ARCHITECTURE AS THE STAGE

HANNAH BAHNEY

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THESIS STATEMENT AND ABSTRACT

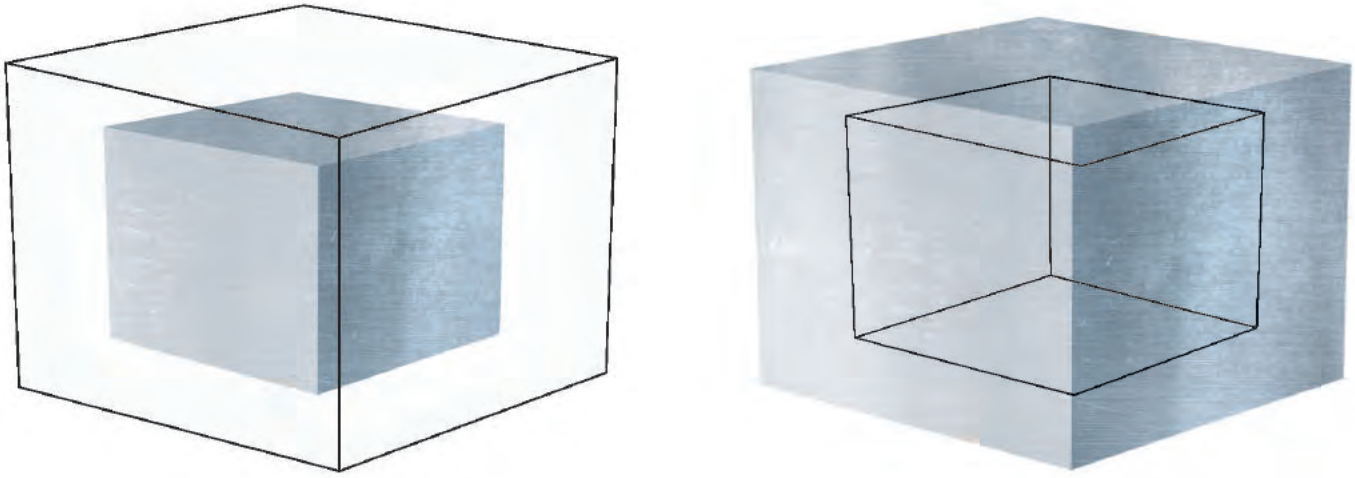
THESIS

Kinetic architecture has the ability to bridge the gap between static theater design and transformative stage design. If the building becomes the stage, the need for the theater as an enclosure of the stage becomes removed. The stage expands into its horizons.

ABSTRACT

When performances engage with their set design, they become more powerful, more intricate. The atmosphere gets woven into every element on the stage. The performance arts have the ability to surpass the conventional as they begin to mold with other disciplines, immersing the audience into a multi-faceted experience. Many performances today are conceptualized, rehearsed, and performed on "blank canvasses" - from one small wooden room with a mirror to one large wooden room with hundreds of new faces staring back. Imagine architecture created in this manner: without site as a constraint, without site as an inspiration. Our surroundings are essential in the design process, and when that is taken away, our designs become placeless, lacking grounded conviction. By implementing a stage design that will become the site for the artist's work, one challenges the artist by providing them with a set of rules they can abide by or dispute. This will in turn make their work stronger as their concept gets applied in various dimensions. Architecture has the potential to become that site for performance. Artists constantly find inspiration in daily life: Paul Taylor choreographs from the pedestrian movement of the busy urban corridors; John Cage composes music from the ambient noise of an airport. Inspiration is everywhere, and can be particularly compelling when discovered in daily life. Just as the pedestrian can be conceived as the performer, architecture can be conceived as the stage. Once this is realized, one begins to question the role of the theater. Is the theater just a container for the stage? If the stage design is constantly being reconfigured, what if the architecture of the theater began to respond to this?

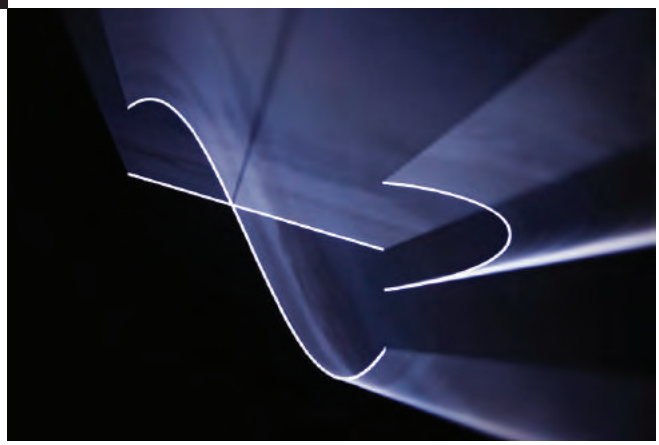
By inverting the norm and placing the stage on the envelope of the building, one begins to fully experience the architecture as the stage and, in turn, the world as the theater.



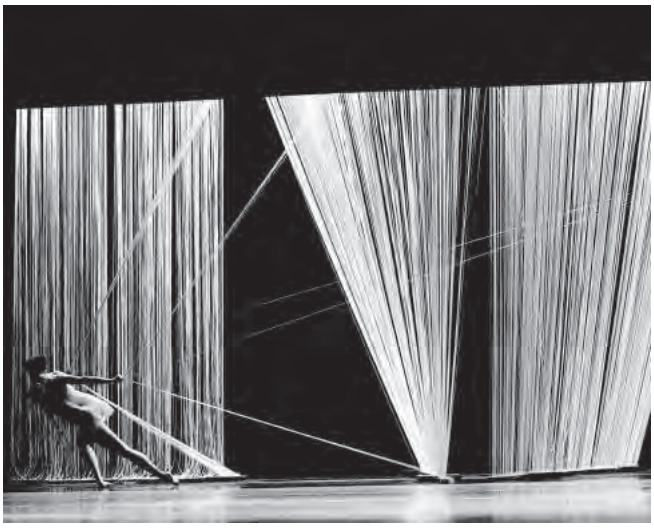
STAGE INSIDE → STAGE OUTSIDE

2

THESIS ESSAY



FIVE MINUTES OF PURE SCULPTURE
http://www.designboom.com/art/anthony-mccall-five-minutes-of-pure-sculpture-at-hamburger-bahnhof/



TRIANGLE OF THE SQUINCHES
alonzo king and christopher haas
http://architizer.com/projects/triangle-of-the-squinches-a-collaborative-ballet/media/385479/#_=_

a. THE TRAGIC SET - perspective
sebastiano serlio 1475-1544
http://www3.northern.edu/wild/ScDes/sdhist.htm

ARCHITECTURE AS THE STAGE

The stage is a place of innovation, inspiration, and immersion. Performance is an expressionistic art form that reveals the minds of some of the greatest creators of our time. Propelling the audience into a desired atmosphere, performances become reflections of their context, their world. Artists are constantly looking for new forms of expression, whether that is with the implementation of technology, the innovation of presentation, or the introduction of other art forms. As performance artists experiment with these new approaches, what becomes the architectural response through the approach of stage design?

STAGE DESIGN

Though the theater began with the Ancient Greeks, stage design as we know it today was a product of the Italian Renaissance. In particular, artists were interested in the discovery of perspective and the effect it has on how we perceive space. (a) By applying this concept to their theatrical scenery, they were able to imply a much larger space than the theater could actually afford them, thus better immersing the audience into a particular atmosphere. In the 19th Century, three main stage trends emerged. These included historically accurate scenery, the development of the realistic box set (the joining of several pairs of wings with door and window flats), and a revolt against the two dimensional painted canvas to instead feature minimalist yet three dimensional forms that merely implied their setting. Stage design became much more widespread in the 20th Century, as designers became even more integral to the overall performance.[1] As stage design evolved over time, the formal concepts of the stage and the audience began to be challenged by the many different players of this field.

There have been numerous attempts at breaking down the formal theater organization, which has been used in so many historical projects. Architects and designers have become critical of the "forward-facing seating, rectangular stage, and hidden backstage all enclosed inside a building" typology. In his design for the Curve Theater in Leicester, England, Rafael Viñoly criticized the differentiation between performance and production, or as he states "mystery and reality." (b) While most theaters choose to hide their production strategies in order to present a pure and perfect image, Viñoly aimed to create a theater that would instead break down the barriers and reveal the areas of production that are integral to the performance. He states, "I think that one of the greatest things about a mystery is that if you know what is behind it, you enjoy it more." [17] Though this statement is rather overgeneralized, there is a point made in that many people like to learn the behind the scenes process, especially of something so technical and creative. Beginning with hand-sketched diagrams, Viñoly disintegrates the theater, blending it into the boundaries of the streetscape. He begins with absolutely no separations within, the entire building existing as the stage, and then starts to divide up the space. (c) He ultimately ends up with an inverse of public and private, in that the stage becomes completely public, even towards the street life, and the auditorium becomes private, encased in cylinders. Viñoly not only hoped to demystify the theater by exposing its workings to the public, but also to animate the street as a constant public datum.[17] This project considers the concept that performance can have more of a connection to its surrounding environment by proposing an alternative to formal theater design.

Taking a more technological approach, Grimsworth Architects designed the Experimental Media and Performing Arts Center at Rensselaer Polytechnic Institute to be an ensemble of musical spaces defined by technology[3]. (d) Housing a range of performances and experiments, EMPAC provides spaces that are well-suited to transition and transformation. Innovative design and construction strategies lead to acoustic excellence as well as structural feats. Convex walls, a fabric ceiling, and other specially designed surfaces allow performers

b. CURVE THEATER - LEICESTER, ENGLAND
raphael viñoly
http://www.e-architect.co.uk/england/curve-leicester

c. VINOLY SKETCH OF CONCEPT
http://vinoly.com/works/curve-theatre/

d. EMPAC - TROY, NEW YORK
grimshaw
http://www.archdaily.com/124708/empac-grimshaw

a. ROOF PIECE - TRISHA BROWN
http://www.trishabrowncompany.org/

b. WALKING ON THE WALL - TRISHA BROWN
http://www.trishabrowncompany.org/

c. ANN HUBER - SITE SPECIFIC PIECE

to be anywhere in the hall, redefining the concept that performance only happens on a stage. Staging elements, screens, projectors, platforms, and even people can be flown anywhere in the hall from the sixty-foot flytower, allowing for flexibility in performance.[18] EMPAC embodies the intersection between technology and stage design as well as the benefits of transformability and kinetic movement in performance.

PERFORMANCE AND ARCHITECTURE

The interaction between human and building forms a very strong, interconnected relationship. Most people spend every day in a building, so the sense of spatial arrangement through architecture becomes a daily construct. A way of studying the human body through movement involves choreography. Thus, the choreographer becomes a good interpreter of the spatial arrangements of a building. As architectural design looks to create a distinct form for the buildings we inhabit, performance has the ability to transform this movement into a form itself. Through this logic, performance interacts with architectural form the way it might interact with a choreographic rule or script.
Many choreographers have found inspiration through architecture. One of the pioneers of this logic includes postmodern choreographer Trisha Brown. Challenging the notion of acceptable surfaces to perform on, Brown experiments with choreography on walls, roofs, and building facades. Brown states, "I have in the past felt sorry for ceilings and walls. It's a perfectly good space; why doesn't anyone use it?"[2] In "Walking on the Wall," dancers strapped to harnesses walk along the walls of a gallery space. (b) Similarly, "Man Walking Down the Side of a Building," consists of a man slowly traversing down the side of a NYC high rise. Spreading her dancers across twelve different roofs on ten different Soho blocks, Brown's piece "Roof Piece" experiments with yet another unusual surface.[2] (a) Through this innovative approach, Trisha Brown highlights the habitable quality of building surfaces and challenges the notion that dance must be performed on a traditional stage.

Inspired by the work of Trisha Brown, Ann Huber also analyzes the intersection between architecture

and dance. (c) Huber chooses to "read" the architecture, conveying it anew through her movements. Drawing on its structures, materials, elements, and compositions, she interacts with the building by essentially accepting its invitation to dance.[16] Following axes, views, directions, and paths, she lets the space guide her body. When one watches Huber dance, one's point of view gets set in motion, following the detours and stray paths that lead away from the original perception. Through Huber's dance, what is familiar becomes unfamiliar and unfamiliar familiar. Her dance reveals the potential of the architecture. Something that once seemed so static and straightforward becomes rich in potential. It is at this intersection that one begins to see the dialogue that gets created between architecture and dance - a dialogue of exploration and creativity.

Inspired by postmodern dance, Ellen Fullman uses everyday movement to turn architecture into an instrument. (d) By attaching wires from one side of the room to the other, Fullman's "long string instrument" embodies the intrinsic sound of the space. Fullman eloquently writes, "Like puffs of wind blowing at a candle flame, the instrument responds fluidly to manipulation and then rights itself into a new alignment of overtone projection." [11] She walks along the instrument from one side of the room to the other, using her fingertips as bows to create the sound. Through her collaboration with artists and engineers, she has figured out a science for the technique required to produce certain tones. Fullman's instrument demonstrates another quality of architectural space that is often overlooked: its acoustics. Built into the cavernous double height lobby or the sensuous curved hallway is a unique melody, only attainable by those who search for it.

KINETIC ARCHITECTURE

Many opportunities arise when one begins to look at architecture as the stage. If one is going to design architecture that is a stage, what sort of qualities are important? What makes stage design engaging and dynamic? Performances are constantly changing, not just from one performance to the next, but from one scene to the next. A well designed set is able to accommodate the need to change atmospheres

d. ELLEN FULLMAN - LONG STRING INSTRUMENT
http://digital.music.cornell.edu/cage/wp-content/uploads/2012/11/Ellen+Fullman.png

d. ELLEN FULLMAN - LONG STRING INSTRUMENT
http://ellenfullman.com/

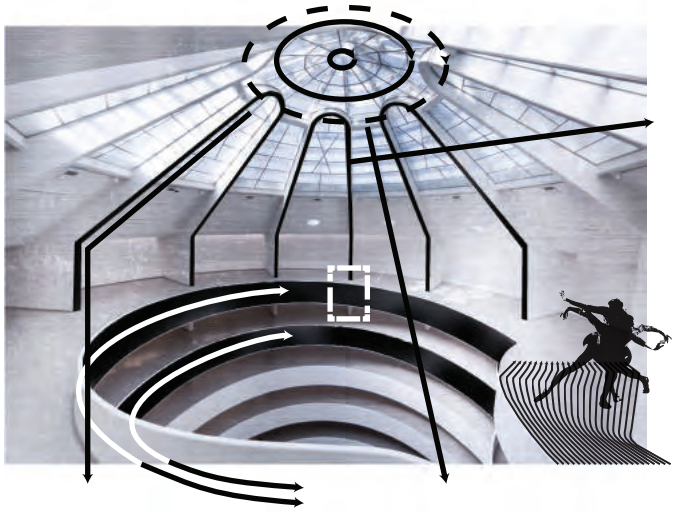
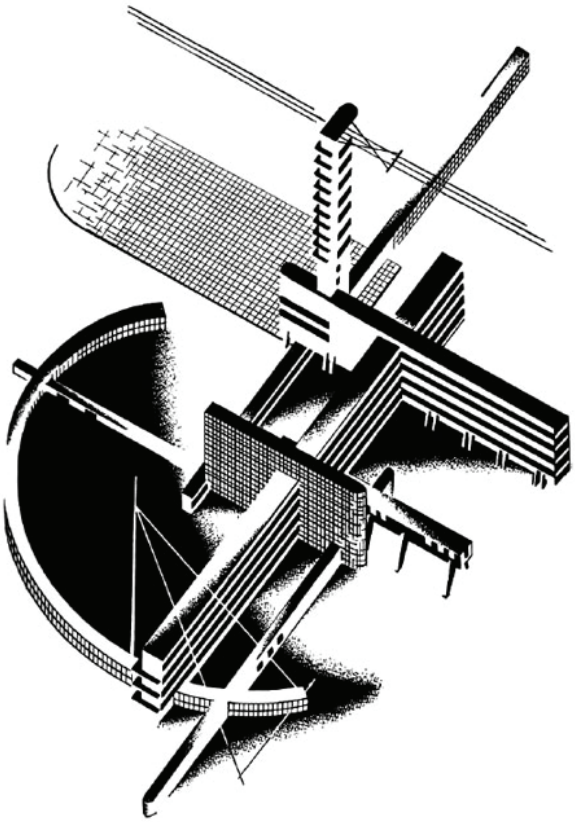


diagram of choreographic space / form
by author

a. HOBERMAN ARCH - UTAH, USA
chuck hoberman - winter olympics 2002



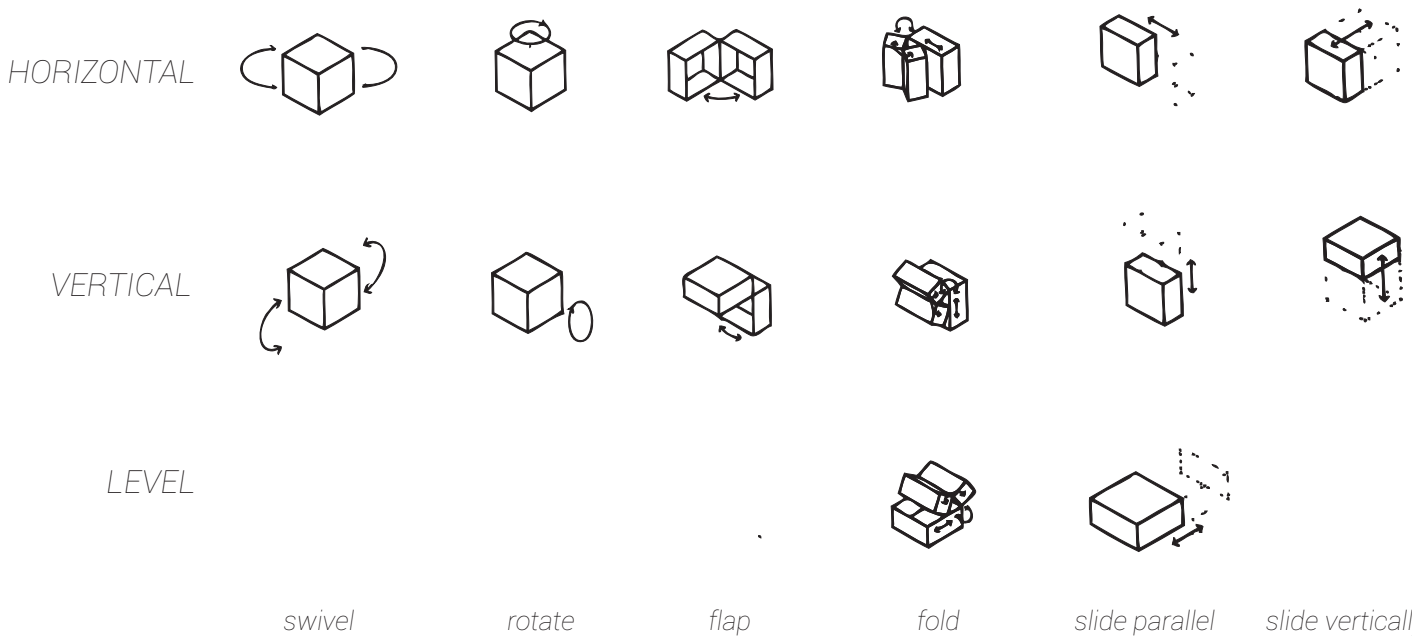
b. 101 ARCHITECTURAL FANTASIES - CHERKINOV
example of one of the drawings
http://www.dataisnature.com/?p=1653

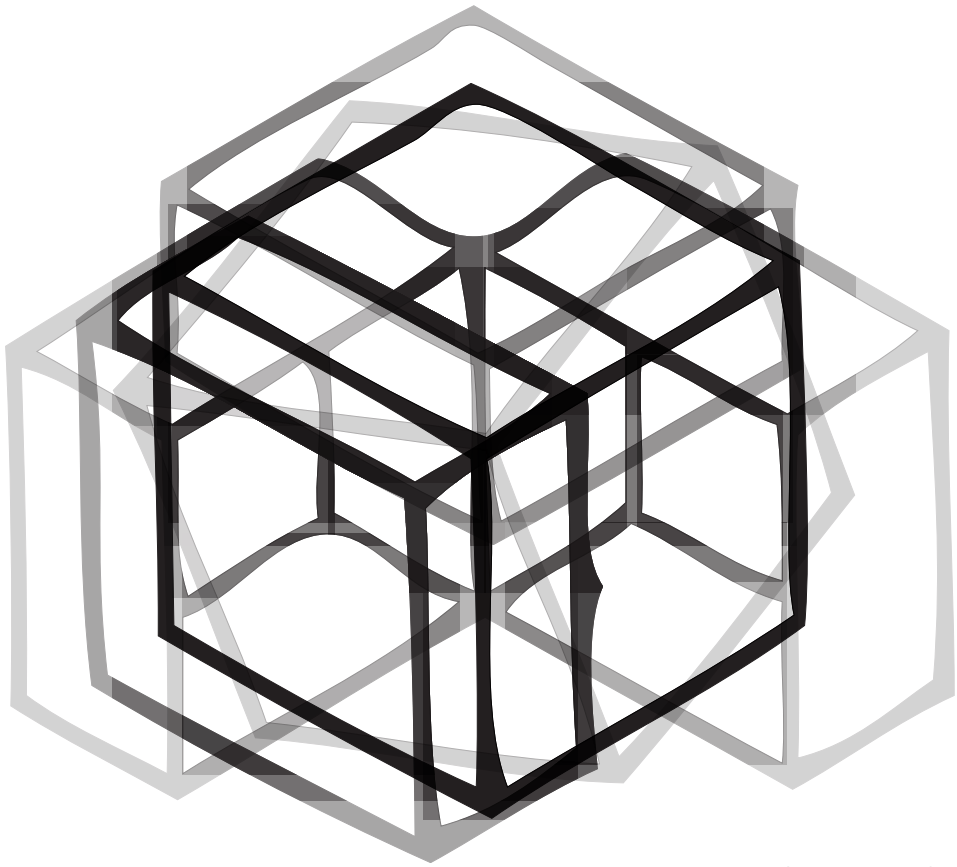
whenever needed. When considering the architectural qualities important towards creating a great stage, the need to incorporate transformability and movement becomes quite evident. Kinetic architecture is a logical direction to follow in order to achieve the same dynamic environment of the stage. In order to fully understand the capabilities presented when considering kinetic architecture, one must first analyze the genre itself.

The most basic form of kinetic architecture dates back to the middle ages through the use of drawbridges, however, the topic of kinetic architecture only began to be discussed in the 20th century with the invention of the machine. From the earlier half of the 20th century, interest in kinetic architecture was linked to the Futurism movement. Entirely theoretical at that point, drawings of moveable architecture decorated the pages of various books, one of the most notable of which being Chernikhov's 101 Architectural Fantasies. (b) Leading the 1940's implementation of this architecture into reality, Buckminster Fuller began experimenting with concrete prototypes. However, it wasn't until the 1970's when William Zuk published an entire book about kinetic architecture that caused the spike in interest. [10] Soon architects and designers like Chuck Hoberman and Tom Kundig found enough inspiration in this conversation to inform a great number of their own projects. (a)

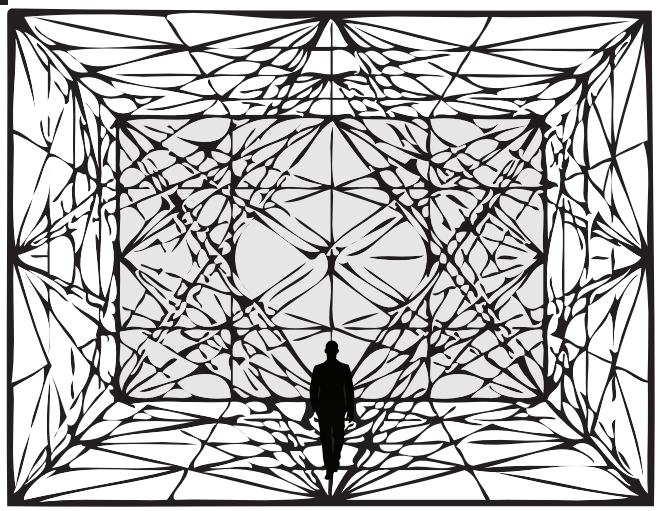
Despite this small surge of interest in kinetic capabilities, a common concept when thinking about architecture is its permanence. The conversation about the possibilities that arise when one begins to consider the ways the building's elements can move and interact is currently lacking in the architectural field. There are many benefits present which include but are not limited to customization, accessibility, environmental strategies, form, and aesthetics. In order to fully understand the benefits, one must analyze the possibilities that arise from the implementation of kinetic movement. There are countless different types of movement, as well as variations on how something moves. One can begin by breaking the types of movement down into two categories by looking at the result of the movement. Digital movement occurs when the start and end states

SIMPLE MOVEMENTS OF VOLUMES

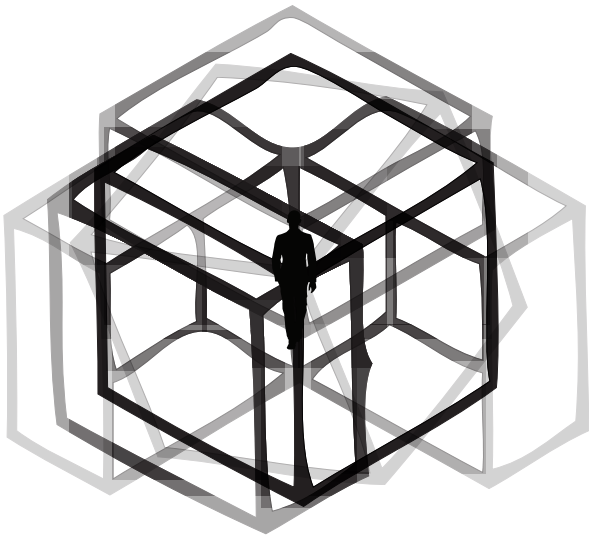




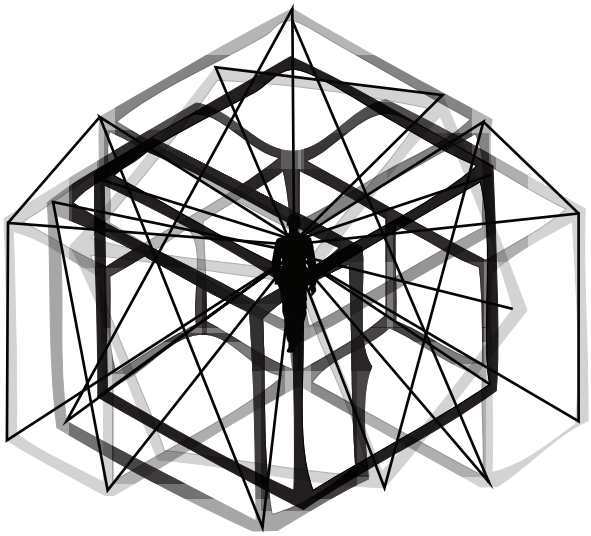
MOVEMENTS JUXTAPOSED



movement of human body to space



movement of space to human body



combined - infinite possibilities

are the essential characteristics of the movement, while analogue movement occurs when the movement itself is the essential characteristic; the former example being a door open or closed and the latter example being shading louvres that react to the position of the sun. Another quality of movement to examine is the rate of the movement. This is a perceptual characteristic, in that the speed in relation to the human body's understanding becomes an interplay between the actual speed and acceleration. Another factor to consider in kinetic architecture becomes the interaction between more than one moveable element. The way in which these pieces begin to interact with one another have a huge effect on the overall appearance and atmosphere of a building. Depending on whether these individual elements are controlled together or separately, the design can have a greater or lesser variety. Other factors to consider when designing kinetic architecture include but are not limited to complexity, weight, balance, mystery, and interaction. [16] Essentially, an object that moves must be conceptualized differently from an object that is static. Kinetic architecture challenges our current preconceptions about architecture while opening up a realm of possibilities.

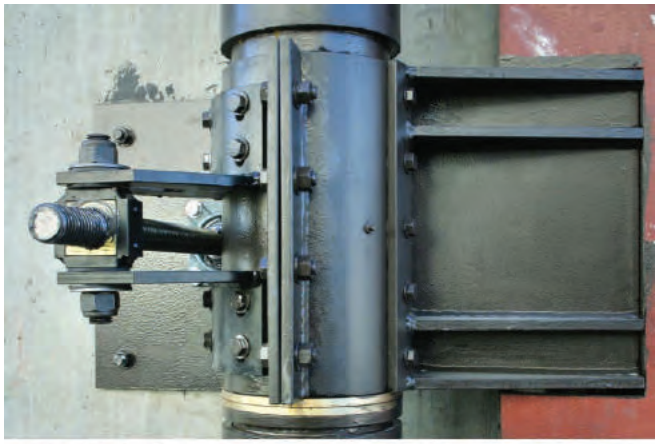
Movement can be defined in various ways, however one can begin by focusing on movement as a change in volume: how the transformation in the enclosure of something can alter the space it creates. One way to analyze this type of movement is through the mobility of an entire space or room. One must try to understand how the space is designed in its size, weight, and enclosure in a way that will make it easily moveable. The flexibility of a space can be optimized by using a change within the surface or the appearance in order to respond to a change in usage. Volumes have innumerable kinetic varieties. They can spread out, fold open, be held apart, inflate, slide open, and be added to or subtracted from. The movement of an element is reflected in its absence as well as its presence. The scale and complexity of moving systems spans a large range. Architects like Peter Cook and Archigram explore movement at the largest scale with moveable cities. (a) Paring down, a more tangible research topic has been looking into the advantages of individual buildings being

transportable. From flexible shelters for nomadic living to entire buildings pivoting to follow the position of the sun, there are many functional benefits to kinetic architecture. Individual rooms can provide great spatial variety within the envelope by extending outward from the building or shifting about within the envelope itself. (b) Further kinetic movement can be explored through the surfaces and elements that encase the room. These begin to experiment with amount of light, enclosure, and air, while providing customizable and dynamic facades. The most common version of kinetic architecture, individual moving elements can be found on almost every building, from doors, to windows, to gates. The smallest version of kinetic architecture is found when one thinks of the individual components that are generally attached to a larger moving element, guiding their movement. (c.) The size of a moveable element has a determining effect on the complexity of technical movement. Small kinetic objects like windows are typically mass produced and tend to be a smaller consideration through the design process, while large kinetic structures often become one of the main focuses of a design.[16]

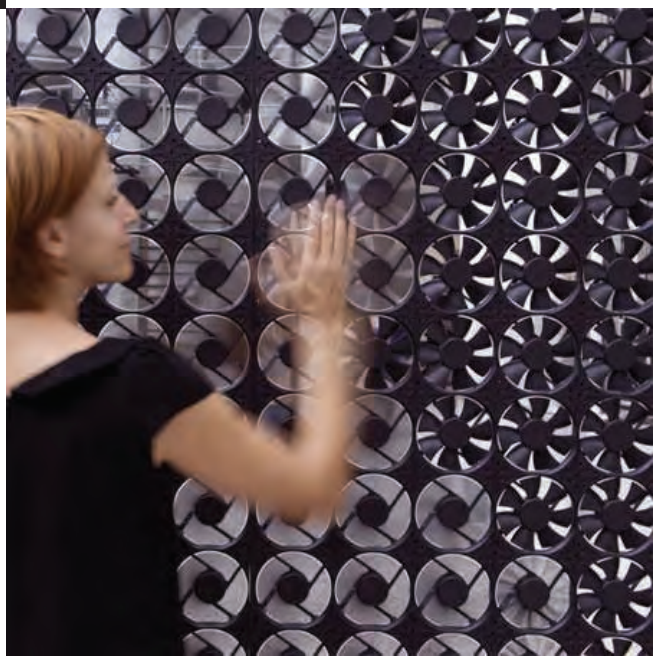
A concept in choreography is to question where the movement is being initiated from, which opens up opportunities to consider for the movement of a building. A common thread between many installations, that engages the audience and relates to the human scale quite well, is to respond to human movements. Through interaction with human movements, the building begins to interact with its environment. A very common interaction in society today is between humans and technology. This strengthens the bond between the two and in turn gives the technology a more human feel. Many artists have been using new technology to create engaging art installations, in which the viewer takes on the role of the active user whose physical signals bring upon a reaction in the installation. Reacting through the use of a sensor, the installation takes on human like qualities. The gestures and body language of the human become an essential means of communication between the two. There are three strategies most commonly used for representing movement through installation technology. The first utilizes a centralized means of capturing movement using a camera and inductive computer analysis of

a. ROLLING MASTER PLAN - JAGNEFALT MILTON
norwegian city of Andalsnes
http://weburbanist.com/2011/01/08/a-rolling-master-plan-movable-city-on-rails/

b. SLIDING HOUSE - DRMM
suffolk, uk
http://www.dezeen.com/2009/01/19/sliding-house-by-drmm-2/



c. ART STABLE - OLSON KUNDIG
seattle, washington
http://www.archdaily.com/91356/art-stable-olson-kundig-architects



A. INSTALLATION FLOW - ROOSEGAARDE
rotterdam 2007-2009
http://www.dezeen.com/2007/12/13/flow-50-by-studio-roosegaarde/

B. HYPOSURFACE - MARK GOULTHORPE
massachusetts institute of technology
https://architecture.mit.edu/faculty/mark-goulthorpe

the image (a). The next employs a decentralized capture of movement using a large number of simple sensors with deductive analysis and a calculated reaction (b). The third includes a decentralized means of capturing movement and a direct, local reaction to respective movement through numerous small elements.[16] There is a great variety in which one can represent movement in an installation, some choose to use small elements that move independently, some use a transformative, more three dimensional approach, and some use light and projection to mimic the three dimensional form. Through these engaging installations, the human body and its movement inform the architectural movements to create a harmonious relationship.

After understanding a concept for movement, one can think about where the movement leads. Kinetic architecture often extends through the building envelope, breaking down the enclosure. This strategy lends itself to an intriguing concept, which is to break down the container of the stage, letting it meld into its exterior environment. By embracing the exterior of the building, the stage begins to invert itself. It passes through the enclosure to the outside, spreading along the facade. Similar to a street performance, this stage becomes a part of the city, activating the sidewalk and those who happen upon it. The environment begins to inform the performance, as it has always informed the architecture. The theater becomes limitless, expanding into the horizon.

CONCLUSION

By inverting the building and activating its envelope, one can create a new typology of set design that pushes the current boundaries. In a discipline that is constantly questioning its limits, performance artists aim to explore the very essence of their craft. They are constantly debating the questions: "What is dance?" "What is music?" "What is art?" In response to this, architects designing spaces for performance artists must push the boundaries as well. Considering architecture as stage design contributes to that very discussion.

Opening the performance up to the street creates a huge change in atmosphere for the surrounding area. The sidewalk becomes activated, as its connotation as a soley directional path begins to change. This strategy begins to reference street performance as well. In a similar manner as the attributes of street performances, this project aims to present a more cultural image of its city through performance.

By thinking of architecture as the desirable location for performance, one invites human interaction with the building. A performer on a stage embraces the space around them, carves through it, moves with it. Using the personalization that becomes available with kinetic architecture, the choreographer gets to inform the architecture as the architecture in return informs the choreographer. The conversation between the choreographer and the architect becoming harmonious, impactful. The atmosphere of the kinetic architecture is constantly changing, yet for a moment the artist has left their mark.

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13 - 32BNY: Dance with Architecture. Perf. Jessica Lang and Steven Holl. Vimeo. N.p., n.d. Web.

14 - "The Architectural Fantasies of Iakov Chernikhov." Dataisnature RSS. N.p., n.d. Web. 18 Oct. 2016.

15 - Ellen Fullman Performs at MOCAD. Perf. Ellen Fullman. Youtube. N.p., 12 Mar. 2013. Web. 18 Oct. 2016.

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16 - MOVE: Architecture in motion - Dynamic Components and Elements

Schumacher, Michael, Oliver Schaeffer, Michael-Marcus Vogt, and Andreas Müller. Move: Architecture in Motion--dynamic Components and Elements. Basel: Birkhäuser, 2010. Print

This book illustrates the various sides of kinetic architecture, from the design approaches and contructional solutions to its real world applications. It begins by depicting various different conceptual connotations of kinetic movement. It then transitions into talking about the different ways of categorizing movement and the mechanics needed to create those movements, as well as the potential benefits. The last section of the book includes various real world examples.
I found this book extremely helpful and well-detailed. It gave me a strong grasp of the ways in which things really move and inspired me to think in different ways than just conventional movement.

17 - GEOMETRY AND ATMOSPHERE: Theatre Buildings from Vision to Reality

Short, C. Alan, Peter Barrett, and Alistair Fair. Geometry and Atmosphere: Theatre Buildings from Vision to Reality. Burlington, VT: Ashgate, 2011. Print.

Detailing nearly every single aspect of theatre buildings, this book provides everything one needs to know to begin to understand what it's like to build these buildings. Using real world examples, this book illustrates every part of the proccess from the conceptualization to the finished product.
In particular, I used this book to research the building process of the Curve Theater, and in turn discovered more information than I could ever need.

18 - THE ARCHITECTURE OF EMPAC: The Tanglible and the Tantalizing

Mistur, Mark, Johannes Goebel, and Shirley Ann Jackson. The Architecture of EMPAC: The Tangible and the Tantalizing. Troy, NY: Rensselaer Polytechnic Institute, 2010. Print.

This book details the entire process of the creation of the Experiemental Media and Performing Arts center at Rennsalaer Polytechnic Institute. A building rich in technological achievements, it shows how technology and the tranformative qualities available with it become a very important part of the theater.

19 - BUILDING TYPE BASICS FOR PERFORMING ARTS FACILITIES

Hardy, Hugh. Building Type Basics for Performing Arts Facilities. Hoboken, NJ: John Wiley & Sons, 2006. Print.

Instructing the rules and guidelines for the creation of performance arts facilities, this book begins at the beginning of a project and goes to the end. From program requirements, to code and ADA, to mechanical and structural, all the way to finances and feasibility, this book extensively covers the life of a project.

20 - KINETIC ARCHITECTURE & GEOTEXTILE INSTALLATIONS

Beesley, Philip, and Christine Macy. Kinetic Architectures & Geotextile Installations. Cambridge, Ont.: Riverside Architectural, 2010. Print.

This book documents the projects developed by Phillip Beesley and collaborators from 1995 to 2007. The collection of projects spans a vast arrangement of interesting exhibitions and architectural sculptures.

A loud buzz, a distant click, heels clacking on the solid floor
A telephone rings, coffee splurts into a big blue mug, papers scatter on the solid floor

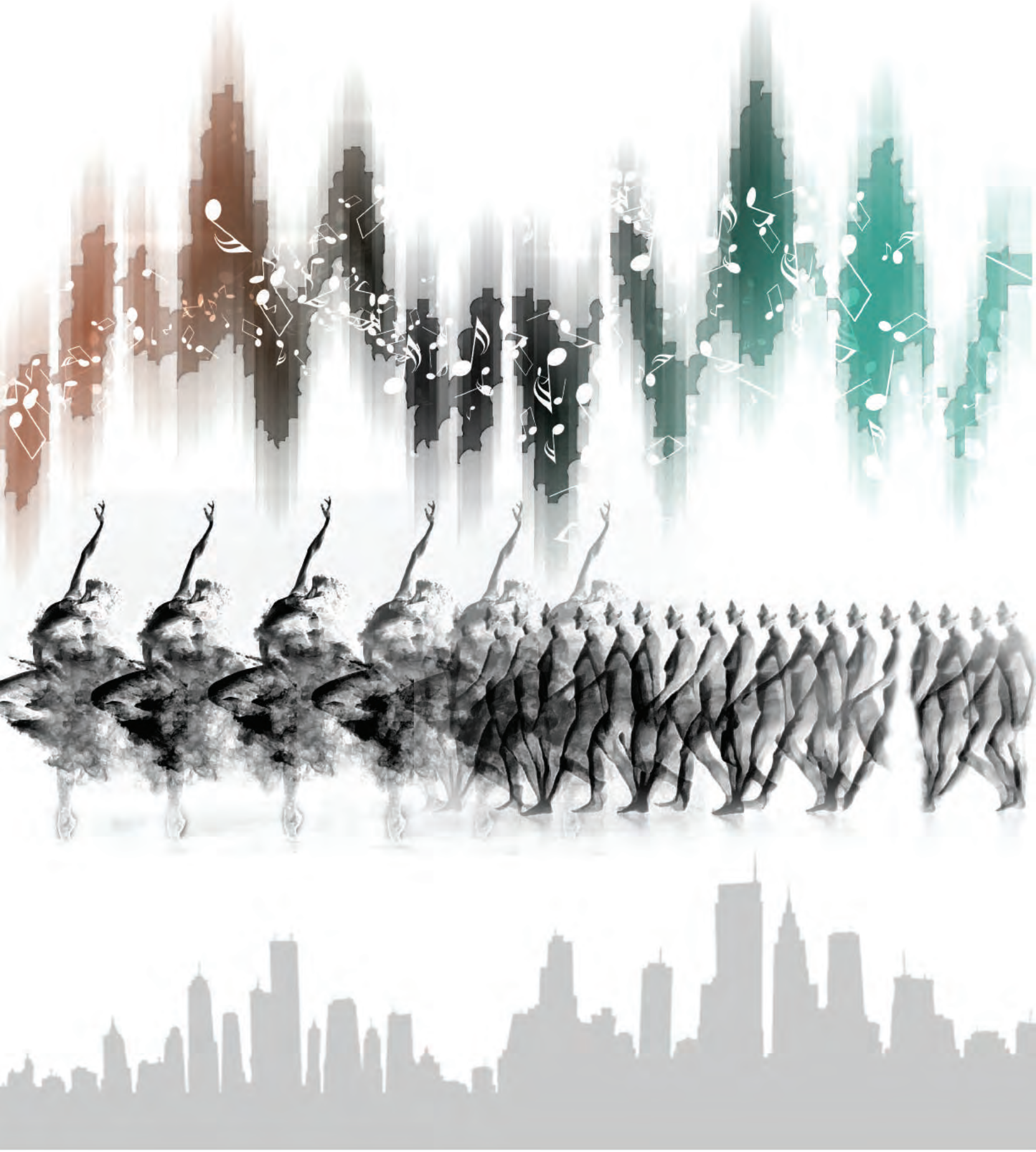
Sound is music.

Fingers glide upon the black square buttons; their weight suspended, their weight lowered
A hectic sprint to the copier, a slow drudge to the barren sink, a soft glance to the man next door

Movement is dance.

The light beams in through the window, casting a bright yellow glow on the concrete column
The door swings in and out, a pendulum marking the passing time, the increasing gravity
The space is heavily divided
The surfaces are hard, unforgiving, blank.

Architecture is the stage.



3

PRECEDENT ANALYSIS

THE CULTURE SHED

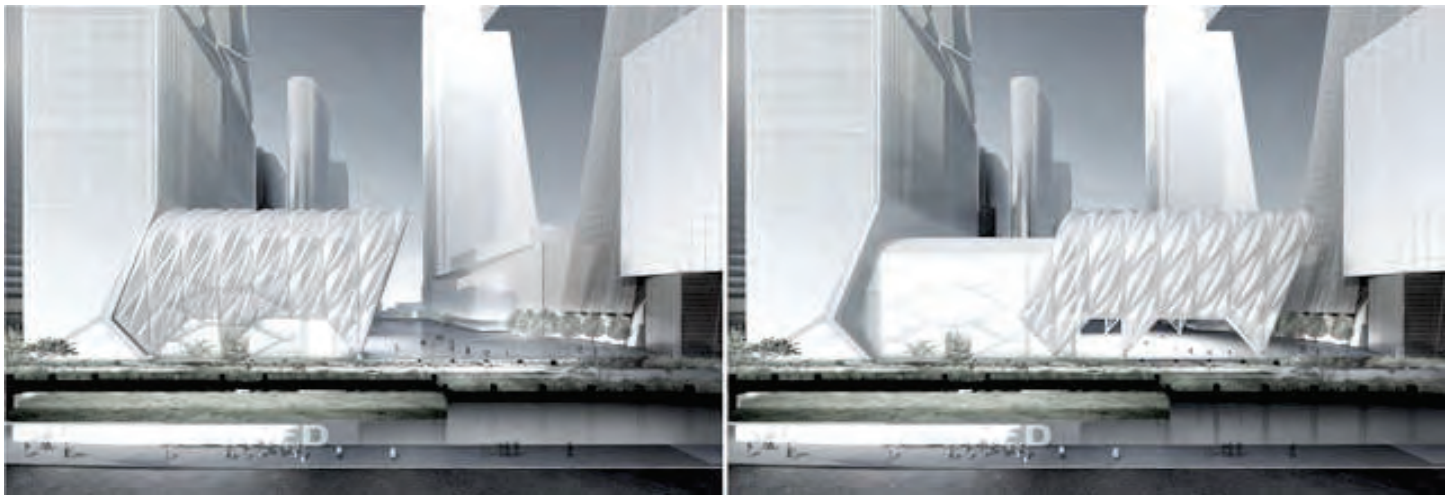
diller scofidio renfro. new york city

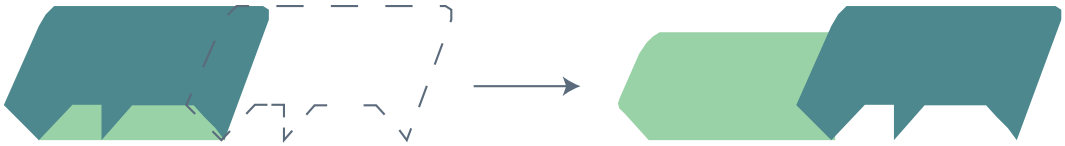
YEAR: 2016
SIZE : 200000 sq ft
PROGRAM : theater, gallery

http://imgs.6sqft.com/wp-content/uploads/2016/03/10201223/Culture-Shed-Corset-Hudson-Yards-D-3-1024x576.jpg

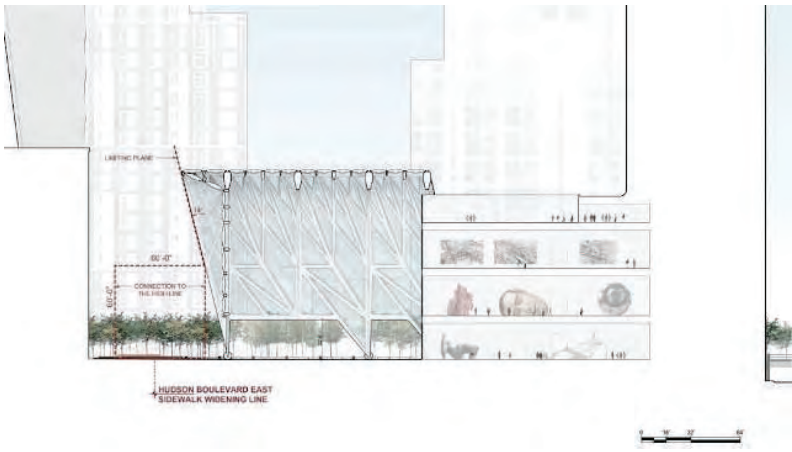
http://newyorkyimby.com/wp-content/uploads/2015/01/qiP41YN.jpg

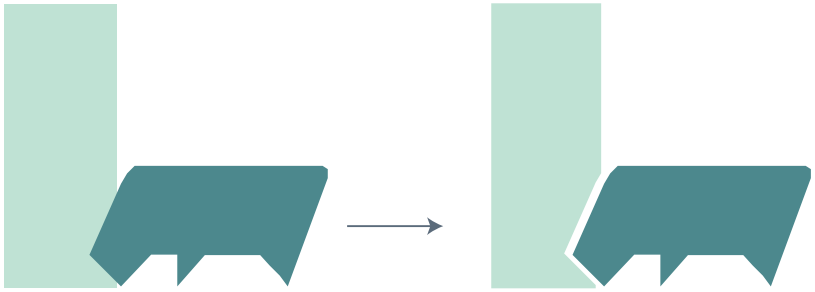
PROJECT DESCRIPTION
The Culture Shed is located along the High Line in New York City, New York, on 30th street. Currently a work in progress by Diller Scofidio Renfro, this building aims to provide a space for New York's artistic innovations. It is physically and operationally designed to accomodate for a broad range of performances, including visual art and multi-disciplinary work. The structure is composed of a six-level fixed building and a telescoping outer shell that slides away from the fixed building to create a 120 foot high, light, sound, and temperature-controlled space that can serve a wide variety of performance needs. Inside the fixed building are two large-scale gallery spaces, a 500-seat theater, event and rehearsal space, and a free lab for new and upcoming artists in the New York City area. The Culture Shed exihibits a succesful way to create a dynamic performance space through kinetic architecture.



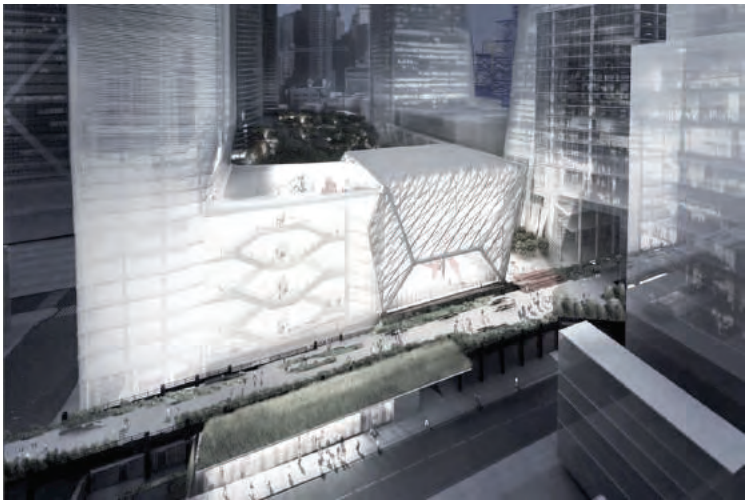


DEFINITION OF SPACE





ENGAGEMENT OF FIXED BUILDING



ART STABLE

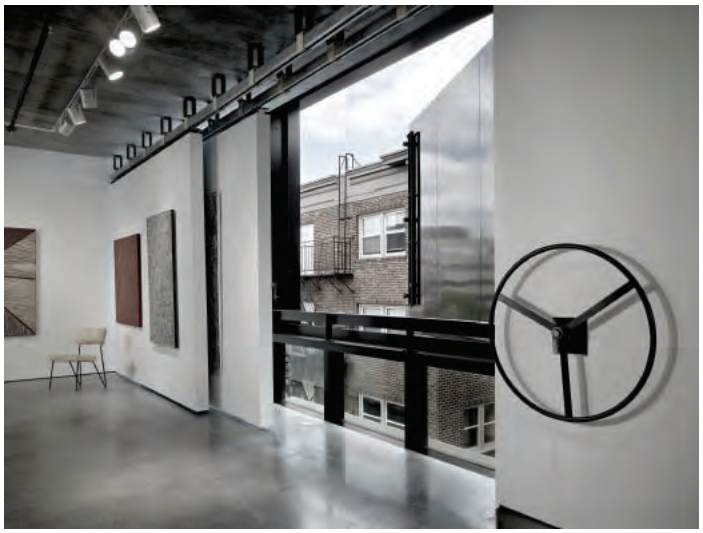
olson kundig. seattle washington

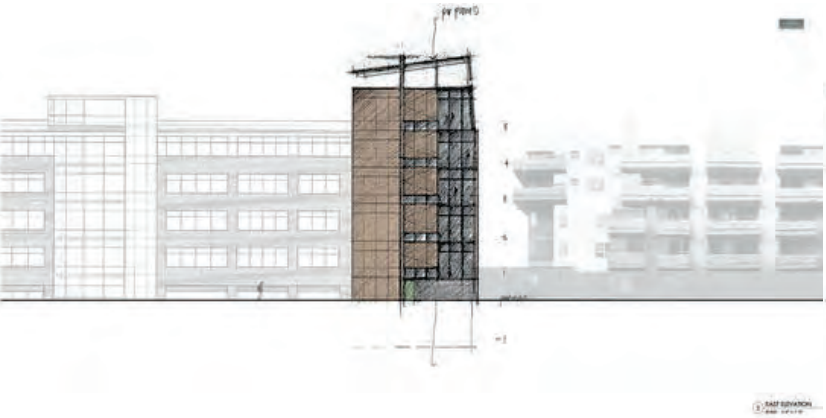
YEAR: 2011
SIZE : 25556 sq ft
PROGRAM : art gallery, housing
MATERIALS : concrete, steel, glass

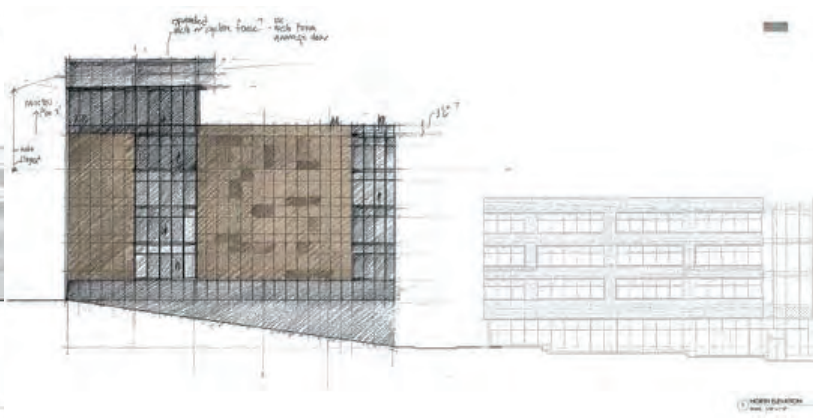
http://www.olsonkundig.com/projects/art-stable/

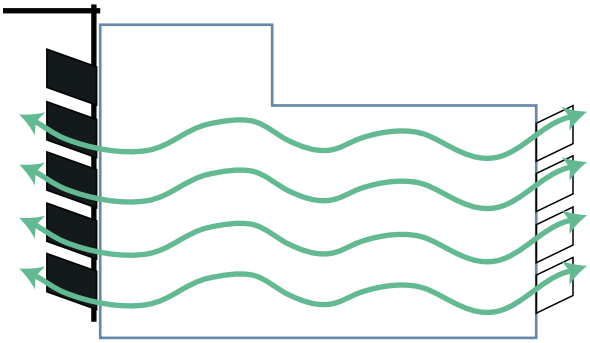
http://www.archdaily.com/91356/art-stable-olson-kundig-architects

PROJECT DESCRIPTION
Based in the South Lake Union neighborhood of Seattle, Art Stable is a seven-story mixed use building with highly adaptable gallery spaces as well as residences. The building features an enormous hinge system designed to manually open the large steel clad doors on the side of the facade up to 75 degrees by turning a custom designed hand wheel. With the davit crane positioned on the top of the building, users are able to lift objects from the alley into the units through the open doors. The street facade also features operable hinged windows that open through the same technique to provide ventilation throughout the building.
Through these operable windows and doors, the Art Stable provides elements of functionality as well as a dynamic facade. The interior moving partitions create flexibility and personalization throughout the gallery spaces.









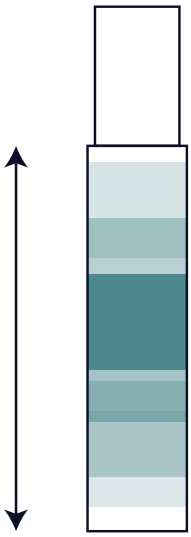
VENTILATION

LIFTING LARGE OBJECTS

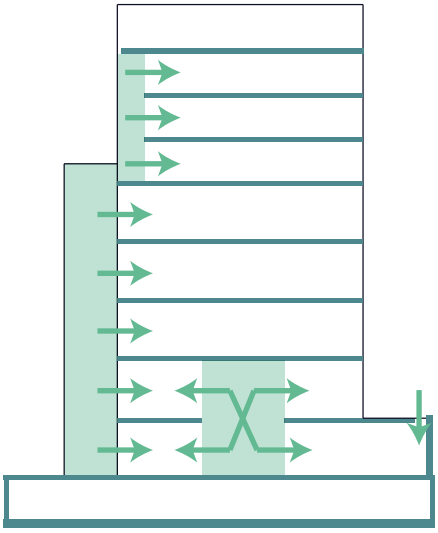
SPERONE WESTWATER GALLERY *foster+partners, new york*

YEAR : 2010
PROGRAM : gallery spaces, library, event space
MATERIALS : glass, concrete

PROJECT DESCRIPTION
The Sperone Westwater Gallery in New York City rethinks the way the public views gallery art through vertical movement. The main conceptual element includes a 12 x 20 foot gallery space that acts as an elevator, traveling up and down the facade of the building. This allows for visitors to move gradually between the five floors of galleries, constrasting the fast-paced New York City lifestyle with its peaceful, slow-paced atmosphere. The elevator gallery can also serve as an extension of one of the gallery floors, opening up more opportunities for the arrangement of exhibitions.
The project breaks up the stagnant qualities of gallery spaces through the moving gallery space, while revealing a kinetic relation to the street. It also aims to inspire artists through its spatial and structural possibilities.



ACTIVATION OF FACADE



INTERPLAY OF SPACES

77 THEATER

origin architect, bejing

PROJECT DESCRIPTION

Located in an abandoned printing factory in Bejing, a weathered steel folding wall lifts up to reveal a theater complex designed by Origin Architect. The once-thriving Bejing Offset Printing Factory built throughout the 1960-90's had deteriorated over time into a collection of desolate warehouses. Tasked with the revitalization of the space into a new arts and culture center, Origin Architect began by opening up courtyards through the removal of existing small buildings and extensions. By freeing up this space, they were able to create a large warehouse in the center of the block for the theater space. The front facade of the warehouse is comprised of folding panels to allow the auditorium to function as either an outdoor performance space or an indoor theater. Origin Architect also further revitalized the surrounding factory spaces in order to create spaces for galleries or studios for artists.

Through its dynamic facade, 77 Theater becomes an example of the expansion of space that becomes available when the theater is opened up to the outside.

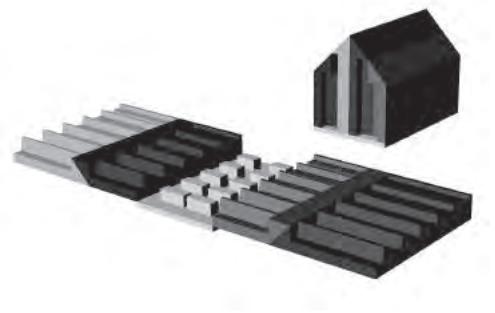
YEAR : 2014

PROGRAM : theater, gallery spaces

MATERIALS: cortense steel

OPEN HOUSE

matthew mazzotta. york, alabama



YEAR: 2013
PROGRAM: theater seating
MATERIALS : salvaged wood, old railroad ties

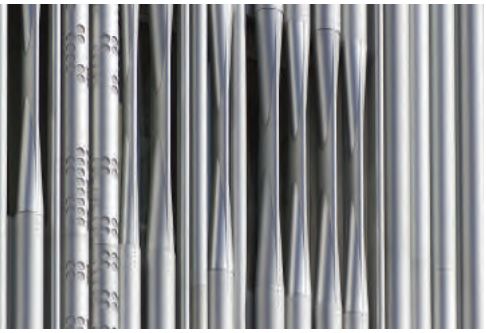
http://ryanpanos.tumblr.com/post/58010024089/open-house-by-matthew-mazzotta-artist-matthew

http://cdn2.world-architects.com/files/projects/43929/images/Birdeyes.jpg

PROJECT DESCRIPTION
Made out of the remains of an abandoned house in York, Alabama, this project by Matthew Mazzotta transforms into an open air theater for the town residents. The building becomes symbollic of the tranformation it creates as it goes from a house to a theater not only in concept, but also in form. The project is designed to require teamwork to unfold, taking about an hour and a half with four people to rework its assembly into theater seating. Mazzotta hopes to incite community discussion through the awareness this project brings to the town, directly addressing the lack of public space while still reminding people what stood before.
The project exemplifies a conceptual take on the transformative theater and what implications arise from this strategy.

WYLY THEATER

oma. dallas, texas

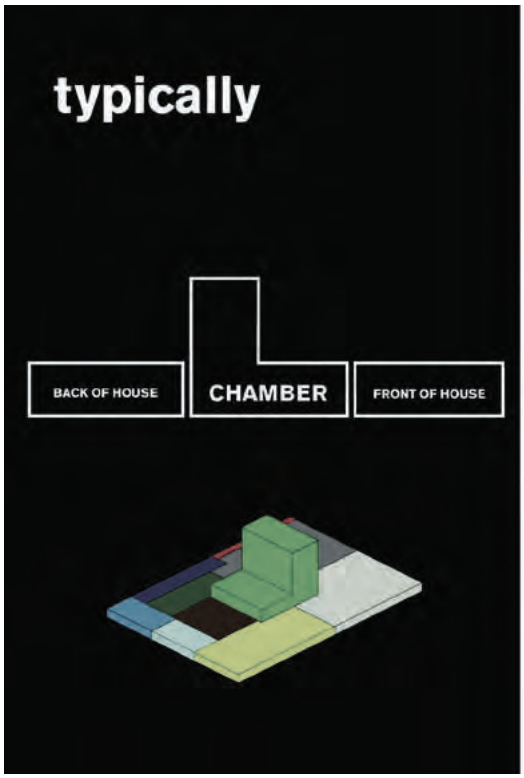


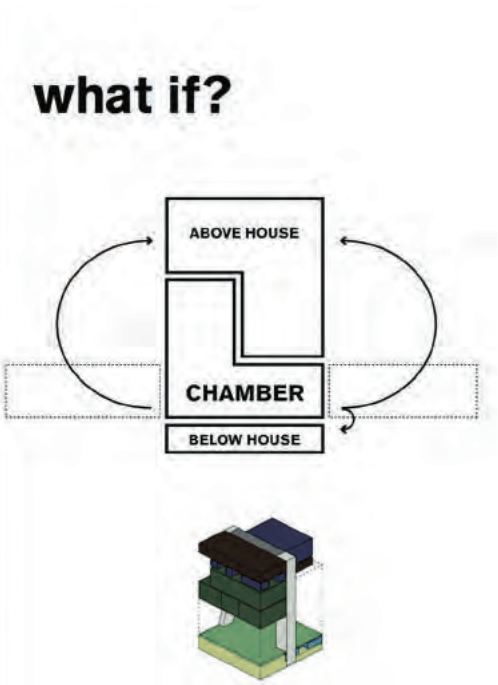
YEAR: 2009
PROGRAM : theater
SIZE : 80,300 sq ft
MATERIALS : alumninum, glass

http://www.olsonkundig.com/projects/art-stable/

http://www.archdaily.com/91356/art-stable-olson-kundig-architects

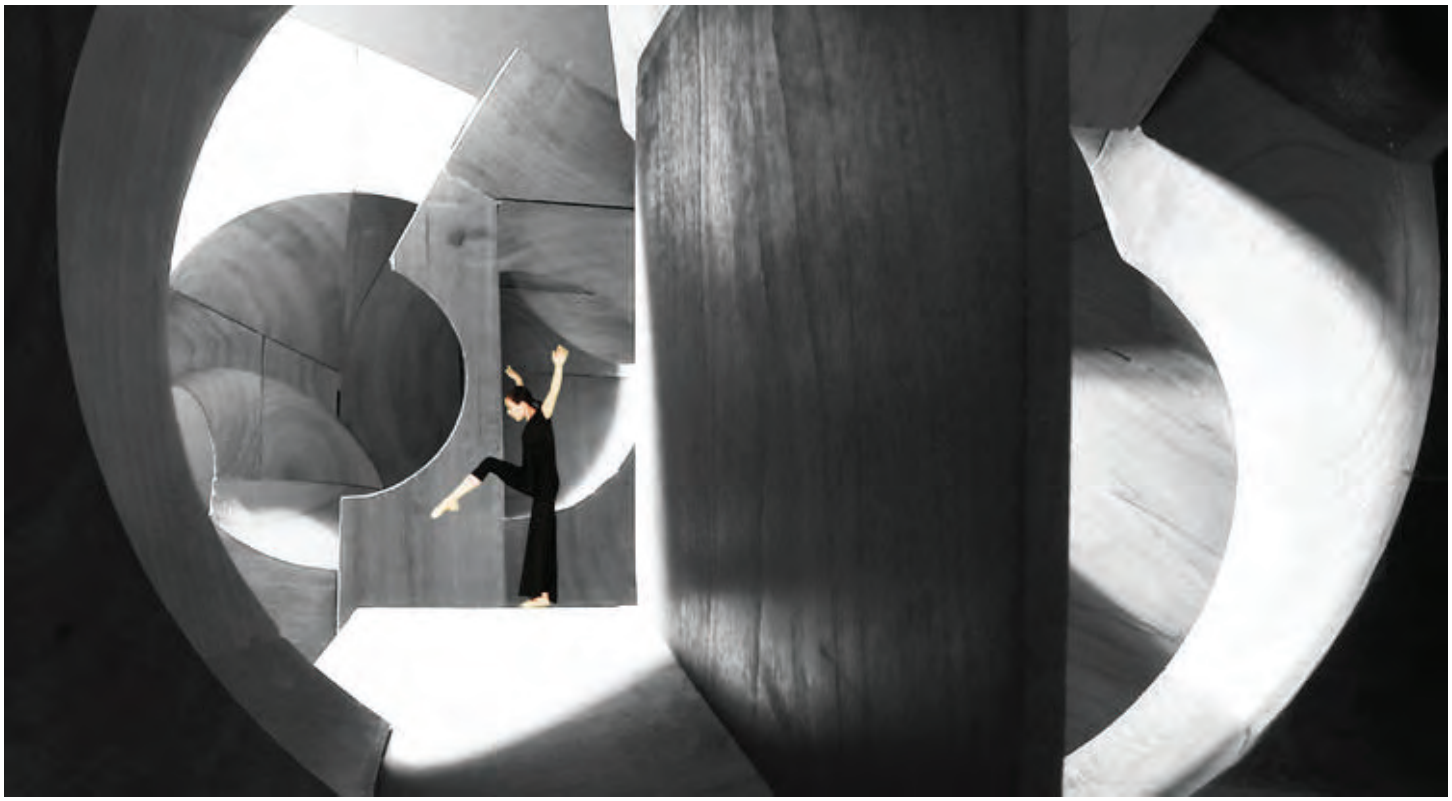
PROJECT DESCRIPTION
Designed by OMA, the Wyly Theater in Dallas aims to provide a flexible and multi-form performance space that operates with ease. A typical back of house and front of house configuration wraps around the performance, sheilding it from the outside world. The Wyly Theater, however, creates a compact, vertical orientation that allows support spaces to be stacked above and below the auditorium rather than wrapped around it. The simplicity of the box form, together with the unique activities of the performance venue, gives the building prominence within the city. The form also facilitates innovation in the theater's mechanics, allowing artistic directors to mold the configuration at will.


typically
BACK OF HOUSE
CHAMBER
FRONT OF HOUSE


what if?
ABOVE HOUSE
CHAMBER
BELOW HOUSE

REHEARSAL ROOM
OFFICES
PATRON'S LOUNGE
BALCONY FLY
LOBBY
MECHANICAL SPACES
ROOFTOP CAFE
COSTUME SHOP
FLY TOWER
PERFORMANCE CHAMBER
BACKSTAGE AREAS

INSPIRATIONS



TESSERACTS OF TIME

http://www.stevenholl.com/projects/tesseracts-of-time

.TRIANGLE OF THE SQUINCHES

http://architizer.com/projects/triangle-of-the-squinches-a-collaborative-ballet/media/385479/#_=_

FIVE MINUTES OF PURE SCULPTURE

http://www.designboom.com/art/anthony-mccall-five-minutes-of-pure-sculpture-at-hamburger-bahnhof/

BUTOH PERFORMANCE

https://www.flickr.com/photos/asianartmuseum/3201202496/

4

PROGRAM ANALYSIS

CURVE THEATER

raphael viñoly. leicester, england

http://www.focus-consultants.com/project/curve-leicester/

http://openbuildings.com/buildings/the-curve-profile-5011

By turning the typical theater configuration "inside out," Curve Theater became a cutting-edge design for performance. This new configuration aims to expose the inner workings of a performance including the production, construction, craft, and technical components. Blurring the line between on-stage and off-stage, the concept of performance is altered and begins to become more multi-layered and detailed. Curve seeks to integrate the street with the public spaces in the building, thereby activating both of the spaces with an additional layer of movement and interaction.

In order to achieve these ideas, Viñoly places the stage in between two seating spaces: one the formal auditorium organization, and the other being an irregular studio organization. Instead of enclosing this stage, he keeps it open continously to the street.

program elements

THEATER

auditorium - 8250 sq ft
ground floor seating - 5580 sq ft
balcony seating - 2670 sq ft
seating capacity - 900

STUDIO

studio / auditorium - 3810 sq ft
opt. ground floor seating - 3340 sq ft
opt. balcony seating - 470 sq ft
opt. stage - 935 sq ft
seating capacity - 350

STAGE

stage - 4410 sq ft
backstage crossover - 250 sq ft

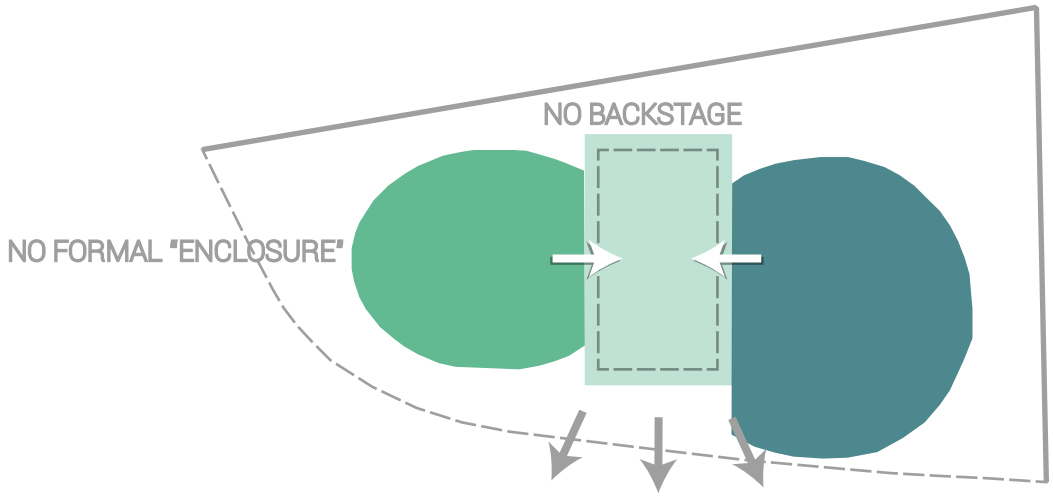
PUBLIC

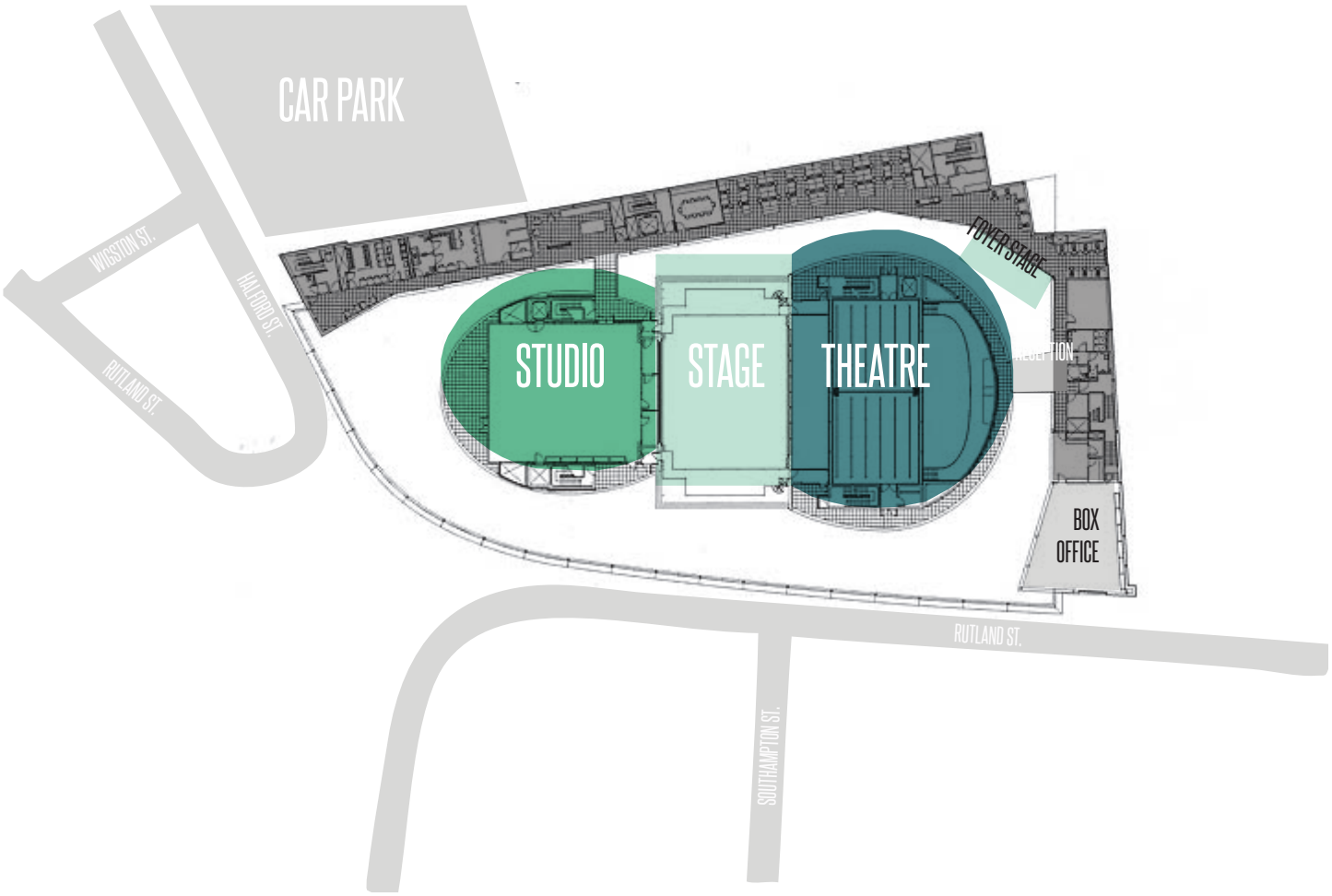
entry foyer
box office - approx 1000 sq ft

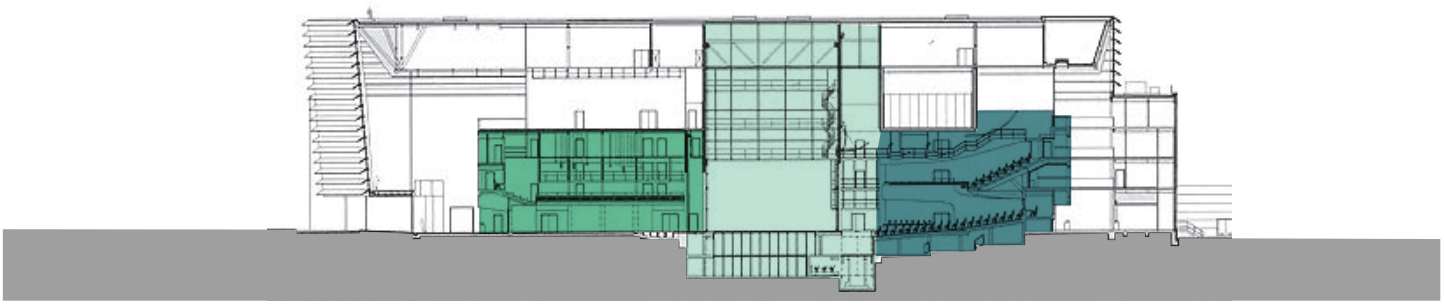
PRIVATE

dressing rooms - capacity: 66
wardrobe maitenance
laundry
control rooms
mechanical

total: approx 50000 sq ft


NO BACKSTAGE
NO FORMAL "ENCLOSURE"


CAR PARK
WIGSTON ST.
HALFORD ST.
RUTLAND ST.
FOYER STAGE
STUDIO
STAGE
THEATRE
RECEPTION
BOX OFFICE
RUTLAND ST.
SOUTHAMPTON ST.



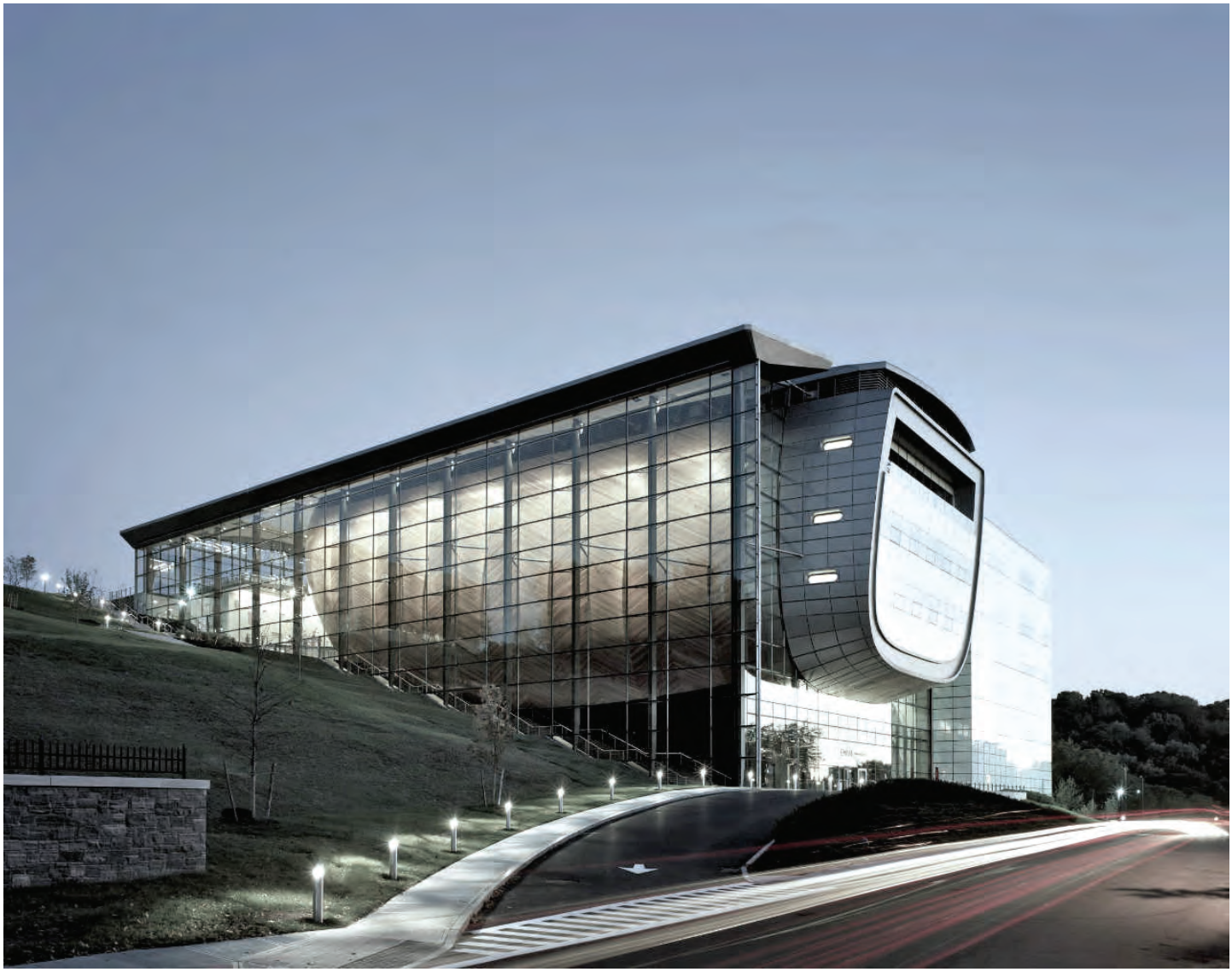
EMPAC

grimshaw architects. rennselaer polytechnic institute

http://www.archdaily.com/124708/empac-grimshaw

http://www.archdaily.com/124708/empac-grimshaw

Located in Troy, New York on RPI's campus, the Experimental Music and Performing Arts Center exemplifies the various uses of technology in theater design. Throughout the building are numerous different types of performance spaces and places for experimentation within the arts. The program is very all-encompassing, with the full amount of technological capabilities needed to put on many different types of performances. The main public space is the foyer, with a large glass facade that extends out onto the plaza. There are various private spaces throughout the building including dressing rooms, mechanical, control rooms, and restrooms. There are also a few multi-purpose studios for rehearsals or informal performances.



http://www.archdaily.com/124708/empac-grimshaw

program elements

THEATER

concert hall - 12000 seats
theater - 400 seats
black box studio
white box studio
dance studio

STUDIO

audio / video editing suites
artists-in-residence studios
radio station

STAGE

concert hall - 12000 seats
theater - 400 seats
black box studio
whie box studio
dance studio

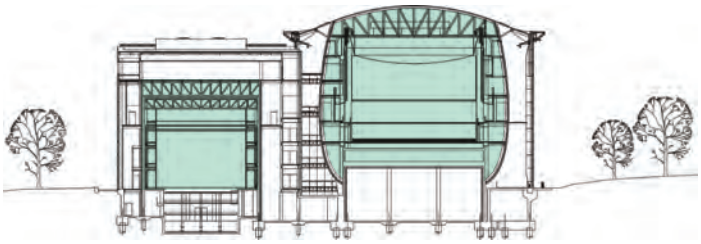
PUBLIC

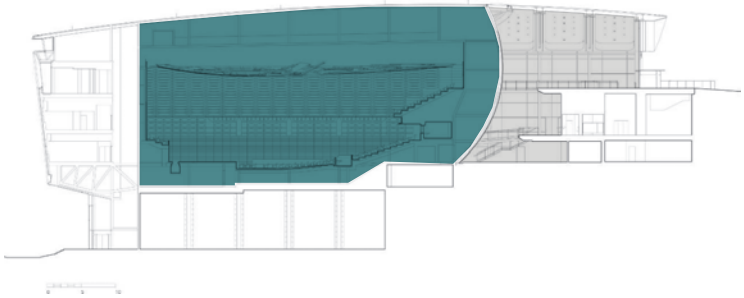
entry foyer
box office - approx 1000 sq ft

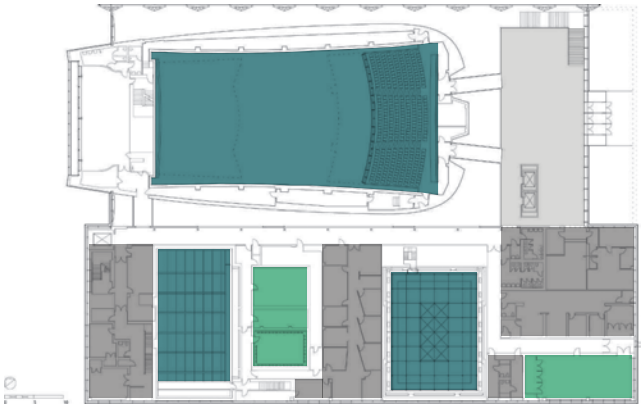
PRIVATE

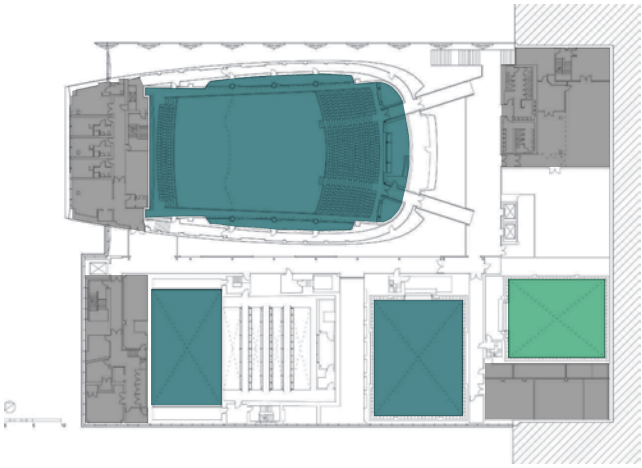
dressing rooms - capacity: 66
wardrobe maitenance
control rooms
mechanical

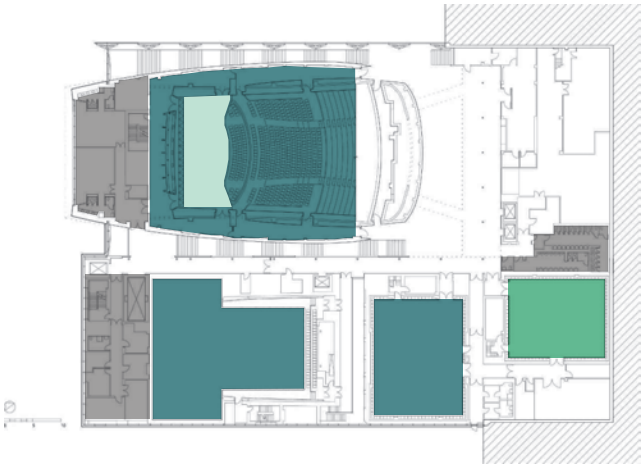
total: approx 200,000 sq ft

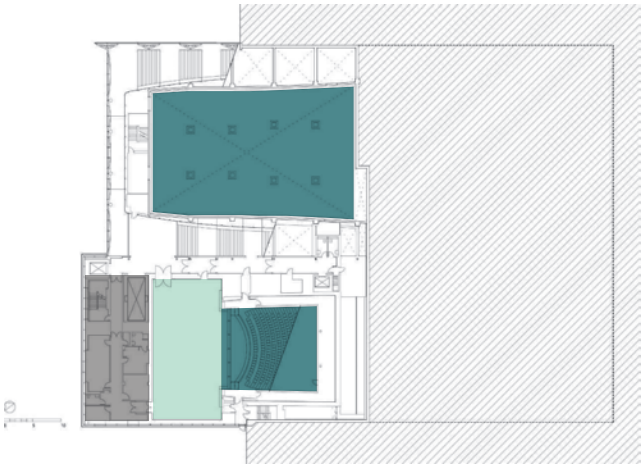






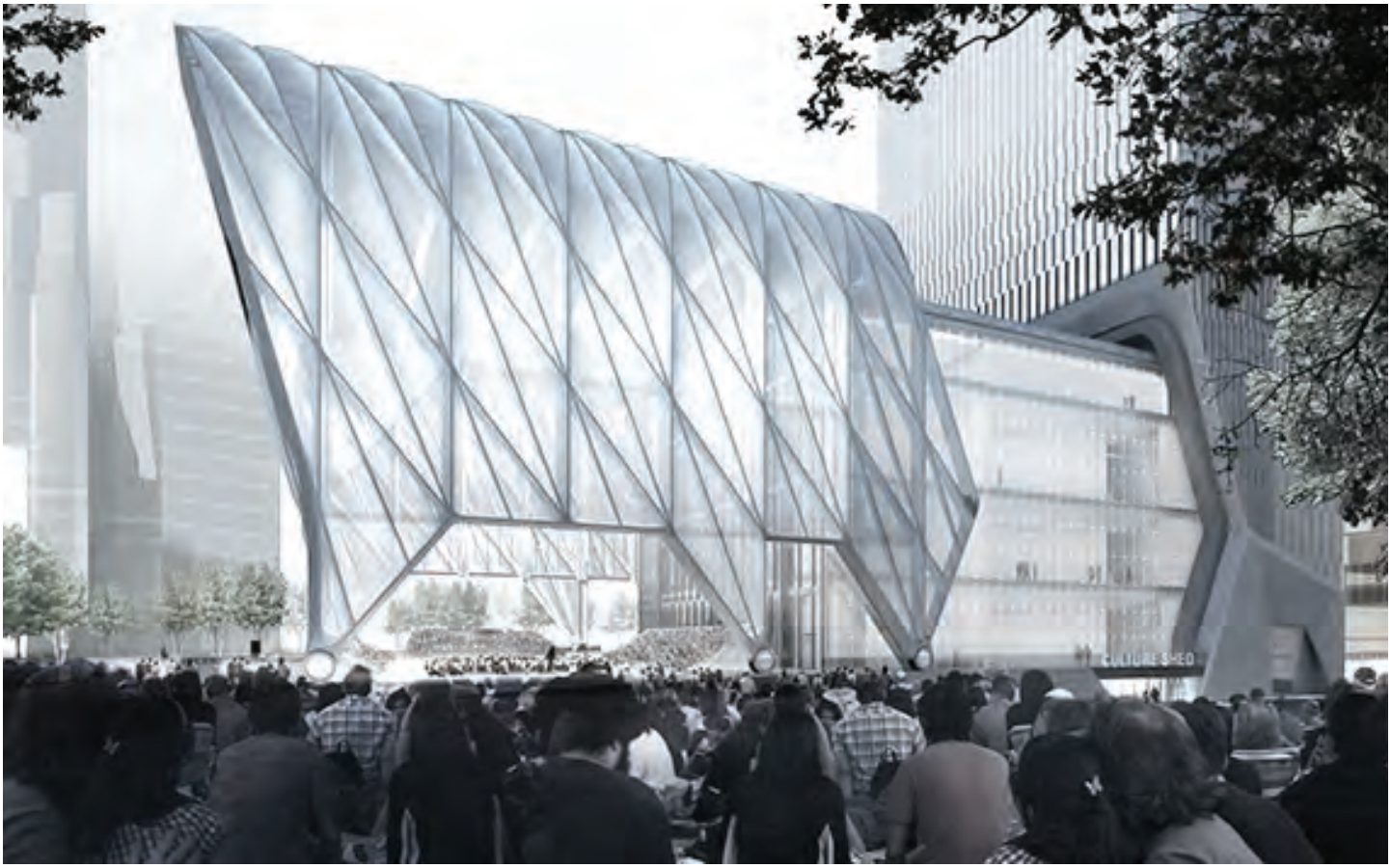




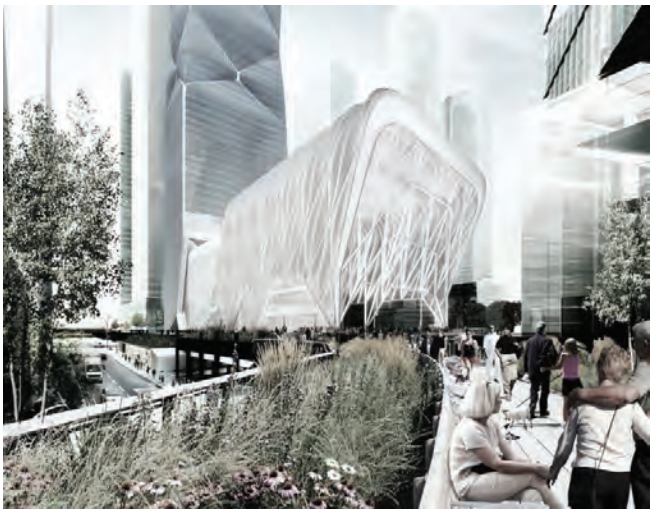


THE CULTURE SHED

diller scofidio renfro. new york city

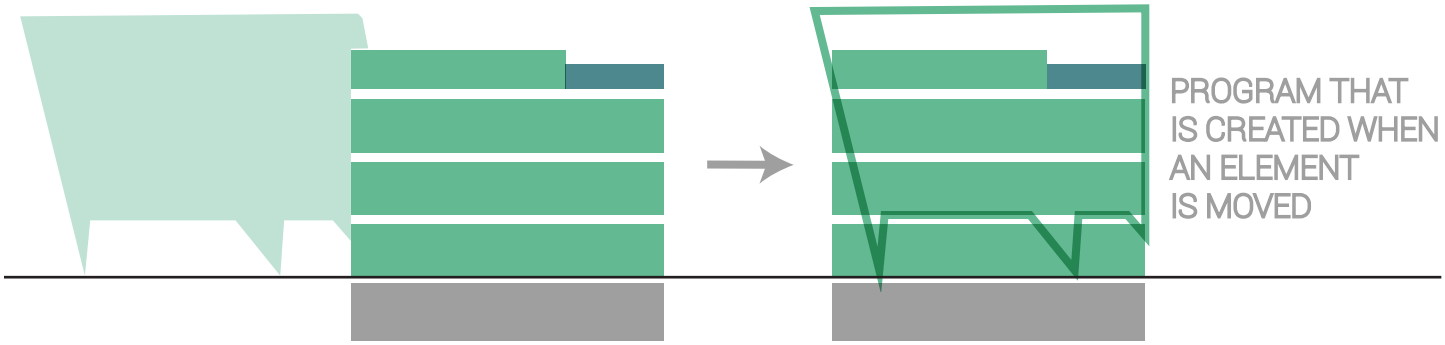


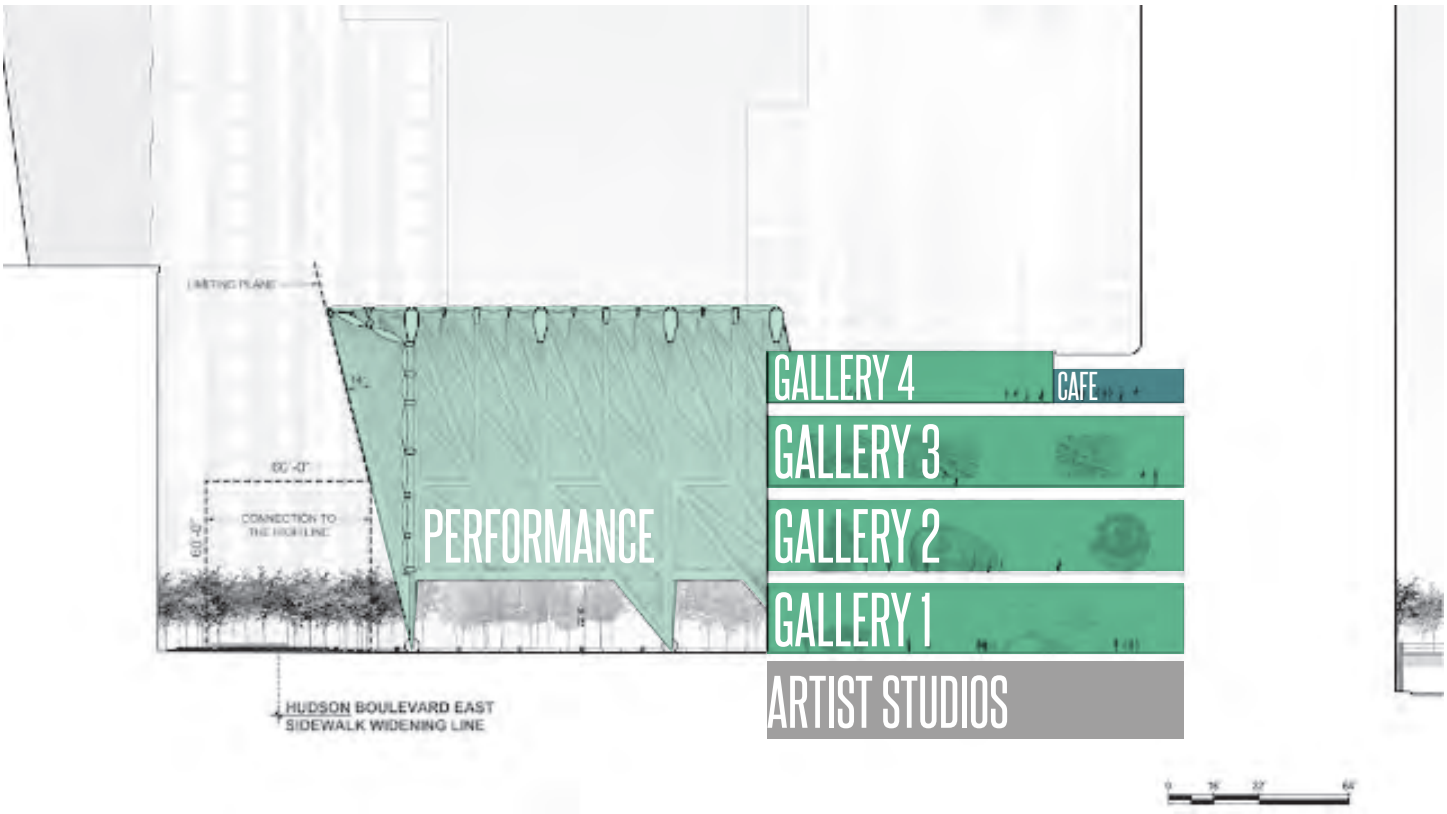
http://therealdeal.com/2015/01/15/the-wrap-size-of-average-building-sale-fell-to-90m-in-2014-citys-top-arts-venues-get-costly-upgrades-and-more/



http://ny.curbed.com/2013/2/28/10268832/a-look-at-the-hudson-yards-culture-shed-coming-in-2017

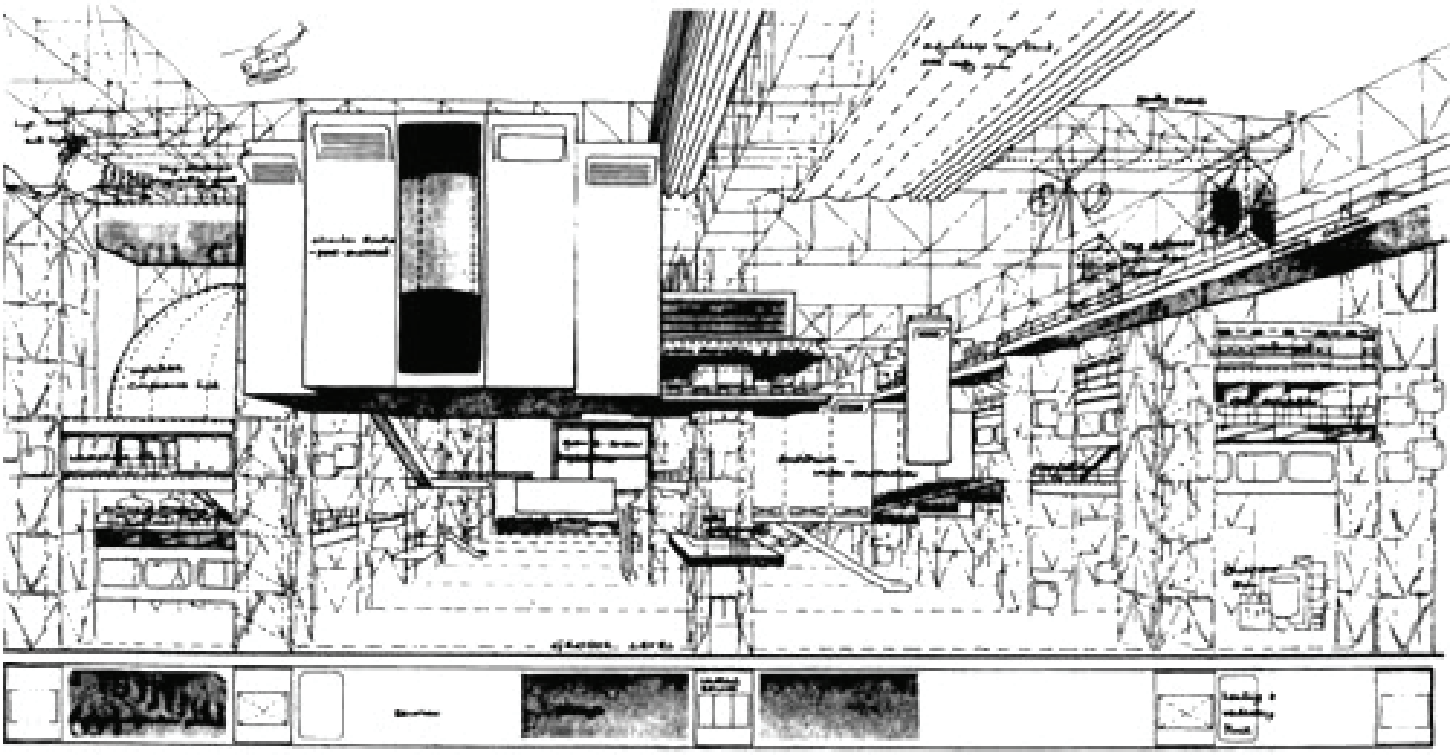
The Culture Shed, a proposed project along the New York City highline, employs a moveable shell that can create an enclosure for a performance space whenever needed. Built along a track, the shell of the building moves outward to go from being part of the gallery spaces within the building to being the shell of the plaza next to the building. By making a transition from the enclosure of the gallery spaces to the plaza, the shell changes its program as well: from gallery to performance. This project exemplifies the concept of a changing program, and how the transition of a space can lead to the transition of its intended program. Similar to the form of the building, the program as well does not have to be fixed. The kinetic movement of the building enclosure informs the layout of the program.

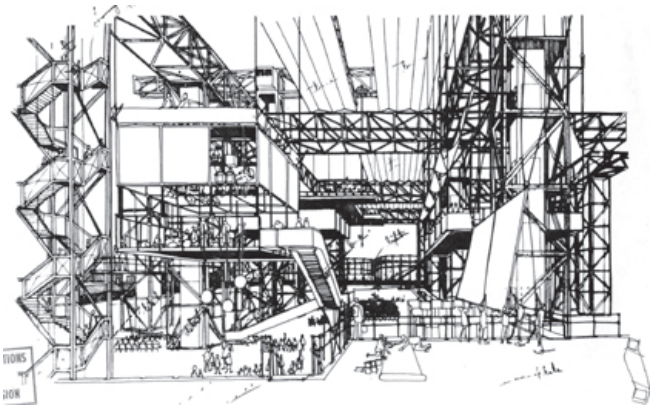

PROGRAM THAT
IS CREATED WHEN
AN ELEMENT
IS MOVED


LIMITING PLANE
60'-0"
CONNECTION TO
THE HIGH LINE
60'-0"
PERFORMANCE
GALLERY 4
CAFE
GALLERY 3
GALLERY 2
GALLERY 1
ARTIST STUDIOS
HUDSON BOULEVARD EAST
SIDEWALK WIDENING LINE

THE FUN PALACE

cedric price + joan littlewood. london





"The 'programme' of the Fun Palace was therefore not the conventional sort of diagram of architectural spaces, but much closer to what we understand as the computer programme: an array of algorithmic functions and logical gateways that control temporal processes in a virtual device. The three-dimensional structure of the Fun Palace was the operative space-time matrix of a virtual architecture."

Initiated by the innovative set designer in the 1960's, Joan Littlewood, the Fun Palace began as an inspiration to create a new kind of theater - not of stages, performers and audiences, but a theater of pure performativity and interaction. She envisioned a place where the people could experience the theater as active participants in a drama of self-discovery, instead of as another audience memeber. She enlisted the help of the architect Cedric Price, who interpreted her concept not in the terms of a static building, but instead of a new active and dynamic architecture. The spaces would constantly be reconfigured to adapt to the needs of the time, thus creating a temporal sort of program. As the spaces shift and change, the activation of their interiors morphs with them, creating not only a dynamic architecture but also a dynamic program. Though responding to the decline of leisure activities in Britain at the time, the Fun Palace was also an idea of the future, through its intense technological capabilities as well as the way it pushed the conventional ideas of architecture.

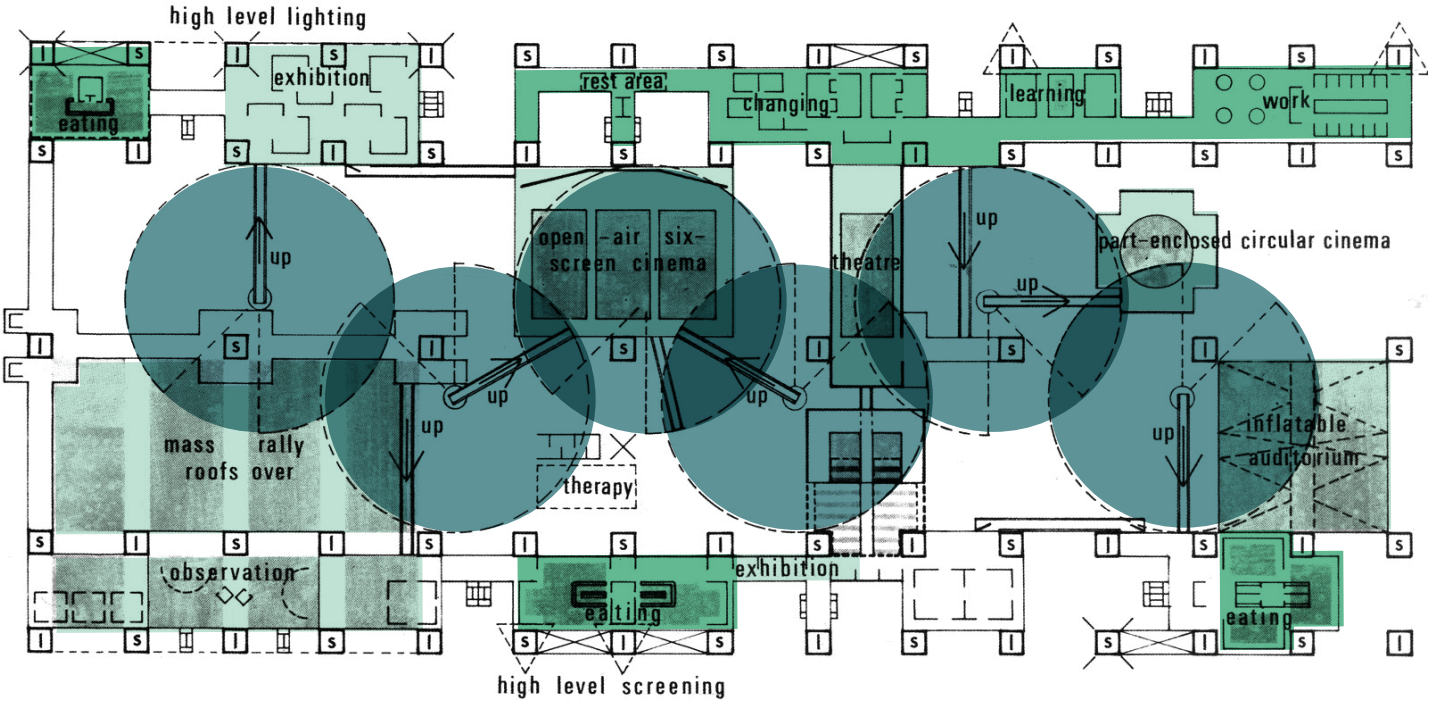
Eating...Ski practice...Drinking...Bowling...
Go-karting...Dancing...Music concerts...Resting...
Country dancing...Drama and operatics...Archery...
Son et lumière...Swimming...Photography...
Restoration of vintage cars...Voice patterns...
Finger painting...
Mutual admiration (requires pocket mirrors)...

ENTERTAINMENT

DAILY ACTIVITIES

CIRCULATION

LONG-TERM PROGRAM - CIRCULATION CHANGING



SHORT-TERM PROGRAM - CIRCULATION CHANGING

types of theaters:

shubert theater. new york city

http://www.boxoffice-tickets.com/content/uploaded/venue-pictures/ID_242.jpg

COMMERCIAL RENTAL HOUSES

-built as investments, turn a profit through rental income
-rare outside of New York City
-most built in 1920's
-generally used for large scale musicals and plays
-950 to 1600 seats
-not used for anything except during shows
-few spaces beyond stage and seating area - dressing rooms, restrooms, lobby, concession stand
-the show itself provides lighting, audio, communication, scenery, and any effects

cirque du soleil. O

https://s-media-cache-ak0.pinimg.com/originals.jpg

DEDICATED COMMERCIAL VENUES

-tailor-made to a specific show
-popular in Las Vegas, Orlando, Atlantic City, and Branson
-these types of theaters have been built for a variety of shows and entertainers
-highly equipped to support intense level of theatrical spectacle
-auditoriums are generally plain boxes, and dressing rooms / support areas tailored to minimum needs of the show
-often no lobby or public restrooms

yale university. new haven, ct

https://c2.staticflickr.com/8/7080/7027617191_1667a28c8a_b.jpg

UNIVERSITY THEATERS

-usually come in three sizes: small theaters(100-400 seats) built to train actors and technicians, medium theaters (400-1000 seats) designed for faculty-directed performances, and large theaters (1500-2500) intended to fulfill university's role as cultural provider
-small and medium often run by theater dept. while large is run by school
-provides performance, scenic, costume, lighting, and stage design experience to students

arena stage. washington d.c.

http://www.e-architect.co.uk/images/jpgs/awards/arena_stage_washington.jpg

valley performing arts center. california

http://musictour.eu/data//uploads/media/halls/2221.jpg

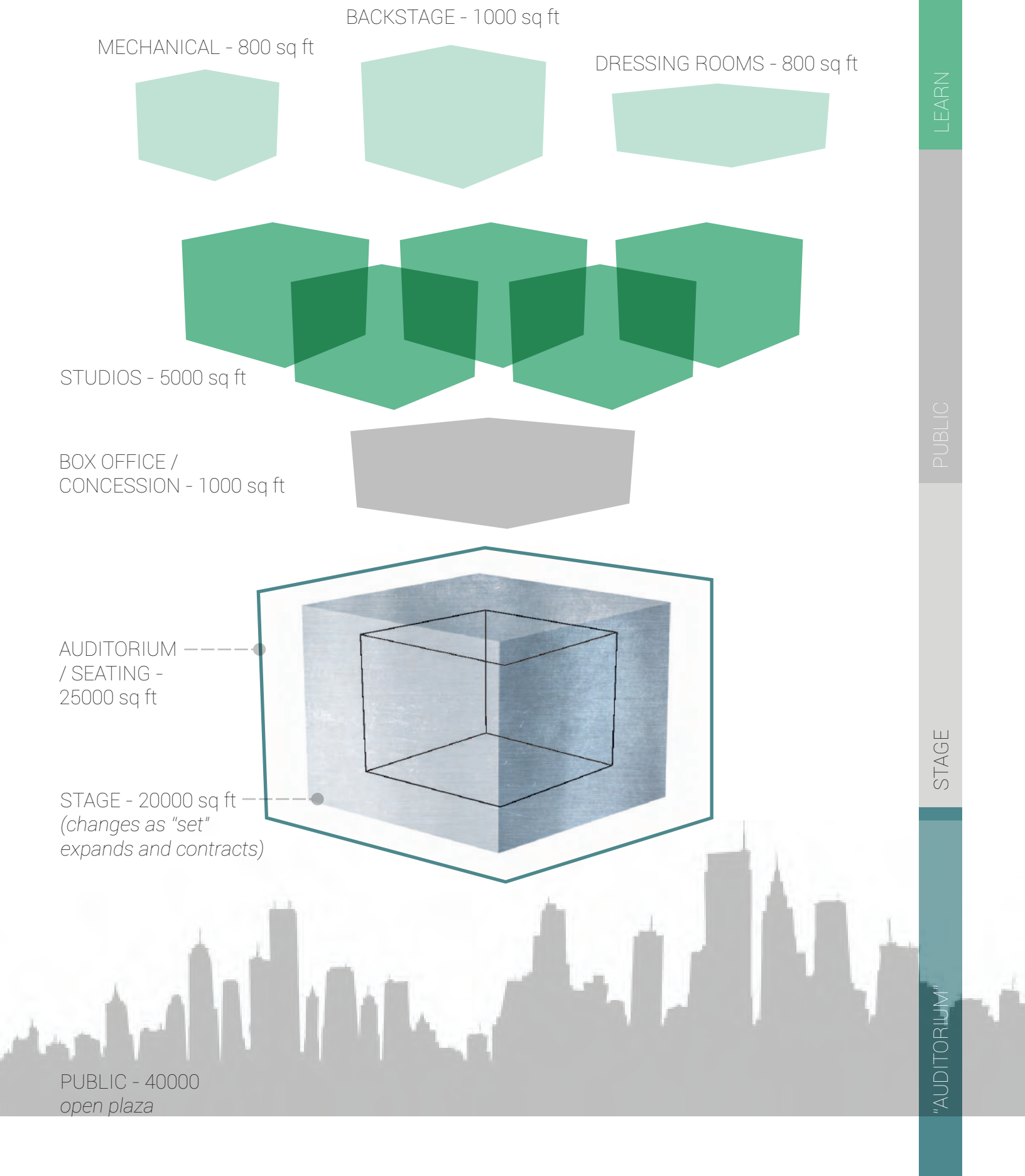
PROFESSIONAL PRODUCING THEATERS

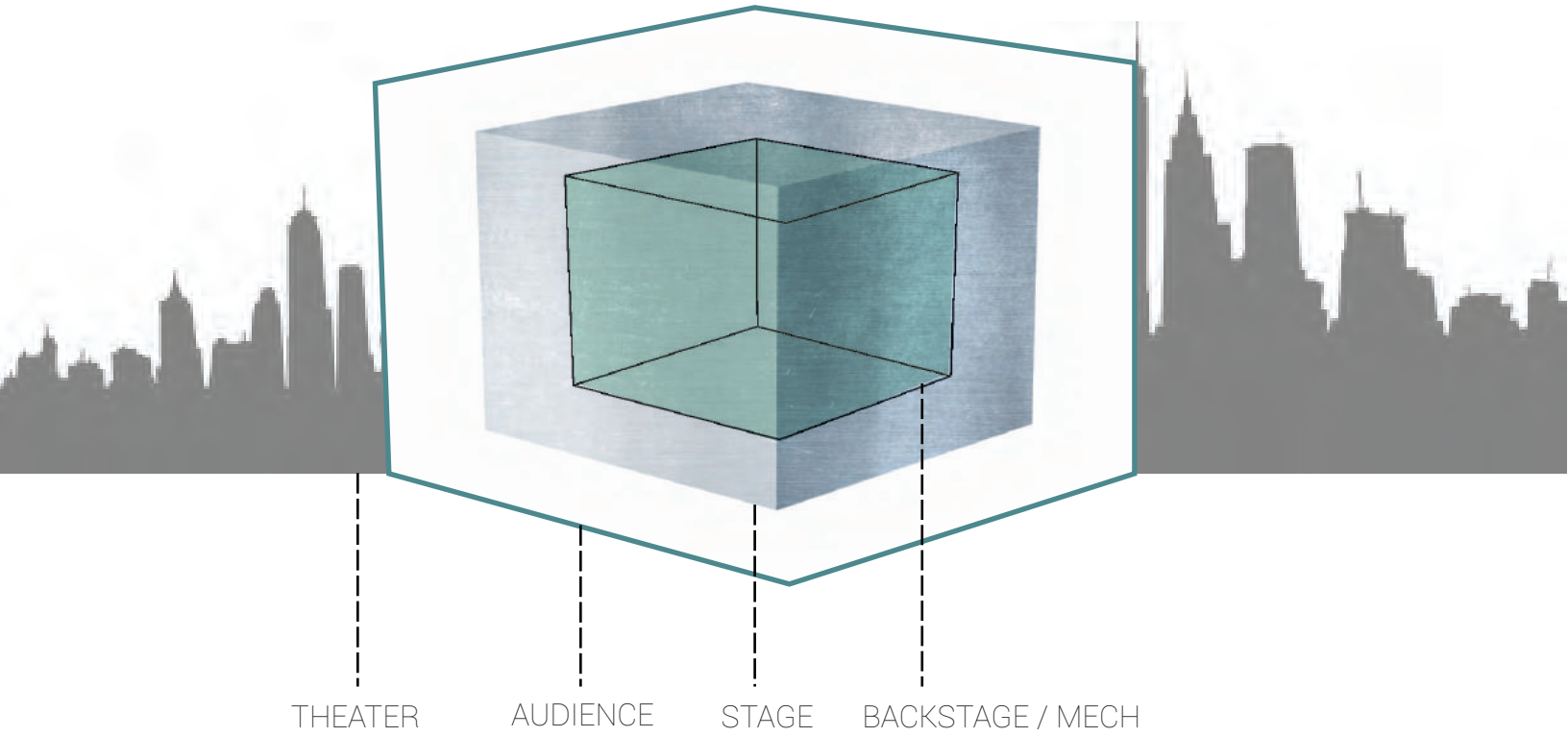
-built by nonprofit theater companies to produces seasons of plays or musicals for a subscription audience
-vary widely in size and artistic outlook
-require some form of subsidy
-aims to reflect personality of artistic organization
-most comprehensive in program: as many as three venues, variety of seating capacities, facility for construction of scenery, costume and wardrobe, prop and furniture, rehearsal spaces, as well as staff offices
-performance space equipped with complete technical systems

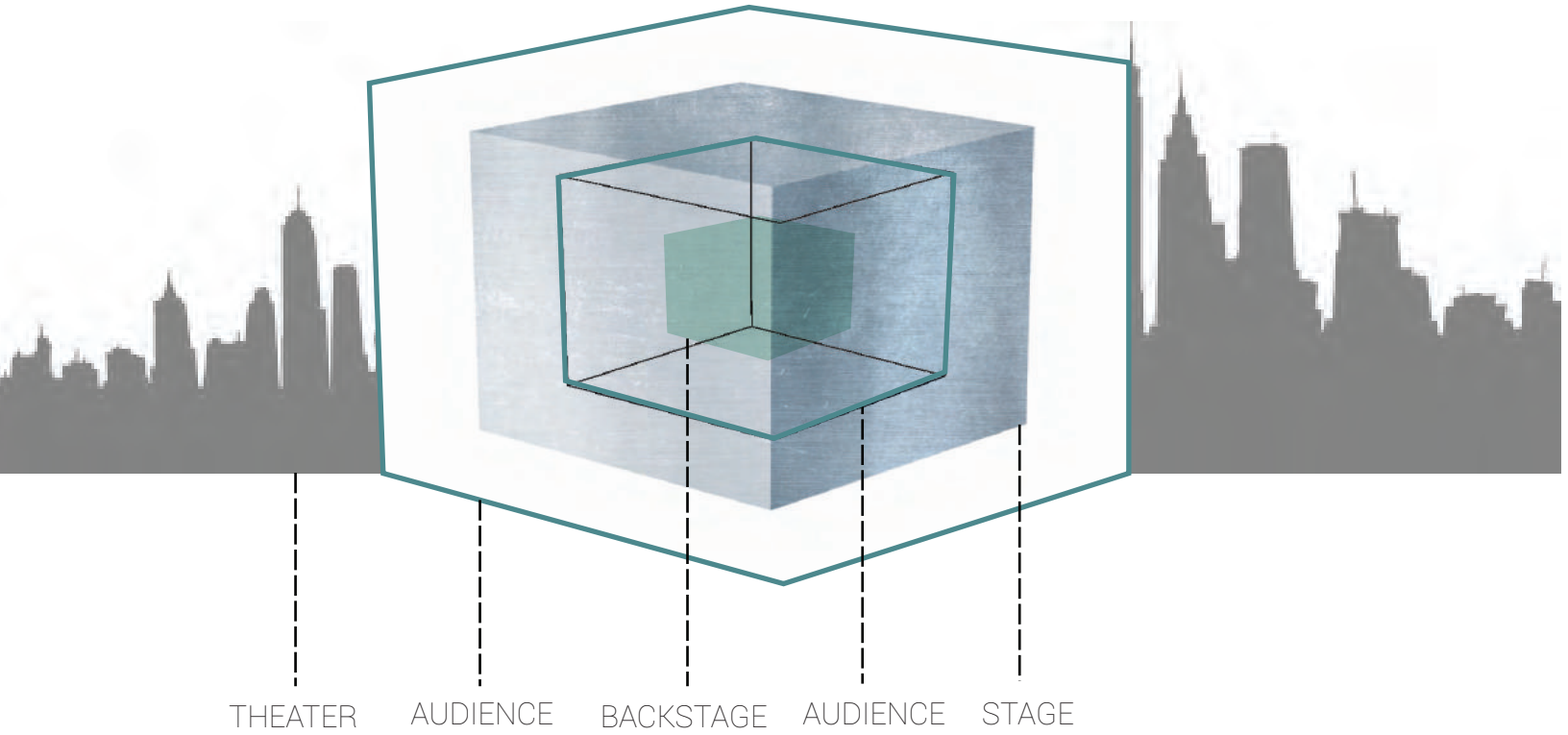
PERFORMING ARTS CENTERS

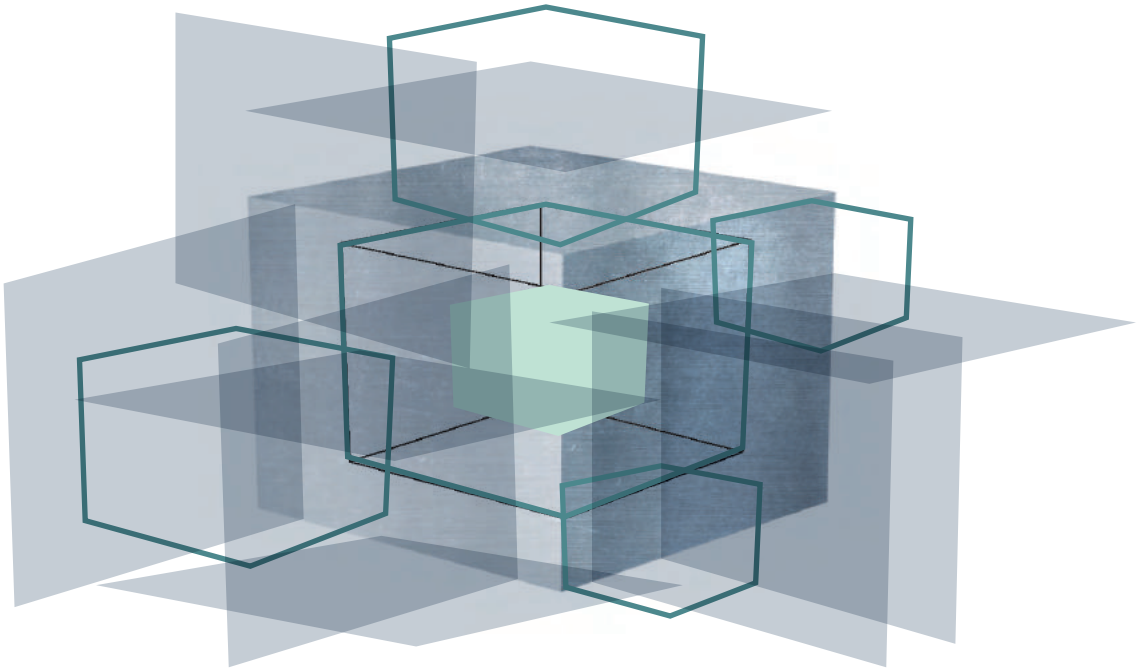
- built by public entities or nonprofit organizations
-house local as well as touring productions
-built to fulfill a cultural meaning, serve the public good, foster urban revitilization
-supplement earned revenue with annual fundraising or endowment income
-one or more theaters: large (2000-2700 seats), medium (350-750 seats), small (75-250 seats)
-complete technical systems

proposed program


BACKSTAGE - 1000 sq ft
MECHANICAL - 800 sq ft
DRESSING ROOMS - 800 sq ft
STUDIOS - 5000 sq ft
BOX OFFICE /
CONCESSION - 1000 sq ft
AUDITORIUM
/ SEATING -
25000 sq ft
STAGE - 20000 sq ft
(changes as "set"
expands and contracts)
PUBLIC - 40000
open plaza


THEATER
AUDIENCE
STAGE
BACKSTAGE / MECH


THEATER
AUDIENCE
BACKSTAGE
AUDIENCE
STAGE



EXPANDING STAGE - SHIFTING AUDIENCE - SOLID CORE

5

SITE ANALYSIS

image by author

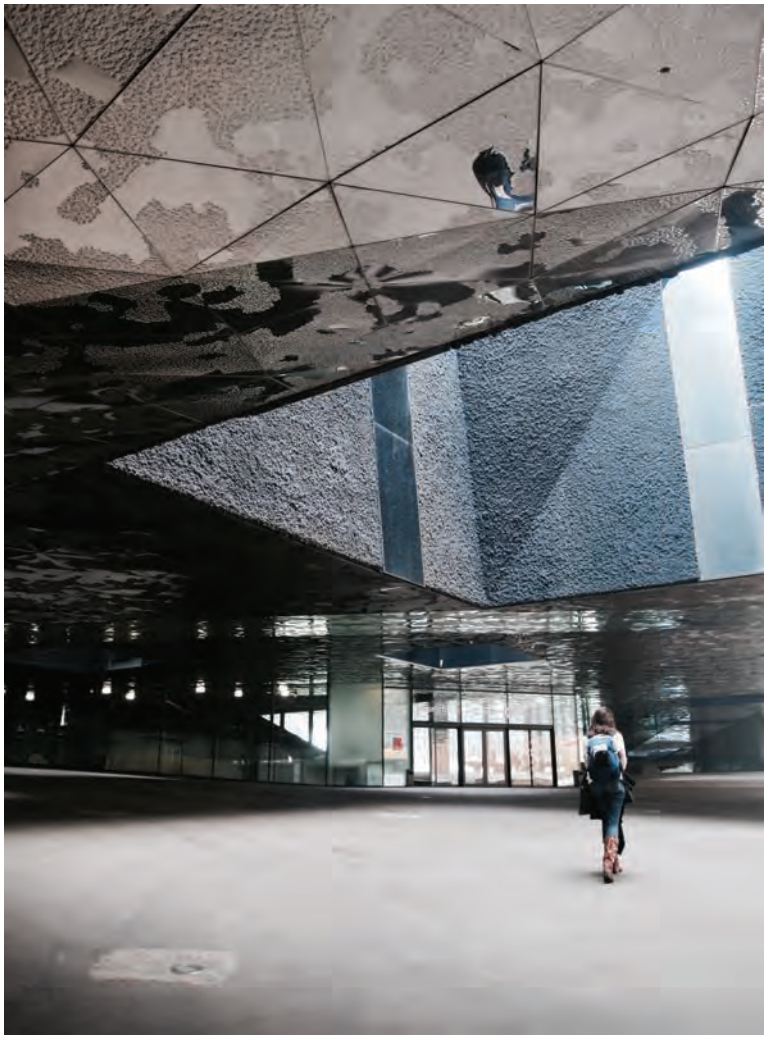
forum complex
rhonda litoral
parc diagonal mar
currently land sailing bcn / proposed site
beaches

proposed site

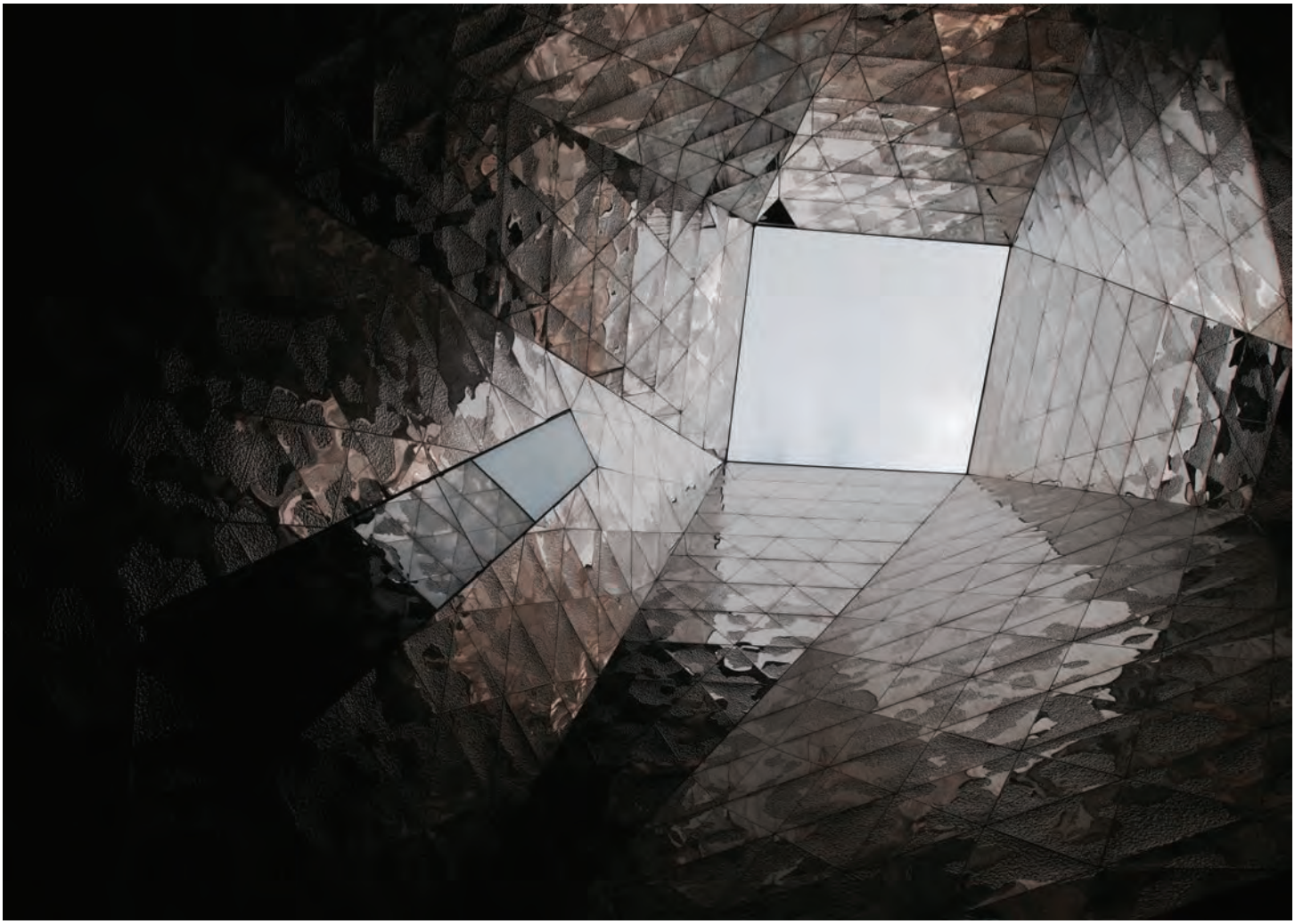
This site is located along the new highway constructed during the 1992 Olympics. This highway has become a link to the various areas of the city, intiating an immense impact on the traffic issues throughout the city as well as propelling the business and tourism industries forward.
It is in close proximity to the Museu Blau de Ciéncies Naturals by Hertzog and de Mueron as well as the rest of the Forum complex.
The site is in a growing, changing area that is currently lacking in cultural connection through the arts as it is fairly new.

BARCELONA

EL POBLENOU



museu blau de ciéncies natural



images by author

image by author

http://www.barcelona.de/images/torre-agbar/480-torre-agbar-barcelona-1.jpg

http://www.barcelona.de/images/torre-agbar/480-torre-agbar-barcelona-1.jpg

proxitimity to beach parking

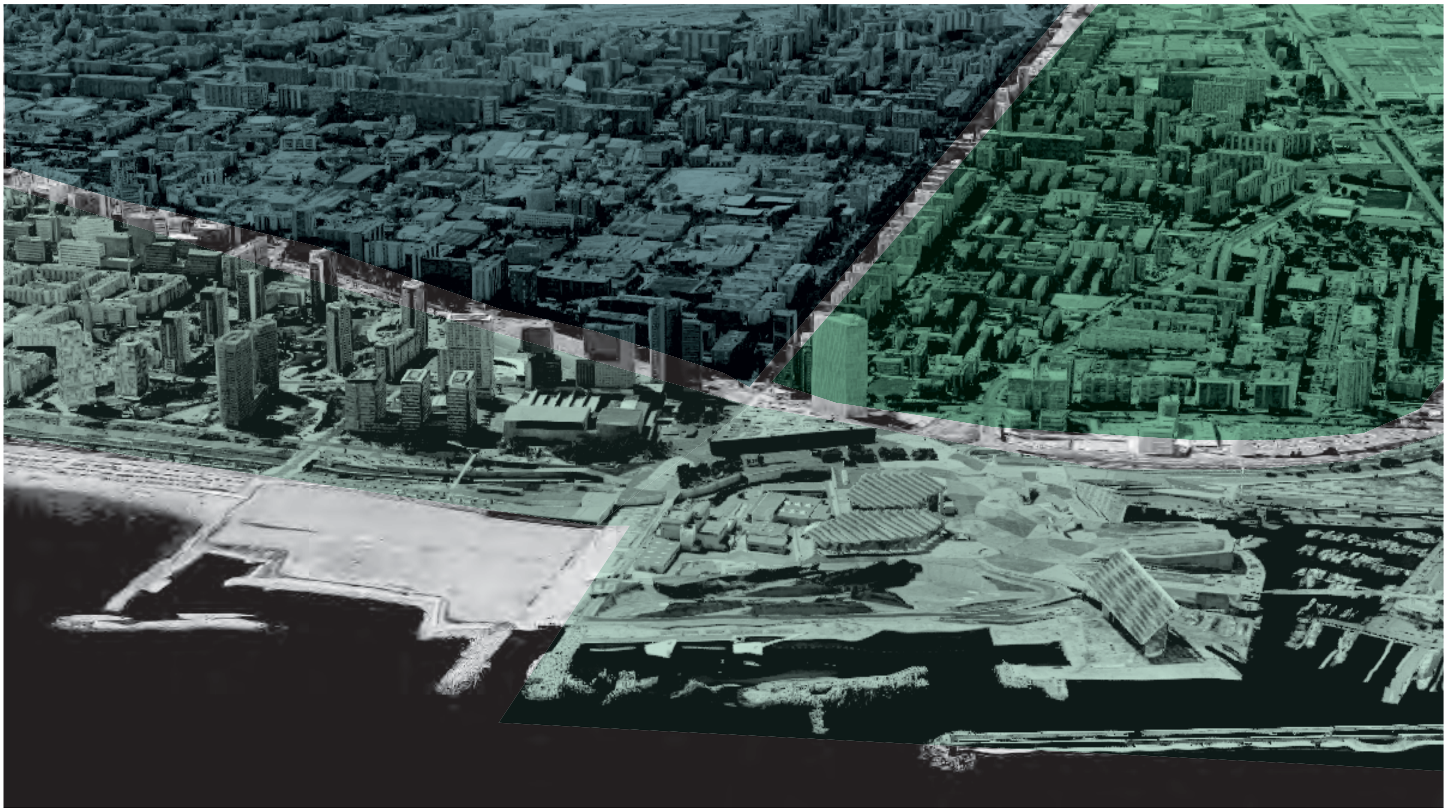
approach to site

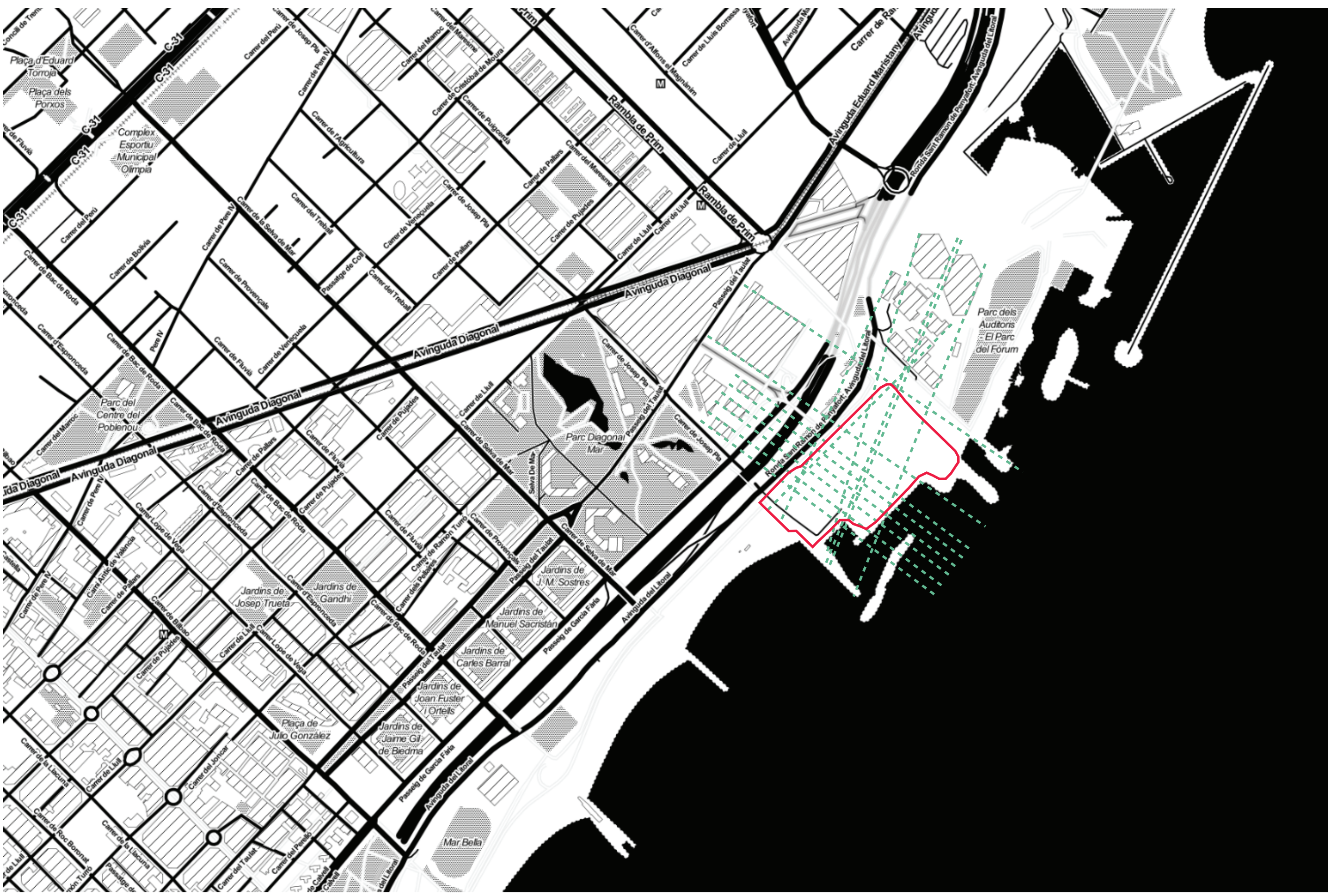
images from google maps

sandwiched between urban park and ocean

blank backdrop

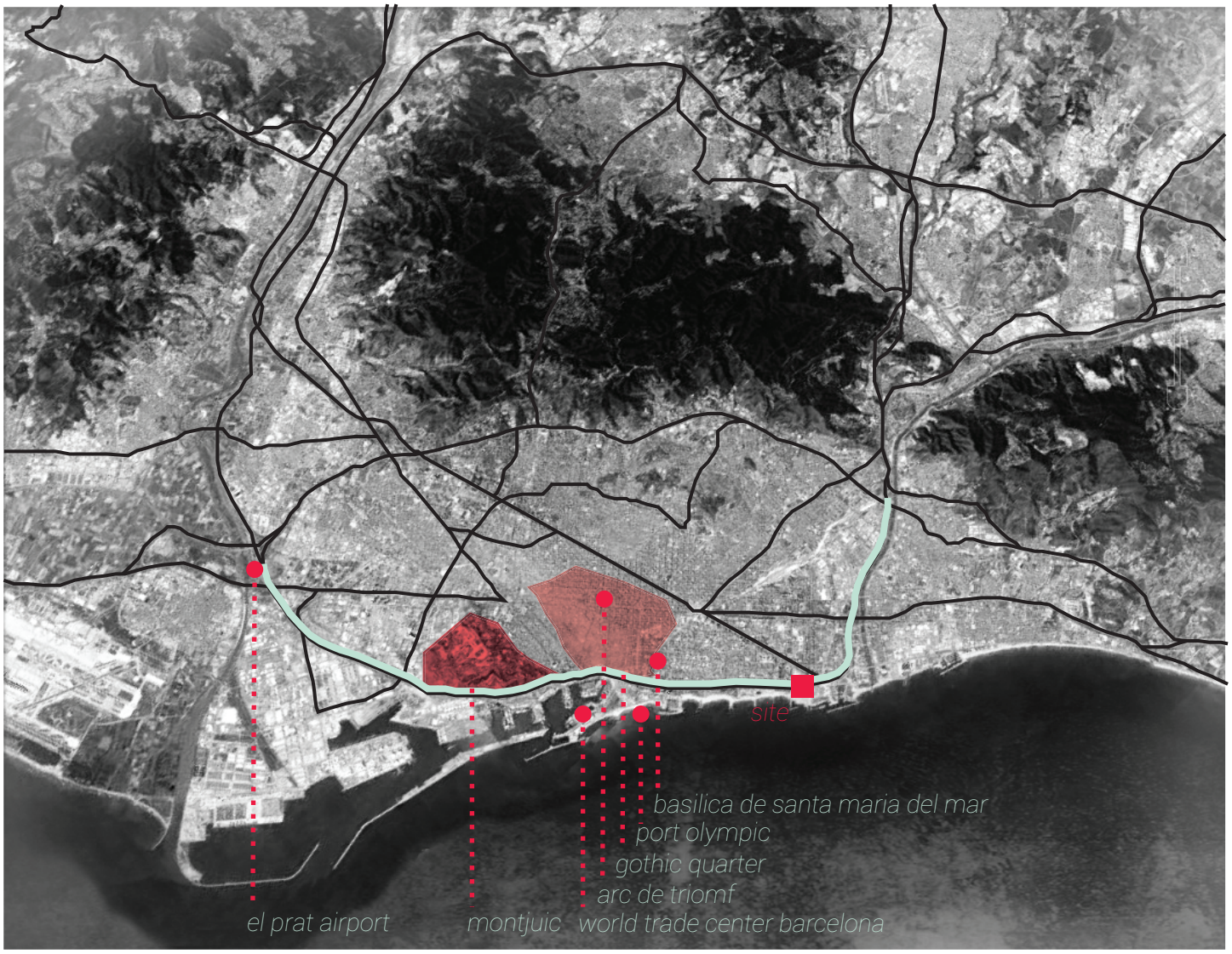
surrounding program




Avinguda Diagonal
Rambla de Prim
Avinguda Eduard Maristany
Parc dels Auditoris - El Parc del Fòrum
Parc Diagonal Mar
Parc del Centre del Poblenou
Complex Esportiu Municipal Olímpia
Plaça d'Eduard Torroja
Plaça dels Porxos
Jardins de Josep Trueta
Jardins de Gandhi
Jardins de J. M. Sostres
Jardins de Manuel Sacristán
Jardins de Carles Barral
Jardins de Joan Fuster i Ortells
Jardins de Jaime Gil de Biedma
Plaça de Julio González
Mar Bella
Avinguda del Litoral
Passeig de Garcia Fària
C-31

parc del
garraf
parc natural
de la serra
de collserola
parc del
laberint d'Horta
consorci
del parc de
la serralada
de marina
el besos river
balearic sea

topography

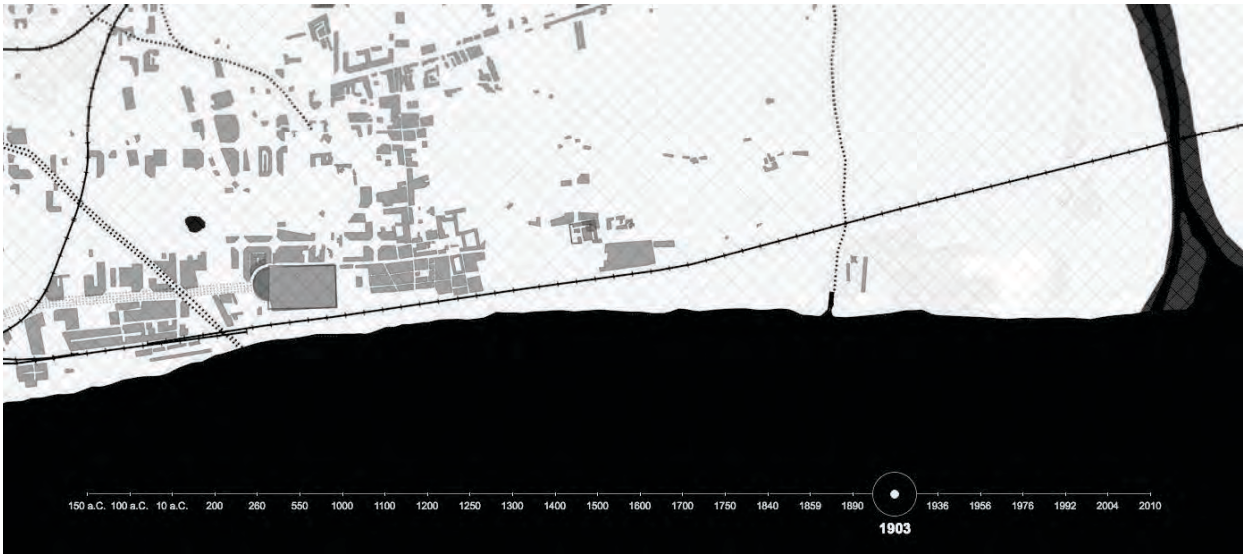


ronda litoral - "round coast"

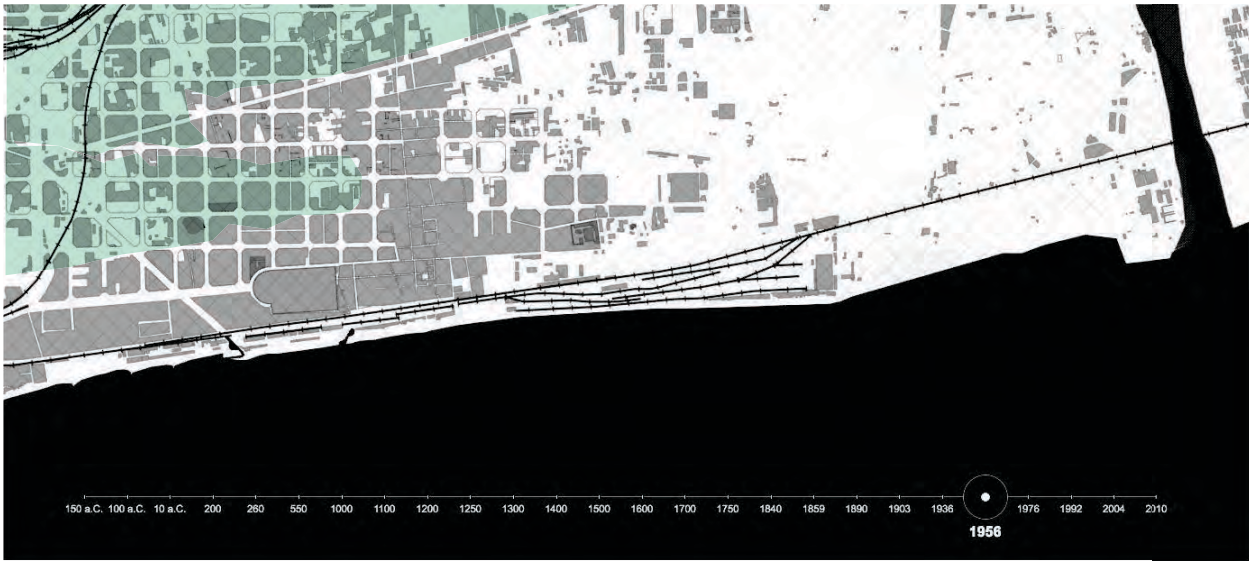
site conditions

facing site

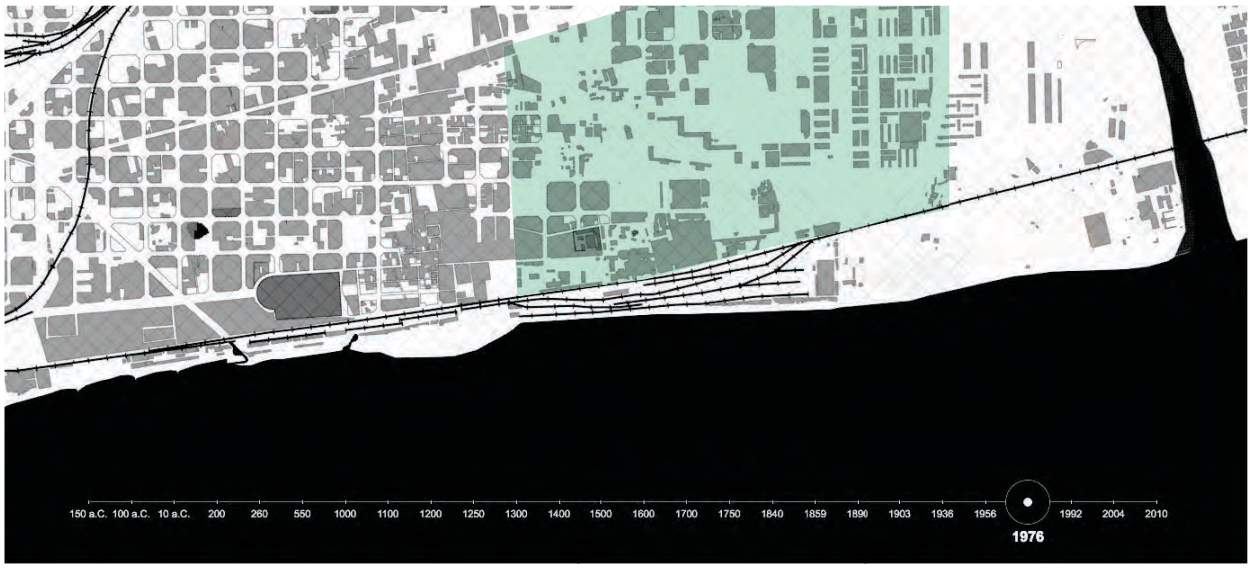
facing opposite site



modern infrastructures

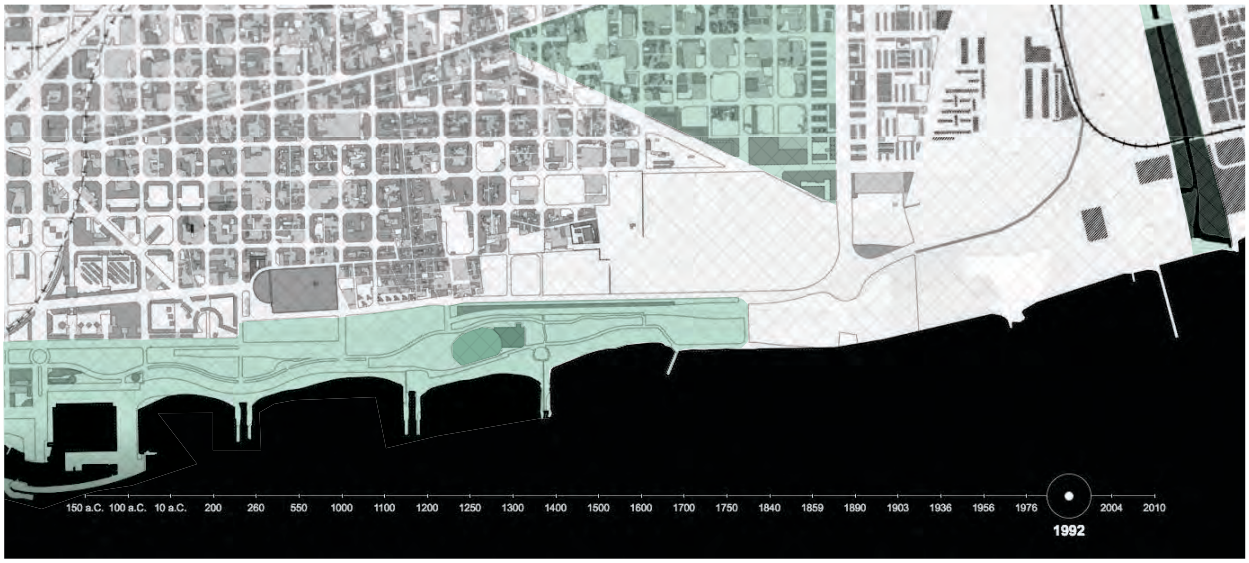


barcelona before the civil war

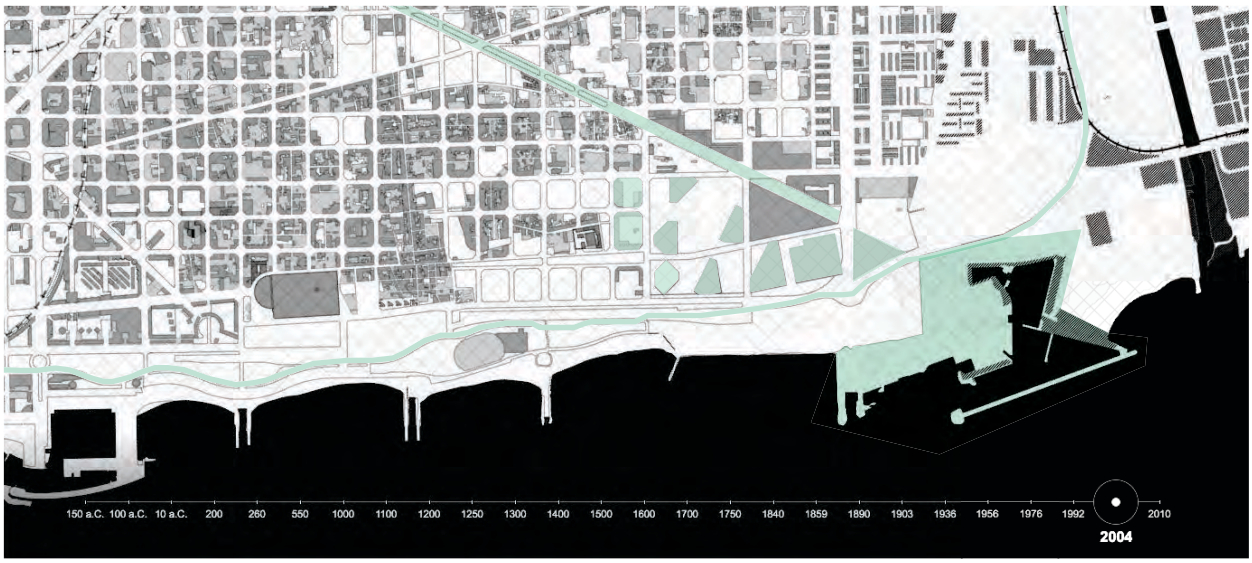


activities resume without democracy

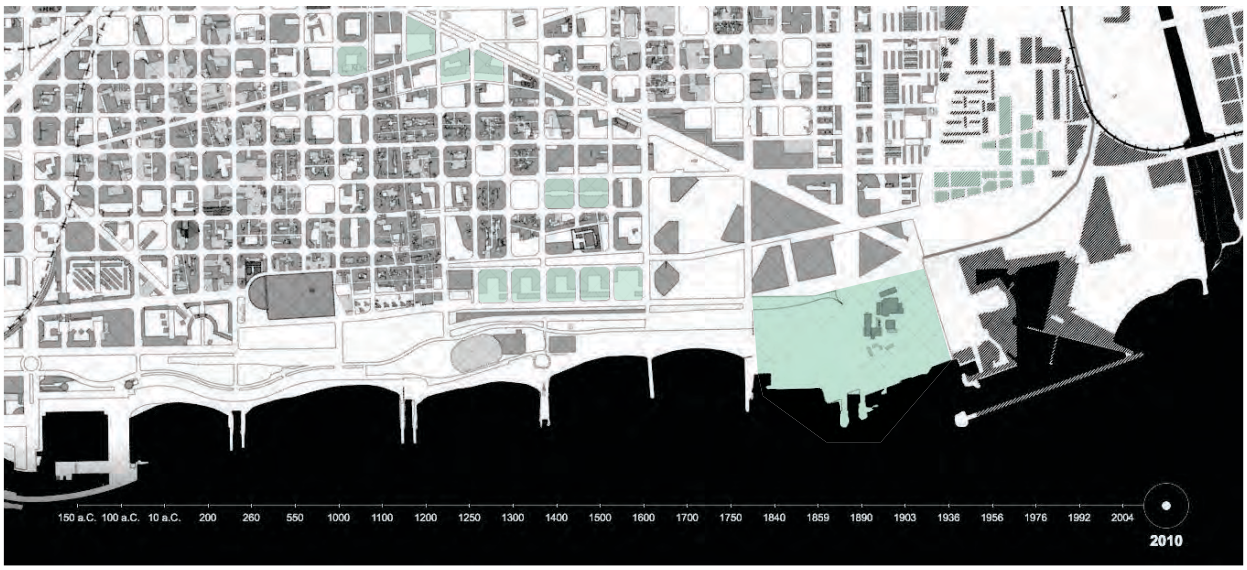
development of poblenou



olympic barcelona

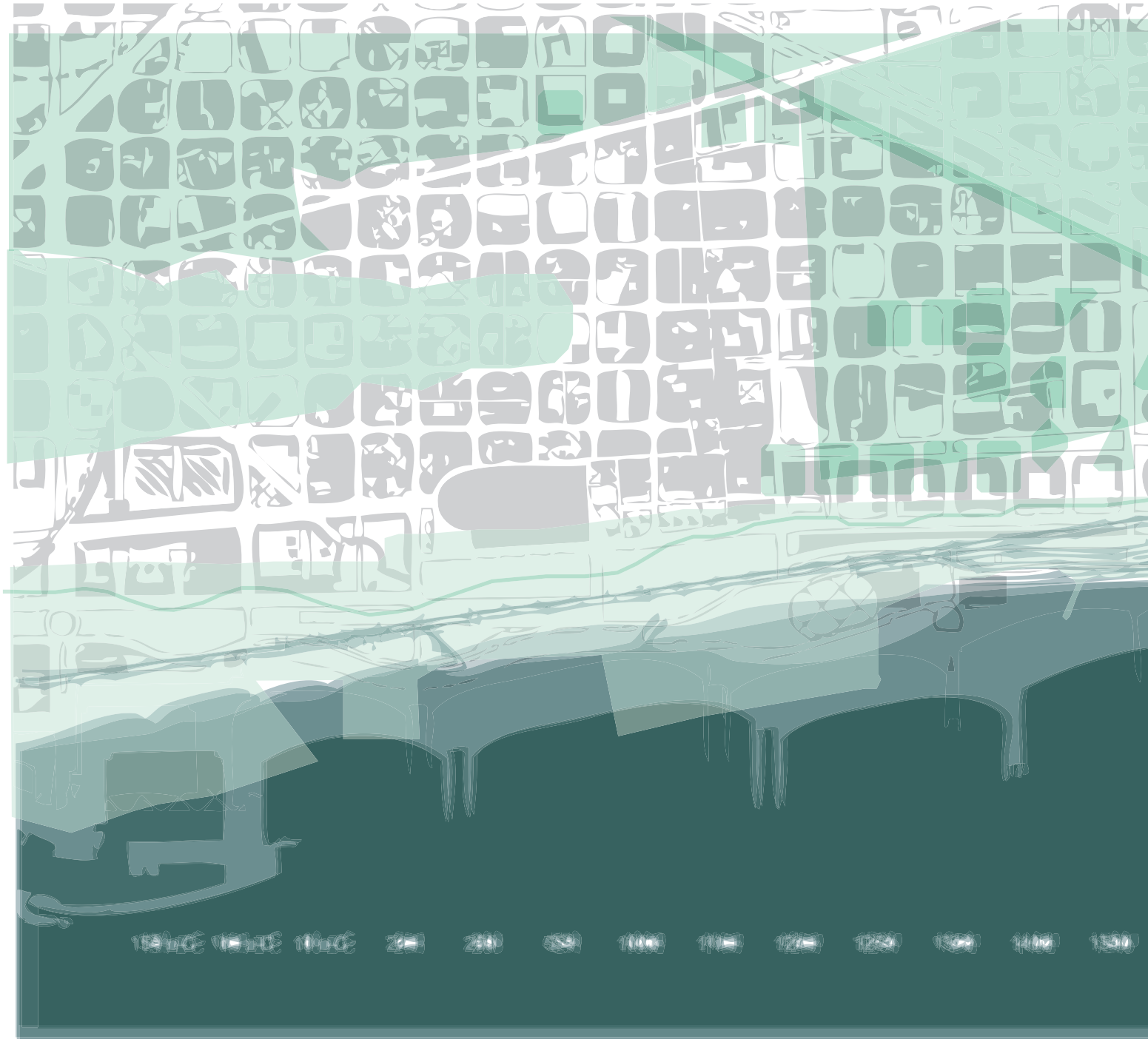


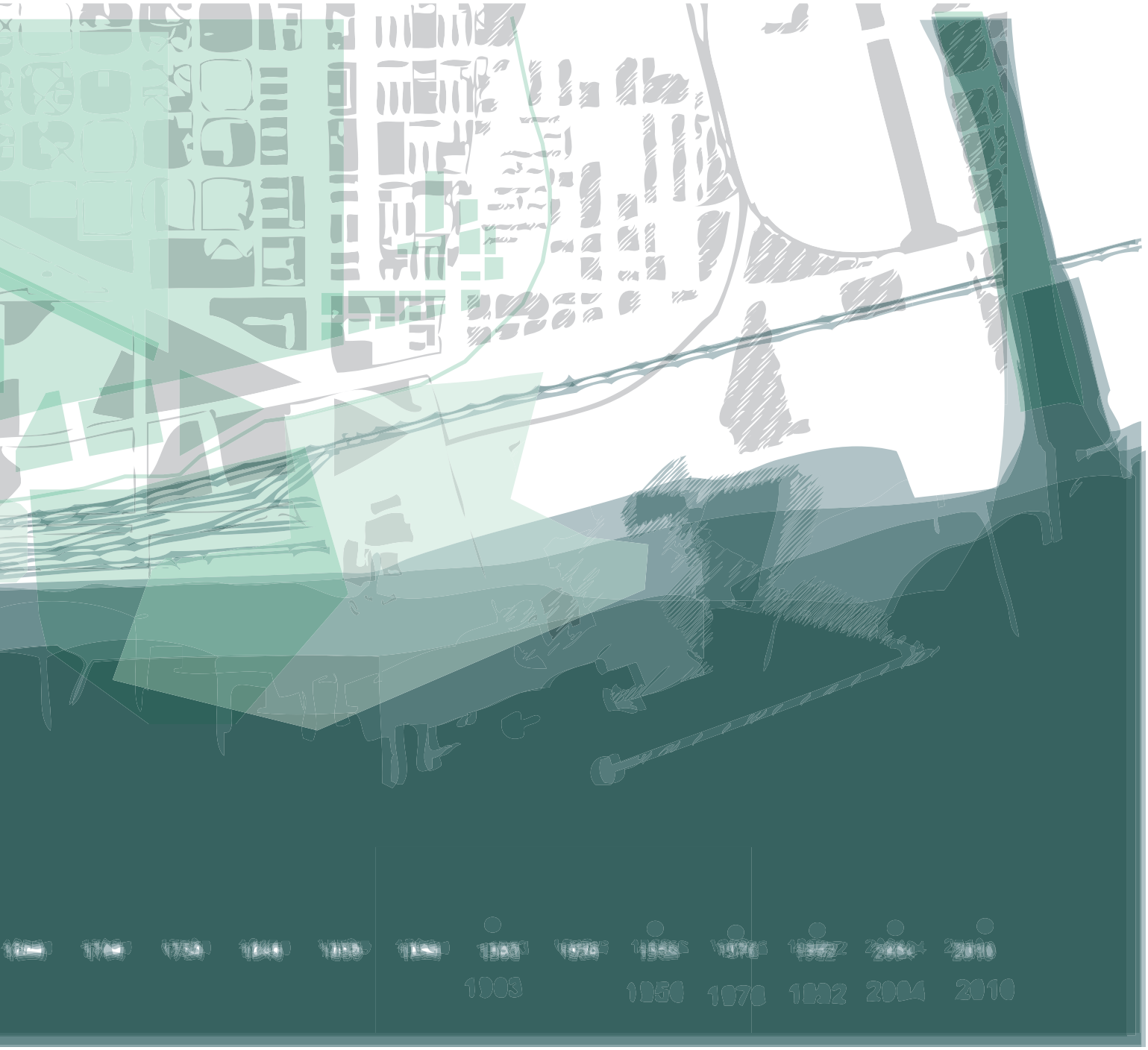
uncertaintancy in the era of globalization



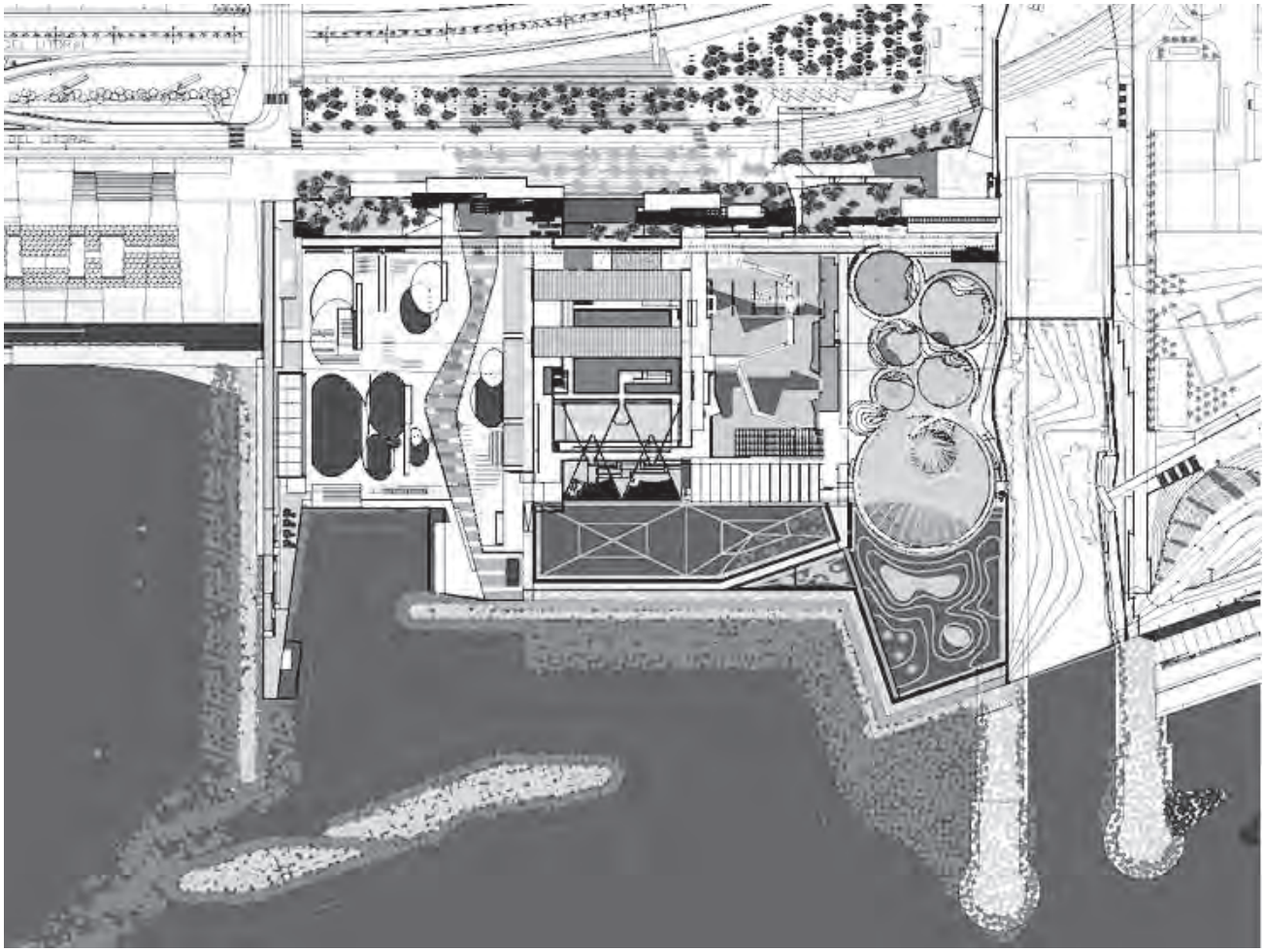
recent renovations

development since 1903 overlayed





changing boundary overlayed



http://www.forgasarquitectes.com/es/avantzoo.html

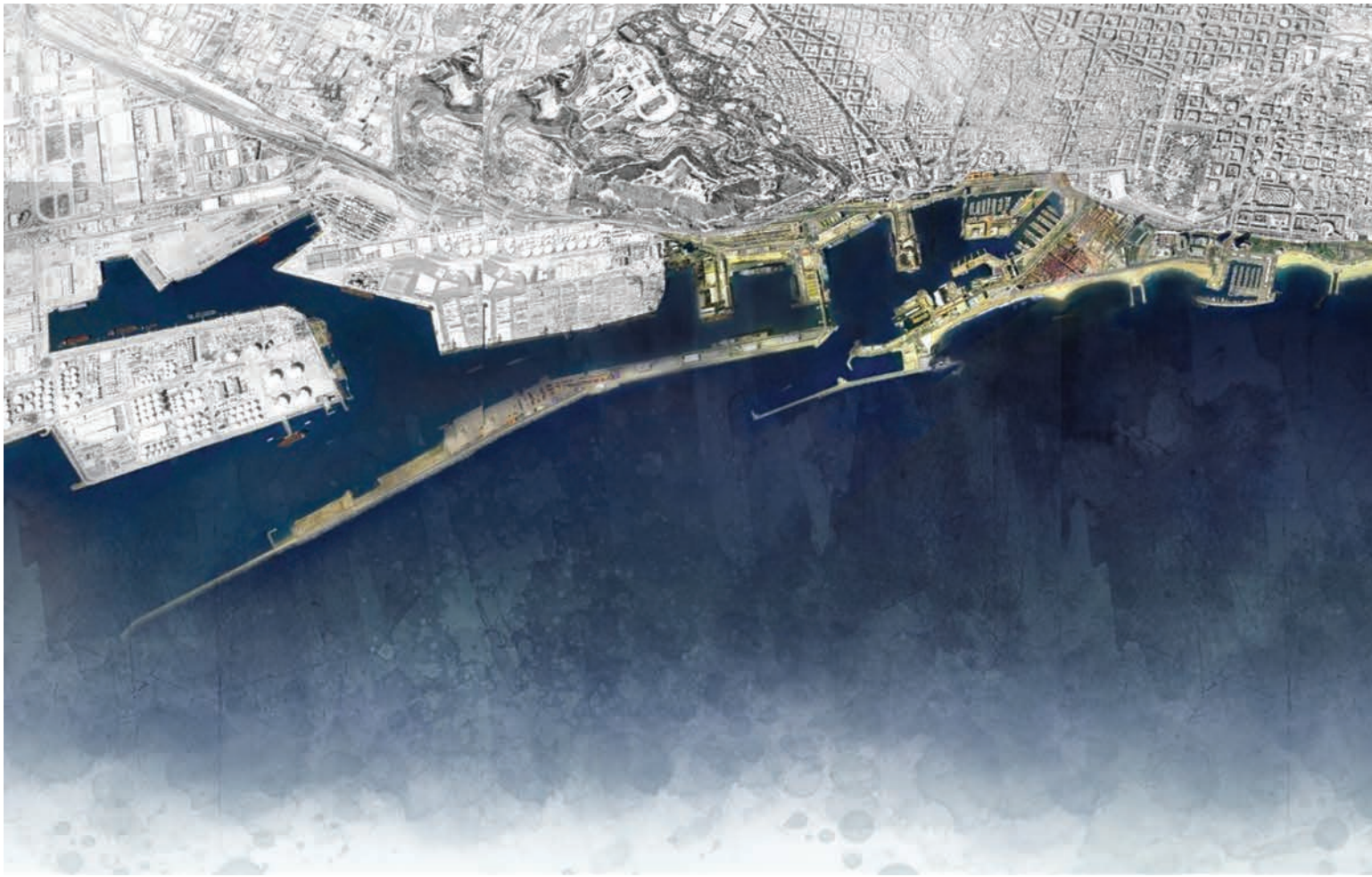
Currently, there is a proposal by Forgas Arquitectes to turn the site I'm looking at into a Marine Zoo, which would take in the animals from the current zoo in the middle of the city. This would provide them with much more space and a cleaner living environment.
Another primary reason that this project is being developed is the continuation of el passeig marítim. This is a waterfront walkway that aims to span from Barceloneta, the city's most heavily used beach, to the Forum complex. Without the zoo proposal, the space currently remains undeveloped at the moment, preventing the smooth transition into the Forum park. This concept is definitely something to consider as I design the public space element of my performance venue.

current proposal for site

http://www.forgasarquitectes.com/es/avantzoo.html

passeig marítim

google maps



beach zone

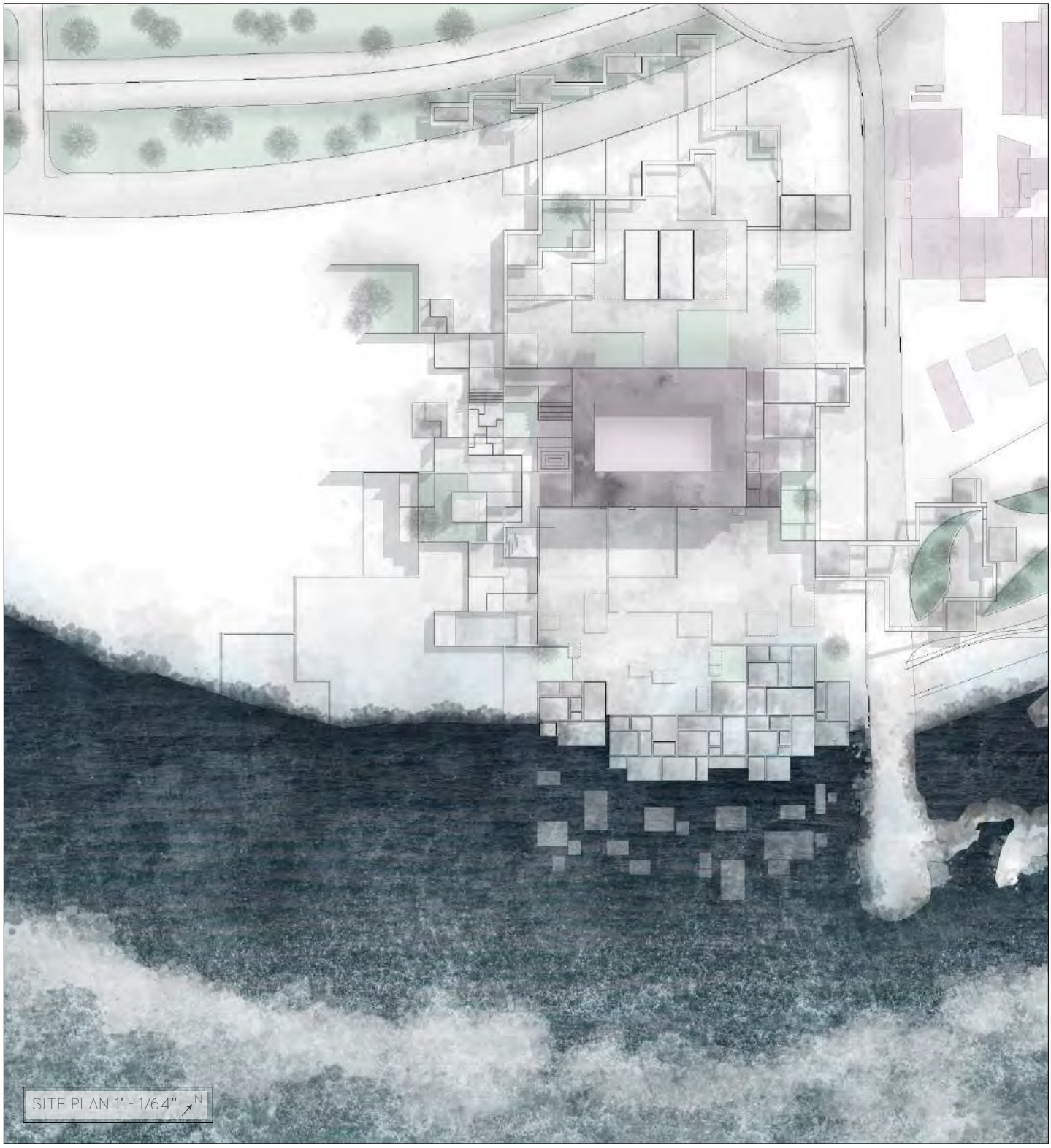
site

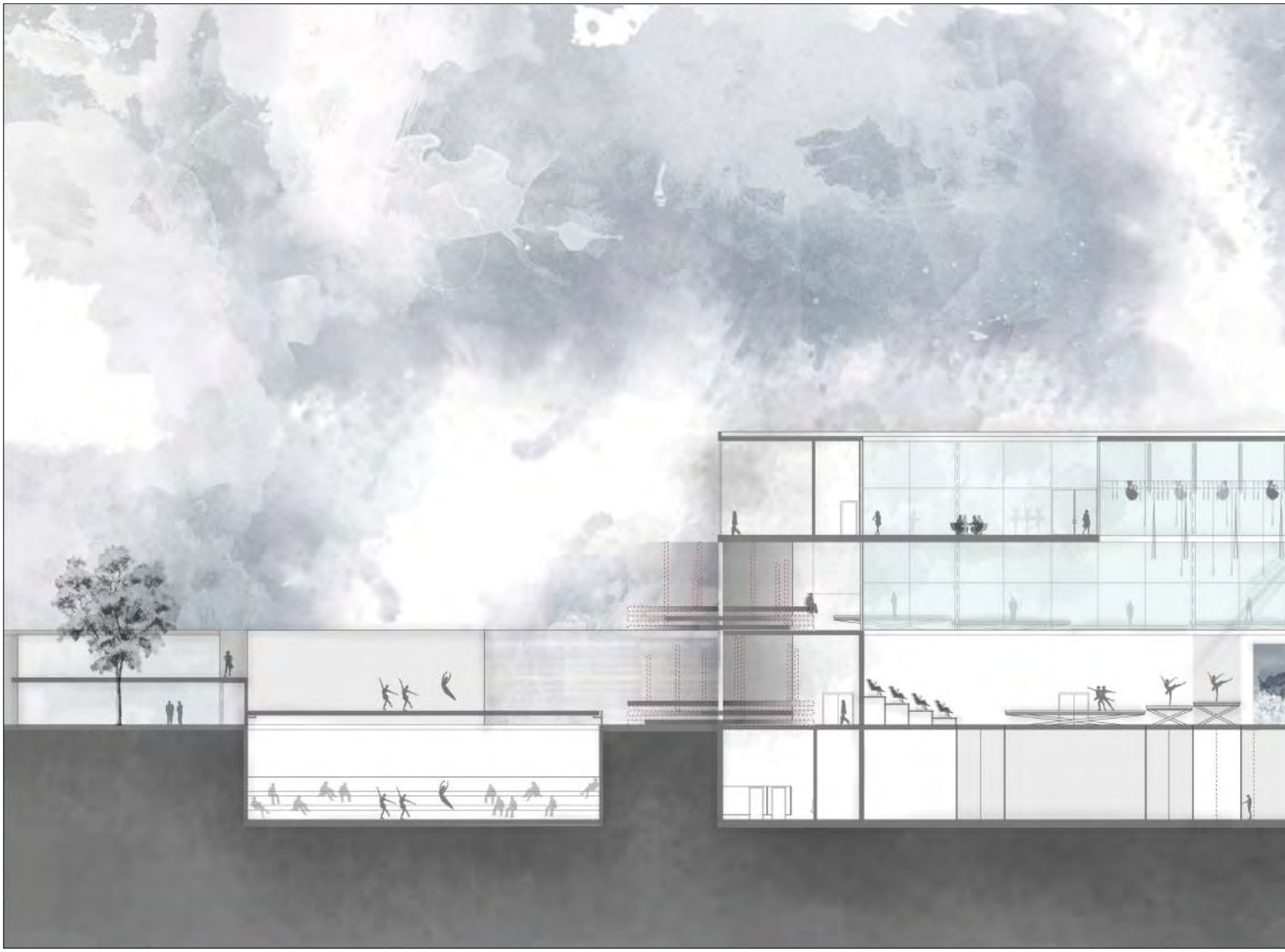
THESIS

Kinetic architecture has the potential to bridge the gap between static theater design and transformative stage design.

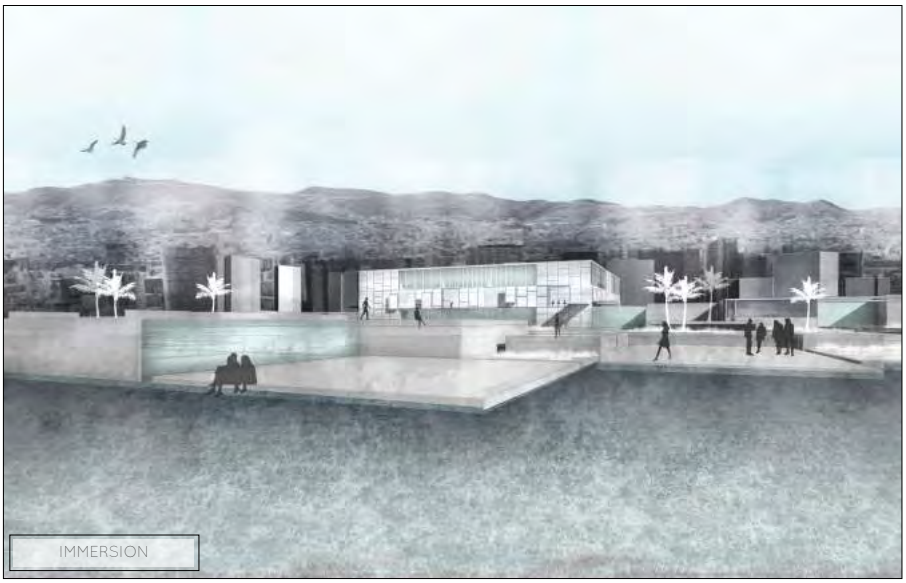
6

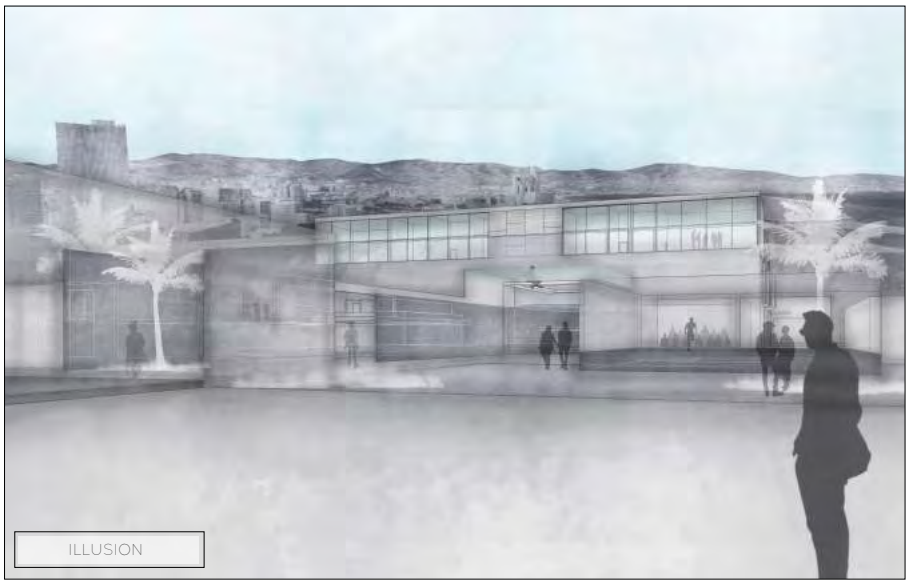
THESIS PROJECT

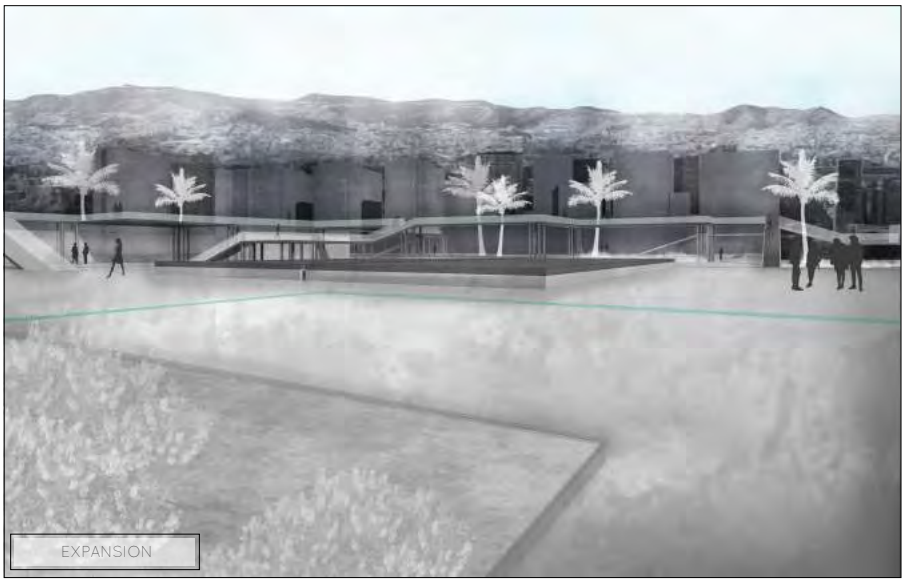

SITE PLAN 1' - 1/64"
N

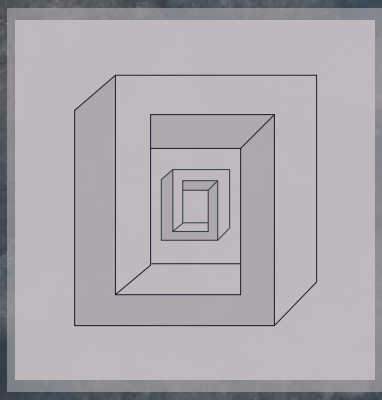


LATERAL SECTION 1' - 1/32"


IMMERSION

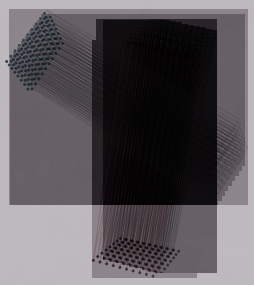

ILLUSION


EXPANSION



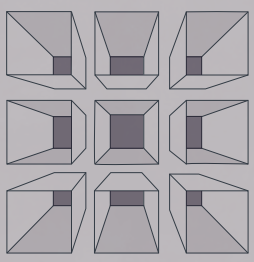
illusion

strategies | *transparency, scale, reflection, articulation of space, elevation, light, shadow*



immersion

strategies | *depth, vastness, seperation, fluidity, purity, proximity, elevation*



expansion

strategies | *above ground, below ground, connectivity, open, close, frame*

STAGE CONCEPTS

THESIS BOARDS