved are comfortable and familiar with Dropbox: "I once worked with a stage manager who did not understand Dropbox," recalls Du Boff. "It was the reason that the director's notes came to me later than they should have." (Du Boff 2014)

Providing updated sound cues for rehearsals helps to maintain the connection between the sound designer and the production, but there is no replacement for the sound designer's physical presence in the rehearsal room. I draw this conclusion primarily from my personal design experience designing UC Irvine's 2012 production of Sarah Ruhl's *Orlando*. During rehearsals with

faculty director Annie Loui, my presence became crucial when creating the timing of the show's intricate choreography. In *Orlando*, as with all of Loui's shows, actors move about the stage in a fluid, dance-like manner. When combined with the fast pace and montage-like timeline of the play, this movement-heavy theatrical style required significant coordination and collaboration between the performers and the sound. I prepared much of the music, whether composed by me or pulled from commercial albums, in the month before rehearsals began. Loui and I met numerous times to listen to the music and to talk through the scenes — in some cases, this meant that she and I would speak the lines out loud to each other in order to time them to the music. Most of these initial creations changed throughout rehearsals, but the benefits of our early discussions were clear: because Loui could hear the music during her planning stages, she was able to create her movements *around* the sound and music cues. This greatly enhanced the integration of the sound designs, and for *Orlando* this approach proved far superior to the introduction of sound and music late in the rehearsal process. It is important to acknowledge that the process on *Orlando* relied heavily upon my total devotion to that project alone, an advantage of time not enjoyed by most professional designers on their projects.

Sound Design in Technical Rehearsals

As a production enters the technical rehearsal phase, the team of designers comes together to incorporate their work into the action on stage, using the actual space in which the production will take place. Technical rehearsals (henceforth referred to as 'tech') provide the first glimpse of the full show with all elements included, although some theaters — the UC Irvine drama department included — do not incorporate costumes until a few days into the tech process. Preceding the first technical rehearsal, the cast often performs the entire show for the designers in the rehearsal room, in what is aptly named a 'designer run through.' In many professional productions, especially in regional theatre, the designer run through may be the first chance the designers have to see the show, and the last opportunity to do so before technical rehearsals begin.

A sound designer's primary concerns leading up to tech involve preparing all cues, placing them in order, and sculpting the fades in or out of, or transitions between, the cues. She may set basic, relative levels of the cues based on her instincts, knowing that she will have the opportunity to tweak the levels throughout the tech process. If she was fortunate enough to spend time in rehearsal she may have a head start on these preparations, but sound

designers often build their cue sessions quickly before tech begins. “Most of the time I do the bulk of my cue building between the designer run and the first day of tech,” says Myers. “I like to come into tech with cues in QLab and do most of my ‘mixing’ live in the space.” (Myers 2014)

Most productions offer the sound designer a portion of ‘quiet time’ in the theater directly before tech begins, and potentially during breaks on tech days. During quiet time, the sound designer has the space to herself without noise or distraction from other team members. Some designers, like Du Boff, prefer to build their show from scratch in the space during this time. “On some more complex shows, I come in a few hours early and bring in a pre-programmed QLab session,” she says, “but usually I reserve an hour of quiet time to build my show from the ground up.”

Quiet time also provides the designer with an opportunity to optimize the speaker system for the show. This step is particularly important for musicals and other shows that feature live microphones, but benefits all shows in all spaces. This ‘tuning’ process involves presetting the overall level, timing, and tone of the speaker system to best fit the amplified sonic content of the show. Tuning the system is optional, especially in a theater with a well-maintained rep system, but without tuning the designer is at the mercy of the preferences of the previous user of the system. Regardless of approach, tuning, programming and setting

volume levels in quiet time ideally allows the sound designer the confidence of knowing what her design will sound like, and that it is ready for integration with the other elements in front of the director and team.

Throughout tech, the sound designer's primary duties include listening to her show and communicating with the director, cast, and other designers to make changes. With a well-planned design, or a stroke of luck, she may spend tech making only minor adjustments to the levels or timing of her cues. The director may, at times, shift her attention away from some elements in order to focus on others. As such, the designers benefit from being aware of the director's location and activity at any given time. This may include keeping an ear out for, and possibly participating in, the director's conversations with others.

The sound designer should be prepared, however, to make changes of varying degrees to her design. Tech is usually the first full integration of the various technical elements, and thus the director may decide that her original plans need alteration. All designers must be ready for such changes, but especially the sound and lighting designers. Scenic and costume elements for the show are usually constructed over multiple weeks prior to tech, making last-minute changes difficult and highly impractical for the scenic and costume

designers. As such, the director may turn to lighting and sound when her plans or concepts shift during tech. In such situations, the sound designer may be asked to add to, change, or cut her cues, and it's wise for her to come prepared for such changes. Technologically, this often means that the designer comes to tech with a laptop and hard drives loaded with editing software, sound libraries, and virtual musical instruments. In a time-sensitive situation, she can build new cues in the theater using these tools, though these changes are often best made outside of rehearsal time. Though extreme changes can never be completely preventable, earlier conversations and preparation between the designer and the director can help the designer avoid drastic and unexpected conceptual shifts.

All professional and serious academic theaters provide each designer with a 'tech table' on which to put her computer, script, notes, snacks, etc. Well-planned placement of these tables can encourage conversation with the director, stage manager, and other designers. In a production of *Five Mile Lake* at South Coast Repertory, lighting designer Lap Chi Chu and sound designer Vincent Olivieri placed their respective tables so that the two were close enough to converse quietly without leaving their seats. Both designers also sat close to the stage manager's table, allowing them to discuss changes and plans with the

stage manager easily. While seemingly minor, these subtle details strongly influence the tech process.

After tech rehearsals complete, the production transitions into dress rehearsals and previews. These rehearsals involve complete runs of the show from beginning to end, ideally without stopping unless for a worthy problem. For the previews, and sometimes for the final dress rehearsals, the theater will often invite an audience to watch the show with the offer of a discounted ticket rate or free admission.

These rehearsals offer the entire team a chance to test their work on an uninformed audience. At this point in the process, the team has spent many daily hours over the course of one or two, or sometimes more, weeks in the theater together coordinating the assembly of the show. It is easy to lose a grounded perspective on the potential effect of the show on a live audience. Previews and final dress rehearsals provide an exceptional opportunity for the team to reaffirm their work and possibly re-address certain moments or choices — all before the full-price audience, and the critics, arrive on opening night.

For sound designers, the presence of an audience is especially informative. As with the other design fields, previews provide the designer a chance to gauge the audience's reaction to her design choices. Additionally, the presence of the audience in the seats changes the acoustical qualities of the

theater, often drastically enough to warrant changes in the sound designer's levels. A clothed human body is soft and is therefore far more acoustically absorbent than a theater chair. When an audience is full, the sound levels might appear to be quieter than if the seats are empty. In reality, many theaters, especially those pressed for time, budget, or human resources, do not offer previews of their productions. For such productions, sound designers must estimate the impact that an audience will have on her designs.

The technical, dress, and preview rehearsals are the sound designer's primary time to complete her work. In an era of computer-based sound designs using software like QLab and SFX, a sound designer possesses many tools and tricks to execute ideas quickly and on-the-fly in tech, but collaboration skills are still a must. Efficient communication, flexibility, and speed define the success of the tech process.

The University Comparison

During my interviews with the aforementioned professional designers and directors, the discussions constantly reminded me of my unique perspective as a graduate student in theatrical design — a perspective that is adolescent and pedagogical when compared to that of my interviewees. While my primary goal for this thesis is to profile the practices of theatre professionals, I feel compelled also to juxtapose my discoveries about professional work with my experiences in a University setting. For instance, professional designers and directors often bemoan physical distance between the designers and/or the director— and the subsequent reliance on electronic communication — as a leading cause of creative limitation. The ultimate result is often poor communication that leads to inferior results. At the University of California, Irvine (henceforth referred to as UCI), the MFA drama program creates an ideal collaborative environment in which students explore techniques to avoid such creative distance. Founding professor Robert Cohen’s view sum up the University’s purpose well:

“[...] it is essential that the director and the design team are *working together from the beginning*. [...] The designers must also collaborate — and collaborate *effectively* — with each other as well, so that the resulting production will have a shared and integrated style.” (Cohen *Working Together*, 99)

With these values in mind, UCI's structures its production process to promote a collaborative environment built on open communication and trust.

Design and budgetary meetings may occur as many as eight months before the production opens. Attendance at these meetings is mandatory for all designers as well as directors (though exceptions occur, such as with a guest director who travels in from another state or country). At these meetings, directors, designers and others in attendance have a chance to respond to the director's ideas and discuss approaches as a team. I have come to discover that this is a rare gift when compared to a typical professional production, though the advantage does not necessarily 'spoil' MFA students. There are still many opportunities to practice clear delivery of ideas through email, and the meetings put additional pressure on students to do extensive early research and planning.

Through class work and production experience, UCI emphasizes heavily an open-communication policy between designers, directors and other team members. Conversations between individuals about topics that affect the entire team are frowned upon, especially if such conversations result in creative decisions. Recent examples include instances in which the scenic designer and director converse early, independent of the rest of the team, and make creative decisions without the rest of the team's input. Dalzell tells similar stories of

professional experiences in which he was hired on to a project very late in the process:

“I could not change [decisions] that had already happened. I had to acknowledge the reality of the situation: I was getting hired late so I wasn’t there to collaborate. I was there to execute.” (Dalzell 2014)

This is precisely the situation that UCI’s structure hopes to avoid. The open communication allows for a unified team of artists armed with a common vocabulary to address inevitable creative challenges.

Compared to practices as recent as the two decades ago, giving sound designers a seat at the proverbial ‘creative table’ is revolutionary. At UCI, a designer of any kind is guaranteed equal power to steer the production as the other members of the team (excepting the director) — a guarantee not always found in the professional circuit. For sound designers, the opportunity to have such a voice of contribution breaks down a historical paradigm in which sound often entered the creative process last. Jane Page remembers her first contact with sound design:

“When I first started, sound design was rarely more than pre-show music, transition music, and music for the bows. Sometimes there would be sound effects, as called for in the script. When I started graduate school

in the 1970s, I incorporated underscore music during the scenes [that I directed]. This surprised and confused my professors.” (Page 2014)

UCI provides a fertile landscape for sound designers as craftspeople as well as collaborators. MFA sound students have access to multiple sound studios and a large collection of loudspeakers, computers and other sound equipment when creating their designs. This plethora of technology, combined with the increased preparation time, allows UCI sound designers the opportunity to customize their design content and sound systems to each show they design. Many professional theatre companies install repertory (or rep) sound systems in their theaters. A repertory system is a generic sound system designed to meet the needs of the majority of designers hired to work in the theater. These designers may request small additions or changes to this rep system, but often face resistance to requests for significant rearrangement. An environment like UCI reduces such limitations: UCI sound designers may install a custom system for each show in the majority of the University’s theater spaces.

UCI sound designers benefit also from proximity to each other. On designer’s recording session, loudspeaker tuning, or show programming time may become an open event during which other sound students may assist, or at least observe. While the department encourages open discussion in the context of meetings, the sound design students continue this interaction outside the

theater. “It is a hugely advantageous to be around you guys,” says Brian Svoboda, a second-year MFA student in UCI’s sound design program, about me and the other MFA sound designers. “You are just as much teachers as colleagues, and in some situations I find that I learn as much, or more, from you as I do from my professors.” (Svoboda 2014)

University theatre production exists not without its fallbacks, of course. While its drama department faces the standard concerns of theatre — time, budget, and resource allocation, for instance — UC Irvine is still primarily an institution of learning that is responsible for the educational experience of its student designers.

In some cases, the needs of a production may trump the educational experience of the student. Sound design classes at UCI extensively explore sound design techniques and choices. One particular class, entitled *Advanced Sound Design*, presents students with a play and challenges them to act as director, dramaturge, producer, and sound designer. The result of the project focused strongly on the use of sound design as the primary storytelling mechanism — an unrealistic expectation for a full production, albeit appropriate focus for the classroom context. When the drama department assigns these sound design students to productions, however, there is no attached guarantee

that the production will provide any particular degree of storytelling opportunity for the sound design component. In some cases, the show may not inherently call for extensive use of sound. For some productions, the director may not wish to use, or might not feel comfortable using, an extensive sound design. While the production may appear cohesive and complete to the audience, the sound designer of the production may feel that she received an incomplete educational experience.

This is further complicated by the fact that one design student rarely works with the same director twice. As such, the designer and director usually have no previous experience collaborating with one another and must invent a system from scratch. Svoboda's experiences highlight a potential disadvantage in this structure:

"I sometimes find that the [UCI] directors typecast the students as students, which affects their trust in our work. When I worked as a sound supervisor at [a major touring house in central California] and a client came in who did not know me, they still implicitly trusted me to do my job well. The environment was always "innocent until proven guilty", whereas it has sometimes been 'guilty until proven innocent' at UCI." (Svoboda 2014)

While this example does not apply to all directors, it does highlight another potential cause of tension between a student designer and a faculty director: at UC Irvine, the directors do not pick the designers with whom they work, and it is rare for a designer to work with the same director twice. As Svoboda mentions, first-time collaborations like this are commonplace in professional theater, but it is the student status of designers at UCI, combined with the pressure on the director to produce a fully production, that potentially complicates the creative process. For a sound design program that emphasizes heavy involvement during the pre-production and rehearsal stages of each project, this presents a challenge — although such a challenge is arguably beneficial to the collaborative muscles of all parties involved.

Conclusions

My goal in my research is primarily to discover and profile the typical modern sound designer, and the processes he/she must undertake to put on a show. I am hardly an unbiased investigator: as a professional designer and an MFA student in sound design at UCI, I have my own experiences and opinions. Most important to me, though, is the profound respect I gained for the endless variety of approaches that exist within the theatrical world.

When Tony Meola designed sound for *Wicked* (which premiered in 2003), he worked alongside a team who embodied the quintessential collaborative model:

“Wicked was in many ways an ideal situation. All members of the design team consulted one another and put together the show in a way that served everyone — which meant that it served the audience. [...] If I told [the scenic designer] that I needed to put a speaker somewhere, [he’d offer up a list of solutions]. Most of the time the [sound] designer is asked last, but on Wicked it was all part of the same job.” (Viagas 231)

Wicked went on to achieve immense success, giving significant credit to the creative team’s collaborative model; of course, this is not the only way that theatre is made.

It is easy for me to view the open collaborative model taught at UCI as an ideal or superior approach. The model has proven effective for me during my

personal design experiences. That is enough reason for me to continue working as such. The knowledge that I share this approach with designers like Meola who operate at the highest level of theatrical production is ultimately incidental. A designer's work is, in its unadulterated form, inherently personal. I, therefore, do not intend this thesis to be a persuasive lobby for one working style or another.

I believe that the era of computer-based sound design has created an especially fertile ground for designers to redefine the craft and role of sound design. This is a natural process for human creativity — social commentator and comedian Bill Hicks said once, "We are the facilitators of our own creative evolution." I wrote this analysis to as a part of my greater goal: to explore the creative evolution of the art of theatrical sound design. I believe that observing the advice, habits, mistakes, and successes of others is the ultimate catalyst to this evolution, and I hope to promote an environment of open discussion for sound designers and all theatrical 'folk' of the future.

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