DANCE AND PERFORMANCE ARTS CENTER: BUILDING FROM THE CORE

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Figure 1: Image of metal sculpture inspired by dancers (opposite)



ABSTRACT Ariana K. Coleman

Core is defined as the central, innermost, most essential part of anything. In dance every technique and movement requires intense control, which is provided by core strength. The core in the human body is the torso that consists of the abdominal muscles. These muscles cover the rib cage and protect the lungs which are the respiratory center for the body. Breath control is one of the best ways to garner focus for the dancer. In this thesis, the concept of the "core" becomes the basis for the design of a building devoted to dance and located within the city. Since a defined core is crucial to the dancer in order to have a fluid performance, its existence within the building's design needs to have an outstanding presence and role. This guiding component for this thesis in combination with site investigation, research, and design process will lead to the conceptualization and final product of the Dance and Performance Arts



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This book is dedicated to...

My mom who convinced me to pursue my graduate education. You help me more than you will ever know.

My Sister who always knows how to make me laugh when I need it. Laughing can never be overrated. You always ease the tension out of a stressful situation.

My Committee members who taught guided, and stuck with me throughout this whole process. It ended up being very rewarding. This gives me the tools to hopefully blossom in the professional world.

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My friends who always give me words of encouragement like "You can do it!"

And I FINALLY did.

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Figure 2: Entry way image of first design project (opposite top).

Figure 3: Perspective images of first design project (opposite middle).

Figure 4: Rear entrance image of first design project (opposite bottom).





INTRODUCTION

When I began thinking of what my thesis would entail I felt an urge to look back at the projects I had done in the past. As a form of reflection to see the design projects I could embellish on or avoid all together. I find it is always good to learn from the past because you can't plan where you're going without noticing how far you've come. My very first design experience as an undergraduate was a Dance School. It had a slim and narrow site set in the rural town of Charlottesville, VA. The final design of the project was the least to be desired, a shoe box, mainly because of the design software I had just started to use and not knowing much about my own abilities as a designer. The key concept of that design involved 4 dance studios, each ranging in size, wrapping around the core circulation of the building. There were so many possibilities this project presented that weren't explored I felt I wanted to delve in it again. This thesis expands the previous dance school program and location.



Finding a site can be difficult if you don't know where to look but I knew I had to start looking for the dance schools that already existed in the city of Washington D.C. Indicated by the blue dots one the map to the right most schools are dispersed around the Northwest and Eastern parts.

Given the fact that the Western and Southern areas of Washington D.C. are dedicated to the monuments and governmental buildings the Northeast area provided the perfect opportunity to investigate a potential site.

The red area indicated in the map to the right is where I ended up deciding to place my future design at the time. This map helps indicate my sites placement in relation to the other that exists with the metropolitan area.

Figure 5: Grayscale image indicating my site within the Washington D.C. Metropolitan area (opposite).

SITE INVESTIGATION





In this map my site is indicated again in red facing the Southwest direction between Florida Avenue and 4th St. NE. This image gives a geater depiction of the area that surrounds my site. The north indicates a warehouse district and garage door front stores that sale a variety of wholesale items. The neighborhood to the Southeast follows the orthogonal grid of DC is well preserved and maintained.

It was important to meto choose a site located near a metro stop because it provides easy accessiblity. The New York Ave.-Gallaudet Metro Station, indicated by the blue box in the image, is the length of football field away from the proposed site. The tracks run along the eastern border of my sites location. The noise factor that the tracks create played a role in the placement of my design on the site.

Gallaudet University's presence and close relation also played an important role for picking this site. The university provides education and career development opportunities for deaf and hard of hearing students. There could be a possibility the school could create a partnership to fund this Dance and Performance Arts Center proposal. Since dance, with its many forms, is a way to visualize sound. They only have studio art and theater art majors currently and no dance it could be a future possibility.

> Figure 6: Zoomed in map of the area surrounding site. The black and white areas indicate residential and the color indicates the commercial. Gallaudet univeristy dominates the color area on the right (opposite).

Figure 8: Image of New York Ave.-Gallaudet Metro Station.

SITE INVESTIGATION





SITE INVESTIGATION



These images depict the state and nature of the site of present day. The land slopes downward toward the west to accommodate the overpass that carries the metro and train systems to and from Union Station. There is a total difference of 10ft from one end to the other along Florida Ave. span of my site and then another 4ft difference along the 4th St. edge. Pedestrian and car traffic is constantly moving along Florida Ave. and less so along 4th street. The existing fast food restaurant on the west end will be demolished and a cafe will be included into the program.

The Two Rivers Public Charter School is the two story structure with ribbon windows located on the opposite corner across from the site (depicted in the panoramic image below). This could provide an opportunity for the dance center to offer classes on the junior level in order to be more inclusive to the people that could use it.



SITE PHOTOGRAPHY

I used the artistic medium of photography as a way to rediscover my site. I like to find the beauty in something that would not normally be seen as beautiful by using the naturally lit environment.

Figure 11: "Exterior" (right).

Figure 12: "Upward Extension" (opposite right).



SITE PHOTOGRAPHY



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Figure 15: '' Light Support'' (opposite right).



SITE PHOTOGRAPHY



DANCE AND PERFORMANCE ARTS CENTER: BUILDING FROM THE CORE 12 Figure 16: "Memory Traces" (right).

The area aound my site had wonderful depictions of memory that I wanted to chronicle from forgotten windows, to plant life claiming back space, and graffiti written walls.

Figure 17: "Life on a fence" (opposite center).

Figure 18:" Shadow Graffiti" (opposite right).





SITE PHOTOGRAPHY

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THE DEVELOPMENT PROCESS

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DEVELOPING THE ...

CONCEPT CORE DESIGN



Figure 20: Dancer's in motion core diagram. Examine the the limbs of the body as an extension of the core located in the trunk of the body (opposite top left).

Figure 21: Solo dancer core diagram (opposite bottom left).

Figure 22: Partner formation core diagram (opposite bottom right).





DEVELOPING THE CONCEPT

The dancer should be the focus of the design. There is a lot visually to draw from but I wanted to get to the essence of the art form, so I would be able to tie multiple styles of dance together. I found every dance technique and movement requires intense control, which is provided by core strength. Dancers must maintain core strength, consisting mainly of the abdominal muscles, in order to brace the spine and all aspects of dance challenge the spine. The most advanced dancers learn breathing techniques that plays a fundamental role in strengthening the abdomen.

Core strength leads to control of movement; control leads to fluidity of the dance; which ultimately leads to a great dance performance. A great performance is every dancer's goal, normally given on the stage; I knew the design would focus on and around the stage. All other aspects and functions of the design would be an extension of the stage just like the limbs of the body.





DEVELOPING THE CORE



Since the main performance stage is the core of my design. I had to begin the design process by developing the layout of the theater. Using history as a guide the Greek theater circa 400 BCE served as a great model. Its circular center named the orchestra was considered the "dancing place" of the chorus and the chief performance space. Having a circular stage provides great opportunities in dance performance can be viewed from all sides which gives it a dynamic appeal. The semi-circular stadium seating is also good for acoustic purposes especially when it's being projected from the stage.



Welding became a new medium in which to express my thesis. Two pieces resulted from the class and the outcome was artistically expressive for the developmental process. The first (left) depicts three entwined dancers, they range in length and size in order to show diversity. Boomerang-like shapes were cut form steel sheets then grinded down and welded at a central hinge point to create the body form. The two foot high statue is meant to evoke constant leaping movement and dancer unification.

Figure 29

Figures 30-33: Welding process images of "Dancers Unite" metal sculpture.

21 Figures 28-29: Images of 'Dancers Unite metal sculpture. The second metal sculpture (right) piece is an abstract attempt at modeling the framing and structural elements during a stage of my buildings design. This was constructed from steel and copper rods as an abstract way of illustrating the framing elements within the design. The copper rods were put in to give a rib cage effect to arc across the main two level circulation corridor (fig 38). Ultimately the arc was not used in the final design but it had a beneficial impact to the structural sculpture and a great expression of my thought process.



Figures 34-37: Welding process images of building model sculpture.



sculpture a 1/16" scale model.



DEVELOPING THE DESIGN: Physical Models



Figure 44:Third stage study model 1/16" scale.



Once I knew the form of the theater I wanted two masonry wall components to cross and intersect above the stage. The main masonry wall acts as the focal threshold piece for the theater with a proscenium arched opening for the stage. The other masonry piece exists for structural and framing purposes for the perimeter of the theater extending out to the other functions of the design. The walls are rotated to call out true north and south on the site since its natural L shape faces South west.

In the beginning of the design process I wanted my building to have an abundance of natural light. Natural light is crucial to a space that is supposed to inspire and uplift its inhabitants. Curtain wall window panels would mostly make up the front façade. It adds a certain level of transparency, inviting the outside in.

I wanted the dance studio spaces to have a fluidity and repetition. They ultimately took on this triangular winged form that cantilever over the spaces below. It evokes this idea of taking flight from the ground, which essentially parallels the dancers' movement within the space. The sloping roof adds to this effect.

The major developments of my project can be easily seen by examining my physical models. They exhibit the key preliminary stages that eventually lead to the final design. The primary program consists of the main performance theater with stadium seating, cafe, office spaces for the administration and instructors, 4 dance studio spaces.

Figure 45: Third stage study model 1/16" scale.



DEVELOPING THE DESIGN Louver Walls

The Louver window wall exists along the perimeter of the dance studio spaces and the theater. The idea came about while trying to delve into the mind of the dancer of wanting to be seen and unseen. They don't want to be seen during times of practice and preparation of a routine. They want to be seen when the routine is complete and fluid enough for a final performance.

The windows are vertically hung and tinted for privacy. They are consecutively placed, within a frame, to swing open in order to allow the outside environment inside. These add a mobility and kinetic component to the design that would otherwise be static.

Fig. 50

Figure 49-50: 1/4" Louver wall final model The windows are clear in the model but tinted in the design.

Fig. 49


THE FINAL DESIGN

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A SUMMATION OF ALL THE PARTS This site plan signifies the final designs placement within the site. The roof is a great indicator of the major spaces within the building. The central octagonal roof with an embedded cross, which are central arches that cross above the circular stage below, is perched above the semi-circular roofs of the theater and lobby areas to allow natural light highlight the stage. The four inclined triangles indicate the dance studios on the second level; they cantilever over the offices and portico below. The main rectangular body has an array of windows the lye above the open-level primary circulation corridor. The green in the image is the open grass grounds surrounding the building framed by the sidewalk and patio spaces; they lead in, out and around the site.

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SITE PLAN





The South Elevation is the facade that confronts Florida Avenue. The amount of glass along the body and entry way adds a level of transparency for the passing public. The columns, which support the cantilevered first and second floors, create a portico along the ground floor. This allows for the public to promenade from the main entrance to the roofed patio on the west end. The louvered windows of the dance studios are presented in their open state in this elevation. The arch and peak of the interstecting masonry walls signifies the highest point of the building and establishes a heirarchy of the main stage below.



FLORIDA AVENUE ELEVATION





The east elevation puts the cylindrical nature of the performance theater in perspective. This part of the building faces 4th street. It also provides another entrance/exit into the theater with a stairway and ramp that follow the external curve of the theater. The tinted louver windows along the perimeter are in there closed state in this elevation.





This west elevation is the only facade that does not address a street. It best depicts the open state of the west end of the building. The roof provides cover for the fire stair of the upper levels and patio space of the ground floor. It also displays the length and reach of the cantilevering spaces.







NORTH ELEVATION



The ground floor plan is the primary public area of the design consisting of the main performance theater and cafe. The stage is the focal point that can be viewed from multiple angles and perspectives around the plan. The public enter the theater on both sides of the stage. The dancers mainly enter from behind the stadium seats but I wanted to make this space very versatile to give each final performance a different dynamic. There is also dressing rooms and storage space underneath the seating of the area of the theater. The perimeter columns support the cantilevering spaces above and align the external portico and courtyard edges.





The first floor is organized to support the administrative and instructor offices. There is also a catwalk that rims the lobby area; provides entrance into the theater and views of the 360 stage from above. Other program on the floor: staff kitchen lounge, outdoor patio spaces, and small classroom/meeting rooms. These elements are apart of the body of the which extends from the stage core.

-





Figures 58-61: Snapshots of each dance type provided at the center.



The third floor is reserved for the dancers and instructors. Each of the dance houses (studios) represents the four most popular dance forms in the medium. Ballet, Contemporary, Hip-Hop, and Rhythm & Jazz provide a diverse pallet that even the most experienced dancer can appreciate. This is just a base layer it will grow to incorporate more forms of dance. Each house is interconnected with and external patio space to inspire a melding of the different dance types.









Figure. 62: Section cut within site plan.

This north wall is masonry like the threshold wall of the theater best seen in the longitudinal section perspective image. There is a gradient of windows that gets denser as it approaches the core of the building. It was designed to emphasize the approach to the stage, understood in both the inside and outside of the building. The north masonry wall is also the focus of the hallway for the primary stair.

Descending or ascending the primary stair could be used as part of the performance to the main stage. The stair was designed grand and open for that reason.



Sections are the best way to show a buildings placement within the ground. The slope of the land is greater on the east end than on the west, (image faces north). This section is cut through the distinct changes the body and theater of the building has longitudinally. Elements to focus on: the cut of the catwalk the rims the lobby, covered patio space to the west, theater stage and rise of the theater seating.

LONGITUDINAL SECTION PERSPECTIVE





A moveable screen beneath the proscenium arch of the threshold wall serves as a backdrop first and foremost for the performances that would take place on the core stage. Modern day technology could project backgrounds or moving scenes on the screen as opposed to a physical produced backdrop. The screen can roll up and down the arched opening to fit the design of the performance. It can serve as a divider for the stage. For example, to reduce the size of the stage or for two different performances to happen on both sides of the screen; one for the theater and the other for the body. The main idea behind the moveable screen is to diversify the scenes of each performance.



MAIN THEATER THRESHOLD - WALL SECTION PERSPECTIVE



This section displays the buildings placement in the ground from north to south (image faces east). The cut also goes thought the only building whose proximity effects the design on the north end. There is an external walkway along the north masonry wall the allow a visitor to appreciate the gradient of windows but also provides another means of exiting the building. This presents a better exploration of the cantilever spaces, on the Florida avenue front, which were designed to evoke the feelings of lift, flight, and support. Terms often used dance studio's on a daily basis.

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This is the perspective the public will confront while leaving the New York Ave/Galluadet metro station and walking up Florida Avenue toward the east. The focal point is main entrance, which is best displayed in this perspective. The entryway opens to the west from which most traffic for the area arrives. The roofed patio space on the ground level will be a dancer social hangout and the site of many recreational performances.

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WEST FLORIDA AVENUE PERSPECTIVE





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This perspective confronts the public moving toward the metro station at the intersection of Florida Avenue and 4th street. The image presents the transparency of the building, especially the entryway, and fluidity of its' form. There is a pathway that runs parallel to the masonry wall and exits to the sidewalk at the corner. The pathway was placed catch those who exit from the upper tier of the theater.

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EAST FLORIDA AVENUE PERSPECTIVE



This perspective faces away from the stage and into the body of the building. It best exhibits the impact of the gradient windows on the interior space. and the amount of natural light flowing through the glass ceiling that covers the primary stair. The stair could also be used as another performance space, set wide and grand as a focal point for the area.

'CIRCULATION CORRIDOR - INTERIOR PERSPECTIVE





This perspective runs parallel to Florida Avenue facing the main entryway for the building. The portico lies beneath the cantilevered spaces above. Allows visitors to promenade along the columns or socialize at the external cafe seating.

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PORTICO EXTERIOR PERSPECTIVE



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The perspective depicts the interior of the performance theater from the mezzanine in its naturally lit state. It also displays the louver windows along the outer rim of the theater. This area is particularly used by the instructors and dancers not participating in a performance. The theater has bench stadium seating which allow the room to be filled to capacity. This space is meant to bring a diverse amount of people together in a unified setting.

THEATER MEZZANINE - INTERIOR PERSPECTIVE





This perspective presents the state of life within each dance studio space since they are replications of each other but each meant to house a different type of dance. Natural light is a key component to making this room come alive other than the dancers that will practice within it. It also provides an interior view of the louver windows which angularly projects out toward Florida Avenue.



DANCE STUDIO INTERIOR PERSPECTIVE




Figure 72: Final model plan image (top right).

Figure 73: Theater detail image (bottom right).





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FINAL THOUGHTS

Looking back, there's always something I could have done differently or explored more. But I went in this thesis thinking I wanted to produce a design that was fluid and enhanced the dance medium. Since there aren't many precedents around to tell me otherwise, I believe I have achieved that objective.

The underlying goal of this Dance and Performance Arts Center is to unite a diverse group of people no matter their race, gender, social or economic background; through the art of dance.

It is also a place for the observer to come and watch a performance, which always has a story or meaning, and forget the troubles of the world.

Although the Core Concept is manufactured around the theater's round stage, the entire building is essentially a stage because the design provides it.

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PHOTO CREDITS

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Fig. 20,21,22 Base Dancer images: Date acquired: 10/02/11 http://stuffpoint.com/dance/image/modern-dance-picture/ Fig. 23-24 Ancient Greek Theater drawings: Date acquired: 09/28/11 Google image search http://www.blama.net/flashcards/index.php?id=817&action=show_answer&subject=Test

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