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Choreographing Space: The Enhancement of Architecture Through Dance

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Choreographing Space: The Enhancement of Architecture Through Dance

Alec Harris
ARC 490-1: Architectural Studies Project Seminar
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Introduction

Today, the architectural design pedagogy tends to refrain from describing architecture as just a building or other static structure. When attempting to describe what constitutes an architectural work, perhaps the most accurate and truthful description one can offer is that architecture is simply an art that works with and around space. While architecture has primarily been regarded as a spatial art form, one could also consider it temporal since experiencing architectural space can truly only happen over time.

Architect, Bernard Tschumi describes architecture as a “spatio-temporal form, interweaved of time, space and successive events within.”¹ Experiencing architecture is not limited to just visual interpretation and in order for an architectural space to be fully understood and appreciated, one must engage with it. Engagement with architecture requires the observer to move and moving requires time. Furthermore, time is also considered during the design process when contemplating how a human will be able to pass through, interact with, and perform activities within the space.² From this, it is possible to conclude that movement is a vital tool for understanding architecture.

With this in mind, learning to better understand movement is a sure way of enhancing the way people experience architectural space. There have been various past studies and projects conducted to study the relationship that movement and space share, such as a collaborative summer course titled, *Placing Space: Architecture, Action, Dimension*, which was offered at the University of Maryland to provide both architecture and dance students with an opportunity to investigate the “reciprocal role that movement

¹ Ersoy, Zehra, ““Building Dancing: Dance Within the Context of Architectural Design Pedagogy,” *International Journal of Art & Design Education* (Jan. 2011): 124.

² Hanoch-Roe, Galia, “Musical Space and Architectural Time: Open Scoring Versus Linear Processes,” *International Review of the Aesthetics and Sociology of Music* 34.2 (2003): 146.

and space can play on each other's formation."³ The architect and three choreographers responsible for directing and instructing the course all agreed that the effects the two have on one another cannot be ignored and are inseparable, and this study, as well as a few others, have attempted to use dance as a tool to create a sort of "explorative pedagogy" in order to further develop creative processes of architectural design.⁴ Dance, after all, is one of the most intense ways of experiencing and moving through space, so utilizing it as a tool for exploiting the correlations between movement and space should be promising. Through this study, I hope to show how dance can be used to influence architectural design in order to enhance the way architecture is experienced. By researching the way bodies move through space, dance itself can be made present in static architectural forms.

Although making dance feel present in architecture may be complex work, architecture professor Zehra Ersoy believes, "We can all be dancers as long as we can develop an exquisite consciousness of our bodily experiences and movement in space."⁵ As mentioned previously, a major aspect of experiencing architecture is movement, and a better understanding of how the human body influences and interacts with architectural space is an excellent way for designers to begin to learn how to enhance spatial awareness in observers of architecture. Architectural education today asks students to be able to design spaces that engage users in ways beyond the visual, and to pay more attention not just to a building's function and aesthetic appeal, but also to how the user is going to experience the space. Ersoy put it best when she wrote, "Current day approaches in design pedagogy focus on personal and bodily experiences of the *subject* and the need

³ Eisenbach, Ronit, "Placing Space: Architecture, Action, Dimension," *Journal of Architectural Education* (Winter-Spring 2008): 76.

⁴ *Ibid*

⁵ Ersoy, 125.

for investigating new ways and methods to enhance awareness of spatial experiences is inevitable.”⁶

Influence From Music

Dance has only received some attention from scholars for interdisciplinary study. Another fine art, music, has been the true primary subject over the years. It was German writer, Johann Wolfgang von Goethe who famously stated, “Music is liquid architecture. Architecture is frozen music.”⁷ Since then, numerous correlations between music and architecture have been drawn; therefore it makes sense to include it in this investigation due to its close relationship with dance as well. Through careful examination and drawing connections between these three art forms we will begin to gain an understanding for how each is able to have an effect on the other’s creation. However, although certain acoustical properties of music and features of human movement could be directly translated into architectural configurations, an engineering connection is not what I am trying to establish, but rather, the “inspirational relationship” between these arts.⁸ Also, I am not attempting to investigate whether or not a melody or series of gestures can be made analogous to a specific architectural structure, but instead how a melody or type of movement could influence an architectural space.⁹ Just as no one can say that a building looks like the symphony of a famous composer, a building will also not look like Alvin Ailey Dance Theater’s, *Revelations*, although particular phrases, positions, or the piece’s overall structure may have had a significant effect on the building’s design

⁶ *Ibid*, 123.

⁷ Young Gregory, Jerry Bancroft, and Mark Sanderson, "Music-Tecture: Seeking Useful Correlations Between Music and Architecture," *Leonardo Music Journal* 3 (Winter-Spring 1993): 39.

⁸ *Ibid*

⁹ *Ibid*

development.¹⁰ Finally, it is unimportant whether or not the observer of architecture resulting from a dance or musical “leap vehicle” (source of inspiration) actually understands the source’s use or recognizes its impact on the design.¹¹ In the case of this investigation, I am researching a method that can make dance *felt* while an individual engages with an architectural space. The dance leap vehicle could be utilized to help designers approach developing spaces in a manner that may offer a more innovative creative process. It would be the stimulus that sparks design choices that will engage users more deeply in the designed space while only truly existing within the soul of the project.

Drawing Connections

Two architecture educators and a music educator collaborated on another university course at Montana State University titled, “Musi-tecture: Seeking Useful Correlations Between Music and Architecture.”¹² As the name suggests, the aim of the course was to establish solid connections between attributes of the two arts in order to make relationships between them clearer, and maybe, realize the potential the two have for influencing each other’s creation. The investigation began on a fairly basic level, with course participants brainstorming a list of items that often influence the development of a musical or architectural project, as well as a list of terms that were even shared between the two disciplines. Eventually, this brainstorming led to the composition of two lists:

¹⁰ *Ibid*

¹¹ *Ibid.* The authors of “Musi-tecture: Seeking Useful Correlations Between Music and Architecture,” use the term “leap vehicle” to refer to an art form that inspires and influences an architectural design. In the case of this article, music is the “leap vehicle” because it is the starting point from which a design may begin to unfold.

¹² *Ibid.*

“Terminology,” which listed terms that were used in both music and architecture but did not necessarily have the same meaning, and “Sources of Inspiration and Influence,” which listed any possible concept that could serve as the drive behind a piece of music or architecture.¹³ The latter list featured subcategories, one of which was “Emotion/Perception,” which contained concepts like aggression, elegance and tension.¹⁴ Sure enough, many of the phrases that were mentioned on either of the lists also hold meaning in dance as well. For instance, learning to invoke or convey a certain “emotion” to an audience through motion alone is a skill that all dancers train for and one that is often utilized in any dance piece. Other Sources of Inspiration common to all three disciplines are “history/style,” referring to the styles or movements that were in practice during the creation of a work.¹⁵ In terms to terminology, “articulation,” exists in architecture in the way a designer makes specific design choices that bring attention to certain aspects of a design that they want to receive recognition.¹⁶ In that regard it is similar to dance, where articulation means fully accentuating a certain movement or body part in order to emphasize its presence or significance. Certain terms such as “repetition” or cantilever, have identical definitions in both architecture and dance, but mean different things given the different contexts.¹⁷ In architecture, repetition could mean anything from similar floor plans being used on numerous floors of an office building to the recurrence of a certain structural or ornamental detail (for instance, columns). In dance, it could mean the repetition of an entire phrase of movement, or just one gesture, but in both arts it often means a recurring motif or theme that often holds meaning. A cantilever in

¹³ *Ibid*, 40.

¹⁴ *Ibid*

¹⁵ *Ibid*

¹⁶ *Ibid*

¹⁷ *Ibid*

architecture is a structure that anchors most of its weight in one location so an extending portion of it is able to safely overhang another area. In dance, cantilever has the exact same meaning but it refers to bodies instead of buildings. Through these comparisons, the participants in the Musi-ecture course “found that most of the terms common to both disciplines have similar meanings and this commonality helped students to understand better how architecture and music are related.”¹⁸ Of course, we can also begin to make similar correlations between architecture and dance.

One of the more fascinating items recorded on the Terminology list was “development.”¹⁹ To fully understand the relationship that development in dance shares with development in architecture, we must again refer to architecture as a spatio-temporal art form, a category that dance also happens to fall under, although dance could arguably be considered slightly more time-based than architecture. Music professor, Galia Hanocho-Roe has also authored an article pertaining to musical and architectural relationships, and she offers an excellent description of musical development that also applies perfectly to dance. Immediately afterwards, she provides a very well written depiction of how development occurs during the experience of architecture.

Performed, ‘real time’ music never exists as a whole at any given moment, but rather unfolds in a linear manner over time and joins to an entity only in retrospect, in the memory of the listener or performer. In that sense it is a process diametric to that of perceiving an architectural work, which exists as a whole at any given moment, but may be retained by the observer only by a process of observation over time, walking around, through, and above it. This is an open, non-linear process, which is never repeated in quite the same way, and the joining of all observation points will only surmise the whole, never quite reaching it.²⁰

¹⁸ *Ibid*, 41.

¹⁹ *Ibid*, 40.

²⁰ Hanocho-Roe, 146.

This description of development is extremely important in understanding the significance of temporality in comprehending an architectural space. Firstly, it explains that architecture and the development of experiencing an architectural space is “an embodied, ephemeral condition involving time-base events.”²¹ It also states that observing architecture is a non-linear process since, unlike during the observation of a dance piece, the observer is able to pause, take a moment to examine one particular feature, revisit certain areas, and may even neglect entire sections of an architectural space altogether. Although this series of movements is not necessarily linear during their execution, together as an entity, they represent a linear sequence of events.²² However, architects have introduced linearity to the architectural experience by attempting to apply a method to architecture that is more widely known in the world of music than in other practices: scoring. Hanoch-Roe presents another excellent passage, this time pertaining to the similarities between the observation of architecture and the reading of a musical score:

The silent reading of a score is similar to the observation of spatial art: The reader chooses the tempo, accentuation and the linearity of the process, and may stop, turn back, return and do as he pleases. When the silent reading of a score is performed the interpreter must choose one possibility of the numerous ones inherent in the score.²³

Scores and Notation

Dance and architecture have both shared the burden of being two of the most difficult art forms to properly capture. For instance, unless a piece of choreography were to be demonstrated step by step, it would be nearly impossible to fully comprehend and learn it on one’s own. During a piece’s creation, everything is taken into consideration

²¹ Eisenbach, 79.

²² Hanoch-Roe, 149.

²³ *Ibid*, 147.

from the subtlety of the gentlest movement to the angle the body is facing at each moment, and it is enormously difficult for one to fully understand a piece without the assistance of the actual choreographer. The situation is not dissimilar in architecture, where the best representation available of a three-dimensional space is usually a two-dimensional plan, section, perspective drawing, etc. Even three-dimensional renderings drafted on a computer do not actually exist in three dimensions. Three-dimensional models are helpful but can only be made on a much smaller scale, so being able to understand how a body relates to an architectural space before it is actually created is complicated, and even photographs of existing architectural space do not provide the observer with any actual spatial sensation.²⁴ Hungarian architect Ernő Goldfinger first brought attention to this issue in 1941 in an article for *Architectural Review*, and since then, many planners and architects have attempted to create scoring techniques that could capture both the spatial and temporal aspects of an architectural space in a linear manner in two dimensions, while dancers and choreographers have also endeavored to create a scripted system that can portray a body's relationship to the space it is engaging.²⁵

The essential quality of scores is that it is a system of symbols which can convey, guide, or control the interactions between elements such as space, time, rhythm, people and their activities and the combinations which result from them. Scores are devices used for controlling events and influencing what is to occur. They may also record events from the past or notate what is happening in the present, but the real importance of a score is its relationship to the future.²⁶

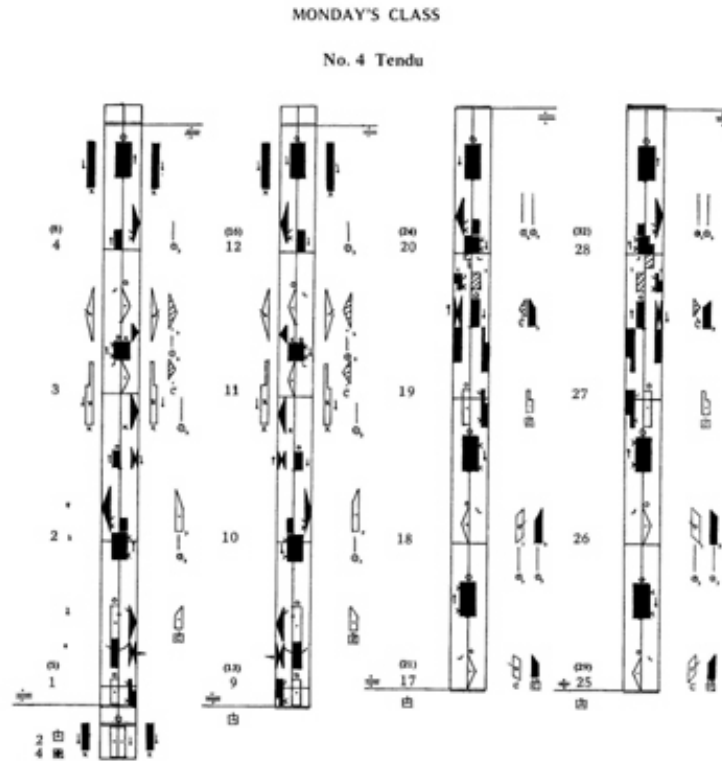
In 1926, German choreographer Rudolf Laban developed Labanotation as a method that documents a dancer's movements over time from the dancer's perspective, but without

²⁴ Heffley Divya, *Vision in Motion: Architectural Space Time Notation and Urban Design*, (B.A., Yale University, 2001, M.A., Brown University, 2006): 1.

²⁵ *Ibid*

²⁶ Hanoch-Roe, 146.

describing the space that the dancer moves through.²⁷ In the realm of architecture, other established scoring systems suffered from similar limitations.



Labanotation from Bournonville's Monday Class, Tendu
Photo courtesy Lois Rathvon

Figure 1

Labanotation from Bournonville's Monday Class, Tendu

Source: "A Conversation with Lois Rathvon, Labanotation Reconstructor and Stager." Accessed June 7, 2014. <http://www.ballet-dance.com/200607/articles/Rathvon20060324.html>

Landscape architect Lawrence Halprin had spent plenty of time trying to perfect a notation system applicable to architecture prior to the release of his "movement notation" or "Motation" system in an article published in 1965.²⁸ He worked closely with his wife, Anna Halprin, a choreographer and post-modern dancer, and movement and its relationship with space became a major concern of theirs. His thoughts when creating

²⁷ Heffley, 11.

²⁸ *Ibid*, 220.

Motation were: “A new system should be able to focus primarily on movement, and only secondarily on environment.”²⁹ As a result, Motation is a system that displays a plan of a site with a path depicted through it. Another section of the score captures different perspectives of several locations throughout the selected path utilizing symbols that represent anything from people to landscape. However, while Motation does not capture specific movements of the individual like Labanotation does, it documents the individual’s movement in relation to the larger environment, “or more specifically, notes the changing spatial characteristics of the environment as the individual moves through it.”³⁰

Problems arise when considering the fact that like in music scores, one possible path is selected out of the many inherent possible paths in the architectural space that is being scored. Halprin could not explain the criteria that determined the path chosen for notation. “In other words, was the notated path selected for its choreographic potential – even if it was not the most direct line through the environment – or was a straight-line path chosen and its choreographic potential assessed through the use of the notation system?”³¹ Halprin believed that Motation was a “tool for choreography,” and he meant “choreography” as in, “design for movement,” and made comparisons between his movement notation and Labanotation.³² However, while Motation did bear some similarities to Labanotation considering both were written from the perspective of the

²⁹ *Ibid*, 221.

³⁰ *Ibid*, 228.

³¹ *Ibid*, 229.

³² *Ibid*, 227.

person in motion, a dancer's movement through space could still never be documented quite the same way as a pedestrian walking through an urban environment.³³

As a matter of fact, while these correlations between architectural scoring and dance scoring, and even musical scoring may have been relevant to some degree, they were still more metaphorical than practical, and did not necessarily have the potential to be utilized for interdisciplinary creation.³⁴ Indeed, the huge gap between scoring a spatial experience and designing a space that achieved the notated experience is an issue that each notation system created could not seem to conquer, and it was these oversights that most likely prevented these systems from becoming mainstream practice as planning tools in architecture and urban design.³⁵ Although Halprin may have fallen short of his main goals, he still introduced a method for scoring movement through space, a useful tool in its own right.

³³ *Ibid*, 228.

³⁴ *Ibid*, 3.

³⁵ *Ibid*, 4.

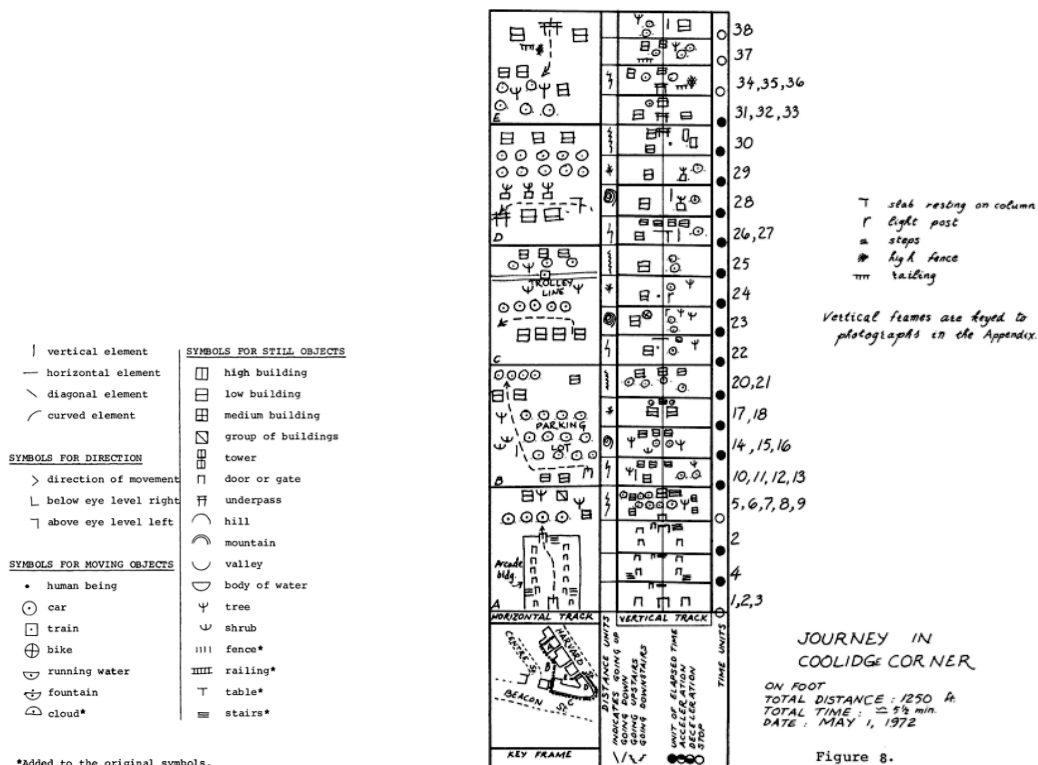


Figure 2
Motation Legend and Motation Score
Source: Heffley Divya, Vision in Motion: Architectural Space Time Notation and Urban Design,” (B.A., Yale University, 2001, M.A., Brown University, 2006).

Interdisciplinary Design

Although architectural scoring has had difficulties being used as a basis for architectural design, there have been instances of architects utilizing scores to stimulate the designing of spaces. One of the first attempts to make such a connection was in architect Peter Cook’s project, *Bloch City* (1983), which is a work that takes the linearity of the musical score and converts it directly into fluid urban design.³⁶ Cook tried to demonstrate the potential scores have for being used for (or in this case, *as*) design by

³⁶ Hanoch-Roe, 145.

raising the score off of the page, bringing it from two dimensions into three, creating an image resembling an urban environment.

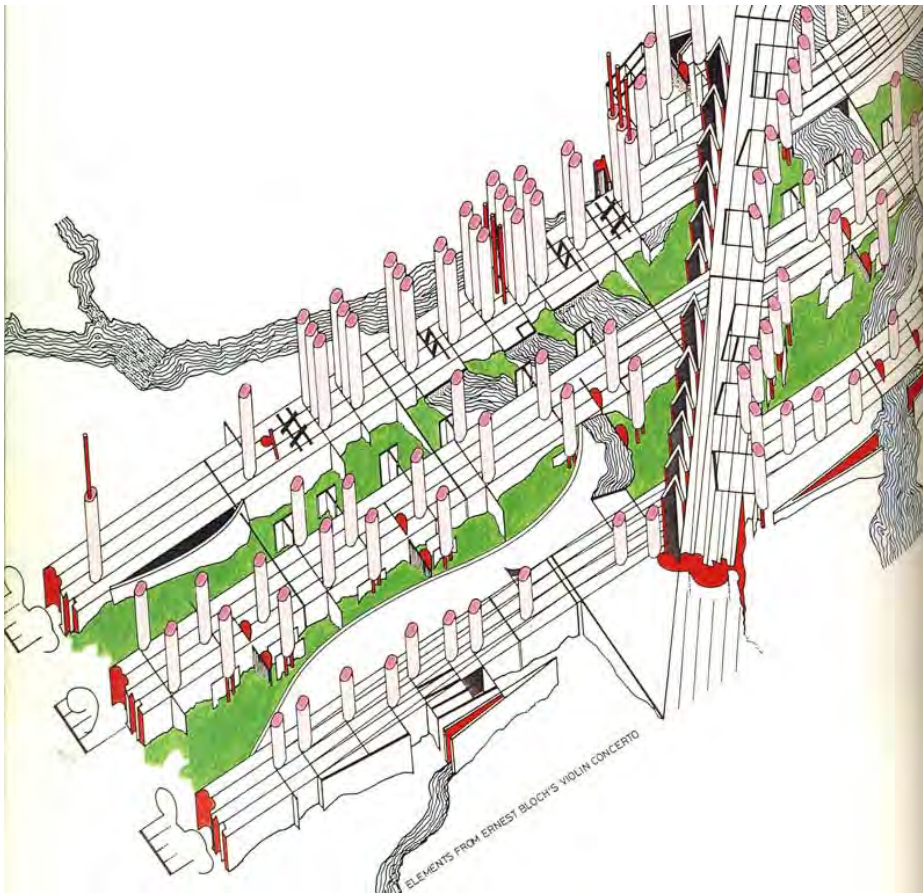


Figure 3
The First Stage of Three-dimensionalization of the Musical Score for *Bloch City*
Source: “1983 Bloch City [Peter Cook].” Accessed June 8, 2014.
<http://arqueologiadelfuturo.blogspot.tw/2010/04/1983-bloch-city-peter-cook.html>

“The formal compositional scores accept upon themselves characteristics of space unfolded through use of time and the temporal becomes spatial.”³⁷ When considering this temporal to spatial transformation, we realize that each written score possesses its own graphic dimension, which indicates things such as “regularity of pulse, relative tempo, acceleration and deceleration of the pace, density of texture or instrumentation, and

³⁷ *Ibid*

formal organization.”³⁸ Once again, we can notice that these concepts also hold meaning in architectural plans, “which incorporate ideas of spatial pulsation, density of textures and inner pace. Thus, the conventional score may be translated from linear musical process into fluid architectural or urban design.”³⁹ Cook took inspiration from Bloch’s 1938 violin concerto. He wrote:

Think of a symphonic score as a city plan... the little flute obbligato as a mere backyard event and the grand march as the main street... The notes become towers, the staff becomes a street, the supportive markings become walls. The linear motion inherent in musical performance was interpreted here as a spatial path, an urban highway...⁴⁰

Cook believed that the concerto’s score was a representation of the “cultural aura” from the time the work was created and called it “an extremely sophisticated diagram of urbanized action,” which depicted the “sociological-historical ambiance in which Bloch’s music was composed.”⁴¹

³⁸ *Ibid*, 157.

³⁹ *Ibid*

⁴⁰ *Ibid*, 158.

⁴¹ *Ibid*

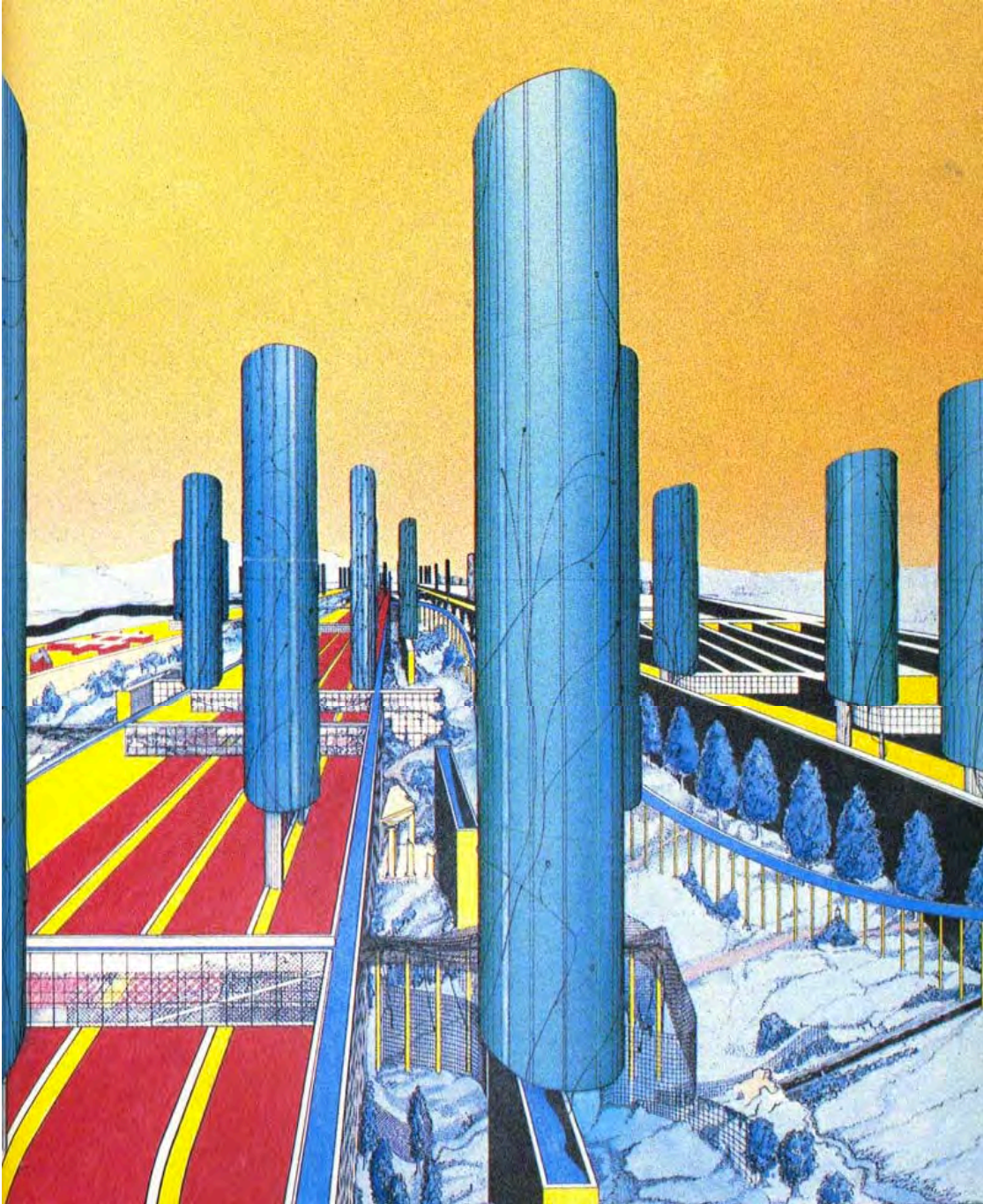


Figure 4
Detail From Final Plan of *Bloch City*
Source: "1983 Bloch City [Peter Cook]." Accessed June 8, 2014.
<http://arqueologiadelfuturo.blogspot.tw/2010/04/1983-bloch-city-peter-cook.html>

Whereas a lack of a connection between notated spatial experiences and actual plans for creating identical spatial experiences had been one of Halprin's main dilemmas with his

Motation system, Cook ambitiously proclaimed that the connection was already within the score itself. With this in mind, we could suppose that dance scores captured via Labanotation also hold the keys to creating urban landscapes that capture the cultural and architectural essences of the era in which the piece was choreographed. Although this claim could be somewhat of a reach in judgment, Cook did show that notational scores from other arts do hold some potential for being converted into architecture.

Other instances of interdisciplinary design between music and architecture have found sources of inspiration in other aspects of music as well. One example is an assignment executed by the students of the previously mentioned Musi-ecture course, where students were asked to design a building that was either based on or inspired by a piece of music. Some of the concepts that inspired the students' work were unique to music, such as melodic contour, and instrumentation, while many of them could be found in dance as well, such as mood, dynamics, tension and release, and aesthetic meaning.⁴² One of the projects, which used Vaughan William's *Pastoral Symphony* as a leap vehicle, reflected the melodic contour of the piece with the way the building's own contour continued the outline of the landscape, while the piece's tranquil mood was represented by the subtle use of horizontal articulations.⁴³ Since the architect felt intense emotional stimulation from listening to the piece, he felt it appropriate that his design be "in harmony with the earth."⁴⁴

If the technique for interdisciplinary design makes parallels between one aspect of a musical piece and a complementary architectural element, then we can apply this technique easily to dance. A designer who is faced with a piece that showcases a lot of

⁴² Young, et al, 42.

⁴³ *Ibid*

⁴⁴ *Ibid*

interaction between dancers with plenty of group choreography and contact might take that and translate it into a building with an open plan in order to promote interaction and foster intimacy in the space. An energetic piece with a lot of strong percussive movement and a vibrant mood could cause the designer to think of diverse and eye-catching design elements, possibly similar to the work of architects such as Frank Gehry or Rem Koolhaas. Ultimately, the Musi-ecture study course concluded that leap vehicles and interdisciplinary studies hold great potential for stimulating creativity and breaking trends, although further clarification and expansion on connections between the arts are needed.⁴⁵ One part of the conclusion reads,

To be most useful, a series of design-related questions should be posed to the leap vehicle as the design progresses from concept to detail, such as, What degree of building form articulation is appropriate? How intense is the color-and-materials palette? What is the nature of the lighting condition to be created?⁴⁶

Coming from across disciplines, these types of questions certainly have the ability to stimulate the imagination, and although answers are subjective and different designers would feel differently about how a leap vehicle is analyzed (as would observers of the resulting architecture), one interpretation is still no more valid than another. Utilizing a dance leap vehicle, this technique truly does give dance some presence in design, but does not necessarily make it felt within the structure or enrich the spatial experiences of the observer. To accomplish this, a whole other dimension must be considered.

Embodiment: Spatial Experiences of the Eye vs. the Body

To make dance a part of architecture, we must not only consider movement, but the bodies that make the movement as well (We know this from the struggles faced by

⁴⁵ *Ibid*, 43.

⁴⁶ *Ibid*

Halprin and his Motation system.). Another program designed for architecture students titled “Building Dancing,” is an approach to what professor Ersoy calls *embodied learning*.⁴⁷ Embodiment in architecture can be defined as a seamless integration of the physical body into architectural space.⁴⁸ An embodied comprehension of space is the result of an integration of body and mind since the form of the human body largely determines the nature of the mind and the properties of the body shape all aspects of perception.⁴⁹

Building Dancing was made to be a new “practical framework” composed of several dance-movement exercises founded on the theories of embodiment and designed to promote awareness of spatial and bodily experiences in space.⁵⁰ The program’s regimen begins with “building self-conscious bodies,” an exercise whose goal was similar to that of the Musi-ecture course in that it was to establish the elementary associations between the body in motion and architectural space and design.⁵¹ The second segment, “space-making,” was focused on the concept of the body as a source of movement and an understanding of the body’s role in perception of space.⁵² In order to elucidate on this point, the participants were introduced to the work of two more scholars, Frances Bronet and John Schumacher, who researched what architecture professor, Kenneth Warriner called “two topologies of movement”: one of the body and one of the eye.⁵³ Space of the eye is what we immediately perceive when entering a space, the space that awaits interaction with our bodies, while space of the body is “perpetually in-the-

⁴⁷ Ersoy, 123.

⁴⁸ *Ibid*, 124.

⁴⁹ *Ibid*

⁵⁰ *Ibid*, 126.

⁵¹ *Ibid*

⁵² *Ibid*

⁵³ Bronet Frances and Schumacher John, “Design in Movement: The Prospects of Interdisciplinary Design,” *Journal of Architectural Education* 53 (1999): 97.

making.”⁵⁴ “In making movement and spatial choices, the body in action both makes and occupies space in time.”⁵⁵ With this in mind, students were asked to think of their bodies as “space-makers,” as they engaged each other in what the study called “dance constructions.”⁵⁶ As the students utilized their bodies as formers of space and not just occupiers of space, they began to make the transition from experiencing space through the topology of the eye to the topology of the body, similar to the way dancers experience space during contact improvisation.⁵⁷ As two or more dancers improvise movement, they are acting according to a sense of body, not of eye.⁵⁸ In fact, it is not uncommon for dancers to be taught to keep “the gaze going with the head” instead of focused on their partner or their surroundings.⁵⁹ It is the unpredictable, naturally occurring collisions, reactions, and accidents that compose the dance itself, so it should come as no surprise that the eye should lose relevance.⁶⁰

Making this same transition from one movement topology to another is how we are able to make dance felt present in static architectural forms. In architecture, many designers tend to drift towards a primacy of eye, an aesthetic that pleases but does not always engage the observer with the same passion that contact improvisational dancers engage one another with. Is it possible for us to develop an architecture that combines the two movement topologies? Could we move beyond that to design a space that expresses a primacy of body?⁶¹

⁵⁴ *Ibid*, 98.

⁵⁵ Eisenbach, 82.

⁵⁶ Ersoy, 127.

⁵⁷ *Ibid*

⁵⁸ Bronet and Schumacher John, 97.

⁵⁹ *Ibid*

⁶⁰ *Ibid*, 98.

⁶¹ *Ibid*, 99.

Bronet and Schumacher's article offers the Sonsbeek Sculpture Pavilion (1966) by Van Eyck as an example of an architectural space that makes use of both movement topologies. Explaining the different spatial experiences,

Warriner describes a tension between body and eye in the Pavilion. The eyes are led, for example, through and beyond the immediate confines of the tight channels of space, whereas the body is caught up in these streets, in a close and guarded attention that is periodically released into really free movement at the end of each street as it opens into the clearing.⁶²

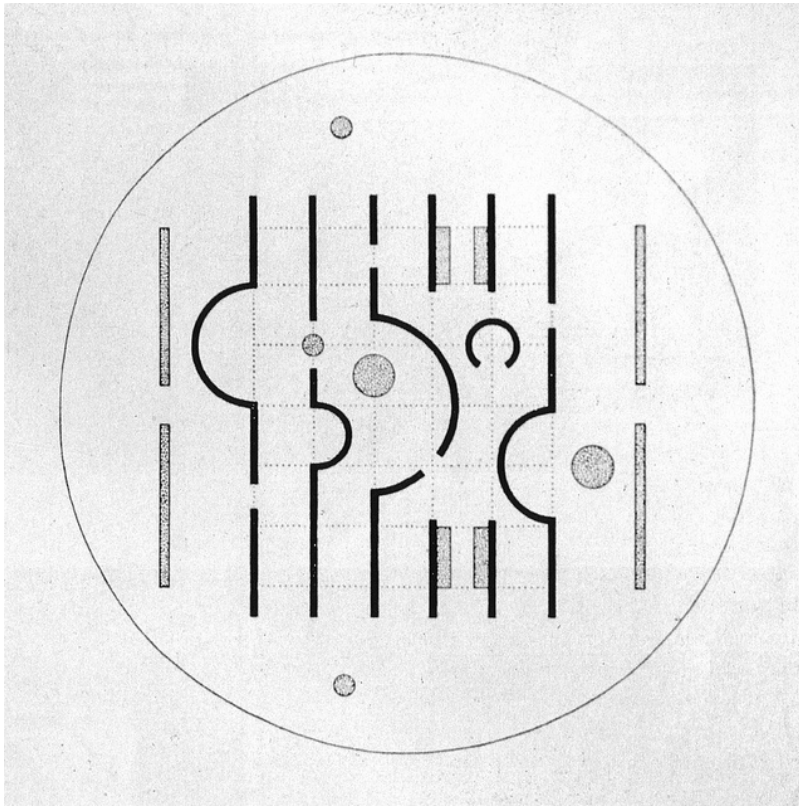


Figure 5
Sonsbeek Sculpture Pavilion, Plan
Source: "Sonsbeek Pavilion in Arnhem, Aldo Van Eyck (1966)." Accessed June 10, 2014. <http://socks-studio.com/2013/11/18/sonsbeek-pavilion-in-arnhem-aldo-van-eyck-1966/>

⁶² *Ibid*, 98.



Figure 6
 Original Photo of Sonsbeek Pavilion (1966)
 Source: "Sonsbeek Pavilion in Arnhem, Aldo Van Eyck (1966)." Accessed June 10, 2014. <http://socks-studio.com/2013/11/18/sonsbeek-pavilion-in-arnhem-aldo-van-eyck-1966/>



Figure 7
 Sonsbeek Sculpture Pavilion Rebuilt, Interior
 Source: "Van Eyck's Sonsbeek Pavilion Rebuilt." Accessed June 10, 2014. <http://www.archined.nl/en/news/van-eycks-sonsbeek-pavilion-rebuilt/>

What Van Eyck's pavilion successfully demonstrates is that, although simple in design, designing for a primacy of body has given viewers of the pavilion a more engaging spatial experience than what is standard in many designs. While the narrow corridors guide the eyes around the curved walls, the body is constantly kept busy by the ever-changing openness of the space and the sheer accessibility that the open plan provides. The labyrinth-like channels of the Sonsbeek Pavilion engage viewers in an almost playful way without being disorienting so visitors were still able to easily view the sculptures, and although the design of the pavilion itself was not derived from dance, it is still an illustration of the influential power of a design representative of a primacy of body, which is a mode of designing that architects can employ from the discipline of dance.

Lawrence Halprin's article, *The Choreography of Gardens* (He had studied as a horticulturalist and started his architectural career as a landscape architect.), was a piece on the connections between garden design and dance, which was co-published by his wife, Anna.⁶³ He argued that gardens should be designed for movement and activity, and that this could be realized through effective, "patterning and flow of terraces and paths as well as through textural variation of paving, foliage, and fences. All of these elements, when related together rhythmically, could choreograph movement and evoke 'the fine sense of a dance.'"⁶⁴ Halprin's goal, like the goal of this study, was to improve the kinesthetic experience of the garden, an aim that lessons of dance could be applied to.⁶⁵

⁶³ Heffley, 34-35.

⁶⁴ *Ibid*, 35.

⁶⁵ *Ibid*

He wrote, “By designing for constantly pleasant movement patterns, our lives can be given the continuous sense of dance.”⁶⁶

These concepts manifested themselves in many of the works Halprin produced during the mid-late twentieth century, one instance being the Ira Keller Fountain (1971) located in Portland, Oregon. Halprin valued interaction with space on the same level as contact improvisational dancers and what made this fountain and his other projects remarkable were the “infinite participatory possibilities of small-scale psychogeographic choreography.”⁶⁷ Halprin had this to say when discussing his numerous 1970s park projects in the Pacific Northwest:

The space is choreographed for movement with nodes for quiet and contemplation, action and inaction, hard and soft, yin and yang. The second basic approach was to bring into the heart of downtown activities which related in a very real way to the environment of the Portland area – the Columbia River, the Cascade mountains, the streams, rivers and mountain meadows. These symbolic elements are very much a part of Portlanders’ psyche.... Finally these places were for the first time designed to be used to be participatory – NOT just to look at – they say COME IN, not stay off.⁶⁸

⁶⁶ *Ibid*

⁶⁷ “Lawrence Halprin’s Motations & Ecoscores,” Dataisnature, accessed June 11, 2014.

⁶⁸ *Ibid*



Figure 8

Ira Keller Fountain

Source: "Lawrence Halprin's Motations & Ecoscores." Accessed June 11, 2014.

<http://www.dataisnature.com/?p=1583>

What one will notice when examining these numerous projects is the way Halprin made use of dance as a leap vehicle. Similar to how one's partner in contact improvisational dance reacts to the other's movement, "The objects within the landscape move relative to the moving individual... expanding in 'a patterned time sequence which takes on all the aspects of a dance composition... As movement occurs through [spaces], one's relation to objects becomes one of ebb and flow.'"⁶⁹ Halprin also believed that the way vertical and horizontal features were arranged had the ability to guide the people through the space "into a choreography closely related to dance," so constant shifting of levels, walls,

⁶⁹ *Ibid*, 55-56.

and hedges, and the entwining of pathways and terraces are also notable motifs in Halprin's work.⁷⁰ This inviting unpredictability is what introduces a play of the body and eye to architectural spaces and is a testament to the power of interdisciplinary design. These spaces (although admittedly a bit precarious, but undeniably exciting and engaging), which apply the aforementioned concepts of embodiment and primacy of body to their structure, represent a unique way of experiencing architecture that can easily be produced when dance has been fashioned into the soul of the design. They are instances of architecture where dance has been made present.



Figure 9
Aerial of Freeway Park, Lawrence Halprin, Seattle, Washington
Source: "Seattle Municipal Archives." Accessed June 11, 2014.
<https://www.flickr.com/photos/seattlemunicipalarchives/5853313367/in/faves-jasoncawood/>

⁷⁰ *Ibid*

Conclusions

Anna Halprin shared similar ambitions with those of her husband. In her approach to performance, she rejected the traditionally divided space of the theater where the audience sat inactively in their seats while the dancers remained fastened to the stage.⁷¹ “Today’s performing artist profoundly wants a partnership which will involve the audience as much as himself.”⁷² Why should architects not want the same? As designers, we should not want to create spaces where the viewer only passes through with their eyes and is able to easily simulate their experience of the space in their head. Part of the art of architecture is in crafting spaces that are different experiences each time upon entering. Halprin had created problems for himself with the development of his Motation system with the fact that his scoring system only presented one possible path through space when what he strived to design was spaces with endless movement possibilities. From just one look at an aerial view of Halprin’s Freeway Park (1976) in Seattle, Washington, one can instantly realize that a visitor will never experience the park in the same way more than once. The viewer must engage the architecture with their eyes and body in order to gain a full appreciation of the space, thereby evoking a sense of dance.

Halprin proposed that it had become necessary for the artist to learn more than just the techniques of his own craft in order to effectively involve viewers in their art, therefore the numerous aspects of the interdisciplinary design pedagogy addressed in this investigation could hold key concepts to advancing the experience of architecture.⁷³ Although it is not critical that we embrace this type of designing, we can still conclude that it is quite valuable to learn characteristics of dance and how they may be able to

⁷¹ *Ibid*, 129.

⁷² *Ibid*, 159.

⁷³ *Ibid*, 154.

apply to architectural design.⁷⁴ We can affirm that embodied learning, and giving the body in motion presence in design is one technique for enhancing creativity regardless of how movement is perceived. We can also conclude that learning to challenge the eye's supremacy in designing and giving attention to how the body experiences space can lead to the creation of architecture that will greatly enhance the spatial awareness and overall experience of the observer, and that referring to dance is an excellent way to accomplish this.⁷⁵ We also know that the architect cannot predetermine all possible movements within a space and that it is better to make designs that lead movement and do not dictate. "They communicate but do not control. They energize and guide, they encourage, they evoke responses, they do not impose."⁷⁶ In the case of parks such as those by Halprin and other public realms, it makes sense to design architecture that does not necessarily have a clear intended path and to leave the observation of the area to chance.⁷⁷ As a result, the movement of the viewer would also be subject to chance, operating and engaging with the architecture based on what catches the eye's attention and the body's reactions to how the architectural space interacts with it.⁷⁸

Finally, what we are able to draw from this study is that there is great potential in experiential learning. While knowledge-based learning certainly offers a useful and essential framework in architecture, what the various interdisciplinary studies referenced in this research demonstrate is that an experience based approach is promising as well and deserves further investigation and development.⁷⁹ Perhaps interdisciplinary courses

⁷⁴ Bronet and Schumacher, 100.

⁷⁵ *Ibid*

⁷⁶ Hanoach-Roe, 154.

⁷⁷ *Ibid*, 157.

⁷⁸ *Ibid*

⁷⁹ Ersoy, 129-130.

like Placing Space will eventually become commonplace in architectural education. If enhancing spatial consciousness truly is a concern in design, then it cannot be denied that dance is a fundamental and invaluable device.

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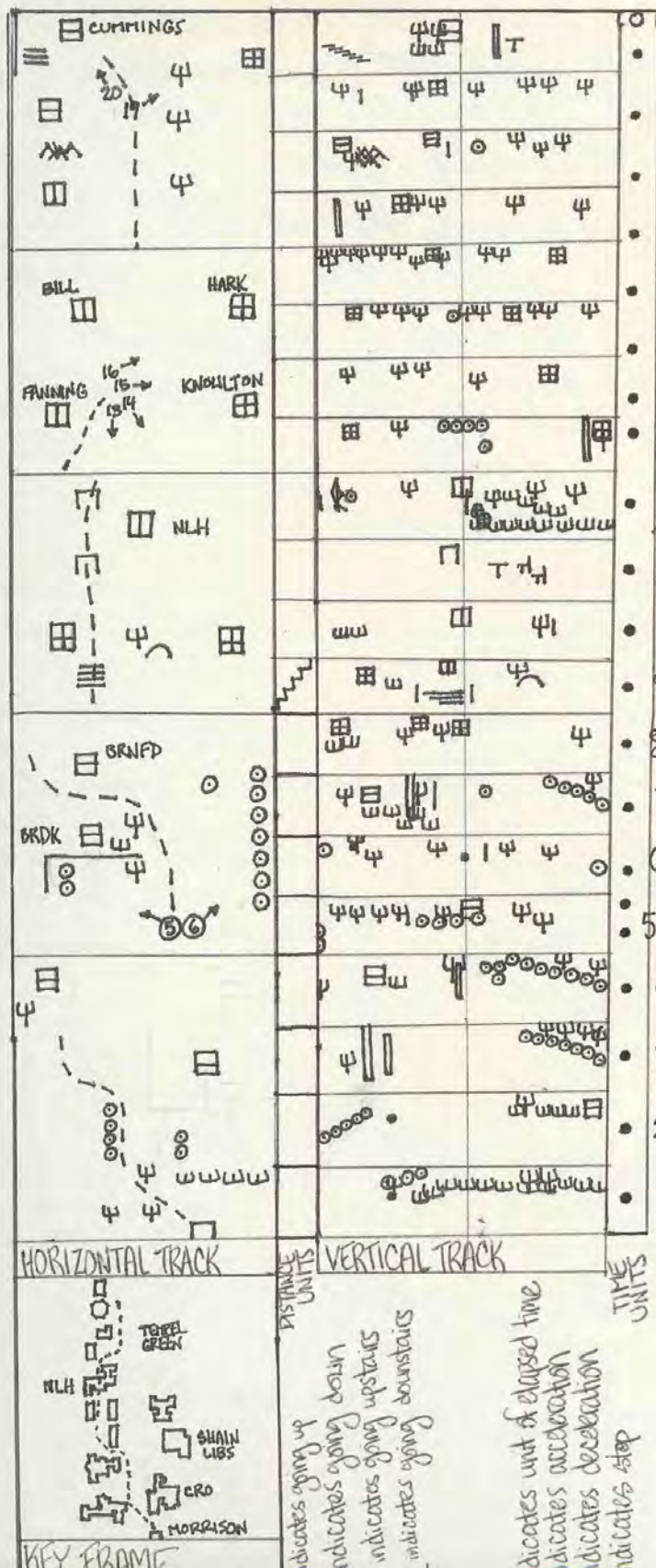
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Motation of a Path Through Connecticut College (North to South)

This is a score of a path that travels from the north end of the Connecticut College campus (starting at Morrison) to the south (ending at Cummings). The score is written using Lawrence Halprin's Movement Notation (Motation) system.

The score is read from the bottom up. The left column of the score contains a rough plan of the site in the "KEY FRAME," which depicts the selected path with a dotted line. The following frames in the "HORIZONTAL TRACK" show plans of different areas of the campus as the observer progresses. The right column or "VERTICAL TRACK," shows twenty perspective sketches of what the observer sees at different selected checkpoints throughout the walk. The line down the center of the track represents the center of their line of sight. The dots to the side represent time. One dot represents thirty seconds. The score indicates that it takes approximately thirty seconds to get from one checkpoint to the next one. The entire trip takes about ten and a half minutes.

The twenty photographs following the score correspond to the twenty perspective drawings in the Vertical Track.



SYMBOLS FOR STILL OBJECTS

- 20 high building
- 19 low building
- 18 medium building
- 17 group of buildings
- 16 tower
- 15 door or gate
- 14 underpass
- 13 hill
- 12 tree
- 11 shrub
- 10 table
- 9 stairs

- vertical element
- horizontal element
- diagonal element
- curved element

- SYMBOLS FOR DIRECTION
- > direction of movement
- L below eye level right
- 7 above eye level left

SYMBOLS FOR MOVING OBJECTS

- human being
- car
- train
- bike
- running water
- fountain
- cloud

• ≈ 30s



1



2



3



4



5



6



7



8



9



10



11



12



13



14



15



16



17



18



19

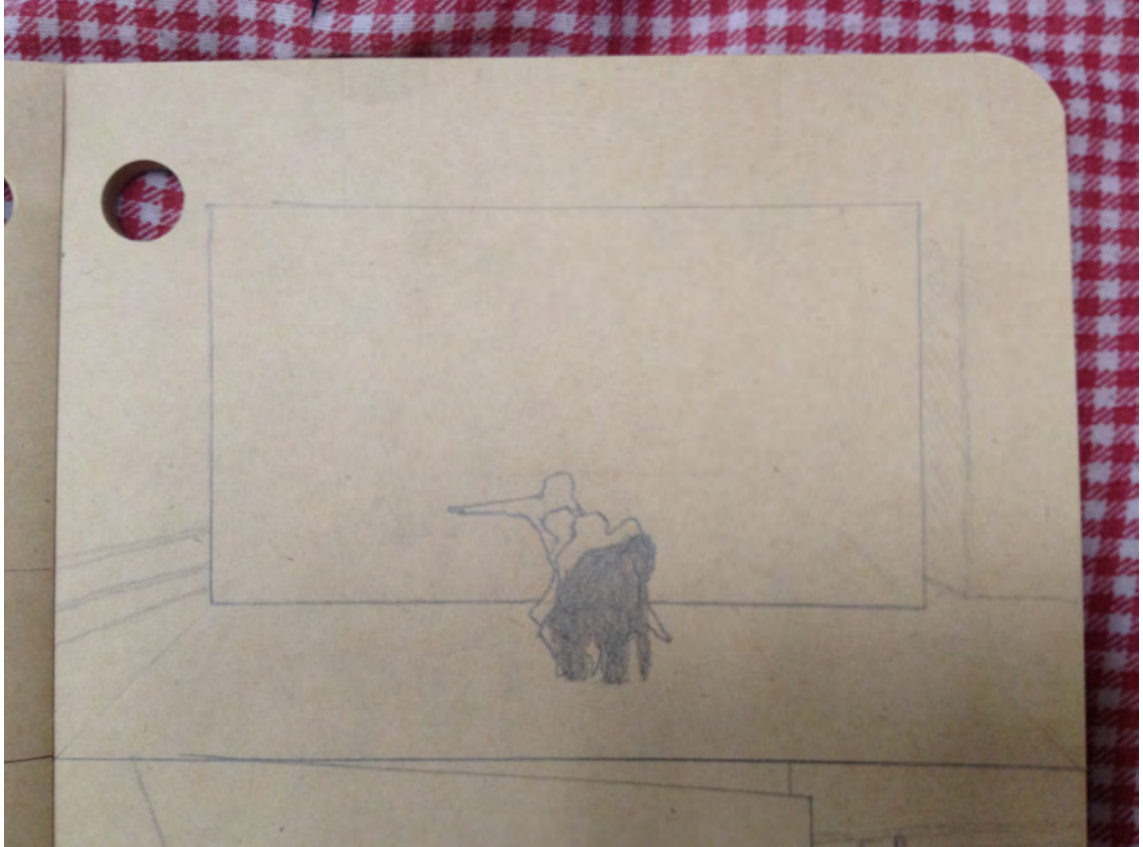
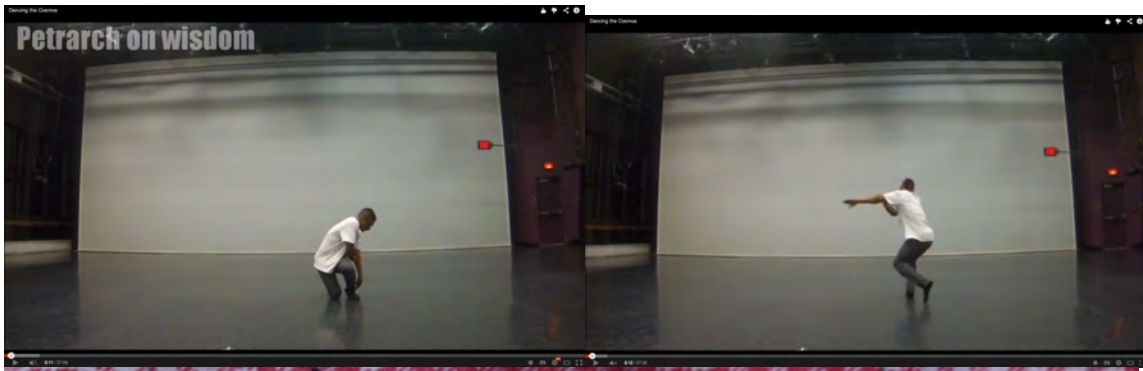


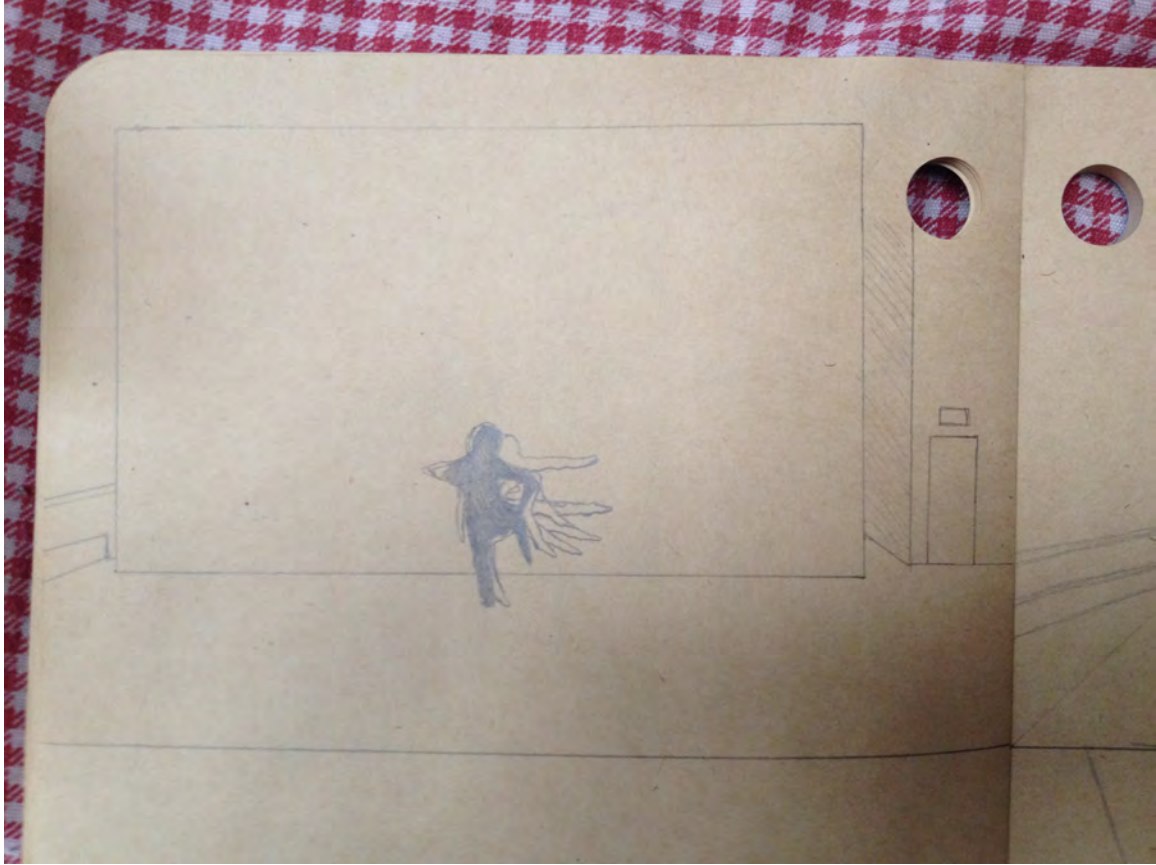
20

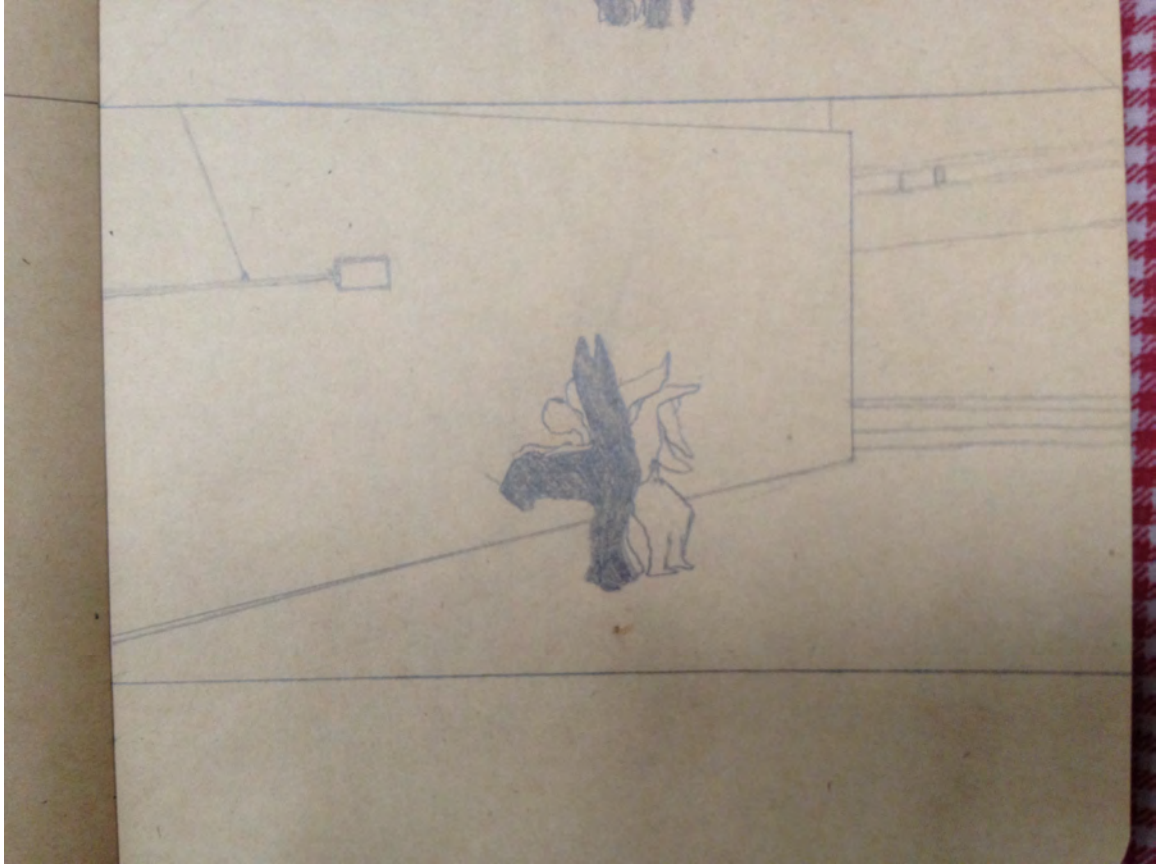
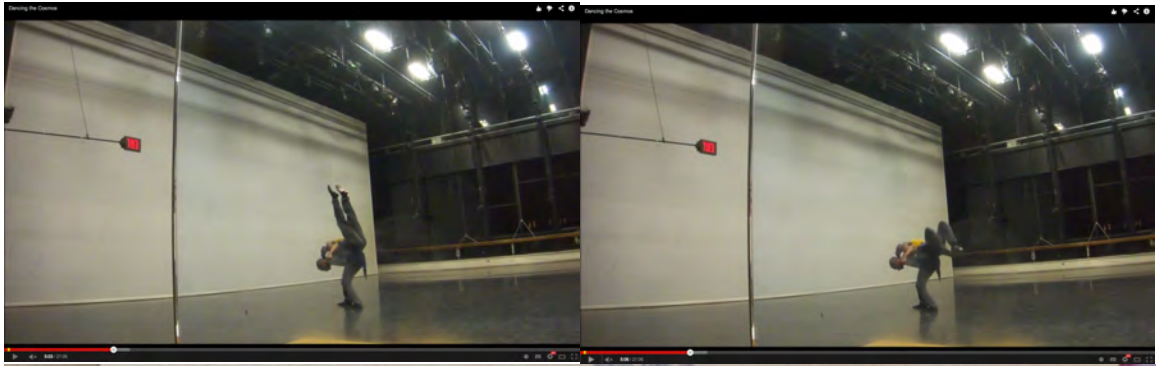


The choreography selected for this portion of the project is from another project that fellow CISLA scholar, Aaron Davis and I collaborated on for International Studies 201.

Many of the sources referenced for my investigation featured reports on university courses that investigated the body and its role in not just occupying space, but creating it. In one exercise, dancers drew a shape and the architecture students would have to make that shape with their bodies. Here, I've reversed the steps. I've taken certain shapes that were made by our bodies during our choreography and then illustrated them in the space. Afterwards, I added the shapes that were made by the following motions. This is simply meant to show how the body interacts with space, and how our bodies exist as "space-makers." These images are examples of how the body in motion changes the space that surrounds it.







This final photoset is an exercise that I thought would be interesting to attempt. Another lesson from one of the courses cited during my research involved listing terms that were used in both architecture and music. During my investigation, I extended the exercise to include dance, and one of the terms I found interesting was “cantilever” because not only is the term used in both dance and architecture, but its definition is the same in both disciplines as well.

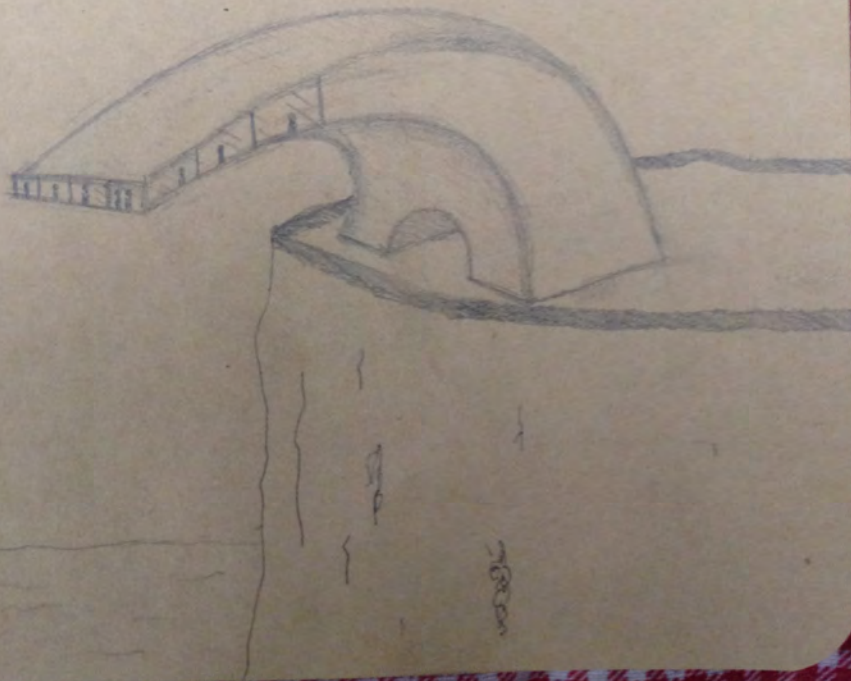
... a structure that anchors most of its weight in one location so an extending portion of it is able to safely overhang another area. In dance, cantilever has the exact same meaning but it refers to bodies instead of buildings

In breaking (often referred to as breakdance), one instance of cantilever is with a move called a “hollowback.” This move requires the dancer to place most of their weight in their shoulders while in a handstand (with their back to the floor) so that their legs can fall and hover over the ground. I demonstrate this move in the image below.

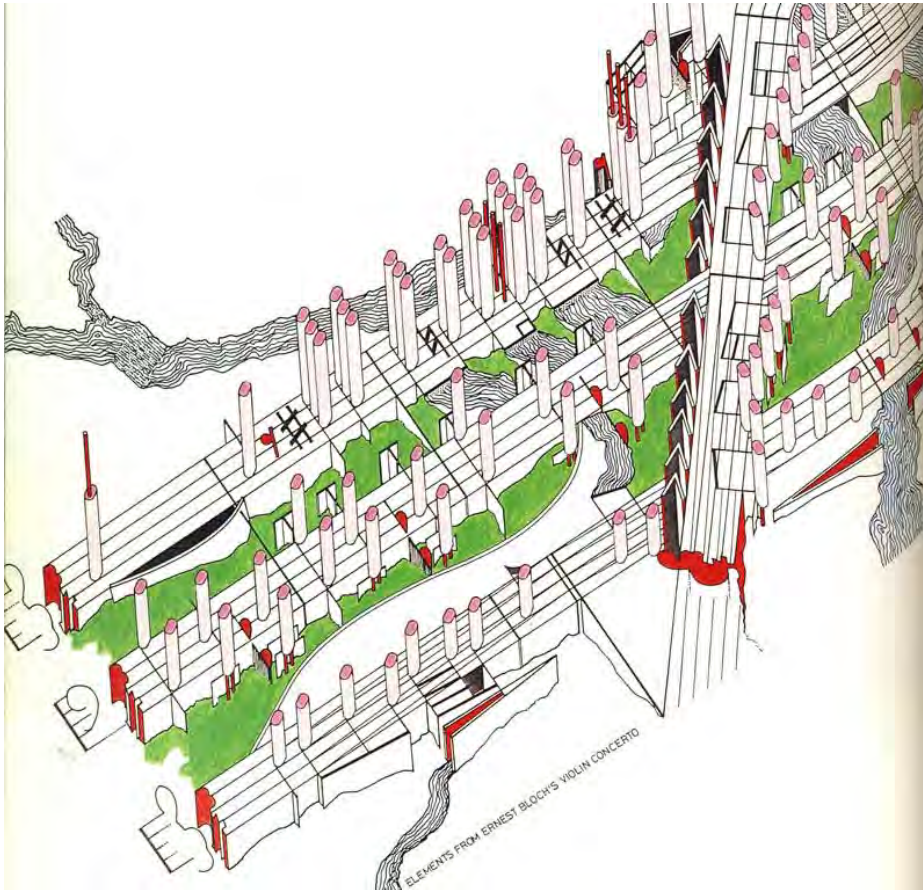


Although the aim of this project was not to directly translate the human body into architecture, I could not help but wonder if positions that are physically possible with the human body are also possible in architecture since the human body is often referenced for architectural stability. The following image is of a conceptual sketch for a building inspired by the hollowback.

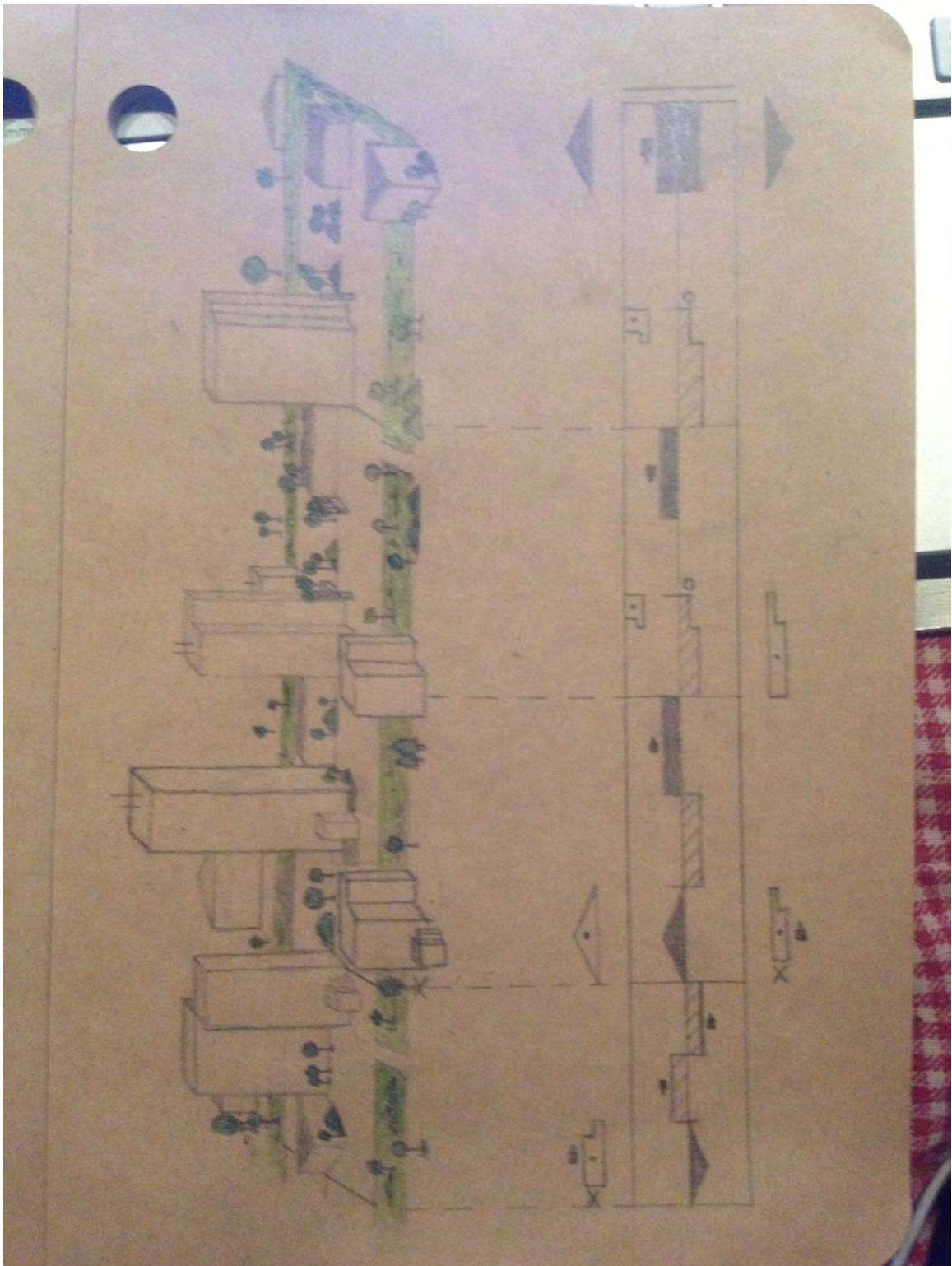
HOLLOWBACK

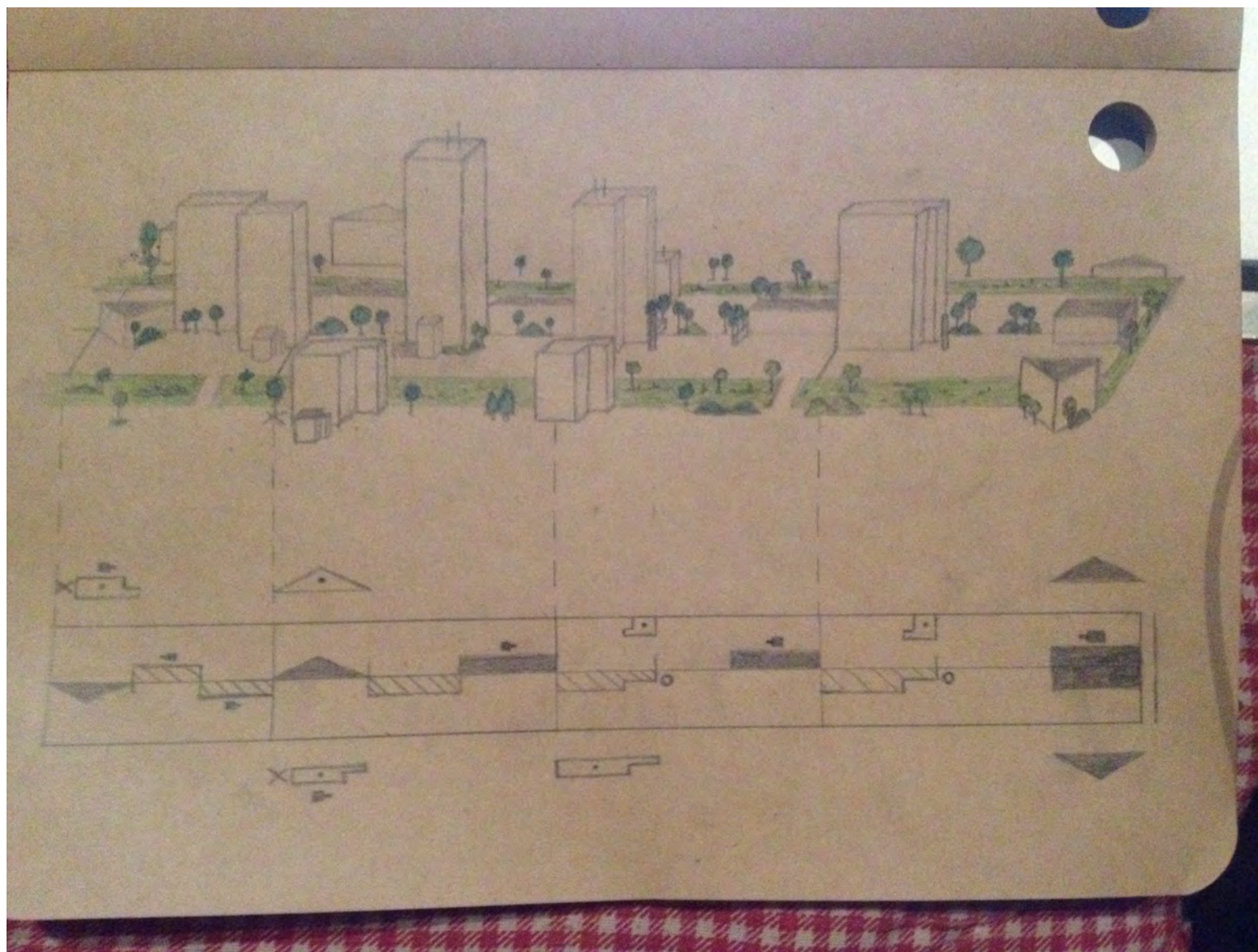


This section of the project is based off of one of the projects that I came across during my research. Architect Peter Cook's *Bloch City*, is a fascinating work that utilizes a musical score as a source for urban design. Below, you can see the score for Bloch's 1938 violin concerto transformed into what resembles a city complete with skyscrapers, streets, and vegetation.



According to Cook, scores capture the “cultural aura” of the time they were produced, and are able to be directly translated into unique cityscape using little more than three-dimensionalization. I decided this concept was worth applying to scores of dance as well. Below, you will find a score of Rudolf Laban's, Labanotation used to notate a ballet combination. The score is on the right side of the page and is read vertically from top to bottom. The next image is the same page rotated to the side so that you can see the score redrawn in three dimensions. The heights of the buildings correspond to the heights indicated in the score, with fully shaded blocks meaning low, blocks with one dot meaning medium, and striped meaning high. Gaps between symbols in the score are converted into green space.





Breaking Park Breakdown

Breaking Park is a work that I designed, inspired by the work of landscape architect Lawrence Halprin who produced a number of parks in the Pacific Northwest in the 1970s.

The park is mostly composed of concrete, since the dance grew up in the concrete jungle of New York City. Before breaking reached stages, the pioneers of the dance started out on concrete, and many Bboys/Bgirls today don't practice on concrete often enough, and are only able to truly perform when in a studio or under other conditions. Anyone who breaks should be able to dance on concrete since this is where the dance originated and it is a good way to keep skills sharp and learn how to move without being reckless.

The park engages visitors since the paths are only meant to guide them and the way the visitor accesses any of the spaces is entirely up to them. The park's main sites are three isolated areas where dancers are able to gather and practice. This is important since Bboys and Bgirls often struggle with finding places to train.

The first location is under an elevated platform in the shape of a circle. This spot could offer some shelter in case of rain and sinks three feet into the ground in order to offer a place for people to sit. The second practice area is up on a large platform with a semicircle on one end in the center of the park. This enormous space is large enough for large numbers of dancers to come practice and is even big enough to host outdoor events and competitions. The third spot is slightly more elevated on top of a cylinder next to a fountain.

The reason these three areas are all circular is because of an important element of breaking, which is the cypher. Cyphers are open circles formed by groups of people where one dancer is able to enter at a time and dance. Before there were breaking competitions, all battles took place in cyphers, and while many breakers today can compete on huge stages and please a crowd, not as many can hold their own in a cypher. The circles are a reminder of the cypher's importance.



two cyphers and Bboys dancing in the cyphers

The park is also built on many different levels because of the use of levels in breaking. The breakers can dance upright on their feet, go to the floor and perform complex steps and moves while on their hands and feet, or even fly through the air while performing powermoves. Examples are given in the pictures below.

One of the park's best features is how open it is. Visitors are able to watch and enjoy the dancers as they move through the park. It is also handicap accessible.

Breaking Park is designed in a way that is meant to encourage visitors to engage with it in however they feel is appropriate. The way their bodies react to the environment should be what guides them through the space. At the same time, the park was made to be suitable for practitioners of the dance while acknowledging the different types of movement that they engage in as well.

Tour of Breaking Park

<https://www.youtube.com/watch?v=0LmElnjmeQ0>

Video of a concrete practice I had with some friends in 2012 at Washington Square Park in New York City:

<https://www.youtube.com/watch?v=XNOIWZJUqGE>



toprock – movement on the mid level, but sometimes high



footwork – movement on the low level



air power – movement on the high level

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CISLA Addendum

The topic of my Senior Integrative Project (SIP) focuses on movement, or more specifically, dance, and how it can be made more present in static architectural forms. By investigating this topic, I am hoping to gain an understanding of how moving through and observing an architectural space can be made into a more engaging experience. I believe that dance can be expressed through a building's design, but it is also a sensation that can be experienced while passing through a space. Lawrence Halprin once argued that certain, "elements, when related together rhythmically, could choreograph movement and evoke 'the fine sense of a dance,'" and that, "by designing for constantly pleasant movement patterns, our lives can be given the continuous sense of dance." As an Architectural Studies major, but also a Dance minor, I have come to appreciate the relationship that movement and space share, and through my research, I have learned of various types of work that have been designed with the intention of bringing architecture and dance together, such as the House of Convexities by Italian architect, Antonino Cardillo, which was designed with the intention of capturing the essence of Flamenco dance. Although the idea of blending two forms such as dance and architecture is a concept that has not been greatly looked into until recently, what projects such as the House of Convexities have demonstrated, as well as the research of designers like Lawrence Halprin, is that entire dances are able to have significant influences and presence in the designs of architectural spaces. This can completely alter the way a space is perceived and experienced. As a result, moving through the space becomes a far more

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uplifting and intriguing occurrence, almost as if passing through the area were a dance itself.

My project is mainly an investigation, although I do intend to prove that architecture and dance are able to share a powerful and meaningful relationship that can transform the way we experience architecture. I also aim to compose a series of works that showcase the different ways the body in motion and dance are able to influence architectural forms. I will apply some of the concepts I have learned about through my research to a design of my own in order to portray how I perceive the relationship between space and the body. The complete project will include conceptual sketches, a model, photographs, and other examples that I've found or created during my research that depict an architecture/movement relationship. Up to this point, I have learned about how the human body interacts with space, read about how a space's design is able to influence the movement of the observer, learned techniques for documenting dance and movement through spaces, researched different architectural styles that worked with combining architecture with other artistic forms, and studied articles that also discussed architecture and dance/music correlations.

In regards to the three CISLA questions, I believe that my project can help to offer solutions to the question, **“What are the material, spiritual, and ethical challenges of modernity?”** Today, some of the key issues facing architects are issues of sustainability, economically friendly design, and functionality. The best and most appropriate projects, considering the current circumstances of environmental instability and the high demand for buildings of all types from work places to residential, are the

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ones that perform the way they are meant to without detracting too much from their surroundings or causing damage to the environment. Architecture serves many purposes, and it is not enough for it to be merely aesthetically pleasing, especially during such a volatile era. However, even though architecture needs to be able to perform more than ever, it is able to offer so much more than just being a place for us to occupy. We must remember that architecture is an art, and designers should strive to have their designs perceived not just as buildings, but as art as well.

One of the material, as well as ethical challenges of modernity is that we crave architecture that is visually appealing, even though this is not always what is best for us. Occasionally, we produce architecture that comes off as pleasing to the eye, but sometimes has negative repercussions on resources or the area surrounding it as a result. For example, the Vdara Hotel in Las Vegas, Nevada, USA, features impressive glass curtain walls. This is a type of wall that is composed entirely of glass and serves no structural purposes. They are often seen on skyscrapers in urban areas, such as on Ludwig Mies van der Rohe's Seagram building in New York. However, in the Vdara Hotel example, the context in which the building was being produced was not appropriate for a curtain wall, as many people have complained about the building's "Vdara death ray" effect. The wall acts as a magnifying glass, amplifying the sun's heat and burning much of whatever is below the building. Aesthetically pleasing architecture and functional architecture are by no means mutually exclusive. It is possible for a building or structure to serve a purpose while also offering other experiences.

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Just like many art forms, architecture is able to present certain concepts through the way it is designed and presented. Also like art, architecture is equally capable of evoking certain emotions or sensations in the people who observe it. This can greatly alter the way that architecture is experienced. In order to help offer solutions to the architectural challenges of modernity, it is necessary to rethink the way we design.

Art is a necessary part of all societies. What we are able to convey, change, escape from, etc., through art is endless, and approaching architecture with this mindset is key. Fusing architecture and dance in order to “choreograph pleasant movements” and “evoke the fine sense of a dance” in the way we move through spaces is one of many ways architecture can be utilized to its full potential. Although the architect has objectives that need to be met, I still believe that there is room for artistic expression to shine through, and that the architect is also able to treat architecture as more than just building with a purpose, but also as a medium through which we are able to make people feel, think, and react. Many architects have adhered to certain styles or concepts that make their work more distinguishable, but we have also seen architecture that is more than just different: it is a work of art or masterpiece. The Casa da Música by Rem Koolhaas is one such piece that one could very easily consider more than just architecture. The creation of more structures such as this and the Convexities House can lead to a new way of experiencing architecture. We would be able to enjoy architecture purposefully, visually, and kinetically.

Another one of the three CISLA questions is important to consider here. **“What is the relevance of the past in understanding the present and the possibilities for the**

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future?” We are able to find examples in the past of architecture that has turned to other artistic forms in order to help improve the way architecture is experienced. For instance, the Art Nouveau style, which I studied extensively during my time abroad in Barcelona, Spain, featured an important concept known as *gesamptkunstwerk*, which is a German word meaning, “total work of art.” In the context of the Art Nouveau style, this meant a design that featured work from a variety of different artistic mediums, ranging from ceramics to sculpture to painting and more. The results were a number of highly eccentric and phenomenal designs that are still marveled at today, such as the Palau de la Música Catalana by Lluís Domènech i Montaner, and the Casa Milà (better known as La Pedrera) by Antoni Gaudí. As someone who has visited these sites, as well as many others, it is true that the incorporation of a number of different sources of inspiration and artistic forms have greatly changed the way moving through these spaces feels in comparison to more conventional architecture. Gaudí cared a great deal about nature and incorporating anything natural into his designs, and this has, without a doubt, been made evident in his architecture. The spaces appear far more organic, natural, and intriguing than what one would usually encounter when moving through an apartment space like the Pedrera. The number of ideas that influenced architects and their designs during this movement was immense and adding dance to this list of sources of inspiration is a fairly new idea, but I strongly believe that doing so would have a similar positive effect.

Considering how successful these past designs have been, it is interesting to think that humanity has produced few things like them since the early 1900s, but we are certainly able to take it one step further by bringing dance into the picture. What I

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understand this means in terms of possibilities for the future, is that approaching architecture with a more kinetic eye, and “choreographing” movement while designing a space could potentially be the beginning of an entirely new architectural movement.