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**Playing with Masks:
An Exploration of Craft and Performance**

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**Playing with Masks:
An Exploration of Craft and Performance**

by

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Thesis

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Dedication

I would like to dedicate this thesis to my family. My parents, Barbara Haskell Kurz and Mark Kurz, and my sister, Olivia Kurz have supported me in everything that I do, and given me the confidence to pursue art.

Acknowledgements

I have many people to thank. First, my collaborator, the co-creator of this project, Brian Oglesby. With out his dedication and creative energy, none of this would have existed. I also owe a huge thank you to my advisor, James Glavan, who offered support and technical know-how at every step of this process. Susan Mickey, my other advisor, and her husband Roger, were also instrumental and gave valuable and perceptive feedback. All of the amazing actors who participated in the finished play: Thank you, thank you, thank you. Ian Price, Kevin Jacaman, Alani Chock, and Laura Rogers; Chelsea Beth, Ja'Michael Darnell and Conor Haley, without your exceptional talent and collaboration, I would have nothing. A huge thank you goes out to Po-Yang Sun and Michael Krauss, who stepped in to give amazing technical support to our show. I also felt extremely supported by my cohort of fellow graduate students: Chin-Hua Yeh, Kristen Weller, James Ogden, Emily Robertson, Mercedes O'bannion, Justin Collings, Kristin Womble, and especially Sweta Vakani. You are alpha shift on the bridge crew and were always there for me.

And last but never never least, thank you to my family. My parents, Barbara Haskell Kurz and Mark Kurz, are everything parents should be and more. I owe them so much, and everything I have accomplished is a tribute to their love and support.

Abstract

Playing with Masks: An Exploration of Craft and Performance

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The University of Texas at Austin, 2014

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Collaboration between the playwright, director, designer and technicians is the backbone of theater. Costume designers, after discussion with the director and the other designers, rely on costume technicians to realize their ideas. The technician's hands then realize the artistic vision. But what would the technicians try if there were no constraints? I am a technician, a craftsperson who is inspired not just by the play, but also by process, by methods. With every new technique I learn, I imagine the new ways it could be put to use, and the objects I would create if time and resources were not a factor.

Imagined objects are seldom created. Once made, these objects exist without a performance, without a purpose. A costume not worn is an unfulfilled destiny. But maybe the pieces I want to make can be given a narrative after the act of construction, or during construction. I'm interested in exploring my ability to be a generative artist. How can my inspiration feed back into the theater community? Can a costume technician's experimentation have a place in creating new theater?

My thesis has two components, exploring my two interests. Those two interests are the creation of objects and the creation of a story.

The first component, object creation, was an exploratory study of mask and headdress making techniques. I experimented with new techniques, such as 3-D printing, testing the limitations of new technology. The second component, story creation, was a collaborative process. My collaborator, Brian Oglesby, and I worked concurrently. Brian is a playwright, and as he wrote the play, I made the objects. Our processes mirrored each other. The narrative of the play incorporated the masks and headpieces I made.

This project created a theater piece based on the experimentation of a costume technician, and presents a new way for future technicians to think about their work and to have their stories told.

Table of Contents

List of Illustrations	x
<i>DESIGN AND CONCEPT PROCESS</i>	1
Chapter 1: Design Process	2
Expanding the role of a Costume Technician	4
Reason for Masks.....	5
Inspiration For Items Designed and Built	6
The Birds.....	6
The Guardians	8
The Bull	12
The Fish	15
<i>BUILD PROCESS</i>	20
Chapter 2: 3-D Modeling and 3-D Printing	21
Using Maya and Mudbox to Create a 3-D Model.....	23
Exporting and Printing the Model.....	25
Using the Printed Object	26
Future Uses of 3-D Printing Technology.....	28
Chapter 3: Analog Techniques.....	30
Guardian Mask Build.....	30
Bird Mask Build.....	32
Bull Mask.....	37
Fish Build.....	41
Chapter 4: Rehearsal and Writing Process.....	50
Integrating Costume Technicians Into Generative Processess	50
Coming Up With a Narrative	52
Early Rehearsals and Frontera Fest.....	53
Later Rehearsals and the Final Performance	54

Chapter 5: Reflection	57
Appendix	59
Bibliography	82

List of Illustrations

Illustration 1: Birds Design.....	8
Illustration 2: The Guardians design.....	10
Illustration 3: Participant in Temple Parade, Taipei, Spring 2013	11
Illustration 4: Bull Design.....	14
Illustration 6: Fish Concept Art.	19
Illustration 7: Example of a Model with a grid mesh in Maya.	24
Illustration 8: Example of a Sculpt in Mudbox.....	25
Illustration 9: Clay sculpt.....	30
Illustration 10: Clay guardian mask covered in papier-mâché.	31
Illustration 11: Finished Guardian Masks.	32
Illustration 12: Affixing Sinamay feathers to headpieces.	33
Illustration 13: Oil based clay sculpt for bird masks.	34
Illustration 14: Finished yellow bird mask.	35
Illustration 15: Finished grey bird mask.....	36
Illustration 16: Finished red bird mask.....	37
Illustration 17: Base for bull mask.	38
Illustration 18: Eyes being coated.	39
Illustration 19: Eyes being placed.	40
Illustration 20: Finished Bull/Minotaur mask.	41
Illustration 21: Rattan structure of the fish.	42
Illustration 22: The rattan structure covered with foam.	43
Illustration 23: Digital sculpt of the fishes eyes.	44

Illustration 24: 3-D print being excavated.....	45
Illustration 25: The eyes being painted.....	46
Illustration 26: One of the fish eyes being coated with Envirotex.	47
Illustration 27: The fish during the painting process.....	48
Illustration 28: The finished fish.	49

DESIGN AND CONCEPT PROCESS

This section details the processes I used to design and create the performing objects for this thesis project.

Chapter 1: Design Process

The genesis of this project can be traced back to my first year of graduate school while I was taking a mask-making course taught by James Glavan. I was working on a bird mask sculpture using oil-based clay. Graduate playwriting student Brian Oglesby visited while I was sculpting and asked what play the mask was for. I replied that it wasn't for a play, it was just an assignment, and that I was disappointed that it wouldn't be worn on stage because I liked the mask very much. I felt that objects created without a story have no purpose. Without a play, they are unheard, silent, with an unfulfilled destiny. Brian replied that he would like to develop a character based on this mask and write it into a play, and he did so. What he wrote became "Our Flock," a short play that reads like poetry. A flock of birds, with many voices, tells a story about how they tried to help a son and his father escape from an island, with disastrous results.

"Our Flock" had its first reading in the summer of 2012 at the Barnyard Theatre in California. It was wonderful to hear the voices of the masks I had made, to hear life breathed into a clay figure. I was touched by Brian's interest in my work and also inspired to work with him again. During the following year Brian and I decided to collaborate on a theatrical piece using masks as the creative origin for character development. The masks I wanted to make would all have voices, and would each have a place in a story.

The two of us discussed what kind of narrative we wanted to give these characters. Both of us have a love for the retelling of myths. When a story that humans have been telling each other for ages remains prevalent, it is certainly worth investigation. As Joseph Campbell explains in his book "The Hero with a Thousand Faces": "Throughout the inhabited world, in all times and under every circumstance, the

myths of man have flourished; and they have been the living inspiration of whatever else may have appeared out of the activities of the human body and mind. It would not be too much to say that myth is the secret opening through which the inexhaustible energies of the cosmos pour into human cultural manifestation.” (Campbell, 3) In other words, myths are stories that continue to inspire us throughout history.

We decided that the world we created would be within the simple, elegant, and oft-told tale of Icarus. The basic plot is that a clever inventor, Daedalus, constructed a maze so complicated that no one could solve it. Daedalus later angered the king, and was unhappily locked up in his own maze with his teenage son, Icarus. Richard P. Martin, in his book “Myths of the Ancient Greeks”, describes their flight from imprisonment: “Daedalus had made wings for their escape, patiently gluing with wax the hundreds of feathers they had found. “Follow me,” he told Icarus just before their flight; but “If you fly too high, the sun will melt the waxen bonds.”... and off he took...” (Martin, 139) As stated here, they successfully fly out of the maze. Unfortunately, this remarkable accomplishment is tempered by tragedy. Icarus flies too high, too close to the sun. His wings melt and he falls to his death.

This story is told over and over again, a parable warning about the dangers of human arrogance. Yet, within this simple narrative, there are many questions. How did Icarus feel about their long confinement? Why did the birds who gave them feathers decide to help them? Or: How did Daedalus obtain hundreds of bird feathers? Why was the maze built in the first place? What did Daedalus do to anger the king? Some of these questions are answered in other myths, but we began to make up our own answers. In revisiting the old story, the two of us had a chance to examine it from different perspectives. We thought a lot about the overlooked characters, the background people who seldom have their voices heard. Hearing the stories outside of the typical narrative was perfect for this piece: We wanted to give voices to neglected objects, to silenced characters.

The structure of the play would be episodic, to have short vignettes with each of the characters. They would each give their impressions of the events, investigating why Icarus fell. Every character, though distinct, would have its story told through many voices. Objects that I created would voice the poetry of Brian's writing.

EXPANDING THE ROLE OF A COSTUME TECHNICIAN

Theater is a collaborative art form. A play will be selected, and then a team will be assembled to realize that story. The team will consist of directors, actors, designers, and technicians, among others. The director and the designers will decide the visual concept of the play. Costume designers, after discussion with the director and the other collaborators, rely on costume technicians to realize their ideas. The technician, through conversations, research, and multiple fittings, will then realize the artistic vision: the costume technician's job is to bring a designer's sketch to life.

Designers entrust me to recreate their designs exactly. While I greatly enjoy this process, and the whole collaboration of theater, I always want to push myself as an artist as well as a technician. It was very important to my learning that I chose what to make for this project. With every technique I learn, I imagine the new ways it could be put to use, and the objects I would create if time and resources were not a factor. Thinking of my own desires as a technician and an artist, and referring to the story I wanted to tell, I came up with my own images, my own creations.

I thought of the drawings I made not as finished designs, but as starting places. Using the drawing as a template, I was open to new ideas the creative process presented to me, and new ideas were constantly being generated.

By allowing myself this creative freedom, I was similarly open to the multiple possibilities each process presented me. Throughout the course of this project, I was constantly revising and revisiting my methods and designs. In many ways, this mirrors Brian's process as a playwright. The original outline of a play is never exactly translated

into the finished piece. As a generative artist, a playwright is constantly making choices and revising. In this project, there was no determined text that I could refer back to; there was only a half-formed myth. I was the one generating the images and the characters. By allowing my methods to inform my designs, and by accepting experimentation into my process, I was able to create costume pieces in a new way.

The masks that I made were incorporated into the play, and made an entirely new thing, outside of the typical structure of theater. By designing the pieces myself, I was able to contribute to the theater community both as a generative artist and as a costume technician.

REASON FOR MASKS

Theater is a story-telling medium. Through a series of movement and sound, performers create a narrative for the audience. A regular person, through the telling, is transformed into something different; he becomes a character. A regular room, through suspended disbelief, can become anywhere in the world, through the magic of theater.

I wanted to create my own kind of magic. When performers put on a mask or headdress, they are instantly transformed. They are not immediately the character, but they are certainly not precisely themselves. It is a striking image, a person suddenly becoming something else, simply by obscuring part of their body. Masking a face is one of the fastest ways for an audience to believe in a character, to buy into the world of the play.

As esteemed creator Julie Taymor says, “Magic can be generated by blatantly showing how theater is created rather than hiding it.” (Blumenthal 225) In other words, theatrical magic is showing the audience how the world is created. When a performer puts a mask on onstage, the audience can see the moment when the transformation happens. By drawing attention to the theatrical moment, the audience is also transported into the created world.

Masks also give very distinct visual cues to audiences. A performer in a mask is instantly evocative. In explaining the resonance that cartoon characters have with audiences, comic artist Scott McCloud says “By stripping down an image to its essential "meaning", an artist can amplify that meaning in a way that realistic art can't.” (McCloud 30) A mask simplifies, exaggerates and distorts features. A character in a play, through this exaggeration, becomes an archetype, a version of something simple, easy to identify.

It was this immediate simplicity that I wanted to explore. To have an immediate recognition with the audience, I focused on silhouette, on making masks and head pieces that had recognizable shapes and features. Though I tweaked and twisted these features somewhat, each mask remained a recognizable, iconographic creature or face. These creatures and faces then became characters, with the masks providing the audience access to these characters. Using masks, I invited the audience into the theatrical moment, into the story these characters told.

INSPIRATION FOR ITEMS DESIGNED AND BUILT

In this section, I will detail my specific inspirations, first as an overview, and then for each piece I created. As previously discussed, my entry into this project was based on the ancient myth of Icarus, the boy who fell from the sky. It was a hazy story, full of half-remembered truths and characters. The neglected characters that surround the fall were the genesis of this process. As Brian and I expanded and retold the story, these were the characters that emerged. Each following section explains the journey and creation of the pieces, and then the characters. I reference the unpublished play, *Fallout of the Sky*, throughout this section. I have included the full text of the play in this paper in the appendix, and reference those page numbers.

The Birds

The bird characters were the first to be conceived as masks and the first to be written about. The birds are a group, with three distinct voices in the play. They decide

to help Icarus and Daedalus escape their exile by giving them their feathers to make wings. The birds decide to help a family that doesn't belong to them. They symbolize freedom tempered by caring, an ability to empathize with someone who is not part of the same group or flock.

The bird face that I sculpted, had an intelligence about it, a look that seemed to say "I know what you are doing." Taking the object and the story and putting them together implied that the birds, or at least one bird, knew they were helping the imprisoned inventor and his offspring. This question led to narrative possibilities in the play: Why did the birds decide to help?

When I imagine birds, they are always a group, moving together. They may all squawk at once, creating a great discordant sound, but their voices are the same, and they stay in sync. Geese fly in their V formation, ducklings follow the mother duck in a row. Because of this kinship, of this group feeling, I knew the bird pieces would be made in multiples. Each mask, while unique, would adhere to the same basic structure as the others, producing an organic uniformity. The idea of organic uniformity, of a sameness that is also diverse, was an idea that I pursued when thinking about materials for these pieces. I decided to use Sinamay, a loosely woven pre-sized straw, available as yardage. Milliners use Sinamay to create both the bodies of hats and also as trim. It is lightweight, flexible and see-through. Because of Sinamay's transparent nature, it can create a beautiful layered effect, especially when painted different colors. The transparent color movement and organic woven texture seemed perfect for the birds, who eat "...gutterfish//algae, urchins//bloodworms, grubs, weeds, dirt.." (See Appendix, 74) The airy, transparent nature of Sinamay also, to me, implied flight, which is an important aspect of the birds.

To humans, having the ability to fly is an incredible, enviable thing. In the Greek play "The Birds", written by Aristophanes, birds and a few humans join forces, and they

are able to unseat the gods. In Dudley Fitt's translation of Aristophanes' play, the relationship between the two is described. "... you were a man once, like us: because you owed money, like us, and because, like us, you hated to pay it. Now you are a bird, with a bird's-eye view of things and a man's knowledge of all lands under the sun, of every sea." (Fitts 170) I wanted to capture the feeling of this hybrid creature, an apparent kinship. Because they are related, it should be easy to see why the birds would want to help the humans, to give them "a piece of ourselves." (See Appendix, 79) The birds see something of themselves in the two humans on the island, and decide to help.



Illustration 1: Birds Design.

The Guardians

When Brian and I set out to write this play, one of our goals was to put texts on top of masks. At first, these two masks were simply faces, but we began imposing a

series of words and stories on top of them. To me, as an artist, they represented the safeguarding of traditions, a protection of old rituals, and a dire warning if these rites were not followed. The guardians mark the entrance to the ritual space and keep the past safe.

When incorporating these two faces into the play, the voice that emerged from them was the voice of the labyrinth itself. In this passage from the play, the two guardian masks are introduced as being stone heads at the labyrinth entrance. “At the gate to the king’s labyrinth you’ll find them, they’re made of stone carved from polished marble, quarried from the edge of the ocean. They are the Guardians, gatekeepers.” (See Appendix, 65) After their introduction, the two masks issue a dire warning, not to enter, to go away. However, if you keep listening to what the labyrinth/ the two faces have to say, it becomes apparent that they recall past events. “You can hear all the words that get stuck in the cracks. Stones gather the things that they hear.” (See Appendix, 66) There are layers to the words and voices that the stones recall. After the first warning, the second sound is the cries of the people locked in there as punishment; the third cry is the grumbling of the workers who built the structure; and the last is a song that was once sung within the walls. The two stone guardians keep the labyrinth safe while remembering the past. Through their ritual chanting they keep the memories alive and invite people into the world of the past.

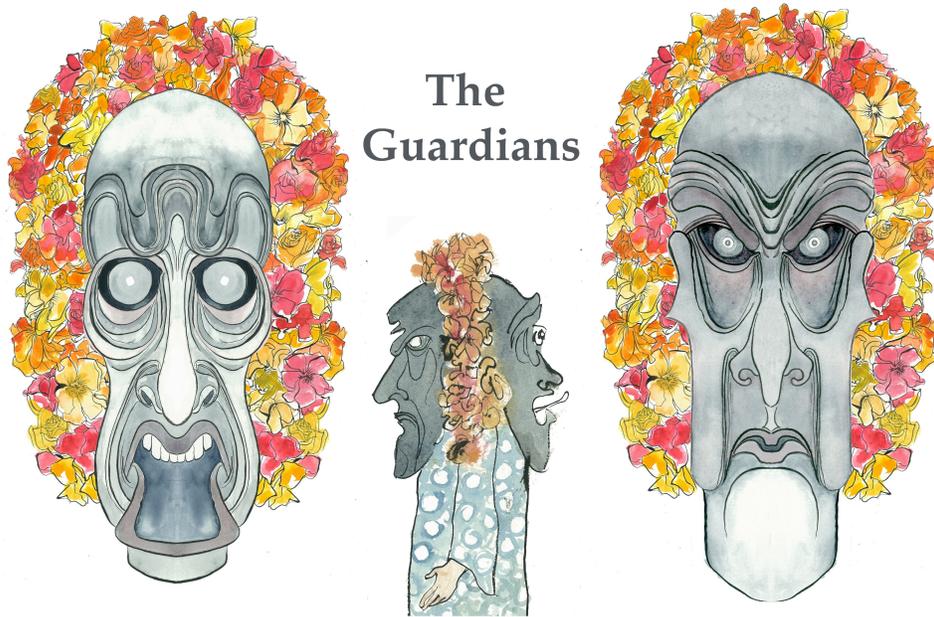


Illustration 2: The Guardians design.

Masks can be so evocative that they can draw one into another world even if one doesn't speak the language. During the spring semester of 2013, I was lucky enough to be studying abroad at the Taipei National University of the Arts in Taipei, Taiwan. It was an incredible and inspiring experience, being a foreigner in this country; even running simple errands could turn into cultural events.

I was shopping for supplies in the Datong district of Taipei, when one such cultural event occurred. The Datong district, in addition to being the textile and trim center of the city, is also home to traditional medicine and religious markets, and to the Taipei Xia-Hai City God Temple. Often there are parades, and that day I witnessed one. Masked performers and musicians came out into the streets to pay tribute to the City God. Witnessing a masked performer in the context of a modern city street was incredibly striking. Even with the human-like characteristics of the costume, the wearer is transformed and immediately the whole street becomes a mythical place. Illustration 3, below, depicts one of the masked parade participants.



Illustration 3: Participant in Temple Parade, Taipei, Spring 2013

This transformative and traditional moment was something that I wanted to evoke with this project. The masks and costumes on the streets of Taipei were donned to draw

the audience and the performers into a ritualistic space, to worship and pay tribute to other-worldly forces. In a similar way, the two guardian faces draw the audience into the labyrinth.

Because the Guardian masks were inspired by ritual and tradition, I wanted to use a classic mask-making technique. I decided on using a water-based clay sculpt, and then using papier-mâché to make the positive. This technique was effective and evocative, creating stern faces using a classical technique.

The Bull

The play, *Fallout of the Sky*, that Brian wrote, takes place in a world of the Greek myth of Icarus. We both wanted another character in the play that rooted the story to that world. The design of the bull mask was based in the needs of the play more than the other masks. Within that myth, there are two bovine characters, the Minotaur, a half-human/ half-bull, and the bull himself, a gift from the gods and father to the Minotaur. There is also a cow costume that the architect Daedalus builds. For the story that was forming, we decided the best character to include was the Minotaur, the human with the head of a bull. In the original myth, the Minotaur is conceived because the god Poseidon was angry at King Minos for refusing to sacrifice a God-given bull. In our play, though he appears to be a terrifying monster, he has human feelings and is somewhat misunderstood.

According to Richard Martin's book, "Myths of the Ancient Greeks", King Minos angered the god Poseidon. Poseidon took out his anger on the King's wife, Pasiphae. Pasiphae was driven crazy with lust for a bull. Unfortunately, the means for her to fulfill her passion was present. Daedalus, ever the clever inventor and enabler, built her a life-like hollow cow and placed her, within the disguise, in the bull's path. This dubious exercise was successful, and nine months later, the Minotaur was born. The creature was

a half human, half bull. “The offspring of the ensuing union was a ravenous, ugly creature: it looked like a man but had a bull’s beastly face.” (Martin 127)

This mutant was so disturbing to look on that a means had to be devised to contain him. Once again, Daedalus was charged with coming up with a solution. He built a complex prison, a maze. “The solution for imprisoning the bull-man was something Daedalus called ‘the labyrinth’ —a devious, sprawling building, with a central room, the rest entirely made of intersecting, winding branching crisscrossing corridors, designed to make any exit impossible. They put the Minotaur in first, and built outward and outward until he was trapped.” (Martin 127) Confined in this elaborate and twisting penitentiary, the Minotaur was fed on other prisoners lost in the maze, stranded there by the king.

The Minotaur is an imprisoned and maligned half-human/half-animal. Never investigated in this myth, however, is the question of how the Minotaur felt about his situation. He must have felt something, because he was half human, after all. And bulls, while occasionally prone to violence in the throws of mating or if otherwise provoked, are herbivores. They are not naturally ravenous predators. The Minotaur’s feelings are never considered; no one asks why a human and bull hybrid would be so horrifying. The Minotaur is certainly an overlooked character, neglected in the normal scope of the story.

For our play, we decided that the Minotaur would have some human characteristics, and would have a friend, the boy, Icarus. The chorus translates for him. In the play, the chorus relays the Minotaur story; about growing up, being rejected by the king, and being locked away in the labyrinth and going crazy. He also calls out the chorus, and to some degree, the audience, for not looking deeper into the story, for believing lies. “These stories, you know, you people tell them until they get bent so bad no one can recognize them.” (See Appendix, 73)

To create the character of the Minotaur, a monster who was also relatable, I decided to create a head piece that would mostly, but not entirely, conceal the

performer's face. Allowing some of the actor's face to be shown affirms the humanity of the character. I also decided that the main material for the head-piece would be leather. Leather, the skin of a dead cow, was transformed in my hands to again create a bovine creature. I enjoyed the meaning that the material imparted to this mask. Giving lifeless leather new life seemed to have a good parallel to giving a story to the voiceless Minotaur. I also felt it was important to see the humanity in the creature. I wanted the audience to empathize with him. To this end, I focused on the Minotaur's eyes, which needed to have the gentle passivity of a cow in addition to the intelligence of a human.

Having such a mask included in this project accomplished two goals. This mask allowed me to explore new construction techniques and it gave my playwright collaborator a new and important character.



Illustration 4: Bull Design.

The Fish

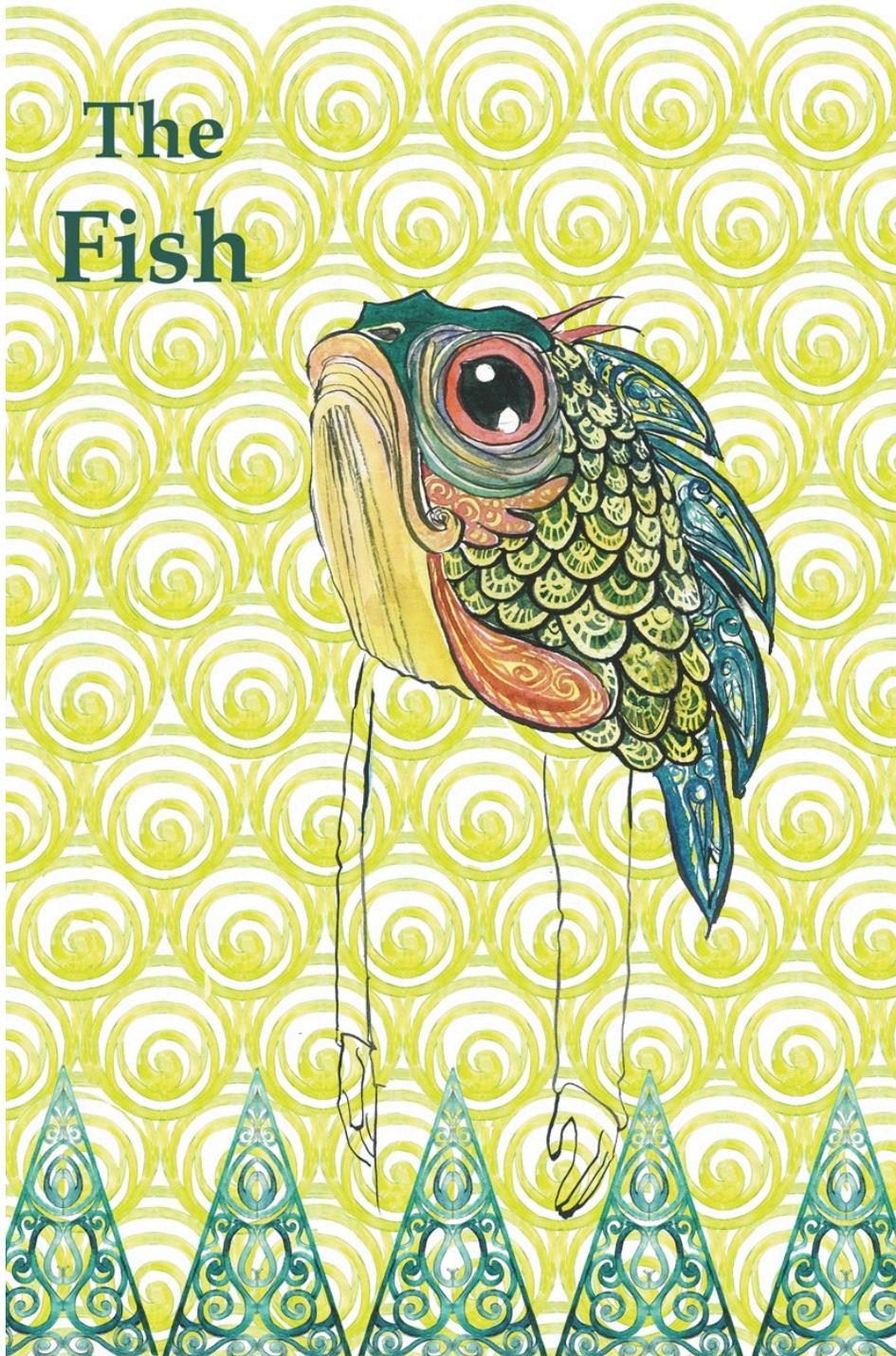


Illustration 5: Fish Design.

The fish is a character that was not present in the original myth of Icarus. However, in the story there is a strong element of the ocean, of the sea. The story takes place on the island of Crete, after all, surrounded by water. The bull, father to the Minotaur, came from the sea, as a gift of Poseidon, god of that realm. And Icarus eventually falls into the water.

These different parts of the story take place in this watery realm. What if there were a character who witnessed the parts of the story that happened underwater? And then I realized, of course some one witnessed it. There are so many lives in the ocean, barely counted by land dwellers. Fish and their underwater water environments are deeply affected by the choices of those on land, our pollution and discarded trinkets. The fish is the silent witness, watching events unfold from her watery home. She knows we are harming her world, and that she will eventually succumb. As she says in the play “But we’re all going to die, right? Something’s going to get us. We’ll get eaten. Birds, whales, bigger fish, smaller fish that get lucky, all you greedy, greedy humans with hooks and nets and supermarkets and all-you-can-eat sushi.” (See Appendix, 64)

The idea of a fish as an observer is not unique to our play. There is an ancient Chinese story of a monstrous fish that transforms into an enormous bird. Written in the fourth century B.C., it is retold in the work of Chinese philosopher Chuang Tzu. As Anne Birrell explains in her book “Chinese Mythology”: “...the reason for the recounting of that myth was to explain complex ideas of relativity and objectivity which were central to early Taoist thought.” (Birrell 19) In other words, a fish who can transform into a bird can see things from many perspectives. Birrell later reprints a translation of the original text, from *Tall Stories from Chi’I*, written by Chuang Tzu.

“In North Gloom there is a fish. Its name is K’un. K’un is countless thousand leagues big. It changes into a bird, and its name is P’eng. P’eng’s back is countess thousand leagues broad. When it is aroused and flies, its wings are like clouds suspended in the sky... The blue, blue sky—is that its real color or is

it because it is so distant and infinite? From where this bird looks down, it must look just like that.” (Birrell 192)

This quote illustrates that even a fish that is also a bird cannot know the entire truth of a situation. The fish transforms into a bird yet still cannot see and know everything. Everyone is locked into their own perception. The fish is at least smart enough to know that she does not know the whole story.

In the play, the fish is not able to transform into a bird. But she is able to go on land to enjoy the sun and smoke cigarettes. She has this small transformative power, the ability to be in two realms at once. She saw the boy, Icarus, fall into the ocean and die. The fishes’ shiny, glassy eyes regard the audience, holding us responsible. The fish has witnessed us polluting, how the earth all around us has been defiled and yet we do not stop. She’s watching, and if she has another cigarette, well, she’s not killing herself any faster than we are. As she says in the play:

“I was going to quit these things. 200 years. Thought to myself, I should quit, I should quit because maybe one of my kids will live long enough that I’ll see my grandchildren... I was going to quit. But I realized that day, you gotta keep the habits that kill you. Life is too long not to. We really wish you wouldn’t litter. It breaks your heart. The litter. ... I do love the sun.” (See Appendix, 65)

The fish demonstrates to the audience that our actions have wider reaching consequences. She can move between two realms and see things from multiple angles. She watched the boy fall, but there was nothing she could do but watch.

I wanted the fish to have a very different shape than that of a human, yet allow the performer movement, the ability to walk. This was important to show the dual nature of the fish, made for the ocean but able to walk on land. The silhouette of a fish is very different than a human, and the problem becomes how to create a shape that is evocative of a fish shape yet still allows that movement. I used rattan to create the shape and understructure because it was both lightweight and flexible. For the surface, for the fish

scales and face, I used a variety of different materials, to create different textures. This would show that the fish is a combination of many things, living in different worlds.



Illustration 6: Fish Concept Art.

BUILD PROCESS

As I began to build each item, I allowed my working process and materials to influence my design. During this process, my coexisting two halves, the designer and the maker, evolved in tandem.

One of the most important aspects of this project was experimenting with different techniques. These techniques ranged from the newest digital technology, 3-D printing, to the most analog, clay and paper. Each piece had its own series of methods that I used. For the guardians, I sculpted and used papier-mâché; the birds used traditional millinery techniques of wired buckram and Sinamay, in addition to a latex mask component. The bull construction also used some traditional millinery, but was largely made out of leather and leather-working techniques. The structure of the fish was made with rattan and wire, and then covered in fabric. The eyes of the fish were printed using a Z-Print 3-D printer.

This section provides greater detail about the process used on each piece of the project. I organized this section by design, with the exception of the 3-D printing techniques. For this thesis project, I learned how to use digital sculpting programs and how to print what I made on a 3-D printer. My goal was to see what kind of application this technology could have in the theater industry, especially among smaller-scale regional theater costume crafts artisans. I will first discuss the 3-D modeling and printing process, and then I will discuss its present uses and applications.

After writing about my 3-D printing experiences, I will then go through each performance object and talk about the methods used to create each in detail.

Chapter 2: 3-D Modeling and 3-D Printing

3-D printing is a process where a series of shapes are created on a computer matrix, and are then translated into an analog object.

Digital space is a fertile imaginative ground. As described in the ebook *Fabricated : the New World of 3D Printing*: “The virtual world is a place of freedom where gravity is optional. In a video game, characters can leap over buildings, grow themselves a new arm, and morph into different physical shapes.” (Lipson 13) In other words, anything is possible. You can paint with stars; have cloth the texture of honey; birth lizards that fly like bees.

To access this strange space, there must be software. There are many 3-D drafting, sculpting and drawing programs available, such as Z-brush, Mudbox and Sculpttris. These software packages allow the user to navigate all around the object, to see all faces of the sculpt as he or she is working. Using these programs, technicians have created amazing 3-D objects. Concept artists in Hollywood use computer generated (CG) artwork for their designs, creating incredibly photorealistic illustrations. Recent movies depend heavily on similar 3-D graphics for many effects, and video games also use these techniques to create interactive experiences. Industrial designers and engineers use similar programs to make prototypes. Creating in the digital world has never been more rich or more detailed.

Once an object has been created in this digital realm, there are a variety of ways in which the information can be translated into the corporeal world. Through out this process, I found the e-book *Fabricated : the New World of 3D Printing*, by Hod Lipson and Melba Kurman enormously helpful. They discuss how soon there will be no division between a digital file and the analog world. “3D printing technologies will close the gulf that divides the virtual and physical worlds.” (Lipson 14)

The School of Architecture at the University of Texas at Austin has two machines capable of 3-D printing available for general student use, the MakerBot™ and the Z-Print Machine. There are two types of 3-D printers. Here, Lipson and Kurman describe the two types of 3-D printers:

“The first family of printers deposits layers of raw material to make things. The second family of printers binds raw materials to make things. The first family—let’s call them “selective deposition printers” -- deposits raw material into layers.... this class of printers squirts, sprays or squeezes liquid paste or powdered raw material through some kind of syringe or nozzle. ... The second family of printers that binds (does not lay down or deposit) raw material trains a laser or adhesive onto some sort of raw material. This class of printers—called “selective binding printers”—uses heat or light to solidify powder or a light sensitive photopolymer.” (Lipson 68) This description is immensely useful in considering 3-D technology, and it helped me determine which printer to use.

The first printer, the MakerBot, is a “selective deposition printer.” As the School of Architecture Digital Handbook describes it, “The MakerBot Replicator 2 is an extruding 3D Printer that uses thin layers of biodegradable PLA plastic filament to print. ... The MakerBot prints by heating the plastic and extruding it through a nozzle onto a surface where it cools” (*Information Technology: 3d Printing*, UT School of Architecture)

The second printer, the Z-printer450 is a “selective deposition printer.” As detailed by the School of Architecture: “The Z-Print 3D Printer uses a cementitious material that handles compression very well but does not do well with tension. “ (*Information Technology: 3d Printing*, UT School of Architecture)

Between these two printers, UT students have access to all varieties of 3-D printing techniques that readily exist on the market. Additionally, any theater looking to utilize 3-D printing will be using one of these techniques.

USING MAYA AND MUDBOX TO CREATE A 3-D MODEL

Maya and Mudbox are the 3-D sculpting programs that I used in this project. Both programs are widely used in the video game and film industry and are free for student download. They would be easy to access for a theater company. Both are products of the Autodesk computer software suite. I took two classes in the Radio Television and Film department at UT to learn the use of Maya and Mudbox.

Maya is a very complex program, used for modeling and complex animation. According to the Autodesk website, it “offers a comprehensive creative feature set for 3D computer animation, modeling, simulation, and rendering on a highly extensible production platform.” (Maya, Autodesk.com) It took me a long time to get comfortable using the interface and I have only scratched the surface of what it can do.

Mudbox is primarily a sculpting program. “Mudbox® digital sculpting and digital painting software enables you to create production-ready 3D digital artwork. Mudbox offers a high-performance environment and professional-quality tools to help you create highly realistic 3D characters, engaging environments, detailed props, and compelling concept designs in less time.” (Mudbox, Autodesk.com) While not as multi-faceted as Maya, Mudbox has a simplified and intuitive user interface. For this project, both programs were necessary.

I would usually begin the process in Maya, creating a base model. I would use the “Create Polygon” tool to create a polygonal plane. Subdivisions were created in the plane, a gridded mesh. Then those mesh squares were cut with the interactive split tool to the shape I designed. The shape was then given dimension with the extrude tool. If everything was done correctly, this polygon would have a neat grid-like mesh that would export easily to Mudbox.

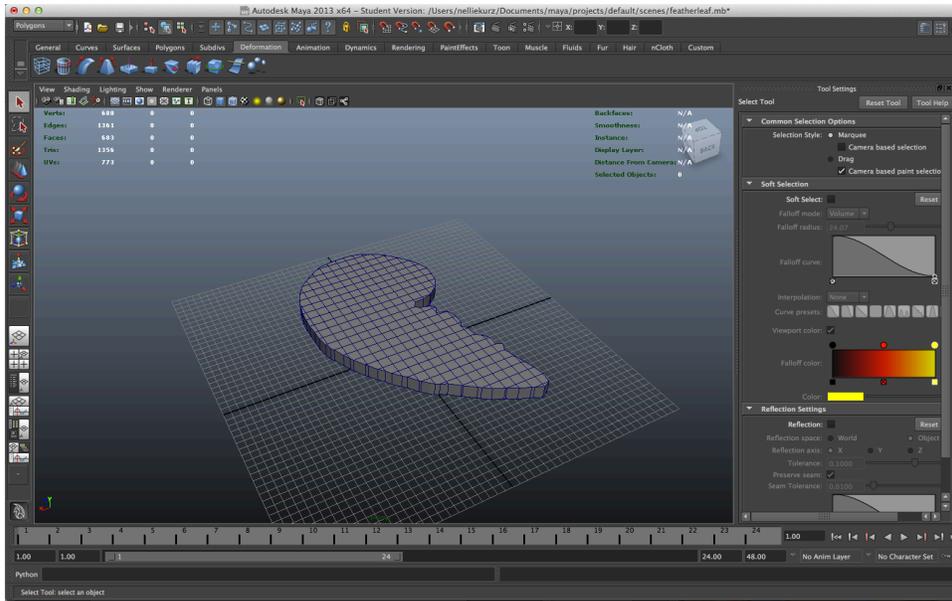


Illustration 7: Example of a Model with a grid mesh in Maya.

Mudbox and Maya can both read the same type of files, and each has a mechanism for importing and exporting between the two. However, the grid mesh created in Maya can be more disordered than the Mudbox program is able to read. Mudbox works by subdividing the grid mesh of the object over and over again, so more and more detail can be achieved. For this to work, the mesh must be almost a perfect grid, with square subdivisions.

Once this was accomplished, sculpting in the Mudbox program was relatively intuitive. There are a variety of sculpting brush tools for additive and reductive effects, and it is simple to adjust the strength and size of the tools. One of the most useful and time saving features of Mudbox is the mirror function. The program will automatically perform the same actions on both sides of the object, creating perfect symmetry. This is a highly useful function, since one of the greatest difficulties of analog sculpting is keeping both sides the same.

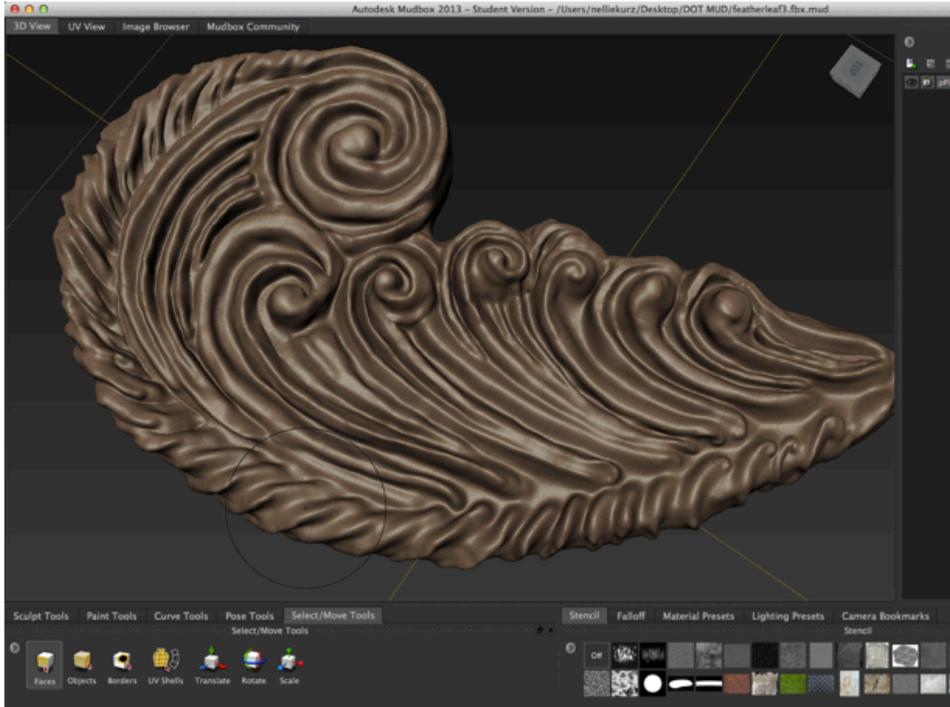


Illustration 8: Example of a Sculpt in Mudbox.

Once the sculpt was completed, I would export the object back into Maya, where it is easy to create bends in entire sculpts, and to double check that there were no irregularities in the mesh that might create printing problems. Then I would export the file as a Stereo Lithography File, the type read by most 3-D printing machines.

EXPORTING AND PRINTING THE MODEL

Uploading the file of the 3-D sculpt proved a bit challenging because the software used in the architecture school does not read the scale in the same units as Maya. Every file would have to be resized, but this issue was resolved easily, by collating the data in the Stereo Lithography File with analog measurements and relating that to the operating technician.

The technician would also advise on which 3-D printing machine would be appropriate for the sculpt.

The MakerBot, the “selective deposition printer,” is less able to handle detail. The School of Architecture digital hand book describes the MakerBot’s limitations in the following quote. “While the Makerbot doesn't require post-processing like the Z-Print does, it is more limited in what it can successfully print. The MakerBot prints by heating the plastic and extruding it through a nozzle onto a surface where it cools. Because of this, overhangs over 45* print improperly because the filament has no surface to extrude onto, causing that portion of the print to fail.” (*Information Technology: 3d Printing*, UT School of Architecture) Therefore, models that come out of the MakerBot have a boxy, pixilated look.

For this project, I wanted a high degree of detail, and for my pieces to have a curve in them, which recommended the Z printer. “The Z-Print can handle the largest variety of model geometries and inclines, but requires more post-processing and is more susceptible to damage.” (*Information Technology: 3d Printing*, UT School of Architecture).

USING THE PRINTED OBJECT

It takes about two hours to print a model on the Z-print machine, and an hour after that for it to dry completely. Even then the model is fragile and granular. Spritzing it with a saline solution stabilizes it to some extent, but it remains prone to damage and breakage.

The School of Architecture has the following advice for post printing model treatment:

Post-Processing

There are three different options for post-processing a 3D printed model. The options are:

1. Do nothing and take your clean model

Pros: Easy and free; you are done immediately. If your model is sufficiently strong and thick this is a good option for you. The model will remain bright white in color.

Cons: The 3D print model material is bonded with a binder that is water-soluble; this means that if it gets wet the integrity of the glue will be compromised.

2. Spray with an Epson salt coating

Pros: Easy to perform and seal a model; a quick and even spray across the entire model will seal the model so that it is less susceptible to binder deterioration. Free and the model will remain bright white in color.

Cons: Similarly to the binder, the Epson salt coating spray is water-based. If the model is very thin or delicate, even a thin coating of the Epson salt spray can deactivate the binding agent and the model will wilt or melt; the form will not remain as designed.

3. Use a Z-Bond super glue to seal the entire model

Pros: Z-Bond super glue seals the model and dramatically increases the durability of all 3D printed models. If you are printing very thin or delicate parts, a super glue coating will prevent breakage in the future as the result is solid as a rock.

Cons: The use of the Z-Bond super glue is expensive; the cost of coating a model in super glue often doubles the cost of the original model. The super glue also discolors the original bright white and makes the model a light gray. The process of super gluing a model can also take a significant amount of time.” (*Information Technology: 3d Printing*, UT School of Architecture)

I tried all of the recommended post processing methods, and was dissatisfied. Saline Spray offered no real protection. Z-Bond glues such as E6000 were difficult to apply and much of the detail was lost. I then began experimenting with my own coatings. Shellac was useless as it was absorbed entirely by the pores of the surface. Wood glue ended up yielding the best results, being sturdy and creating a perfectly sealed surface. However, despite the sealed surface, the model remains vulnerable. It is too brittle to be a highly exposed costume prop, such as a necklace or crown. For creating these items, it would be prudent to make a soft mold and then use a polymer to create a costume object. I also successfully experimented with covering the 3-D print with a 2-part epoxy resin, to

satisfyingly sturdy results. However, the resin filled in much of the detail, the cracks and the crevices of the model. For a highly detailed mold, wood glue remains the best option.

Once the model was sealed, it was simple to create negative molds using two-part silicone. It is also possible to use the positive model as a costume piece itself, but only if it is not a piece that is handled too much, has a stable base, and is coated in some kind of epoxy resin.

FUTURE USES OF 3-D PRINTING TECHNOLOGY

In conclusion, 3-D printing has specific and limited uses for costume crafts and mask production at this time. Lipson and Kurman describe the gradual process of integrating digital and corporeal worlds.

“The convergence of the virtual and physical worlds will be a slow and subtle process. It will happen in phases. First we will gain control of the shape of physical things. Then we will gain new levels of control over their composition, the materials they’re made of. Finally, we will gain control over the behavior of physical things.”
(Lipson,14)

We are in the early stages of this convergence right now; we are able to control limited factors, and in turn that limits the uses and accessibility of 3-D printing.

The first limitation is the software. It takes time and dedication to learn the necessary programs. Once the intricacies of each of the programs were learned, however, it became an intuitive process, just as simple as sculpting by hand. Unfortunately, it took almost three months to get to this point.

The software itself has restrictions as well. An inability to create negatives, an inability to create internal details. “Modern design software is still dogged by its roots, by the fact that it grew out of manufacturing and animation fields that only recently started 3D printing. The same design tools that were intended to deal with limited amounts of computing power and save time, money and improve knowledge transfer,

ironically, also place limitations on what can be 3D printed. As a result, a design file doesn't depict the detailed insides of physical things (at least without a lot of additional custom work). Nor can design software graphically model and predict the behavior of complicated blends of different materials.” (Lipson 97)

Another difficulty is the unsuitability of the 3-D materials for theatrical productions. A good costume crafts piece is both lightweight and very sturdy. The plastic composite used by the MakerBot™ was very sturdy, but unfortunately much too heavy to be considered for a wearable piece. In addition, too much detail was lost in the prints of MakerBot™.

The compound and adhesive used by the Z-print 3-D printer was neither sturdy nor lightweight. The brittle print models meant that they had to be coated in an adhesive and then used as a positive for a soft mold.

If a theatre company has a technician who is trained in this digital technology, and has access to a 3-D printer, some material resources can be saved by using the techniques I outlined here. However, these factors seldom co-exist. In addition, it is difficult to get a mask piece to fit to a performer's face without access to a 3-D scanner. At this time, for most theatrical costume crafts artisans, 3-D printing has somewhat limited use. After all of my experimentation, I only used this new technology for one piece.

Despite its current limitations, the technology is incredibly helpful in certain small scale, highly specific circumstances. The eyes on the Fish Mask could not have been achieved as quickly, with as much detail, using any other technique.

3-D printing is already being widely used in the more monetarily lucrative film world. Should any theatrical costumers want to transition, comfort with 3-D modeling and familiarity with the printing process would be very useful. I believe that as this technology and its accessibility continue to grow, theater companies will begin using it more. It will be especially efficacious for high-detail specialized craft pieces, as I have used it in this project.

Chapter 3: Analog Techniques

This chapter will describe the analog techniques I used to create each mask.

GUARDIAN MASK BUILD

The guardians were the first build I undertook. As discussed in a previous section, Design and Inspirations, I used Papier-mâché for this piece, as a way to tie the design to traditional mask-making techniques. I also wanted to complete the most analog portion of the project at the same time as the most digital component. This process, a clay sculpt covered with adhesive soaked paper, was simple and effective.

I used water-based clay to complete a sculpt of each guardian's face. See Illustration below.



Illustration 9: Clay sculpt.

The sculpt was sprayed with a clear acrylic coat. Then I covered the clay in layers and layers of brown paper soaked in a wood glue and water mix. This papier-mâché technique yields a strong yet lightweight product.



Illustration 10: Clay guardian mask covered in papier-mâché.

Once the mask had dried, I pried it off of the clay sculpt. Because of the additive nature of papier-mâché, some details of the sculpt had been lost. I addressed this issue by gluing rope cord over the affected areas and then painting over it with glue. I then sanded the rough surface of each mask until it was smooth. I used millinery wire to secure the edges of the papier-mâché. At the bottom of each mask, I cut a hole and inserted a wooden dowel. Using epoxy, two small screws and an elastomeric roofing compound, I secured the dowel to the mask. I then painted each mask with metallic acrylic paint. To each mask, I affixed a wreath of painted flowers.



Illustration 11: Finished Guardian Masks.

BIRD MASK BUILD

As I elaborated in a previous section, the bird masks were the only masks to be built in multiples. I used mostly traditional millinery techniques in this build, and I relied heavily on a material called Sinamay to create an airy, feather-like effect.

I began by creating a buckram base. I pulled theatrical buckram over a head form the same size as the performer's head. I wired and covered the edges. Because I wanted these pieces to have extra height, I sculpted an additional, conical shape out of oil-based clay and pulled buckram over that as well. I wired the conical shape, and I covered both shapes in fabric. Then I affixed the conical supplement to the head shaped buckram base, creating an avian shape.

For the feathers I used a flexible lightweight woven straw called Sinamay. Various organic feather shapes were cut out in multiples, and the edges finished. Each feather was then painted with dye.

Each feather was then sewn to the base.



Illustration 12: Affixing Sinamay feathers to headpieces.

After the feather bases were complete, it became necessary to add a more lizard-like element to these headpieces. As the characters of the birds say in the play “we are descendants of dinosaurs.” (See Appendix 73) Using oil-based clay and a plaster positive of a face, a lined eye sculpt was made. Then, from the sculpt, I created a plaster mold.



Illustration 13: Oil based clay sculpt for bird masks.

Then latex was painted into the plaster mold. Millinery wire was formed around the edges of the mask and then covered with more latex, embedding it and giving the whole mask a sturdy foundation. Acrylic paint was used to color the latex, and then the mask was sewn to the buckram base. Using latex as an adhesive, a black knit fabric was laid into the mask. The buckram base was also lined with black fabric. Below, see the finished birds.



Illustration 14: Finished yellow bird mask.



Illustration 15: Finished grey bird mask.



Illustration 16: Finished red bird mask.

BULL MASK

I began the process of building the bull mask the same way I began to build the birds—by constructing a base. Because the bull was a heavier piece, I used felt instead of buckram to create a head shape, and I used shellac to size the base. 18-gauge millinery wire and thermoplastic were used to reinforce and build out the base.



Illustration 17: Base for bull mask.

I decided to create the bull out of leather. This appealed to me because the material and the finished object have a dialog. The processed skin of a dead cow is used to make a facsimile of a cow.

To figure out a pattern for the bull's head, I worked first in brown paper. Then I moved into leather. The edges of each piece were finished, and leather tooling was done around the eyes.

As discussed in the previous section, the eyes were very important to get right, because they had to express the kindness and the intelligence of the character. After a bit of experimentation, I used pre-existing plastic sphere forms. They were

painted with acrylic paint, and then coated with a two part reactive polymer coating, called Envirotex Pour-On Lite. Pictured below are the eyes during the Envirotex curing process.



Illustration 18: Eyes being coated.

The Envirotex, in addition to creating a glossy surface, fused the eyes to pieces of leather, which could then be sewn to the rest of the mask. Life-like eyelids were created with softer leather. This process is illustrated below.



Illustration 19: Eyes being placed.

The pieces were attached using a combination of leather weld adhesive and leather lacing. The finished piece was then stained with Ecoflo leather dye and painted with acrylic paint.

Padding was then added to make the piece fit on the performer's head. Below, there is an image of the finished object.



Illustration 20: Finished Bull/Minotaur mask.

FISH BUILD

The fish is the physically largest piece build that I attempted for this project. Because of the size, it was necessary that the structure of the piece be supported on the performer's shoulders. The basic structure of a backpack was used to distribute the weight of the structure, and provide a sturdy base.

Onto the backpack base, rattan rods were used as the skeleton of the structure, providing the shape and outline of the fish body. The rattan was held together by wire,

and a plastic dowel provided center back support, but the mostly rattan structure was lightweight and sturdy.



Illustration 21: Rattan structure of the fish.

Over the rattan structure a skin of reticulated three-quarter inch foam was sewn, mulling the rattan structure.

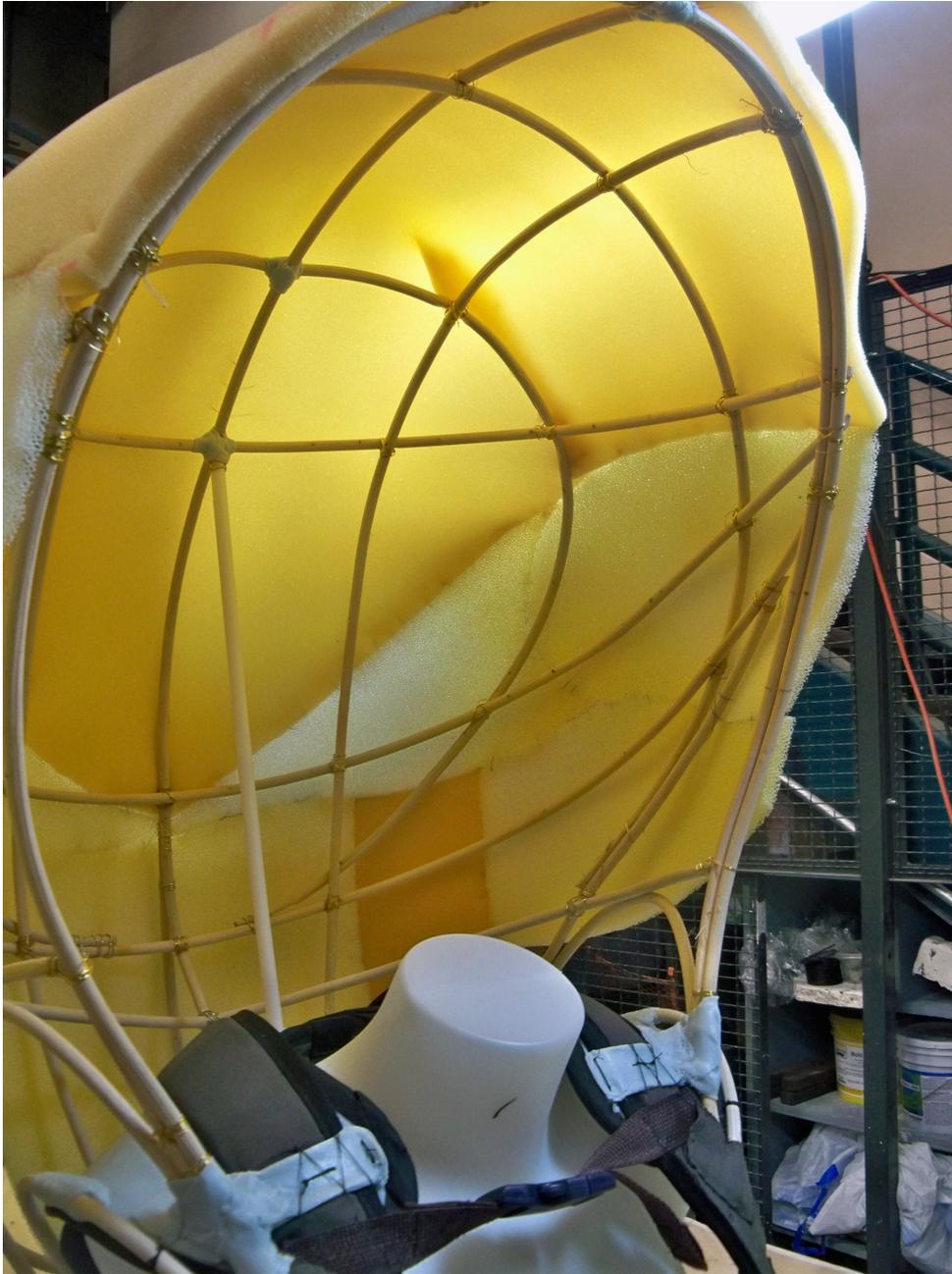


Illustration 22: The rattan structure covered with foam.

Using Mudbox and Maya, I digitally sculpted the eyes for the fish.



Illustration 23: Digital sculpt of the fishes eyes.

The eyes that were then printed using the Z-print 3-D printer, as discussed in the previous section. Below is an image of the excavation process from the 3-D printer.



Illustration 24: 3-D print being excavated.

Once excavated, the eyes were then painted with acrylic paint.



Illustration 25: The eyes being painted.

After being painted, the eyes were then coated with a two-part epoxy resin, a product called Envirotex Pour-On Lite, the same one used for the bull's eyes. This gave the eyes their glassy sheen.



Illustration 26: One of the fish eyes being coated with Envirotex.

The coated and dried eyes were then affixed and a mouth was created out of buckram and gauze, to obscure the performer's face. I used a shiny satin and coated felt to create a scaly decorative fish skin. The felt was coated with Jaxsan, an elastomeric roofing compound, frequently used in prop making. It was perfect for this because it is both flexible and textural. Once attached to the fish, this skin was painted with a variety of paints and dyes. I used acrylic paint, metallic paint, jacquard acid silk paints, and rit dyes. Below is an image of the fish in the early stages of the painting process.



Illustration 27: The fish during the painting process.



Illustration 28: The finished fish.

Chapter 4: Rehearsal and Writing Process

INTEGRATING COSTUME TECHNICIANS INTO GENERATIVE PROCESSES

This project, the creation of a production of *Fallout of the Sky*, a play based on masks that I designed and built, allowed me to explore my ability to be a generative artist. In addition to allowing space and time for materials and product experimentation, I also explored how my inspiration could feed back into the theater community.

The costume shop is often isolated from the greater world of theater. Electricians, scenic, sound, and media all spend time together, while the costume department remains separate. Costume Technicians don't go to rehearsals. Playwrights, dramaturges, and directors seldom come and see what the costume shop is working on. I had no idea what devised work was before I came to graduate school. I wanted to be less isolated, to explore a different way to integrate my processes into the larger theater world. I'm not proposing a new way of making theater, or a destruction or indictment of the traditional methods. My only goal was to bring my work into a larger context, let it live in a world where it could talk with other work.

The genesis of this project can be traced to a dialog I had with the playwright, Brian Oglesby. He happened to see a bird mask I was sculpting for one of my classes. In this mask he saw a story that would soon develop into the play, *Fallout of the Sky*, and my graduate thesis.

There were many unusual things about this situation. Playwrights and technicians do not usually talk in this way, nor do these two professions often overlap. Technicians seldom have the creative reins that I had in creating that bird face. None of these circumstances usually co-exist.

One of the most important things to me as an artist is the story that an object tells.

A costume technician must evoke place, time, personality in one artifact, a garment, hat or mask, worn by an actor. What do certain fashion lines, fabric choices, undergarments say about a person? All of these factors exist in the context of a story.

An object that has no home in a narrative is sad, an unused entity. A costume not worn is an unfulfilled destiny. Everything that I make, that I put my hands on, takes on some life for me, and I feel a responsibility to it. I am a theater artist, a technician, and I want the things I make to live, to have a narrative, to be animated by humans, to tell a story, to breathe. Theater is a way to give back to objects their meaning.

In our modern world, manufacturing is outsourced and unseen. The creation of things is invisible and therefore so many objects are meaningless junk, and nothing is truly crafted. Goods are cheap, disposable, and people have stopped respecting the material world.

Peter Schumann, founder and director of The Bread and Puppet Theatre, writes about how material goods have lost their meaning to us. “Objects have been performing under the whip of subjects too long and are now disobedient and can’t be counted on any longer. They avoid real contact and meaningful relationships and divorce themselves from the intentions of subjects. They used to be good and close to our hearts. They almost liked us and seemed to be grateful for our attention, but were deprived of their dignity by the throw away philosophy, which resulted in the object’s revenge: garbage.” (Schumann 49) Schuman goes on to say that the puppets he creates for his company, Bread and Puppet Theater, are rebelling against this, by having a human touch, by having souls, by being “the things with their big families, the somethings, everythings, anythings.” (50)

Theater saves the objects, allows them to “defy their (objects) subservience and the ungodly meaningless to which they are delegated.” (51) In the theater, even the most mundane object can be given back a story. Brian saw a story in something I had made,

he gave it meaning and context, and allowed my process and my objects to be a part of the greater theater world.

COMING UP WITH A NARRATIVE

The nature of the collaboration that Brian and I had was organic, and followed no hierarchical structure. The play was written as a series of short pieces, starting with the piece “The Birds.” As more masks began to be created, he would write more short pieces, tying them together into the frame of the play.

We had many conversations about how much we enjoyed Greek myths. Tapping into that enthusiasm, the story of Icarus, the boy who flew too close to the sun, became our framework, a way to relate all the pieces back to each other.

This simple and oft told story also provided Brian and me with a way to look at subtext, at the neglected stories around the edges of a fable. Both collaborators on this project have a keen interest in the narratives that aren’t explored, in characters who get pushed to the wayside to make room for the main protagonists.

The creation of the narrative involved searching, trying to discern what these tertiary characters must have thought of the events. The two of us would talk about our ideas, the way we imagined things would fit together and then we would each return to our work, Brian to writing and me to crafting.

The play really began to come together when the actors became involved. Performers are of course the natural intermediary between masks and text. Obviously, masks, without actors to animate them, are static objects. Text without someone to read it is silent. I am immensely grateful to our actors for giving movement and life to our story.

EARLY REHEARSALS AND FRONTERA FEST

The world of the play and the performing objects was expanded and enhanced by the addition of actors to our team. They provided bodies to animate the masks and voices to speak the text. In the search for a narrative, it was useful and delightful to have more input, and especially the input of people tasked with actually becoming the characters.

The play “Our Flock” was accepted into the 2014 Frontera Short Fringe Festival in Austin, Texas, and was performed at the Hyde Park Theater in February 2014. Frontera Fest is a theater festival that showcases new work, from dance to improv to video. Each piece was required to be under half an hour in length. After each evening of performances, the audience was asked to vote for their favorites and certain pieces were selected to be performed again, later in the week of the Festival.

The actors who joined our team for Frontera Fest were UT undergrad students Ian Price, Kevin Jacaman, Alani Chock, and Laura Rogers. As we read through the play and began to block it out, it was interesting to see the roles each of our actors took on.

Alani, Laura, and Kevin were the flock of three birds, and within that narrative it was exciting to see what each of them brought. We assigned them each a character, Laura reading the mother parts, named Linda, in the birds. Kevin was Icarus, the boy, and Alani had the role of Pops in the teenager section. Laura is a dancer, and brought a lot of movement to her role, and took the lead in the graceful movements needed for the birds. Kevin is a stoic, grounding figure, and really brought gravitas to the play. Alani is wonderful at creating characters, and found a lot of the humor in the work. The three of them truly became a flock in the rehearsals leading up to the festival. Although Ian Price was only with us for this first stage of the project, it was decided, because of his limited involvement, that we should make him the Bull, and have his entrance into the world of the play be a surprise. Ian brought so much energy to the roll, and his part created an exciting theatrical moment.

My part of the process is so deliberate, so thought-out and time-consuming. It is amazing to step back from that, and witness the part of theatre that takes place in an instant -- watching a performer become a character in a single second, seeing a drastic mood shift in a single scene. It was wonderful, after so much work and thought, to watch the objects I'd made spring to life.

The Frontera Fest itself was amazing. It was very exciting to see the work performed for an audience. Seeing the way people react in that context is not something that a technician usually witnesses. In many ways, the Fest was like a technical rehearsal, allowing us to see what worked and what didn't. It gave us the opportunity to expand and refine our work.

LATER REHEARSALS AND THE FINAL PERFORMANCE

After Frontera Fest, we began rehearsals again, working on enhancing the world of the play. Chelsea Beth and Ja'Michael Darnell joined our company. Connor Haley replaced Ian Price as the Bull. We did a lot of verbal exercises, exploring the characters. Many new questions were beginning to be asked: How would someone seduce a bull? What song would Icarus sing to the Minotaur? How does a school of fish move? Everyone's input went into a re-imagining of the play, into an expanding of the characters and the world.

Though there are no parts in the play, as it takes the form of a poem, each actor took on certain voices. Ja'Michael became the voice of the labyrinth, taking on most of the narration. He became the voices in the walls of the maze, the voices of the guardian masks. As it says in the play, "Stones gather the things that they hear." (See Appendix, 66) Ja'Michael guided the audience through those gathered sounds, telling them "when you listen harder, when you listen deeper, you can hear all the words that get stuck in the cracks." (See Appendix, 66)

Chelsea Beth became the Fish, giving a curmudgeonly grace to the fish's

monologue. When she joined the team, the part had not been entirely written and fleshed out yet. We knew that the fish was a witness, someone who saw the whole story and held everyone responsible for the events. But we didn't yet know her specific complaints, her desire for grandchildren that would never exist. We didn't know that she was more than 200 years old. Chelsea told that part of the story for us; she was able to access the voice of the fish. She also played the part of the King, the arrogant leader, whose defiance of the gods set the whole series of events in motion, the character most responsible for the death of innocent bystanders. In the few brief lines in which she portrayed the King, she brought so much force and pathos that it was easy to see the King's charisma and anger. In the context of the play, she played both the accused, the King, top of the power structure, and the accuser, the Jury, witnessing and judging events.

Connor, replacing Ian as our Minotaur, wore the bull mask. He was a more subdued and thoughtful bull than Ian, and he played wonderfully off Kevin, the boy, Icarus. They had a more fleshed out scene together in the newer version of the play, where they listen to a record together and play games. Through Connor's portrayal, we saw how gentle the Minotaur was, and how lonely. It was essential to the heart of the play to see the neglected Minotaur interact with someone else.

The voices of the flock -- Alani, Kevin and Laura -- remained constant, but the other three performers joined them at key moments during the last vignette, "Our Flock." In this section, the flock holds a meeting about what to do about Icarus and Daedalus. They have been stranded and exiled to a place where there is nothing. Only the mother bird, Linda, wants to help them at first. She asks all the flock to help, for every bird to give the father and son a piece of themselves. She puts it to a vote. The three characters in the background, the three tertiary birds, are the first to vote "aye," the first to vote to help the other flock, the flock of two. That is really the center of the play: neglected, unstudied characters coming out of the haze of a half-remembered story to help each other.

I also asked for help in this process from Michael Krauss, a first-year graduate scenic designer. He designed a beautiful, simple set for us. He used my designs as a jumping off point, and created a painted floor cloth that was a swirling labyrinth, an island, and a sun reflected in the water. Po-Yang Sun designed a simple and elegant look with the available lights. His warm color scheme evoked both a sunny island and an underwater world.

All of our team came together in a week of intense rehearsal. We blocked the show and ran it over and over again. Our process culminated in two performances, done in small black box space in the F. Loren Winship Drama Building. Our play was a half hour long.

It was amazing to see the whole piece come together like that, in what seemed like such a short amount of time. Once again I was reminded of the contrast between the solitary, detailed work of the costume technician and the instantaneous, fluid, group effort of the performers and directors. For once a costume technician was involved in every step of the process, from conception, to playwriting, to the performance itself.

Chapter 5: Reflection

This thesis was all about moving between worlds. Between digital and analog. Between rehearsal and studio. Between the creative energy of the group and the solitary reverie of craftwork. I explored how my practice and experimentation can feed back into the theater community, and how it is possible for a technician to be a generative artist.

As previously discussed, the entry into this project was the myth of Icarus, the boy who fell from the sky. It was at first a vague story, only half remembered. Through Brian's writing, my drawings and objects, and through the performer's instincts, the story and the characters came into clear focus. Collaboration remains the backbone of theater; this was just a restructuring of that collaboration. The masks that I made inspired a play, and made an entirely new thing, outside of the typical methods of theater, yet at the same time, a play that could be shared with an audience, a communicable story. I was able to contribute to the theater community both as a generative artist and as a costume technician. Like the Chinese myth of the fish who is also a bird, I was able during this project to fulfill more than one role within the theater community.

This was an exhilarating and scary process. So much of the finished product depended on my creativity and input. Despite the terrifying aspects of being a generative artist, there are still avenues of this play and this process that I want to explore. There are more characters whose voices I want to hear. What does the queen think of her half-human son? Does the king ever feel remorse about angering the gods? What happened to Daedalus' wife? And where did the clever inventor father go after all of this? Is he still inventing? And there are more masks that I want to try and make, perhaps the bull costume that Daedalus created, or a mask that a king would wear, or a mask that the inventor father would put on occasionally, for times of ceremony or disguise. I would

also like to design costumes for this play, to create an even more complete visual language for this world I've helped invent.

Being a generative artists in this project was challenging and rewarding. It is good to know that no matter how far I have pursued a story, there will always be farther to go, more fertile ground to explore.

Appendix

Fallout of the Sky:
a series of linked short plays based on the myth of Icarus and Daedalus
a collaboration between Nellie Kurz and Briandaniel Oglesby

We hear the sound of the ocean, the thunder and crack of waves. Gulls squawk and screech.

Dad? Dad!

There was a boy /
a boy / who fell
who fell/ from the sky
and cracked on the saltwater and drowned in the hard ocean

*The ensemble creates the rush of wind
something falling from great height.*

*The lights come on.
A fish, frightened, swims away.*

His name was
 You probably know his name
He was the son of the oh-so-clever inventor.
 And maybe you know *his* name.
For our purposes, he goes by
 Dad? Dad!

(a member of the flock becomes a teenager)
Yeah,
Maybe you heard the story
(a second member of the flock becomes a teenager)
Yeah, Sure
Sure, Yeah
Maybe you were younger
(a third member of the flock becomes a teenage)
Yeah, whatever
(a fourth member becomes a FATHER FIGURE)
“Hey! What did I tell you? What did I tell you? Teenagers.”
 Come on, Dad!

Maybe you were in trouble

Stupid maze.
 “The only way out of this labyrinth was to fly.”
 The maze didn’t have a roof?
 “I guess not, and shut up.”
 What a stupid maze.
 “His pops, who’s smart like your old man, looks up scratches his whiskers.... and says,”
 “No problem”
 “So he builds these things, these wings –”
 Outa what?
 “Whatever’s around, shut up. What yah gotta know, is he glues it all together with wax”
 Why would he use wax?
 “Listen kiddo – you make do. And so, with the wings of wax and whatever’s around, they’re about to fly themselves out of the maze, they’re about fly out over the ocean, and old pops turns to his son and warns him, ‘Listen up, boy. If you get one thing from me in this life it’s this: don’t fly too close to the sun. The sun is hot. The wax will melt. And you will die.’
 But teenagers, you know.”
 He’s a teenager?
 Who else doesn’t listen to his pops?
 So... what happens?
 Woop – Woop! Look at me dad!
 “Teenager happens.”
 Just takes a taste of
 marijuanamaryjaneweed/ beer / whiskey / pills/ porno /
 one hit of the crack / driving too fast / Scientology / riding without your helmet /
 MTV / cigarettes / heroin/ eKstacy or whatever they call it now / facebook /
 theatre /chewing tobacco / piercings / rap music / pokemon /
 cutting school / the huffing of paint fumes / premarital sex

Just a taste, and that’s it. He just wants to get a little high.
 And then he wants to get higher and higher.
 And off he goes, young and dumb and heading for the sun

And and and
(a crack appears in Pops. Just a small one.)
 The boy falls, just
(the whistle of a fall, splash)
 And while he’s fallin, I’m telling you, he’s thinking.
 “Goddamn it, I shoulda listened to my dad.”

A moment.

Dad?

Dad?

Dad?

The ensemble are no longer teenagers.

Maybe you heard that version.

But

after the death, the boy's oh-so-clever inventor father,
he turned to stone

he set himself on fire

he dissolved in acid

he flew away

well, his father is long gone and cannot be reached.

Does the boy light up a cigarette?

When one is missing

One leaves a hole.

There is a boy-sized hole in this story.

When there are holes

you start to fill in details

you start, you know,

making shit up

things that seem like truth but are actually lies

We talked to the ones overlooked

We asked why?

did the boy fall

We asked

What happened

between father and son?

What happened?

Dad? Dad!

*A fish enters.
The flock freezes.
The flock becomes a school of fish.
The school of fish dissolves the boy.
One of the fish lifts herself from the water.
She lights up a cigarette, taking it from Pops.
To introduce her, the school says:*

THE WITNESS

Thank you, darlin'.
I was one time a young thing, you know.
I had my looks, I had scales that glittered like gold, like the sun.
God I love the sun.
Sun's going to kill me someday.
But we're all going to die, right?
Something's going to get us.
We'll get eaten.
Birds, whales, bigger fish, smaller fish that get lucky, all you greedy greedy humans with
hooks and nets and supermarkets and all-you-can-eat sushi –

The squawk of a bird. A seagull.

GO AWAY!

Maybe this shit, this cigarette shit, will kill me.

I was going to quit, you know. For two hundred years I said, tomorrow and tomorrow and
tomorrow, I'm going to quit. One of these days one of my kids, they're going to live long
enough that I'll have grandchildren.

And then – then –

Look
I am fish
and I speak to you to tell you:
STOP LITTERING

People

People are terrible.
You people are terrible

You know, you don't lose something when you drop it into the ocean,
it becomes food, it becomes litter, it becomes ocean.

Titanics, Lusitanias, ocean liners, mines, Russian submarines
tennis shoes and rubber duckies, bottles with notes,
pieces of Japan or Long Island,
plastic bags from Safeway and Rite Aid and CVS,
Malaysian airplanes and women in Lockheed Electras
Boys with wings
Broken boys with broken wings

All of this litter becomes ocean.

And then it becomes story and legend.

Why'd the boy fall?
I don't know.
I don't know where my food comes from.
Do you?

I was going to quit these things. 200 years.
Thought to myself, I should quit, I should quit because maybe one of my kids will live
long enough that I'll see my grandchildren.

It's too late now. Too, too late.

I will tell you this.
The boy had some last words. Some last cries.

(a lyric or two from "I'll follow the sun")

I was going to quit. But I realized that day, you gotta keep the habits that kill you. Life is
too long not to.

We really wish you wouldn't litter. It breaks your heart. The litter.

... I do love the sun.

We hear the squawk of a seagull.

Go away!

... That's all I know.

You know who you should talk to?
Try the King's Labyrinth.
Listen to the rocks.
Rocks speak to you if you listen hard.

*She puts out her cigarette. She heads out into the water again, slipping into the school of fish that collects her.
We hear whispers.
The school becomes stones.
The school becomes the Guardians and the stone walls that make up the labyrinth.*

THE ONES WHO KNEW THE FATHER

At the gate to the king's labyrinth you'll find them
They're made of stone carved from polished marble, quarried from the edge of the ocean
They are the Guardians, gatekeepers

They seem like decorations, and maybe they are, but if you look at them, they tell you
DO NOT ENTER
DO NOT ENTER
YOU'LL BE EATEN
THE MINOTAUR IS HUNGRY
HE EATS PEOPLE
HE EATS FLESH
HE'S HUNGRY AND CRANKY
GO AWAY NOW

The thing about stones is
when you listen harder
when you listen deeper
You can hear all the words that get stuck in the cracks.
Stones gather the things that they hear

Listen:

“Don't put me in there. Please. Don't lock me in there.”
“I don't want to die!”

Aaargh.
“Don’t put me in there!”
“Don’t leave me!”

Now, listen harder.
After all, someone had to build the Labyrinth for the king.

The Guardians start to become Bricklayers. Hands reach out:

Bricklayers.
Masons.
Contractors.
Carpenters.
And architects. A designer of stones. An inventor.

Now, if you haven’t figured it out, you should know that the man who built wings and lost his son

“Listen, kiddo!”
He also designed the labyrinth.

And the stones sucked up the grumbles from the workers who knew him.
You can hear these grumbles etched into the stone

The GUARDIANS are Stone Masons and Bricklayers

Hey
Hey
How do you spell “HUBRIS?”

H
U
BRIS
Hubris
Like Human – bris.

Our man, our boss, he was wicked clever
thought he was wicked clever, that sonbitch
That sonbitch thought we has smart as God

Our man, our boss, he drew up the whole damn labyrinth, and he made it so clever and complicated, full of curleycues and switchbacks and whatever else you can think to confuse you, when we were building it, we gotta had to tie ourselves to each other with string to keep us from getting lost

With string.
Like kids
Kids! Like kids!
You get separated from your buddies

sometimes you gotta take a piss
you're gone
that's it
lost for days sometimes
lost forever sometimes

Was he evil?
Nah, not evil.
Just clever.

We tried to warn our man,
You can't make shit like this.
Don't be so goddamn clever.
Go home. Spend some time with your kid, boss.

Dad? Can we – hey, Dad?

But Our Man would say,

“This *is* for my kid. *Everything* I make is for my kid. Dads can't make life. Dads make things. My kid's mom is dead, so I gotta be the mom and the dad, and I can't be a mom, so I gotta be twice the dad, four times the dad, ten times the dad, and so this labyrinth, it's gonna be so complicated, so crazy, if one of the Gods were to walk himself in there, he'd get lost.

Shouldn't say that.
Isn't the labyrinth for the king?

This labyrinth will make the King proud. My son will see me making the king proud, and I will have earned my son's pride.

His father was wicked clever. But he was not wise.
There's a difference.

So boss, why are you making the Labyrinth? I heard something?

See, he had to make the Labyrinth as a punishment, to make up for

The story goes
The rumor has it
The king, the boss of our boss, man, like the king, you know,
Had this wife

The Gods, you know, they were punishing the king for something or other, and they took it out on his wife, making her all sorts of randy, hot for some bovine action. The Gods, you know.

She came to our man and said,

“I need your help! I need to seduce a bull.”

And he said,

“I love a challenge.”

Not, “Why do you need to seduce a bull?” or, “You should see a shrink,” or, “I should take it up with the king,” or some shit like that. But

“I love a challenge.”

Dad? Dad? What are you doing?

“Working on something.”

How do you seduce a bull?

Music

You could wear lots of red,

Not R-Kelly, he’s gross

listening, you gotta listen,

Bump and Grind --

Maybe a car – drive a Taurus

Flowers, some California wine, chocolate

Show a little uh-uh like, look I can bear strong offspring

I know male mooses are attracted to
the sounds of female mooses peeing

so hunters use funnels and water

brings them running

and then boom

boom!

“You know what? I can build you a cow-costume!”

And it works.

“Of course it works.”

So then, boom, pregnant wife full up on a half-bovine, half-human hybrid monster thing

And when the Minotaur pops out

And the Big Bossman sees what ain’t his son

HOW DID THIS HAPPEN? Any of you know? I’ll kill you!

(everyone pretends that they don’t know.)

And Our Man, you know what he does?

He says,

“My King! I’ll build you. A Labyrinth! I’ll build you a Labyrinth so complicated that everyone will think, oh, there’s the guy with the Great Labyrinth, not, oh there’s the guy whose wife schtuped a bull.
You can lock him in there.”

And the king said,
“GOOD IDEA. YOU KNOW YOU’RE MY MOST TRUSTED ADVISOR.”

Man invents his way out of everything.
H-U-B-R-I-S

Why’d the kid fall?
To punish his old man
Everything you make will destroy you.
Everything you love will be taken away.
God reached His hand and swatted the man’s son out of the sky.

Some men are too clever for their own good.

The BRICKLAYERS are once again the GUARDIANS

The boy visited his father here once.

One more thing the stones heard
One more thing
Music gets in deep
into the cracks that you didn’t know were cracks

*A musical interlude: the boy sings a song. A few lines from I’ll follow the sun.
Soft, like a lullaby.*

THE MONSTER

Brought by the music, the MINOTAUR appears, in a rush, and the flock scatters.

He makes a terrible sound. It’s between human and bovine.

The minotaur cannot speak
our language, at least

It took us twenty years of intense study to learn how to communicate with him

The Minotaur makes the terrible sound/ movements (to communicate)

Holy shit
He said

Finally got your asses around to asking me about the guy and the kid
He said

The inventor father, he was building something, so he was always away. Didn't know
that the thing would be for me. Guess I shoulda asked about it.

I shoulda torn him apart.

I shoulda torn him into pieces.

I shoulda eaten him up.

The boy wouldn't have liked that.

The boy, him and me, we were
um

friends

You know, childhood friends.

at least for the fifteen minutes we were the same damn size

Humans who are just human grow up so slow

Not like minotaurs who are half human

we grow up medium

I wasn't supposed to have friends. It was forbidden.

I never knew my dad.

I knew my stepdad, the king. Who did not like being my stepdad.

He'd grumble.

"Should take you to the slaughterhouse," he'd say.

"Just my luck, I get stuck with a freak."

A drooling monster that can't talk, that can only

Grunt grunt grunt.

You're a monster! Monster, monster, monster!

The boy would say to piss me off.

Come on, Minotaur, let's play.

We weren't supposed to be friends, but we were.

We'd put on one of his Beatles' records, and he'd start singing this song he loved

*(a bit of the song, I'll follow the sun, hummed by the Minotaur and sung by the
boy... maybe by the whole cast?)*

Sometimes he'd tell me

"My dad is why you exist. Did you know that?"

The boy, my friend, he was curious,

He was always asking questions

The MINOTAUR makes a noise.

He'd ask

Why are you like that?

What are you made of?

Will you eat me someday?

I'm an herbivore. I was an herbivore.

What's under your clothes?

What's under your skin?

Do you have a soul?

And then.

Do you love me?

Will you miss me?

We were caught.

My stepdad caught us.

THAT'S IT! TO THE SLAUGHTERHOUSE!

"No! Don't! Don't!"

the boy said.

"You don't have to!"

the Dad said.

HE'S A MONSTER! A FREAK! HE'LL TURN YOUR BOY INTO A
MONSTER! THE SLAUGHTERHOUSE!

"Dad!"

"Please, don't! It's my fault! It's my fault he was born! Just use the Labyrinth I
built you, please."

And so I was locked away.

And they --

God, I'm alone

I'm alone and hungry

and I'm going crazy.

I'm so alone and hungry and going crazy.

Why'd the boy fall? I don't know.

Excitement? Nah. Maybe he was just curious, he just wanted to know

What happens when you disobey?

What happens if you fly high?

What happens when you fall?

The MINOTAUR makes a noise. He trails off.

These stories, you know, you people tell them until they get bent so bad no one can recognize them.

The story goes that they locked up the boy and his pops with me
Well.

That's bullshit.

You don't lock the inventor in his own invention.

You take him away from his tools. You put him in the middle of nowhere. You put him somewhere there's nothing.

(THE MINOTAUR'S LINES:)

Aaaalmost

Aaaaalmost nothing.

Find the birds.

Ask the birds.

OUR FLOCK

The GUARDIANS become the flock. They speak as many and as one.

I I I I I

We

I

I

I

I

Knew him

Knew them.

The flock
the flock of two/
of two
they worked / on
they invaded
our summerland.

In winter and spring
We roost / in
nest /in
our home is

The Mainland
but only in winter and spring

We love
the
hummus // domas
lamb kabobs // stuffed grape leaves
feta // olive oil // honey
baklava on the Mainland
Oh, and the wine
it is so-so

Every summer we come to the island
to shag
to rut
to make love
to romance // to fuck
to start a family
We fly out over /the ocean
for miles
Sea-spray glinting
burning salt, blinding sun
to the island of rock
brush
sand
and no traffic.

We eat seaweed
gutterfish // algae
urchins // bloodworms
Grubs
Weeds
Dirt
For a shot at love we fly

to our suburbs
It is a safe place to raise a family

Every summer

Then there was / this summer
 This summer, they were there
Foreigners
The flock of two
“Dad, Dad!”
 the boy called.
“Dad, I want to go *leave*,”
 he keened.

He was young
 Old enough to know better
Too young

He ached / to fly
 for honey baklava feta

He was trapped
 His father was trapped too
 They were imprisoned
Exiled.

We ignored them.

“Dad, I want to go! Dad!
I miss home.”

We tried to ignore them.

We went about
Courting
Romancing
Nesting
Our eggs hatched, out crawled our children,
Peeping, crying for whatever we could feed them.

And we'd tell them,
 Eat your grubs
 Protein builds muscles
 Seaweed
 Will give you healthy hollow bones
 Bloodworms

Makes your feathers shine.
Algae
Helps your brain

And when you grow strong, you can fly with us
And you can have
Baklava olive oil lamb-kabobs hummus

When you grow strong, we can visit the mainland

“Dad, what if I tell them I’m sorry?”
He’d say.

Sometimes, we’d also hear

The boy sings a line or two from the song.

We ignored that
Can’t let a little noise get to you.
Can’t let the cries of foreigners bother you.
So we all tucked our heads under our feathers.

Except one.

The days grew longer.

Winter was coming
The boy and his father were bones, flesh
No feathers to wick away the rain.

“Dad, I want to go home.”
His voice cracked.
Cracked like an egg hatch

The boy’s clever father
Fashioned
From reeds
Seaweed
His own hair
Branches from scraggly bushes
And driftwood smooth and white like bone

Wings

Seaweed tears

We are descendants of dinosaurs

A billion years it took for these
Seaweed don't cut it.
Seaweed, Ha!

*(The flock mimics the boy and man falling during as test flight as if their wings
are shredded seaweed)*

And as the boy and man pulled themselves from the water
under the cliffs they'd thrown themselves from

We could ignore them no longer!

We held a meeting.

(The birds hold a meeting. It's even more chaotic than is indicated below)

I I I I I // I have a // I have a
III // I have a/
II I III I have a
I I have a
III I have a
Have a
I have an /
 opinion // thought // feeling // words // I have a // itch // argh!
I I I I I I I have a

Ahem!

Winter is coming,
the hatchlings have fledged
Feathers have sprouted.

They are not ours.
We have nothing to do with them.
Nothing!

 Ay nothing nothing.
“Nothing?”
 said one voice.

Nothing to do with them.
 Ay nothing nothing!
They are not ours
 Ay not ours!

We have nothing to give them.

“Nothing?”

the voice repeated.

What do we...?
What could we...?
What are you...?
What...

(The flock looks at each other.)

Ourselves?

Pieces of ourselves?

“They are bones.”

They *are* bones.

“They will waste away.”

They *will* waste away and we will bury them when we return

They are not ours!

They are not descendants of dinosaurs!

They are outsiders, deviants, foreigners!

We nodded, all of us

Except

Linda

the one whose voice we'd heard

Linda was

wise / young

naïve / a woman / a girl

a troublemaker / foolish / romantic

a parent

Linda said,

“Listen.”

To what?

“Yourselves,”

She said, and we did

then

“Listen,”

She said.

To what?

We said.

“Listen.”

Then we heard it

The boy's cries –

(Do we hear a line or two from the song here?)

Soft
Like a
Like a bird

And Linda stood
Larger than life
She said,
“I I I I know we should help them.”

They are not ours.

“And?”

Lines from I'll Follow the Sun.

“All in favor?”
Aye
Aye
Aye
Aye
Aye
Aye
Aye
All in favor.

And each of us
from the youngest hatchling
to the eldest crone
We gave them

a piece of ourselves

Each member of the flock takes a feather from her or himself and makes an offering.

He sewed them

Taking thread from his own hair
Not wax
 No, not wax // that part is wrong

And then – wings
Baklava, feta, honey, wine that is so-so
Wings for him and wings for his boy

And the time came
as autumn breathed its icy air
The rosy-fingered dawn slept later and later and later
It was time to go home

so we launched ourselves from the cliffs
Every bird
Descendants of dinosaurs

Every hatchling and the seasoned old-timers
and the man
and his son
followed

This time the wind held up
this time the wings held up

The chased our path as we cut the air

(LINDA) They lived happily ever after
no
(LINDA) They lived happily ever after happy ever after
no
(LINDA) Please
No
 No
 Not ever after
their bones were not hollow

(LINDA) He flung himself joyfully into the air, he was the happiest boy ever to live -- he
lived happily

no

I
I
I
watched

The boy flew.

Our wings held strong

And theirs --

Our feathers

and the father's hair

Their wings

Held

the boy

Didn't cry

he didn't scream and celebrate and flap himself to the sun

he simply

the boy

as boys do

tired

He tired.

He.

Tired. (echoes from the cast: he tired)

we

w --

we

watched

as he fell

into the water

a mile from shore

The man

-- with his heavy bones

can only keep flying --

it's all he can do

and we

our bones were light

circled

and circled

and circled

and circled

and circled

and circled

(LINDA) and circled and circled and circled and circled and circled and circled

And as we circled
(LINDA) and circled and circled and circled and circled and circled and circled and
circled and circled and circled and circled and circled and circled

our feathers fell
(LINDA) and circled and circled and circled
like leaves
(LINDA) and circled

The birds shed their feathers.

They cease being birds. They become humans. They become Coast Guard. They become search-and-rescue, paramedics, nurses, firefighters, teachers, volunteers who heard about it on the radio and newspapers, friends, friends of friends, and friends of friends of friends, everyone who isn't related to you but still gives a damn.

We
We regret
regret to inform you
to tell you
We did everything we could
everything
we exhausted every possibility
We feel your loss
We're parents too
I
I
I
Am sorry

*The birds, now humans, leave, one by one, except for the one with the boy's voice.
He remains standing, his arms something like wings.*

End of Play

be placed in this order if it is included in the thesis. If you don't want to include an appendix, then delete the entire page and the following page break.

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