WATER SYMPHONY AND FANTASY
CANAL RIDE

THE INTERPRETATION OF MUSIC
INTO A THREE-DIMENSIONAL AMUSEMENT EXPERIENCE

Disney / MGM Studios Theme Park : Lake Buena Vista, Florida, U.S.A

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WATER SYMPHONY AND FANTASY
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THE INTERPRETATION OF MUSIC
INTO A THREE-DIMENSIONAL AMUSEMENT EXPERIENCE

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Disney / MGM Studios Theme Park : Lake Buena Vista, Florida, U.S.A.

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*The following credits are to accompany videocassette under same title: "Water Symphony and Fantasy"

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Kent Bingham • I wish to thank Mr. Bingham for sharing his fascinating information with me.

Mark Hannalin • Our "nuts and bolts" conversation SOLD me on the idea of using water ride systems.

Don Holmquist • Mr. Holmquist is applauded for his substantial list of "people contacts" in the entertainment industry.

Troy Polermo • Troy's role in my research was very important to the development of the final product.

Music:

Tchaikovsky's Symphony No. 4.

• conducted by Leonard Bernstein
• performed by the New York Philharmonic Orchestra
• used with permission, courtesy of Sony Classical

Audio-Visual Equipment furnished by:

Ball State University Telecommunications Department
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WATER SYMPHONY AND FANTASY

CANAL RIDE

ABSTRACT:

one.

What do the arts of music and architecture have in common? Architecture and music, like the other arts, are similarly composed to express our attitudes, our aspirations, and our cultures. How can this study be explored and presented to entertain people?

The proposed project is a water canal ride which studies architecture through a piece of music. The ride will be “composed” using two design objectives, the first being spatial manipulation and the second dramatic effects.

These ingredients will design the spaces that people will ride through. Its themed storyline will be in the interpretation of an emotionally-stimulating piece of music. Guests will experience unique atmospheres of relaxation and excitement.

The project is proposed for the Disney / MGM Studios Theme Park in Lake Buena Vista, Florida, chosen for its context of creativity and imagination.
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Issues of Inspiration:
From my understanding, the idea of a thesis is about focusing on things that intrigue us. What is it that continually inspires us about architecture? Let me first give 2 examples of our Architectural forefathers, and their respective interests.

Example #1:
At one time, LeCorbusier was fascinated by something as simple as "mysterious corners." This is where the space of an entire building cannot be seen in its entirety, but must be explored to get an overall understanding of it (see dia. 1).

Example #2:
In several of his Prairie-style homes, F.L. Wright used a visual concept of giving each building a central core. From this core the remaining bldg. grew outwards, like a branch would from its trunk (see dia. 2).

Technological Integration- used for the transport systems at E. Saarinen's "Gateway Arch," in St. Louis, Missouri, U.S.A. (see dia. 7 & 8). With elevator technology of those days, people could not have possibly been transported through this structure.
**Structural Expression** seen at A. Gaudi's "Sagrada Familia" Cathedral, in Barcelona, Spain (see dia.9). The structure's monumentality and expression creates an awesome, nature-like atmosphere that celebrate our Creator's existence.

![Dia. 9 - A. Gaudi's Expression of Structure.](image)

A variety of resources will most likely help any design develop into something very integrated. To avoid closing ourselves off from outside resources, we were constantly advised to research many different options (dia. 10).

![Dia. 10 - This Is A No No!](image)

**The Seed:**
I am an admirer to the amusement park. I continue to be inspired by amusement rides and their ability to bring out "kids" in all people. On occasion, I get in a mindset to explore technological innovations with these rides. The following research will explain how my thesis grew from this seed.

I did not expect to get very deep into music appreciation class, back in the spring of 1992. However to my surprise one day, I was hit HARD with a deeper appreciation for this symphonic music.

That day, the particular piece was from composer Bedrich Smetana's opera _Ma Vlast_. It described the journey of a little drop of water; starting from a cloud, working its way down the mountainside, finding a stream, to finally meeting the big-fat "Moldau River," (see dia 11).

No one in class knew it at the time, but I was ecstatic! The music was wonderfully paced. My imagination helped to make this experience participatory and very gratifying. The rest of that day I gleaned with an obvious radiance. Simply put, I was high on life! What a day that was!

Could there be any possible way that we, as designers, can encourage people to feel this "giddy?" Was it in the music, or was it in my imagination?

I now dedicate the next few months to the exploration of an entertaining project that will interpret music by way of three-dimensional architecture.

This first experiment helped me to understand at what level other people were on this subject. I asked several people to combine their favorite piece of music with their imagination to paint a picture in their head. The experiment went as follows:

"Please describe the scene: its atmosphere, its tone, its materials, etc. What sort of activity is going on around you at this point? What things in this picture are reacting to the music?"

**Jan Behounek:**
- under a clear blue sky.
- trees surround boat and reach out to touch riders.
- flying fish in a body of water below.
- waves hit boat softly, subtly. (see dia. 12)

![Dia. 12 - From My Translated Interpretations, A Forest of Tomhills.](image)

**Matt Davis:**
- atmosphere is "mysterious" at first.
- different objects are presented without coherence.
- slowly and gradually you begin to realize that all these objects do relate to one another. *eventually, a coherency develops.*
- the finale is a piece of art in which ties everything together. (see dia. 13)

![Dia. 13 - From My Interpretation, Unrelated Parts Are Related](image)
WATER SYMPHONY AND FANTASY

The music’s different sections will be studied and correlated with three dimensional objects and effects. These interpretations will be my own, which brings up an important concern: The interpretations chosen must "seem right" to other people. In other words, they cannot be expressions only for myself, that only a few persons understand.

In Disney’s "FANTASIA" project of 1940, an elite group of artists interpreted music into a full-length animated film. Much of its continued success was by the way it "seemed right" to a wide majority of its audience.

In this film, inanimate objects began to rhythmically move with the chosen music. Here, the animators had developed specific personalities for the movie’s many kinds of characters.

In a follow-up documentary entitled Fantasia: The Making of a Masterpiece (1990), narrator Michael Tucker speaks of some of the original techniques used to create this film:

"The believability of the animator’s characters required the use of real dancers so that the drawn movements looked real. Acting was important to the successful communication of the film to the audience," (Tucker).

This next study was inspired by a popular children’s concert piece called The Young Person’s Guide to the Orchestra. Here, English composer Benjamin Britten intended to educate young people on the different parts of the orchestra. Here, the instruments are divided up into four basic families. They are:

1. the WOODWINDS:
   are modern-day derivatives of the Penny Whistle.

2. the BRASS:
   originated from trumpets and hunting horns.

3. the STRINGS:
   are scraped with a bow or plucked.

4. the PERCUSSION:
   include any instrument that is hit.

The task now was to take these four groups and document their activity throughout the written score. (see dia. 16 on following page)
The below diagrams show instrument activity from each of the four family groups of the orchestra. These handmade cardiograms are documented from P. I. Tchaikovsky's Symphony No. 4, Op. 36 (the "cut" version, see pg. 11).

- Cardiogram of instrument activity in the first movement.

- Cardiogram of instrument activity in the second movement.

- Cardiogram of instrument activity in the third movement.

- Cardiogram of instrument activity in the fourth movement.
Next question:
How will the THEME of the ride be chosen? If the composer's notes are used, there would be difficulty in trying to make the theme successful. People may prejudge a storyline, and will almost assume the atmosphere will match their "preset" expectations.

We would almost have to surprise them so that they don't see anything like what they are expecting to see. People of all types and cultures will be experiencing this. They may not interpret music in quite the same way.

The interpretation, then, would probably have to be a fantasy-like design, which would be abstractly designed to communicate the emotions of the music.

Ride Housing:
From its four movements, do I want FOUR completely separate rooms to interpret the music? (see dia. 17)

WATER SYMPHONY AND FANTASY
Being in a theme park where guests views are important, the design of this building must be in proper context with its surroundings.

However it should be of a generic form. Motifs of any kind may not be appropriate. This may suggest specific types which may not get the point across.

Its spaces can either expand or constrict. A plain white space already has a character of its own. How could it be construed to express different characters (see dia. 18)?

It was suggested that the elements to be changing in these spaces be presented in a menu or list:

- color
- space
- light
- tactile things air movement
- sound
- decoration
- motif

"This is my palette:..."
"Items in this palette can be used in these certain ways:..."

Already, there are many architectural elements involved. This "list" will be mixed and matched for the composition of the spaces.

In making some quick, first-run decisions, the objects to be used in expressing these spatial changes will be similar objects we use in architecture design (see dia. 19):

- columns will be this...
- arches will be this....
- walls will be this........
- ceilings will be this....

By constantly altering these objects, there must also be some amount of consistency among them throughout the ride, so that people can see how much is being changed.
Ride Restrictions:
By adding the dimension of time, it becomes important that the entire experience happens inside of a reasonable (and profitable) ride time. Even the very long rides in the amusement parks are short relative to 30 minutes (Hannalin).

In a telephone conversation on January 17, 1994, a Mr. Mark Hannalin of Atlanta Design, Inc. (Las Vegas, NV), spoke about some of the set standards in ride design. The longest of the amusement rides can last anywhere from 5 to 8 minutes. Any longer than the 8 minutes and its efficiency, or throughput, begins to decrease. The queue lines get stretched out, and the wait just gets longer.

THESIS RESEARCH SUMMARY
All that to say: I couldn't possibly use a full-length symphony, at 40 minutes. That would be a bit unrealistic. My task now was to cut the music down to fit a reasonable time limit. I called Mr. Leonard Atherton on board my committee. He is presently the Director of Orchestras here at Ball State University.

He began helping me on my research by giving me some pointers on making cuts in the written music. NOTE: In the original length of any piece of music, the composition is intended to take listeners through a carefully designed, often timely sequence. By making these cuts, I am violating that "sequence." The music now plays at just under 15 minutes (see dia.20).

Ride Type:
At a certain point in the semester, Paul LaSeau began mentioning The Villa D'este Gardens in Tivoli, Italy. He thought that I had decided on doing some project with gardens. The thought really hadn't crossed my mind up until that point. Upon studying that subject, I began to shape more decisions about water in this project. The following sketches, in dia. 21 & 22, are pulled from my research of the gardens, and their use of water being a character element.

Location of Site:
Does this project sit out in nature? Is it a thriving attraction in the middle of a theme park? I could already see exciting possibilities of both options. These were early questions which were eventually worked into the Tivoli water gardens research.
Looking at this plan, I was trying to find a solution which would work itself in with the existing environment. I chose an area with plenty of open space for the ride (it was suggested near "Tower Of Terror"). How does a student study a site in Florida (WDW) when his design studio is in Indiana?

Mr. Fisher reassured me that the context would not have to be taken literally just to propose a thesis project. Deal with what you have, and make assumptions about the rest. Simply explain where the project is and what issues you chose to affect its design.

Will this be a covered/dark ride (Disney's Space Mountain) ...OR... will this be an open air/outdoor ride (Disney's Big Thunder Mountain Railroad)? These are my options:

**Dark Ride Options:**

As explained in Randy Bright's book about Disneyland and its creative attractions, Disneyland's **Space Mountain** was the, "...first rollercoaster ride to occur in perpetual darkness. Not knowing where the turns and drops are coming from arouses a terrifying sense of fear and anticipation." (Bright, pg 217).

Area Planning:
The original intended location for this ride was to be alongside Disney's "Art of Animation" building at Florida's Disney / MGM Studios park. That would give the project a direct relationship with **FANTASIA**. (see dia. 24)

My contact with Troy Polermo was made. He is from Facilities Management, and was very enthusiastic to help me out. From him I received a scaled site plan of my proposed area, which showed to be too small for my original intentions. Something had to change.

Surroundings are infinite in a dark atmosphere, and theatrical effects work very well here. Weather conditions should never be a problem inside. However, the housing shed for the ride will be a challenge to hide from park guests. Example: Cedar Point's : Disaster Transport (see dia. 25). This big box leaves visual mark on park skyline.
Open Air Options:
Here, the ride must be willing to work under any climatic condition. These are uncontrollable and can drastically affect the "show":
- daytime vs. nighttime
- clear vs. rainy

For the design of Disneyland's "Big Thunder Mountain Railroad" attraction, the designers needed extensive animation and mechanical effects to give it a complete theme.

Mr. Tony Baxter, currently heading the Walt Disney Imagineering design team, called for, "...fly flying bats, falling rocks, teetering buttes, earthquake effects, and splashdowns" for the completed theme of this ride (Bright pg. 217). Because it was an outdoor ride, EVERYTHING had to be themed that was visible to the audience (see dia. 26).

DIA-26 - "BIG THUNDER MOUNTAIN RAILROAD'S HEAVILY THEMED ATMOSPHERE.

There are better thematic opportunities with the landscape. These atmospheres can have entry/exit queues that are closely integrated into its context.

Length of Ride:
It is now necessary to know the length of each condensed music. With the music, the length of the ride can be calculated using the speed of the ride vehicle.

After speaking with the "INTAMIN" ride manufacturers (Millersville, MD) about their boat ride system (Appendix B), I found out this system runs at a constant speed of 1 meter per second (approx. 3 feet per sec.). Movements are timed as follows (see dia. 27):

<table>
<thead>
<tr>
<th>AREA</th>
<th>DURATION</th>
<th>LENGTH in meters (in feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>lead-in track</td>
<td>0 min. 15 sec.</td>
<td>15.0 meters (49.2 ft.)</td>
</tr>
<tr>
<td>transfer station</td>
<td>0 min. 10 sec.</td>
<td>10.0 meters (32.8 ft.)</td>
</tr>
<tr>
<td>movement I.</td>
<td>3 min. 30 sec.</td>
<td>210.3 meters (690.0 ft.)</td>
</tr>
<tr>
<td>transfer station</td>
<td>0 min. 10 sec.</td>
<td>10.0 meters (32.8 ft.)</td>
</tr>
<tr>
<td>movement II.</td>
<td>2 min. 58 sec.</td>
<td>178.3 meters (585.0 ft.)</td>
</tr>
<tr>
<td>transfer station</td>
<td>0 min. 10 sec.</td>
<td>10.0 meters (32.8 ft.)</td>
</tr>
<tr>
<td>movement III.</td>
<td>2 min. 0 sec.</td>
<td>120.7 meters (396.0 ft.)</td>
</tr>
<tr>
<td>transfer station</td>
<td>0 min. 10 sec.</td>
<td>10.0 meters (32.8 ft.)</td>
</tr>
<tr>
<td>movement IV.</td>
<td>3 min. 8 sec.</td>
<td>187.5 meters (615.2 ft.)</td>
</tr>
<tr>
<td>transfer station</td>
<td>0 min. 10 sec.</td>
<td>10.0 meters (32.8 ft.)</td>
</tr>
<tr>
<td>loading/unloading station</td>
<td>1 min. 35 sec.</td>
<td>95.7 meters (314.0 ft.)</td>
</tr>
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TOTAL: 14 min. 15 sec. 857.5 meters (2813.3 ft.)

DIA-27 - TAKING THE RUNNING TIME FOR THE RIDES, ITS TOTAL RIDE LENGTH IS CALCULATED.
Ride Integration:
Mr. Fisher brought up the option to "sprawl-out" the ride. Strangely enough, that critique turned me on to a wonderfully new layout, which could potentially extend itself throughout the park. This would eliminate my nightmare of tossing out a cube just anywhere, and calling that site evaluation.

"Castaway Creek" river ride at Typhoon Lagoon water park does this "sprawling-out" thing (at Florida's Walt Disney World). This man-made river is very much integrated to its site, as it meanders throughout the park. It also isolates the wave pool and sandy beach area from the remaining attractions (see dia. 28).

Reference Points:
If this canal is going underground there should be a reference point reminding people of where ground level really is.

It may be that sometimes they see ground level, and at other times they don't. Another reference point, which may help to orient riders, is their relative location from the "Tower of Terror." People can be oriented as to where they are in relation to the tower's facades and their distance from it (see dia. 30).

For the speed of the ride to be visually effective, a stationary reference object needs to stand alongside the vehicles so that riders can feel how fast or slow they are going. Because this ride type has a fixed speed, any change in speed will be an optical illusion. This datum serves as a consistent reference. When the datum changes, people should feel a change in velocity. This can be done by the introduction of columns and their linear spacing from one another (see dia. 31).
Give them a sense of mystery throughout their ride. This includes things that cannot be foreseen like: turning corners, energy explosions, changes in sizes and shapes (see dia. 32 & 33).

**Visuals Are Always Changing, When Path Wanders.**

Theatrical Design:
Think about the design of its path by using concepts already established in the design of auditoriums. Auditoriums? Yes, the visual requirements for a ride like this is quite similar to those standards set in an auditorium.

A meandering path will assure that passengers’ views are always changing, and hardly ever obstructive (see dia. 35 below).

**Theatrical lights can change the feel of a space without ever changing its physical size or shape. Under an open blue sky, these lights will not be effective. Therefore, its success requires a dark atmosphere. In a night setting, a ride's atmosphere can become an entirely different visual experience.**

Visual scenery needs to be placed above the viewer’s line of site so that all the scenery can be seen by each rider (see dia. 36 below).

What I want is a ride system where boats can be propelled at a regulated speed. There are several types of water rides:

1. Free-floating canal or flume boat
2. Submarine track boat
3. Cable tow boat

What we want is the cable tow system. The Intamin Corporation manufacturers these tow-boat rides. The ride vehicles are in a fixed propulsion, and typically move at one meter per second (3 feet per sec.). The loading and unloading platform must be in motion to allow for a continuous movement (suggested: rotating platform). Rotating platforms have average diameters of 50 meters (approx. 150 feet). (see dia. 34)

**Rotating Platform Can Accomodate Constantly-Moving Ride.**
**Boat Design:**

How can the music be heard? People need to stay relatively stationary to each other and to the music. It was suggested to place riders into a boat capsule. Each capsule would play the music on board. These capsules could be closed for greater isolation of sound between vehicles. A transparent cover over these capsules would allow water activity to happen around the boat (see dia. 37 & 38).

With the option of a sound system in the vehicle, elect ricution is possible, depending on where the power supply sits. Is it well protected from moisture? Is audio system water-proofed?

The independent power needed in the boats would have to perform at least eight (8) hours per day to be efficient and cost effective. Cable-tow ride systems can use a watertight power cable.

**Support Areas:**

Maintenance / storage space is a requirement and is determined by the amount of boats needed for the ride.

A maintenance trough should exit boats GRACEFULLY into the maintenance / storage area. For this ride, these areas are in a storage pond just beyond the perimeter of the loading / unloading platform (see dia. 39 below).

A HOIST and sufficient CLEARING space is required to remove each boat from the storage pond. Sufficient space for a dry garage or holding pond will be needed for "out-of-order" vehicles. Allowing this working space can be a crucial design move for the long-term survival of the ride.

Egress passages, at points along ride, are also important to have when emergency evacuation is necessary (see sect. dia. 40).
three.

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Site Analysis:
The Disney / MGM Studios Theme Park was chosen for its relationship with Disney's Animation studios in their 1940 animated film, Fantasia. This was an exploratory film with which the animators interpreted their own images from pieces of music. This project will do the same, but in three dimensions (see dia. 41).

It is after people pass the theater that they see a water plaza, and a tiny glimpse of the water canal. (see dia. 42)

The location of this ride will be in an area surrounding the park's upcoming "Tower of Terror" thrill ride. This NEW FOR '94 addition, named Sunset Boulevard, will entertain different types of people: from a relaxing, open-air marketplace, to an entertaining outdoor theater of performing artists, to even an action-packed thrill ride.

Throughout one's journey down the boulevard, various highlights will attract park guests: (see fig. 40)
Program:
The water plaza will introduce park guests to the ride. In this plaza, the ride effects will be explained in a hands-on exhibit. Riders finally arrive at the loading platform. (See Dia. 42A)

Here, riders will load their capsules on a revolving platform. The path out of the station leads directly into a dark "transfer station." At these stations, the cable towing system switches from one cable circuit to the next cable circuit. There will be one cable system per movement (see Dia. 43). These "transfer stations" will also house relay sensors that tell the boats to start playing the music.

Dia. 42A - Water Plaza Introduces People to Ride.

Each waterproof capsule will be equipped with a high fidelity, music-playing system. Capsules will hold approximately 16 passengers, and will be driven by an underwater cable-tow system at a constant speed of one (1) meter per second (or 3 ft. per sec.) (see Dia. 44). Refer to Appendix B for INTAMIN tow boat ride.

At the end of the ride, boats will return to the loading/unloading platform. Departing riders unload and are led to a "post show" area (see Dia. 45). Here, a brief exit show will explain some notes about the composer's thoughts and intentions for this music. Guests will then leave through the Sunset Marketplace, increasing visitor interaction for this area.

Dia. 43 - Schematic of Ride Layout Surrounding "Tower of Terror!"

The boats will go through a sequence of spaces which will react to the onboard music. After each movement, vehicles will again pass over another "transfer station." And then, the next movement begins.

Dia. 45 - Exit Sequence.
WATER SYMPHONY AND FANTASY

DESIGN OBJECTIVES:
For the making of the ride, two concepts were explored to design the different atmospheres of the ride. These two concepts interpret music by using both the manipulation of space and dramatic effects.

Manipulation of Space:
The first category is sub-divided into four (4) elements representing the four (4) families of the orchestra. They are: the WOODWINDS, the BRASS, the STRINGS, and the PERCUSSION.

1-the WOODWINDS (W)
-Will animate the left side of the canal wall making the atmosphere swell, constrict, soothe, or explode; with the music of the woodwinds (see dia 46 below).

2-the BRASS (B)
-Will animate the ceiling plane to make the atmosphere smooth, choppy, enclosed, or openly exposed to the air (see dia 47 below).

3-the STRINGS (S)
-Will animate the right side of the canal wall making the atmosphere swell, constrict, soothe, or explode; with the music of the strings (see dia 48 below).

DIA 46 - LEFT SIDE WALL WITH WOODWINDS.

DIA 47 - CEILING PLANE WITH BRASS.

DIA 48 - RIGHT SIDE WALL WITH STRINGS.

Shade and shadow will be designed into each of these first three elements.

4-the PERCUSSION (P)
-Will animate the water effects (sprays, fountains, mists, waves, etc.) and make the atmosphere soothing or explosive, according to how the percussion are playing.

- Ceiling and wall textures can be changed with the introduction of water flow (see dia. 49).
- In most cases, when percussion do not play, a misty spray will fill the canal.

DIA 49 - FLOOR PLANE AND INTRODUCTION OF WATER WITH PERCUSSION.
Dramatic Effects:

This 2nd category highlights dramatic effects in three (3) sub-categories. They are: MOVEMENT, COLOR, intensity of light or TONE. These issues do not directly come from any written music. They are intuitively chosen to complete the desired mood.

1- MOVEMENT diagram (M)

• The boat’s path enhances the mood of the music. People will FEEL the music’s change in the path of the boat (dia. 50).

2- COLOR diagram (C)

• Interprets the mood of the music by using theatrical lighting and colored cels (see dia. 51). WARNING!!! Too much rapid and pulsating light may cause epileptic seizures for some people!

3- intensity of light or TONE (T)

• Describes the intensity of the music, whether it is cold and dark or warm and bright (see dia. 52).

TEMPO

For the tempo (or speed) of the music, columns will line the boat’s path so that riders feel somewhat in-control of what they are seeing (see dia. 53). In slow music they will bespread out. In fast music they will be "stunted" together.

Below is the design equation used to make (or compose) these spaces (dia. 54). Variables in parenthesis are taken from the written score. All other variables are intuitive to the creation of the desired mood.

(Woodwinds + Brass + Strings + Percussion) + Movement + Color + Tone = ATMOSPHERE

23
THE MUSIC: Tchaikovsky; Symphony No. 4 in F minor, Op. 36

This particular symphony (No. 4) is what Tchaikovsky considered as his most personal and inner-revealing work. He expressed most of his emotions through the written score, and are emotions that we all share and struggle with. Taken from J. Diether's (1979) program notes, this symphony is, "Powerful, compelling, exciting, and wonderfully integrated," to describe our emotions. Its four movements are broken down as follows:

I. ANDANTE SOSTENUTO through MODERATO CON ANIMA: Fate vs. Happiness
Here is the struggle between our thoughts and dreams of happiness, and an unseen force preventing these dreams from playing out. This bad force is fate, and it continually slows down our aspirations of happiness (see dia. 55 above). In musical notation, Andante Sostenuto refers to the speed in this first section. The movement begins at a moderately slow pace, and then evolves into a "spirited" mood. Moderato con Anima calls for a speed which is a little faster than slow.

II. ANDANTINO IN MODO DI CANZONA: Relaxation Due To Exhaustion
This movement tells of a longing we have, at the end of a tiring day, to daydream of the past. These memories are both sad and refreshing; but most of all these reflections are very relaxing to absorb (see dia. 56 above). This movement is slower than the previous Andante speed. The word Canzona refers to an instrumental narration or poem. In this piece the woodwinds begin this poem.

III. SCHERZO: Illusions And Apparitions
In the third movement, you are unconscious and fall into a dream frenzy. Here the imagination paints different pictures that are at random and seem unrelated to anything. You feel out of control as your dreams become more sporadic (see dia. 57 above). In musical notation, the word Scherzo means "lively" and "playful." In this third movement, the string section begins the piece with a lively plucking of the strings, in what's called a pizzicato ostinato.
DESIGN PROJECT

IV. ALLEGRO CON FUOCO: Borrowed Happiness

This movement (partially taken from a Russian folk song called "The Birch Tree") is a very festive celebration of joy. "If you find no cause for joy within yourself," the composer explains, "...look for it in others." This particular finale is written to be fast and with intense movement. The following sequence of five (5) drawings show the progressing character of this atmosphere.

SCENE 4A
During this scene, the music is calm. The ceiling surface fluctuates to the music of the brass. The rhythm of the music, represented by the stumps, creates a reference point which guides people through the space (dia. 58).

SCENE 4B
During this scene, the music builds up to a faster (allegro) speed. The canal walls come to life at the sound of woodwinds and strings (dia. 59).

SCENE 4C
During this scene, the musical families mimic one another in a call-and-answer dialogue. The walls and ceiling surfaces respond in accordance to their predetermined orchestral "family" (dia. 60).

SCENE 4D
During this scene, the music climbs to an intensive climax. The walls and ceiling gradually close-in to constrict the canal space. This heightens the three dimensionality of the music (dia. 61).

SCENE 4E
During this scene, the music is intense. The walls, ceilings, and floors are vibrantly animated in synchronization with the full orchestra. At the close of this finale guests leave the ride with an up-lifting and enthusiastic zeal for life! (dia. 62)
Column Animation:
Because music cannot be interpreted the same way by everyone, the composer’s intentions for the music will be very subtly represented. Columns defining the beat/rythm of the music will have decorative caps. The "caps" will tell a story of those thoughts and intentions of the composer (for this music); through an animated sequence much like in the sequencing of cartoon animation (see dia. 63 below).
BIBLIOGRAPHY

Complete List of References:


five.

APPENDIX:

A: Communication of Project 34
B: INTAMIN
   Tow Boat Literature 35
C: Sony Music Liscencing 37
D: American Federation of Musicians 40
Over the course of the semester, I was constantly striving to get my ideas and visions effectively communicated for this Water Symphony ride. How can people understand and believe it?

In this particular appendix various critiques suggests better ways of communication for a project of this type.

*What I presented the first time was a rather STERILE ride. People cannot be bored on a ride. The amusement industry is about ENTERTAINMENT and not as much about philosophical nor theoretical pleasures.*

*Everyone's project can benefit from a little more research. Respond to past prototypes and analyze their achievements and failures. This will help us understand the important variables involved with our study.*

Mr. Hannalin's Suggestion to Conducting Further Research:

*Think about what research I am actually doing, so that when I ask my questions they are much more focused. The more specific your questions are, the clearer your answers will be.*

*The project's name should be CATCHY without having to make such a strong reference to classical music. It's original name was going to be the Children's Symphony No. 1. Theme parks are into ENTERTAINMENT and are not typically concerned with what's traditionally proper. The title should also give an idea of what they should expect (without giving it all away).*

*Too many variables are no good! Constrain media so that it becomes simplified and people will not get confused. Make your vocabulary easy to follow so that the audience understands what things are being manipulated, and WHY.*

*After our, mid-term review I asked Mr. Atherton if the delivery of the project was confusing.*

"Yes it was," he said. "You need to know what is that you want people to buy into. There needs to be an opening line in your presentation that explains what the project is all about."

Get to the point of it by telling them right off: "The concept is exploring this and that, and here is how it will be done!" Now they can understand what they are listening to.

*The entire spoken presentation should be reduced down to 10 minutes. This way our decisive statements are made and there will be no "rambling." Get to the point of the issues you deal with. Give them an overview of what is actually going on. From there, you can talk about the issues that you really want to talk about.*

*What will be their first impression of each movement? This may require showing samples of music and having explanations on how they are different. Attach words to provoke feelings; is it overwhelming, somber, energetic?*

*Paul Lasane suggested that I use perspective drawings to explore the character of these spaces. They need to communicate to people what the atmosphere may feel like. People seem to look for clues to how it must be like to actually be there. For this reason, graphics cannot be complicated. They almost must be simplified.*

*"Why hasn't the water plaza, nor any other elements, introduced any background of the music or the composer?" asked Mr. Atherton. "Why did you pick this particular Russian music, for an American theme park? You could justify its importance by using some Russian Architecture of Tchaikovsky's time (Romanticism)."

*At one point in developing this research, the elements used to create this attraction had become oversimplified. Now, it almost seems too boring. Something exciting needs to give people a reason to even go. Assume this will become a reality. You must be able to explain to someone what the issues are, why it will draw-in people, and what is at the heart of this special project.*

*In my early stages, there were all sorts of little gadgets. The Arch element was one which, to some, seemed out-of-place. It probably will not come across as a Brass representative to some people.*

If someone disagrees with what you've chosen to represent something...you must DEFEND, JUSTIFY, and, CONVINCE THEM of your decision if you feel that your solution is the best solution. SELL YOURSELF! The more enthusiastic you are when presenting, the people will voluntarily want to learn more about your project.

About Thesis Book:

*This should contain the many ideas that were researched and tested from our thesis work. What is it that we learned from this project? People will better understand the book with organized and discussed research.*

*The following are thesis questions which have not yet been explained in detail:*

  - Why is architecture like music?
  - How can architecture be "music" to our senses?
  - Why will this contribute to the good of architecture?
TOW BOAT RIDE

Whether used as an outdoor themed ride, a promenade through scenic park areas or indoors as a smooth dark ride, this ride affords designers and operators an economical and popular water ride attraction.

TOW BOAT OUTDOOR

An outdoor ride, the Tow Boat can be themed by designers to take the guests through the scenes and adventures of their imaginary worlds.

The careful planning of layouts allows the designer a number of possibilities of maximizing the guest experiences.

By the nature of the ride, it is possible to provide a high capacity (over 1300 guests per hour) ride within an affordable budget.

Enjoyed in parks and flower festivals, this ride can take your guests on a guided tour of beautiful scenery and waterways.

Available with revolving platform or straight load/unload stations, a minimum number of operators are required for this easily managed ride.
TOW BOAT INDOOR

As a dark ride, this kind of system provides show designers the possibility of perfect show timing. 16 passenger boats enable operators to maintain high capacity and the nature of the ride keeps building costs manageable and show interface simple. Quiet running adds to the experience allowing show designers freedom and a quality ride system.

DE BEEUN, HOLLAND

CIRCUIT BATEAUX, FUTUROSCOPE, FRANCE
PERMISSION TO USE A SONY MUSIC RECORDING
IN A NON-PROFIT AUDIO-VISUAL PROJECT OR STUDENT FILM

In response to your inquiry regarding your use of a Sony Music recording in a non-profit audio-visual project or student film, we will consider your request once you have completed the attached Application Form. Please return this form to us at the address shown above.

Your Application Form must be submitted to us along with the $200.00 administration fee (payable to Sony Music) required to process your request. Depending on the particular Recording and the scope of your project, we will determine your total cost.

If you are a non-profit organization, please send us general information about your organization on your letterhead. You must also submit a copy of your tax exempt certificate. Student film makers must show proof of class enrollment.

IMPORTANT:

1. Two permissions are required for use of a recording (i) from us, the record company and (ii) from the music publisher of the song. You must first obtain permission from the respective music publisher. This information may be found on the album liner notes or by calling BMI (310) 659-9109 or (212) 586-2000; or ASCAP (313) 466-8401 or (212) 595-3050. For FWRDC, London: 01-4471-900-5544

2. Since you are using the Recording in a new medium (i.e. using a recording originally released on an album and synchronizing it with a visual image), you may be responsible for any union re-use/new use payments for the musicians who participated in the Recording. Such information can be obtained by calling the American Federation of Musicians (213) 461-3441; or (212) 869-1330. M-F 9:00-4:30

3. Because of the large volume of requests we ask that you do not call us. You must allow 2-3 weeks to process your request. Further telephone calls to our office may cause additional delays of 1-2 weeks.

We will not consider any non-profit requests unless you have submitted the complete Application Form along with the $200.00 administration fee.

Thank you for your cooperation and good luck with your project.
NON-PROFIT REQUEST APPLICATION FORM
(page 1)

Title of your project: "WATER MUSIC": Water Ride

Describe the nature of your project (brief synopsis):
Proposal for a water/canal ride through which people will experience architecture
"acting" to a piece of music.

Explain the purpose of your project:
Student thesis project for completion of undergraduate degree and for submission
into design competition.

To whom will your project be shown?: Project consultants, faculty, and peers
at Ball State University; also, Walt Disney Imagineering (competition jury).

In what medium will your project be made? (please indicate):

- Videotape X
- Film
- Slide show
- Live performance

How will your project be exhibited? (please indicate):

- In-house video presentation X
- Hospitals
- Religious facilities
- Non-profit institutions
- Educational facilities
- Museums
- Live stage play
- Admission charge (if any)
- Broadcast TV
- Basic cable TV
- Pay cable TV
- Student film festivals
- Videocassettes X
  (a) indicate the number of units manufactured 3 units (copies)
  (b) selling price $ N/A
  (c) how will the videocassettes will be distributed?:
      Student presentation(1), design competition(1), personal copy(1).

Other (please specify):
Submission to competition becomes property of Walt Disney Imagineering, and will be
exhibited at discretion of jury panel.

Where will your project be exhibited?
(city/state/country): competition @ Glendale/CA/U.S.A.;
presentation @ Muncie/IN/U.S.A.

During what period of time will your project be exhibited?
(1 month, 1 year): ONE MONTH
NON-PROFIT REQUEST APPLICATION FORM
(page 2)

Title of musical recording: Tchaikovsky: Symphony No. 4

Name of recording artist/group: N.Y. Philharmonic Orch.; L. Bernstein (cond.)

Album title: "GREAT PERFORMANCES": Tchaikovsky's Fourth.

Catalog number (located on side CD or Cassette package): MYK 37766

Record Label (e.g. Columbia, Epic): CBS Records, Inc.

How will the recording be used? (please indicate):

- Background vocal under dialogue
- Scene score X
- Visual montage
- Main titles
- Closing credits

Visual description of scene during which the music is used: "Fly-through" sequence of project model.

Timing of use (0:30, 1:00): 15:00 min.

Have you obtained permission from the respective Music Publisher? (Yes/No): YES. This must be obtained prior to submitting your Application Form to us.

"Tchaikovsky music is considered 'public domain'. Therefore publishing rights are out of copyright and anyone can use it. However, permission from the owner of recording is required." -Mechanical Copyright Protection Society: London.

Your Name: Andrew Peralta

Address: Ball State University
          Department of Architecture
          Muncie, Indiana 47306

Telephone: (317) 285-1900

Fax: (317) 285-1765
February 22, 1994

Mr. Andrew Peralta
Ball State University
Department of Architecture
Muncie, Indiana 47305

Dear Mr. Peralta:

Accompanying this letter you will find a Letter of Agreement pertaining to the use of recordings in student films. Please sign this letter where indicated, and return same to me for counter-signature, along with a copy of the clearance letter from Sony Music. A fully executed copy will be forwarded to you for your files.

In your February 17 correspondence, you note that this project will be submitted to a design competition sponsored by the Disney Company. Please be advised that, should your film be exhibited by the Disney Company (including, but not limited to exhibition on the Disney Channel, or theme park use or exhibition,) you are responsible for compensating the musicians for such use under Paragraph 5 of the Letter of Agreement.

If you should have any questions, please do not hesitate to make contact with me.

Sincerely yours,

Sharon Neal
Supervisor
American Federation of Musicians
Symphonic Services Division

cc: Lew Waldeck, Director, AFM/SSD
Dick Gabriel, Director/AFM/EMSD
Ball State University  
Department of Architecture  
Muncie, Indiana  47306  
 attn: Andrew Peralta  
 (317) 285-1900 phone  
 (317) 285-1765 Fax

February 17, 1994

Symphonic Service of the American Federation of Musicians  
5376 Tomah Drive, Suite120  
Colorado Springs, Colorado  80918  
 attn: Sharon Neal  
 (719) 522-0512 Fax

Dear Ms. Neal:

I am requesting permission for agreement to use a piece of symphonic music for student video-recording of an architecture, thesis project and for submission to a design competition. Project will be a proposed water/canal ride through which people will experience architecture "reacting" to a piece of music.

It will be shown to project consultants, faculty, and peers at Ball State University's College of Architecture and Planning. This videotape will also be submitted to the "Walt Disney Imagnations : Design Competition 1994" (given by the Walt Disney Company).

Music is from Tchaikovsky : "Symphony No. 4," with Leonard Bernstein conducting the New York Philharmonic Orchestra. This CBS Records Album is now carried by Sony Music.

Please respond with necessary paperwork for agreement of use, to Ball State University's Department of Architecture office:
  • (317) 285-1900 phone  
  • (317) 285-1765 Fax.

Thank you for your cooperation.

Sincerely,

Andrew Peralta

Andrew Peralta
Student Film
Letter of Agreement

(Symphonic Use)

February 22, 1994

Mr. Andrew Peralta
Ball State University
Department of Architecture
Muncie, Indiana 47306
Via Facsimile Transmission (317) 285-1765

RE: STUDENT FILM WAIVER REQUEST
"Tchaikovsky: Symphony No. 4"/New York Philharmonic

Dear Mr. Peralta:

This will acknowledge receipt of your letter dated February 17, 1994, wherein you request permission to utilize the above referenced phonograph recording(s) in your student film.

Please be advised that the American Federation of Musicians will have no objection to this use under the following conditions:

1. You are a graduate student at Ball University;

2. You agree that the film will be shown only at Ball University, or film festivals in connection with student film projects.

3. Federation approval for this project is contingent upon proof of permission from the recording companies involved and copyright clearance for the use of the above referenced phonograph records.

Page One of Two
Page Two
Student Film Waiver

4. You warrant that this film will not be shown commercially (i.e., no television and/or theatrical showing or distribution via videocassette or any other commercial means.)

5. In the event that this film is ever exhibited for any purpose other than that explicitly set forth herein, including, but not limited to displacement of musicians in rehearsal or performance, demonstration or marketing of services or product by any group or individual, local or national broadcast, phonograph records, promotional spots or commercial announcements, or theatrical or commercial exhibition, you hereby obligate yourself to enter into and fulfill all conditions required by the appropriate agreement of the American Federation of Musicians, including, but not limited to the payment of prevailing wages and allied fringe benefits outlined therein.

Your signature on the line below constitutes your understanding and acceptance of the terms and conditions herein contained. This letter must be signed and returned prior to exhibition of your film.

If you should have any questions, please do not hesitate to make contact with me.

Sincerely yours,

Sharon Neal
Supervisor
American Federation of Musicians
Symphonic Service Division

ACCEPTED AND AGREED:  
Sony Classical has万1ered a
verbal permission for use of
master recording, written
paperwork will be forthcomíng.

ANDREW RILEY
ỐNNAME
1307 N. WHEELING AV.
MUNCIE, INDIANA 47303
PHONE

Sharon Neal