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PERFORMATIVE DESIGN

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PERFORMATIVE DESIGN
A Space to Invent, Innovate and Express Art for the Richmond Dance Community

Lenita Ann Eldhose  MFA in Design with a concentration in Interior Environments  Thesis 2018
Design is a way to connect to all material and immaterial things. The process requires being empathetic to where we take from and to whom we give to. Design adapts to the environment and integrates many disciplines to achieve a form that facilitates function.

The dance is the mother of the arts. Music and poetry exist in time; painting and architecture in space. But the dance lives at once in space and time.
– Curt Sachs

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**MOTIVATION**
The field of design is one that holds the power to empower, bridge gaps, inform, evolve and revolutionize human thoughts.

To gain a higher understanding of the correlation of anthropometrics and ergonomics in an embodied space relative to the discipline of dance connecting one’s mind and body. The need for a space that instills a sense of freedom for artists to experience and execute their art and to reside alongside their mentors and travelling artists. The need for a space that can bring the diverse cultures that live in and around Richmond together through an expressive form of art. Providing an educational opportunity for the residents of the space as well as public on the importance of culture preservation and freedom of expression (Iwano, 2003).

**PROBLEMS**
The rising issue of having disengaged communities urges the need for us to understanding the values of community and the significance of rapid adaptation responses to cultural changes and engaging with local artists as an important form of cultural growth (O’Donnell, 2002). As designers we must pay attention to the lack of empathy in the process of design and understanding the importance of the end user preferences and the purpose of the space without having preconceived notions for designing (Campbell, 2007). The lack of focus on functional aesthetics requires us to understand that form and materials of a building must facilitate and serve the function of the space over aesthetics that can be altered as required. We live in a diverse community that requires but lacks freedon of expression and understanding that dance is an effective form of liberation and expression of an artist’s voice and intellectual growth is important.

**METHODS**
To understand the design processes that are adaptive and engages diverse cultures and to comprehend the mechanisms and methods of implementation of design with respect to the discipline of dance, conducting precedent research relating to dance theaters, studios, performance spaces and design ideas and concepts behind the construction of such spaces would be one of the methods that this research would include (Campbell, 2007). Another important method would be researching literature reviews on how dance connects communities and can be used as an educational opportunity for both residents and public. To understand the vitality of dance in freedom of expression and liberation. Visiting dance studios and performance arts centers to understand the functionality of these designs; how dance and design inform empathy; the user’s experience in the existing centers, and its connecting them with their mind and body (Harding, 2001).

**THESIS ASTRACT**
Interviews with dance professionals and designers - Interview various dance school faculties, students and dance theatre designers to understand the requirements and shortcomings of their existing spaces and programs.

PRELIMINARY RESULTS
Research and precedent studies imply that:

- Design and dance are complementary forms of visual communication that have similar principles of rhythm, balance and contrast.
- Performative design can create higher levels of interaction between artists, students and public.
- The expressions and movements used in dance can be used to inform and evolve the architectural experience in the space.

CONCLUSION
This research will support the design of an artists-in-residence space for the dance community in Richmond that will: come to a residential space where the artists can reside amongst faculty, students and travelling artists. Practice rooms where they are at liberty to express, practice, educate and engage amongst other dancers. A performance space, where they can execute and showcase their expertise and engage with the public. A public community hall for where there is an opportunity for the diverse cultures and other artist communities to connect through dance. A library and a gallery space that gets integrated into the library that becomes part of the educational opportunity wherein they get a glimpse of the evolution of the various disciplines that dance is a combination of.
Design that uses mindful freedom of expression, invention, growth and evolution is of prime importance to the field of art and architecture that possesses the power to bridge gaps, inform, evolve and revolutionize human thoughts.

Design has been compared to various art forms previously, but rarely to dance. Dance and design are both creative and expressive art forms that fill in the space and the stage. The similarities in the principles of dance and design are a source of inspiration to those interested in either forms of visual communication (Yovan, 2012). The various genres in dance and design aestheics and functionality is described through 3 elements of body, space and time.

Body- The design of a space is most commonly made using materials such as plastic, wood, gold, paper, wool, and so on. When a designer moulds this material into a particular shape and is used for the dance at any given moment is always the space that surrounds the body. When it comes to a design and its product, the space has a similar meaning. However the space used by a designed product has an added aspect to it. Depending on the design and the product, it can use the space not only around it but also inside it.

Space- Whereas body is visible, space is invisible. Space becomes visible only when objects/bodies are placed in it. When we stand in a room to look at a space, we see its walls, windows, doors and the objects kept inside the room. After which depending on the empty area available, we would determine if the room is spacious enough or not. In this way invisible space becomes visible and makes a meaningful sense because of the presence of various objects placed inside it. In the discipline of dance, space is more or less invisible. The empty area that exists around the dancing body is what is called space. When dancers stretch their arms and legs, they recognize the space that can be used for the dance they perform. Even when they move about on the dance-floor, the space used for the dance at any given moment is always the space that surrounds the body. When it comes to a design and its product, the space has a similar meaning. However the space used by a designed product has an added aspect to it. Depending on the design and the product, it can use the space not only around it but also inside it.

Time- Time is that which flows continuously. Similar to space, time is invisible too. In dance and in design, the time space is of great importance. Any movement done by a dancing body or by a designed product needs certain number of units of time. These units are nothing but the duration of time starting from the beginning of a movement and ending by the end of a body’s movement in a given space.

The impact of dance and its movements on the architecture of a space has the potential to inform the users of the space and its audience (Buhltankab, 2010). Space is not defined until something happens in it. A dancer gives shape to a space through the series of movements and gestures. A dancer is given the opportunity to travel through spaces in various directions and at various levels, high medium and low. How a dancer utilizes a space will leave them wanting more (Lindner, 2011). The question of how a space affects the experience of an individual who moves through it can be answered when one tries to understand the fundamental relationship between the human body and space (Weinmann, 2008). Design and architecture share a common interface. Dance is a dynamic sequence of time, related to space, while the materialized space is purely static. So how do we apply the knowledge encoded in movements to the process of architectural design? (Yovan, 2012). Dance is a culmination of impromptu poses and vigorous movements of the human body that happen in a given space and time. A pose or a movement of the body can be described as a dance pose or dance movement only with the element of aesthetics embedded in it. In a dance pose, the dancer’s body like any other static object occupies certain space but in an aesthetic manner. In a dance movement, the body not only occupies but also utilizes the space that exists around it. This too does in a certain aesthetic manner. By doing so, a
Dancer’s moving body makes ‘space’ visible to viewers, which is otherwise invisible (Sukhatankar, 2016).

“Dance is action and shape designed in space and time to express feelings and ideas” - Bill T. Jones

If encounters with art and artists become part of daily life in a community, and if aesthetic experiences are perceived by its residents as part of their daily lives, what kinds of humanistic, cultural, and social change could take place in the community and in the people involved? By artists living together in a residential community, and by showing and sharing the process of art making to other artists and the community, to what extent can aesthetic, cultural, and social issues and concerns expressed by artists be interpreted by the community? The creation of a cultural environment, or more specifically the creation of access to the world of art is important for the community. The need for the local community to provide the community and other artists with aesthetic experiences that could enrich their internal and external worlds is higher than one may ever anticipate it to be (Iwano, 2003).

Research shows that there is an increasing demand for art education to support artists who could encounter values different from their own, develop self-confidence, and take pride in the community which had such cultural opportunities. Researchers assumed that art could open people’s minds to the world outside their existing cultural framework, and that it would be valuable to have artists from the outside world as their neighbors and friends. The study conducted in which a group of artists from various disciplines were asked to live together as artists-in-residence to share their experiences, teach the host community and learn from them helped understand how art and culture can empower people. The artistic and aesthetic education provided in the community gradually opened up a dialogue not only between foreign artists as guests and spectators as hosts, but also between art and people, culture and culture, and people and people within the local community through performances, communications and other artistic methods (Hevesi, 2005).

This research shows the importance in the development of community hall and practice spaces in the artist residency program. In an article written on the importance of embedding dance in the education system for the growth of community and workforce, the Miriam Giguere describes how the cultivation of a community environment attracts the creative worker and requires technology, talent and tolerance. The creative worker seeks a community not only with technological resources but also the presence of art, culture and diversity. The Social Impact of the Arts study conducted by the School of Social Work of the University of Pennsylvania speaks to the character of communities that maintain this cultural diversity; it finds that communities rich in art organizations are more diverse and likely to remain so. The author also explains how artists-in-residence programs, where professional artists teach their art form in a school for a designated period— anywhere from three days to a month— are an excellent way for dance to find a home in public school curriculum. This is a research which shows the importance of aesthetic education spaces in the artist residency program. The state of Pennsylvania has a state sponsored artist-in-residence program through the Pennsylvania Council on the Arts. The artist-in-residence program can also be a resource for faculty by providing in-service workshops for teachers. This creates a mechanism for visiting artists to share ideas on ways in which dance and movement could be integrated into classroom teaching practices. Holding these workshops during required in-service days allows school administrators the chance to show support for an educational agenda that aims to revitalize Pennsylvania through more active involvement in the arts (Giguere, 2005).

Richard Florida, an American urban studies theorist says that, “the deep and enduring changes of our age is not technological, but social and cultural. They are harder to see for they result from the gradual accumulation of small incremental changes in our day to day lives.” There is an increased necessity to address this change in the same way, with small incremental changes that will make our communities attractive to today’s creative class. A good way to start this is by introducing art as a part of schools. The artists residency program introduces art education for students to develop their interests and ideologies in support of this idea. Not only are schools closely linked to other cultural institutions in our communities, but school children are the creative class of tomorrow (Giguere, 2005).
Designer: Hans Scharoun  
Location: Berlin, Germany  
Year of Completion: 1963  
Summary: Hans Scharoun’s Berlin Philharmonie is said to be a physical incarnation of its linked political ideologies, as well as how it both echoes and influences the behavior of its visitors. The Philharmonie was an active participant in the creation of democracy, making its inhabitants active participants in the democratic precepts of West Germany initiated in the building’s spatial language. Scharoun’s forms and spaces elicit both a supposedly life-like quality and a capacity to unswervingly influence the feelings and behavior of their occupants, an idea seen as a extension of late-19th and early 20th-century theories of empathy (Campbell, H., 2007). The design of the auditorium, as Scharoun intended it to be, is directly connected to the form. Music is at the center with the orchestra and the conductor. He wanted no segregation between the performers and the audience, no ‘producers and consumers’. Scharoun intended to achieve a landscape, a choreography which allowed the audience to rise slowly and casually to the terraces of the auditorium’s steeply raking terraces. The multiple levels and routes create a landscape in which concert-goers move up and down stairs, form ever-changing tableaux. Through this process, the concert becomes an extension of the audience’s experience, an active participant in the ritual. Hans Scharoun’s concert hall transforms its occupants (Campbell, H., 2007).
With the construction of the concert hall that is a hybrid product of the traditional rectilinear or circular shaped concert halls of the past, Scharoun made an effort to create a space of social and economic equality. The concert hall in which the audience is seated around the orchestra was worked out in accordance with the law of acoustics.
The incorporation of a center stage in a performance arts space prompts a higher level of interaction between the audience and the performer. The significance of giving both the performer and the viewer equal importance in the space and giving the audience a chance to view performances from all angles induces empathy that as both a designer, dancer and viewer is very valuable.
The concept of ‘Man in the Centre’ used by Hans Scharoun in the Berlin Philharmonie is one that is a valuable contribution to a space for dancers. The idea of having no variation/distinction between the types of audiences that enter the space is highly important. Every person present in the space is equally important and is viewing the same performance in the space.

The artists interact with the audience to convey their message through an art form that they connect with. This interaction will be different for each viewer and depth of message conveyed would vary as well. Knowing and understanding that a variety of people enter the space to be seated together is of utmost importance.

Viewers enter the space with an anticipation to see these performances. Using the idea of compression and release and incorporating long travel routes only to release them to an open heart warming spatial experience is an intriguing idea.

Hans Scharoun’s Berlin Philharmonie stands as one of the most significant symphony halls in the world because it introduced a new way of seating arrangement based on the concept of social equality. The asymmetrical shape creates a sense of suspense when one walks through into the building into the concert hall which increases the level of excitement to see the performance. The ideas drawn from this precedent include:

1) Possible use of a center stage that accentuates the relationship between not just the performer and the audience but that of the building to the performance and the audience.

2) Incorporating the concept of having dance in the center that draws together and creates a high level of connection between the audience and the performer present in the space.

3) The idea of using seating arrangements as a method to eliminate separation between all that are present in the space, be it mentors, audience, performer or visiting artists.

4) The concept of using compression and release and narrower travel routes to create an anticipation and excitement to see what the path leads to may intrigue the viewers.
Designer: Gould Evans Associates
Location: University of Arizona, Tucson, Arizona
Year of Completion: 2003

The Stevie Eller Dance Theatre provides a brilliant blend of form and function. The firm focused on who the end user was and the purpose of the space. This can be seen in their design of dancing columns that was a result of their inspiration from the dance notation system called the Labanotation and specifically the one for George Balanchine's serenade. The overlapping grid of the movements for the piece was used to create the dancing columns. The columns support a glass-encased second-level dance studio.

The theatre is placed at the heart of the dance complex and is called the reserve fan due to non-paralleled walls that makes the room an oblique watcher at the front than at the back with the seating arrangement as though the entire audience can view the same show. The building glass is framed with a rusted metal mesh in undulating geometric shapes that help shield the interior from the strong southwestern sun (Greaux, 2005).
The picture shows 6 sections that have been cut through the plan. These sections help understand the position and construction of the screen and how it interacts with the exterior of the building and also connecting it to the performance space inside. Sections such as these are great pieces of information for the performance space in the artists residency program where dance movement are given a lot of importance and design of the space is based on it.

Source - Architecture Week
Longitudinal section of the building

The screen design seen in the performance hall

Scrim facade for sun protection

Portable Box Office
UVA DRAMA CENTER CASE STUDY
RUTH CAPLIN THEATRE

Ruth Caplin Theatre is the latest addition to the arts center in the University of Virginia with a capacity of 300 seats and a thrust theatre. The theatre as seen in the picture has an entrance and exit under the seating for any artists that may want to enter through the front and has a backstage as well. The seating is in an oval shape overlooking the stage.

HELMS THEATRE

The Helms Theatre is flexible with a holding capacity of anywhere from 160 seats to 200 seats. This is the smaller of the 3 theatres at the University of Virginia and has no raised stage. The ground is the stage with an entrance from both sides of the theatre. The stackable seats make the theatre flexible for any kind of performance/conference.

CULBRETH THEATRE

Culbreth Theatre is the biggest of the 3 theatres with a holding capacity of 520 people. The light and sound room is clearly visible from the stage and the design does not include stairs and risers. This theatre has a proscenium stage where the artists face the audience only at one angle. The no-stair design was a point of interest in the design.
CONCLUSIONS DRAWN FROM THE CASE STUDY

It was informative to see different types of stages in one building holding different capacities of people as it gives a better understanding of what the Artists Residency would demand when there is only one discipline of art being performed in the project. The shape of the building which is like a wave and covered with glass from floor to ceiling helps understand the importance of sunlight for certain performances. The Pumphouse has one wall in the space covered with tall windows if it will be used as a performance space. The building has a reception and a box office separate from each other and a waiting space. It helps determine the spaces that must be considered in the design of a performance space and an Artists Residency itself.
BUILDING INFORMATION

Byrd Park Pump House

The Hydroelectric Plant
"Of all the locks from Lynchburg down, the Three-Mile Locks pleased me most. It is a pretty place, as every one will see on seeing it. It is so clean and green, and white and terrify-looking. To me it was simply beautiful. I wanted to live there; I ought to have lived there. I was built for a lock-keeper... What more could the soul want?"

Dr. George W. Ripley
"Gems of Natural Science"
1879
1. William Byrd Park
2. Virginia War Memorial
3. Shields Lake
4. Maymont
5. Maymont Mansion
6. East Branch Tuckahoe Creek
7. Kanawha Canal
8. Byrd Park Pump House
9. Hydroelectric Plant
10. Supporting Buildings
11. Carillon
12. Swan Lake
FLOOR PLANS

TRANSVERSE SECTION

LONGITUDINAL SECTION

EXTERIOR ELEVATIONS

SECTIONS A-A’, B-B’,
DESCRIPTION OF PICTURES

1) The entrance foyer of the pump house
2) View from the side entrance to the entrance foyer
3) The pump room on the ground floor
4) Stairs leading to the catwalk and connecting to the first floor
5) Stairs connecting to the first floor
6) Stairs leading from catwalk to the first floor
7) View showing the catwalk looking down to the pump room
8) View showing the storage space below stairs, the catwalk and the pathway on the ground floor
9) View showing the storage space beneath both stairs
10) View showing spiral staircase and part of the water wells
11) View showing the trusses on the roof of the ground floor and the catwalk
12) View showing the room on the first floor
13) View showing the window detailing on the first floor
14) View showing arches that open to the south side of the park
15) View showing the entertainment hall on the first floor and the window covered arches facing the north side of the pump house
16) View showing the arched windows facing the entertainment hall

Source: All pictures of both exterior and interior of the pump house in color are self taken
DESCRIPTION OF PICTURES

1) View showing the north facing view of the pump house with the Tuckahoe Canal in the front.
2) View showing the site surrounding the pump house from the pump house drive.
3) View showing existing outside seating on the site.
4) The information about the pump house placed on the south side site.
5) Picture showing the area where George Washington was when he visited.
6) View showing the railway track from the site.
7) View showing the bridge built by Friends of Pump House from the side entrance of the pump house.
8) View showing the bridge that connects the north-facing view to the pump house drive over the Tuckahoe Canal.
9) View showing the space where the Kanawha Canal flows through the pump house.
10) View from the entertainment hall showing the hydroelectric plant.
11) View showing the bridge leading up to the Tuckahoe canal bridge.
12) South-facing view showing the main entrance of the pump house.
DESCRIPTION OF PICTURES

1) The hydroelectric plant from the south side showing its relationship to the pump house.

2) View from the south side of the hydroelectric plant showing the exit of the building from the basement.

3) View showing the walkway from the pumphouse drive leading to the main floor entrance.
The Richmond Pump House is in the Byrd Park District that gets its name due to the famous Richmond Byrd Park. William Byrd Park, originally known as New Reservoir park, is a municipal park that spans 275 acres of Richmond’s Near West End. Established in 1874, the Richmond, with the help of Wilfred E. Cutshaw, acquired 300 acres of land to establish a reservoir to supplement the city’s growing water supply. The area was looked at as an ideal location for a park. The site was chosen for the development of the city’s second reservoir that would help supplement the existing Marshall reservoir. This elevation would aid in the movement of water (Service U. S.-N., 2015).

Current State

The park does not have a set official master plan. It was developed as land, labor and resources became available. The unified park with its various elements that was once largely rural and underdeveloped is now one that is used for recreational purposes, public ceremonies and commemorative purposes (Service U. S.-N., 2015).

Defining Characteristics

- The park consists of open spaces, wooden areas and water features. The northern and central portions are relatively flat and have large open-spaces. The southern portion consists of steeper terrains that are heavily wooded. Paddle Boat Lane connects the south end of Boulevard with the Boat Lake Drive which encircles the Fountain Lake. The central section of the park that holds some of the highest elevations in the park is defined by the reservoir on the north and the Carillon complex and Disposed Dell on the south (Service U. S.-N., 2015).

Boundaries/Edges

- The 275 acre park is bounded on the north by the Downtown Expressway and Lakeview Avenue, on the east by South Robinson Street and Hampton Street, on the south by Pump House Road and Maymont Park, and on the west by Rugby Road and Blanton Ave. Residential neighborhoods surround the park on the east and west sides (Service U. S.-N., 2015).

Landmarks

- The Byrd Park District comprises of 6 buildings, 14 structures that are contributing and 2 buildings and 4 structures that are non-contributing. The Virginia War Memorial Carillon sits on one of the highest points of elevation in the city. The Carillon area also encompasses the Carillon spring. The Fountain Lake encompasses the concessions pavilion. The southern terminus of Boulevard includes the Christopher Columbus state, 1939 pump station and the Trafford pump station. The east side of the park includes the Women’s Christian Temperance Union Fountain, the Swan and Sheilds Lakes, the Shields- Robinson Family Cemetery and the Amelia Street Bridge Dam. The northwest corner includes the Sam West Memorial Marker and the American Legion Memorial Flagpole (Service U. S.-N., 2015).

Walkways, pathways and trails

- The Carillon area which is the largest section of the park has the Dogwood Dell bridge and walkways, paved and unpaved walking and biking trails, wood and stone bridges cobblestone walkways and terraces, concrete and stone stairs, paved and unpaved parking areas (Service U. S.-N., 2015).

Nodes

- The discrete areas that is encompassed by the park gives it helps pull it away from the urban setting. The 15-acre portion of the park that is located south of the South Boulevard and east of the South Sheppard Street comprises of amenities built to facilitate recreational activities such as the playing fields, grainsilos, baseballs, and a field house. The Roundhouse or Byrd Park Clubhouse is located at the east of the reservoir that is in the southern terminus of the Boulevard. The Shield Shelter and the cooking hearths are part of the Carillon stretch. The Carillon Shelter and associated stone features, the restroom building and the Tot Lot playground also include in the Carillon area (Service U. S.-N., 2015).
Construction - When - The Byrd Park Pump House, historically known as The New Pump House located at 1708 Pump House Drive, Richmond, VA 23221, comprises of the original three-part building that was constructed from 1881 to 1883 and had an annex added onto it a few years later in 1905 (Byrd Park Pump House, n.d.).

Why - The Byrd Park Pump house was constructed to house the waterworks for the city of Richmond, Virginia. The historic building that was a significant part of the waterworks history was constructed in order to pump water from the James River and Kanawha Canal into a reservoir in the Byrd Park (Stoddard, 2012). The building was used not just for waterworks but as an entertainment hall as well. The engineer and designer of the New Pump House Colonel Wilfred Emory Cutshaw was inspired to use the location for to design a space that not just served the growing water requirement for Richmond population but also as a dance hall pavilion for recreational purposes (Service, 2002).

Primary Construction Materials - The original 3-part building was constructed using local granite that was extracted from the site and other local quarries belonging to James Netherwood situated close to the James River. The foundation is made of ashlar and the walls are stonework. The roof is made of slate and is steeply pitched. The roof was lined with cast-iron decorative cresting but is presently missing. Each arcade in the pavilion has seven columns made of cast iron and railings of zinc-coated tin which are in a series of Gothic arches. The pavilion was enclosed with glass and wood trim to protect against leakage due to rainwater. The latticework of the arches was covered with yellow and orange stained glass. The spiral staircase at the east end of the building is made of cast iron. Metal trusses support the floor of the pavilion and the same are used for the ceiling but are exposed. The flooring in the ground floor was made of wood but has been replaced with granite stone and earth. The open dance floor and office spaces were supported by wooden trusses that return helped support the pine hosed sheathing and the slate roof (Service, 2002).

Period of construction and its influence - The New Pump House is a great example of Gothic Revival architecture. This style of architecture was popular in Richmond during the 19th and early 20th century. The 3-part building designed and constructed by the so-called ‘architect of the city’ Colonel Wilfred Cutshaw, the engineer, was fond of the this style of architecture as a student. The rusticated granite and pointed arches of the pump house set it a rural location with views of the canal and the James river separates itself from other Gothic Revival constructions in Richmond (Stoddard, 2012). The significance of the space gets accentuated by the style of construction using local granite. The steep pitch of the roof, pointed gables, lancet windows, arrow loops, pointed arches of the doors and pavilion’s arcade along with the Gothic style detailing in the columns, windows and balusters make it a great example. The 1905 annex addition that was constructed using similar materials help it blend in. Unlike most classical architecture, Gothic revival is not bound to principles of symmetry, which facilitates asymmetrical additions for space expansions as and when required (Service, 2002).
DANCERS PRACTICE STUDIO (LOVE)-
The dancer’s studio can be adapted as both personal as well as a communal space. The space must have ample amounts of lighting and ventilation for the proposed functionality. The practice studios are a space for the artists to connect with fellow artists and visiting artists while gaining in-depth knowledge about a variety of dance forms. Studio spaces for artists are their stepping stones to perfection.

PERFORMANCE SPACE/ DANCE HALL (DREAM)-
The space where the artists get to showcase their perfection as a group as well as individually. The hall may connect into the community hall or be separate with an access into the café and/or gallery space. The space is expected to host a wide variety of audiences. The hall will have a stage that may or may not be positioned in the center of the space with the seating surrounding so as to encourage a sense of higher audience involvement with the performer and the performance. The space is expected to evolve so as to contribute to the artists intent of performance and their sense of liberty and expression.

RESIDENCY APARTMENTS (LIVE)-
The residents can vary in number and artists. While veteran mentors may be a permanent resident of the space, traveling artists are welcome to stay for a shorter period. Students would be allowed to reside depending on their course and requirements. The apartments would range from 1 to 2 bedroom spaces. Artists residing together are given the advantage of connecting with each other outside class. This in turn brings in a better sense of community and sharing and belonging.

COMMUNITY HALL (INSPIRE)-
This space is focused towards recreation, entertainment and connectivity. While the project places significance on dancers as artists-in-residence, it is vital for artists of one discipline to be able to interact and stay in touch with artists of other disciplines and educate themselves with the knowledge received from these disciplines. This is a space for dancers to connect with visiting artists, musicians, sculptors and other artists as a form of inspiration and education to further their passion. The Community hall may connect to the café/dining space and have an entrance into the gallery space.

CAFÉ (REJUVENATE)-
The space is for both residents as well as the public use. The café connects to the community hall and serves as a concessions corner as dancers engage with public and other artists. This place must be accessible at all times regardless of whether a performance happens or not. The community hall stands as a place not just for dancers but for all kinds of artists to come together.

CLASSROOM (EDUCATE)-
Depending on the course requirements, the space may be used for educational purposes for the students as well as conduct workshops and training sessions for mentors. This is an opportunity for the veteran mentors to connect with traveling artists on an educational level and for smaller groups to come together.

LIBRARY AND GALLERY SPACE (REVIVE)-
While dance may seem to be an art form that may not require a library or gallery space, the combined library and gallery space here is dedicated to showcasing the works of predecessors, veteran mentors and artists, evolution of various dance forms, accessories and apparel. Books and documents relevant to each dance form including those dedicated to other art forms and collectibles are given a space in this project. This space may connect with the community hall and be open to public. So this along with the café must be situated at an easy access point from the entrances.

DANCE VIDEO VIEWING/CONFERENCE ROOM (REVISIT)-
The room where the audience as well as the dancers have an opportunity to view an evolution of dance through videos of various genres of dances from history. For mentors and students and visiting artists, this is also an educational opportunity to help students understand as it is an art form that is more visual compared to any other. When the room is not used for educational or audience to watch videos, it will be available for holding meetings and conferences and for rental purposes.

PROGRAM SPACES
BUILDING CODE SUMMARY

BYRD PARK PUMP HOUSE BUILDING CODE

- TYPE OF CONSTRUCTION: TYPE III
- TOTAL GROSS AREA: 15,749.77 SFT
- GROSS AREA FOR GROUND FLOOR: 9,422.2 SFT
- GROSS AREA FOR FIRST FLOOR: 6,327.57 SFT
- NET AREA TOTAL OF BUILDING: 9,489.862 SFT
- NET AREA OF GROUND FLOOR: 5,653.32 SFT
- NET AREA OF FIRST FLOOR: 3,796.542 SFT
- TOTAL NET AREA OF ALL SPACES: 7,600 SFT
- OVERALL OCCUPANCY LOAD: 5,980
- TOTAL NUMBER OF OCCUPANTS: 1,447
- TOTAL NUMBER OF OCCUPANTS PER FLOOR: 724
- TOTAL NUMBER OF OCCUPANTS PER GENDER: 362
- STAIRS REQUIRED FOR EGRESSES: 1 PER FLOOR

PLUMBING REQUIREMENTS:
1) WATER CLOSETS - MALE: 1 PER 125
2) WATER CLOSETS - FEMALE: 1 PER 125
3) LAVATORIES: 1 PER 200
4) DRINKING FOUNTAINS: 1 PER 500

FOR APARTMENTS:
1) LAVATORIES: 1 PER DWELLING UNIT
2) BATHS / SHOWERS: 1 PER DWELLING UNIT
3) AUTO CLOTHES WASHER CONNECTION: 1 PER DWELLING UNIT
4) KITCHEN SINK: 1 PER DWELLING UNIT

HYDROELECTRIC PLANT BUILDING CODE

- TYPE OF CONSTRUCTION: TYPE III
- TOTAL GROSS AREA: 13,330.64 SFT
- GROSS AREA FOR SUB BASEMENT FLOOR: 4,606.2 SFT
- GROSS AREA FOR BASEMENT FLOOR: 4,606.2 SFT
- GROSS AREA FOR MAIN FLOOR: 4,122.4 SFT
- NET AREA TOTAL OF BUILDING: 7,998.384 SFT
- NET AREA OF BASEMENT FLOOR: 2,752.5 SFT
- NET AREA OF MAIN FLOOR: 2,473.24 SFT
- NET AREA OF SUB BASEMENT FLOOR: 2,752.5 SFT
- NUMBER OF EXITS REQUIRED: 2
- TOTAL NET AREA OF ALL SPACES: 7,997.72 SFT
- OVERALL OCCUPANCY LOAD: 5,980
- TOTAL NUMBER OF OCCUPANTS: 1,447
- TOTAL NUMBER OF OCCUPANTS PER FLOOR: 724
- TOTAL NUMBER OF OCCUPANTS PER GENDER: 362
- STAIRS REQUIRED FOR EGRESSES: 2

PLUMBING REQUIREMENTS:
1) WATER CLOSETS - MALE: 1 PER 125
2) WATER CLOSETS - FEMALE: 1 PER 125
3) LAVATORIES: 1 PER 200
4) DRINKING FOUNTAINS: 1 PER 500

FOR APARTMENTS:
1) LAVATORIES: 1 PER DWELLING UNIT
2) BATHS / SHOWERS: 1 PER DWELLING UNIT
3) AUTO CLOTHES WASHER CONNECTION: 20 PER DWELLING UNIT
4) KITCHEN SINK: 1 PER DWELLING UNIT
### PROGRAM EXPANSION

<table>
<thead>
<tr>
<th><strong>PROGRAM</strong></th>
<th><strong>DESCRIPTION</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>ARTISTS</strong></td>
<td>For students to gain practical experience in their field and showcasing their work</td>
</tr>
<tr>
<td><strong>ANALYSIS</strong></td>
<td>For course load to be reviewed and continuously improved</td>
</tr>
<tr>
<td><strong>PRICING</strong></td>
<td>For students to be charged for their courses</td>
</tr>
<tr>
<td><strong>FACILITIES</strong></td>
<td>For students to have access to any facility they require</td>
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</table>

<table>
<thead>
<tr>
<th><strong>PROGRAM</strong></th>
<th><strong>SPECIAL CONSIDERATIONS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ARTISTS</strong></td>
<td>Provisions for public and private performances</td>
</tr>
<tr>
<td><strong>ANALYSIS</strong></td>
<td>For the space to be used by the public and private performances</td>
</tr>
<tr>
<td><strong>PRICING</strong></td>
<td>For the space to be used by the public and private performances</td>
</tr>
<tr>
<td><strong>FACILITIES</strong></td>
<td>For the space to be used by the public and private performances</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>PROGRAM</strong></th>
<th><strong>ADJACENCIES</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>ARTISTS</strong></td>
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</tbody>
</table>

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<tr>
<th><strong>PROGRAM</strong></th>
<th><strong>ARCHITECTURAL CONSIDERATIONS</strong></th>
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<td><strong>ARTISTS</strong></td>
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<td>For the space to be used by the public and private performances</td>
</tr>
<tr>
<td><strong>FACILITIES</strong></td>
<td>For the space to be used by the public and private performances</td>
</tr>
<tr>
<td>FF&amp;E</td>
<td>PLUMBING</td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
</tr>
<tr>
<td>Storage, fixtures and equipment, bars, minimum seating</td>
<td>yes, for water fountains</td>
</tr>
<tr>
<td>Fixed seats for audience, props fixtures for dancers, portable seating</td>
<td></td>
</tr>
<tr>
<td>Beds, wardrobe, study desk, storage, fixtures for bathroom</td>
<td>yes, for bathrooms</td>
</tr>
<tr>
<td>Tables and chairs, discussion booths, couches</td>
<td>yes, for water fountains/toilets</td>
</tr>
<tr>
<td>Tables and seating for 2, 4 and bigger groups</td>
<td>yes, for sink faucet</td>
</tr>
<tr>
<td>Desks and chairs for students, projector, table and chair for teacher</td>
<td></td>
</tr>
<tr>
<td>Study tables and seating for small groups, couches, computer desks</td>
<td></td>
</tr>
</tbody>
</table>

**ADJACENCY MATRIX**

- **ACCESSIBILITY**
- **DIRECTLY ADJACENT**
- **NEARBY**
AN ODE TO DANCE

The thesis strives to understand how an Artist’s Residency for dancers can help in comprehending a dancer’s freedom of expression in an artists community while co-existing amongst these artists of various disciplines.
The concept models are a series of explorations made with the intention of identifying how BASTE—Body, Action, Space, Time and Action—are the core elements of dance and how it dictates each movement in dance and how a body connects with the space around it.
Exploring the relationship between dance and music using lightweight more flexible materials that represent fluidity. The models help understand the relationship of dance as an organic art form to that of the building that is very rectilinear and the impact of engaging fluidity in such a space while directly connecting to its landscape and site which almost naturally correlates to the fluidity.
The parti diagrams that analyze the structural elements that include the trusses which are part of the ceiling of every space in the pump house help understand that these, either left exposed or covered would be a major part in the design decisions that are made for the space.

The parti diagrams that analyze the window grid of the building. The windows dominate the structure and follow a symmetrical grid that allows a lot of sunlight into the space from all directions and various times of the day which is important for the program.
If you can create architecture that makes you aware of where you are, and through that makes you wonder what you are, you have created something great.

- Aaron Betsky

CONCEPTUAL DRIVERS

FOUR MAJOR CONSTITUENCIES IN DESIGNING:
- BUILDING
- PROGRAM
- USER
- DESIGNER

DRIVERS THAT CONNECT THE CONSTITUENCES:
- EMPATHY
- FUNCTIONAL AESTHETICS
- SUSTAINABILITY
- ADAPTABILITY
- INTEGRATION
Celebrating the spirit of each space with a dance sequence, the thesis uses labanotation to notate these movements which then translate into space planning guidelines for each of these spaces. Labanotation is a system that records human movements. Developed by dance theorist Rudolph Laban, labanotation is a system that should be based on the universal laws of kinetics rather than a particular style/genre. The analysis of movement is based on anatomical, spatial and dynamic principles such as what a body can do, how it does it, how it relates to space and how the quality of movement affects the function and communication.

The vertical staff represents the body of the performer. The center line divides the staff into right and left sides representing the left and right sides of the body. The notations are read from bottom of the staff to the top.

The shape of the symbol = Direction of movement
The shading of the symbol = Level of movement
The length of the symbol = Timing of movement
The schematic phase helps understand the relationship of the major program spaces with each other and their placement in the building according to the square footage it requires. In the explorations, the performance space encompasses the largest amount of space while the practice studio is placed in the existing entertainment hall with maximum amount of sunlight. The focus of the project is to make the space from a dancer’s point of view giving more importance to what a dancer needs and wants would be. The studio is where the dancer experiences mistakes, learns from it, gathers confidence and develops everything that they know before they go into give their final performance at the performance space.
FIRST FLOOR PLAN

- Classroom
- Restrooms
- Practice Studio
- Offices space

GROUND FLOOR PLAN

- Reception/Lobby
- Library/Gallery space
- Performance space
- Office space
- Practice Studio
- Restrooms
- Classroom
SECTION 1
- Residential Apartments

SECTION 2
- Community Kitchen and Dining
- Community Hall
The final designs are a result of various trial and errors done through the schematics phase. Using drafting as a method to communicate the authenticity and movement strategy of the project, the idea was further explored using watercolor rendering of the perspectives. Marker renderings were used to communicate intensity of movements. The notations connect each space initiating from the wall of the library all the way to the performance space. Each space has its own sequence of dance and the notations denoting these movements decide the number of strips that are in such space. The performance space holds the most in the ground floor. The primary users, the dancers, have the liberty to use every space in both the buildings. There is a circulation space in each of the major spaces that can be used by the dancer to stand up and dance/practice as and when they would like to. The buildings have been designed for the dancer.
The reception of the space in the context of dance is the opening for the rest of the show. From this space the viewer have access to the library and the performance space. From a dancer’s point of view, he/she welcomes every individual who walks in through the door to experience their talent. The FF&E in the space was selected with the intention of resonating the beauty and importance of balance in dance. The bulk of the body is supported by sleek yet steady legs of the body complementing the notations running through the basic forms that hold up the building. Hues of teal and peach are chosen for the furniture, stained concrete flooring, granite walls and cherry veneer on the notations. The dancers and the movements are emphasized through materials.

While dance may seem to be an art form that may not require a library or gallery space, the combined lobby and gallery space here is dedicated to showcasing the works of predecessors, veteran mentors and artists; evolution of various dance forms, accessories and apparel. Books and documents relevant to each dance form including those dedicated to other art forms and collectibles are given a space in this project. This space may connect with the community hall and is open to public. So this along with the café must be situated at an easy access point from the entrances. The notations support the shelves for the books on the lower level while the mezzanine floor has the gallery that has a passageway into the mezzanine of the entrance.
The space where the artists get to showcase their perfection as a group as well as individually. The hall would may connect into the community hall or be separate with an access into the café and/or gallery space. The space is expected to host a wide variety of audiences. The hall has a stage that is positioned in the center of the space with the seating around it to encourage a sense of higher audience involvement with the performer and the performance. The space is expected to evolve so as to contribute to the artists intent of performance and their sense of liberty and expression. The incorporation of a center stage in a performance area space prompts higher level of immersion between the audience and the performer. The significance of giving both the performer and the viewer equal importance in the space and giving the audience a chance to view performances from all angles induces empathy that as both a designer, dancer and viewer is very valuable.

The notations in the performance space has a connection to the notations in the entrance space which carries on to the balcony. Sound absorption felt cubes are placed in between each notation strip to help with acoustics and to contribute to the vibrancy of the art form in the space.
View from the stage to the main entry from reception
PERSONAL REFLECTION

The Artists Residency for Dancers was no doubt the most challenging process in terms of both research and design work. Over the course of the semester, the project demanded attention over the concept work that would form the framework for schematics and subsequently final designs. The concept of labanotation required a complete understanding and learning how to notate dance movements. This project is a tribute to my dad and my family who supported and encouraged me to take the path of design and never let me give up on dance while pursuing design. The thesis topic was the aftermath of a dream of one of the sweetest memories of my childhood and subsequent message from my dad that stated that he missed watching me dance.

Dance is and has been a passion since childhood. Having a person connection with the project was the greatest motivation to work through the process. And so being able to design for a discipline of art that I am intimately passionate about was a driving factor in this project. This project has given me insight into the parts and details about design that did not seem relevant before. Great designs are made from being nit picky about one's design. The more specific major program spaces like the performance space, the library and the practice studio demanded the correction of small details in this case. Lastly, understanding that design always has room for improvement is a fact every designer has to live with.

Thesis Reflection

The use of the labanotation concept was criticized due to the intensity of its connection. The concept was hard to find. The use of wood used to notate the concept in this space was suggested, but the potential to do more than just be attached to walls and ceilings. The design of the office where the main parts such as the shelves and the library walls were formed from the notations was appreciated. The panel suggested customization of furniture and seeing the performance space instead of simply finding existing furniture that goes with the idea. This would further amplify the authenticity of the space which was the primary intention. One of the main intentions with the project was to have a space in every room where the dancer could dance. The panel suggested that more attention be paid to the amount of space assigned for that idea. The panel had great suggestions and ideas on how to improve the project and ask more of how it can be a dancer’s space. I hope to work on the project in the future and fully develop these ideas.
SHOW INSTALLATION
ACKNOWLEDGEMENTS

FRIENDS AND FAMILY
To my parents without whose love, faith, support and motivation, I would not be where I am.
To my sister, Evita Liz Eldhose, the reason why this thesis is happening.
To my best friends Suhail, Ashadh, Vishalika, Sree, you give me the strength through ups and downs to move forward everyday.
Goutham Krishna Babu, for being my mentor and supporting me through college.
To everybody else who supported me. Namr, Peru, all my friends from India and Saudi Arabia, I am greatly thankful for all you have done.

To my classmates who have been the best people I could have shared a class with and spent the past 2 years with.
The most motivating class ever.

VCU SCHOOL OF ARTS AND FACULTY
A big thank you to Virginia Commonwealth University and all of our Interior Design Department and faculty for making sure my journey was the best I could have asked for. Camden Whitehead, Emily Smith, Roberto Ventura, Sara Reed, Annie Frankfurt, Rob Smith, Chris -

BUILDING ACCESS AND ALL THE DOCUMENTATION
Camden Whitehead, Roberto Ventura
Nathan Barrell, Manager of POPH
Friends of Pump House Organization for being so kind and cooperative through the process
Joseph Comello, for providing me with all the information I need for the Pump House
Ryan Davis, for his contribution and advice during design development
Library of Virginia, for building documentation
Leah Embrey, for building documentation
Agecroft Hall committee
A figure for flows, movement and spaces in the Richmond Pump House Community.

SITE AND BUILDING

Historical Context

The Richmond Pump House is a historic building that was constructed in order to pump water from the James River to the city of Richmond, Virginia. The building was originally known as New Reservoir Park and was acquired by the city in 1976.

The concept of libation

The space is designed to be a place where people can gather and celebrate. The space is divided into different areas that are designed to accommodate different activities.

PROJECT

The concept of the project is to design a space that not just serves the city as an entertainment hall as well. The engineer and designer of the waterworks history was constructed in order to pump water from the James River to the city of Richmond, Virginia. The historic building that was a significant part of the Richmond, with the help of Wilfred E. Cutshaw, acquired 300 originally known as New Reservoir park, is a municipal park that got the name due to the famous Richmond Byrd Park. William Byrd Park, The Richmond Pump House is in the Byrd Park District that gets its translation into space planning guidelines for each of these spaces.

Performative design can create higher levels of interaction between the performer and audience, and how a body connects with the space around it. The core elements of dance, how it dictates each movement in dance, identify how BASTE which is Body, Action, Space, Time and Energy are. The concept models are a series of explorations making an effort to translate into space planning guidelines for each of these spaces.

The shading of the symbol = Level of movement

The vertical staff represents the body of the performer. The center line divides the staff into right and left sides representing the left and right arm.

THE CONCEPT OF LIBATION

The figure for flows, movement and spaces is used to illustrate the concept of libation. The figure shows how the dance is connected to the space and how the performer and audience interact with each other.

The concept of libation is inspired by the idea of creating a space that is a place of celebration and entertainment. The design is based on the idea of creating a space that is a place of celebration and entertainment. The design is based on the idea of creating a space that is a place of celebration and entertainment. The design is based on the idea of creating a space that is a place of celebration and entertainment. The design is based on the idea of creating a space that is a place of celebration and entertainment.

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