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The Use of Foley in Live Theatre as Demonstrated Through Theatre UCF's Production of Shipwrecked! An Entertainment - The Amazing Adventures of Louis de Rougemont (As Told by Himself)

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THE USE OF FOLEY IN LIVE THEATRE
AS DEMONSTRATED THROUGH
THEATRE UCF'S PRODUCTION OF
*SHIPWRECKED! AN ENTERTAINMENT- THE
AMAZING ADVENTURES OF LOUIS DE
ROUGEMONT (AS TOLD BY HIMSELF)*

by:

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A thesis submitted in partial fulfillment of the requirements
For the Honors in the Major Program in Theatre Design and Technology
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the University of Central Florida
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ABSTRACT

Foley, a term named after Universal Studios sound pioneer Jack Foley, is an all-encompassing word for the creation of sound effects with materials that can emulate the sound of real world occurrences. While it is used heavily in the film and television world, Foley does not see much direct use in live theatrical performances. The widespread availability and use of prerecorded sound effects has altered the field of theatrical sound design. With thousands of audio files at a designer's disposal, the need to create custom sounds is reduced. However, certain scripts do call for the use of live Foley. While most of these plays are staged radio dramas, Donald Margulies's *Shipwrecked! An Entertainment...* is a brilliant theatrical work that focuses on the art of storytelling. His request for a Foley Artist is a request to stay true to the essence of the play. This thesis will detail the production process for a theatrical Foley designer by outlining the research, design, and execution phases and detailing the experimental nature of adding Foley to a live theatre performance.

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INTRODUCTION

To successfully design and construct the items for Foley techniques for a theatrical production, one must understand the historical use of the objects and instruments used to create sounds and how these uses influenced modern techniques. Foley is used largely in the film and television industries, but scarcely seen in modern theatre performances. When integrating live Foley into theatre, it is critical to remember that the sounds created can vary each performance and can never be edited as they are for film. Also, the items creating the sounds must believably be found in the time period that the story is set in.

CHAPTER 1: SCRIPT ANALYSIS

Understanding the sub-context in a dramatic script allows you to better represent a playwright's themes through visual and auditory elements. This textual analysis is the first step in the execution of a theatrical design. University courses place focus on the texts David Ball's *Backwards and Forwards*, Rosemary Ingham's *From Page to Stage*, and Aristotle's *Poetics*. These provide useful tools for dissecting a script, but utilizing James Thomas's book, *Script Analysis for Actors, Directors, and Designers*, was more effective for Theatre UCF's production of *Shipwrecked!...*

Action Analysis

Thomas explains a method called formalist analysis, which is described as "the search for playable dramatic values that reveal a central unifying pattern which forms or shares a play from the insides and coordinates all of its parts." (7) A form of formalist analysis, called action analysis, can be very useful to designers as it primarily focuses on individual events in a plot. Events, as defined by Thomas, are occurrences in a story that would or should not happen. (34) This creates a change in the characters and their surroundings. Breaking down a script into these events allows a designer to see precisely where emotional shifts and conflicts occur, so they mirror the shifts in their work. Since *Shipwrecked!...* details thirty years of a man's life, separating the story into a series of large events is a very effective way to look at the text.

Shipwrecked! An Entertainment- The Amazing Adventures of Louis de Rougemont (As Told By Himself) is a modern script from 2009 that takes place in the Victorian world.

Rather than having different acts and scenes, the text is divided into chapters that Louis leads his audiences through. Louis opens the show by stating that he rented the theatre facility for the sole purpose of telling people his story. He details how he was a sheltered child during the Victorian Age in England who wound up leaving home and joining a pearling expedition. While on this journey, he learns the ways of sailors but is unfortunately caught in a storm and whirlpool that leaves him and the ship's dog, Bruno, marooned on an island off the coast of Australia. After two years, he eventually meets an Aborigine tribe and falls in love with the chief's daughter, Yamba. The two marry and have children. Upon Bruno's death, Louis makes the difficult decision to leave his family and find a way back to London. Once home, Louis writes his story and submits it to the Wide World Magazine for mass publication. After an initial explosion of fame, the world's leading scientists question the validity of his claims. Louis, seemingly tired from his old age and fall from grace, concludes his story by riding a sea turtle; disproving the scientist who claimed he could do no such thing and raising the question of how much validity there really was to his story.

The Pulitzer Prize-winning playwright, Donald Margulies, crafts a world of questioning around the character of Louis. (americantheatrewing.org) It is never proven if something is fact or fiction. Was he really that sheltered? Was he actually stranded for two years? The only proven truth within the text is that Louis is a master storyteller. Louis describes things in vivid detail and sells every word to his audience. Once the questioning of his story's validity begins, we begin to see a more vulnerable Louis. He takes a firm stance against the naysayers, but eventually begins to succumb to his old age as he recalls

his fall from popularity. Viewers are only left with more questioning, as Louis concludes his production in a dramatic fashion by riding and steering a sea turtle, as he supposedly did while stranded.

The events mentioned above were divided into ten chapters that required the creation of different environmental background sounds, commonly referred to as sound fields. Escaping his sheltered life called for a shift from rural farm environment to immersive city life. Boarding Captain Jensen's ship, *The Wonderworld*, required a mix of both ship sounds and sea sounds; the storm required intensified wind and water noises; and the islands off the coast of Australia needed a tribal feel. Despite all these required sound shifts, the elements of storytelling must retain their intimacy. The use of Foley not only supports this but the nature and time period in which Louis lived. In addition, Foley sounds represent the power behind this theatrical work and make it far more interesting than a simple story being read aloud. Louis's team of actors utilize the Foley items along with an assortment of props to assist in making this magical performance come to life.

CHAPTER 2: HISTORIC USE OF SOUNDS IN THEATRE

The terms Sound Design and Foley were not coined until the Twentieth Century. The periods prior saw no distinction between the two, as all sound effects and music were created live during a performance. Tracing sound's use throughout history in dramatic performance can reveal the basis of modern day techniques and how they can be used to reinforce the time period in which a production is taking place.

Sound Design is one of the newer elements in stage design and has evolved from being an extra part of a production that covers up scene changes. (Kaye x) Recording and playback technology has allowed sound to become more prevalent in live performances, and theatres have been able to acquire said technology to enhance their productions. However, the eras that predate the use of the term "sound design" still saw sound as a critical element of their performances. Live music and the utilization of musical instruments to create sound effects often accompanied live stage performances. Prehistoric ritual and dance included percussive sounds in addition to the use of early wind instruments; choral singing could be found in Greek productions; the renaissance introduced scene change music; and sound effects began appearing in scripts in the Elizabethan period. By examining how the use of sound has evolved throughout time, better decisions can be made when integrating Foley techniques into a modern theatrical production.

It is believed that the use of sound and music as additional elements to performances date back to the Neolithic period. During this time music was used both for

spiritual and entertainment reasons. The human voice was said to be the first real instrument, but soon after, the djave babe flute, a wind instrument carved from a bear femur, was created. (Turk) In addition to this, rocks and animal skin were believed to have created early percussion instruments.

Sound in Ancient Greek Theatre

The Ancient Greeks placed heavy importance on how their theatrical performances sounded. Not only did they focus on adding musical elements to their plays, they focused on the acoustics of their performances spaces. Allowing the entire audience to enjoy pristine sound also allowed playwrights in Greece to incorporate musical elements into their writings. Musical instruments, like the lyre and kithara, often accompanied singing from the Greek Chorus and aided in providing rhythm for their festival dances and storytelling. (Harrison 493) This early use of underscoring led to playwrights consciously analyzing how their dialogue sounded musically. In some cases Aristophanes, Sophocles, and Euripides all included dialogue meant to be sung, called monodies, in their plays.

The amphitheaters constructed in Greece allowed for any spoken word to be heard throughout the spaces, which held an estimated 14,000 people. This effect was achieved through creating acoustic traps with the limestone seating. The traps would effectively remove all audible frequencies below 500hz and force the human brain to fill in the missing frequencies to artificially create a full range of sound, similar to how the brain treats a compressed digital MP3 file. By removing the frequencies not present in the human voice,

the spoken words onstage became crystal clear, while the lower frequencies of crowd chatter became neutralized. (livescience.com)

Sound in the Renaissance

The Italian and English Renaissance was a golden age for theatre. The political support, artistic advancements, and rise of great playwrights combined with the rise of drama in education allowed theatre to flourish. While most theatrical scholars associate the Renaissance with technical enhancements and development in theatrical scenery, sound too had some significant milestones. Live music continued its inclusion in dramatic performance in Commedia del'arte performances, and sound effects soon found their way into theatrical scripts. The Commedia acts introduced scene change music and some early Foley effects to performance. (Peacock 60)

The slapstick, a device that makes a loud slapping noise by hitting two pieces of wood together, was introduced to emphasize the characters hitting each other. This was an element of shows that featured crude physical humor and puppetry, and it led to the coining of the term "slapstick humor", which is still in our lexicon today.

Shakespeare's plays in the Globe Theatre helped originate many of the Foley techniques that modern theatre and film still use today. Frequent battle scenes and changes in weather demanded the use of special effects to make these events feel more realistic and startling. Battlefield sounds were often made through the use of live fireworks and cannons. Thunder was created either by rolling a cannonball on a wooden floor or shaking a metal sheet, just as we use now.

For various other sounds and music, musicians were placed in a special balcony section. The trumpet players in these sections were utilized to play live sounds required in such shows as *Romeo and Juliet* and *Hamlet*, in addition to creating eerie sounds that accompanied ghostly whaling in Act I Scene 5 of *Hamlet*. (Globe Theatre History)

Sound in the 1800's- Early 1900's

As dramatic works demanded more realism, the use of sound expanded even more rapidly. Playwrights during this time wanted to hear more real world occurrences in addition to effects that reinforced moments of their plays. Russian Realist theatre in the late 1800's began to introduce a heavier use of these sounds called for within scripts. Perhaps the most notable is the string breaking effect in Chekhov's play *The Cherry Orchard*. This symbolic effect that represents death is followed by the realistic sound of the tree being chopped down. This combination of symbolism and realism is frequently replicated in modern sound design.

Thornton Wilder's *Our Town*, first produced in 1938, also is notable as it called for sound effects that needed to be produced by stagehands. Wind and rain machines in addition to the metal thunder sheets and the slapstick were all necessary to this production. Another device, called the wood crash, also was introduced to simulate the sound of things falling. This was created by tying together long blocks of wood together in a fashion similar to how window blinds are tied. By pulling a string, the wood blocks would fall on top of each other to create the sound of falling objects.

Foley Use in Live Theatre Today

Modern productions do not make as much use of Foley sounds as historical ones have. The live noises created for *Our Town* are rarely included now, as you can now purchase a CD of these effects to use specifically for that production. This decline can be attributed to its expense and difficulty to integrate into a show. In addition, the increasing amount of technology-savvy audiences members has created a need for more technologically advanced special effects that closely emulate the sounds heard in big-budget films. Prerecorded sound effects can easily be tailored to a director's and designer's liking by using digital audio software and additional components, known as plug-ins, to add effects like echoes, reverberation, and pitch shifts. These effects can then be played back out of inexpensive computer software. This software can easily route sounds to speakers located precisely from where the sounds are meant to emanate. Using these recordings eliminate the need to repair and replenish Foley items and the need for either a qualified Foley operator or the time to train an operator. Fortunately, certain scripts still call for the use of live effects and live effects can also achieve more realistic sounds.

The use of Foley in modern live theatre is typically something asked for directly by a playwright. Radio plays typically are the first types of production when thinking of a live performance with Foley items. These performances are executed as staged readings in a radio station, just as they were in the 1940's. *It's A Wonderful Life: A Live Radio Play* originally from 1946 and *A Christmas Carol: The Radio Show* originally from 1939 are two common works produced during the holidays that always include Foley effects. One effect

frequently seen is a cookie tray with metal Ball Bearings, or BBs, on it. By moving the BBs around the tray, a rain sound can be made.

Part of the joy in watching these shows comes from seeing the Foley Artist at work. Normally stationed at a table facing the audience, the Foley Artist has access to a myriad of specially-designed and modified objects positioned in front of microphones for some slight amplification. Anything on the table could be used to create a sound effect. For example, a metal toolbox could create the sound of a car door and a washboard and brush could emulate a train. Microphones can be used to amplify the sounds these objects generate and provide better control of the aural environment.

Foley Sounds vs. Recorded Sound Effects

Aside from the small group of radio plays, Foley techniques can be employed to achieve varying levels of realism. What that level actually is can be determined through design meetings and the discussion of a director's vision on a script-by-script basis. There often are questions asked about what sounds should be recorded to be played out of a hidden speaker and what sounds should be created live by an actor, stagehand, or Foley artist. The director, sound designer, and scenic designer are key members of the creative team who work to answer such questions.

The sound designer and scenic designer must collaborate on specific elements to ensure the desired effects are achievable. A common example of this is the decision to use a real door or door sound effects. A speaker can be placed behind a set and used to playback a door opening or door closing sound effect, but ultimately these sounds are never as

realistic as having an actual door on the set or a Foley door backstage used to make that sound. There are benefits to using a recorded effect though. The use of audio effects such as echoes and reverberation can make a door sound become more theatrical and much larger than life. By layering in other effects like rumbling and metal rattling to the door sound, it also can convey the feeling that an unseen door is large and the interaction with it affects the surrounding environment. The scenic designer and director would need to assist in deciding on the style and size of the door whether it is seen or unseen. Including them in this discussion will ensure that the final effect sounds like it belongs in the environment.

This process also can apply to the use of door locks and various crashing sounds. If the sound of a door lock is important enough that it needs to be heard throughout the theatre, it can be more effective to have a microphone hidden to amplify a real lock than to playback a prerecorded sound. Once again, though, certain directors may desire heightened realism in these situations. Ira Levin's 1973 play, *Veronica's Room*, includes a moment where a door lock sound is so significant that the shift from a humor-filled atmosphere to complete fear would not be successful if the lock was not distinctly heard..

The sound of plates and glass breaking also will sound more realistic if done live. A crash box is a Foley item created by placing broken plates and various other items into a cardboard box or metal can that is dropped to create shattering effects. (ruiyasonic.com) Many scripts include a scene that could require a crash box. The 2006 musical, *The Drowsy Chaperone*, includes a scene where the male lead roller-skates off stage and knocks over a large group of plates. This concept can be adapted to create a single window breaking sound by building a box out of plywood and having a swinging arm that breaks a piece of

glass hidden within the box. These sounds are most effective in smaller and intimate theatre spaces like a black box. A black box theatre is usually a small room with moveable seats that can be configured in a number of ways and places the audience fairly close to the performers. In larger spaces, like a traditional proscenium theatre, it would be beneficial to create Foley effects in front of a microphone so the high-pitched frequencies of the shattering reach the entire audience.

Synthesizing the historical use of sound on stage with modern applications of theatrical Foley techniques is crucial to a Foley designer's process. Understanding the tried-and-true methods of creating something allows one to take said methods and adapt them to a variety of unique situations. This research, along with the script analysis, acts as the stepping-stones for entering the design phase, where the other production elements come into play.

CHAPTER 3: DESIGN AND BUILD PHASES

The design and construction phases for *Shipwrecked!...* required constant communication and collaboration to ensure that each design was successful. Design meetings and research were essential in determining how traditional Foley objects and techniques could support the director's vision of the play. These phases sought to answer questions on what the necessary modifications to these objects would be, how the objects would fit on stage with the set, and how the design would be adjusted to fit within budget constraints.

Design Meetings

Designing for the stage requires collaboration between a creative team. The traditional team in North American theatre is made up of an artistic director, show director, scenic designer, costume designer, lighting designer, and sound designer. Some productions require specialty members who are added to this team. They often are projection designers, Foley designers, composers, and various creative consultants. Projection design will often become an extension of the scenic and lighting designs while Foley design and composition will be an extension of the sound design. The creative consultants may advise on the use of pyrotechnics, magic tricks, special effects, and more. Each of the designers go through extensive conversations with the show director to ensure the director's vision of the play and the themes of the playwright are properly represented on stage.

The University of Central Florida Department of Theatre, also known as Theatre UCF, divides the design process into five bi-weekly meetings. Following this is a series of weekly production meetings that correspond with the actors' four-to-five week rehearsal period. The school calendar can alter the design and production meeting schedule by creating non-specific gaps for semester breaks and various holidays. The first meeting includes a presentation of the director's initial ideas, discussion about the play, and some general notes to guide each designer's research. The second meeting focuses completely on historical and practical research from the scenic, lighting, and costume departments while the sound department will talk about some general concepts and present research sounds that are in the style of what they are looking to create. The third meeting will include more research and preliminary design sketches or ideas. The fourth and fifth meetings will be a presentation of the preliminary and final scenic and costume designs respectively. These normally include color set and costume renderings and scaled technical documents of the set from both overhead and front views. The scene and costume shops take this work and begin construction on it while the lighting and sound designers examine them to see how it affects their own designs. During these final meetings the lighting and sound designers continue work on their preliminary ideas and discuss specific needs with the production team so everyone can adjust their designs accordingly. Sound and Lighting final design paperwork, which includes speaker placement and lighting instrument plots, are due at the first production meeting. Production meetings are weekly checkups on the progress of all technical elements of a show.

A Foley designer will follow a slightly different schedule than the sound designer in these meetings. Deep collaboration with the scenic designer is required to ensure the Foley objects seen on stage blend in with the scenery, look like they belong in the time period, and can actually fit on the set. More often than not, the objects will be located at a Foley table or Foley area built into the set, but this will not always be the case. The items being used must be decided on during the third and fourth design meetings so the final scenic design allows for the use of all the Foley items without issue. The sound designer, as the production team member that is directly responsible for the aural environment of a show, also will be included in the discussions about Foley to ensure the effects sound correct and fit in with the rest of their design.

The *Shipwrecked...* Design Process

The Foley design for *Shipwrecked An Entertainment...* was a very important aspect of the production to the director, Mark Brotherton. His vision of the story included the use of additional actors that would serve as “creators” and utilize the Foley objects that he wanted placed amongst the set. This created the challenge of fitting all the Foley items on the stage without having a dedicated home where microphones could be placed to give some of the smaller items reinforcement. A unique challenge was created for the scenic designer, Bert Scott, as he had to adapt a pre-existing set for this production while also finding the space for the massive sound needs and amount of props the director requested. Sound and Lighting Designer, Chip Perry, found himself coordinating a large amount of technical

aspects by directly working with Foley, music composition, and the integration of projection.

The first and second design meetings saw the presentation of a preliminary Foley effects list that included sounds directly referenced in the script in addition to some initial conceptual ideas. Sound effects such as thunder, wind, waves, bells, animals, and more were all seen as necessities to the production. A preliminary list of Foley effects was accompanied by a set of images and videos of potential items that could generate these sounds. The estimated 41 items that could potentially be used overwhelmed the director, but this allowed for side meetings that involved cutting down the effects list to what was absolutely necessary for the show. (Appendix A) Some of these effects sought to reinforce location of each scene as well. As stated earlier, each chapter required a different sound field to distinguish the events from one another. The city, islands that he became shipwrecked upon, and the Australian Outback all required different sound effects. City sounds tended to be more metallic while primitive sounds were more wooden. The use of different animal sounds was another effective way to change location. Horse hoof sounds made from coconut shells were only used in the city scenes, while snakes and frog noises made by rattles and guiros (Appendix B) were used in the island scenes. Also, since Louis is stranded for thirty years, it was decided that the pre-industrial revolution London of 1669 needed to sound different from post-industrial revolution London in 1898.

The third design meeting involved the presentation of the finalized Foley Effects Cue List and estimated costs of the multiple ways the effects could be made. The two largest objects on this list were the wind machine and thunder sheet. Their size required direct

attention from the scenic designer. It was initially discussed that there would be two thunder sheets, so actors could access one on either side of the stage. However, the thunder sheets needed to be a substantial size of four by eight feet in order to generate the deep rumble that was artistically and sonically desired. This was an issue for both space and financial reasons. There was not room on the set for the two thunder sheets, nor was there enough money in the budget to buy two pieces of flat steel at that size. The solution to this was to have one sheet located on a self-supporting steel frame at the ground level of the set next to the far stage right wall. The sheet of steel was painted to appear like a rusty piece of metal hung in the theatre space. This was a normal solution when compared to the unorthodox way the wind machine was designed.

The wind machine, also referred to as an aeoliphone, is a friction instrument commonly placed within percussion sections. It consists of a revolving drum with wooden slats placed around its exterior. When spun, these slats rub against a piece of stretched canvas to generate the wind noise. The volume and pitch of the wind is determined by the speed at which the drum is spinning. (Blades 395) This instrument would not easily blend in with the ship-like surroundings of the set. To successfully integrate this object into the world of *Shipwrecked!...*, it was decided the wind machine would be operable via a ship's wheel in addition to the traditional hand crank. (Appendix C) By doing so, Captain Jensen or any other actor instructed to take the wheel could create anything from a light sea breeze to a full-blown maelstrom. Once Louis became stranded, the wind machine would be removed from the stage, or struck, to gain some stage space back.

The fourth and fifth design meetings actually coincided with the start of procuring and building the Foley items. This was necessary, as all the items, with the exception of the wind machine, were required to be in rehearsal from day one. The entire first week of rehearsal consisted of devising and experimenting with sounds and staging some of the complex scenes like the whirlpool and storm.

The organic nature of the entire design process called for multiple side conversations with the director and other designers to occur throughout the time between meetings. Through these discussions alterations were made to the Foley list so that the only items necessary were ones that served this rendition of the play best. One important discussion involved what type of chimes would be used. While it was initially thought that tubular bar chimes would be necessary, conversations led to this item being cut due to its size and how complicated it would be to hide in the set. Functionally, the chimes would have complimented the London scenes nicely, but from an overall artistic standpoint they did not serve as good of a purpose. A simple item, like the set of wind chimes attached to the set, better served the production than a silver rack of golden bells that could not be painted.

Research and Experimentation

Practical research is a necessity when preparing a final Foley list for a production. While historical research provides a good basis for the work being done, real world examples give the director and artistic team a better idea of what the final products will look and sound like. The Internet has simplified practical research, as thousands of sound

recordings, images, and video are available at the click of a mouse. Youtube, Google Images, and Flickr all are powerful tools that have become staples for design research. This is no substitute to actually having access to real instruments to work with though. Collaboration with the UCF Music Department allowed for live demonstrations of various percussion items by Jeff Moore, the Director of The School of Performing Arts. These became highly influential when choosing what effects were necessary to the production.

The video research from YouTube.com and advice from the Music Department revealed alternate uses for some Foley devices already slated to be constructed. While constructing and rehearsing with these items, certain experiments took place to determine if they would function similarly to the videos. The three main experiments consisted of using the wind machine to create rain; altering the thunder sheet's sound through the use of smooth rubber balls, also known as superballs, and different types of mallets; and making a deep sounding thunder tube. These tests proved to be more insightful than functional, but they led to a greater understanding of how the materials used to create the sounds interact with one another.

Wind and rain machines share similar structural designs, save for a few parts attached to their barrels. Instead of having wooden slats to rub against stretched canvas, the rain machine has wire material wrapped around it so marbles can be placed inside and spun to make water sounds. Combining the two machines could create a device that would generate both water and wind sounds for the ship scenes. Lightly moving the ship's wheel would cause the marbles to move slightly, creating a wave sound. Spinning the wheel would not only generate a howling wind, but a treacherous rain to accompany it.

Unfortunately, the combined machine could not achieve its goal. The marbles, in any quantity, overpowered the wind sounds to the point that it was impossible to hear any wind even when standing next to it. For this reason, the marbles were removed and the waves sounds were generated solely from another Foley device.

The video research mentioned above led to the conclusion that rubbing a rubber ball against a large metal thunder sheet would generate different tones. For budgetary reasons, \$100 galvanized steel was purchased instead of the \$400 stainless steel used in the video. The differences in the two metal surfaces were enough to render the rubber balls useless. Stainless steel's slick surface allowed the smooth rubber ball to glide across it and alter the vibration pattern of the metal. The galvanized steel lacked this slickness and instead prohibited the rubber ball from easily sliding. Cleaning the sheet proved ineffective, so it was not possible to include these tonal sounds into the show.

Various mallets were provided to the actors in rehearsal with which to strike the thunder sheet. This included both yarn head mallets and rough-ended cotton tympani mallets. Neither was very effective though. The actors' location on stage, commonly called blocking, did not allow for a direct, front-facing, strike from the mallets. Instead they were forced to stretch their arms across the side of the metal sheet and hit it with the side of the mallets. A realistic thunder effect was not made from this method though. More rehearsal time led to the discovery that simply hitting the sheet repeatedly with the human fist created the sound that was desired.

A small device, sold as a thunder tube, can create loud rumbles because of its acoustic construction. The tubes available for purchase consist of a long spring attached to

a thin piece of plastic on the end of a cardboard tube. By shaking the tube, the spring vibrates and resonates to make the thunder sound. The issue with this premade noisemaker was that it sounded too high pitched. To rectify this, plans to build a larger thunder tube were devised. A two-foot long PVC pipe, plastic drumhead, and spring were the only materials needed to do so, but finding a spring long enough proved to be difficult. Ideally the spring would have been thin and lightweight so it could easily be attached to the drumhead. The ones in stock at the UCF Scene Shop, where all construction takes place, were quite the opposite, and local stores did not carry any lightweight springs long enough. The weight of the stock springs proved to be too much for the drumhead to hold, causing it to rip and the adhesive to separate from the PVC tube. Rather than putting more time and resources into fixing this problem, it was decided the small thunder tube was sufficient enough to use in this production.

Integration into the World of the Play

As stated earlier, some Foley items needed direct attention from the scenic designer. Both the wind machine and thunder sheet needed special treatment to blend into the surrounding scenery. Smaller objects needed this as well though. Items that would not traditionally be found in the late 1800's needed to be disguised so they appear to be specially made for the production rather than stock Foley devices. This was primarily achieved through working with the scenic charge artist, who paints all the scenic elements.

A good example of this would be the paint treatment on the ocean drum. An ocean drum is a thin and wide percussion instrument that contains BBs, which move across a skin

drumhead, and a clear drumhead that seals in the BBs. The BBs create rain sounds just as they do when moved on a cookie tray. The additional advantage of an ocean drum is that it can be picked up and moved aggressively by an operator to create crashing wave effects. Rather than purchasing a pre-made ocean drum, drumheads were obtained from the Music Department and the drum body was constructed from Masonite, a flexible fiberboard used frequently by the scene shop. Building this from scratch allowed the scenic artist to paint the drum to match the dark brown tones of the set and add a matte finish to the clear drumhead to avoid strange reflections from the stage lights. There was no need to spend extra money on a pre-made drum when all these paint treatments were to be applied.

Some paint treatments on the Foley items unfortunately had some unfavorable results. One item in particular was the lion's roar drum, which Mark Bonfoey details how to construct in *Percussion Repair and Maintenance*. (86) This instrument is traditionally used to create loud sounds that mimic a lion's roar, but can also be used to emulate the creaking sounds of a ship. It is made by tying a rope through a hole placed in the center of a bass drum head. After placing wax or rosin on the rope, one could pull on it to generate the sound. Finding a bass drum head without a brand logo on it proved to be fairly challenging, so the existing head with logo needed to be painted over. This modification reduced a good deal of the drumheads resonance and muffled its sound a bit more than expected. While an alternate solution to this issue would have been nice, it is important to note that the tight integration of the designs for this show required compromise. The lion's roar drum, along with most of the Foley items, became just as much scenic elements as they were sound.

Budgeting

Time, money, and skill are the three constraints that will affect how a design is executed. Financial strains and concerns always will arise during the design phase, so it is important to understand how much time the build process will take and how much money buying the desired item will cost. Purchasing goods that are already fabricated and ready to use can be timesaving but more costly. Constructing objects from purchased or stock materials can be cheap, but too time-consuming. The challenge when budgeting is to determine what steps need to be taken to execute a design in a fast and cost effective manner that does not jeopardize quality. It is not uncommon to make specialized items and buy simpler ones.

While most Theatre UCF productions receive a \$500 sound budget, the sound department was given an expanded \$1500 budget. This was done to accommodate the materials needed to construct the Foley items and any special composition needs. The composer, Igor Yachmenov, provided a full score for the entire length of the show and wrote all of his music digitally with the aid of a MIDI (Musical Instrument Digital Interface) keyboard. The digital compositions called for the purchasing of high quality virtual instrument software to better the sounds generated by Igor's keyboard. This software accounted for about \$500, while the initial Foley budget breakdown only accounted for the use of about \$150. (Appendix A) Final costs totaled around \$250 due to the need to obtain materials from a specialized distributor.

This \$250 accounted for some of the materials necessary to make the custom Foley items and the pre-fabricated items ordered on Amazon.com. The UCF Music Department

was able to assist by providing the drumheads that the ocean drum required while the theatre prop storage already had the bass drum for the lion's roar and hand bells that were needed. Purchased materials were still necessary for the wind machine and thunder sheet. The remaining objects were purchased, so that there was adequate time to construct and test these four custom items.

CHAPTER 4: REHEARSALS

The rehearsal process is when the director begins to shape a production with the performers. Theatres that include the necessary facilities will have rehearsals held in a rehearsal hall. The ground plan, or top view, of the scenic design is taped out on the rehearsal room floor so the actors can be spaced around the set without actually having any piece of scenery. Props that serve as a placeholder for a final item, referred to as rehearsal props, and select pieces of scenery usually find their way into rehearsal to provide an even more accurate simulation of the stage space and set. A sound designer may choose to include rehearsal sound in order to hear how the music and sound effects for the show reinforce the character development that is taking place.

At UCF, approximately one week prior to technical rehearsals the actors, director, and stage management team move into the theatre space to begin a process known as spacing. This consists of adjusting blocking and actor's movement to accommodate the space the scenery takes. During spacing, designers are typically able to come in and do additional preliminary work, such as lighting and sound cue programming. From a designer's standpoint, this additional week of work can be tiresome, but it allows the production team to diagnose and solve issues before entering technical rehearsals.

Following the normal two to three days of spacing are the "crew view" and "dry tech" rehearsals. The "crew view" is a full run through of the show that all members of the backstage crew watches so they become aware of the environment in which they are working. The "dry tech" rehearsal traditionally is a rehearsal for the crewmembers to

practice positioning scenery and props and the lighting and sound designers to see and hear their cues one last time before entering the technical rehearsals stage. The actors are not normally present for this rehearsal, but some theatres might request that some actors or an understudy cast attends.

The rehearsal process at Theatre UCF lasts around four weeks for a traditional “straight play” with no musical numbers and five weeks for a musical theatre piece. The first rehearsal includes a presentation from the entire design team to give the actors some insight into the world they in which they will be performing. A run of the entire show, called the designer run, is typically specified on the production calendar so all the designers have a change to see the performance before moving into the theatre space for technical rehearsals. Since *Shipwrecked!...* included a large amount of music, Foley effects, and props, it was requested by the director to have a five-week rehearsal process as well. This extra week was used to devise and experiment with the rehearsal items they were given. Following this period, staging began as did work with the Foley items and props.

Foley in Rehearsal

The first rehearsal presentation introduced all the Foley items, both found and constructed, to the cast. This included the thunder sheet, ocean drum, lion’s roar drum, thunder tube, wind chimes, various hand bells, rain sticks, and percussion instruments like cymbals and guiros. The number of items was overwhelming to them at first, but a demonstration of all their potential uses stimulated their excitement to work on the show. The thunder sheet was one of the more popular items, due to its massive size and the

desire to hear what sound it makes. Providing these items so early had both benefits and consequences.

Being able to show the actors what they were working with was important. Their understanding of the Foley items was just as necessary as the director's and designer's. Each item could be operated in a number of ways, and only proper demonstration and group experimentation could provide them with the knowledge of how to create the desired sounds. In addition, the ability to see the actors' work with said items gave a glimpse at what could be expected in the theatre space.

Conversely, having every item in the rehearsal space produced some inaccurate sonic results for the sound department. The small rehearsal room had vastly different acoustics than the performance space and made certain sounds difficult to hear. On top of this, the large group of actors was very loud, and in a more confined space, their voices overpowered most of the Foley effects being used. The wind machine's subtle gusts before the storm scene were lost to some of the staged chatter and sheer loudness of the cast.

Another unanticipated struggle with providing all of the finalized items in the rehearsal process was that repair time became necessary. The rowdy group of eleven got a bit aggressive with some of the Foley items, so repairs and additional preventative maintenance became imperative. An example of this was the continued breaking of the hand bell. Inside the hand bell was a string that tied two metal hardware nuts to serve as the bell's clapper. When shaken aggressively the string would break and send these nuts flying across the rehearsal room. Stronger string and fishing line were both used to try and avoid this problem, but neither was successful. The final solution consisted of using braided

steel aircraft wire in place of the string. The wire, when crimped together, became impossible to break unless it was cut.

Rehearsals progressed with limited involvement from the production team in order to give the actors and director time to work things out. Foley items became integrated as they saw fit, and questions about their use were included in the daily rehearsal report, a document emailed by the stage management team to keep the production staff informed of events in rehearsal. The designer run revealed that the production would become larger and more difficult to tech when moving into the performance venue. Because there was more action on stage than anyone had anticipated, the design team grew concerned about the limited stage space and noise levels.

Item Storage

Since the Foley items varied in size, storage became an interesting challenge during rehearsals. University classes are held in the rehearsal studios during the day, so leaving show items in there was not an option. The best solution was to utilize the theatre's prop storage closet, which has very limited access and would ensure that nothing was damaged when left unattended. Due to the size of the thunder sheet though, it had to be stored in the back corner of the rehearsal studio with a sign asking students to refrain from moving or hitting it.

Voices, Foley, and Music

As stated earlier, the actors' voices could easily overpower the sound of the Foley objects. Music also had its hand in this battle though. A constantly shifting underscore

provided by the composer, Igor Yachmenov, often forced the actors to be louder due to his propensity to increase the music's level if he could not hear all of it. Levels were constantly being adjusted as new songs were created and taken into rehearsals, as the rehearsal studio was not the ideal space for judging sound levels.

Any attempt to actually balance the sound would be futile because of how the rehearsal hall was set up. The speaker system in this space was placed to the right of where the set would actually be; the walls had acoustic panels; black curtains covered the dance mirrors; and there were no physical scenery walls in place. The offset speaker placement required the music to be played somewhat louder than necessary so everyone in the room could hear it. The acoustic panels and curtains absorbed a large amount of the sound coming from the actors and Foley objects. Without a set, there was no way of knowing if actor movement and object placement would be hindered by the walls put in place. Additional time spent on work in the rehearsal hall would not benefit the production, as it would all need to be done over again in the performance space. This was stressed to the entire production team so that the sound department was not expected to utilize additional resources just to fix problems that would change within a few weeks.

Spacing/Pre-Technical Rehearsals

Rehearsals segued directly into a week of spacing in the theatre and pre-programming the technical elements of the production. This consisted of finalizing a location for each Foley item and prop, adjusting levels of the music to sound better in Theatre UCF's Black Box, programming lighting and video, and letting the actors adjust to

walking on a real set. The process for *Shipwrecked!...* did not include a “dry tech” rehearsal, as the actors were executing the set changes with the props on stage rather than the crewmembers.

While technical aspects were being folded into the show during this week, its main purpose was for the actors to become comfortable on stage. A large discovery from this process was that actors would hide behind the audience seats during some of the Aborigines scenes. The sound team took advantage of this by having them use Foley items, like the guiro, to make noises behind the audience’s heads. By doing so the effects became more audible than when generated on stage.

CHAPTER 5: TECHNICAL REHEARSALS AND PERFORMANCES

At UCF, technical rehearsals, commonly called “tech”, span a two-day period where the lighting, sound, and scenic elements are adjusted and worked into the production with the actors for the first time on stage. The first day spans twelve hours with a two-hour break included while the second day is usually scheduled to last ten hours with a two-hour break. The second day’s schedule will normally be altered to fit the needs of the production. Once the entire show has gone through a “cue-to-cue”, a step-by-step look at each lighting and sound cue, and each scene has been run with these cues, the director will decide on whether or not a full run through is necessary.

The stage manager, who runs rehearsals and is responsible for maintaining the show throughout its run, utilizes this time to detail where lighting and sound cues need to be executed so she can instruct the lighting and sound operators on when to do so during a show run. There are frequent pauses throughout these two days so the designers can make their adjustments and the stage manager becomes comfortable in her ability to call the show. The technical rehearsal phase is directly followed by dress rehearsals, which integrate costumes and the wardrobe crew before the show opens to the public.

At Theatre UCF, productions run Thursday through Sunday for two or three weeks. Once a show opens, the design team is released and the production crew maintains the artistic vision finalized on the last dress rehearsal. Each performance is followed with a performance report sent by the stage manager. This report details any issues or strange occurrences that happened during that night’s performance. If an issue is significant

enough, a designer may need to return to the theatre to adjust programming or assist in fixing an error that began to occur.

Shipwrecked...Technical Rehearsals

The technical rehearsals for *Shipwrecked!...* consisted of finalizing Foley object placement, continuing work with audio levels, and shaping moments that became highlights of the Foley design. Unlike the sound and lighting designers, who program their shows on a lighting console and sound computer, Foley designers must work directly with the Foley operators to adjust their sound effects. The tight integration of Foley into the preceding rehearsals allowed for the time to take more detailed notes on how the sounds were created, rather than creating them for the first time.

The rehearsal process utilized stands for certain items that would need to be attached to the physical walls of the set. The wind chimes and china cymbal, which derives its name from the stereotypical cone-shaped Chinese sedge hat (Tortora), could not remain on their stands on stage because the metal stand had no way to blend in with the surrounding wood environment. This led to both items being mounted to the side posts of the projection-mounting screen that was located upstage center. Unfortunately there was no mounting solution for the percussion instrument known as the rototom. This set of three drums needed to be disguised with brown fabric and placed completely upstage to hide the fact that it was made from black painted metal.

Sound Levels Within the Theatre Space

Throughout tech, the battle between music levels, sound effects levels, and the actors' voices arose again. There were a good amount of struggles though due to the large amount of people on stage and the UCF Back Box's acoustics. Audio levels were constantly adjusted so each sound element could be heard and the overall noise level did not become overbearing.

Scenes in the city and on the ship had the entire ensemble on stage and moving around constantly. Their chatter and footsteps became overbearing to hear as it reflected across the cinderblock walls of the theatre and vibrated the set's platforms. This led to the composer increasing the music levels and the dialogue and Foley effects becoming less prevalent. The increase in loudness was accompanied by an increase in harshness that was all but pleasant to the ear. For example, the opening city scenes consisted of actors' yelling to be heard, music that was competing with the actors' volume level, and Foley sounds like thunder and rain that struggled to be heard. This competition for audibility made some production team members cringe.

Altering the theatre's acoustics was a financial impossibility, so the first step towards rectifying this issue was to adjust the music levels. It was explained to the composer that the music needed to underscore the dialogue rather than overpower it and that said underscore should complement what is occurring rather than grab the audience's attention. While there are points where music can be the attention grabber, the common thought in theatrical sound design is that the dialogue should act as the melody to any form of underscore. Lowering the level of the music created less of a need for the actors to

scream, despite some of their natural tendencies to do so. Once the actors could be heard, work with those operating the Foley items was done to improve the sound quality even more.

Work with the thunder sheet and rain stick operators helped to create a more consistent storm effect that was audible enough to establish the scene without being too loud. The rain sticks, which were cylindrical tubes that contained beads inside them, needed to be turned upside-down to generate their sound. To establish a constant rain noise, two actors would turn their rain sticks first and the other two actors would turn theirs before the sound of the original two stops. This pattern would continue until the effect was no longer needed. As for the thunder sheet, it was determined that the actor operating, who was blocked to stand by its side, would have to reach his arm towards the center when hitting it to make a sound loud and realistic enough to be successful. Each of these adjustments made throughout the technical rehearsals were perfect examples of the collaboration that *Shipwrecked!...* required. Fine-tuning the sound levels assisted in grounding the production in its storytelling roots.

Shaping

Key Foley moments became clearer throughout the tech process. While it was initially thought that Foley sounds would have their highlight within each of the play's chapters, the addition of music and select pre-recorded sound effects shifted how certain scenes were crafted. For instance, when the aborigines in Australia confronted Louis, he was met with a group of warriors underscored by tribal drum music played back by the

computer rather than live music from the provided wood slit drums. Those drums were later provided to the audience during Louis's wedding celebration. These changes caused the moments that relied on Foley sounds to become more prominent.

The ship scene saw full use of the ocean drum, rain sticks, wind machine, and thunder sheet in addition to vocal sound effects of seagulls and splashes from the actors. The storm that the ship's crew encounters came to life thanks to additional work with the operators of the wind machine and ocean drum. Initially, these effects were very difficult to hear over the yelling on stage. However, further observation led to the discovery that more abrupt and violent movements with the ocean drum created more audible wave sounds and a simple tightening of the canvas on the wind machine combined with stronger turns of the ship's wheel created the perfect howling wind.

The final chapter of Louis's story consists of a theatrical recap of his life followed by a group of industry professionals exposing him as a fraud. Both scenes utilized typewriters and included very subtle music and allowed the Foley sounds to shape the environment. For Louis's single typewriter, an actor held onto the china cymbal with one hand and tapped it rapidly with a drumstick held by the other. (Appendix D) This made a very distinct "clicking" sound that was followed by another actor utilizing finger cymbals to create the typewriter's bell sound as the carriage reached the end of a line. After being exposed another typewriter scene occurs. The actors, now playing news reporters, made the series of clicking sounds with their voices rather than the cymbal. This more accurately created the sense that there were multiple typewriters in the room they were in. The success of both these scenes required the dialogue and clicking sounds to be timed

precisely. From the viewpoint of a Foley Designer, these well-crafted moments evoked the true sense of storytelling felt in Margulies's script.

CHAPTER 6: CONCLUSION

The eight-performance run of *Shipwrecked!...* was smooth sailing for Foley effects. Thanks to the preproduction work done, the Foley items held up throughout each night. The only repair work necessary was re-attaching the hand crank to the wind machine, which was knocked off while being moved into storage during intermission. That being said, the real successes of this design can be attributed to the historical research and collaborative efforts made by the entire production team.

Knowing the tried and true methods of creating Foley sounds provided the framework for the entire design. When on time and budget constraints, it was very important to know when there was no need to reinvent the wheel. There would be no purpose in finding a brand new way to create thunder effects when knowing that a metal sheet has been doing the job since Shakespeare's time. This knowledge allowed for the extra time to experiment with some newer methods, such as using the superball mallet to see how they would work. Since *Shipwrecked!...* is inherently a playful and experimental script to work with, this time was all the more crucial to the design process.

Theatre work has and always will be a collaborative effort. While past productions of *Shipwrecked!...* have made use of the more traditional Foley table, commonly seen in radio drama performances, Theatre UCF's rendition treated the Foley items specially for the production and integrated them into the scenery. This uniqueness has made the documentation of the Foley design process all the more necessary. Understanding how to make Foley functional was critical to the production, but understanding how to design

Foley showcased how strong technical knowledge combined with a good creative process was critical to making Foley a success.

APPENDIX A: PREPRODUCTION WORK

Preliminary Foley List

Theatre UCF
Shipwrecked

Sound Designer: Chip Perry
Foley Designer: Anthony Narciso

Preliminary Foley List
7/26/13

Shipwrecked Foley List					
The information provided on this sheet presents preliminary ideas and questions to be discussed further with the artistic team. The names and descriptions presented below contain a mix of both specific sounds called for by the script and conceptual ideas inserted by either the foley or sound designer. All information on names and descriptions are subject to change at the discretion of the director or sound designer. Items necessary may vary as needs change.					
#	PG.	Name	Description	Items Necessary	Notes
1	13	Flourish	Chimes	Chimes	
2	13	Gramophone		Gramophone	
3	17	Raging Storm	Rain, Thunder, Wind	Rain Sticks, Metal Sheets, Wind Whistle, Drum w/Brush	
4	22	City Sounds	Bells, Footsteps, Horses	Bells, Actors Walking, Coconuts	
5	23	Storm	Rain, Thunder, Wind	Rain Sticks, Metal Sheets, Wind Whistle	
6	25	Tinkle of Wind Chimes	Light chime chime under dialogue	Chimes	w/ "The Wonder World"
7	29	Tinkle of Wind Chimes	Light chime chime under dialogue	Chimes	w/ "The Wonder World"
8	30	Tinkle of Wind Chimes	Light chime chime under dialogue	Chimes	w/ "The Wonder World"
9	30	Ocean Waves	Light monotonous waves until he throws up	Drum w/Brush	As ship sets sail
10	31	Dolphins	Dolphin calls and splashes	Dolphin call, Drum hit w/ brush	
11	31	Ocotopus	Water splashes, rain sounds	Drum hit w/brush, rain sticks	
12	34	Big Spash	Splash	Drum hit w/brush,	

Theatre UCF
Shipwrecked

Sound Designer: Chip Perry
Foley Designer: Anthony Narciso

Preliminary Foley List
7/26/13

#	PG.	Name	Description	Items Necessary	Notes
13	38	Storm	Wind and Thunder Rolls	Wind whistle, Metal sheets	
14	39	Thunder	Larger thunder crash	Metal sheets	
15	39	Storm Intensifies	More Thunder, Add Rain	Metal sheets, rain sticks	
16	40	Tempest	Storm at higher intensity	Rain Sticks, Metal Sheets, Wind Whistle, Drum w/Brush	
17	40	Woosh			
18	42	Whirlpool	Thunder, rain, wind, waves, higher intensity	Rain Sticks, Metal Sheets, Wind Whistle, Drum w/Brush	
19	42	Sail Caught in Wind	Sail Rips?	Muslin rip	
20	43	Wind Roars		Multiple wind whistles	
21	43	Mast Cracks	Mast cracks and falls over	Wood splitting, Rubber mallet thud	
22	44	Gulls	Foley or SFX?		
23	47	Jump in Water	Splash		Plop sound
24	51	Identifies Sounds	Owls, Waves, Wombats in tree	Drum w/Brush, branch with leaves	
25	57	Pluck	Violin string pluck	Old violin (or other string instrument)	
26	62	Fire	Light fire crackles	Breaking sticks	

Theatre UCF
Shipwrecked

Sound Designer: Chip Perry
Foley Designer: Anthony Narciso

Preliminary Foley List
7/26/13

#	PG.	Name	Description	Items Necessary	Notes
27	64	Tinkle of Wind Chimes	Light chime chime under dialogue	Chimes	w/ "The Wonder World"
28	66	Volcano Rumbles		Drum	
29	71	Tribe War	Live drums or music?	Drum	
30	74	Treacherous Weather	Hint of storm sounds	Rain Sticks, Metal Sheets, Wind Whistle, Drum w/Brush	
31	76	Creature Sounds	Snakes	Rattler	
32	82	Urban Sounds			
33	82	Factory Whistle		Train whistle	
34	86	Typewriter	Keys clicking	Typewriter	
35	86	Typewriter Ding	Ding	Bell	
36	88	Musical Flourish	Chimes Again?		
37	94	Champagne	Champagne cork pop		
38	94	Pours Champagne	Pouring sound	Two Glasses, Water	
39	111	Time Goes By	Light tick tock-metronome like	Woodblock	
40	112	Time Goes By	Light tick tock-metronome like	Woodblock	
41	116	Sea Turtle	Any desired effect?		
Questions How much will be pantomimed and will pantomimed objects need sound? Are any effects being achieved via played back sound effects?					

Preliminary Budget

Shipwrecked To Buy 9/13				
Item	Quantity	Price	Total	
Galvanized Steel Sheets	2	\$9.34	\$18.68	Home Depot
PVC 2"x10'	1	\$6.69	\$6.69	Home Depot
Coffee Can	1	\$8.00	\$8.00	Wal-Mart
Superballs	1	\$6.99	\$6.99	Amazon
BBs	1	\$1.92	\$1.92	Wal-Mart
Hardware Cloth (Wind Machine)	1	\$13.90	\$13.90	Amazon
Marbles	1	\$4.69	\$4.69	Amazon
Guero	2	\$4.29	\$8.58	Amazon
Spring	1	\$4.58	\$4.58	Home Depot
Thunder Tube	1	\$10.44	\$10.44	Amazon
Spaghetti	1		\$0.00	
Chimes	1	\$23.34	\$23.34	Amazon
Train Whistle	1	\$5.17	\$5.17	Amazon
Wind Whistle	1		\$0.00	
Rosin	2	\$1.99	\$3.98	Amazon
Mallets			\$0.00	
White Rope	1	\$11.70	\$11.70	Home Depot
Wood Tone/Slit Drum	1	\$18.22	\$18.22	Amazon
Coconuts	1		TBD	Wal-Mart
1/4in Dowels	4	\$0.78	\$3.12	Home Depot
			\$146.88	

APPENDIX B: SELECT RESEARCH IMAGES



Triple Guiro Instrument



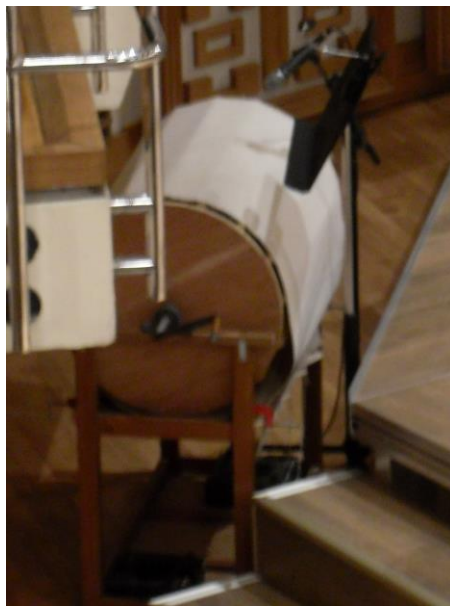
Wooden Rattle



Assorted Rain Sticks



Wind Machine 1



Wind Machine 2



Thunder Sheet 1



Thunder Sheet 2

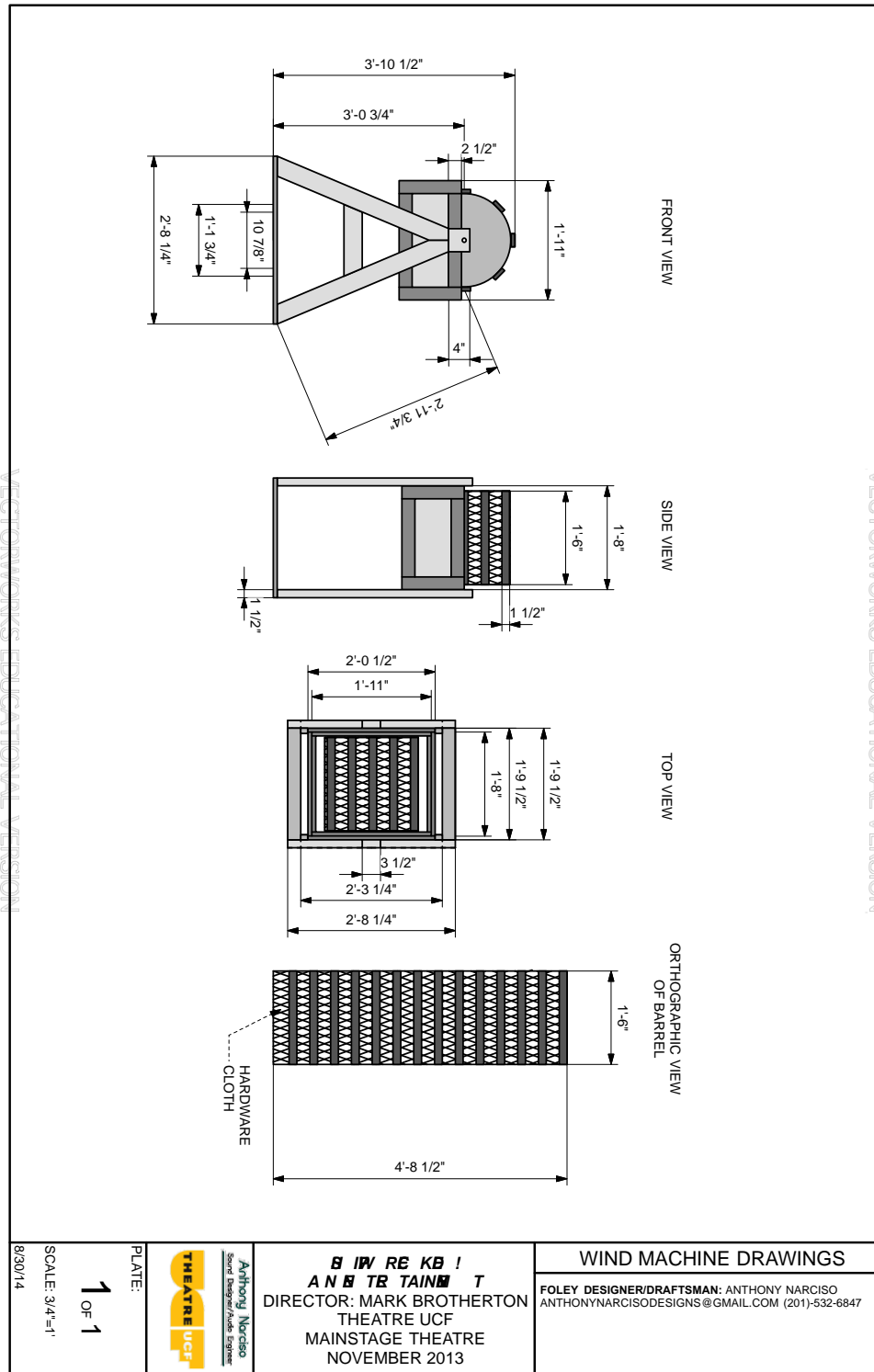


Assorted Aborigines Drums

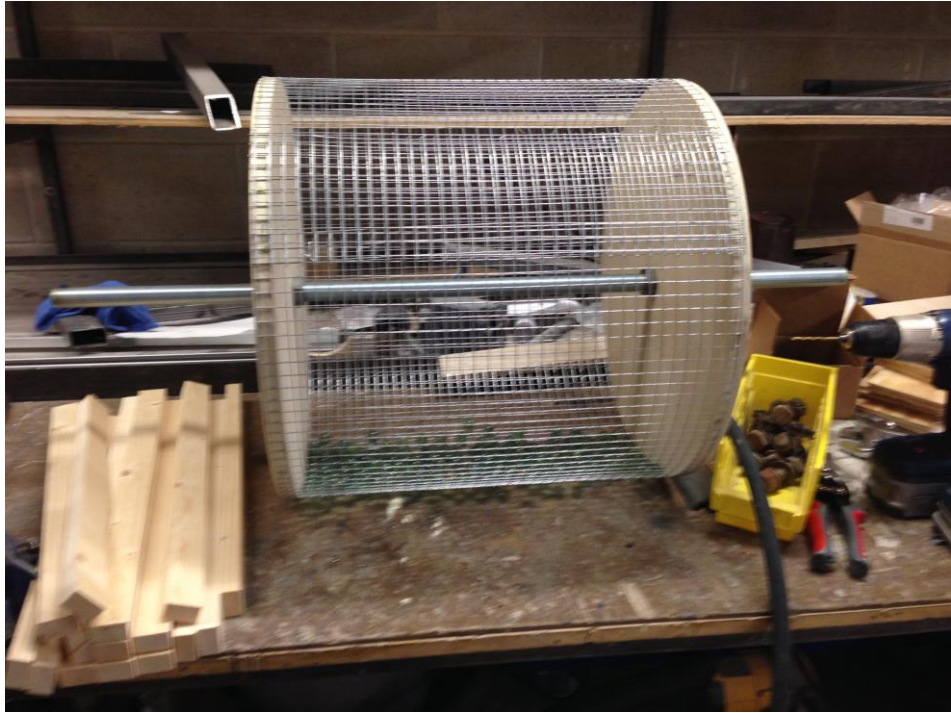
APPENDIX C: WIND MACHINE DOCUMENTS



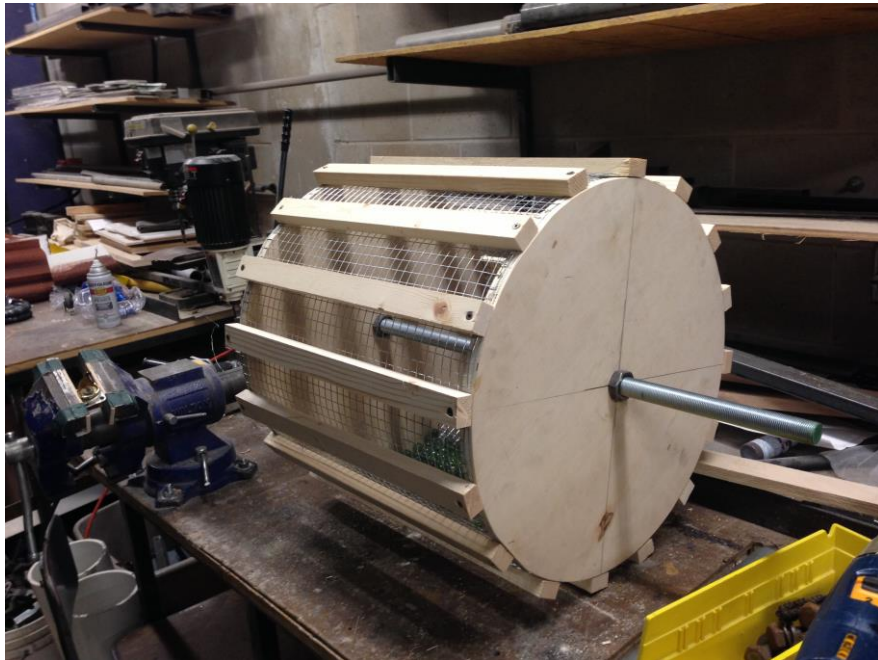
Initial 3D Mock-Up of the Wind Machine



Wind Machine Plans (Not to Scale in Word Document)



Barrel Construction



Barrel With Wooden Slats Added



Wind Machine in Rehearsal Storage

APPENDIX D: ADDITIONAL PHOTOS AND PRODUCTION SHOTS



Ocean Drum Rim Being Sealed to Drum Head



Ocean Drum Completed



Thunder Sheet Construction



On Board "The Wonderworld"



"The Wonderworld" At Night: Wind Machine Acting as Ship's Wheel



Louis and Bruno Swimming Ashore



Louis Typing His Story, Actors Operating China Boy and Finer Cymbals in Background

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