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# Implementation of Lighting and Projection into Metamorphoses by Mary Zimmerman

Loren Haynes  
*Georgia Southern University*

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# Implementation of Lighting and Projection into *Metamorphoses* by Mary Zimmerman

An Honors Thesis submitted in partial fulfillment of the requirements for Honors in  
Communication Arts.

By  
Zo Haynes

Under the mentorship of Kelly Berry and Dr. Sarah McCarroll

## Abstract

On March 4, 2015, *Metamorphoses* opened its doors to the public. The cast, crew, and production staff had been working on this masterpiece for many months, but the night was finally here and the production was finished. The end product was a transformative work of art that took the audience through many of the old Greek myths through song and dance and words.

In order to help accomplish this, the lighting and projection elements were designed to accent each story and give the audience a clear sense of place, time of day, mood, and other aspects of the world.

Thesis Mentor: \_\_\_\_\_  
Kelly Berry

\_\_\_\_\_  
Dr. Sarah McCarroll

Honors Director: \_\_\_\_\_  
Dr. Steven Engel

April 2015  
Communication Arts Department  
University Honors Program  
**Georgia Southern University**

# Cast and Crew

Lisa Abbot

Director

Zo Haynes

Lighting Designer

Olivia Carter

Scene Designer

Allie Yancy

Costume Designer

Lisa Abbott

Sound Designer

Trey Harris & Brandon Warnock

Animation Designers

Tsiambwom Akuchu

Assistant Choreographer/Dance Captain

Ibi Owolabi

Assistant Director

Dani McGee

Dramaturg

Sean DeVine

Technical Director

Sarah Shepard

Stage Manager

Cydney Gardner

Musical Composer

## Ensemble

Tsiambwom Akuchu

Alexis Bivens

Katy Burrell

Christophe Chin

Devyn Crawley

JJ Crawford

Will Cox

Rebecca Frost

Erick Garcia

Greg Hernandez

Rion Koon Jr

Chryssie Lewis

Teundras Oaks

Casey Sowers

Kelsey Poole

## Production Crew

Sarah Shepard

Stage Manager

Season Production Stage Manager

Tajh Oats

Lead Assistant Stage Manager

Seirra Clay

Production Assistants

Merrill Lane Brown, Cate Hewel, Claire

Torell, Kelsey Waller, Tori Townes

Light Board Operator

Joe Taylor

Sound Board Operator

Megan Shiflett

Wardrobe

McKinley May, Katherine Pearson, Kelsey

Waller, Tyra Wilson, Elizabeth Wood

Props Master

Gage Crook

Master Electrician

Tajh Oats

Electrics Crew

David Jackson, Kelsey Waller, Greg

Hernandez, Spencer Collins, Sierra Clay,

Teundras Oaks, Will Cox, Olivia Carter,

Brandon Muggy

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# Introduction

Theatre is an art of collaboration and communication between all parts of the design and management. It's very important that every piece of the production listens to the other parts and also that each part can concisely and thoroughly explains what they're doing and what they want from the other pieces. When working on a production, the goal is for the end product to be unified. All elements of the show should tell the same story. It's easy to get side tracked when a story has more than one aspect to focus on, so the designers and the director have to come to an agreement about what the world looks like.

As a whole, the production team looked into transformations in the script and used that as inspiration for the different elements of design. *Metamorphoses* is a series of stories retold from the old Greek and Roman stories. The script is based on Ovid's *Metamorphoses* and each story is about a moment of transformation. These transformations were sometimes physical, sometimes emotional, and sometimes spiritual, but each time, there was a major change in a character or place that showed progression of time and place. Each designer looked for ways of incorporating this transformation into their design.

I was in charge of the lighting and projection for this production. Changes in the lighting can mean changes in mood, in place, in time of day, or even changes in the importance of the moment. These changes can be anything from dramatic sequences such as lighting strikes to subtle shifts of intensity that aren't noticeable unless the audience member knows what to look for. These subtle shifts make it easier for the audience to know where to pay attention.

I learned a lot about design, about time management, and about organization during this process that I feel will serve me in the real world. This was the first time that I was able to work with some of this equipment and in some of these experiences. I am thankful for the experience, because I know that I have grown as a designer and lighting technician. I was able to work with projection for the first time. Projection is a rapidly growing field within the theatre design fields. Being able to work with the Hippotizer gave me a concrete understanding of what was involved in getting content into a usable format, of what worked successfully, and of some of the choices that needed to be reevaluated. This was the first time that I was able to work with a three-quarter-thrust configuration. A thrust configuration of seating is when you have seats on three sides of the set. This changes the way that design needs to be approached. Instead of thinking about one picture, you now have to think about what the picture looks like from three quarters of the circle. This was also the first time I was able to work with dance lighting. Since this wasn't a conventional space, I had to get creative about placement of lights and angles so as not to blind the audience, but to still light the actors. I think that this was my favorite part of the process. I hope that I have more chances to try dance lighting.

# Technical Overview

Every time the lights changed, I wrote or programmed a new look into the console into what is called a cue. A cue records the intensity of every light so that, at a push of a button, a cue can be recalled without having to pull up individual lights up all over again. Then, a stage manager will get what is called a cue list (see paperwork) and they call the show every night. A cue list is a list of all of the cues, when they need to be called, how long the cue will run, and where in the script the cue is. To create this list, the lighting designer will go through the script and make a note every time a moment calls for a light change. These moments range from the blackout at the end of a scene to a physical change to show the change of a mental or emotional state of a character. Calling the show means telling the technicians when to operate certain machinery to get an effect. The light board operator is in charge of implementing all lighting and projection effects. They are also in charge of setting up and tearing down each night and general maintenance during the run of the show.

The lighting board in the black box space is an ETC Ion. The ETC Ion is a lighting console made by the company Electronic Theatre Controls or ETC. All of the cues are programmed through the board and each fixture connects back to the board. The Ion has capabilities that allowed the design to be as complex as it was. For one, the Ion has the capability to record cues. Some boards don't have these capabilities and the intensities of the lights have to be manually changed. The Ion also has the capability of controlling conventional fixtures and smart lights.

Conventional fixtures are fixtures that only use on channel of DMX. They can be turned on or off (or any percentage of intensity in between). DMX is short for digital

multiplex. Each channel of DMX tells the light to do one thing. The conventional fixtures in this production were ellipsoidals (19, 26, 36 degree), Fresnels, and cyc lights. Smart lights use multiple channels of DMX. Different smart lights have different capabilities. The smart lights used in this production were the Selador D60 Vivid LEDs and LED tape. Both of these smart lights have the capability to change color. The tape needs 3 channels of DMX: one for blue, one for green, and one for red. Each color can be raised individually and the result is a fairly large array of color choices. The D60 Vivids work the same way, but need ten channels, because they are a seven-color system and have a larger array of color choices.

For the projections, we used the Hippotizer V3 for the processor and two Christie Digital DS+10k-M projectors. The Hippotizers allow content to be edited. We used the Hippotizer to map the content exactly where we wanted it. We also changed some of the intensities and color contrasts and used some of the effects and stock content. We hooked the Hippotizer up to the Ion through a cat 5 cable, which let the Ion talk to the projectors as though they were fixtures. This way, they could be programmed into cues as, which let the light board operator control the lights and projections all at the same time.

## Process Overview

The faculty announced the plays for the coming year in spring 2014. At this time, I didn't know in what capacity I would be working on *Metamorphoses*, or even if I would be working on it at all. I borrowed a friend's copy of the script and read through it just to see what the play was about. This script is magical. To me, many of the stories exist in that place between dreams and wakefulness, where anything is possible. Creation and imagination are strong driving forces in these stories and each story has a quality that connects it straight to the soul. The stories are well thought out. They are smart and funny and intriguing. I knew that I wanted to help tell this story. I wasn't put on the production team until August and I wasn't sure if I was just assisting in design or if I was designing on my own until September 5, 2014, the first production meeting. After discussing it, Kelly Berry, my mentor, and Lisa Abbott, the production director allowed me to design the lighting and projection for this production on my own.

Production meetings happen regularly during the time leading up to a show. They are a chance for designers and the director to share ideas and thoughts about the production. As the conversations are being had, the ideas evolve and change. The decisions that are discussed and made during these meetings are then implemented into the designs or technical aspects of the play. In this first production meeting, we talked about the feel of the production as well as ideas for certain effects, such as what could be visualized for Midas's footprints, or what the birds would look like Alcyone and Ceyx turned into birds. At this point, designers go gather research images and inspirations to show the director. These images can be anything that shows the director what the designer is hoping to accomplish. In my case, I like to find images that show the color



pallet I'm looking at, the color and feeling of a place, what lines create the place. Often times, I like to use art, or less concrete examples that give the same emotional response that I want to get from a scene. A designer will also come up with a design statement. This statement will encompass the essence of the show and what the designer wants to create. After the director has looked through the images, they will sign off or ask for changes. If the director asks for changes, the designer has to figure out a different way to express what they want to show, or they may have to change their stand point completely. This process is a conversation, a back and forth until both parties are satisfied. Ultimately there is a deadline and the director has the final say, but the goal is for everyone to be able to create what he or she feels is best for the production.

After all of the research is acquired and the director has signed off on the ideas, the designer can put the ideas into action. The designer needs to envision what they want the end product to be conceptually. This involves notes, diagrams, and renderings of how the designer wants the product to function and how the product will look. The director will again need to sign off on these ideas and then the designer can go back and figure out how to create these end results. The designer needs to figure out what tools they will need and how they will use them.

Once the designer has figured out how they want to create the design, they have to create paperwork to show the production team the specifics of what is physically going in place. This paperwork includes a plot, section, channel hookup, and cue list. In order to create a plot, the lighting designer needs a ground plan from the set designer. In order to create the section, the lighting designer needs a section drawing from the set designer.

Once the plot and channel hookup are created, the lighting designer gives these pieces of paperwork to the master electrician who will go into the space and hang fixtures based on the drawing, cable the fixtures, and add the dimmer numbers to the channel hookup. The master electrician is also in charge of making sure that the space has all of the materials to implement the design. If the space doesn't have something that is needed, the master electrician will obtain what is needed or talk to the designer if it isn't possible to obtain some of the fixtures or materials. The master electrician will also work with the designer to focus the fixtures and is in charge of troubleshooting when something isn't working.

Once all of the lights are hung, focused, and working properly, the designer can start to write cues and build effects. These cues are based on the cue list. The lighting designer, director, sound designer, stage manager, and any other production member who has a timed effect will meet for the paper tech. During the paper tech, the production team talks through all cues that need to be called by the stage manager who places each cue into their copy of the script. After having this meeting, if anything changes, the lighting designer needs to relay any minor changes to the stage manager and also needs to run any major changes or design changes by the director who will sign off or veto the changes.

Once all or some of the cues are written, they can be used in rehearsal, during which the designer and director will take notes of what needs to be fixed or changed.

During technical (tech) rehearsals, any last minute changes or additions will be made. Tech rehearsals also give the stage manager a chance to practice calling the cues and get a feel for the timing of the call in relation to the action onstage. By the end of the

tech rehearsals, the lights and projection should be close to complete. Any changes should be very minor. The dress rehearsals are about making sure that all costume pieces work and that the production works as a whole. The lighting designer will pay attention to how the lighting interacts with the clothing to make sure that both are shown to their best advantage. After dress rehearsals are complete, the show opens. Everything is complete for the run.

There is a rule in theatre that nothing ever goes as it should. There are always problems that need solutions, last minute changes or substitutions, and an evolution of the production. This production of *Metamorphoses* was a great example of this evolution. We worked through the technical aspects of getting a pool on stage, how to light dancers in a three-quarter-thrust, and troubleshoot when equipment wasn't working. We worked on making the production the best it could be until the doors opened, and even then the production matured from opening night to closing night.

# Design Statement

*Metamorphoses* is about the transformations that occur in life-changing situations. *Metamorphoses* uses plots from old Greek and Roman myths that show these situations. While locations in these plays may be very different, there is a theme of change and transformation that applies to all of them. I want to show the individuality of these places, but show that they are all connected, that they all exist under the same sky. I will use the image of sky or stars in all of these stories to link them all together and show that they all have something in common.

The light of stars is a very constant, solid light; a star's lifespan will last millions of years. On the other hand, the light that plays off of water is never still and always changing. The action of the play centers on a pool of water onstage. The light reflecting off of this pool of water is the ultimate image of transformation. I want to use changes of light to emulate the transformations in each of the stories and in some cases I will use the transformation of light to show the cause of the shift in character.

# Research

The following images are part of the conversation between the director and myself about what each of these worlds would look like. The text laid the basis for my perceptions of what I wanted to create and I found images and came up with words to describe my thought process to the director. These words and images clarified what exactly I was getting visually and emotionally from the text and laid a foundation that the director and I could both use to find out where this production would lead.

I was looking for images that either spoke to a quality of light or to the emotion or mood of a scene. For the images that dealt with a quality of light, I mainly looked for pictures of natural lighting, light through a medium, or specific patterns that could be recreated or modified. An example of this would be the light that comes through forest trees and how the light is broken up and diffused at different intensities on the ground. Another example of this is the isolated areas of light found in the pre-narration and also in Eros and Psyche. I actually used one of the same images, because I wanted the same quality of light for certain aspects of both of those scenes. For the images that dealt with the mood and emotion I wanted to portray, I used anything that had the feeling I was looking for. I mainly used impressionistic abstract art that used the color and lines associated with the mood I wanted. An example of this would be in the images I pulled for Caucasus. These are actual photos, not abstract art, but I pulled them because of the level of desolation and abandonment felt in these photos. I liked the starkness of the environment. Caucasus is described as a place where nothing grows. I felt that these images portrayed that toxic, dry environment. Another example of a less literal use of a research image would be the research images I used for Alcyone and Ceyx. Three of the

images have human figures in them. What's interesting about these images is the mood that imitates from the characters. There is a feeling of desolation, isolation, and abandonment that radiates off of these characters. There is also a wildness present in these figures that alludes to the wildness to come later in the scene. It also helps that the color palettes are the colors of the sea and sky and that there are references to birds in these images, as both are found in this scene.

I drew on these images for inspiration for color, feel, mood, weight, and composition. I addressed each of the stories separately and only put the pieces together after I had a clear sense of each of the individual stories. The library of images grew and evolved and was pruned throughout the process as new inspirations came or old inspirations didn't belong anymore.

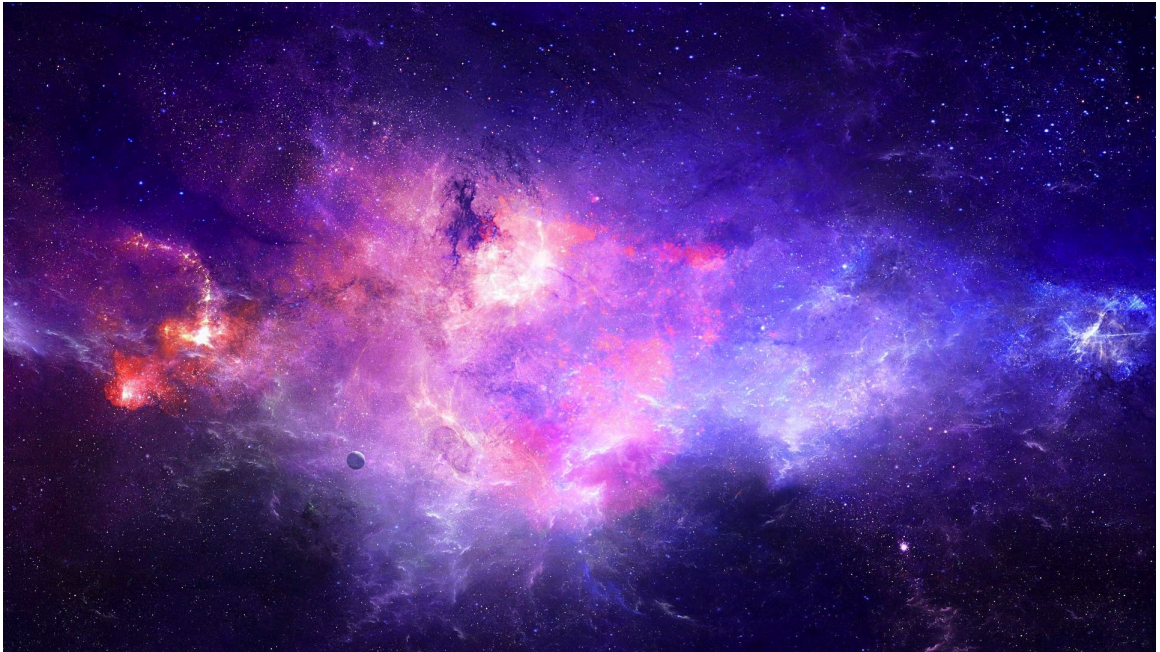
## Prelude narration



- Isolation
- Warm



## Creation (Dance)



- Ethereal
- Fantastic
- Stars
- Movement
- Cools



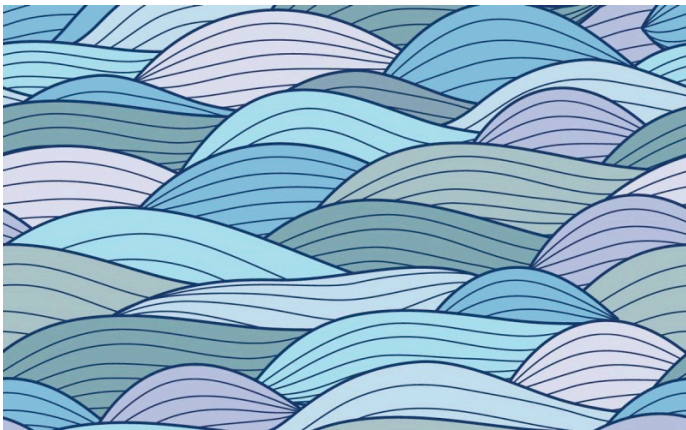
## Midas/The Courtyard



- Grand
- Elegant
- Rich
- Sunshine



## Alcyone and Ceyx/The Beach



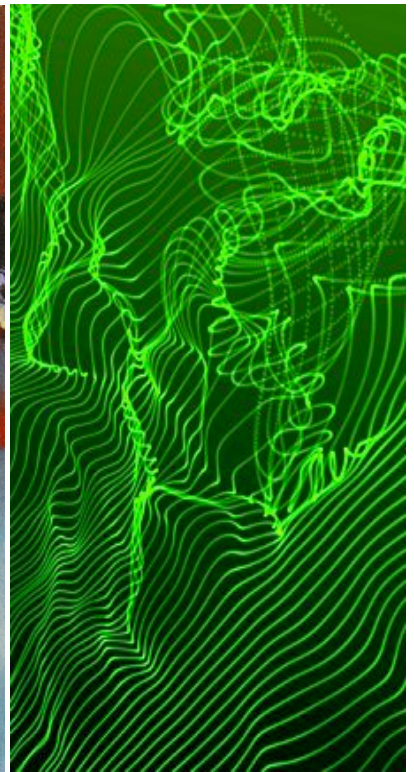
- Blues and greys
- The sea, waves
- Wind
- Cool



## Alcyone and Cyex/The Storm (Dance)

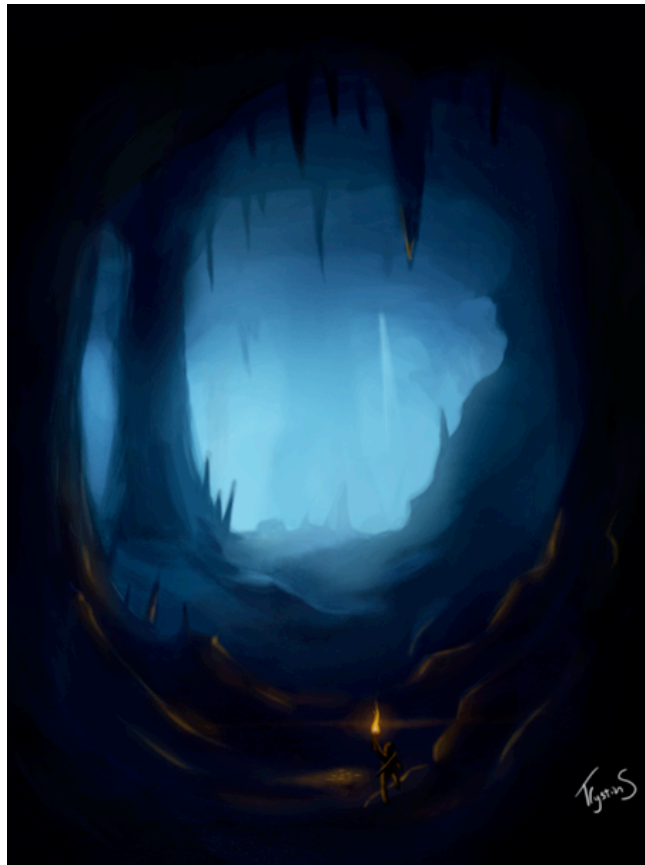


- “one enormous green catastrophe”
- Chaotic
- Angry



- Wild
- Fierce
- Turbulent

## Alcyone and Cyex/Sleep's Abode

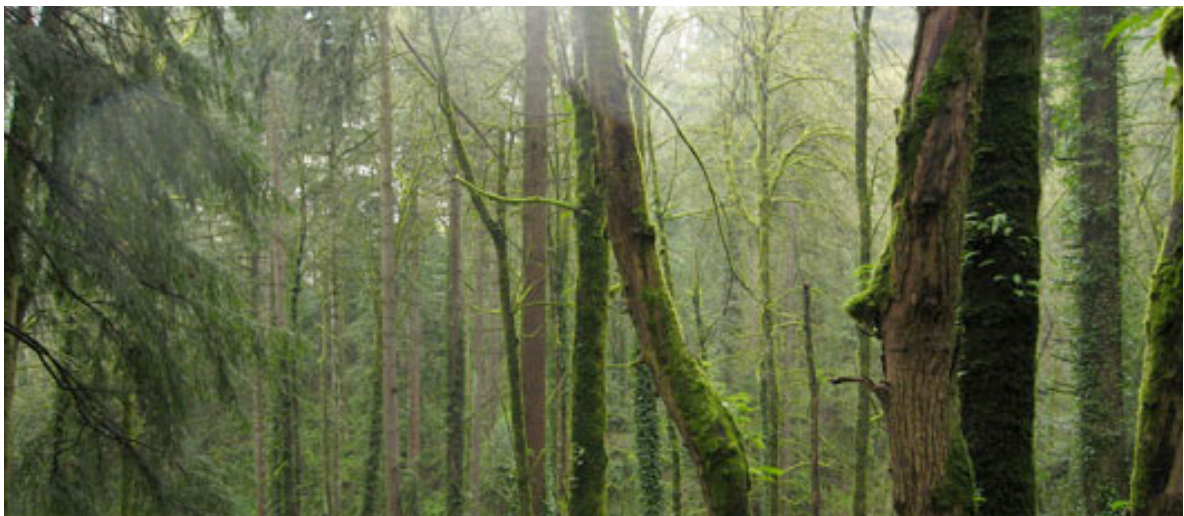
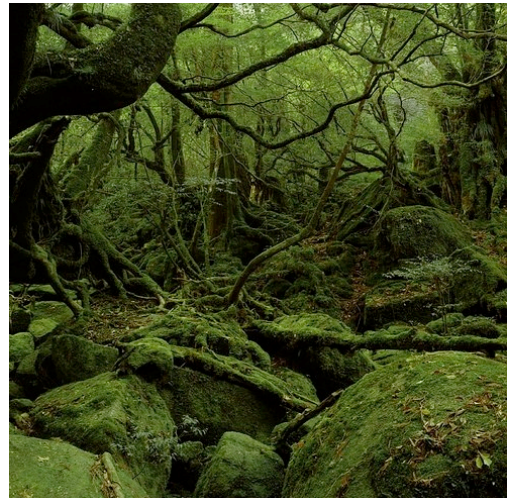
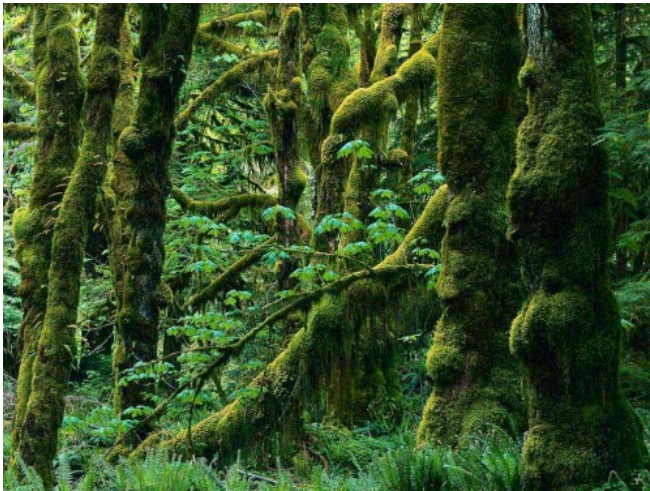


- Sleepy
- Quiet
- “deep”

- “darkened chamber”
- “almost total silence”
- “painted stillness”



## Erysichthon/Grove



- Wild
- Full of life/energy

- Luscious
- “sacred”



Erysichthon/“and he tore the tree down”

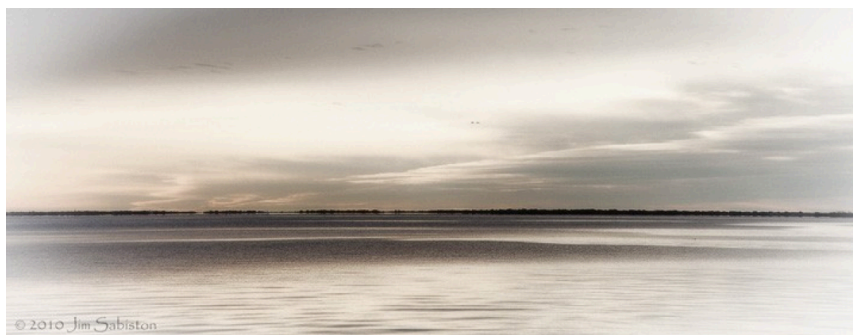


- Open
- Flat
- Dead

- Bare
- Waste
- Lack

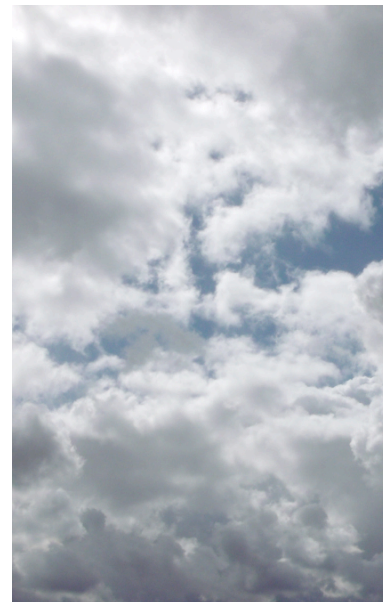


## Erysichthon/Caucasus



- “a bleak and nightmarish region”
- Toxic
- “nothing grows there”
- Death
- Monochromatic

## Orpheus and Eurydice/The Wedding



- Happy
- Bright
- White



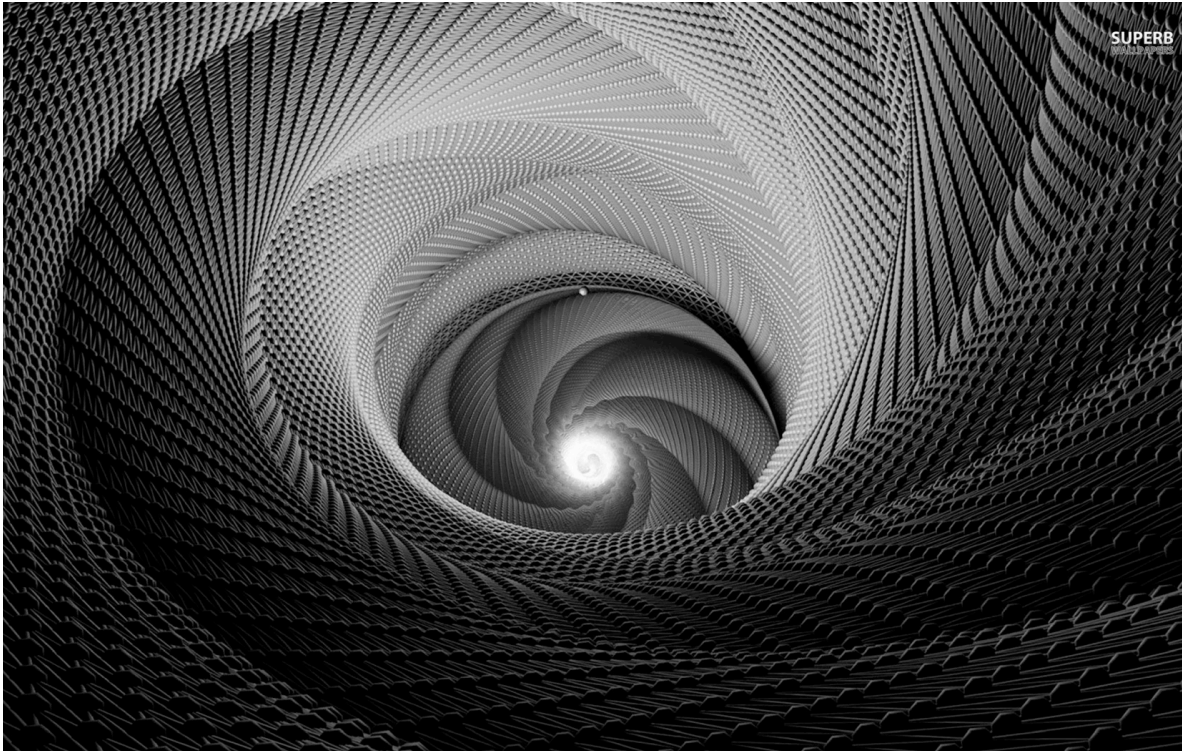
## Orpheus and Eurydice/Eurydice's death



- Death
- Sadness

- Morning
- Shadow

## Orpheus and Eurydice/The Underworld



- Tunnel
- Cave
- Gaining brightness through journey
- Saturated colors—reds, purples, oranges, greens



## Pomona and Vertumnus/The Orchard



- Happy
- Orchard



- Ordered growth
- Pink, lavender

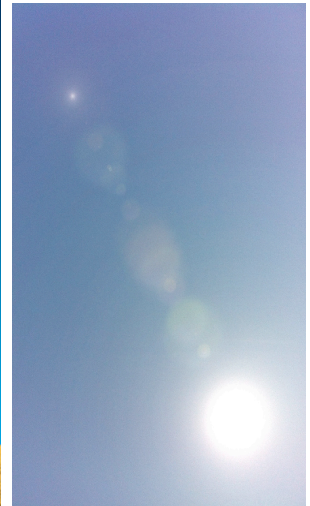


## Myrrha/Desire



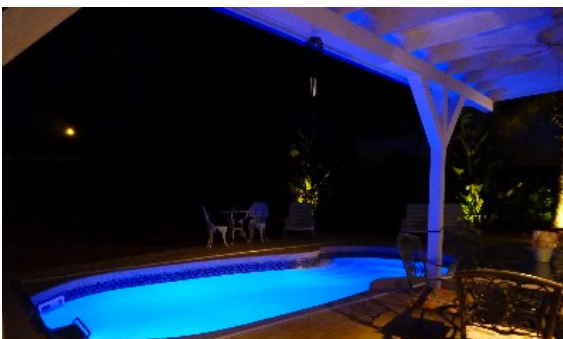
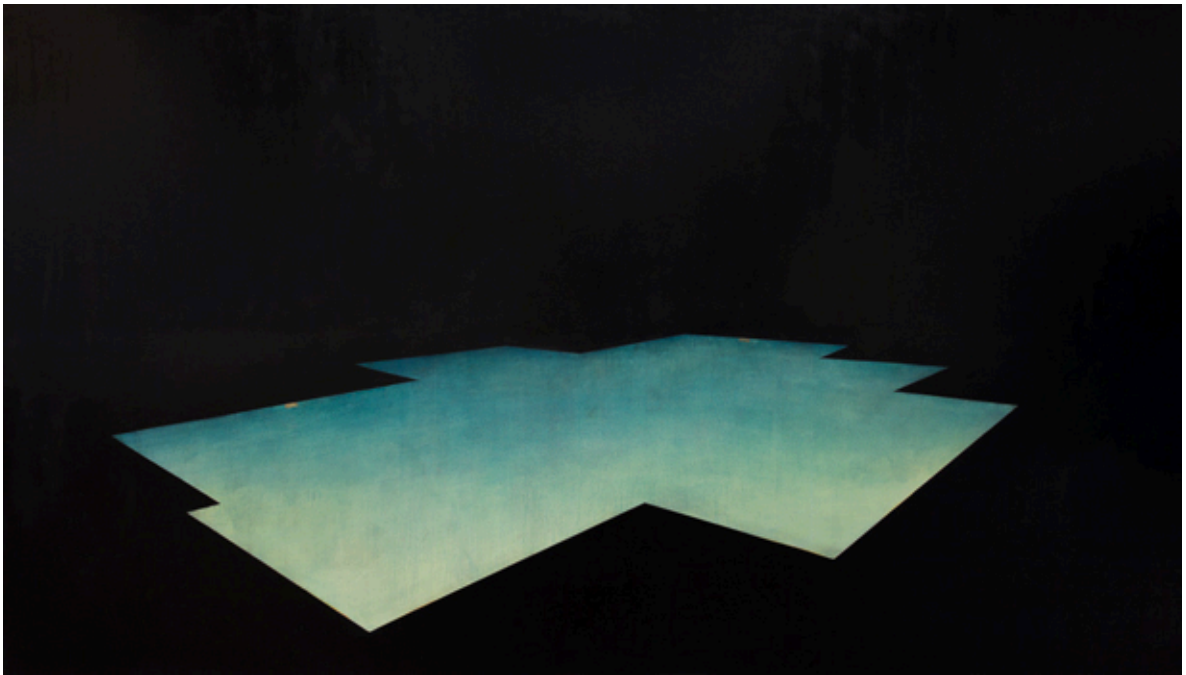
- Tension
- Sex
- Red
- Isolation
- Silhouettes

## Phaeton/Therapy



- Beach day
- Sunny Sky
- Oversaturated
- Introspective
- Purgatory

## Eros and Psyche/Love and Spirit



- Dark
- Isolated
- Calm, quiet

- Candle light
- Lavender, teal, blue, amber
- Cool



Baucis and Philemon/Shack into “a grandiose façade”



From:

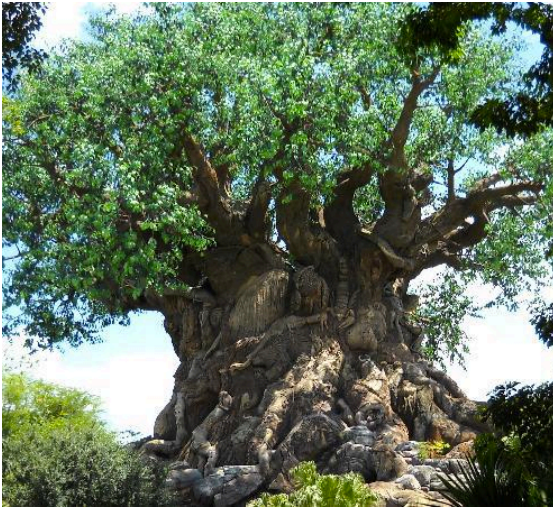
- Humble
- Simple
- Dim
- Confined

To:

- Grand
- Elaborate
- Tall



## Baucis and Philemon/“turning into trees”



- “And Baucis noticed her husband was beginning to put forth leaves and he saw that she, too, was producing leaves and bark. They were turning into trees. They stood there, held each other and called before the bark closed over their mouths... Farewell.”



## Midas/Pool at the ends of the Earth



- Golden glow—fade out
- Isolated down to stars and Midas in pool

# Paperwork

In theatre, there are many pieces of paperwork that need to get created in order to set up and run the lights. These pieces are a plot, channel hookup, projection and lighting outline, and a cue list. Others types of paperwork can be useful in other theatre spaces or in other situations, but these are the pieces that were useful for this production of *Metamorphoses*.

The set designer gives the lighting designer a ground plan. The ground plan will have every physical thing in the space mapped out in an overhead view including walls, doors, seating, set or scenery, curtains, and the light grid or pipes (the places where lighting instruments can be hung). The lighting designer makes what is called a plot from the ground plan. The lighting plot is the map of where every lighting fixture is located. It also has information associated with each fixture labeled around the fixture such as the channel number, the dimmer number, the gel color, what area the fixture should be focused on, if the instrument is using a gobo, and the unit number. The channel number is the number that the lighting designer uses to refer to the instrument. The dimmer number refers to where the instrument gets its power and connection to the system. The gel color specifies which color gel should be used with the fixture. The area tells where the fixture should be aimed. The unit number is specific to an instrument, so even if multiple fixtures have the same channel or dimmer number, the singular fixture can be recognized individually by this number.

The channel hookup is a spreadsheet that lists all of the information found on the plot so that all of the same type of information comes up in one column. For example, there is a column marked “Channel Numbers”, which lists every instrument by channel.

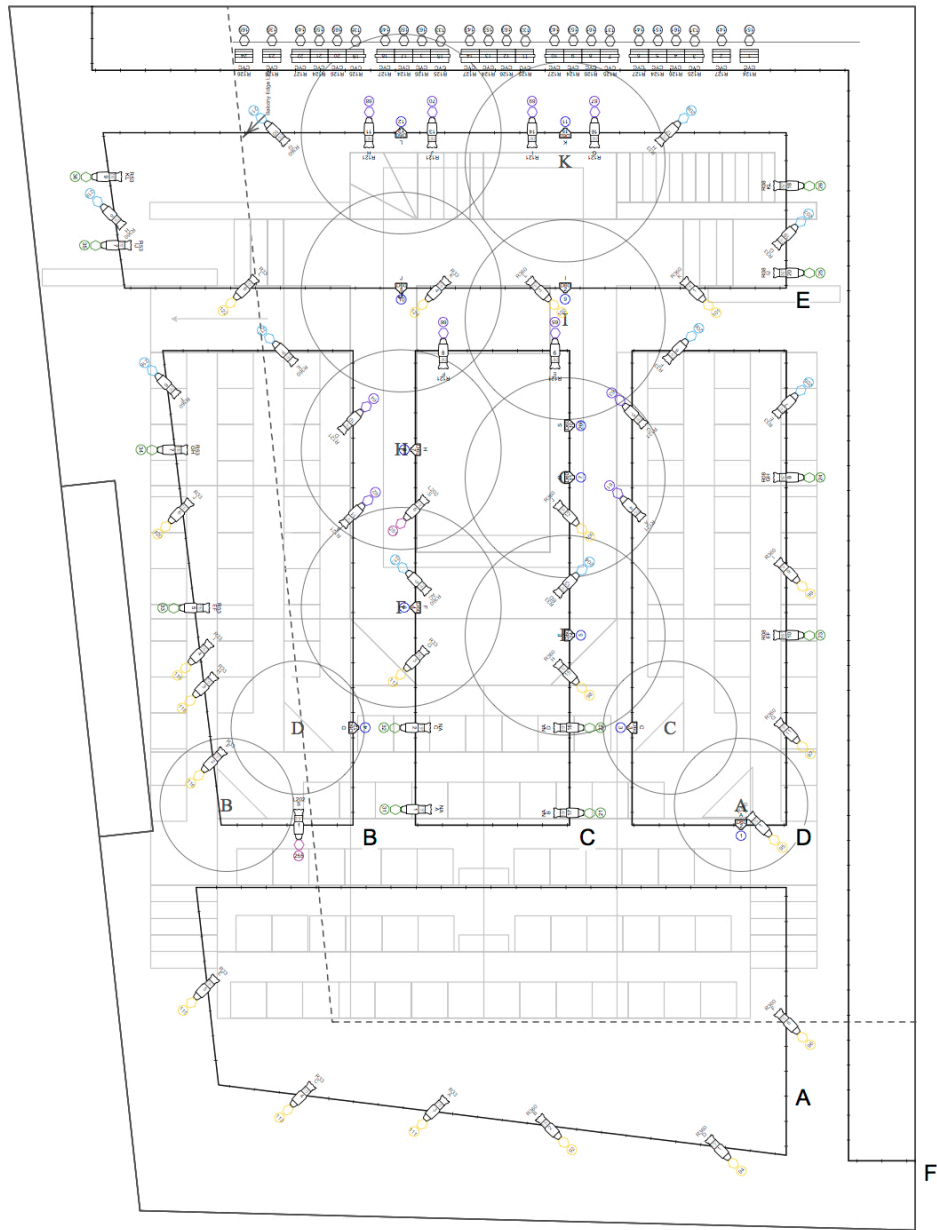
The dimmer column will have the corresponding dimmer number and so on. The plot and the channel hookup are used by the master electrician to hang the lights in the proper locations, patch the lights into the system so that they respond to the right numbers, and focus the lights so that they light the correct part of the stage.

The projection and lighting outline was something created specifically for this production. Since I was working with collaborators to create the content for the projections, I made a list of everything that I wanted and expected from the animators. I gave this list and a copy of my research images to the team as a guide for what needed to be created. We also had in depth discussions about content and the time line it would take to create each piece of content.

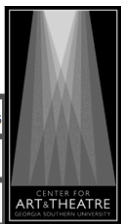
The cue list is also a spreadsheet. This spreadsheet numbers every cue, lists the count or how many seconds the cue will take to complete, lists the page number of the script that this cue is located on, a general statement of what the cue is accomplishing, the cue line or action that the cue should be called off of, and any other notes that are helpful. The cues are numbered in increasing order, but do not need to be in sequential order. I usually like to skip a number or four numbers in between cues to give plenty of space in case things change or are added in later. I also line the cues up in the center of the column and put any cues that are auto-follows to the right hand side of the column. An auto-follow is a cue that is programmed to automatically follow the previous cue without needing to be prompted by the board operator. The cue sheet is mainly used by the lighting designer, board operator and the stage manager. Stage managers and board operators don't have to worry about auto-follows, so I like to separate these cues from the ones that are relevant to the stage manager and board operator. The cue line or action is

the line or action the stage manager is waiting to see or hear in order to tell the board operator when to progress to the next cue. Since theatre is a performance art, timing changes for every show. Cue lines allow the lighting to stay in time with the action of the play.

# Paperwork: Plot Plate: Grid

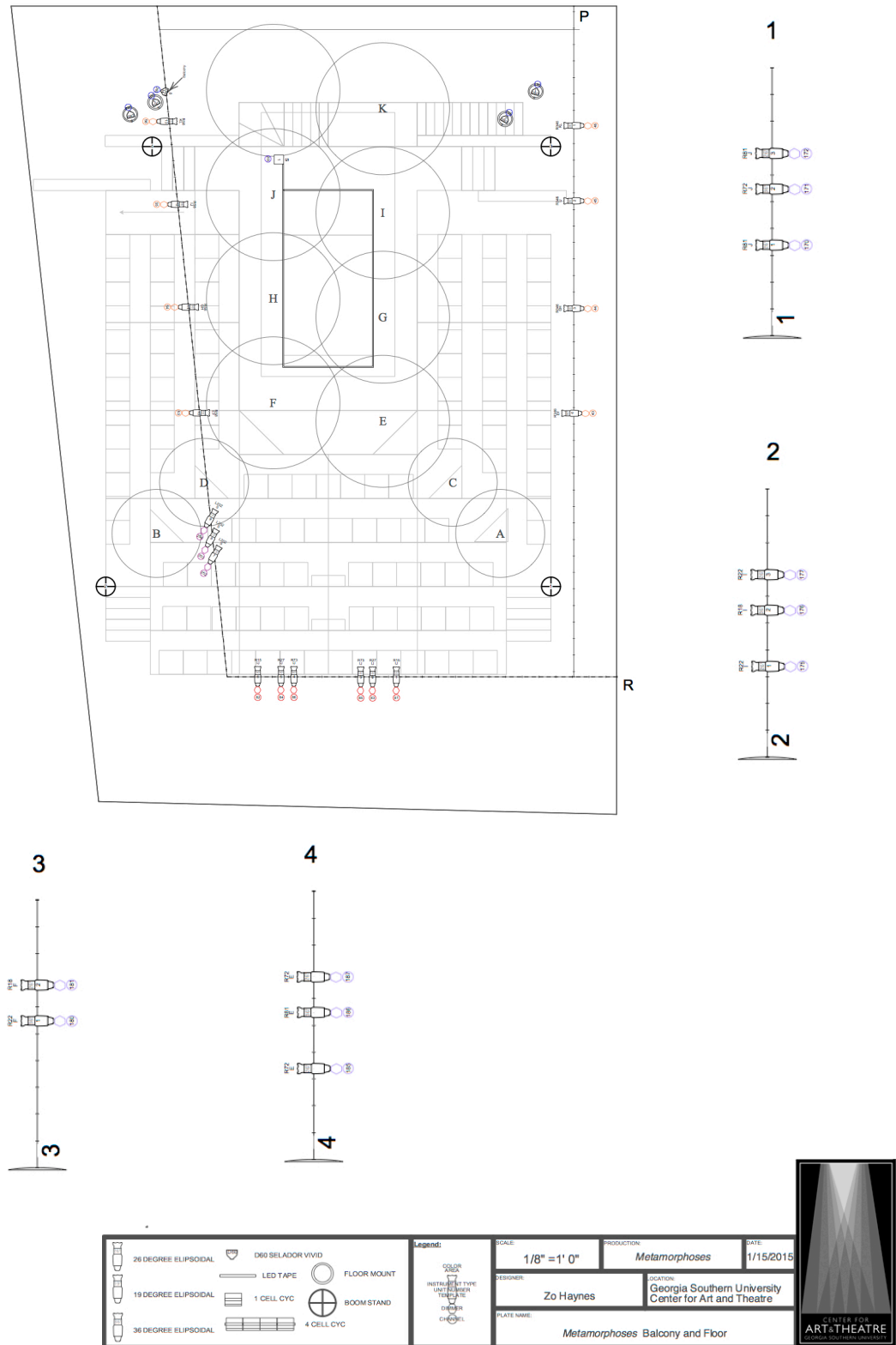


26 DEGREE ELIPSOIDAL 19 DEGREE ELIPSOIDAL 36 DEGREE ELIPSOIDAL	D60 LED TAPE 1 CELL CYC 4 CELL CYC	FLOOR MOUNT BOOM STAND	<b>Legend:</b> COLOR INTENSITY UNIT NUMBER TEMPLATE DIAMETER CHASE	<b>SCALE:</b> 1/8" = 1' 0" <b>DESIGNER:</b> Zo Haynes <b>PLATE NAME:</b> Metamorphoses Grid	<b>PRODUCTION:</b> Metamorphoses <b>LOCATION:</b> Georgia Southern University Center for Art and Theatre <b>DATE:</b> 1/15/2015
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See attached materials for full sized plot. (Images not to scale.)

# Paperwork: Plot Plate: Balcony and Floor



See attached materials for full sized plot. (Images not to scale.)

# Paperwork: Channel Hookup

Zo Haynes  
2/7/15  
Metamorphoses

Channel	Dimmer	Color	Warm/ Cool	Focus Area	Location/ Electric	Unit Number	Instrument Type	Wattage	Gobo/ Notes
1	--	--	--	A	D1	2	D60 Vivid		Top
3	--	--	--	C	D2	3	D60 Vivid		
4	--	--	--	D	B4	12	D60 Vivid		
5	--	--	--	E	C4	14	D60 Vivid		
6	--	--	--	F	C2	4	D60 Vivid		
7	--	--	--	G	C4	11	D60 Vivid		
8	--	--	--	H	C2	7	D60 Vivid		
9	--	--	--	I	E1	2	D60 Vivid		
10	--	--	--	J	E1	5	D60 Vivid		
11	--	--	--	K	E4	15	D60 Vivid		
12	--	--	--	L	E4	12	D60 Vivid		
21	67	No Color	--	B	C4	17	S4 19 deg	575	H Side SL
22	70	No Color	--	D	C4	16	S4 19 deg	575	gold
23	108	R08	warm	EF	D4	10	S4 26 deg	575	
24	110	R08	warm	GH	D4	8	S4 26 deg	575	
25	116	R08	warm	IJ	E4	20	S4 26 deg	575	
26	115	R08	warm	KL	E4	18	S4 26 deg	575	
31	50	No Color	--	A	C2	1	S4 19 deg	575	H Side SR
32	49	No Color	--	C	C2	2	S4 19 deg	575	lavender
33	10	R53	cool	EF	B2	5	S4 26 deg	575	
34	14	R53	cool	GH	B2	7	S4 26 deg	575	
35	15	R53	cool	IJ	E2	7	S4 26 deg	575	
36	18	R53	cool	KL	E2	9	S4 26 deg	575	

Channel	Dimmer	Warm/		Focus Area	Location/ Electric	Unit Number	Instrument		Gobo/ Notes
		Color	Cool				Type	Wattage	
43	127	R346	warm	EF	P	4	S4 36 deg	575	B Side SL
44	128	R346	warm	GH	P	3	S4 36 deg	575	magenta
45	131	R346	warm	IJ	P	2	S4 36 deg	575	
46	130	R346	warm	KL	P	1	S4 36 deg	575	
53	144	R58	cool	EF	R2	10	S4 36 deg	575	B Side SR
54	143	R58	cool	GH	R2	11	S4 36 deg	575	purple
55	147	R58	cool	IJ	R2	12	S4 36 deg	575	
56	146	R58	cool	KL	R2	13	S4 36 deg	575	
61	93	R121	cool	A	D2	4	S4 26 deg	575	Back
62	38	R121	cool	B	B3	11	S4 26 deg	575	blue
63	91	R121	cool	C	D2	5	S4 26 deg	575	
64	37	R121	cool	D	B3	10	S4 26 deg	575	
65	76	R121	cool	E	C3	9	S4 26 deg	575	
66	60	R121	cool	F	C3	8	S4 26 deg	575	
67	119	R121	cool	G	E3	16	S4 26 deg	575	
68	45	R121	cool	H	E3	11	S4 26 deg	575	
69	120	R121	cool	I	E3	14	S4 26 deg	575	
70	79	R121	cool	J	E3	13	S4 26 deg	575	
81	133	R15	warm	IJ	R1	1	S4 36 deg	575	B Front
82	138	R15	warm	IJ	R1	6	S4 36 deg	575	amber
83	134	R27	warm	IJ	R1	2	S4 36 deg	575	
84	137	R17	warm	IJ	R1	5	S4 36 deg	575	
85	135	R73	warm	IJ	R1	3	S4 36 deg	575	
86	136	R73	warm	IJ	R1	4	S4 36 deg	575	



Channel	Dimmer	Warm/		Location/		Unit	Instrument		Gobo/
		Color	Cool	Focus Area	Electric		Type	Wattage	
92	64	R360	cool	B	A1	2	S4 19 deg	575	H Front SL
94	100	R360	cool	D	A1	1	S4 19 deg	575	blue
95	103	R360	cool	E	D1	1	S4 26 deg	575	
96	85	R360	cool	F	A4	6	S4 26 deg	575	
97	107	R360	cool	G	D4	11	S4 26 deg	575	
98	71	R360	cool	H	C4	15	S4 26 deg	575	
99	111	R360	cool	I	D4	9	S4 26 deg	575	
100	75	R360	cool	J	C4	12	S4 26 deg	575	
101	109	R360	cool	K	E1	1	S4 26 deg	575	
102	81	R360	cool	L	E1	3	S4 26 deg	575	
111	65	R33	warm	A	A1	3	S4 19 deg	575	H Front SR
113	30	R33	warm	C	A1	4	S4 19 deg	575	pink
115	9	R33	warm	E	A2	5	S4 26 deg	575	
116	7	R33	warm	F	B2	2	S4 26 deg	575	
117	52	R33	warm	G	C2	3	S4 26 deg	575	
118	8	R33	warm	H	B2	3	S4 26 deg	575	
119	57	R33	warm	I	C2	4	S4 26 deg	575	
120	13	R33	warm	J	B2	6	S4 26 deg	575	
121	12	R33	warm	K	E1	4	S4 26 deg	575	
122	11	R33	warm	L	E1	6	S4 26 deg	575	

Channel	Dimmer	Warm/		Location/		Unit	Instrument		Gobo/ Notes
		Color	Cool	Focus Area	Electric		Type	Wattage	
131	46	R125	cool	CYC	F	3	4 Cell Cyc	1000	CYC
131	46	R125	cool	CYC	F	7	4 Cell Cyc	1000	blue
133	83	R125	cool	CYC	F	11	4 Cell Cyc	1000	
133	83	R125	cool	CYC	F	15	4 Cell Cyc	1000	
135	21	R125	cool	CYC	F	19	4 Cell Cyc	1000	
135	21	R125	cool	CYC	F	23	1 Cell Cyc	1000	
141	23	R127	warm	CYC	F	2	4 Cell Cyc	1000	amber
141	23	R127	warm	CYC	F	6	4 Cell Cyc	1000	
143	48	R127	warm	CYC	F	10	4 Cell Cyc	1000	
143	48	R127	warm	CYC	F	14	4 Cell Cyc	1000	
145	19	R127	warm	CYC	F	18	4 Cell Cyc	1000	
145	19	R127	warm	CYC	F	22	1 Cell Cyc	1000	
151	22	R124	warm	CYC	F	1	4 Cell Cyc	1000	red
151	22	R124	warm	CYC	F	5	4 Cell Cyc	1000	
153	47	R124	warm	CYC	F	9	4 Cell Cyc	1000	
153	47	R124	warm	CYC	F	13	4 Cell Cyc	1000	
155	84	R124	warm	CYC	F	17	4 Cell Cyc	1000	
155	84	R124	warm	CYC	F	21	1 Cell Cyc	1000	
161	24	R126	cool	CYC	F	4	4 Cell Cyc	1000	green
161	24	R126	cool	CYC	F	8	4 Cell Cyc	1000	
163	82	R126	cool	CYC	F	12	4 Cell Cyc	1000	
163	82	R126	cool	CYC	F	16	4 Cell Cyc	1000	
165	20	R126	cool	CYC	F	20	4 Cell Cyc	1000	
165	20	R126	cool	CYC	F	24	1 Cell Cyc	1000	

Channel	Dimmer	Warm/		Focus Area	Location/ Electric	Unit Number	Instrument		Gobo/ Notes
		Color	Cool				Type	Wattage	
170	175	R81	cool	J	Boom 1	1	S4 26 deg	575	Booms
171	176	R72	cool	J	Boom 1	2	S4 36 deg	575	0- 5'
172	177	R81	cool	J	Boom 1	3	S4 26 deg	575	1- 8'
175	173	R22	warm	I	Boom 2	1	S4 26 deg	575	2- 10'
176	174	R18	warm	I	Boom 2	2	S4 36 deg	575	orange
177	172	R22	warm	I	Boom 2	3	S4 26 deg	575	amber
180	169	R18	warm	F	Boom 3	1	S4 26 deg	575	orange
181	170	R22	warm	F	Boom 3	2	S4 36 deg	575	
185	160	R72	cool	E	Boom 4	1	S4 26 deg	575	blue
186	161	R81	cool	E	Boom 4	2	S4 36 deg	575	teal
187	162	R72	cool	E	Boom 4	3	S4 26 deg	575	blue
200	--	--	--	practical	pool	1	LED tape		LED tape
204	72	R33	warm	BD	C4	13	S4 26 deg	575	Back Front
205	114	R33	warm	E	D4	7	S4 26 deg	575	SL
206	113	R33	warm	F	D3	6	S4 26 deg	575	pink
207	117	R33	warm	G	E4		S4 26 deg	575	
208	118	R33	warm	H	E3	19	S4 26 deg	575	
213	53	R360	cool	AC	C2	5	S4 26 deg	575	SR
215	40	R360	cool	E	B3	9	S4 26 deg	575	blue
216	16	R360	cool	F	B2	8	S4 26 deg	575	
217	44	R360	cool	G	E3	10	S4 26 deg	575	
218	17	R360	cool	H	E2	8	S4 26 deg	575	





Channel	Dimmer	Warm/			Location/ Electric	Unit Number	Instrument		Gobo/ Notes
		Color	Cool	Focus Area			Type	Wattage	
700	--	--	--	--	--	--	Master		Hippo
701	--	--	--	--	--	--	layer 1		
702	--	--	--	--	--	--	layer 2		
703	--	--	--	--	--	--	layer 3		
704	--	--	--	--	--	--	layer 4		
705	--	--	--	--	--	--	layer 5		
706	--	--	--	--	--	--	layer 6		
707	--	--	--	--	--	--	layer 7		
708	--	--	--	--	--	--	layer 8		
720	--	--	--	--	--	--	Master		
721	--	--	--	--	--	--	layer 1		
722	--	--	--	--	--	--	layer 2		
723	--	--	--	--	--	--	layer 3		
724	--	--	--	--	--	--	layer 4		
725	--	--	--	--	--	--	layer 5		
726	--	--	--	--	--	--	layer 6		
727	--	--	--	--	--	--	layer 7		
728	--	--	--	--	--	--	layer 8		

# Paperwork: Projection and Lighting Outline:

\*All projections are abstract representations of objects described using line and color.

\*Addition of dance numbers to be added.

## Opening:

- Side lighting; harsh shadows; no color light (dance lighting)
- Glow on the pool
- Balcony dark until cigarette lights up—then lights fade up

## Midas:

- Lights fills in and brighten with his entrance
- Bright; Clean; grandeur, intricate
- Projection on back wall of columns, potted plants (nice detailed decor around a pool)
  - Lines draw onto back wall and then fill in with color
  - Touching the branch—vine grows above his head as he says the line and gold color races back (in reverse of growth) as he touches it
  - Gold glow when daughter jumps

## Alcyone and Ceyx:

- Blues and pale amber (sunlight)
- Projections of sea and sky
  - Sea made up of partial circles that overlap – closer to 180 degrees; rise and fall; different shades of blue
  - Storm-circles become bigger; angles become further away from 180 degrees; add silver jagged lines on top with thunder; chandelier pieces
- Clouds move across the back wall and change with storm
- Backdrop transforms into sleep's domain (as narrator enters)
  - Sinks down below the sea into a sea cavern
  - Water drains out leaving just the cavern; dark, purple, saturated
- Reverse progression back to beach
- Projection mapping for bird; large sweeping curved rising lines; light, floaty, airy, growing

#### Erysichthon:

- Forest, deep greens, lush, wild
  - Trees grow up from the beach to cover the sea backdrop
- Tree breakup over the stage
- Pg. 33 “and he tore the trees down”
  - Instant cut to tree stumps and a blank grey to white gradation for sky—cold dead; sea and beach in the background, grey and cold
- Caucasus—“bleak and nightmarish region”; complete opposite of the forest; stark white; large open spaces; red accents; black light? (indigo LED)
  - Tree stumps degrade away like sand and reform into train/ship/car wreckage along the back horizon; jagged, lots of negative space
  - Reverse transformation back to the tree stumps
  - Zoom in to beach backdrop for boat scene

#### Orpheus and Eurydice:

- Wedding
  - Clouds; pastel
  - Become rain clouds for the funeral; vertical lines
- Underworld
  - Materialize out of the clouds
  - Saturated colors—deep greys; secondary color accents
  - Growing light (like the end of a tunnel) as they leave
  - Freezes as soon as he turns around
- Dance piece first time

#### Pomona and Vertumnus:

- Green, growing, ordered; orchard- rows of trees; pinks and reds (plums or apples or cherry trees); happy
- Fly through the trees to hills of lavender behind the orchard

#### Myrrha (interlude):

- Night sky
- Saturated deep blues and bright magenta
- Noose fades in—Part two: The solution

#### Back to Pomona and Vertumnus:

- Architecture turns into water and dissolves; plants grow back into lavender covered hills

#### Phaeton:

- Blue open sky; gradation of color; sun makes a slow progression (very subtle) across the sky; grows bigger in size as it progresses
- Warm beach day

Eros and Psyche:

- Dark; isolated down to pool
- Candelabra-practical-waterproof
- After the candle is extinguished, extinguish everything except the pool
- Slow fade of lights back up as they keep talking (like 1:00 or 2:00)

Baucis and Philemon:

- Dark blues-night
- “steers them inside”—upstage lights come up; warm inviting light
- Transition from simple interior to extravagant courtyard—brighten whole stage; downstage lights come up
- Projection mapping: two growing intertwining trees over Baucis and Philemon; add tree breakup when complete
- Candles in bowls

Midas II:

- Stars
- Very isolated
- Gold glow
- Restores when Midas and the daughter hug



# Paperwork: Cue List

Cue Sheet  
Metamorphoses

Cue #:	Count:	Page:	Cue:	Cue line/action:	Notes:
2	0	0	Blackout		
5	0	0	warm up/smart check		
6	0	0	Blackout		
10	0	0	Preshow		
15	3	0	House to Half	box office calls/with sound out	
17	3	0	Curtain Speech		
20	3	0	House out		
25	3	0	Blackout	with sound cue B	
30	3	5	narration	with music	
32	5	5	lights up + galaxy P	Devyn: To the very latest	c dance
34	3	5	narration (SL vom)	with actors in places	
36	5	5	vom out	Scientist on deck	
38	3	5	God platform up	Scientist: <b>glowed</b> then shown like a beam	after cig
39	3	6	SR vom up	Scientist: ...water from hard ground.	auto-follow
42	2	6	chandelier	Woman: array of stars	
44	5	6	vom out	Narrator on deck	
46	3	7	shift to Midas + P	First Laundress: <b>What</b> would you do with all the	
48	3	10	SL vom up	Midas: family is what really matters.	
50	5	11	vom out	Servant and Silenus on deck	
52	3	15	Night	Servant flips over Silenus	
53	5	15	Day	auto-follow	auto-follow
55	3	16	God platform up	Second Laundress: dawn came back again--	auto-follow
70	3	18	branches and flowers P	Midas movement	
78	1	19	daughter to gold	jump and set	USC shallow
90	3	20	shift to (A & C) + P	Second Laundress: then, here's another.	
92	5	20	voms out	Alcyone and Ceyx on deck	
98	30	23	storm P	Narrator: <b>whitecapped</b> waves sailors dislike.	
100	0	23	lightning strike	Narrator: enormous green catastrophe.	
102			lightning strike		At board
104			lightning strike		operator

Cue #:	Count:	Page:	Cue:	Cue line/action:	Notes:
106			lightning strike		discreSSION
108			lightning strike		
110			lightning strike		
112	0	24	Slow motion + P	Narrator: The <b>men</b> have lost their belief in their.../ <b>motion</b>	
114	0	24	restore	<b>with motion/dance</b>	
116	1	24	waves calm	Narrator: again and <b>again</b> ,	
120	3	25	God platform up	Alcyone: ninety-nine, one- <b>hundred</b> (1st time)	
121			Focus downstage on Alcyone	Narrator: Hermes to the Underworld	
122	5	26	shift to Sleep + P	<b>Iris descends steps</b> (add SL vom)	
124	5		vom out	<b>Narrator 2 leaves</b>	
126	3	28	shift to beach + P	<b>Sleep: good. Now go!</b>	
128	2	30	dawn		
132	3	32	Alcyone & Cyex dance	<b>with music</b> (glow god platform)	
134	1	31	Bird P	<b>Lucina: but as she ran</b> , (glow g)	
136	5	32	Music transition + P	<b>Singers enter</b> (SR vom up AC exit)	
140	3	32	shift to Eryschthon/glow god	Narrator: There was a <b>man</b> called Erychthon	
142	0	33	tree cut + P	Narrator: And he <b>tore</b> the tree down.	
143	2	33	SR vom up	auto-follow	
145	5	33	vom out	auto-follow	
148	3	34	God platform up	Narrator: But the goddess <b>Ceres</b> heard the cry of her	
150	3	35	shift Caucasus + P (SL vom)	Narrator: <b>Oread</b> flew off to the Caucasus	indigo
152	5	35	vom out	<b>Hunger on Deck</b>	
154	3	36	shift to Eryschthon/beach	Narrator: through the air to the house of the <b>victim</b>	
155	3	36	god platform out	<b>Ceres exits</b>	
156	3	37	Mom	Narrator: he ran home to eat	
158	5	37	restore	Narrator: back to our king	
159	3		isolate upstage	Erychthon: I want more	
160	3	40	Light shift (area L)	<b>Ceres: Bon appetit. Beat</b>	
162	3	40	(O & E) dance + P	<b>with music</b>	dance
164	3	40	SR vom up	<b>Orpheus's exit</b>	
168	3	41	(O & E) + P	<b>actors in places</b>	v & g
170	5:00	43	intensity up	<b>actors start to walk</b>	

Cue #:	Count:	Page:	Cue:	Cue line/action:	Notes:
172	STOP	43	stop cue--hold here	Orpheous turns	
174	GO	45	(O & E) number 2 + P	Narrator Two: Rainer Maria Rilke. A. D. <b>1908</b>	
176	STOP	47	stop cue--hold here	Orpheous turns	
178	3	48	Mopping (SL vom)	Moppers enter	go twice
182	3	48	god platform up	actors exit	
183	3	48	shift to (P & V) + P	Narrator: named <b>Pomona</b>	
184	3	51	lavender	Narrator: saw his beloved standing in the <b>lavender</b> .	
186	3	52	shift to Myrrah + P	Vertumnus: The <b>Mistake</b> .	voms up
187	5	52	voms out	auto-follow	
190	3	55	Midnight	Aphrodite: Midnight came	
192	1	56	noose + P (restore day)	Vertumnus: The <b>Solution</b> .	
194	5	58	night + P	Aphrodite: In the small <b>hours</b> of the night	
196	3	60	focus Myrrah's death	Myrrah: Oh gods pray you	
200	3	61	shift to (P & V) + P	Narrator: This story got Vertumnus <b>nowhere</b> .	
202	3	62	shift to Phaeton + P	Phaeton enters	fade tran?
204	3:00	62	Sun Progression P	Phaeton: <b>Well</b> , my parents	time this
205	5	62	Focus on therapist	Phaeton and Apollo exit	
206	10	68	shift Eros and Psyche	Eros enters	Q SR vom
210	0	73	lights out (except pool)	Psyche extinguishes candelabra	
212	15	73	restore	A: She is going to <b>suffer</b> .	on first
214	3	77	Eros and Psyche dance	with music	
216	3	77	shift (B & P) + P	Actors in places	
218	1	77	door sequence P	Narrator: They knock on a thousand doors. <b>Zeus knocks</b>	
220	1	78	open door SR upstage	Zeus: We've come all this way. <b>Zeus knocks</b>	
222	3	78	lights up and door fade out	Philemon: We must <b>bring</b> our guests inside.	voms up
224	5	82	lights brighten + grand P	Narrator: <b>Suddenly</b> , everything was changing.	
226	7	82	tree breakup + tree P	Narrator: grandiose <b>façade</b>	
228	10	83	isolate to tree and pool and stars	Narrator: <b>Walking</b> down the street at night	
230	5	83	blackout		
232	3	--	curtain call	actors in places	
234	3	--	House up	actors off stage <b>beat</b>	



# Implementation

A script gives the basis for a play, but the interpretation is what makes a production unique. When building the lighting cues and adding the layer of projection, sometimes the ideas that were had during the research phase were exactly what the production needed. Other times, a few things get tried out before a solution is found that works for this particular production. For example, there is a strong connection between the research images for the storm sequence and what was written into the cues for the production.



I reacted very strongly to these research images. I felt that textures and shapes in these paintings showed the waves of a storm and the color accentuated the ferocity of the storm. There is a very strong connection between these images and the final product.

I used the color pallet and texture from these research images to give personality to the storm. There's also a deminsonality found in both the research images and in the



final product. I used smoke to help create these layers of rain, mist, and wind found in storms. This also reflects the layers of fear, anger, and sorrow felt by the sailors versus the wildness and hostility of Poseidon and his henchmen.

Alcyone and Cyex: Storm



Another set of research images that strongly influenced the final design were the research images for Myrrha's scene. Color was a very important to the director. She had a clear image of the saturated coloration and of the uses of reds and magenta. This scene has a high level of sexual tension, so I used these saturated colors to highlight the

form and curves of each body and I used these particular colors to give a higher level of intimacy that is expressed in the text of the scene.

You can see the use of color from the two research images in this production photo. The interaction of

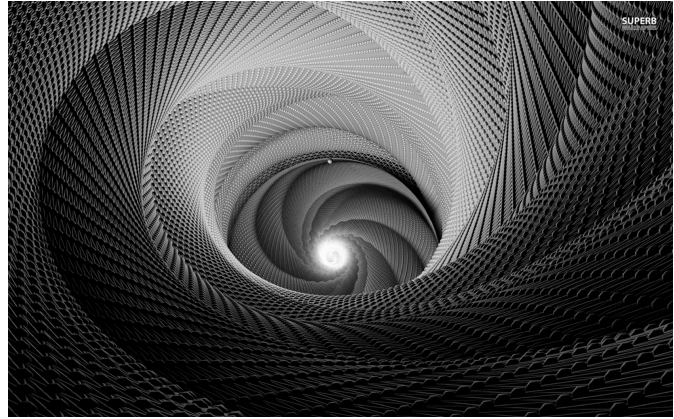


Myrrha

the blues and magenta really brings out the form of the body and the contrast of color intensifies the emotion being played downstage as opposed to the observers upstage.



On the other hand, there were scenes that I had to try a few different ideas before I found a solution that worked for this production. There were moments where I had trouble visualizing exactly how a scene would look or work in context and the only way to get past this was to try a few different options and figure out what was working and what wasn't as I went along.



For example, I began with the idea of a tunnel for Orpheus and Eurydice's slow progression from the underworld. I wanted the light to get brighter as Orpheus and Eurydice traveled to the mortal world and for the change to stop as soon as Orpheus turned around because as soon as Orpheus turns around, his hope for happiness is lost. This wasn't reading from the audience perspective when the idea was tried out. I needed to start the lights too dim for the actors to be seen or end with the lights being too bright for the progression to be done unless it was very subtle. There was also not enough character in the location. Everything was a little washed out and bland compared to the other stories.

I talked to the costume designers, who were giving red accents to Hades and Persephone, the king and queen of the underworld. I incorporated this into the projections and tried using a combination of secondary colors (green, purple, and orange) to add character to



Orpheus and Eurydice: Dance

the underworld. While the research images were helpful for this story, I was able to progress more just by trying things to see how they worked and interacted together.



## Production Photos



### Preshow

This was the first thing that people saw when entering the theatre. The preshow sets the tone for the rest of the show and sets a level of expectation for the show. I wanted to give the audience something interesting to look at, but I didn't want to give away any of the show's secrets. I wanted the space to feel peaceful, spiritual, mystical, and full of energy. I used cool peaceful colors and the softness of the light shining through the wall pannels to accomplish this.



#### Beginning Narration (above and below)

The narrators are talking about the creation of the world and of man. I had projections of starfield that gradually shifted as the narrators talked. I wanted to keep the area around them isolated so that they were in the moment of creation that they were talking about.



The first narrator (above) begins the play with a prayer like speech in which she asks the gods to be able to see the secrets of creation. The second narrator (left) gives an account of creation. The first narrator asked a question that the second narrator gave an answer to. I lit the second narrator a little more brightly than the first as she was a little more illuminated by knowledge and also as she was more of her own entity rather than part of the surroundings.





Creation Dance (above and below)

We physically represented the creation as a dance. I used the color pallet from the star field and focused on creating the form of the body so that the movements of the dancers could clearly be seen.







### Midas

Midas describes the location as his pool, which “cost a pretty penny”. Midas is a crisp and efficient businessman. The lighting reflects this by being bright and non-saturated.



### Midas: Gold Effect

We used D60 vivids and changes in the projection content to show the physical transformations Midas was affecting with his newfound ability.





#### Alcyone and Ceyx: Storm Dance

Poseidon and his henchmen attack the ship. I used the contrasting colors and smoke to show the tension in the scene. I also built lighting cues using the back-lit wall panels to electrify the storm. You can see part of this effect in the upper left of the picture.



#### Alcyone and Cyex: Sleep's Domain

The monochromatic colors and dimmer intensity gave Sleep's domain a quieter and peaceful feel. The place is described as a "deep, dark grotto".





### Alcyone and Cyex: Bird Transformation Dance

The two lovers are described as flying over the seas, able to be together forever, so I used blues and some amber to recreate the lighting on a bright sunny day at sea.



### Transition: Halcyon days

This is a song between scenes at the sea and forest. I used auto-follows to add the back panels slowly throughout the transition to imitate a forest growing.





Erysichthon: Forrest

This is in the forest sacred to Ceres. Everything is lush and vibrant. I used green top lights as well as the lights around the pool to give a full, alive feel to the space.



Orpheus and Eurydice: Wedding Dance

I used bright white, light blue, and clouds as an allusion to a wedding scene.





Orpheus and Eurydice: Underworld Dance

I used rich secondary colors and fog to represent the underworld. I focused on building the form of the dancers.



Orpheus and Eurydice: Underworld

This story is told three times. For this telling, I heightened the brightness as Orpheus and Eurydice traveled toward the mortal world.





Myrrha (above and below)

Aphrodite is seizing Myrrha with passion. I used the saturated blues and magentas to show the high emotional state of the characters. The narrators and audience who are watching the moment are not in the same moment, so I used a different color pallet to keep the two areas separate.







Phaeton (above and below)

Phaeton has a therapy session where he talks about how he crashes the sun. The scene begins as a nice, bright, clear pool day and ends with the explosiveness and heat of the sun crashing into the Earth.







### Eros and Psyche

“The soul wanders in the dark until it finds love. And so, wherever our love goes, there we find our soul.” I kept this scene a little dimmer and more contained, because the subject matter was so intimate, and in some ways, internal.



### Eros and Psyche Dance



### Baucis and Philemon

This is the last story. Zeus and Hermes come to the mortal realm disguised as beggars. “They knock on a thousand doors...And a thousand doors were slammed on them.” They finally come to a small house on the outside of town. This is the house of Baucis and Philemon, an elderly couple who have nothing to spare, but ask the two disguised gods in to share a meal with them. After the gods are revealed, they change their humble abode into “a grandiose façade”. The gods ask what Baucis and Philemon desire, and Baucis replies that they wish to die at the same time. This way neither of them has to be without the other. At the end of the story, the two turn into trees that intertwine and grow together.

We used projection sequences to change the cracked plaster walls to the grand gold and marble columns and to grow the tree on top of the columns. I started with an isolated place upstage for the house at the beginning of the sequence. When the house began to change, I brightened the rest of the stage to include it in the house. At the end, when the tree grows, I brought the intensity back down some. This brought us back to the outdoor night scene with all of the stars in the sky and also helped to keep the projection from becoming too washed out.





### Midas

At the beginning of the play, Midas is told that if he walks to the ends of the Earth and washes his hands in a pool of water that reflects the stars, his gift/curse may be removed. In the final moment of the play, Midas comes back onstage with his daughter and kneels down into the pool filled with candles. Everything around him except for the stars and his golden glow is dark. He reaches down and places some of the water on his daughter's forehead and the lights shift to a cooler white light before fading down to just the stars. The image brings us full circle back to the beginning story and gives Midas a happy ending. The star field also brings us back to the creation scene and emphasizes the completion of the circle.

# Conclusion

I learned a lot from this process. I encountered aspects of theatre that I had never had to deal with before. This was my first time lighting in a thrust configuration. This introduced the new challenge of making sure that all of the audience members could see, which meant that actors needed to be lit from the back in some areas, because to some of the audience, a back-light was a side-light or a side-light was a front-light depending on where the audience member is sitting. This was also the first time I had ever tried dance lighting. Dance lighting is all about giving the body form. It usually involves more sidelight and lower angles and less front light. It was my favorite part of the process, but challenging to figure out how to light the dancers without blinding the audience and how to create dimensionality without getting rid of light to see facial expression and the acting.

This was also my first time using projection. Projection is a relatively new addition to theatrical performance, but is one that is becoming more popular and is demanded more often. I have learned a great deal about how to manipulate projections and projection surfaces, but I have only scratched the surface of the capabilities of projection. I feel that my uses of projection were not very elegant solutions and I look forward to figuring out better ways of utilizing projection as well as finding out more of the capabilities of projections.

I feel like I progressed in all of these areas. We reached a good place with the production, but looking back at the process now, I can see ways of improving and ways I could have done things that would have been easier and more effective in the long run. As I continue to design and implement designs, I will be able to pull on my experiences

from this process. *Metamorphoses* is a base of knowledge and inspiration that I will always be able to pull from.

Even after working on this project for almost a year, I still have the sense of wonder and magic that I had the first time I read through the script. I think that the themes from this script are universal and relevant regardless of how many times you've heard them. Humans are all connected and ever changing and we all share the same sky.



# Glossary

**Board Operator**— Person in charge of operating the lighting during the run of the show. They are also in charge of plugging in fixtures that need to be plugged in, making sure that all fixtures are working properly before a show, turning off fixtures that need to be turned off at the end of the night, and noting and passing on to the designer any problems that cannot immediately be fixed.

**Calling the show**— Calling a show is when the stage manager uses the cue list to initiate changes in lighting, sound, or other special effects. The designer and director decide the timings during the paper tech.

**Channel**— A number corresponding to a fixture or set of fixtures that allows the programmer to select the fixture or fixtures.

**Channel hookup**— Paperwork that lists all fixtures by channel. It also lists dimmer number, color, whether the fixture is considered warm or cool, focus area, unit number, instrument type, wattage, usage of gobos, and notes.

**Console**— or the desk is computer that controls the lights; where you build and save cues. Our console is the ETC Ion.

**Cue** – A format for saving the intensities of lights into the console. Each cue is a look or a lighting change.

**Cue list**— Paperwork that lists all of the cues in order and also tells where the cue is in the script, the timing of the cue, the action or line the cue is being taken off of, and any other notes about the cue. This list is given to the stage manager who uses it to call the show, or to tell the board operator when to go to the next cue.

**Cyc**— Large expanse of white fabric that is pulled tight and covers the back wall. It is the backdrop of the stage. It is usually lit with cyc lights or is used as a projection surface.

**Cyc lights**— Conventional lighting fixture. It is used mainly on the cyc and is engineered to create a beam of even light onto the cyc.

**Designer**— Person in charge of the artistic development of a production. They focus on one area (traditionally lights, projection, set, costume, sound). They come up with a concept, work with the director to reach a plan of action, and then create the design or hand the design off to technicians who create it. (In this case designer also created or helped to create.) The designers answer to the director who has final say over any decisions.

**Dimmer**— A number assigned to a lighting fixture and the plug in for the console to talk to each fixture.

**Director**— Person in charge of the over all direction of the production. They are the go between for designers, management, and actors. They have final say over all decisions and want to make sure that everything works together effectively. They also have an overall concept for the entire production and are working to make sure everyone works toward a unified goal. They answer to the producer.

**DMX**— The way an intelligent fixture speaks to the console. Each intelligent fixture will be connected back to the board through DMX cables.

**Dress rehearsals**—Rehearsals where costumes are added. Traditionally the last set of rehearsals. During the final dress or final dress rehearsal, everything should be working as it will during the run of the show.

**Ellipsoidal**— Conventional lighting fixture. It is the workhorse of the industry. They come with different degree barrels. The different degrees give different sizes of light areas. The larger the degree, the wider and dimmer the ellipse is. These fixtures also contain shutters, which allow a high level of control over where the light goes. It is called a spot fixture.

**Focus Area**— Areas of the stage that isolate where a light should be focused. Having areas in a certain order or pattern helps the programmer know which fixtures will be helpful.

**Fresnel**— Conventional lighting fixture. The lens has ridges that allows the light to diffuse more. This allows for large, soft edged areas of light. This fixture is considered a wash fixture.

**Gel**— A piece of colored plastic placed in a frame in front of the light source, so that the beam of light is colored. Gels have corresponding numbers that tell what brand the gel is and exactly what shade of color it is. An example would be R99. R refers to the company Rosco and 99 refers to the shade of brown called chocolate.

**Gobo**— Also called a template. A circular disk made of metal or glass that can be placed in certain fixtures to create a pattern or colored image in the light.

**Ground plan**— A view of the set from overhead that shows where all set pieces and seating will be in the space. It also shows elements of the space such as the walls, doors. The grid plan is laid on top of this to create the plot.

**Hipnotizer**— A projection processor and also the company that makes projection processors. The Hipnotizer is capable of editing content, placement of content, timing, and more. I only scratched the surface of it's capabilities in this project.

**Intelligent fixture**— Or smart light is a lighting fixture that does more than just turn on or off and so needs more than one channel of DMX.

**LED Tape**— A smart light. A flexible piece of tape embedded with LEDs that can be attached to or fit around any surface. In this case, we used an LED tape that has a protective waterproof casing.

**Master electrician**—Person in charge of implementing the plot and channel hookup. This job also includes making sure all fixtures have power and DMX, making sure gel is in stock or ordering gel, and making sure that everything is clean, neat and efficient.

**Paper tech**— The meeting of designers and director to go through the script and write down when cues should be called and on what action or line. This is for the benefit of the stage manager, who will use these timings to call the show.

**Plot**— A map of where all fixtures in the space should be located. This also includes information such as the channel, dimmer, gel color and number, and unit number. The plot corresponds to the channel hookup and information found in both should match.

**Producer**— Person producing the play. They are paying for the production and have the ultimate say of what goes on stage.

**Programmer**— Person in charge of writing the cues and building effects. In this case, the programmer is the designer.

**Run of the show**— From opening night to closing night; Period of time when the production is open or being viewed by an audience.

**Section**— A side view of the space. This is useful for the lighting designer to show beam angles of fixtures.

**Selador D60 Vivid**— A smart light. This fixture uses a seven-color (red, green, blue, red-orange, amber, cyan, indigo) system of LEDs and is able to change color. This fixture is generally considered a wash fixture. Frosted lenses can be applied in front of the light to widen or tighten the beam to some degree.

**Stage Manager**—Person in charge of making sure everything is running smoothly. They are in the space before and after to make sure everything is set up at the beginning and locked up at the end. They take notes for everyone and make sure that each person gets the information they need. They can be a go between for everyone and the director. They call the show during the run of the show. They answer to the director.

**Technical rehearsals**— Or tech rehearsals are rehearsals specifically geared towards fixing technical problems and making sure that all technical aspects of the production are working properly. These rehearsals also give a chance for the operators to figure out how the technology works and learn to use it properly.



Thrust— A configuration of seating where the audience is on three sides of the stage. This introduces challenges to the director, because the director has to think about viewing the scene from all of the different seats. It also introduces challenges for the lighting designer, because areas need to be lit to be scene from all of these different seats.

Unit number—A number assigned to a fixture that tells where the fixture is located. It matches the fixture to a certain pipe and what unit the fixture is on the pipe.

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