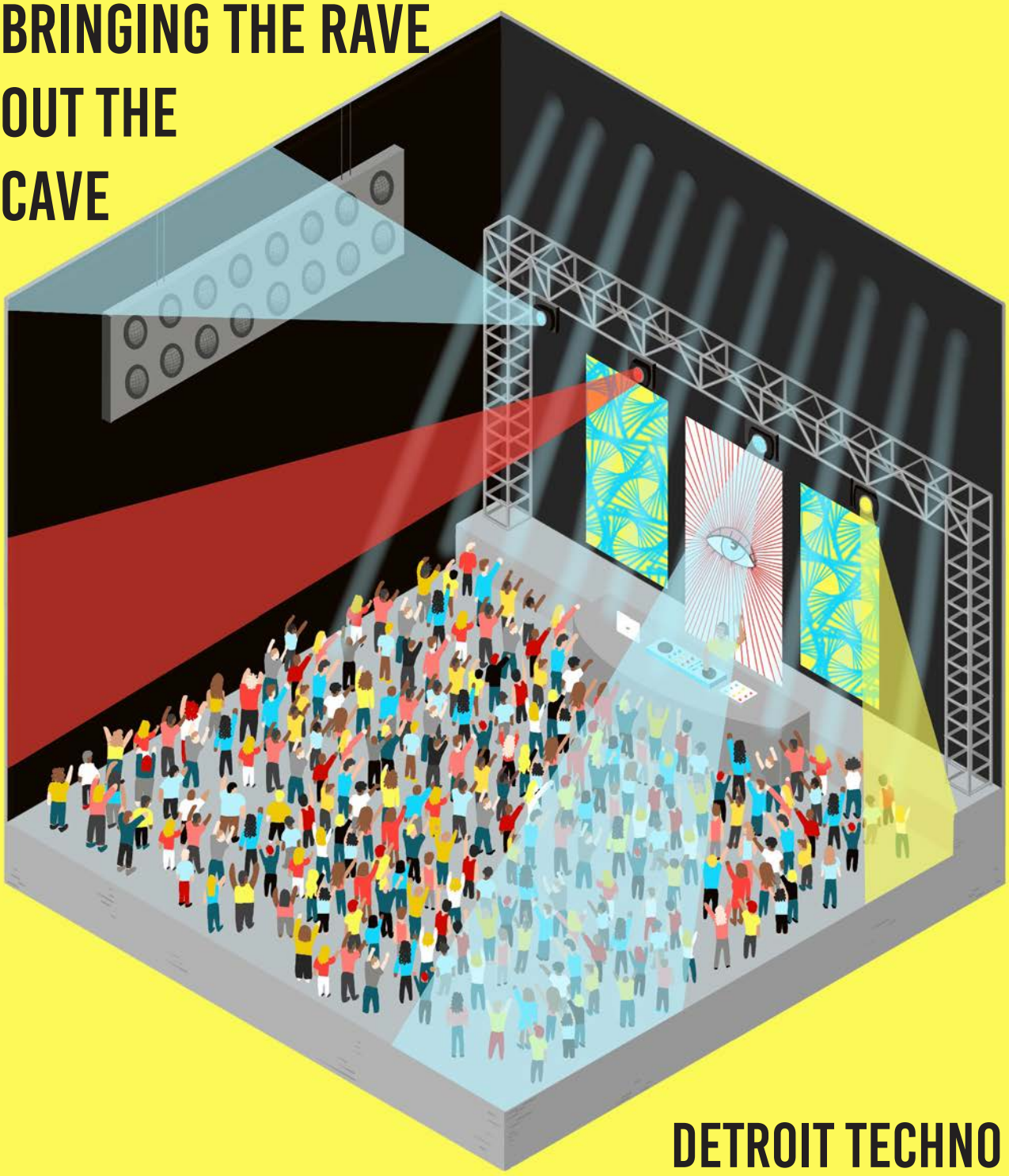
BRINGING THE RAVE OUT THE CAVE



DETROIT TECHNO

BRINGING THE RAVE OUT THE CAVE

Signature Page

A Design Thesis Submitted to the Department
of Architecture and Landscape Architecture of
North Dakota State University.

By:
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In partial fulfillment of the requirements for the
degree of Masters of Architecture

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Fargo, ND

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NARRATIVE/ABSTRACT

Narrative

Since the beginning of human evolution, music and dance have guided some of the earliest civilization's rituals, spiritual gatherings, and social events through the passageway of trance, expression, pleasure, entertainment and interaction. This type of elevated faith among cultures across the world have been traditionally documented in the language of religion. But spiritual enlightenment can be reached without being confined within religious institutions, such as the rituals of rave.

"Dance parties have transmuted the role that organized religion once had to lift us onto the sacramental and supramental plane" – Ray Castle

Between the mid twentieth century and the end of the early 2000's, urban unregulated spaces of warehouses, abandoned buildings, and underground clubs have taken in the raver's anarchist communal pursuit of a physical outlet, transcending the mundane through music and dance, with desired effects ranging from personal healing to transformations on social, cultural or political scales. These physical outlets were a spiritual escape into an invisible landscape of rhythmic repetitive electric sounds (Electric Dance Music – EDM) of synths and bass drums that move your body for you; a place of inclusion and oneness; a sense of freedom with no boundaries. This early rave movement was inherited from the disco and house developments of New York City and Chicago in the 70's and 80's (following the hippies counterculture movement in the 60's), whose oppressed subcultures formed house music and modern EDM culture in the midst of the fiscal crisis, establishing a new order positioned around peace and love, hoping to eradicate racism, poverty, war, bigotry, etc. (Graham, 2017).

Sampling and remixing the anthem of their inheritance, the new hybridized rave movement of the 90's spread across the globe, comprised of youth masses and the combined stimulus of electronic music, 'psychotropic lighting', 'chemical alternants' and all-night dancing, resulting in an ecstatic experience.

This ecstatic experience of raves, as well as its distinct empathetic character, is heightened with the 'love drug' or 'ecstasy', a component of raves that placed its early prominence as 'the remedy for alienation caused by an atomized society'(Reynolds, 1998). Conversely, this mass promoted itself, known for their obscure accessories, personalized icons, 'religious glossolalia', and mostly for their mantra PLUR (peace, love, unity, respect). Raves characteristics and experiences moved many commentators to employ interpretations of other traditional religious frameworks, such as Christian, Hindu, Buddhist, etc., with some even celebrating the non-Christian religiosity of dance 'ritual', designating it as the 'new church'(Graham, 2017).

As this new movement continued to weave itself into a worldwide culture, simultaneously, so did the negative media propaganda, labeling the phenomenon with drugs, dangerous parties, and deviant behavior. Subsequently, resulting in law enforcement crackdowns of these unregulated spaces. Soon after came the predominant commercialization of regulated nightclubs, which was more about the money of mass consumption than the authentic culture. Leading ravers to distant themselves from urban context and into the deserted landscapes of woodlands, deserts, beaches and dunes, where they could partake in their social rituals of communal music and dance in extreme secrecy without disruption of law and commodification.

From the end of the early 2000's to today, the rave movement continues to rise among a new generation of youth ravers, though not as overtly political and spiritually desired as their rave and hippie predecessors, they sustained the socio-cultural elements of the movement while adapting to the millenniums new type of economy and exchange. Raves today are most popular as outdoor festivals, which can accommodate the mass crowds of ravers. Whereas indoor clubs for rave lost their momentum in the 90's due to the shift to unregulated venues in the urban undergrounds and warehouses. And since then, there has been minimal architectural innovation within these clubs of nocturnal music and dance.

After delving into the evolution of rave and its culture, and learning about the constantly changing autonomous environments in which they took place, a non conventional, almost radical architectural question and idea emerged...

NARRATIVE/ABSTRACT

Abstract/Narrative

By examing the types of space raves inhabited, from the anarchist grass-root orgins of the urban undergrounds to the vast landscapes of commodified festivals of today, I question: what would the ideal 21st century rave space be?

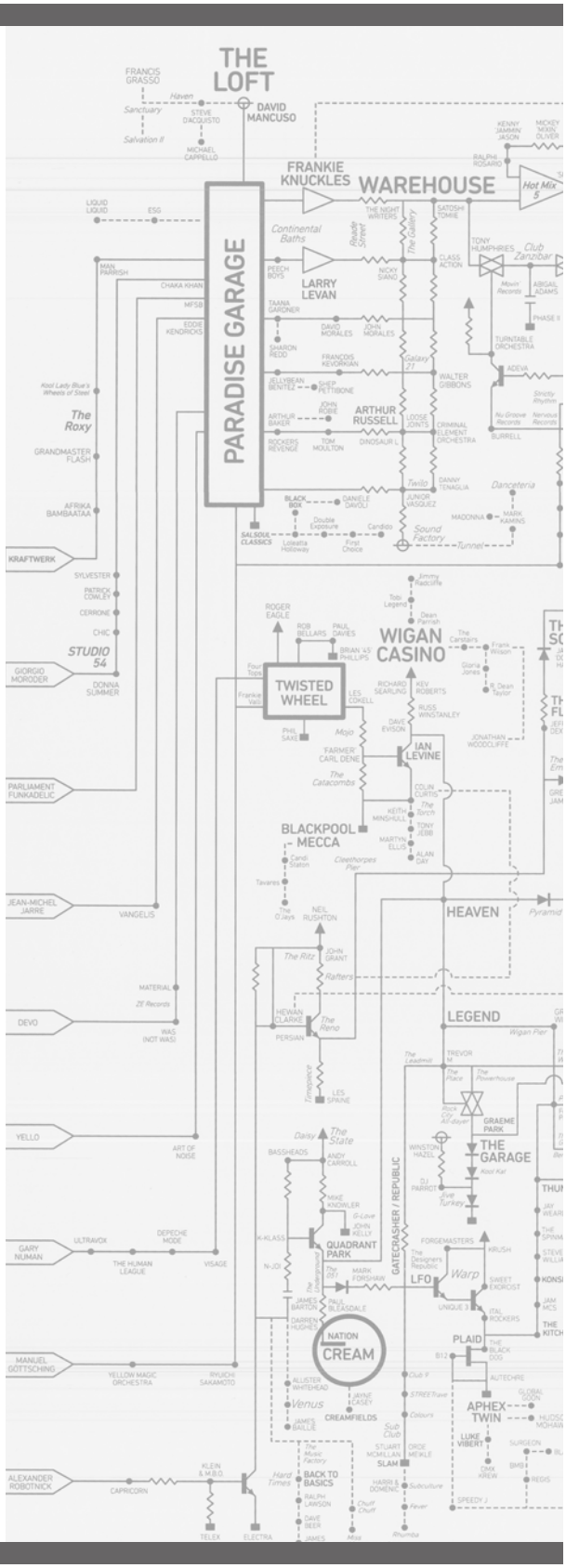
I propose to reinvent the new rave space, to structure the traditions, to reharmonize the powerful connections within body, spirit, culture and place. I aim to reconceptualize the club scene, sythesizing raves past sensibility of place with the innovative technology of today, resulting in an amorphous mixture of space, sound and light. The focus will be acoustically and visually rich environments within architectural forms that include a diverse variety of spatial experiences that enhance the physical, emotional, and spiritual responses of the users.

The result of this will be a combination of applied research into the past and present status of EDM/Rave scenes and their spatial implications along with experimenting the ideal acoustical environment and its variables through simulation.

Title:
Bringing the Rave out the Cave

Typology:
Dance Club - Performance Spaces

Site:
The Michigan Building & Theater - Downtown Detroit



PROJECT TYPOLOGY

Project Typology

When thinking about the Rave Phenomenon and their dynamic environments they did and still do inhabit, I question what the right typology would be for this, and since 'social utopia' isn't a typology, I have decided on a nightclub, which raves are familiar with both underground (autonomous unregulated spaces) and commercialized clubs. Raves are also known to take place in more deserted environments, such as beaches, deserts, woodlands, etc., which attract millions of people worldwide (ex, Burning Man, Coachella). Detroit is actually known for their annual 'Movement Electronic Music Festival', which attracts the similar crowd around the world. With that, this contemporary youth rave mass is very much still thriving and transcending.

With the typology of a club design, I plan to attract that same audience but rather in a more intimate series of performance spaces and transitional spaces between, allowing for a deeper connection to be made within the communal rituals of dance and electric sound. I want to provide Detroit with a place of rave that enhances those communal rituals while also representing its musical and socio-cultural origins through architectural elements. Those are just a few aspects I want to incorporate into my design, but in the end, I want it to produce what the ideal 21st century rave space would be, within the roots of Detroit.

Nightclub typology is dedicated to nightlife activities of leisure and entertainment, serving the only purpose at night, meaning it only has one identity. So, I ask do I want this club space of rave to only be used on weekend nights and only be known by people as a place of rave? Or do I want to follow what my precedent studies (Hacienda-1882 & Ministry of Sound II-2005) have done to approach this problem, which is providing a meaningful space during the daytime, while giving it another identity(Offices, Spas, Market Space, etc.- the possibilities are endless). I will investigate this approach more throughout my next phase of research. But as of now it will be designed as a club with the goal of creating todays ideal rave space, focusing on enhancing the sensory characteristics places of rave obtain.

Fig. 1: **Palladium Dance Club - 1980**

Fig. 2: **Underground Abandoned Building - 1993**

Fig. 3: **Burning Man Festival (Desert) - 1998**

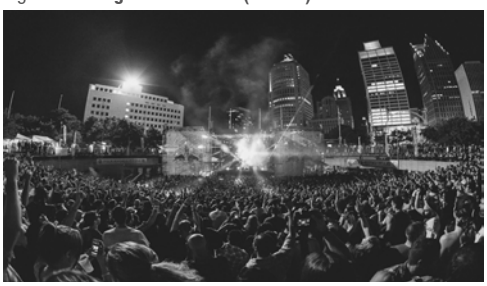


Fig. 4: **Detroit EDM Festival (Riverfront) - 2015**

CASE STUDIES

Case Studies

1 Berghain

Fig. 5: **Berghain Perspective**

2 Ministry Of Sound II

Fig. 6: **Ministry of Sound II Perspective**

3 FAC51 The Hacienda

Fig. 7: **Hacienda Perspective**

1 BERGHAIN

Fig. 5: **Berghain Perspective**

The Project Type: Nightclub
Location: Berlin, Germany
Size: 30,000m (322,917 Square Feet)
Capacity: 1,500
Distinguishing Characteristics:

- Known as the "best club in the world"
- Enormous existing power plant transformed into a club
- Monumental composition
- 18 m-high(60') cavernous main dance floor
- Minimalist interior of derelict concrete and steel
- Unique club restrictions: strict door policy and not allowed to take pictures IF you get inside.
- Place of Unlimited hedonism and permissiveness

Research Findings:

Common findings:

- One large main dance space with flanking subspaces such as smaller dance spaces,bathrooms, bar, lounge area
- Compared to a 'sancturary', or 'Shrine of Techno', so its also known for people to have a religous experience.
- Containing spiritually/psychologically transformative powers through architectural implications
- Qualities of spaces act as a catalyst for identity dissolution, inverted social structure, communitas, optionality, and a sacred sense of play
- Berghain and the underground community is anti-structural, proposing alternatives to the dominant cultural and socio-political norms

Uncommon findings:

- Berghain is composed of three seperate operational establishments under one roof: Berghain main dance floor, Panorama Bar, and Lab.Oratory Club
- 'Dark Rooms' - More intimate, closed off spaces where both gay and straight sexual activities occur
- Berghain operates as a heterotopic "other place" where visitors disappear for days at a time
- Selectivity or the strict door policy for people entering preserves the sense of sacredness and community

Berghain Context:
(environmental, social, cultural, political)

Berlin was and still is known for their legendary clubbing experience and strong relationship with electronic dance music, mostly known for the genre 'techno'. Techno was created in the 70's in Detroit, and almost simultaneously worked its way across the globe, landing most notably in Berlin, amplifying popular clubs such as Tresor, E-Werk, and laying the foundations for future clubs: Ostgut and Berghain. Berlin, Germany is known for its hectic past of the 20th century, but saw some light with the Berlin Wall coming down in the 1990's, where techno saw a shift in outlook and attitudes from the citizens 'sociologically trapped' by the wall, especially the youth of Germany. It created a new subcultural movement, which has evolved with techno to make Berlin a 'clubbing paradise' for DJ's, producers and masses of ravers.

Berghain was inherited by a prior club Ostgut which opened in 1998, being the one location for Snax – "a gay sex fetish night". This club was a fulcrum for the partygoers of Berlin as it helped rejuvenate the techno scene in the back end of the 90's. In 2003, the Ostgut was shut down and demolished, repurposing the space for a new development. After the clubs short lived years, a step towards revitalizing techno and its foothold with Berlin was taken into effect by the gay crowds and parties who lost their only place where they could live their lives and express themselves through music and dance. The legacy of Ostgut paved the way for Berghain as a club and a culture, which soon became the new home of the flourishing 21st century raver subculture.

The large 322,917 square foot empty floor space plan of the Berghain had the prior use of a combined heat and power station, erected in 1953-1954 as a socialist neo-classical architectural style, which became abandoned due to the 'inevitable obsolescence' of these power stations at the time. The plant was filled with generators, turbines, and other types of equipment which were removed after going out of service, leaving a large raw concrete structure from the 50's in the creative hands of club promoters Michael Teufele and Norbert Thormann. Berghain got its name through the location of which the structure stands, flanking two neighborhoods named Kreuzberg (BERG) and Friedrichshain (HAIN), which in German means "Mountain Grove".

1 BERGHAIN

The Berghain opened 'the door' in 2004, where it was quickly filled with a massive dancing crowd, leaving hundreds of people in line for hours waiting to get in, usually leaving empty handed, which still today is very common with Berghains zero tolerance door policy. Yet, they come back and try again, stuck on the anticipation of what's inside, which has contributed to the reputation and intense appeal of the club. What makes it difficult to get in is the clubs uncompromising rules, denying mainstream tourists, overly intoxicated people, or anyone that does not line up with the Berlin subcultural scene ethos. The club also forbids photographs to be taken inside, which only adds to "Berghains mythical status as any experience or story inside is reduced to anecdotal evidence and thus left to imagination"(Rapp, 2009). This in turn has associated the club with 'decadence' and 'hedonism', due to the experiences of people inside seeing drugs and openly gay and straight sex activities, taking place from dark rooms and corners to at the bar or on the dancefloor itself. However, these people and other party goers claim they were not even the slightest bit fazed by these antics. Then there are other experiences:

> "Bergain is a crème brulee. Perfect consistency and comes in a smaller pot that you had imagined. From the pure bass beat to the smoke rising in the bar and mixing in the haze, to elegant industrial windows. It is a gem – a dark diamond. Friday night, and most people are standing around. A sense of waiting. But in a few hours no one will be still. Maybe because of the perfect sound system, the music really resonated with me, it was in complete harmony, something hard to describe, and I could ride its energy and not get tired. Time doesn't really matter in there." (Excerpt: Dan's experience)

Even though Berghain opened its doors about a decade after the taking down of the wall, it has been an informal representative for the cities prior suffering. Berghain and other nightclubs have been the "galvanizing, communal havens of freedom for these formerly repressed subcultural groups"(Rapp, 2009). With that, nightclubs and their importance to Berlin can't be underestimated.

From the late 90's to today, Berghain and other clubs around have been effected by re-development of offices and media firms within the surrounding districts, which acts as a threat to the ravers freedom of expression, integrity of the counterculture, even a threat to Berghain itself after seeing what happened to its predecessor Ostgut. The conflict between the underground community and state is summarized here:

> "Berlin has not turned out as people imagined it would, it has remained what it always was, a capital of culture. A city for creatures of leasure and free spirits. These development plans are destroying a lot of spaces which, for many people are places to live their lives and express themselves. This is what we are fighting against".
> (Excerpt: Christoph Klezendorfs observation)

Overall, Berghain acts against the governmental and bourgeoisie currents that are common within the mainstream urban life. This underground community and its egalitarian attitudes further support the dance floor as a 'equalizer' for the city's diverse population, not only that, but it serves as an indirect response that opposses the authoritarian order. "The dance floor does not attempt to subvert existing societal hierarchies and boundaries, but rather temporarily dissolves them for truthful expressions of freedom"(Lawrence, 2013).

Conceptual Underpinnings Perspective:

Berghain has a deep roots in Berlin as it brought back the legendary club Ostgut, which in many ways was a 'quintessential gritty' and hedonistic Berlin club. This club was closed due to a redevelopment project, which caused some tension between the underground culture and governmental system. This was a site of freedom, experimentation, unraveling, and excess, especially at a time when the community was socio-logically impacted from the trappings of the Berlin Wall. People wanted their space back, which was sacred in their mind, describing it as a religious experience when in the space of EDM. The fall of the wall in the 1990's changed this, as it changed the overall outlook and attitudes of Techno and what it brings to the underground community and its culture. I think Berghain is what brought this underground community back together, even though it opened almost a decade later after the fall of the wall. Ever since Berghain opened its doors, the popularity of it continued to rise, going from a local phenomenon known for its sex parties and drugs, to the cities most powerful tourist attraction. I believe its all due to the underground culture, who have lost their space in many ways, and fought to get it back from the democracies of Berlin, aiming for freedom and liberation to express themselves, and they found that in Berghain ("Temple of Techno"). But in the process they lost the authenticity of the underground culture due to tourists and their wants to party in the most legendary club. The tourists bring in more money and attention to Berlin, resulting in more commodification and gentrification.

1 BERGHAIN

Fig. 8

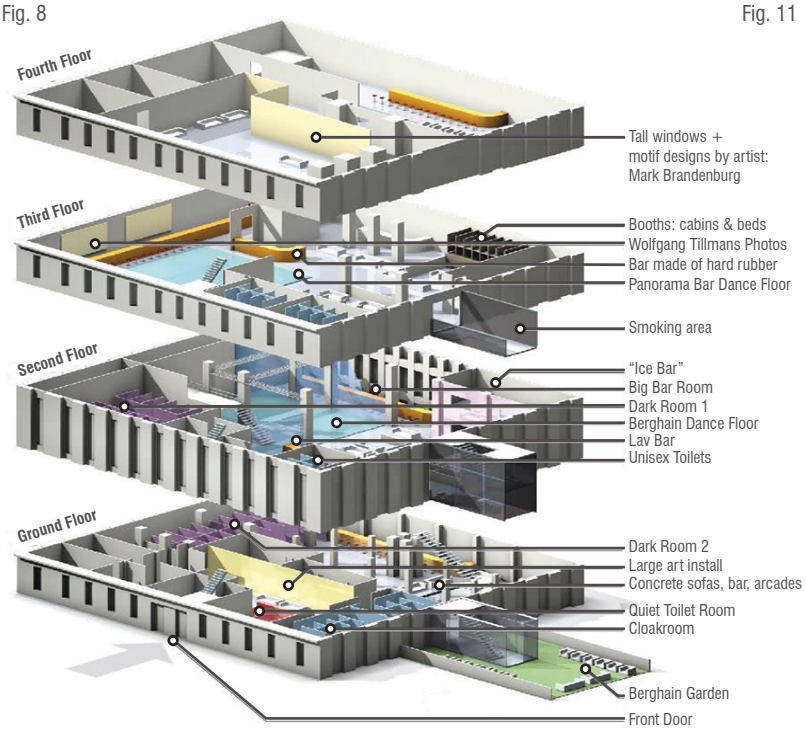


Fig. 9 **Axonometric Section Perspective:**
Vertical structural elements

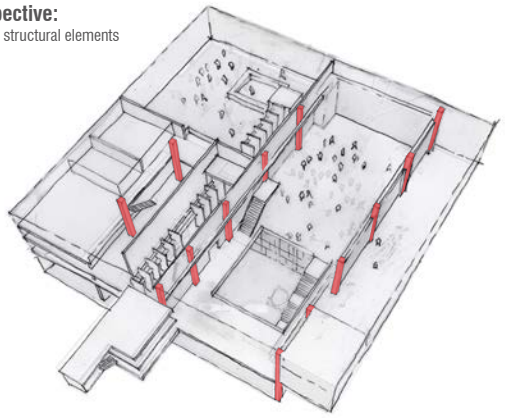


Fig. 10 **Section Perspective:**
Horizontal structural elements

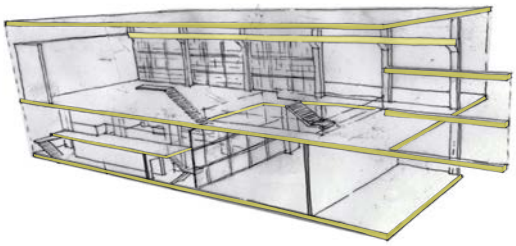
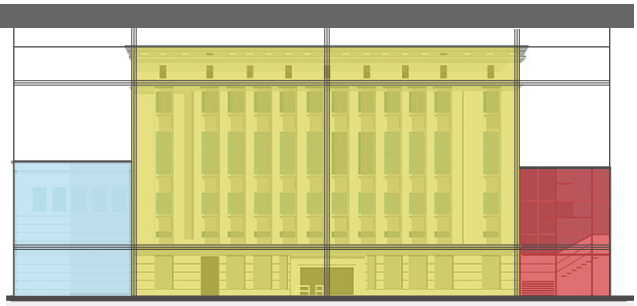


Fig. 11



Axis Lines + Symmetrical/Asymmetrical Balance: The facades of the building have monumental composition with the horizontal lined plinths, which makes the building look very heavy. Vertical windows were placed above the plinth, articulated with piers that hold up the cornace, which elongates the buildings volume. The building resembles a Renaissance monument with the small mezzanine windows being horizontally articulated with the cornice. The main structure(yellow) is designed symmetrically where as the flanking smaller structures (blue, red) make it feel asymmetrical. The entry door was small and at the rear of the building, resembling the non-human proportions in the interior spaces.

Massing: The power plant was contructed in 1950's, where the new aesthetic was a social realism style, which is reflected here with its bunker proportioned facade. The building was constructed in two phases, creating two cubes that were 130' x 130', but its other half was knocked down leaving just one monumental cube with two flanking smaller cubes.

Hierarchy: The signifying hierarchical element is the main structure itself(yellow), with it being placed in the center of two flanking smaller forms. The size is also a factor, as its enormous stature creates a sense of monumentality, especially with the 'heavy look' articulation of exterior ornamental elements and the un-proportionality of the front door.

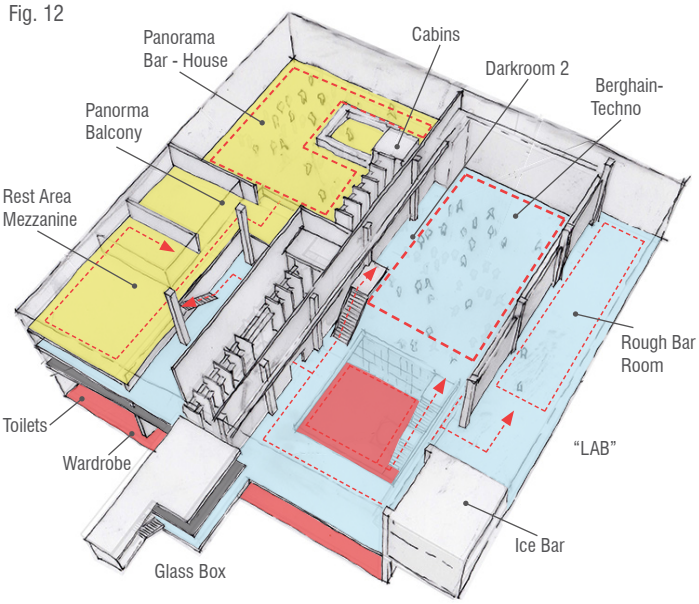
Geometry: The geometry of the building is a cube, where the exterior is articulated with planar elements of vertical plinths and horizontal cornices. The window placements follow within the set parameters of the exterior planar elements. The building is slightly more elongated than it is in height. As for the interior, the geometry is seperated into smaller subspace cubes, with one being double in height

Natural Light: Clubs are known for their artificial darkness, rarely seeing any sunlight as most of the windows were covered with screens. The only time the inside sees natural light is when they open the screens to let people know the parties over or when they open them momentarily when the music hits its climax, in other words 'when the beat drops'. But the building does contain many windows, with the tallest being on the third level and the flanking glass box used as vertical circulation.

Structure: The structural system used in this building is a one way concrete slab that is supported by opposite side beams. The interior columns are organized within a perimeter grid of 130' x 130', with equal 26' spacing in between, except for the 60' mezzanine space where the main dance floor is located. The floor to floor height of the main three levels is 30' tall. The vertical plinths on the exterior help with load bearing, transferring the access perimeter loads down into the ground. The architect Thomas Karsten describes the construction to that of a "cathedral of the Middle Ages."

1 BERGHAIN

Fig. 12



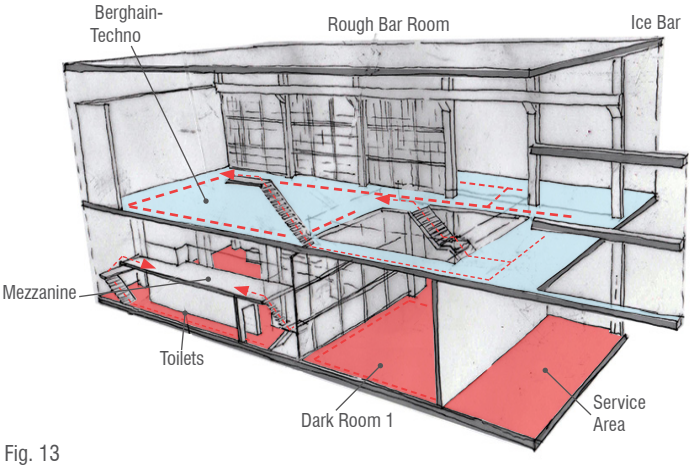


Fig. 13

Circulation through space:

Berghains circulation of space revolves around the three prominent clubs placed within the structure, these clubs are the main dance hall of Berghaim (Second Floor), Panorama Bar (Third Floor), and The Lab.oratory (First Floor). But Burghains 60' centralized dance hall what creates the circulation as it acts as a threshold among the other spaces around it. These other spaces are more intimate smaller spaces, such as individual bars, darkrooms, and lounge areas. The sets of suspended steel stairs placed along the aisles or mezzanines of open voids are what allows vertical movement to the different spaces and preferred atmosphere. The grand hallways allow for less congestion and more circulation to and from spaces.

Ground Floor:

The ground floor contains a small ticket booth area, which is flanked by a large entry hall that includes a cloakroom and a large art installation titled "Rituals of Disapperance". The rest of the ground floor is used as a bar area and a darkroom space - which is used mostly for homosexual play.

Second Floor:

Steel stairs are suspended from the ground floor to the second floor, which is the former turbine room that is 60' tall, now used as the main Berghain dancefloor, having the capacity to hold around 500 people. The double height space is an acoustical overload, consiting of seven huge 'FunktionOne' speaker stacks. Along on the second floor are two other bars, an overlooking mezzanine with an ice cream bar, more unisex bathrooms, and another darkroom.

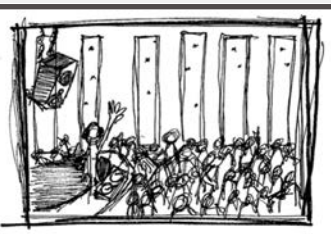
Third Floor:

On the one side of the Bergain dancefloor is another set of suspended steel stairs, leading up to the third floor Panorama Bar, consiting of a 30' high ceiling dancefloor which is located in the previous control room of power plant. The space contains a wrap around bar with a wall full of Wolfgang Tillmans photographs. The DJ booth is suspended from the ceiling by chains. The one side of the space also contains the tallest windows, usually covered by mechanized metal blinds. The remaining spaces on the upper floor include more unisex bathrooms, old renovated storage lockers serving as little cabins, a smoking area, and another bar.

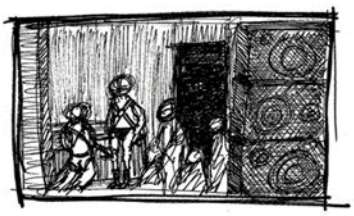
Sequence of Approach: The sketches below by Andarin Gallardo represent a visual description of the common experience at Berghain. Most notably the 'unsettling' and 'nerve indusing' approach to the steel front door with the strict policy. Out of the hundreds waiting in line, only a handful are accepted in, the others are left to only imagine whats inside. The anticipation is a key element in this sequence of approach, a slow moving linear path to a small door placed on a monumental facade, the nerves and the sound of techno increasing as you edge closer until you reach the front where your fate is decided. This anticipation of whats inside the "worlds most legendary club" is what gives it its intense appeal.

Andarin Gallardo: Sketches of Berghain Experience

Fig. 14



Panorama Bar: interior
By Andarin Gallardo



Entrance to the darkrooms in Berghain.
By Andarín Gallardo.

1 BERGHAIN

What does this case show?

This case study of Berghain shows an enormous cubical space, divided into the three dominant spaces that are mixed around the overall building, but the main 60' dance floor is what dominants the space with its centralized heirarchial placement, transitioning into intimate smaller subspaces. These spaces are not new by any means, they were added too with industrial type furniture, art pieces, stairs, etc., overall adding to the edgy industrial 'vibe'. The more intimate sub spaces are used for sexual escape for both gay and straight sexual activities, often pushed off the the perimeter away from the larger crowds - who they dont even seem to mind the behavoir. This case also places emphasis on tall spaces and big volumes of halls, helping to reduce the clausterphobic sensations , even in the middle of the dance floor. Having no artificial lighting on the inside creates the artificial darkness mood, where peoples dancing bodies are distorted and fragmented in the artificial light strobing like an old film.

Fig. 15: **Berghain Dance Floor - 60'**

Fig. 16: **Ground floor: vertical movement**

Fig. 17: **Ground floor: lounge space**

Conclusion:

My theoretical premise revolves around the rave phenomenon and how it is associated with communal rituals and spirituality, where I plan to figure out how to enhance those elements of rave - along with others - into an ideal rave space.

Studying Berghain was a good first step, learning how they approached this phenomenon and its architectural implications. The building itself (an abandoned power plant), as well as its operations, has some defining characteritics which were intended to enhance the religous expereinces of the users inside.

The first element is the direct and implied boundries/edges found at Berghain, both in the orgainzational layout of spaces and the procedures of apprach. It is known Berghain has a strict door policy, where there isnt a clear distinction between who is and who isnt allowed, but this selective nature doesnt only serve to increase consumers, it acts to increase the feeling of community and sacredness. The strict guarding of the front door aids to signify the "boundary between the sacred interior space and the profane exterior space"(Paumgarten, 2016). Another example is the windows which are kept shut and rarely opened from the inside, which is intended to seperate the "spiritual" space of being from the external world.These example here emphasizes the clubs notion of disassociation with the outside world, where the space inside is that of sacredness and spirit, indicating that there is something inside those doors that are worth protecting.

The second element is creating a type of tone and mood setting, one that often increases the psychological cues of the people expericing the place. The picked site of the abandoned power plant achieves this tone and mood setting by not altering the industrialized character of the space and keeping the authentcity. This also conforms to the Berlin techno culture who thinks anything new and shiny doesnt belong as gentrification and and the international rich and glamor tourists have taken a toll on Berlin and its club culture. The tone is also set in the approach sequence, a linear path of people leading to a monumental facade with no grand entry, just a set of small steel doors. The un-proportionality of the building to person is what helps set this tone.

A third element is transitioning and threshold spaces, which Berghain expresses this notion as each floor is seperated by unconstrained or open thresholds. The sets of steel stairs leading into "caverous" spaces within large rectangular voids gives a sence of divinity and the rising up spiritually into the heavens. The spiritual transitions are emphasized through artificial darkness as you walk through many half story levels with varying degrees of darkness levels. The transition to light through the large windows on the third floor provides a spiritual experience as the users are adjusted to the darkness for the whole night where then the sun comes up and shines through the cracks of the metal shades.

This exemplar study of Berghain acts as support and reassurance for my premise involving rave rituals and spirituality and how I can enhance them through architecture. The elements of boundries/edges, transitions/thresholds, light/dark, and tone/settings are represented within Berghain and intend to enhance the spiritual experience of the user both consciously and subconsciously. I will add these elements to my resevoir of things to experiement with for my research and design phases. Spaitial psychology is also what I took away from this case study, where here they manipulated space, light, proportions, materials and textures to fufill the psychiological and spiritual wishes of the users. History of place and culture is also another important aspect, Berghain shows this my keeping the authentcity of the existing power plant, connecting to the underground culture and their own authentic characteristics, oppsing the dominant social structure and their commodification.

2 MINISTRY OF SOUND II

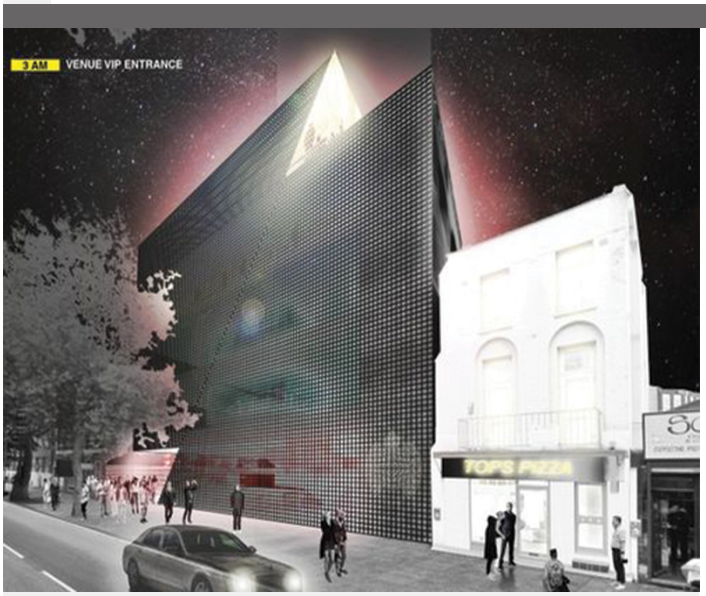


Fig. 6: **Ministry of Sound II Perspective**

The Project Type: Nightclub
Location: London, UK
Size: 65,550 Square Feet
Distinguishing Characteristics:

- Avoids association to singular identity, where the building transforms to have multiple identities and respond to multiple trends
- Combines the richness of past nightclubs with the technology of today
- Kinetic design, allowing the building to morph by day and night

Research Findings:

Common findings:

- Providing a diverse range of experiences, focusing on psycho-spatial environments that are unique and interesting in many ways
- Same story line of rave evolution in the U.S: disco experimental theatres (60's) to cultural mecca nightclubs focused on scale and mainstreams (70's), continueing until the (90's) where unregulated abandoned warehouses became a temporary home to the underground rave culture and sound - happened around the globe. (early 2000's - today) little architectural innovation in nightclubs.
- Trying to bring back notions of ritual and spirituality by studying the origins of rave and the spaces that provided that feeling, such as discos in the 70's and 80's.
- Confining to the notion of physical space as a means of 'escape'
- Space for entertainment and nightlife

Uncommon findings:

- Focuses on all day (24 hour) functionality and more on the structural and fire safety of the spaces
- Designing more for upscale mainstream popular culture than the underground authentic culture.
  - Contradicting that notion as they place the nightclub spaces literally underground.

Ministry of Sound Context: (environmental, social, cultural, political)

The ministry of sound is a multi-media business, being dynamically involved in the industries of nightclubs, music, entertainment, events, and lifestyles. The company's night club titled "Ministry of Sound" first opened its doors in 1991, where it quickly developed into a popular multi-media brand. As they continued to transcend and thrive through the 2000's, they decided they wanted to relocate to a new spot next door to its current home. The Ministry of Sound teamed up with architecture firm OMA to conceptualize a design for what nightlife space could be with the technological innovations that are present today.

London has been known as the "clubbing center" of Europe for a long time, originating in late 60's by a group of young Italian radical architects who wanted to experiment with theatrical spaces of disco clubs. OMA architect and partner, Ippolito Pestellini Laparelli describes these spaces as "'a home for everything, from rock music, to theatre and visual arts, designed as multimedia environments conceived to be flexible, technologically advanced, and adaptable through time, built with new materials, more similar to experimental theaters than nightclubs".

This continued until the 70's, where those experimental theatrical spaces were swapped out for bigger and better spaces, which brought forth mainstream cultural meccas, for example, Studio 54 in New York. This was carried on through the 80's and up until the 90's, where then the focus was switched to the commodification of these big nightclubs, putting more money into getting premiere DJ's rather than building spaces of socio-cultural experimental theatrics. The result of this produced the rave phenomenon, leading to the abandonment of designed club spaces to the found spaces of the underground. This happened all over the globe, thriving and transcending into the 2000's, and ending in the 2000's as OMA argues that rise of technology and the internet have "dissolved the body as it lost ground to social networks and remote connection". Overall leading to the lost relevancy of club spaces and their scarce architectural innovations within the last decade.

With this context in mind, OMA set out to conceptualize this information through applied research into exemplar club spaces of both past and present, taking rich and interesting elements of them and articulating them within their design. Along with space, they analyzed the culture of nightclubs to further understand how the nightlife scene and culture evolved through generations of time. Here they applied qualitative method gaining empirical evidence from interviews of local and world known DJ's, venue owners, and club owners. The outcome of this research produced a general timeline of nightclub architectural trends which helped inform their ideas of approach for this dynamic phenomenon.

2 MINISTRY OF SOUND II

Conceptual Underpinnings Perspective:

After reviewing the complex context in which OMA had to design for, I thought they took a great approach to this phenomenon of Club culture. The history of the culture is crucial, especially as it involves gaining empirical knowledge from people who experienced the time and place, and what their perceptions are. As generations come and go, so does the space and their identifying characteristics of that time, where in OMA's approach, they intended to incorporate all generations of club spaces, picking out unique aspects and combining them into a whole, which they seem to be doing with the cultural aspects as well, Overall creating a meaningful space for all generations and cultures to come together. Hence, their theoretical premise; a space able to reconcile the dynamic relationship between body, culture, and place.

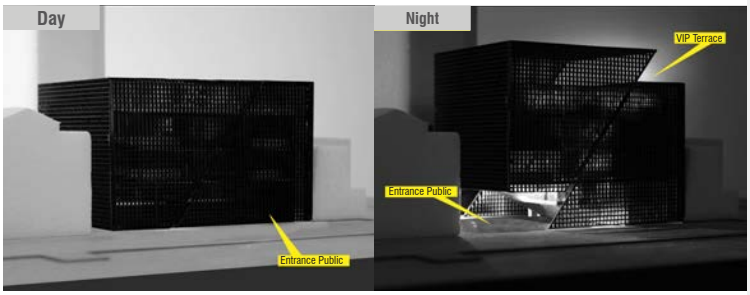


Fig. 18: **Perspective - Mass: Day vs. Night**

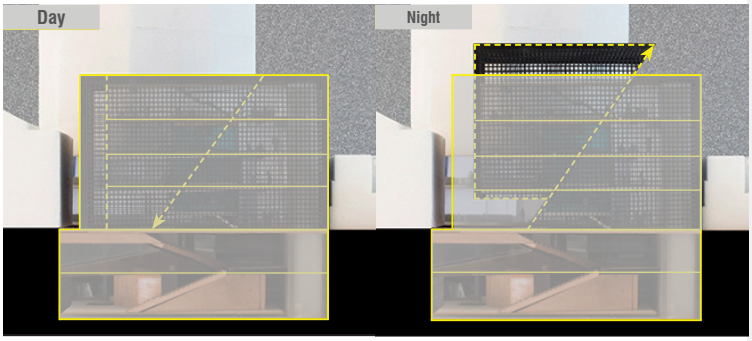


Fig. 19: **Section Perspective - Geometry: Day vs. Night**

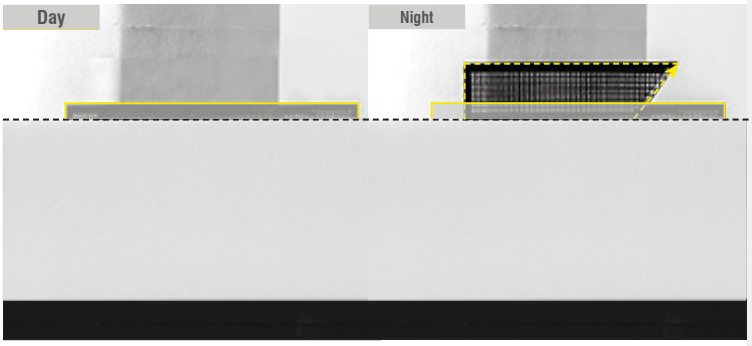


Fig. 20: **Hierarchial Composition: Day vs. Night**

Natural Light: Natural light is used only where the function requires it, and that is above ground, where light can stream into the daytime spaces of offices, meeting rooms, spa areas, and private offices located on the upper three floors. The industrialized metal screened façade and its permeability allows for diffused light to reach the interior spaces of the informal office and spa spaces. The glass panels line the perimeter of the interior floor space, where the dynamic steel structure and screen wrap around it. Besides the above ground spaces, no natural light is needed as the underground club is activated at nighttime.

Massing: The mass of the above ground is in the form of a cube, where the volume of the space is recognizable by the context in which it is placed. Where in the underground it is not, acting as the prominent physical bulk of the building, but prefers to stay hidden and authentic. Physical perception plays a role in this building, as no one is aware of the underground mass until you're in it. And for the bulk of the underground, 'The Box' takes it with its double height centralized space, radiating to intimate subspaces.

Hierarchy: The architectural hierarchy is defined both above ground and below ground but is emphasized more at night. This is because the exterior screened façade (acting as enclosure) is dynamic, mechanically lifting at night, signifying the importance of nightlife. The underground defines its hierarchy through the 'cavernous' massive spaces that are articulated within the ground, used as performance spaces. The leisure nocturnal activities are the signifiers in this multi-identity nightclub, with it taking up 38,750 SF of the underground which is more space than what's above ground (27,000 SF).

Axis Lines + Symmetrical/Asymmetrical Balance: During the day, the form of the building is in a state of symmetrical balance, a macro square with smaller micro squares gridded along the faces of the façade, with a diagonal split through half of it, creating two equal slices. At night, everything stays the same except for one slice, which mechanically lifts up in its diagonal split direction, creating two opposite voids at the corners of the split, showing asymmetry but implying symmetry through its axis lines.

Geometry: The geometry of the exterior in elevation is self-explanatory and stated above, I'm more interested in the geometry of the underground interior spaces in plan. Where here they articulated the spaces with axial diagonal paths then merge into spaces of right angles – almost like their bringing the geometry of the exterior inside to coordinate spaces, but just in a less balanced more fragmented way.

Plan to Section/Elevation: Plan and section are needed to understand this building and its dynamic design. From the outside, you can understand the space of what's above ground, a simple four level mid rise building similar to its context. The floor plans give you a better sense of the amount of space of the underground club, whereas section provides you with a close 50/50 distributed space between under/above ground. Floorplans also emphasize the geometry of spaces and their transitions, which is a unique blend of angled axial lines, merging into voids of double height spaces. Section allows you to know the scale of those spaces.

2 MINISTRY OF SOUND II

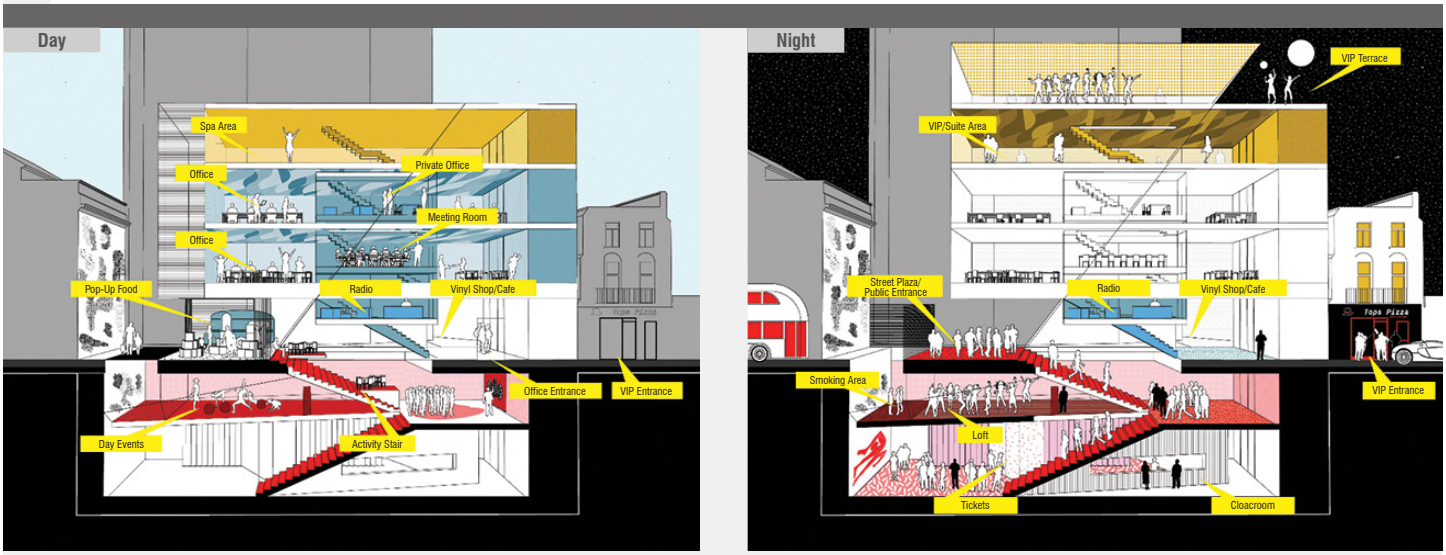


Fig. 21: **Spatial Diagram: Day vs. Night**

Circulation through space:

The circulation of the space inside does not represent the calmness and formality seen on the exterior. It all starts with the lineal line of communal waiting till the club opens. The half slice façade lifts up and people are allowed in, where they are met with and grand staircase taking them down into the underground venue, which is 2 levels. The stairs force you down to the deepest level where you get your tickets and get your coat checked. You then enter a huge underground maze of carved out voids with angular transitioning to a from them. The double height main stage acts as the center, with perimeter halls and mezzanines surrounding it, bringing you too smaller void spaces or merging you into pocket bars off the main axis path. These pocket bars act as smaller nodes themselves, where a lounge area is provided near every bar node just off the main circulation path. The way in and way out paths are along the perimeter, which run into multiple sets of stairs. Elevators are located mostly in the square area of the above ground structure, where vertical movement is more common.

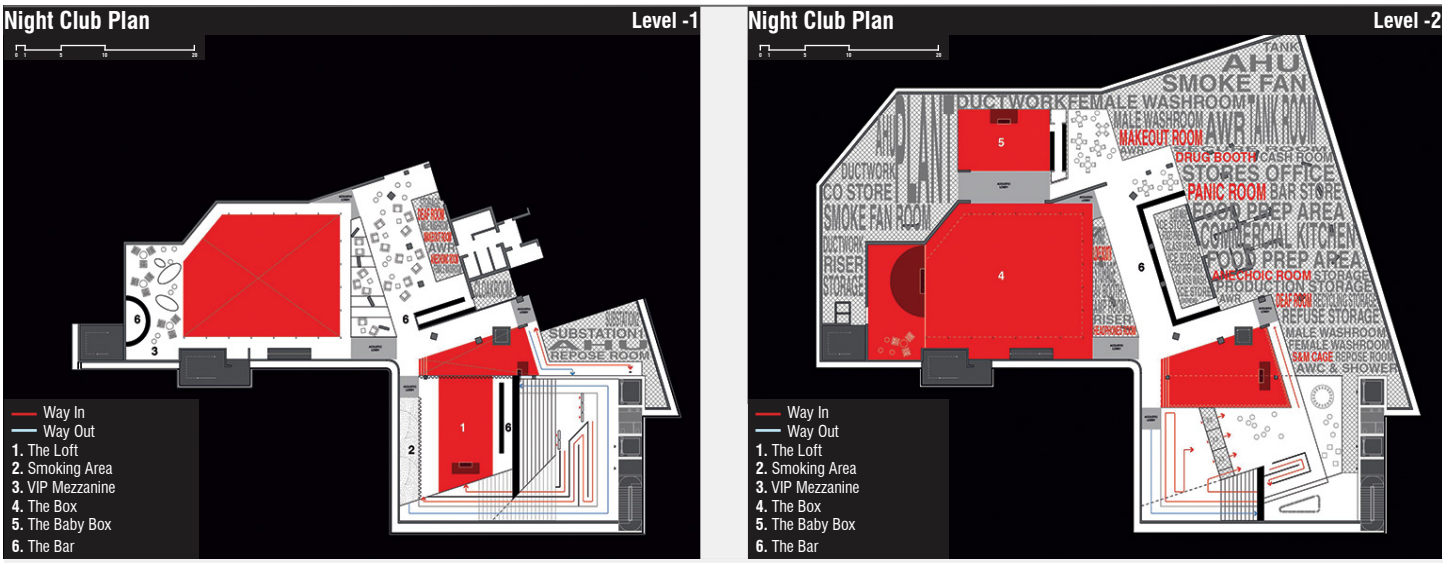


Fig. 22: **Night Club Floor Plans**

Structure: There are many different structural purposes used in this building, some acting independently from each other such as interior(concrete columns and slabs) and exterior(steel façade) of the above ground structure, as well as some working together like the interior columns and the underground foundation walls that surround the underground spaces. Here, it seems as though much of the forces are taken to the perimeter foundation walls as columns are limited in the bigger void performance spaces. Partitioned concrete walls of the underground help with this while also serving as implied path and boundaries.

Unit to Whole: The unit is the above ground structure that people's eyes are attracted to while passing by. Little of the building is perceived as a whole, as the most space is underground. The unit is also is perceived by space and its uses. The building is divided into three units: underground venue, offices, and VIP spa and terrace, which are combined under one roof and underground. The underground venue space and its size is also created into smaller units, with these being the many types and sizes of performance spaces, that's are linked by transition pocket bars and lounges. The whole overall is curated by multiple identities of spaces and their time of use.

2 MINISTRY OF SOUND II

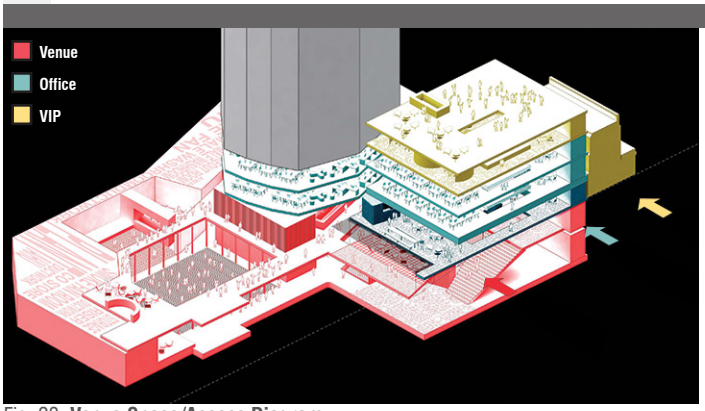


Fig. 23: **Venue Space/Access Diagram**

Leisure	38,750 SF
Office	17,385 SF
Hotel	4,845 SF
Public Space	4,845 SF

What does this case show?

This case study shows very good consideration of the past and present, socially, culturally, economically, and politically. The gathered this knowledge, created a loose timeline, figured out how it all evolved from the 60's to today, where they then took all those special pieces and fragmented them together to help their design process. They conceptualized a design that served multiple identities, both for night and day, making it a 24-hour service building and brand. They focused on functionality and safety, which is crucial when a space serves many purposes. This case proved to show a diverse range of experiences for all users at all times, whether at noon or midnight. The space quality is accustomed to the use as well, where there is more of a sophisticated look to the above ground production levels and a more chaotic experimental quality for the consumer underground levels.

Fig. 24: **The Box With Operable Balcony -** Level -2

Fig. 25: **Offices, Informal Work Space** - Level +1

Conclusion:

My theoretical premise revolves around the rave phenomenon and how it is associated with communal rituals and spirituality, where I plan to figure out how to enhance those elements of rave - along with others - into an ideal rave space.

Even though this study didn't focus much on the spirituality and rituals of rave, it helped me know more about club culture, its exemplar historic spaces, and how both evolved to today. Which is where I agree with OMA's statement that there hasn't been much innovation since, which is part of the reason why I'm leaning towards a club design. The spaces of raves and nightclubs are similar, with raves having their fair share of space in nightclubs until they became commodified and transitioned to found spaces, hence, another reason why I want to design for rave and their culture, to give them that ideal space. The spaces are similar, but the cultures have different intentions and desires, being altered by generational shifts through evolution.

That's why this case is important because they designed a diverse space for all class structures, cultures, and ages to come together into a space that represents some of each. This fragmentation of different design elements of past/present clubs and their synthesis into one mixed identity relates directly to the process of how people of different cultures come to this space, and their singular identities dissolve and became one whole communal identity of dance and music. One way OMA represented this was taking rich and interesting club spaces from past and mixing it with the innovation of today, so combining characteristics of Gen X and Gen Y into a whole, almost like a collage, or an Avant Garde experimental painting from the past.

Not only did they use multiple identities to represent diverse cultural characteristics, but they used multiple identities of space for different purposes as well, both day and night. OMA did this by creating spaces for venue, office, and VIP/spa – each having their own designed space in the building, flexible and dynamic for as time/s change. Having multiple identities avoids association to only a singular identity, where for my case, do I want to design just for rave? Maybe if I provide other identities within the building of rave it would take some of the social stigma away, where it wouldn't just be known for rave, drugs, and deviant youth.

I appreciated the fact they placed hierarchy on the underground venue, with scale and that its literally in the underground, representing the culture and the context in which it was in the past. Taking their knowledge generated by research and designing an 'authentic' underground club, with a cavernous mood setting, and series of performance spaces creating a diverse range of experiences, just like the derelict found spaces of the past, but with the technology and socio-cultural characteristics of today.

One last aspect I enjoyed about this case is the exterior metal screened facade, metaphorically and functionality. I see the dynamic facade as a metaphor of 'taking off your mask' or 'letting your guard down' which is what raves, partying and dancing does. During the day, the building has its mask on, serving the day time identities of offices, spas, informal work spaces - serving reality. But when the sun goes down, the mask comes off and the facade opens, entering in the partygoers where they can put their guard down that was up all day and just let loose.

This exemplar study acts as support and reassurance for my unifying idea of creating the ideal rave space of the 21st century, much like this study did but was more focused on club culture. Im focusing more on how I can enhance the spirituality and rituals that raves are known to have. This case serves not only support for my research, but it also give me an examplar methodology to consider, as OMA had a great approach from their research to design phase.

3 FAC51 **THE HACIENDA**

Fig. 7: **Hacienda Perspective**

The Project Type: Nightclub
Location: Manchester, England (1982)
Size:

- Dance Floor: 1,500 SF
- Stage: 775 SF
- Capacity: 1,200

Distinguishing Characteristics:

- Hacienda was designed to quickly change its décor and function, such as for stage productions, fitness classes, or a day time market
- Described as a situationist piece of architecture, deriving characteristics from past anti-authoritarian Marxism and the avant-garde art movement
- The approach for the design was to create an "Industrial Fantasy", articulating found industrial pieces into the design, using them functionally and artistically

Research Findings:

Common findings:

- Acted as an experimental laboratory to see what was possible with a club space
- Not designed just for one singular identity, or only being a music venue
- Designing to represent the cities historic, cultural and social qualities from the past urban fabric
- With the presence of the city's urban context within the design, it allows the audience to symbolically link the experience to the city itself
- Designed as an experience 'machine', altering the conceptions of time and space
- Described as a 'Temple', a place of liberation where new conceptions of behavior are establsihed
- Broke down social, cultural, and economical hierarchy, bringing a diverse range of people together

Uncommon findings:

- This club was known to have voilent situations involving gangs, dealers and drugs, which was part of the reason for its closure, joing security failures and finances.

The Hacienda Context: (environmental, social, cultural, political)

The Hacienda was a legendary Nightclub located in Manchester, England, a city that was defeated by metropolitan boroughs, creating new divisions of metropolitan area and replacing the previous urban and rural systems. This central area and its inhabitants were vital, no longer feeling they had anything to lose. Some of the scenes at that time somewhat represented a more modern 'piranesi' painting, capturing the fictitious atmospheres through fragmented warehouses found within the city. The Hacienda, previously structured in a roof lit yacht showing room, served as a metaphor for the Manchester scene.

The Hacienda open its doors in 1982, following the recent modifications to the existing interior, where Interior designer Ben Kelly experimented with the space, with regards to the urban context. Designing to "link the old Manchester of hard graft with the new Manchester of superabundant spare time" (Best, 2018). Designing for pure leisure, but keeping authenticity within the city, Kelly keeps the industrialized components the same, but wanted to hide them and the label of 'high-tech', where he experimented with the them by painting them bright colors, which ironically produced a much more raw authentic industrial outcome.

The color palette used – mainly grey with high contrasts of yellow, red, black and gold – was only justified as a pure decoration effect. Along with that, he further demonstrated color and variety by applying it to other vertical elements, where here he experimented with a range of materials such as plaster, perforated metal, unpainted or painted ply. This color and variety is only seen on vertical columns, based on contradicting the guiding principle "that the eye can immediately recognize the common purpose shared by the columns and therefore there is no very good reason for drawing attention to the fact"(Cochrane, 2018). To draw more attention to the vertical elements, horizontal elements were all painted a monotone grey as a neutral backdrop, where the vertical elements are seen in sharper relief.

The radical architectural accomplished interior, or generally the space itself was a 'trance formative' space where subcultures, ecstasy and acid house were together synthesized into a state of play that altered people's perception of their urban context, and in this manner, the context itself. The late 1970's people of Manchester felt alienated, as the city urban planning placed more importance on commercialized entities while ignoring the importance of cultural entities and places of play. The post industrialized Manchester was left with a vast landscape of derelict structures, which one in particular became the legendary Hacienda, which brought back the cultural experience and its activities of play, entertainment, and artistic intervention.

3 FAC51 **THE HACIENDA**

Conceptual Underpinnings Perspective:

This case is another example of how a night club space can bring together a defeated cultural city, plagued by alienation and stagnation of urban space which landed many derelict structures available to bring the cultural experience back to life, which is what Hacienda did, even through the ups and downs of owning a club. Tony Wilson, the owner of the club states: “It’s necessary for every period to build its cathedrals, its necessary for any youth culture to have a place, a sense of place, and Manchester had never had one for many years. We find ourselves in a financial situation where we can do something about it, and thirdly it’s necessary for a city like Manchester, which is an important city and has been important to music to have the facilities that New York and Paris have and to not have them would be a disgrace” (Wilson, 1982).

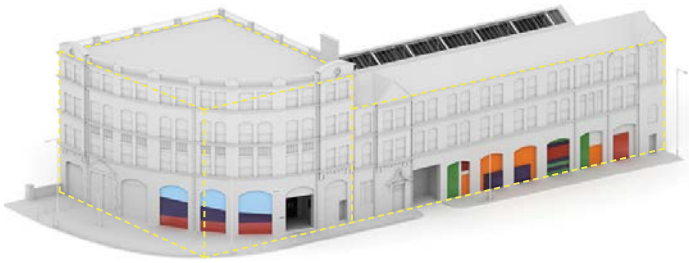


Fig. 26: **Axonometric: Mass**

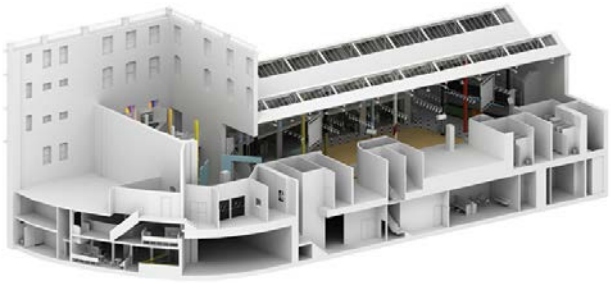


Fig. 27: **Axonometric: Exterior Shell**

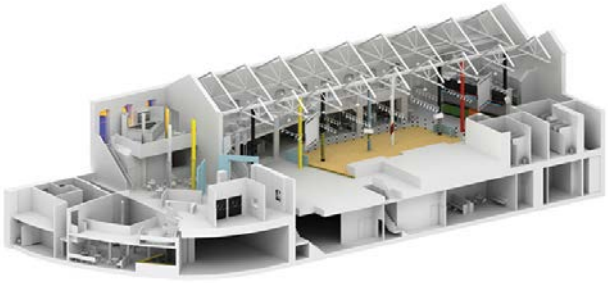


Fig. 28: **Axonometric: Interior Shell**

Natural Light: With the typology being a nightclub, which are known to be activated at night, which means natural light is absent when the space is activated, relying on artificial light. The former yacht show room does contain a pitched roof structure of glass, allowing mass light into the interior spaces during the day. This club is known for its interior design, experimenting with industrialized materials and the high contrast of monotone greys with bright color focal points, which is a shame that the club doesn’t have a day use as the natural light emphasizes the highly detailed interior.

Massing: The existing yacht show room space was only manipulated within the interiors, where the exterior was left to its authentic Manchester original mass. The main element is the curved façade acting as the main entrance, which was kept to go against simplistic boxy modernism design, which was popular at the time with Le Corbusier and his theories. The exterior mass is implied into two forms, one being the hierarchical quarter cylinder form, standing four stories above ground, which transitions to the other mass of a planar rectilinear form consisting of three floors.

Hierarchy: Hierarchical elements are dominated within the interior space and less so on the exterior as nothing was manipulated externally. The importance is placed around dance floor, this space is a large double height rectilinear void, extending vertically up to the roof glass pitch. Hierarchy is also seen in prominent interior spaces, such as the dance floor and the fixed seating area across, which are defined by slight elevation change, acting to constrain these spaces and their boundaries to highlight the activities that take place within, physically signifying their importance

Axis Lines + Symmetrical/Asymmetrical Balance:
The interior plan configuration is organized by main axial paths, serving as transitional movement into the perimeter subspaces. The axial lines are configurated both angularly and linear, converging at intersection points which serve to constrain the intended space and use. These axial lines are inherited from the shape of the dance floor, which are then offset into paths of varying size, but maintain the axial angular lines of the dance floor. The subspaces and even the furniture in them act upon this axial orientation as well, unifying and linking the spaces together visually.

Geometry: The geometry of the interior goes against the modernist design principle, combining curved, angled, and straight lines to form the configuration of both exterior and interior. The only curved element is located on the hierarchical front façade, which is mixed with a formal renaissance style geometry as it transitions to its elongated side. This formal geometry exterior then transitions to an informal interior layout of angled and straight lines converging together.

Plan to Section/Elevation: The building in exterior elevation and its formality does not transition into the interior space configuration, which is defined more informally. In plan, the configurations are a blend of angled and rectilinear spaces, which converge together through circulation spaces. In section, the hierarchy is placed on verticality, showing the massive double height spaces and the vertical steel columns that run with it..

3 FAC51 THE HACIENDA

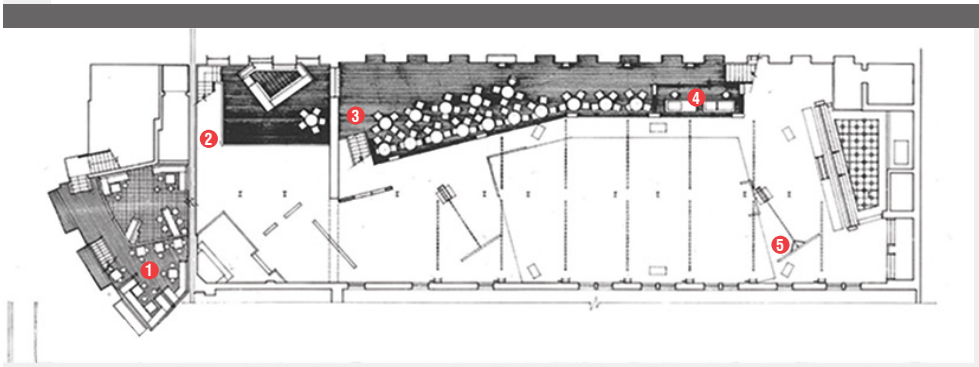


Fig. 29: **First Floor Plan**

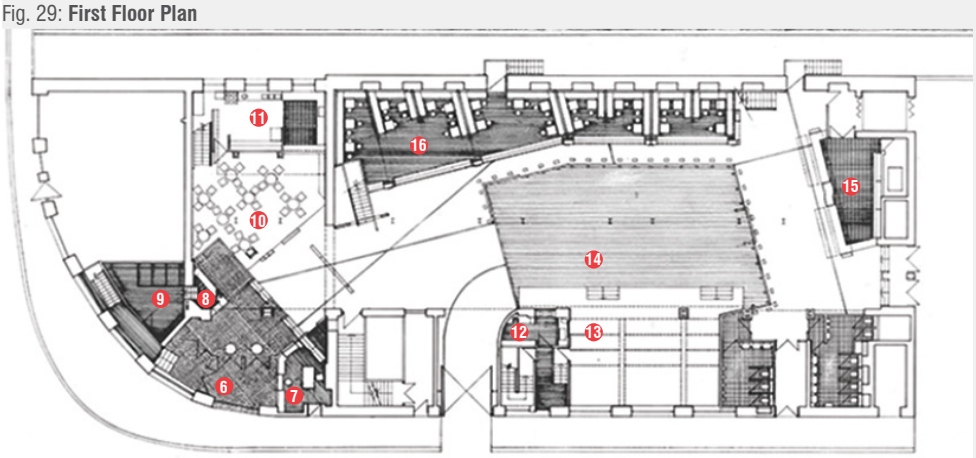


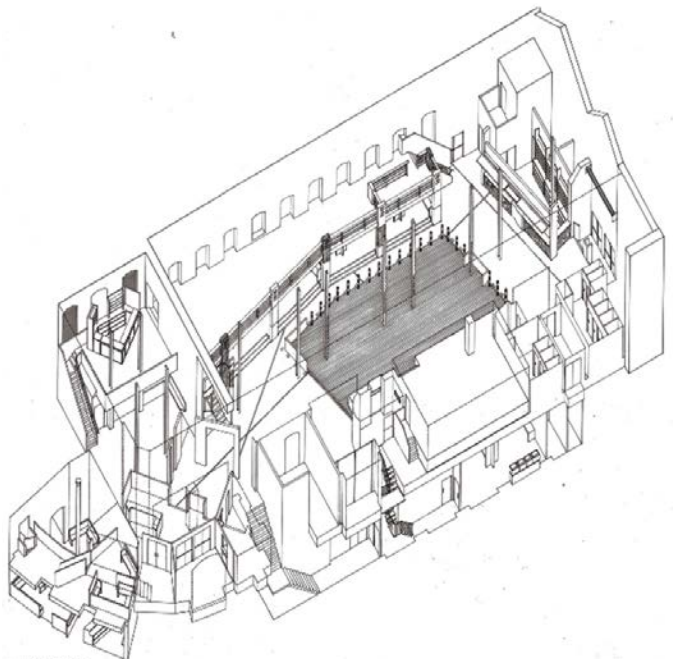
Fig. 30: **Ground Floor Plan**

Circulation through space:

The circulation through the main floor and upper mezzanine level is once again organized around the shape of the dance floor. Here the axial paths are much like the Ministry of Sound, angular and direct paths leading to perimeter subspaces such as fixed seating, bars, etc. The main entrance lobby is implied as a different space, with a main grand opening in the wall that directs you in the dance club space. The subspaces on the ground floor elevate slightly above the main circulation paths, emphasizing the importance of the dance floor and the fixed seating area – With the circulation being on the lowest ground plane, where emphasis is placed on horizontal movement. With this, the spaces and their uses are clearly defined with some hierarchy placed on them. The upper half mezzanine level provides vertical movement up off the main dance floor, containing seating areas and allowing users to watch the activity on the dance floor.

1. Mezzanine
2. Balcony Bar
3. Balcony
4. Lighting Control
5. Video Screens
6. Entrance Lobby
7. Reception
8. Cloaks Counter
9. Cloakroom
10. Eating Area
11. Kitchen
12. DJ Room
13. Stage
14. Dance Floor
15. Main Bar
16. Fixed Seating

Fig. 31: **Axonometric of Hacienda**



Ground Floor:

You enter on the ground floor through the lobby entrance, which is tucked into the curved façade, this space constitutes a reception/ticket and cloakroom counters and spaces. This space then transitions to a security check, whereas you pass through it takes you past a pocket eating area and into the large dance space, which is confined by differences in slight ground elevation change. The perimeter spaces located around the dance floor are elevated fixed seating areas, the main bar, bathrooms, and stairs used for vertical movement.

First Floor:

The multiple sets of stairs bring you up to the first floor, which is a mezzanine that covers only about a fourth of the building width, allowing for more double height space for the dance floor below. The mezzanine is an angled platform that follows the perimeter outline of the fixed seating space below, with columns expressing the verticality. On this mezzanine level, it contains space for a lighting control room, more seating, and a smaller bar.

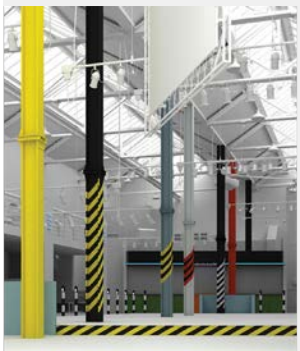
Basement:

The Basement level is considered as a different entity, not rally known as part of the main club. The basement level is seen in the prior axonometric drawings, containing sectioned off smaller rooms that weren't manipulated from the existing layout such did the upper floors. Down there did contain multiple arrangements of bars throughout time, which ended up closing many of the times. The latest use of this basement was for a smaller music venue, converged with the existing cellar areas.

3 FAC51 **THE HACIENDA**

What does this case show?

This case shows a situationist piece of architecture that is anti-structural in its approach deriving characteristics from past anti-authoritarian Marxism and the avant-garde art movement. Its approach acted as an experimental lab to see what was possible with club space. And what they created was an experience machine that alters the conceptions of time and space through color and variety expressed in a rich industrialized space. This case shows that spaces for clubs don't need to be designed with 'high-tech' materialization and fabrication for a place to be successful at evoking those altered conceptions and experiences of time and space. This case showed another example of a club as a 'temple', being able to break down social-cultural barriers to create a place of liberation where new conceptions of behavior are established.



Function:
Club, Disco, Videotek, Exhibition Facility

Facilities:
3 Levels, 3 Bars, Dance Floor, Stage, Restaurant, Balconies, Basment

Colors:
Pigeon Blue, Poppy R.A.F. Blue, Aztec Gold, Salmon Red, Black, Aluminum, Pale Gold, Goose Grey, Signal Red & Light Orange

Materials:
Steel, Cast Iron, Aluminum, Maple, Brick, Neon

Approach:
Industrial Fantasy

Design:
Ben Kelly & Sandra Douglas

Fig. 32: **Digital Renderings** - East (Top) West (Bottom)

Fig. 33: **Real life images of interior**

Conclusion:

My theoretical premise revolves around the rave phenomenon and how it is associated with communal rituals and spirituality, where I plan to figure out how to enhance those elements of rave - along with others - into an ideal rave space.

This Case study showed me the importance of cultural identity/s within a space, not just a space, but a place, a place of the city where its inhabitants can escape the monotony of daily experience and seek a different route, into a place of reverie and play, "to dance, to drift, to feel free"(Savage, 1997). The Hacienda was that place, that captured the local subculture, rearranged it and played it back to the euphoric crowd, much like Ben Kelly did with the design of the architectural space.

I want to conform to his idea of representing the cities musical past and its industrial heritage within the design, both consciously and unconsciously, as it something to not be ignored. Manchester and my proposed site of Detroit seemed to have similar problems within their evolving urban fabrics, in the ways of gentrification, post-industrialization, feelings of alienation and stagnant cultural experiences. So, it was a way of combining all that history into one place, representing the symbolic socio-cultural pasts, and representing the people of the city. It's a form of urban regeneration, and Ivan Chtcheglov (a founding member of Situationist International) has a formula:

> "These dated images retain a small catalyzing power, but it is almost impossible to use them in a symbolic urbanism without rejuvenating them by giving them a new meaning."

This urban regeneration looks strictly at the urban context, with its masses of unused derelict structures, where Ivan proposes to not destroy the context, or start from scratch on open land, but to use the symbolic heritage of the structure/s and its context to repurpose the site and give it a new meaning, being able to recycle and reuse past ideas and forms. Ben Kelly used this idea in the design of Hacienda, It was about "taking industrial materials out of that context and putting them into a new context and when you eventually put the elements together you hopefully establish a new language of materials that says something new and different." This is the idea I want to incorporate in my design of the ideal rave space, which takes place in Detroit, home of Techno and abandoned structures. It would give back to Detroit just like Hacienda did in Manchester in the 80's & 90's, or like Ministry of Sound did in London.

Another aspect I will take from this study is the experimentality of materials, simply a variety of colors and textures arranged on architectural elements, with some symbolic relevance behind then, which have the power to alter people's conceptions of time and space. For example, the angled wall archway painted in light blue that implies a symbolic entrance into the cavernous dance hall, the orientation and relationship with its context further alters these conceptions. Overall this case has supported my theoretical premise but also contributes to it by giving me an exemplar project that reconciled the connection of people within the city in many ways, representing their industrial and musical pasts through urban regeneration of symbolic urban parts which were rejuvenated and brought back to life with a new meaning, for a new generation.

MAJOR PROJECT ELEMENTS

Major Project Elements

Dance Floor:

The dance floor where the magic happens, a space that allows your body to move and wander to the music. Dance floors are known to be packed and crowded, which can be made for a more comfortable and less claustrophobic experience by creating a large double height void space, allowing the conception and perception of verticality to solve the problem. This verticality of space also creates more of a spiritual experience, with all the energy and spirits symbolically lifting towards the sky. Dance floors are also the center of the energy, where with rave and masses of people, the whole ground surface plane is the curator for dance and energy, not only limited to a small dance stage seen in past nightclub spaces. Dance floors place hierarchy on themselves, not only the presence of infinite verticality but also in its orientation and placement, where they sit centralized, acting independently to the subspaces around its perimeter, which are more intimate spaces such as lounge spaces, pocket bars or main bars, or even smaller transitioning dancefloors.

Performance Spaces:

Performance spaces are what confine the dance floor, places a boundary around the places of dance while also capturing, reflecting, and amplifying the sound and lighting visuals within, where as a space with no boundaries allows that sound and light to dissolve elsewhere, releasing its power elsewhere, such as large festival environments. So, by keeping these spaces intimate and confined (which can be done by implied boundaries) it further emphasizes the energy, the power of the sound and lights as well as deeper connections to be made within, giving them that authentic 'cavernous' feel of space seen in the undergrounds. Rave spaces are known to conceptually have no boundaries, to be of infinite space like a social utopia, but these boundaries can be a implied and seen as an 'invisible landscape' of sound, light and bodies. OMA approached this with todays technology in their design, while also representing the past nightclub sensibilities. They have essentially created a virtual reality in a box, with 360-degree projection screens of dynamic visuals, mixing that with the power of electronic music and you have that 'invisible landscape' where the conception of time and space is blurred. I plan to have a diverse range of performances spaces, differentiating in form, proportion, configuration, materials, colors, etc., creating many different types of experiences for many different types of people and sounds (genres of EDM)

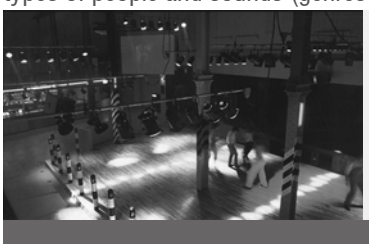
Transitioning and Threshold spaces –

(Circulation to and from Performances Spaces)

The transition spaces and circulation will be just as powerful and meaningful as their performance space nodes, configured conceptually and purposely throughout the building. I plan for these spaces to be unique in many ways, amplifying sensibilities of past with the technology and architecture of today, maintaining or starting a new relationship between technology and human, especially with my main audience being contemporary young ravers. These are the spaces in which I plan to represent the strong musical origins of Detroit Techno Culture, introducing architectural elements that symbolically link the experience back to the grassroots of where it started, as well as how it evolved with though generations in time. These representations will be the transition spaces, mixing the feel of old and derelict undergrounds with the experimental play of discos in the 60's – As more research on the past and present to be pursued, I plan the experiences to be even more diversified.

OMA approached their transitions by gathering 'snip its' of the most interesting club spaces from the past and articulated them together. Ben Kelly in the design for Hacienda used industrialized pieces of material found in the abandonment of buildings and experimented with them throughout his design, while consciously representing the historic origins of the city. Berghain approached their multi-level transitions through their separations by loose or open thresholds, such as large industrial staircases leading into massive rectangular voids allowing the users to circulate from lower floors to survey upper floors and vice versa. As I focus more on emphasizing the spiritual and ritual components of rave In my design, I feel as this is the space to do it, as well as the performances which already contain those components just by the activities taking place. Playing with light, proportions, hierarchy with centralized volume and verticality to sky, intimacy with pocketed lounge/bar spaces – all linked together with a sense of liminality, a state of in betweenness in which users move from one state to another. I plan to further investigate precedent studies that evoke this sense of spiritual enlightenment, and the other ways architecture can enhance these 'religious experiences.

Fig. 34-36: **Dance Floor, Perfromance Spaces & Transitions/Thresholds**



USER/CLIENT DESCRIPTION

Major Project Elements

Raves, starting from their origins and what they've generationally evolved to today, have been known to bring a mass together, a mass of diverse cultures, social classes, ages, genders, sexualities, personalities, egos, and many other characteristics, but once they set foot into a place of rave, all those individual characteristics dissolve and become one of egalitarian togetherness. Many commentators say it's largely activated through the 'love drug' MDMA, or 'ecstacy', "an entheogenic 'body technology' regarded as something of a 'utopiate' infiltrating techno and house club culture through 1970's and 1980's gay and mixed club scenes, pycho-therapeutic circles and new spiritual formations in the US"(St John, 2013). Where many others say it's the ecstatic communal dance to electronic sounds and its ability to make deeper connections. Either way, there is something that transforms inside, and I want to create a space that curates that, through architecture.

With that being said, my preferred or intended audience for this space is people of all types, the types that love to dance to Electronic Sounds, and in this case for my proposed site in Detroit, the sound of techno, though intended to not be only limited to that genre as there are a wide variety, where people are known to stick to their cities 'sound', just like Detroit Techno.

Raves have always been a youth movement, so in that sense I do have a main target audience, the contemporary youth ravers of today (Gen. X), which unlike their authentically hidden and hardcore parent culture(Gen Y), they seem to attract attention with their intentions of becoming a "Rave-o-lution". Today, millions of youth congregate in world known festival spaces that take place in vast areas outdoors. My aim for the space in Detroit is an indoor club, more intimate, but designing still to attract many of those annual festival goers, for more than once a year. Allowing spiritual enlightenment to electronic music and dance, partaking in the Dionysus narrative, whenever they please. Which brings me to my design usage.

Since my building typology is a club, the nighttime is when most of the user activity will take place, my main audience on a micro level will be the city of Detroit, in a location where I intend for both suburban and downtown youth groups to reach out too. The site is situated autonomously along the autonomous freeway, allowing for quick and easy transportation from all areas of Detroit. My site is also located near two large parking ramp garages, providing more than enough parking spots. Overall, it's an efficient, safe, stress-free transition from the user's whereabouts.

As for the times other than weekend nights, such as during the weekend days, I plan to allow the club to have different purposes and uses other than Raves. It would allow the club to have a different identity during those times, and could attract the many other non-ravers around Detroit to work, play, relax, etc. This would also further my goals outlook, from designing a place of rave where cultures come together at night to a place of community where active citizens of Detroit be productive (work, play, relax, etc.) during the weekday realities.

Fig. 37-40: **Detroit Techno Culture**

THE SITE

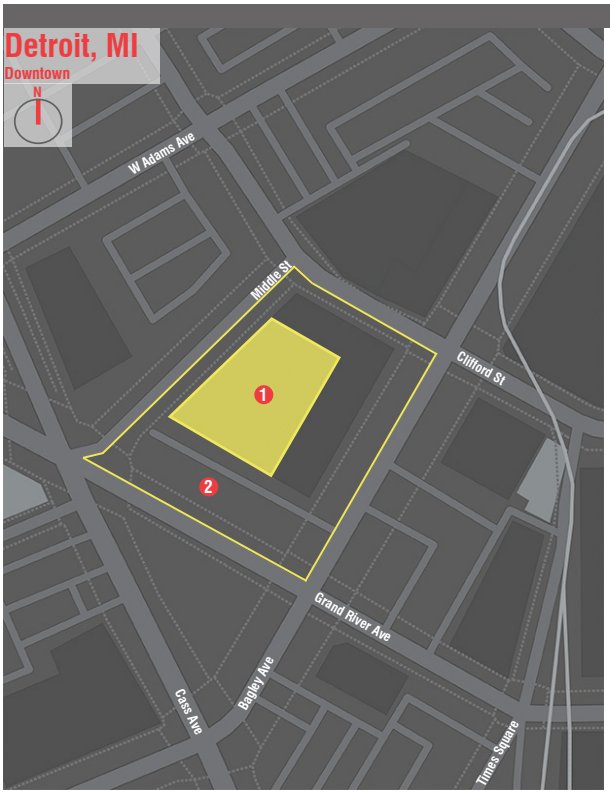


Fig. 41: **Proposed Site Location:** 220 Bagley St, Downtown Detroit

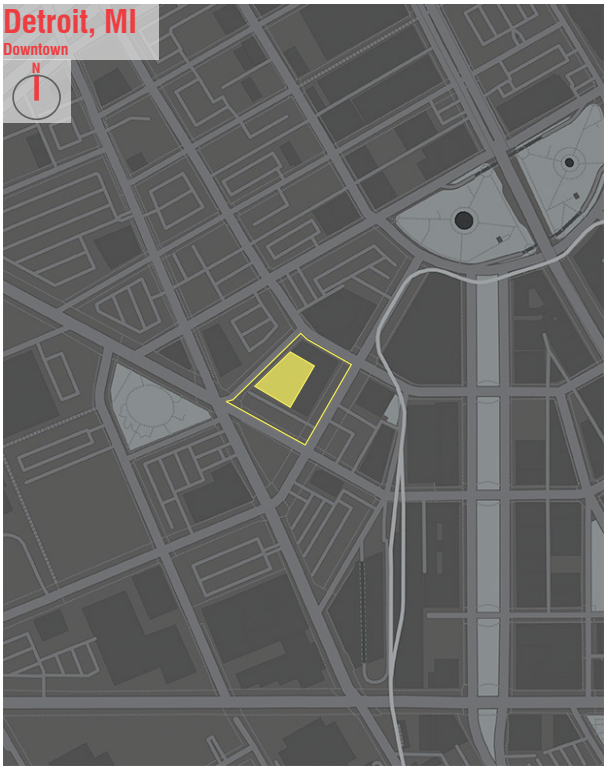


Fig. 42: **Proposed Site Location:** 220 Bagley St, Downtown Detroit

Fig. 43: **Proposed Site Location:** 220 Bagley St, Downtown Detroit

1. Michigan Theater/Building: 220 Bagley St
   Depth x Frontage: 188' x 220'
2. Parking Lot: 514 W Grand River
   Depth x Frontage: 81' x 220'

The Site

Why Detroit, Michigan? Because I want to make a case for Detroit's locally rooted cultural narrative of the EDM genre: Techno, which started in the early 1980's. Detroit was the founder of 'Techno', Just like New York with 'Garage' or Chicago with 'House', so its musical origins are very strong, and the culture built around it is even stronger. Its origins aren't found here just as a reaction to postindustrial urban decay, but it was built here with the systems of communication through Dj's, artists, and the community itself. "The sound became a dreamscape…at odds with the postindustrial wasteland that inner Detroit had become" (Prendergast, 2000).

The specific site I have chosen for my project is the abandoned Michigan Theatre, which is now being used as a glorified parking lot for the 13 levels of office spaces attached. The reasoning for choosing the abandoned Michigan Theatre is also influenced by techno music as it has always sought the marginalized, derelict spaces of the city, which Detroit is not scarce of following the automotive factory shutdowns and post industrialization urban decay. Converting the abandoned Detroit Theater into a production/consumption oriented rave club may contribute to Detroit's urban regeneration (or lack of), where rather than demolishing an urban context or starting from a piece of pure land, regeneration offers a way to symbolically represent Detroit's urban heritage by giving the marginalized space new meaning through the sampling of past symbolic ideas and forms, where regenerative design becomes a discipline of action – a tool for change in the urban fabric history and future.

PROJECT EMPHASIS

Rave Rituals and Spirituality

The experience at raves isn't only a hedonistic party of play, it can also be a 'religious experience' both consciously and unconsciously for those partaking in the communal rituals of dance and togetherness. The power of the electric sound wave within a space is something bigger than people themselves, allowing it to move them (physically, emotionally, and spiritually) in ways they've never. My design will be a 'Temple' for this sound, the sound of Detroit Techno, A 'Temple' as a 21st century place for the masses of youth to connect on a deeper level, reharmonizing the powerful connections within body, spirit, culture, and place.

These experiences are diverse in nature, but a common rave conversion experience is stated here: "I had walked into a different world…without judgement or fear…I was in a sea of six hundred radiant souls putting into practice five thousand years of religious and philosophical hypothesis. Beyond the conceptual world of ideas and dogma this was a direct experience of tribal spirituality practiced by our ancestors…my experience that night changed for the better" (St. John, 2013).

With that, I aim to enhance the 'religious experiences' of rave sound and dance through architecture and its elements that evoke that deeper meaning, those elements that blur the conceptions between time and place. Something electric happens within places of rave, and I plan for my design to be the curator for that. Investigation of prior rave spaces is needed to understand how architecture helps to evoke these deeper meanings. From my case studies so far, they focus on the sacredness of boundaries and edges such, as delineating the boundary between sacred interior and profane exterior space. Being a curator for psychological cues of mood and tone setting. Using Large 'eccentric nucleus' voids as vertical centers orientated towards the altar or pulpit like DJ table, which is elevated slightly above the audience, where the shamanic facilitator (DJ) contains the symbolic influence over the subjective experiences of the users. Overall, gathering qualitative data such as these examples above, and meaningfully articulating them within

Amorphous Fusion of Sound, Light, and Bodies:

Since the very start of raves, and even used earlier by its predecessors, the amorphous fusion of sound, light and the dancing bodies have been the key emphasis within these dynamic environments. These elements are the main curator for raves ritualistic and spiritual experiences and deserve to be designed well. A lot has changed in technology since raves origins, which means the acoustics and visuals have changed overtime, continuously evolving with the different generations.

I plan to figure out the newest and innovative technologies of today that will emphasis the acoustical and visual experiences of the users inside, helping them to reach that transformative spiritual enlightenment stated earlier or for the intentions to let loose and party, music and light can do it all when designed well. OMA in Ministry of Sound provides this with their virtual 360 projection system with built in speaker configurations, mixing both acoustics and visuals into one 'invisible landscape'.

Giving back to Detroit Techno Culture

I picked Detroit for my site as this city was the founder of Detroit Techno Electronic Sound, that became mainstream and international very quickly. They created a new sound, and new form of music back in the 1980's, which continues to move forward into today where it is celebrated at Detroit's riverfront, acting as a mainstream popular annual event. My intentions with this project is to emphasis the connections between different socio-cultural groups, where these connections grow deeper and individual characteristics dissolve and become one, in a place of Rave. Not only do I want to represent this strong musical and socio-cultural origin of Detroit, but also representing the industrialized city itself as they have thrived and transcended through the decay and deterioration of post-industrialization, leaving thousands of buildings left behind and thousands of people left unemployed.

This is when the rave movement took over, and inhabited these unregulated spaces of decay, where the music and masses continue to evolve. Poor city planning has also made an impact on the city as their main transportation systems divide the urban fabric into isolated neighborhoods, disconnecting the city. This resulted in neighborhood's being left abandoned even more than they already were, creating 'slums' and bad parts of town such as Cass Corridor (On the other side of the highway, disconnected from downtown), historically known as the "murder capital of the world". Today, its fabric is still left isolated, eight lanes of disconnection from the outskirts of downtown Detroit, with open lots of parking, grass fields and structures acting independently rather than cohesively. Giving back to this city at my proposed downtown location will provide the symbolic monumentality that this city of Techno deserves. Representing them in a diverse range of ways, while also lifting their spirits as a city is an important aspect of my design, reconnecting the islands of neighborhoods within the urban context.

PROJECT GOALS

Personal

One overarching goal for this project is to step out my comfort zone architecturally and personally. Where the phenomenon of Rave Culture provides a solid framework for that to happen, as this phenomena shares similar characteristics to what I desire for my design architecturally, including non-conventionality, experimentation with something new with the intentions of stepping out your boundaries to create it, expanding knowledge through different realms, and overall just to have fun, keeping It new and exciting. That is my main personal goal for this project this year, another personal goal of mine, also relating to the rave culture, is to have more empathy for certain others or groups, where I plan to put my 'sociology hat' on to understand this culture and its desires and goals, from both past to present, practicing empathy that will help guide the further research and design phase.

Academic

This then transitions into my desired academic goals for this project, where a couple are stated above such as my desire to design something un-conventional, focusing more on theory that relates to subjective experiences of certain users. My time here at NDSU has been valuable its terms of studying architecture but has been stuck in conventionality and practicality of programs and requirements, leaving less room for imagination and testing conceptual theories. Which is why Rave and its dynamic characteristics in both music and culture are a perfect fit for empathy and imagination.

On the more physical side of academic goals, I plan to experiment with different software's that I have yet to grapple with, especially in my studio research question class, where I utilize effective acoustic design software to be able to evaluate what the ideal acoustical space is for raves, which is just one component of my thesis unifying idea. Rhino/grasshopper and its parametric features is also a goal of mine for this project, as I will be experimenting with creating diverse spaces and transitions, ones that evoke conceptions of time and space, and being able to link that experience back to that time in moment as a symbolic meaningful encounter.

On the other side of technical production is the process of research and the consumption of mass amounts of information. A goal of mine here is practicing the ability to do research and attain information efficiently and in an organized manner. This is my first time partaking in this extensive amount of research on a singular topic, so staying organized is key, allowing for research and the design phases to run smoothly.

Professional

Lastly are my intended professional goals for this project, which my main one was slightly introduced above, but it is the ability to attain information efficiently when researching for a topic. Every architectural project has its research phase, attaining generalizable knowledge though many sub sections of a topic from cultural and social to political and economic, which each have a say in the design. Nowadays, architectural firms have practitioners and specialists that are strictly used for data collection, newest trends in products and innovative technologies, or in my case would be researching the trends in performance space acoustics and visuals and their implications. Overall, with this professional goal, it opens my horizons to new possibilities in the field of architecture, and this thorough research practice could make that possibility happen if desired to do so.

Design Related Goals

- Reharmonizing the powerful connection within body, spirit, culture and place
    - This place takes place in the city of Detroit, MI, symbolically known for their authentically grass-rooted techno origins and culture, where my goal is to give back with a place of rave, making a case for Detroit's locally rooted cultural narratives. Lifting their spirits and monumentally reconnecting the divided neighborhoods within the urban fabric through architecture, dance and music.
- Reconceptualizing the Club Scene to design the ideal 21st century Rave space
    - Raves have been known to inhabit the marginalized spaces of the city, remaining underground or off in deserted spaces like beaches, deserts, woodlands etc. Which is where I question what their 'ideal' space would be and what are their spatial, psychological, acoustical, visual etc., implications. My goal is to figure that out through applied research into socio-cultural attributes of the movement, both past and present, and how that can be articulated within the city of Detroit.

PLAN FOR PROCEEDING

Generating Knowledge

With my unifying idea and theoretical question revolving around the phenomenon of Rave and its socio-cultural and spatial implications, the first thing I need to do is research this youth movement, from its origins of the authentic autonomous undergrounds to todays commercialized festivals and clubs, and how it has changed from generations. I will start by applying research into the origins of Rave, where, how, and why it all started, focusing on Generation X socio-cultural characteristics. This will give me a general outline of the origins of Rave, where I can use this information to see how it has evolved to today, noting the prominent changes in desires, motivations, rituals, spatial locations, characteristics, etc. By studying the culture first, it allows be to better understand the types of spaces they inhibited. From historical research of past/present culture to qualitative research of architectural space, I plan to find out what attracts them to these dynamic spaces of abandoned buildings, deserted vast landscapes, experimental clubs, commercialized clubs, etc. Not only that but understanding how these spaces enhance the rituals and spiritual experiences of Rave. This requires me to analyze prominent sites of rave, where I will pick a diverse range of symbolic rave spaces and study those. This research approach will allow me to understand the programmatic spaces and desired qualities needed to further direct my thesis research.

Design Methodology

Following the historical research methodology on past/present culture and space, I then transition to the methodology of inductive qualitative research, collecting non-numerical evidence of the participants reactions to a diverse range of rave environments and their preferred conditions spatially, spiritually, visually and acoustically. This qualitative analysis will investigate the verbal (oral, written), experimental (film- actions/reactions of people in the space), and artificial (the space itself – exemplar projects) implications of the users and the space, in order to evaluate the preferred conditions. I will take these preferred conditions and experiment with them architecturally through conceptual collages of the most interesting symbolic rave spaces. These 'snip its' will be articulated together, sampling and layering them through dynamic configurations with the intention of creating something new, being a metaphor for EDM music and how it created its new sound and "praxis of life".

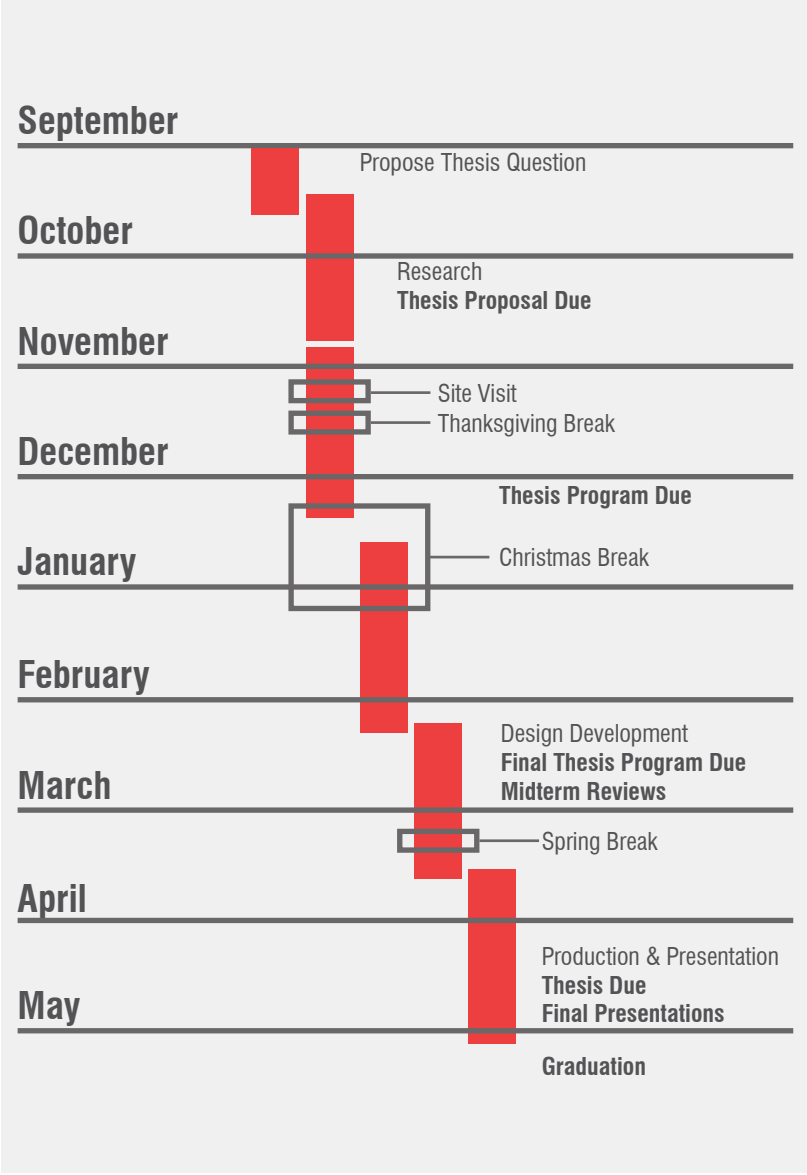
I also plan to experiment with other preferred conditions, such as testing quantifiable variations of acoustical conditions. The quantitative research methodology will be a deductive process, where I will again take the observed qualitative architectural implications of the past and present spaces, fragmenting and articulating them through experimentation, then testing them through simulations. The simulations will experiment with a diverse range of acoustical and spatial environments, where data will be collected by testing an array of acoustical variables in relation to spatial implications. These experiments with conceptual space and sound simulations lay the foundation for designing the ideal rave space, where I can then experiment with other components, such as enhancing the spiritual experience through architectural forms, proportions, hierarchy, liminality, threshold spaces, etc. The experiments are endless, but also limited by time, but this provides be with an outline to follow from going to the research phase and into design phase.

Documentation of Design

Research will always be progressing within this process, which will be constantly updated as I progressively gain new knowledge on the topic. This knowledge informs my experimental and design thinking, where preliminary ideas and visions will be noted and sketched in my designated sketchbook of design process. It is here where my design idea will be documented, varying in different methods of experimentation, such as collages of past/present symbolic rave space images, parametric form studies and its implications through sound and light, etc. Along the design process, I may find that some of these experiments don't help me with design decisions, but still will be documented as to show the path of the un-linear, ever changing design process. Various forms of media with be used for analysis, such as images, graphics and infographics, hand sketches, 'snip its' of inspirational quotes relating to what's documented.

SCHEDULE

Schedule



RESEARCH DOCUMENT

1 Historical, Social and Cultural Context of Thesis

Setting the historical, social and physical context of my thesis project. Examining past and present examplar studies and their implications which in turn informs my design thinking. I will also document how my project relates to the social trends of society along with the project fits into its physical and social context.

2 Project Justification

This section describes and documents the purpose of my thesis idea, and why it is important to me and to our society. I will also decribe why this type of final project is applicable in demonstarting my knowledge and skills that I have gained throughout the past years in architecture school.

3 Results from Theoretical Premise/Unifying Idea Research

The Summarized results of my research investigation on my thesis theoretical premise/unifying idea. In this section, I will make linkages between my theoretical investigation and its impact on the direction of my thesis project

4 Site Analysis

Documentation of a comprehensive site analysis for my thesis projects proposed site. Here, I will not only document the exisiting conditions and past uses of the site but also analyzing those conditions that will provide essential information for the design process of my project.

5 Performance Criteria for Thesis Project

This section of my thesis program establishes the specific performance criteria for my project. This will include detailed information on size of spaces, usage, hours of operation, etc.; technical information such as energy consumption, materials, services, etc.; and qualitive information such as light quality, psychological impact, color, etc.

6 Thesis Research Appendix

Additional information considered to be important to the understanding and framing of my thesis project, such as examplar case study contributions or experience driven emprical research.

1 RESEARCH DOCUMENT

Context: Historical, Cultural, Physical

Context: Historical, Cultural, Physical

Context Introduction:

In order to understand what makes an ideal rave environment, I need to understand the 'ravers' themselves, where here I will apply historical and qualitative research into the socio-cultural attributes (positive and negative) of both Generation X and Generation Y rave movements, identifying the similarities and differences between their ethos, social organization, identity markers, norms and behaviors. Rave is a dynamic phenomenon that is constantly changing through generations of time, evolving into new sounds, environments, behaviors and alternative lifestyles, which in turn create sub-cultures and sub-genres that stem from their dominant source. With that, my research will focus on rave on a macro level as well as a micro level, where the macro level will investigate rave historically, socially and culturally, establishing common attributes and characteristics that links to rave as one culture, rather than trying to link the various sub cultures that derive from it. On the micro level, still focusing on historic, social and cultural context, but through the lens of Detroit Michigan, which is the context in which my project is set.

Rave:
(from the verb: to rave) is an organized dance party attended by large numbers of youth at a nightclub, outdoor festival, abandoned warehouses or other private property typically featuring performances by DJ's, playing a seamless flow of electronic dance music(EDM).

- (Note: Definitions differ with rave being a constantly changing phenomenon – generations, genres of EDM, subcultures, environments, etc., along with the difference in perspectives: Ex. Cultural perspective vs. Public health perspective)

R - Radical
A - Audio
V - Visual
E - Experience

General History of Rave

Between the mid twentieth century and the end of the early 2000's, urban unregulated spaces of warehouses, abandoned buildings, and underground clubs have taken in the raver's anarchist communal pursuit of a physical outlet, transcending the mundane through music and dance, with desired effects ranging from personal healing to transformations on social, cultural or political scales. These physical outlets were a spiritual escape into an invisible landscape of rhythmic repetitive electric sounds (Electric Dance Music – EDM) of synths and bass drums that move your body for you; a place of inclusion and oneness; a sense of freedom with no boundaries. This early rave movement was inherited from the disco and house developments of New York City and Chicago in the 70's and 80's (following the hippies counterculture movement in the 60's), whose oppressed subcultures formed house music and modern EDM culture in the midst of the fiscal crisis, establishing a new order positioned around peace and love, hoping to eradicate racism, poverty, war, bigotry, etc. (Graham, 2017).

Major growth of scene (late 1980's – Present)

Raves gained cultural significance in the late 80's and 90's, sampling and remixing the anthem of their inheritance, the new hybridized rave movement spread across the globe (new sounds, alternative lifestyles, & behavoir) comprised of youth masses and the combined stimulus of electronic music, 'psychotropic lighting', 'chemical alternants' and all-night dancing, resulting in an ecstatic experience. This ecstatic experience of raves, as well as its distinct empathetic character, is heightened with the 'love drug' or 'ecstasy', a component of raves that placed its early prominence as 'the remedy for alienation caused by an atomized society'(Reynolds, 1998). Conversely, this mass promoted itself, known for their obscure accessories, personalized icons, 'religious glossolalia', and mostly for their mantra PLUR (peace, love, unity, respect). Raves characteristics and experiences moved many commentators to employ interpretations of other traditional religious frameworks, such as Christian, Hindu, Buddhist, etc., with some even celebrating the non-Christian religiosity of dance 'ritual', designating it as the 'new church'(Graham, 2017).

Context: Historical, Cultural, Physical

As this new movement continued to weave itself into a worldwide culture, simultaneously, so did the negative media propaganda, labeling the phenomenon with drugs, dangerous parties, and deviant behavior. Subsequently, it sought the alarming attention of parents, policy makers, and media resulting in government attempt to control raves, cracking down on the unregulated 'underground' spaces. Rave spaces dramatically changed from this, departing from their authentic underground culture to a modern commercial character of branded parties - which was more about the money of mass consumption than the authentic culture. Leading ravers to distant themselves from urban context and into the deserted landscapes of woodlands, deserts, beaches and dunes, where they could partake in their social rituals of communal music and dance in extreme secrecy without disruption of law and commodification.

From the end of the early 2000's to today, the rave movement continues to rise among a new generation of youth ravers, though not as overtly political and spiritually desired as their rave and hippie predecessors, they sustained the socio-cultural elements of the movement while adapting to the millenniums new type of economy and exchange. Raves today are most popular as outdoor commercial festivals, which can accommodate the mass crowds of ravers. Whereas indoor clubs for rave lost their momentum in the 90's due to the shift to unregulated venues in the urban undergrounds and warehouses. And since then, there has been minimal architectural innovation within these clubs of nocturnal music and dance.

Rave Culture

This section will introduce rave culture on a macro level, a level that looks at rave with an overall picture rather than trying to understand the subcultures that stem from the dominant culture. I aim to focus on the main rituals and traditions that thrived and transcended into new generations of youth, specifically from Gen X to Gen Y. To do this, I will break down the research on rave culture into five prominent categories that will highlight the key elements of the culture, these are: their ethos, social organization, identity markers, norms and behaviors.

1) Ethos:

The ethos of rave is a significant piece of the formula that gave the scene its unique cultural identity, it is known as "PLUR", which the original acronym stands for peace, love, unity and respect (Reynolds, 1999). As raves evolved there were other common signifiers that added to the set of principles and its acronym such as freedom, tolerance, harmony, expression and responsibility, which were direct inheritances from the liberalist 60's and 70's hippies and underground beatnik and bohemian culture. The Generation X ravers viewed this ethos as a "closer approximation of a society in which they desired to live" (Anderson, 2007). With parallels drawn between the ravers beliefs and the beliefs of their hippie ancestors, the application is what differentiates the two, where Jesse Daub in the analysis of three aspects: marginality, democratic philosophies, and the desire for a social utopia – "shows how rave dance culture, with its recent onset and growing popularity in public youth, is in the midst of a countercultural revolution"(Daub, 2014).

Past: The 'Underground' Rave Scene → **Present:** The 'Commercialized' Rave Scene

Fig. 43: Underground/Commercialized Rave Scene

This revolution Daub refers to may be the new widely spread 'rave-o-lution' that is "motivating new spiritualities and indicating the persistence of religiosity amongst contemporary youth" (St John, 2004). I will further explore the role of rave in the spiritual life of contemporary youth later within this research document, but you can add the aspiration of spiritual enlightenment to the evolving list of raves cultural ethos principles.

2) Social Organization:

Another piece of the formula that distinguishes raves cultural identity is how they are organized. Raves are traditionally known for their grassroots, do it yourself (DIY) organization in unlicensed venues such as abandoned warehouses, underground clubs, or pretty much anywhere that has the means to accommodate masses of people while remaining hidden and secret. Informing people about the parties was through secret flyers, website postings and mobile phone messaging, communicated carefully to protect raves from police interference (Anderson, 2007). This type of social organization is partly responsible for raves reputation of being deviant, as they violated public gathering laws (licenses, insurance, crowds, noise), causing the early efforts by enforcement to control or prevent raves.

The social organization of raves can also be linked to specific genres of EDM (techno, house, trance, hardcore, breakbeat, etc.), where within the physical environment of a single event, there would be multiple rooms or tents hosting many types of EDM with DJ's switching off every other hour or so. This organization revolving around genres and sub genres called upon raves ethos of acceptance, diversity and equity (among DJ's performing at raves). In contrast to the raves of the past, todays newer events commonly host a single genre, with amateur local DJ's building up for the main act of a famous mainstream DJ (Anderson, 2007). Raves today, and since its major establishment in the late 80's, maintains the encouragement of inclusiveness within its social organization, accepting anyone with willingness to embrace raves valued ethos: PLUR.

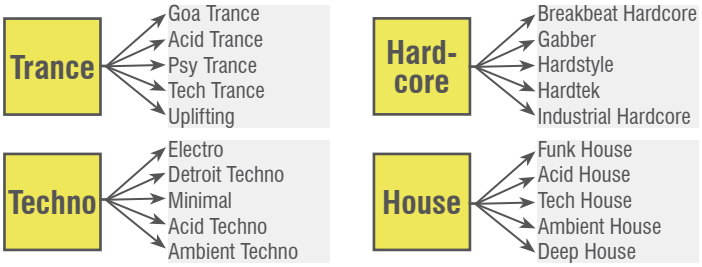


Fig. 44: Rave/EDM Genre & Sub genre

3) Identity Markers:

Identity markers revolve around symbols, things like style, language, props, gestures, mannerisms, etc., that overall differentiates what the collective stands for as a unified whole. Raves run through many social and cultural changes through generations of youth, establishing new symbols or sampling the pasts groups markers, differentiating mostly by geographical context, generational outlooks, specifics of genre, and the transition to commercialization.

- **Unifying Rave Identity Markers**

When looking at the identity markers of raves on a macro level, it can be condensed to baggy clothing, bright neon t-shirts with rave or anti-establishment slogan, and comfortable shoes/trainers (Reynolds, 1999). Those markers were popular in the late 80's and 90's, todays markers are a lot more commercialized, where labels and brands take over the anti-establishment t-shirts for advertisement. Some markers have stayed consistent within the macro collective, these being rave props, things like neon bracelets, pacifiers, masks, lollipops, backpacks, flowers in the hair, smiley faces and stuffed animals – which not only helps achieve the outfit but helps to trademark the appearance that is consistent within PLUR. Reynolds describes it as "the celebration of a childlike existence that embraced a utopian society".

- **Dominant U.S Rave Identity Markers**

To understand how different rave scenes inherit and sample their own sub forms of identity markers on a micro scale, I will provide an example of New York's first full pledged rave scene in the early 90's. It all started with DJ Frankie Bones and his events called STORMrave, which were held in deserted spaces because they weren't dressed right for clubs. As the scene grew in popularity, this early 'pure' phase of rave turned into money making potential in the eyes of entrepreneurs, where the STORMrave collective struggled against commercialized versions of themselves, in this case the Limelight Club and a collective called NASA. "It quickly became way too young, way too druggy, way to cliquey-fashion bullshit", says DJ Frankie Bones. The identity markers of the Storm crowd; anti-establishment dressed-down jeans and sneakers, was far different than the NASA crowd – who were in the process of inventing the look that was to become the dominant US rave style (Reynolds, 1999). The crowd's style was commonly described as a synthesized transition of hip-hop culture into rave, "super-baggy trousers halfway down their asses, Tommy Hilfiger, polo – preppy gear that became hip hop clothing and then entered rave" says Bones. Back in the 92' major rave scene growth, their identity markers weren't as label and brand oriented as the contemporary rave scene today.

- **Spiritual Rave Identity Markers**

Seeing the dynamics of the evolving rave scenes at the time, it wouldn't be a surprise this heterogenous global phenomena hybridized into a more spiritualized identity among contemporary youth – maintaining rapturous popularity in the west (St. John, 2004). This scene also had gained major cultural significant in the 90's, stemming from clubs to outdoor carnivalesque doofs, to 'techno nomadic' festivals, but rather than seeing rave as just a hedonistic leisure pleasure, they saw its effects that range from personal healing, replenishment, as well as the desired capability to transform the world socially, culturally and politically. Transcending the mundane in the common early rave environments of deserted structures and landscapes, these spiritual ravers had a rapturous identity – dressed up in "esoteric accessories, ultraviolet reactive clothing, personalized icons and an array of assimilated 'religious' glossolalia'" (St John ,2004). This non-traditional ecstatic experience and identity moved many to compare it to other traditional frameworks of religion, such as Buddhist, Christian, Hindu, Pagan, mystical, etc. – where St. John explains the identities are often refracted through the lenses taken up by the next generation due to inadequate ancestor (parent culture) pass down of their own revelations.

4) Norms & Behavoirs:

Concluding with the common norms and behaviors of the culture, which is often the most contradicting identity within the rave phenomenon as they are an alternative – diversely deviant set.

- **Dancing**

The primary activity at a rave is dancing to electronically produced music throughout the night and sometimes through sunrise. Their primary 'theatre of action' was and will always remain the dance floor – "a kinaesthetic maelstrom inflected by diverse sonic currents and technological developments influencing that which has been generically dubbed 'house', 'electronica' and 'techno' (St. John, 2004). The crowd and their shared identity markers are what cater the dance floor, where ravers dance independently, but in harmony with the other throughout the space. This synchronized collective dancing represents values of connection and independence, which runs parallel with raves identity and ethos of PLUR (Anderson, 2007).

- **Connectivity**

Raves host other activities, outside of the chaos of the dance floor where people hang out and chat with the ones they came with, or even with complete strangers – which was common due to the dissolvement of individual egos into one egalitarian whole. This behavior of inclusion and intimacy contrasts with the behaviors of other like scenes, such as the gentlemen's club of exclusion from the past or the courtship behavioral activity common at other types of music venues seen today. The rave environment does not value 'sexual courting', which is implicated by its ethos PLUR. For this reason, rave behavior is interpreted as something strange to conventional society and their "socializing" venue spaces (Reynolds, 1999).

- **Ecstacy & Rave Music**

The all night extensive dancing, the nonappearance of 'hooking up' activities and the atmospheric collective intimacy were assisted by what many consider to be raves defining element: the consumption of illegal substances, these being ecstasy, acid/LSD, GHB and ketamine – dubbed the 'club drugs'. Ecstasy ('E' for short) – the most prominent rave drug, is defined as a synthetically produced psychedelic and stimulant (ONDCP 2019). E's psychedelic properties produce experiences ranging from "open-hearted tete-a-tete through collective euphoria to full blown mystical rapture" (Reynolds, 1999). Used also in psychotherapeutic practices, its known to assist the deeply profound experience of interpersonal communication as well the pilgrimage to self-discovery. But most notably in the rave environment, it acts as both "party-igniting fun-fuel" and being the reactionary for "ego-melting mass communion", as Reynolds puts it.

It wasn't only about the drugs catalyzing effects of collective intimacy when taken by masses of people within the environment, but it was the drugs unique 'synergistic/synesthetic' interaction with electronic dance music and its repetitive, un-tempo sound that claimed its significance in the scene – intensifying sensory stimuli and making perceptions more vivid. On the other hand, the stimulant qualities of ecstasy yielded the energy needed to participate in the long nocturnal hours of dancing and socializing. E is also celebrated as the 'flow drug' – characterizing the way it melts the bodily and psychological rigidities, allowing the dancer to move in more fluidity with the music (Reynolds, 1999). With this 'lost in music' pleasurable component of the ecstasy experience comes the psychedelic component and its sense of "hyperreal immediacy, cleansed perceptions, and the recovery of childlike amazement at the here and now" (Anderson, 2007). Reynolds adds to this feeling gnosis, describing it as being in the *'know'* and living in the *'now'* – which goes beyond the recreational drug use, commencing the ecstasy pilgrimage into a journey of spiritual discovery in the presense of rave music and dance.

Rave Socio-Cultural Conclusion

Starting in reference to the impact on ecstasy within the rave scene and its music, I introduce the mainstream perspective, seeing rave as something of a cult and questioning whether the meaning of rave can be reduced to the consumption of drugs, most notably ecstasy. A logical viewpoint as ecstasy has been involved in the rave scene since its early origins – for both the right and wrong reasons – where now rave culture on a macro level can hardly be conceived without drugs. But to the participants of rave, its more than the music and drugs, it feels like a religion to them, a matrix of alternative lifestyles and ritualized behaviors and beliefs (Reynolds, 1999).

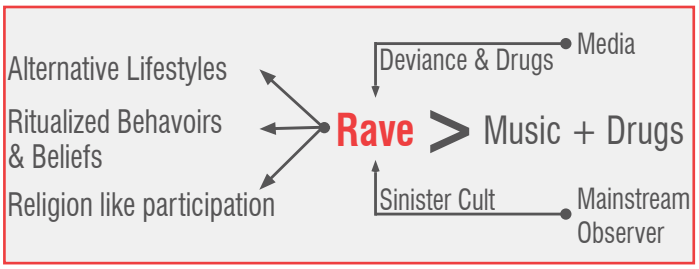


Fig. 45: Rave Perspective: Participant vs. Mainstream Observer/Media

Some cultural studies assert that raves have dwindled since their authenticated origins, which refer to the scene's alterations through generations of time, differentiating in their cultural components and social organization. Other studies examine the alleged decline from the more 'authentic' raves and into the contemporary EDM events, where Anderson gives an example of the Philadelphia raves that have developed into a dynamic range of EDM party scenes – positioned somewhere between the authentic underground raves of the 80's and 90's and todays branded commercial club events(Anderson, 2007)

To conclude, the rave/EDM scenes of today's contemporary youth fluctuate the adherence to dominate rave culture, manifesting their own unique styles of identity generally through genre specific sub-scenes. These include enormous venues hosting numerous genres of EDM and their mainstream branded DJ's – leaving minimal space for the pasts authentic, grassroots, do-it-yourself (DIY) style of rave. Hence, todays contemporary rave/EDM scene as a culture synthesis of rave and club, or as Anderson dubs the "rave-club culture continuum".

Generation X: The **Underground** Rave Scene

- Emphasized by authenticity
- Desire to remain covert, hidden, cultic even
- Various spaces accommodating specific genres of EDM (techno, house, garage, trance, etc.) with DJ performances trading of every other hour or so
- Commitment to genre (techno, house, garage, trance,etc.)
- Efforts to maintain a 'tribal identity' and 'underground sociality'
- Identifies as 'hardcore', a refusal, detachment and sense of invisibility to state administration and corporate entertainment industries

Fig. 46: Generation X & Y - Compare/Contrast Sampled

Generation Y: The **Commercialized** Rave Scene

- Emphasized by entrepreneurs, brands, and labels
- Desire to mount the 'Rave-o-lution', to spread the scene on a mass global level
- Performances accomodating one genre and revealing a main act, usually a famous mainstream DJ
- Significant pursuit of state administation and corporate entertainment industries to control, regulate and assimilate the culture

Detroit Techno: The Influential Sound of Rave

By first investigating rave phenomenon on a macro level, it allows me to understand the culture as whole, where then I have a general understanding from which I can relate other social and cultural rave scene developments that stem from it. I breifly introduced a few examples of different development rave scenes previously, such as the New York scene and the more western spiritualized scene. But the scene of interest for this project is Detroit, with its strong cultural narrative in electronic music: Techno - and its resonation in urban politics.

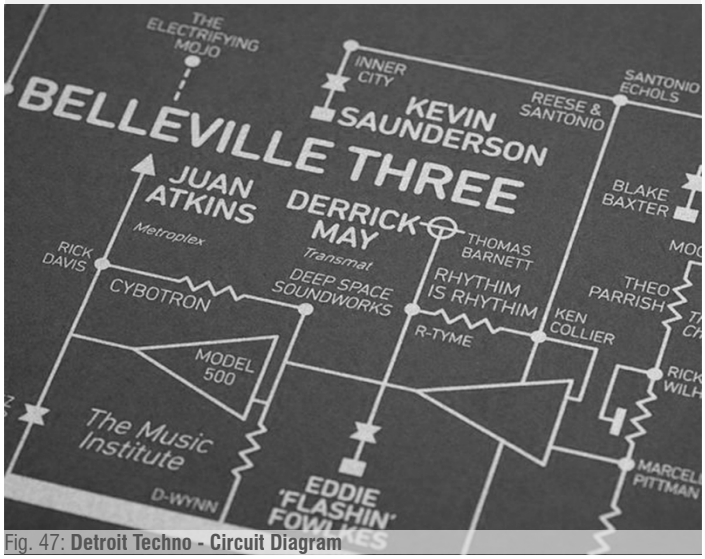


Fig. 47: **Detroit Techno - Circuit Diagram**

The main genre of techno has had its roots planted in Detroit since the early 1980's, with the cerebral guidance of Detroit's very own techno pioneers: Derrick May, Juan Atkins and Kevin Saunderson – known as the "Belleville Three". The Detroit techno narrative to this trio of high school friends started with their early inspiration in the predominant electronic music of German group Kraftwerk – who were the first to replace guitars and drums with synthesizer pulses and programmed repetitive beats. The three created Detroit techno by fusing Kraftwerk beats into a dance floor oriented clear, minimalist sound that became a "dreamscape…at odds with the post-industrial wasteland that inner Detroit had become" (Heasley, 2001). It was the creation of a new hope-filled music that had recovered what Motown laid down following their extinction in the 1970's. The sound of Motown was hope for the urban African American Detroit youths, but the 1967's riot caused significant damage to the city causing multitudes to flee into the suburbs, and together with the common switch in musical tastes concluding the Vietnam war (1975) – had overall guided its abandonment.

Rise & Demise: First Wave of 'Pure' Detroit Techno

By this time already, Detroit had become a ghost town, primarily due to the inner-city deterioration that had climaxed in the 60's and early 70's. The first wave of Detroit Techno represented this, where the vision was Detroit specific, capturing a city in transition from industrial boomtown to post Fordist wasteland, from U.S. capital of auto manufacturing to U.S. capital of homicide (Reynolds, 1999). The sound was a "dominant mood of paranoia and desolation", telling the story of urban decay, economic dispossession, racialized class war and technology.

The new music appealed to Detroit's marginalized underground population, gaining significant importance in the mid to late 80's through the dancing ruins of Detroit. The Belleville threes liberating use of machines was engraved with Afrofuturism – a form of 'magic realism', that aims to fictionally and artistically revise the history of the African American community. Derrick May promoted what he dubbed 'techno spirituality' – a form of 'elevated consciousness' that we cultivate in partnership with machines, stating "techno dance music defeats what German philosopher Adorno saw as an alienating effect of mechanization of the modern consciousness". Likewise, Juan Atkins alluded to futurist Alvin Toffler's slogan "techno rebels", which was an insightful source of inspiration for the kind of musical creativity that techno had emerged from (Reynolds, 1999). This first wave a Detroit Techno reached its climax in 1988-89, with the city pumping in underground clubs like the legendary Music Institute and The Shelter, where the Belleville three and other collaborating Resident DJ's would play. At the same time, the sound of Detroit Techno gained mass popularity in the hedonistic European rave scene, which was a big factor in the 1990's demise of the first wave of Detroit Techno. Other factors included the closing of Music Institute and an array of bad record deals, which led to the Belleville three taking DJ-ing opportunities in Europe, leaving the younger producers of Detroit to seize the initiative without the guidance of the first wave mentors.

Fig. 48: **The Belleville Three**

1 RESEARCH DOCUMENT

Context: Historical, Cultural, Physical

Second Wave: The Future Sound of Detroit

The first wave offered Detroit a way to pursue a new autonomy in the international networking of electronic music hubs of UK, Germany, New York, Chicago and Ibiza. Detroit Techno took pleasure in its early success, but even before the Belleville move, the clear minimalistic sound was already in the process of influencing oversea artists, who subsequently turned techno into a huge phenomenon.

In the 90's, not only was the Detroit sound influencing and changing overseas, but it was also doing the same in its own backyard with its second generation of young black producers. The leaders of Detroit's future sound were two labels and two DJ/producer groups: Underground Resistance and Plus 8. In comparison with the Belleville three having their influencers of Kraftwerk and Parliament-dustrial, this new wave carried 80's influences of Euro body music, electro, industrial and UK synth pop (Reynolds 1999). Some say the result was a "harsh Detroit hardcore" which ran parallel with the brutalist rave music in Britain, Germany, Belgium and Holland. This new wave, specifically Underground Resistance, was dedicated to "fighting the power" (the mainstream entertainment industry) not just rhetorically but through promoting their own autonomy. UR's musical evolution was interrupted with a dialect that stems through most of the "serious" black pop: the tension between militancy and mysticism (Reynolds, 1999). Like UR, plus 8 (+8) – the other influential group in Detroit's Second Wave – "had gradually evolved from industrial-tinged hardcore to a trippy but minimal progressive techno sound"

The music was constantly changing during this second wave, mainly due to the major growth of the worldwide rave scene starting in 1992. By this time, Ecstasy had gained significant importance in the formula of rave, where +8 and UR were against the "drug-fueled dynamic that was driving hardcore techno to new extremes of brain-dead brutalism". The music was changing not only because of Ecstasy, but because of the environment it was designed for – raves, not clubs. As the classic rave narrative evolved through the 90's, so did the once 'pure' techno – cross breeding into many new genres, such as Trance (Detroit techno + Chicago house), Ambient and Hardcore. When the late 90's came around, techno had begun to influence popular mainstream music, with one of the many being Madonna's Ray of Light album. Overall, Detroit's predominance has and will always be recognized, which has become evident through its annual electronic music festival – drawing millions of techno fans to the riverfront Hart Plaza Music Theatre. The event is sponsored by many corporates (Pepsi, Detroit Press, etc.) which takes away the authenticity and autonomous position of techno within the music culture but establishes it as creditable enough to support ("DEMF", 2004).

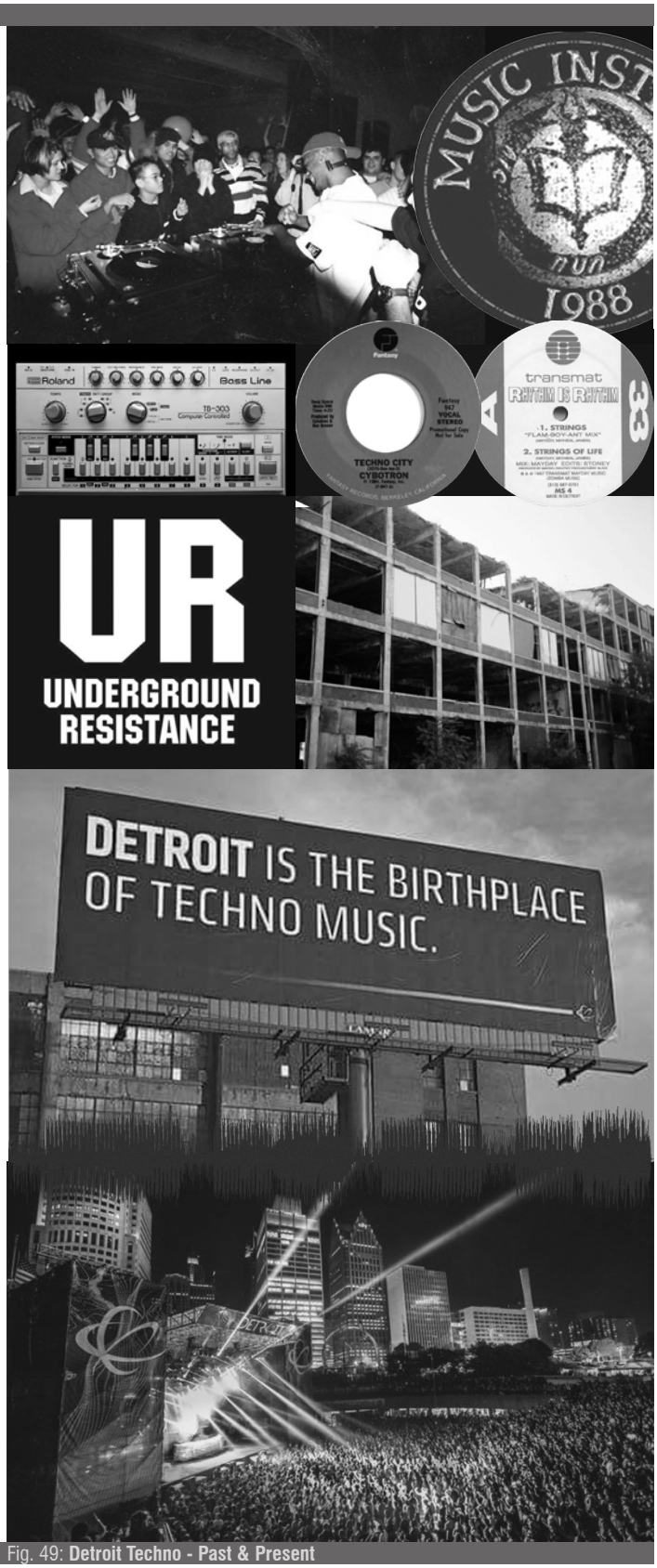


Fig. 49: **Detroit Techno - Past & Present**

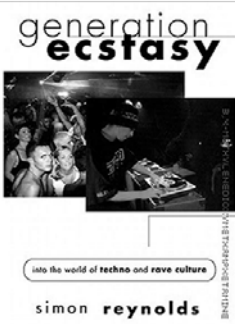
Project Justification

With this project, and proposed design on a macro level, I hope to address my theoretical premise of bringing the rave out of the cave and shedding light to the essence of rave and its meaningful cultural experience rather than viewing them as troublesome matter to control (deviance, drugs, transgressive behaviors, pleasure-seeking, etc). I hope for this project to increase belief in the potential impact of rave club environments as a site of creative spiritual outlets that resonate with people's everyday lives and changes the way they feel, think and respond in the world at large – providing exposure, new experiences and engaging a diverse amount of people through the process. It's about how music, dance, architecture and bodies converge to evoke that physical and mental sensory immersive experience; a sense of connectedness, freedom and escapism within heterotopic/utopic realms, overall creating new internal meaning and new ways of being for the youth of the 21st century.

The above macro level justifications thus transition to a more micro level region with my proposed site location being in Downtown Detroit, Michigan. This chosen site location of Detroit can be justified in several ways, the first being Detroit's strong cultural narrative in the roots of electronic music, most notably the invention of techno – a genre and sound with great influence on the evolution of rave music. The art of the sound can be characterized as 'pure' and 'intelligent' as opposed to its hybridization in Europe where the sound became more hedonistic and drug oriented. Detroit Techno tells a story of urban decay, economic dispossession and racialized class war through 'techno spirituality' and is very much imprinted with artistic and fictional Afrofuturism ideologies - revisiting the relationship between humans and machines with the intentions of inventing new forms of cultural production and meaning. Detroit's strong techno roots, musical creativity and authenticity are what my design intends to maintain/bring back by incorporating not only consumption spaces but production spaces as well, allowing Detroit's local youth to express their creativity and artistry through the collaboration and production of music, which also gives the nightclub another identity/use during the day time while having a greater chance at producing a positive social impact - a new kind of rave behavior to believe in. The justification for choosing the abandoned Michigan Theatre is also influenced by techno music as it has always sought the marginalized, derelict spaces of the city, which Detroit is not scarce of following the automotive factory shutdowns and post industrialization. Converting the abandoned Detroit Theater into a production/consumption oriented rave club may contribute to Detroit's urban regeneration (or lack of), where rather than demolishing an urban context or starting from a piece of pure land, regeneration offers a way to symbolically represent Detroit's urban heritage by giving the marginalized space new meaning through the sampling of past symbolic ideas and forms, where regenerative design becomes a discipline of action – a tool for change in the urban fabric history and future.

My personal, academic and professional justifications for this project are stated earlier in the Project Goals section of this book which focuses more on why this project is important to me, where above I described why this project is important on a macro societal level and a micro Detroit specific level – which overall justifies my theoretical premise and unifying idea in relation to my chosen context. The two last major justifications for this project include the desire to reconceptualize the nightclub typology and how that reconceptualization can facilitate a spiritual experience – both bringing light to the positive essence of rave and the nostalgic yearning for the ideal utopian space full of music, dance, spirit, creativity, transgression, and communal connectedness – reharmonizing the powerful connections between mind, body, culture and place. Firstly, ever since the radical experimental discotheques of the 60's and 70's and the transition to abandoned, deserted spaces in the early 90's, nightclub design has had little innovation despite the vast theoretical and practical exploration by various architects, where most of the designs (especially in today's commercial dominant clubs) seem standardized and conventional – staying within the boundaries of perceived reality. I intend my design to go beyond the conventional, much like ontology of rave, which brings me to my second and last justification of facilitating not only a sensory immersive experience, but spiritual enlightenment as well – which can be reached without conforming to traditional religious rituals, such as the rituals of rave with their music, sound, 'sacred' space, 3D visuals, communal dance, collective oneness, egalitarianism, etc. In fact, a study by PEW Research Center conducted between the years 2012-2017 has found that Americans are less religious but more spiritual than ever, which is where the ideal rave space comes into play to be the curator for that experience. Raves bring us out of ourselves and overall offers a type of spirituality that you cant get easily from traditional religion, which is one of the many reasons why I'm bringing rave out of the cave.

Literature Review [1]



Title: Generation Ecstasy
Author: Simon Reynolds

Generation Ecstasy by Simon Reynolds is a book that investigates the world of techno (a unifying genre term for EDM) and the dynamics of rave culture. Reynolds offers a passionate and detailed analysis on how MDMA (aka "ecstasy", a psychedelic amphetamine) and MIDI (Musical Instrument Digital Interface – computer sound technology) both sampled and mixed together gave rise to an alternative dance culture of the "chemical generation" – the Generation X Rave. Reynolds, a late bloomer into the rave scene finds himself as both a fan and critic of the culture, where his counterprejudice viewpoint is informed throughout the entire book. With my projects unifying idea being to theorize the ideal environment of rave and the premise being to bring the rave out of the cave, or to shine light on the essence of rave – the counterprejudice viewpoint is appreciated as it brings out both the positives and negatives of the culture which helps me understand who I will be designing for and how the design can create a positive social impact with a new kind of behavior to believe in (creative-spiritual rather than drugs-deviance). Within his viewpoints, Reynolds gives no prediction for the future of rave or post-rave in today's contemporary youth due to the regionalized dynamics of the phenomenon, but does provide detailed analysis on the roots in which it originated. The key influencing contributions of Reynolds literature for my project include the analysis on both the underground and commercialized rave scene, as well as the sound of Detroit techno and its ways of production through "sampladelia".

Hardcore Underground vs. Progressive Commercialization

Reynolds, like many scholars and commenters agree that since its commercialization in the mid-to-late 90's, raves have been altered from its authentic, hidden, "hardcore" underground scene to a mainstream, "progressive" rave-o-lution. With that, he claims that the traditional rave is, and should remain, underground – where the address of the party is conveyed through word of mouth and through distributing inconspicuous flyers through local networking. Characterized by the intentions to remain covert, to maintain an 'underground sociality' or 'tribal identity', through the commitment of genre (house, trance, techno, garage, etc.). Reynolds further identifies the underground scene as "hardcore", with evidence of refusal, detachment and anonymousness to counteract the admissions of state as well as the industries of corporate entertainment. His counterprejudice viewpoint is undertaken through the belief that hardcore underground scenes are "the real creative motor of the music", and that the rave-o-lutionized progressive actions usually involve a "backing away from the edge, a reversion to more traditional ideas of musicality". This reversion is described as establishing itself through the traditional structure of the music industry: main star performers, album oriented, and lasting long-term careers, where Reynolds claims the reversion as evidence of "impending musical debility, creeping self-importance, and the hemorrhaging away of fun". Hardcore rave scenes are most prominent when distancing itself from this reversion and flourish rather through autonomous anonymous collectives, where local resident DJ's and producers collaborate and bounce musical ideas back and forth to overall maintain the evolvement of the genre.

The rave alteration from the underground to commercialization didn't only happen through generational differences (Gen X – Gen Y) of desires and attitudes, but through the shift in musical tastes in electronic music as well – which is Reynolds main emphasis throughout the book. As the original black American sound of Detroit and Chicago became popular in various British and European subcultures, it had almost simultaneously become mutated as these main genres began to fracture into diverse subgenres and sub-sub genres, resulting in a profusion of rave scenes (Reynolds, 1999). Reynolds adds that to say "I like techno" turned into an insignificant assertion by 1993. With all these emerging scenes and sub-genres, Reynolds generalizes to say that there are only really three classes of electronic dance music which are dictated by where and how the music is used:

- Music for clubs: sophisticated and adult-oriented sounds such as garage, house and the more Detroit-affiliated, purist forms of techno.
- Hardcore sounds produced for one-shot raves and for clubs that "cater to rave-style teenage Dionysian" opposed to "more mature nightclub behavior" (gabba, jungle, happy hardcore, trance)
- Music for home: album oriented, 'atmospheric' electronica and ambient techno attracting those who've grown out of the rave lifestyle and those who have never been into the ecstatic dance culture

Reynolds specifically highlights the hardcore rave genres (more functionalist, drug oriented forms of electronic music) through his counterprejudice bias, where he proposes that music embodied by and for drug experiences can advance

further in the continuum for the reason that it's not made with "enduring art status or avant-garde cachet as a goal". Overall, he believes that the essence of rave is endured through the underground hardcore pressure of raves audience demand for soundtracks to "going mental and getting fucked up". This then brings up a valid question of whether the essence of rave music can be reduced to drugs, or one singular drug – ecstasy, regarding the production and consumption of the music.

Conceptual Underpinnings:

Reynolds counterprejudice argument for the hardcore underground being the dominant essence of rave is a valid one. I also to some degree agree that rave should remain underground for its diverse communal tribal identity that revolves around the authentic commitment to a specific genre for its production and consumption. The underground and its autonomous relationship with a music genre was a valuable component of the rave scene and culture, where the autonomy of the music was formed to subdue the traditions of popular music and culture organized around mainstream DJ's, album-oriented brands and labels rather than the authentic rave culture. With my design intention fitting the category of a 'commercialized' club (due to the present status of rave today), I want to bring back the autonomous production/consumption of the music that focuses on the art of creation through the mixing and sampling of collaboration amongst local resident DJ's, which is how it all started – specifically with the context and sounds of Detroit. Such addition of production spaces would be a subset to the main consumption spaces of the nightclub, though they would serve an equally important role in my project as the addition would for one help build the local, young, developmental structure of real creativity and the artistry of techno. Secondly, it would serve as another identity during the day rather than the building only being known and used as a nocturnal nightclub of consumption, which in turn would create a more positive image of rave, thus bringing the rave out of the cave.

Drugs and their influencing effects on the production/consumption of music and the hedonistic sometimes deviant attitudes and desires are what make up the underground rave scene, which in turn became the unifying image of what the overall essence of rave is – and has maintained that image till this day, hence my premise of bringing the rave out the cave and the above possible solution. I myself do not endorse this type of hardcore rave behavior, where I question the ability of architecture to do the same as you cannot design to alter or change peoples actions such as the consumption of drugs – which comes down to the level of security. On the other hand, with me fitting the young adult demographic that rave audience consists of, I and am sure many others of this demographic agree with Reynolds statement of demanding a sonic soundtrack to going mental and getting fucked up. Yet again, I don't want to endorse this behavior in my design, but I can attest to the letting go of reality for a night.

This brings me to Reynolds classification of music - the where and how it's used, where with my design being a nightclub for rave, it can be classified as a curator for both sophisticated and adult oriented sounds that invoke a more mature nightclub behavior (In my case the more purist Detroit affiliated forms of techno) and hardcore sounds that cater to the rave-style teenage Dionysian. This would put my design to cater to both ends of the dionysian and apollonian spectrum (diagram #), where realistically as a designer I would have no control over what type of music is performed. This comes back to my previous statement of wanting to represent the underground in some positive way, to show how the music and rave originated and evolved to today's generation of youth ravers. And with my proposed site being in the context of the strong musical and cultural narrative of Detroit, what better way to do so by designing spaces that allow for Detroit's youth to learn the art of producing electronic music where they can collaborate and bounce ideas back amongst others, along with the opportunity to present the tracks for the consumption of Detroit's wider audience in the main club performance spaces.

Apollonian	Dionysian
Thinking	Feeling
Self-controlled	Passionate
Rational, logical	Irrational, instinctual
Ordered	Chaotic
The dream state	State of intoxication
Principle of individuation	Wholeness of existence
Value for human order/culture	Celebration of nature
Celebration appearance/illusion	Brute realism and absurdity
Plastic & visual arts	Music
Human being(s) as artists	Human being(s) as the work and glorification of art

Fig. 50: Rave Youth Behavoirs - Apollonian vs. Dionysian

‘Sampladelia’: The Production of Techno Music

Generation ecstasy focuses much of its attention to the dynamic production of electronic music, as it has played a huge role in how rave has evolved overtime, creating new sounds and scenes along its journey around the world. The shift in musical tastes stated earlier has much to do with the technological advancements in electronic instrument technology, where digital technology of synthesizers and samplers replaced the predominant analog synthesizers and tape recorders. Both ways of technological music production (more so with digitalized techno music) experimented with sounds through what Reynolds dubs as ‘sampladelia’ - disorienting, perception warping music produced by utilizing the sampler and various other digital technologies (Reynolds, 1998). The sampler in its early analog days of the late 60’s psychedelia music was limited to copying segments of prerecorded music and replaying it back at different tempos and pitches, where since its conversion to digitalized data, it allows the sampled segments to be easily manipulated and rearranged. Meaning that the original source can be masked to a level of unrecognizability, where it is this form that opens up “a near-infinite realm of sound morphing possibilities” while also separating the sound from the original modes of music it had sampled to produce something new (Reynolds, 1998).

Reynolds states that the sampler isn’t the most important creative tool for producers as some prefer sampling with knobs and sliders of old school analog synths (such as purist Detroit-affiliated techno music), but both methods of sampladelia radically break away from traditional, real time ideologies of ‘musicality’, which still seem to govern most music making today. It is this detachment from popular music traditions that lead to the formation of techno music, where at that time was consumed within the marginal cracks of the city in order to uphold its counter cultural attitudes. The music not only separates itself from traditional modes of musicality in form, structure and consumed marginalized context, but also through its escapism to utopian/futurist ideologies, apparent in visual and auditory perceptions of the music and emphasized by the effects of ecstasy. It is this context in which techno music pursues to establish its autonomy through technology and distorted allusions of other modes of musicality, for not only political motivations but simply for the creation of sound (opposed to popular music’s hierarchy of harmonic/melodic developments).

The creation of new sound through sampladelia is done within the virtual space of digital technology, where found sounds (prerecorded music, something as small as a triangle hit, or sounds of industrialized Detroit factories) are chopped up, looped, stretched, treated, and recombined into a repetitive rhythmic pattern. Reynolds describes, “it layers and concatenates musical fragments from different era, genres, and places to create a time warping pseudo effect”, then relates it to such things as magic, time travel and séance. Architecture and the sampladelia music process share a common design process through a form of experimental collages, where both entities play with the notions of how fragments of reality are perceived, usually through the creation of an imaginary environment. Reynolds also connects the process to Avant Garde and their desires for taking fragmented pieces out of their functional context that presents it with meaning, and simultaneously conveying a new significance upon it (Reynolds, 1998). All three examples of music, architecture and art contain the process of finding new possibilities in obsolete, discarded fragments of reality, focusing less on what it was or is but what it can become, where Reynolds states “its about inventing a new kind of posthuman virtuosity”. In that sense, it’s a process that may also be ‘prophetic’, one that offers hints to what the future holds regarding formations of human identity and social organization (Reynolds, 1998). The Avant Garde pieces below conform to this radicalized notion of sampladelia and collage as method of reintroducing the autonomy of art into the praxis of life by specifying readable fragments as ‘allegories’ combined to generate new meanings that convey back to reality (Reynolds, 1998).

Fig. 51: Analog/Digital Sampling Technology


Fig. 52: Avant Garde Sampladelic - Picasso *Still Life* - Oskar Schlemmer’s *Triadic Bal.*

3 RESEARCH DOCUMENT

Literature Review [1-2]

Conceptual Underpinnings:

I found that this section of the book most successful in providing me with material that helps to connect rave and its musical forms to architectural ideologies. Collages have been utilized as a tool for experimentation within a wide variety of creative endeavors due to the infinite possibilities in which the process can take. Reynolds describes this collage process of electronic music sampling and remixing of found sounds as sampladelia, which is a large component to the evolution of rave and the sounds that curate the ecstatic experience. Detroit, the proposed context of my design, was one of the first cities who experimented with found sounds, such as taking the hammering and clanking of their industrialized factories and mixing it with other sounds in a rhythmic repetitive pattern to overall create a new sound. Much like Detroit, I may use the process of collage to experiment with different ideas, where instead of found sound I can use found abandoned structures such as the Michigan theatre to act as the foundation to this process – with the true internal meaning sampled on the interior. It is this process in which I can design in the lens of techno producers(DJ's), taking the autonomous art of mixing and sampling in Detroit and applying the same tactics to architectural creation – which can link back to their strong musical origins whether perceived consciously or unconsciously.

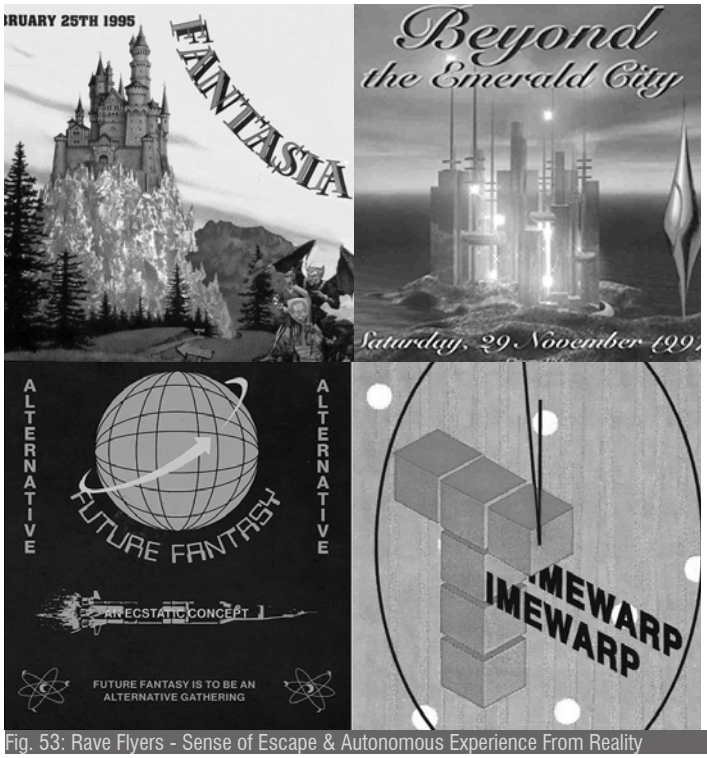
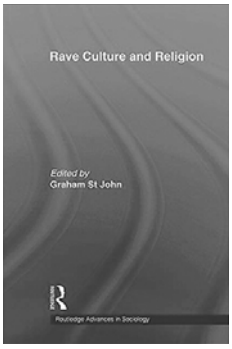


Fig. 53: Rave Flyers - Sense of Escape & Autonomous Experience From Reality

Literature Review [2]



Title: Rave Culture and Religion
Author: Graham St John

"Dance parties have transmuted the role that organized religion once had to lift us onto the sacramental and supramental plane" – Ray Castle, 2001

"From African Priests to Korean shamans there was and still is the belief that dance and music can open communication with intangible powers and produce tangible benefits for the communities involved: self-knowledge; fuller understanding of the natural world; good health; and a sense of belonging to a supportive group in an often dark and hostile but ultimately understandable universe." – Drew Hemment, 1997

Since the beginning of human evolution, music and dance have guided some of the earliest civilization's rituals, spiritual gatherings, and social events through the passageway of trance, expression, pleasure, entertainment and interaction. This type of elevated faith among cultures across the world have been traditionally documented in the language of religion. But spiritual enlightenment can be reached without being confined within religious institutions, such as the rituals of rave.

These rituals and other spiritual configurations of rave are thoroughly documented and analyzed by the author Graham St John throughout the book and is guided around prior scholarly research where he compares different viewpoints and concludes with his own understanding. In the historical, cultural, physical context section of this book, I provided a brief introduction to the more spiritual youth formations of rave events that are emerging all over the globe (rapturous popularity in the west) following the dominant raves peak in 1992. Rave is truly a diverse global phenomenon, influencing new spiritualities and signifying the perseverance of religiosity amongst contemporary youth (St John, 2004). This notion of rave as a religious experience or invoking spiritual enlightenment plays a large part in the premise of this project which aims to bring light to the essence of rave, where spiritual and creative experiences are prioritized over hedonistic drug-infused experiences to produce a positive social impact and a new kind of behavior to believe in. The chapters of interest that bears on my theoretical premise include chapter 1, "The difference engine: liberation and the rave imaginary" which

investigates rave's religiosity and utopic experiences through gnostic becoming micro-narratives. The other is chapter 4, "Connectedness" and the rave experience: rave as new religious movement? Drawing upon raves core attribute of connectedness through Turners approach of 'communitas' as well as Emile Durkheim's 'Effervescence'. Contributions from the chapter regarding my theoretical premise will be concluded in the conceptual underpinnings section after each chapter.

Liberation and the Rave Imaginary

In this section of the book, St John examines the evolving themes of youth rave culture developments by their 'liberatory configuration' and imaginaries with linkage to post-traditional religiosity. He starts by describing the post-traditional religiosity of rave as the migration from traditional temples and churches religious 'meaning-making activities' to expressive 'otherplaces' – the rave imaginary and its liberating significance. These otherplaces perform as a portal to utopic realms of infinite trajectories and differences, hence St Johns dub 'the difference engine', where the dance party is "found to be a substantial node of indeterminacy for its inhabitants - providing youth with an uncertain passage of contemporary life". These passages can be found in the 'gnostic becoming' micro-narratives of today's spiritual rave-o-lution through the threads of ascensionism and re-enchantment.

In today's spiritual 'rave-o-lution', the imaginary is emphasized through screen-based animations, digital art, 3D projections, the digitalized music itself, event themes, CD/flyer covers, websites, fashion accessories, films, documentaries, etc., which all synthesize to invoke an alternative or 'expressive spirituality'(St John, 2004). With expressive spirituality, one is compelled to "seek liberation from the contaminating effects of society and culture; seek genuine experience; seek to express all that one truly is as a spiritual being", where St John claims that that conceptual architecture of rave events, cyber and digital technologies are co-conspirators of 'expressive humanism', where rave develops into a 'provisional node' in the emergent network of 'seeking'(St John, 2004). A seeking to liberate oneself through esoteric gnosis: "a mystical breakthrough of total liberation, an influx of knowing oneself to be part of the genuine godhead, of knowing oneself to be free" (St John, 2004). In that sense, raves are about future humanity, inspiring us to become aware of ourselves and our surroundings, aware of how we treat each other, how we communicate and express emotions and thoughts amongst each other – not as a way of life, but as a ritual; 'an exercise for the soul as well as the body'(St John 2004).

St John examines the narratives of ascensionism and re-enchantment to understand raves religiosity through the imaginary. Ascensionism is seen through rave cultures adoption of 'out-of-body' science futurisms which is seen in throughout its literature, flyers, films, websites, etc. He explores the example of *Cyberia: Life in The Trenches of Hyperspace* and its premise of new youth cultures exploring unmapped realms of consciousness enabled through 'cyber-chemical, audio-visual technologies. Within the psychedelics, 'chaos mathematics', computers and feedback loops, rave facilitates what St John states as 'the hardwiring of a global brain', further, an 'interconnected virtualized otherworld: Cyberia' (St John, 2004). This narrative celebrates the posthuman take off, where in Cyberia, "the age upon us now might take form of categorical upscaling of the human experience onto uncharted, hyperdimensional turf and cyber-spatial networks" (St John 2004).

On the other side of rave ascensionism and the 'cyberian paradigm' is the reconnection with the source of sacred power – the re-enchantment of heritage wisdoms. St John states re-enchantment implies a 'romantic revivalism', a 'pantheistic re-sacralization' of the self and world – often diversely disillusioned with 'modernity, patriarchy, and institutional religion' (St John, 2004). Seeking return to generalized heritage revolves around the desire to be closer to the sacred, St John explains, "to court the mysteries via clandestine dance and digital surrealism, to harmonize with the source" – the source being 'forgotten tribal roots'. St John provides the example of Earthdance; whose vision is to bring back the dance ritual (a 'sacred act of focused intention'). They strive to create a positive modern-day space to come together as one tribe through the journey of trance, much like their ancestors did.


Fig. 54: Rave Rituals - The Spiritual-Liminal Experience

3 RESEARCH DOCUMENT

Literature Review [2]

Conceptual Underpinnings:

The conceptual underpinnings for Rave Culture and Religion will vary greatly from those of Generation Ecstasy as they provide two different prominent outlooks on rave phenomenon, both of which are contributing elements of my theoretical premise and overall unifying idea. As for the chapter just introduced, where St John investigates raves religiosity through the 'vast psycho-cultural terrain' of rave imaginary that is prevalent among today's spiritual 'rave-o-lution' millennium and past rave narratives. Rave imaginary is brought to light through new digital and body technologies, creating a 'super-sensory' experience which offers 'insights on the possibility of postmodern religion and/or alternative spirituality. The possibility of evoking spiritual enlightenment not only through digitalized music but through digitalized imaginaries is of interest to premise, where the dancefloor boasts the 'possibility of becoming', a 'provisional node' in the emergent network of 'seeking'. In the context of Detroit, a city of urban blight, alienated neighborhoods and lost spirits, the liberations of esoteric gnosis through rave imaginary's provide a passage of spiritualization and connectivity among its contemporary youth inhabitants, overall invoking a sense of communal hope for the city as well bringing light to the spiritual essence of rave. It may also be an attempt to reconnect Detroit (majority of population African American) to its heritage wisdoms of Afrofuturism through re-enchantment and its desire to be closer to the sacred, which is turn would also fit the ascensionism narrative of rave imaginaries as 'out-of-body' science futurisms where Afrofuturism addresses themes and concerns of the African diaspora through techno culture and science fiction(Peters, 2018). This then contributes to the notion of rave space as utopian/heterotopian or communitas/hyper-millennialist , whether metropolitan club parties or international trance festivals, its known to "permit escape from day to day experience or permitting the exploration of new pathways, revitalizing routinized cultural patterns or catalyzing new self and social fictions"(St John, 2004). These notions of rave space (utopia, heterotopia, communitas, etc.) will be further investigated in the following research documentation.

"Connectedness" and the Rave Experience

Is rave simply about the dissipation of utopian energies into the void, or does the idealism it catalyzes spill over into and transform ordinary life? (St John, 2014) The above question raised by St John is one of high prominence for my theoretical premise as it examines what happens after the rave experience and whether it translates into the present day of reality for the better. St John further investigates this question through Emile Durkheim's notion of collective effervescence and Victor Turners notion of communitas, where both models of revitalization and cultural creativity attempt to analyze rave as a new religious movement among youth social, transformational and spiritual practices through the core attribute of rave – "connectedness". This chapter aims to shine the light on rave culture and religion, with the often-contradictory notion that 'raving is a highly meaningful and spiritual practice for many ravers' (St John, 2004). This is mainly experienced through 'intense sensation of interpersonal and sometimes universal connection between participants' and is aided by St Johns study in the existence of rave connectedness, where he finds that: out of the seven major themes apparent in rave experiences, connectedness was the most frequently reported from the data. The following research furthers the experience of connectedness by examining it through the lens of 'existential' collective effervescence/communitas and their five apparent characteristics. But first I will provide rough definitions of Durkheim's and Turner's concepts.

- Collective Effervescence (Durkheim): 'a feature of certain types of social assemblies, especially religious rituals. Possessing several characteristics: it is inherently communal and collective; energetic, electric, or ecstatic; an essentially non-rational affective state or experience; ephemeral or temporary in nature; and a possible source of great cultural creativity' (St John, 2004).
- Communitas (Turner): 'an unstructured or rudimentarily structured community of equal individuals; an essential and generic human bond; a set of egalitarian direct, non-rational bonds between concrete and historical individuals; and a deep, inherently emotional experience or state' (St John, 2004).

Fig. 55: Rave Rituals - The Spiritual-Liminal Experience

Electricity, exaltation, enthusiasm: Durkheim expresses effervescent rituals as events impregnated with enthusiasm, electricity and ecstasy, similar to Turners descriptions of communitas such rituals 'produce direct, immediate, and total confrontations of human identities', relating it to the rituals of the hippie counterculture and other millennial 'enthusiastic' movements where he states 'the ecstasy of spontaneous communitas is seen as the end of human endeavor'(St John, 2004). St John links Durkheim's 'electricity' to what is known as 'the vibe' in rave experiences, described as a 'kind of energy or pulse which cannot be expressed or understood in words, but as that which can only be physically experienced'. The vibe is also apparent as an 'amplified feeling or emotional state', linking to Durkheim's unifying notions of 'exaltation' and 'enthusiasm' (St John, 2004). 'The vibe' is not only created and maintained through music, but through the people consuming the music, creating a sense of community and connectedness concurrently. 'Vitality' becomes another term to describe the electricity, energy and ecstasy of the dance experience, where it is defined as the celebration of the energies created through being, playing, and experiencing together; a 'temporary relief' from ravers own life (work, pasts, futures, worries) where the 'everyday is disrupted, the mundane is forgotten and the ecstatic becomes possible'(St John, 2004).

Embodied, non-rational, emotional: The typical embodied, non-rational and emotional nature of rave experiences is also a characteristic of communitas/collective effervescence – most notably through the paradoxes of music and its visceral understandings of the body, where music is intended for 'feeling' rather than listening (St John, 2004). This process is intensified through sense enhancing drugs such as ecstasy, 'creating effects so that sounds seem to caress the listeners skin'. With music comes dance, which is raves 'transgressive medium of embodied expression', assisting in raves dissolution of gendered spaces aiding explorations of new identities and pleasures as well as enhancing connectedness. Both music and dance create an intense emotional 'unity experience' amongst ravers, though partially fueled by ecstasy, 'raves are sites of emotional outpourings, most notably compassion and empathy (St John, 2004). The intense and 'ineffable' experiences of unity amongst the crowds of ravers can be paralleled to those of religious experiences.

Communal and Collective: In the notions of collective effervescence/communitas, communal and collective are the overarching characteristics of rave experiences, even without the guidance of 'empathogenic' substances, the experiences of 'love' and 'unity' transcend. St John provides an example of this experience at a 1993 StormRave: "at the end of the party, we were winding down, the sun was out, everyone was feeling pure and alive, in that communal unity feeling. Then someone in the middle of the dance floor started holding holds and putting their hands up in a circle. Kids were jumping from the back to put their hands up to touch the center point where all hands interlocked. People had tears in their eyes. We were just looking at each other, so happy, so open to everything…Group energy, where one person triggers the next person who triggers the next person…You could just feel it vibrating between everyone. You can't put that in a pill. There's kids I know that were totally straight, who never did drugs, and who were there dancing as hard as anyone as they could feed off that energy" (Dennis, in St Johns 2004).

Transgressive, leveling and humanizing: Both Turner and Durkheim share similar viewpoints within their notions of collective effervescence/communitas when investigating raves setting as transgressive, leveling and humanizing. They both agree that the intense emotional assembly and association of raves heighten the possibility of transgressive behaviors, implying 'dissolution of regular social and normative structures, and is sometimes seen as a danger to these structures', hence the stigmatization of the culture (St John, 2004). Social structure divides people, 'defines their differences and constraints their actions', where communitas is a 'liberating, equalizing, humanizing, and transgressive force and experience, a necessary counterbalance to the dehumanizing effects of social structure' (St John, 2004). Unlike the predominant rave origins of gay African American house clubs – a 'double exclusion' structure, raves following and to this day are perceived to be inclusive, 'a place where race, class and gender lines are dissolved, where people can just go be themselves and be accepted'(St John, 2004). But St John does remind us of the heterogenous nature of raves and its exclusivity in musical styles and event genres that have emerged since its origins, often 'catering to specific socio-economic groups and ethnic communities within metropolitan centers' (St John, 2004). Further adding that majority of raves today do indeed attract diverse social groups, ethnicities and classes, providing the example of the city Toronto where even through the succumbent to commercialized rave scenes, a social space was created where 'difference, status and inequalities are temporarily suspended'. St John also makes known raves distinguishing attributes of reduced violence as well as reduced sexual difference and sexual tension, which again can be further aided by the empathetic, non-aggressive characteristic effects of ecstasy.

Fig. 56: Rave Rituals - The Spiritual-Liminal Experience

St John cites McRobbie's research finding that 'women report being attracted to the rave scene (which is majority male participatory) because they feel safer there, and because they are less likely to be propositioned by men', when compared to the typical nightclub centered around the drug of alcohol.

The rave experience as temporary and utopian: This final characteristic of communitas/collective effervescence that looks at rave experience as temporary and utopian brings back the initial question proposed by St John, of whether the ideologies come to transform ordinary life. Evidence is shown first in Durkheim's notion of 'collective effervescence' – 'a phenomenon that can spontaneously produce new moral codes, as well as ideal conceptions of society', or as 'new collective representations' (cultural symbols) St john adds. Collective effervescence and its 'volatile, destabilizing, and even sacred nature' can be viewed through the same lens of spontaneous communitas in that their existence is temporary – 'a fundamental transitory state' as opposed to 'jural-political character of structure. Emerging from communitas is the notion of liminality, which is described by Turner as a 'timeless condition, the eternal now, a moment in and out of time', further explaining the experiences of communitas through members of religious, millenarian or revivalist groups who characterize it as an 'Edenic, paradisiacal or utopian state'(St John, 2004). There are many examples that highlight the temporal autonomy nature of raves, where St John gives the example of the electronically produced music itself, characterizing it as 'hyper-extended, repetitively rhythmed tracks and sets' which creates a timelessness experience that mirrors the 'eternal present of collective effervescence/communitas'(St John, 2004).

Raves produce timeless experiences in timeless places that are removed from social spaces where utopian ideologies emerge as both imagined and lived. The psychotropic lights, sonic pulses and vibrations of bass and synths, virtual projections, etc., aid the sense of utopic timelessness. "The rave is utopia in its original etymological sense: a no where/nowhen wonderland" (St John, 2004). St John then compares Hakim Bey's concept of 'temporary autonomous zones' to rave, as both model liminality and marginalization, occupying the 'cracks and vacancies' left by the state in the upcoming of post-industrialized societies. Raves utopian desires and visions in the early days revolved around an avant-garde like creativity and the 'were gonna change the world' ideology, whereas rave events now are being used for a political change and personal transformations (St John, 2004). St John does note that the emergent of commercialized rave culture that governs most rave events today overall fail to effect real political change, but further adding that there are some 'post-rave movements and collectives' around the world that harness political change through utopian and 'oppositional urges'.

Conceptual Underpinnings:

Again, as my thesis revolves around bringing light to the essence of rave phenomenon, this chapter serves as a positive reinforcement to the notion of rave as a religious experience – guided by raves central feature of connectedness. St John introduced two well-known concepts of rave as religion in Turner's communitas and Durkheim's collective effervescence where connectedness also plays a prominent role in ritualistic performances and religious and socio-cultural revitalization. When rave is viewed in this light, it allows the developments and underlying characteristics of rave culture to not be of a surprise or to guide it through the process of normalization in todays normative structured societies – as the two have much in common in terms of religious practices and experiences. St John makes the concluding statement that "Rave is just the latest example in the process of sociocultural revitalization that underlies the development of all religions and the health and regeneration of cultures throughout human society". A contributing factor in relation to this statement is the finding that many people experience communitas while raving, which is commonly conceived through the guidance of ecstasy or any other psychoactive substances, but its reported that many actually experience it without the guidance – which also helps to bring light to the essence of rave, allowing it to be conceived as a place of spiritual-creative experiences rather than drug-induced, hedonistic, deviant experiences. The sense of timelessness through utopian ideologies both imagined and lived is another contributing aspect to my unifying idea of the ideal rave space – where architectural implications of nightclubs can enhance this feeling of nowhere/nowhen wonderland where through this research points to the possibility of rave transcending into political change and personal transformations. Overall, raves make a political statement that contributes to my premise, in that 'we are all equal, and that no matter how different we may think we are, on a more tribal level, we all have the same basic needs as human beings. In this light. Rave culture offers a firm foundation on which to build a new political order which may, in the not so distant future, lead the way to a more humanistic and personal system of government'(St John, 2004).

Fig. 57: Rave Rituals - The Spiritual-Liminal Experience

3 RESEARCH DOCUMENT

Study: Acoustics & Space

A Study of The Ideal Acoustical/Spatial Environment for Rave/EDM Performance Spaces

Introduction: By examining the types of space raves inhabited, from the predominate 90's anarchist grass-root origins of the urban undergrounds to today's contemporary youth in vast landscapes of commodified festivals and clubs, as well as their generational socio-cultural implications, I question: what would the ideal 21st century rave space be and how can I bring light to the essence of the rave phenomenon itself. This is my overarching thesis unifying idea and theoretical premise on a broad level, where for this journal research study, I break it down into a smaller area of focus, such as acoustics and space – a prominent piece of the formula for both rave and nightclub spaces. This study involves identifying the ideal architectural acoustical and spatial characteristics of rave performance spaces, focusing on a diverse range of past and present exemplar performance spaces and their physical, mental and emotional perceptual experiences – both subjectively through qualitative research and objectively through simulation research.

Philosophical Framework: The system of inquiry for this research is both a quantitative-deductive process and qualitative-inductive, combining both overall to test my theories of the ideal acoustical spatial environment for Rave/EDM performances and their changing phenomena. I will approach my theories from the bottom up, gathering the info I need, that will give me the generalizable knowledge to help design and simulate the ideal space. People's perceptions and experiences of the space, whether old abandoned warehouses, underground clubs, or festivals are important as I require empirical input, to inform design ideas, to evaluate through simulation.

The qualitative research methodology is inductive, collecting non-numerical evidence of the participants reactions to a diverse range of rave environments and their preferred conditions spatially and acoustically. This qualitative analysis will investigate the verbal (oral, written), experimental (film-actions/reactions of people in the space), and artificial (the space itself) implications of the users and the space, in order to evaluate the preferred conditions(Groat, 2013, p. 69). The quantitative research methodology will be a deductive process, taking the observed qualitative architectural implications of the past and present spaces, fragmenting and articulating them through experimentation, then testing them through simulations. The simulations will experiment with a diverse range of acoustical and spatial environments, where data will be collected by testing an array of acoustical variables in relation to spatial implications.

By synthesizing these two methods together, I can test multiple theories to determine how the physical environment can enhance the sound and space sensibilities of the users in a holistic manner. This combined method relies on the empiricist outlook, where I depend on people's sensual experiences within these environments to gain the knowledge that I need in order to test my theories by simulation. The simulations are reconfigurable, meaning as I find out more information, I can easily input it into the simulation software program to adjust the spaces for specific goals and optimal decisions. The software used for testing my theory is specifically designed for spatial audio simulation, where I can simulate the ideal space through virtual audio environments. The goal here is to simulate the optimal solution by exploring options and evaluating what works and what doesn't. Referring to Plato's philosophy, the nature of reality is deceptive, aiming to represent how the spaces could be not how spaces are, especially as the phenomena is constantly changing with time and today's innovative technologies.

Theoretical Framework: My motivations for this study fall under both personal interests and practical interests. My personal interest that sparked this study is my handful of experiences at raves, which have been incredible and inspiring, both indoors in clubs as well as outdoors for festivals. The amorphous blending of sound, light, space, and bodies is what really inspired me to study the diverse range of rave performance spaces from their historic to contemporary times - to theorize the ideal acoustical and spatial environment.

My practical reason for this study is to practice my research skills in a more organized fashion, to which I can generate new knowledge and hypothesize and test new ideas. With this, it opens my horizons to different practices in architecture, such as the pursuit of research, which is becoming more common within firms. One last unifying motivation for this study is that it helps lead me into my thesis project which will be taking these solutions of performances spaces and incorporating them under one roof as an architectural whole, that provides people with a diverse range of rave performances spaces that are linked together. Overall providing the ideal acoustical space to be in for raves that helps to amplify the users physical, emotional, and spiritual responses.

The intended audience of this study and my findings sits at both a micro and macro levels. The micro level audience consists of the NDSU architectural community such as professor, Ganapathy Mahalingam, and my classmates who I will be

updating on my status and findings. Also sitting at this micro level is other fields of study within the NDSU institution, who may be able to access my work through the libraries database. The intended audience on a macro level consists of specialty areas, such as acoustical specialists, set designers, and any other architects or engineers interested in performance spaces. The rave audience is also intended, as the study is formed around them, so as much as the consumers themselves, the producers (DJ's), and the organizers of the venue (promoters).

Strategies: For my methodology, simulations of the ideal rave performance space will be my primary strategy, but it is combined with qualitative research to find out the preferred acoustic and spatial variables for the space. In order to start the qualitative research method, I need a space, or multiple spaces, to gather the verbal and experimental data from the users in the space itself. Applying research into both historical and contemporary dance/night clubs will help me find this space, where I can then proceed with my qualitative research of gathering and analyzing people's perceptions and experiences of the space. This qualitative research will need to produce enough information for me to articulate the ideal space, model it, then input it into the simulation and evaluate its output.

Tactics: The tasks I will pursue to find the optimal solution will be to establish my findings of the conditions of the ideal space – informed by prior qualitative research – then creating a variety of 3D models that represent the ideal space. The spaces will be modeled in SketchUp, then transferred into the programs EASE 4.4 and Audio 3D which are spatial audio simulation systems. Once in EASE 4.4 or Audio 3D, I can replicate all the relevant variables in a holistic manner, listen to the sound feedback of the space (through software Audacity), adjust the spaces for specific goals and optimal decisions, then test and analyze the results.

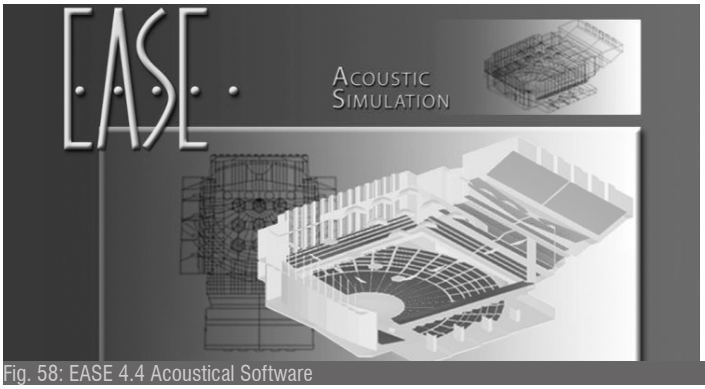


Fig. 58: EASE 4.4 Acoustical Software

EASE 4.4 - Intoduction to Simulation

The EASE software program provides system designers and consultants with a valuable tool set for many sectors of professional practice. These range from detailed, realistic modeling and simulation of venue acoustics and sound system performance to informative and engaging client presentations as well as professional data assessment and verification (AFMG, 2019). Simulations are an architectural research strategy that takes the guesswork out of the system design where preliminary design ideas can be imported and programmed so the spaces can be experienced and tested virtually – helping to eliminate costly mistakes and reducing installation time in the real world.

The strength of simulations for my case allows me to learn about the ideal acoustical performance space and its properties for a variety of my preliminary ideas, where I can then adjust my design ideas for specific goals and optimal solutions. As I generate more knowledge about acoustical properties and the sound/space relationship, I can go back to the main model and reconfigure it overtime. To help me learn more about this relationship, I produce qualifiable reenactments of past venue spaces (replication of real-world settings) and their audio-visual implications, which will help aid my theory building as I analyze and test their designs through simulation. This historical research also allows me to investigate the technical advances in such buildings overtime, understanding the trends in performance spaces and the cutting-edge acoustical treatments. Overall, simulations are the representation of behavior or characteristics of one system, through the use of another system, which in turn make envisioned realities real ones.

Strengths:
- Used as a tactic in research strategies
- Data can be triangulated with data yielded by other means for more robust results
- Support for theoretical claims and supplementing the findings, helping to prove either true or false

Weaknesses:
- Can't be real life environments
- Determining what amount of input data will lead to outcomes at best satisfice

3 RESEARCH DOCUMENT

Study: Acoustics & Space

Introduction: Case Studies - Audio/Visual/Spatial

The two exemplar performance spaces I will be studying are both “legendary” nightclubs with positive subjective responses regarding the overall sound and spatial qualities, these spaces are London’s Ministry of Sound main venue space ‘The Box’, and Berlin’s Berghain main dance floor. I choose these two spaces for their unique differences in size, shape, materials, and sound experience, whereby modeling these spaces and running simulations I can determine the ideal acoustical and spatial qualities of each space with further guidance through subjective responses. To briefly introduce, ‘The Box’ was designed specifically for an amazing sound experience with majority of the budget going to acoustical treatments and the sound system. Berghain was a was a large concrete power plant prior to its restoration, but the restoration was minimal as they kept the raw, industrial feel of the 60’ voided dance floor, resulting with a space that’s scientifically not ideal for acoustics. With these distinctive acoustical differences between the two physically, the subjective responses to the space and sound all remain positive but differ in their preferred attributes. ‘The Box’ is preferred for its crisp, clean, almost perfect sound and spatial intimacy whereas as Berghain is preferred for its cathedral like sound with very long prominent reverberation times that are known to invoke a spiritualized uplifting experience. It is these main distinctions of subjective responses to such spaces and their produced sounds that motivates me to examine them more thoroughly through simulation with the goal of finding idealities. The following studies examine these spaces in depth.

1 Ministry Of Sound

Fig. 59: Ministry of Sound - Logo

2 Berghain

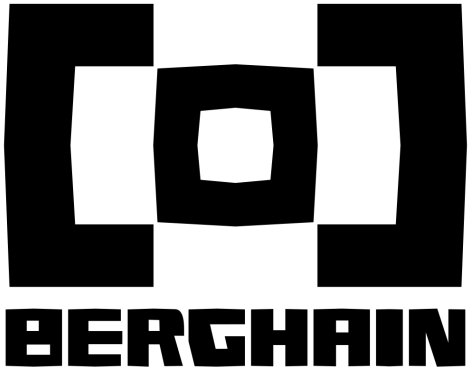


Fig. 60: Berghain - Logo

3 RESEARCH DOCUMENT

Study: Acoustics & Space

Fig. 59: Ministry of Sound - Logo

The Project Type: Nightclub
Location: London, UK
Size: 6 Event Spaces - Over 2 Floors

- The Box: 3067 SF (98' x 54') Capacity: 600
- The 103: 3046 SF (44' x 79') Capacity: 500
- The Baby Box: 818 SF (36' x 22') Capacity: 100
- Courtyard: 3562 SF (72' x 50') Capacity: 400
- The Lounge: 1323 SF (45' x 56') Capacity: 86
- The Loft: 1323 SF (45' x 56') Capacity: 150

Distinguishing Characteristics:

- Inspired by New York's 'cavernous' house venues
- The prior structure was a derelict bus garage in south London
- The worlds first nightclub with a room built purely for exceptional sound quality
- Performance spaces designed to be multi-purpose: seated dinners, conferences and award ceremonies, standing receptions, exhibitions, team building, event breakouts, VIP use, etc
- Featuring award-winning audio-visual systems.
- Recognised for its technological innovation and production.

Research Findings:

Common findings:

- One large main dance space acting as a gateway to other flanking subspaces such as smaller dance event spaces,bathrooms, bar, lounge area, etc.
- Consisting of wrap around mezzanines with high ceilings inside a large volumetric space
- Spaces for large communal gatherings and small intimate gatherings

Uncommon findings:

- Ourdoor courtyard acting as a performance space, ideal for concerts, summer parties and car launches

Ministry of Sound Context:
(environmental, social, cultural, political)

To begin, I want to inform that this Club is the built club of Ministry of Sound, not the unbuilt commissioned design by OMA, titled Ministry of Sound II. To reintroduce, the Ministry of Sound is a multi-media business, being dynamically involved in the industries of nightclubs, music, entertainment, events, and lifestyles. (To learn more about the context of this club – look at case study number 2). The company's nightclub titled "Ministry of Sound" first opened its doors in 1991, where it quickly developed into a popular multi-media brand. This project was a remodel of an existing derelict bus garage in South London, which the design was inspired by New York's 'cavernous' house venues such as the Paradise Garage. The element that sets this music venue out from the rest is that the spaces and the technology used were purely dedicated for exceptional sound quality. The designer Justin Berkmann states: "My concept for Ministry was purely this: 100% sound system first, lights second, design third (in that order); the reverse of everyone else's idea."

The first night in which the club opened, they served no alcohol, consisted only of three flashing lights, a strict door policy where exclusivity was determined by authentically knowing the music and the DJ's. Besides the bizarreness of the first opening night, it was a success, and as the weeks passed, so did the networking of news that Ministry of Sound is the new modern curator of London's nightlife club scene. This club was not only dedicated for exceptional acoustical qualities, but also as the first club dedicated strictly to house music and the first club to 'pick up the gauntlet laid down' by the second summer of love. The Ministry of Sound today is still thriving and transcending as a clubbing venue within London's center, where acoustics and high-quality sound remains at the forefront. The club maintains the attraction of around 300,000 clubgoers per year and has won the IDMA 'Worlds Best Sound System' award within these past four years. "Put simply, there is no better place on earth to hear the worlds greatest DJ's play the world's best music" (Berkmann, 1997). As a music venue, London's Ministry of Sound functions as three weekly club nights, where Fridays are generally for Trance music and Saturdays – which host many club nights – are generally House music, where the third day falls within a week night, such as on Tuesdays the club entertains a student session named 'milkshake', which was established in 2002.

Conceptual Underpinnings Perspective:

This project serves as the center of London's nightlife, highlighting their musical origins by providing London with a variety of performance spaces which are built for exceptional sound quality. This is the first case study in which the main priority of the design was acoustics, where visuals and the design of the space followed. Music and sound is the key element of nightclub venues, as it acts as a curator for the other key element: Dance. Where the architecture is the host of these elements, and in this project, there are many hosts, or separate performance spaces that create diverse sensibilities.

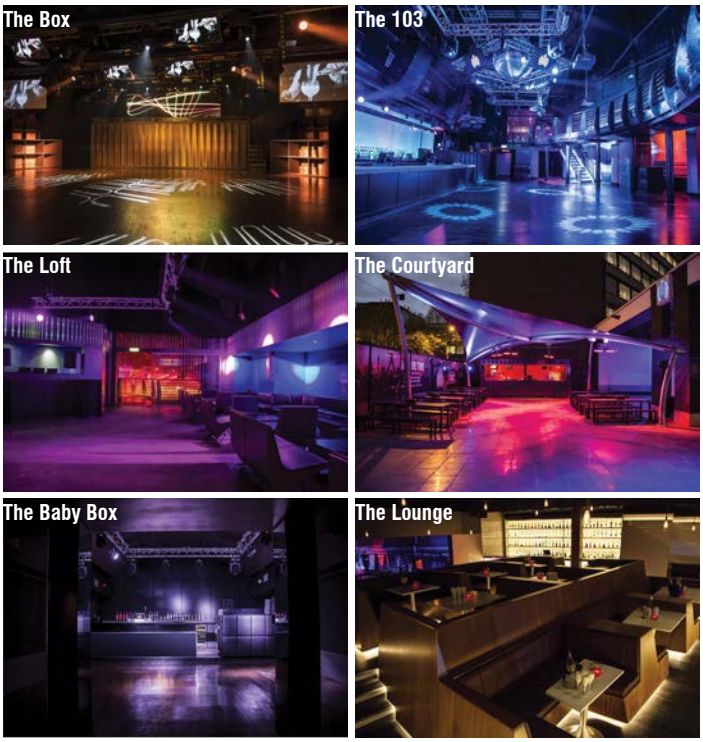


Fig. 61: Event Spaces Interior Perspective

Fig. 62: Spatial Configuration Diagram

6 Event Spaces - Over Two Floors

1. **The Box:** 3067 SF (98' x 54') Capacity: 600
2. **The 103:** 3046 SF (44' x 79') Capacity: 500
3. **The Baby Box:** 818 SF (36' x 22') Capacity: 100
4. **Courtyard:** 3562 SF (72' x 50') Capacity: 400
5. **The Lounge:** 1323 SF (45' x 56') Capacity: 86
6. **The Loft:** 1323 SF (45' x 56') Capacity: 150

The Box:

- Ultimate space for live production
- Award winning audio-visual equipment
- Large duel entranced space
- Benefits from uninterrupted floor plan
- Space is overlooked by glass windows
- In-House AV
- Rigging points
- Flexible staging

The 103:

- Located in the center of the venue
- Acts as a gateway to all other event spaces
- Benefits from a mezzanine and high ceilings
- Ideal for intimate or larger central hub gatherings
- In-House AV
- Fitted Bar
- Rigging points

The Baby Box:

- A dynamic space
- Initimate and ideal for smaller events
- High ceiling with rigging available
- Fitted bar
- DJ booth
- AV facilities

The Courtyard:

- Unique addition to venue
- Outside container bar and kitchen
- offers a heated canopy
- Interchanging sound and lighting
- Ideal for summer parties, car launches & concerts
- In-House AV
- Partial covering
- Ability to drive into

The Lounge:

- Located on upper level of venue
- Overlooks The 103
- Features its own bar and facilities
- Glass windows overlooking The Box
- Access to The Box balcony
- Ideal for conferences, event breakouts, and VIP use
- LED lighting
- Toilets

The Loft:

- A contemporary space overlooking The 103 through its glass wall
- Offering fixed seating, fixed bar, DJ booth, mezzanine balcony, and high ceilings with rigging available
- Ideal as a break out for main venue or intimate cocktail lounge
- AV facilities

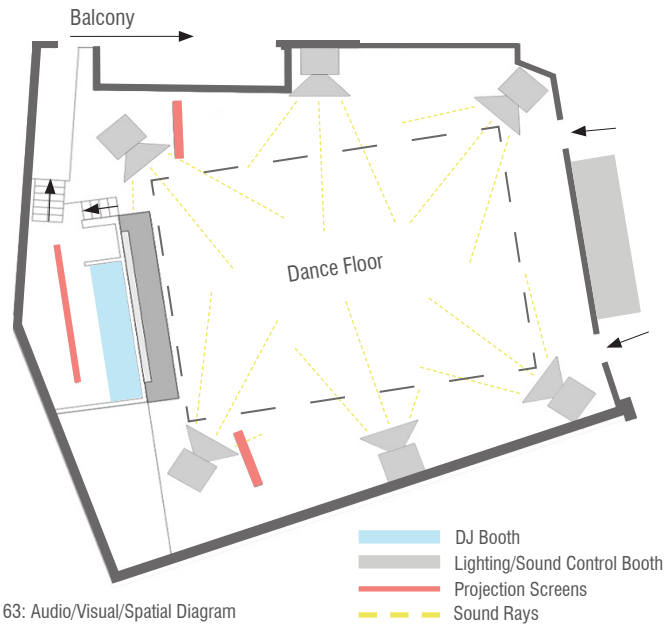


Fig. 63: Audio/Visual/Spatial Diagram

The Box

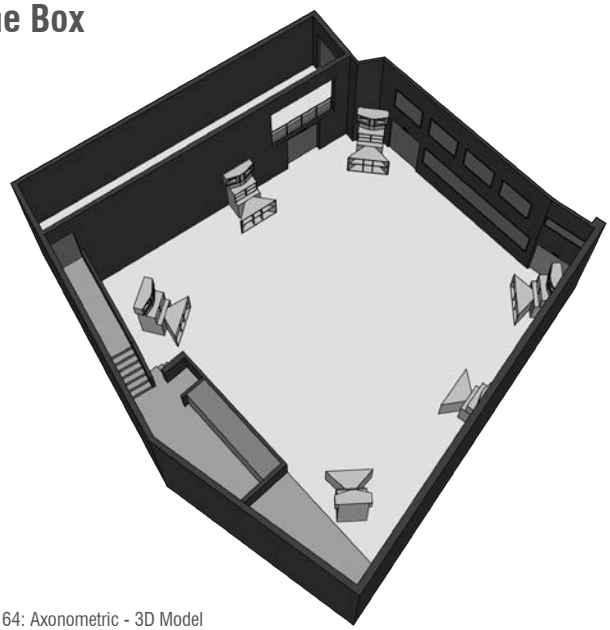


Fig. 64: Axonometric - 3D Model

The Box

Out of the six event spaces configured within The Ministry of Sound, The Box is the main room, with its iconic sound system and award-winning audio-visual equipment. The Box is a five-sided room with no parallel facing walls and a ceiling plane/roof that's slopes down towards the DJ booth. The room shape, wall treatments, and sprung dance floor (accentuates and absorbs bass) all work together to provide the ideal acoustical environment for music and dance. This design of the space also works to minimize sound reflections and reverberations, emphasizing that each sound you hear within the Box should be coming direct from a speaker, not bouncing off any surfaces or echoing in a hollow 'cavernous' space, resulting in a crisp and clean sound that doesn't leave people with their ears ringing.

Combining the acoustical treatments of the space with the top of the line sound system is what makes The Box so paramount. Located around the perimeter of the dance floor are 6 Martin Audio ground stack speakers that kick out 25,000 W, that's running at less than 50% or less of its capacity "ensuring no part of the system is stressed, no speaker drivers blow, and the sound is of much higher quality than a system running continuously near its limit"(Walton, 2016). Walton also states that a speaker can be acoustically amazing, but if it's located in a poor space it wont sound good. The Ministry of Sound placed top priority on sound and acoustical treatments, with service coming second and design being third, which is the complete opposite compared to other nightclubs.

Standing at about 8' tall, the 6 paramount speaker stacks consist of 2 x ASX subwoofers, 2 x AS118 subwoofers, and 2 W8C top boxes, a custom flare on the lower section, and custom cabinet housing to hide cabling, and what people don't see are the 16 speakers placed in the wall in between each speaker stack, allowing for undistorted sound to reach every part of the dance floor. All these speakers are put to use with the innovative Dolby Atmos DJ software, which allows the engineer to direct sounds to specific speakers during specific parts of the song, or where speakers are designated for bass and drums and others are for synths, overall creating a more immersive acoustical performance. "With Atmos, sounds are object based, meaning that the sound is given a specific XYZ coordinate within a 3D space, and the system figures out which speaker array to pump it through, no matter how many (up to 64) or few (as low as two) there are"(Walton, 2016). Another cool function is the pan, where sounds move in a path through each individual speaker, producing a twirling 3D surround sound.

Sound

12 x MoS Custom Martin Audio W8C
12 x MoS Custom Martin Audio AS118
12 x Martin Audio Custom ASX active subs
2 x BSS Soundweb London Blu-320
1 x BSS Soundweb London Blu-800
3 x Lab Gruppen Martin Audio MA 4.2s Amplifier
3 x Lab Gruppen Martin Audio MA 2.8s Amplifier
3 x Lab Gruppen Martin Audio MA 1.6s Amplifier
3 x Lab Gruppen Martin Audio MA 1.3s Amplifier
3 x Crown CTS-600 Amplifier
3 x Crown CTS-1200 Amplifier (stage wedges)
4 x Martin Audi Blackline F12 (stage wedges)
4 x BSS - AR133 DI
1 x Soundcraft Vi3000 FOH Console

DJ Booth

4 x Martin Audio Blackline F12
1 x Martin Audio CDD15
1 x Martin Audio S218 Blackline
3 x Crown Itech HD 5002 Amplifier
2 x BSS Soundweb London Blu-800
1 x Rane Serato SL4 interface c/w psu
4 x Technics SL - 1210 mk5G c/w cust. Isonoe isolation feet
4 x Pioneer CDJ 2000NXS2
4 x Pioneer CDJ 2000 Nexus
2 x Pioneer DJM - 900NXS2
1 x Allen & Heath XONE:92
1 x Allen & Heath DB4
1 x Rane MP2015
1 x Pioneer EFX - 1000

Lighting

12 x Robe Pointe
5 x Martin Rush MH3 Beam
12 x Martin Mac 101
2 x Martin Atomic 3000 Strobes
6 x SGM XC-5
5 x Martin Rush MH6 Wash
8 x Showtec Sunstrips
3 x Colourband Pix
6 x Par 56
2 x Jem Hydra Smoke Head
1 x Jem Hydra Base Unit
2 x Martin AF2 Fans
1 x Martin M6 Lighting Cont.
2 x 2w Green/Blue Lasers
1 x 3w RGB Laser

Video

Box LED Wall: 2.6mm pitch / 1536x672px / 4x1.75m
Processor: Nova Ctrl660
1 x Mac Pro Resolume Arena 5 Video Server w/ Livid Instraments OhmRGB
1 x Blackmagic Smarthub 12x12 matrix switcher
3 x Projection Screens
2 x Benq Projectors
1 x Optoma ZH510T Full HD 16:9 Projector

3 RESEARCH DOCUMENT

Study: Acoustics & Space

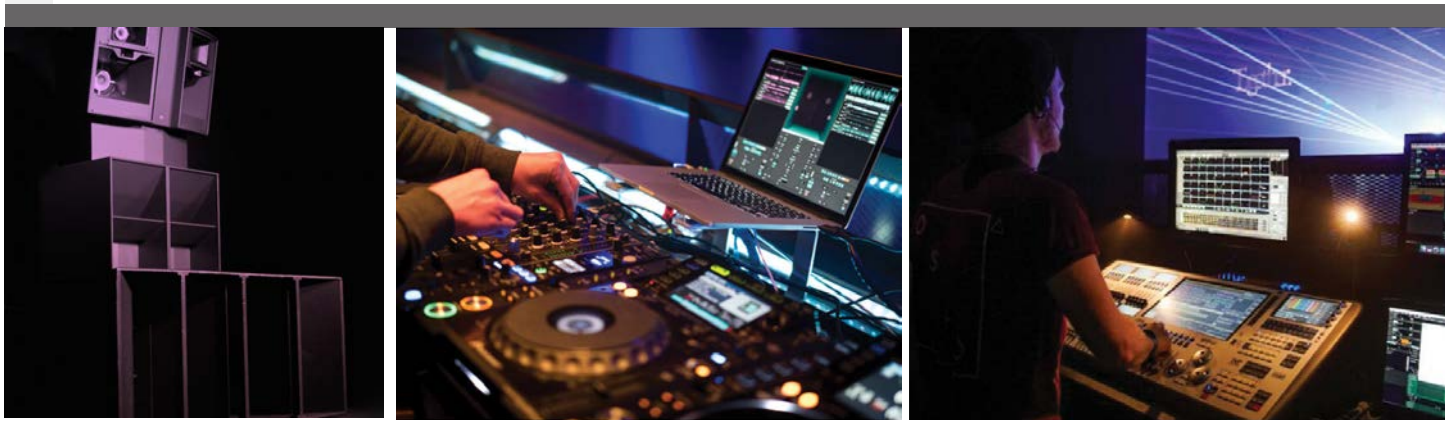


Fig. 65: Sound/DJ Booth/Video/Lighting

DJ Console/Booth: The DJ Booth places hierarchy on itself, elevating 4 feet about the dance floor, in this case it sits inside of a manipulated shipping container. This shipping container is 17' wide and has a depth of 10', and within that contains the 14' wide DJ booth, leaving lots of room for added equipment (synths, controllers, laptops). This setup is a modular design allowing two different DJ setups, making it easy and quick for the transfer between DJ's. Each setup is equipped with 3-4 Pioneer CDJ-2000NXS2 players, and a Pioneer DJM-900NXS2 mixer. Turntables are also no longer fitted as standard, but the club makes them available upon request. Most DJ's prefer the right-hand setup, which allows more of a centralized view of the room. (Note: the middle picture above shows the DJ Booth)

Sound/Light Control Booth: The sound and light control booth is located at the back wall of the room, accommodating space for a lighting engineer, sound engineer, and video or laser engineer. The positioning of the equipment allows for easy and comfortable reach between these different engineers. This booth contains everything needed to make this famous Soundsystem and lightshow work, containing a lot of flashing buttons such as faders, switches, touchscreens, etc., and featuring video, sound and networking 'patch points' for extra equipment, touring Vj's and custom setups.

Amp Room: Located behind the Control Booth is the engine room that runs the whole operation. This room consists of an air-conditioned cupboard that is filled with the essential kit of amps and processors. It is housing three 28U racks of amps, processing, lighting and video control servers and systems. All acoustical equipment is powered on a singular phase from a main local distribution board, along with an armored cable providing power to DJ booth directly from amp room – 'alleviating grounding issues and buzz'. Air conditioning units mounted within the wall keep the amp room at an ideal operating temperature.

The Box

Fig. 66: Sound/Light/Video Configuration

Conclusion:

This study focused more on the audio-visual-spatial design of a performance space, opposed to other case studies where I study the architectural principles and elements of the overall club. The Ministry of Sound was an ideal club to study as it is designed for exceptional sound quality, especially The Box, which is analyzed by itself rather than analyzing all 6 event spaces. By focusing on The Box, I was able to analyze all its components that makes it the best acoustical sound performance space.

What I will take from this study is placing high priority on acoustical design, focusing on the acoustical wall, floor, ceiling treatments, proportions and shape of the space, which allows reverberation and reflection of sound to be at a minimum. The configuration and orientation of perimeter walls will be focused on as well, which not only makes it desirable for acoustics, but also a different experience for the user, getting away from the plain box. For example, this project contains 5 walls, with each wall oriented different than another, with no parallel facing walls.

This study also shows the technical components of the space, which is important for the engineering to run smoothly. The technical specifications of the DJ booth, control booth and amp room, along with their placement in the space will contribute to my design, where I will study the newest trends in innovative audio and visual technology, such as Dolby Atmos App which allows for a more immersive audience experience by providing artists the power to control where certain sounds are sent throughout the space. The variation in sound system products is very diverse with different types of speakers serving different purposes depending on where their located.

By looking at the Club as a whole (6 event spaces) and not just The Box, I notice the same trends in other nightclubs, such as one centralized main space (The 103) that transition into other smaller dancefloor spaces, lounges, courtyards, etc. I will incorporate this diverse performance space configuration, which each performance space being unique, such as The Box being the best acoustical experience, the Baby Box being a more intimate dance space, or the lounge providing a quieter atmosphere.

But the most important aspect from this study is acoustics, which has the power to unite audiences with exciting sounds creating shared memories that delve into the communal consciousness of the audience. The materialization and spatial qualities of the space allows that sound to be crisp and clean, where reverb and reflection time held to a minimum. The orientation of and placement of speaker sources are key within the space too. With my research involving acoustical simulation experimentation, I will model this space like how it is in real life and be able to analyze this space even more through hearing what it sounds like at different locations of the space.

Fig. 67 Sound/Light/Video Perspectives

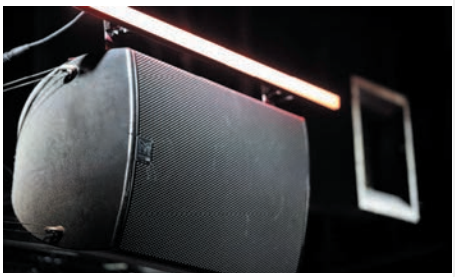


Fig. 68: Additional Speakers-Rigged Ceilings

Perceptions of 'The Box'
(DJ's, Audience, Promoters, Sound Engineers)

This section will continue investigating Ministry of Sounds premier production space, 'The Box'. Previously, I investigated the objective elements of the space, how it is arranged, its uses, and its technical specifications. Here I will investigate the subjective components of the space, examining people's perceptions of the space including their very own co-founders, resident DJ's, promoters and the regular Ministry of Sound clubgoers. These perceptions are found on a 20:20 Exhibition Documentary found online, where the people are asked questions on their experiences and thoughts of the space.

Most of the responses revolve around 'The Box' and its legendary sound system, seeking much interest from the resident DJ's that perform there. Jim Masters, a resident DJ states "when I walked into the main room 'The Box' I was blown away by it, if there ever was a room made for house music, that was it". Another DJ, Judge Jules explains "playing there was like flying in a spaceship, much like Star Wars". When thinking about a club space, you would think that most if the attention is directed toward the consumers of the music – the ones who pay to participate and dance – but Ministry of Sound focused just as much on the experience of the DJ's that play there as they did on the consumers. "all the money went into the dance experience" says Co-founder Justin Berkman, meaning the money was spent on the sound system which facilitates the dance experience. CJ mackintosh states "if it wasn't for the sound system, I don't think the club would be as successful".

The success of the space cant be produced only by a good sound system, the space also needs to be designed to enhance the quality of the sound system, such as the rooms acoustical treatments, its reverberation time, direct sound rays versus reflected sound rays in relation to listener position etc. Berkman the co-founder adds to this, "the box itself is part of the sound system, not just the speaker stacks you see on the floor, the fact that the whole room is one giant box as if it were a speaker in itself, providing a lot of the characteristics of sound". The six speaker stacks couldn't do what they do it you put a 'mad' roof on it – which would distort the clarity of the sound and would increase the reverberation and reflection time. It was as close to sonic perfection as you could get, explains a regular clubgoer. Another clubgoer states the 'feel' of the space: "big, warm, lovely, huggable, love machine, like a big teddy bear". It was all about spreading the vibe and curating the atmosphere of the room for the audience. Club promoter, Matt White explains "The difference back then it was all about the music, quality of music, sound of music, person playing the music. It was about collective of atmospheres – not a place to go to see or be seen".

The overall success of the club can be devoted to the quality of the sound, cutting edge equipment, and the acoustical treatments of the space. "Designing the club is the art of designing a black room, a brilliant black room" says Berkman. The club was diversified, not afraid of doing something different but also changing and evolving with times. As for the future, Berkman states "people are not going to stop wanting to dance, jump around with friends to the best

Products

Fig. 69: Martin Audio Products

Blackline X-Passive Indoor Loudspeakers/Subs

CDD-Passive Indoor Loudspeakers/Subs

MLA-Multi-Cellular Loudspeaker Arrays

Wavefront-Line Arrays

Fig. 70: The Box EASE Model

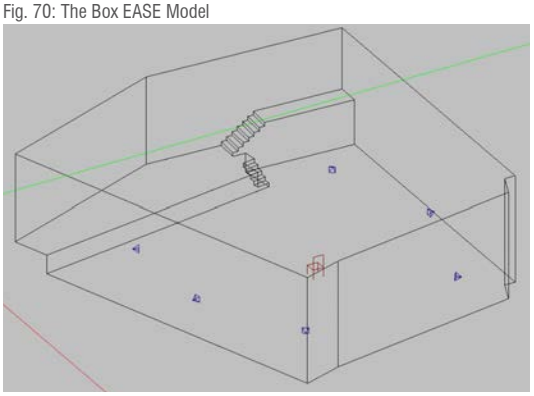


Fig. 71: The Box EASE Model - Plan View

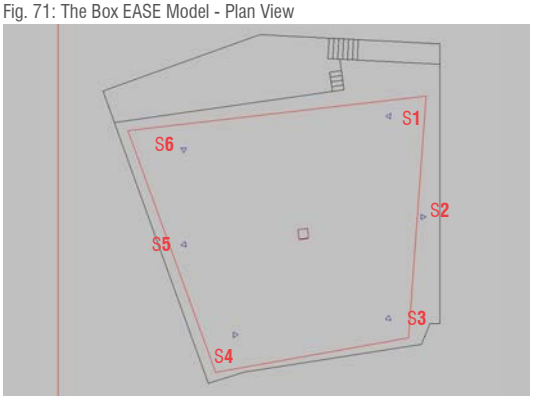


Fig. 72: The Box EASE Model - One Ray

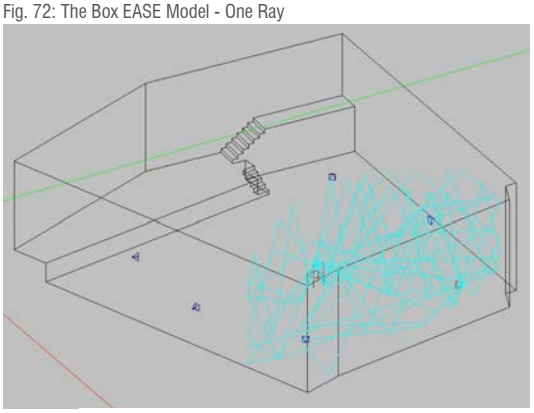
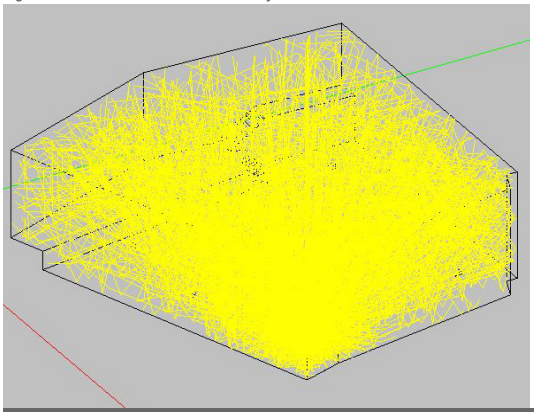


Fig. 73: The Box EASE Model - All Rays



Room Volume:	59529 cu. ft.
Room Surface:	10709 sq. ft.
Audience Area:	2,305 sq. ft.
Room Capacity:	600 standees
Average Room Height:	20 ft.
Average Room Width:	54 ft.
Average Room Length:	50 ft.
Stage Area:	430 ft. sq.
Average Stage Depth:	10 ft.
Average Stage Width:	40 ft.
Mean Ceiling Height: (above stage area)	15 ft.

Surface Materialization:

- **Floor:** Floating Sprung Dance Floor: Plywood
  - W/ dual density shock dampening elastomer blocks at predetermined intervals
- **Side Walls:** (Absorbers)
  - Exterior Side: Triple thick absorbing walls
  - Interior Side: Perforated panels
- **Rear/Front Walls:** (Absorbers)
  - Exterior Side: Triple thick absorbing walls
  - Interior Side: Perforated panels
- **Ceiling:** Sound Absorption Acoustical Ceiling Panels
- **Stage:** Floating Floor Assembly: Plywood
  - Reflective/absorptive

Loudspeakers:

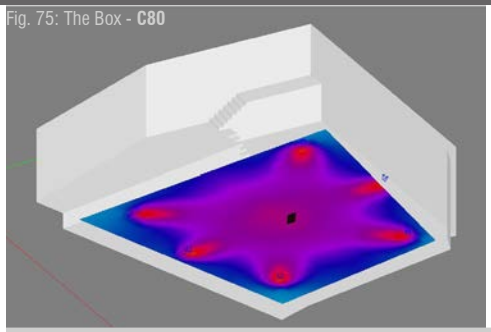
- **Martin Audio Sound System**
  - (6) x VRS1000

(Note: One VRS1000 loudspeaker represents one of the six large speaker stacks - Each speaker stack consists of:
2 x ASX subwoofers, 2 x AS118 subwoofers, 2 W8C top boxes)

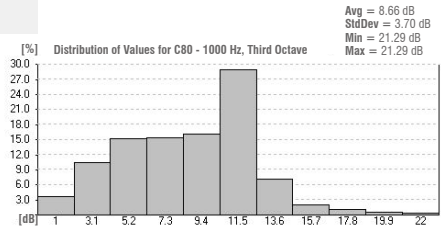
SCAN TO LISTEN

Fig. 74: QR Code - The Box Audio Wav File

Fig. 75: The Box - **C80**



Map: C80
Project: 'The Box' Simulation
Ver: -30° Hor: -120°
Lspk: S1, S2, S3, S4, S5, S6
Freq: 1000 Hz (1/3 Octave Avg.)



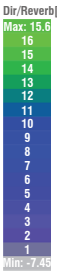
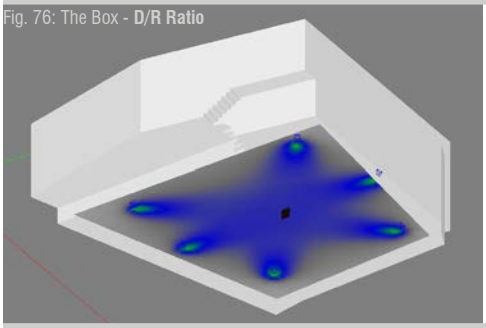
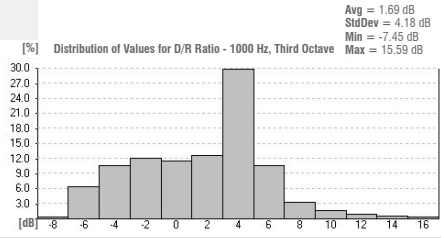


Fig. 76: The Box - **D/R Ratio**



Map: D/R Ratio
Project: 'The Box' Simulation
Ver: -30° Hor: -120°
Lspk: S1, S2, S3, S4, S5, S6
Freq: 1000 Hz (1/3 Octave Avg.)



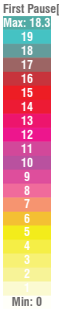
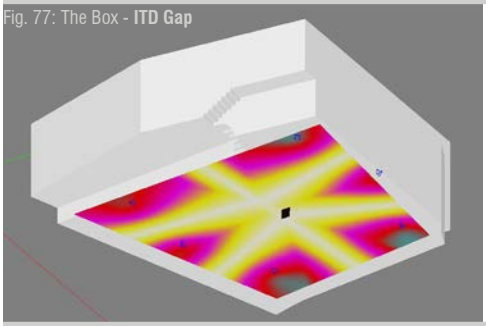
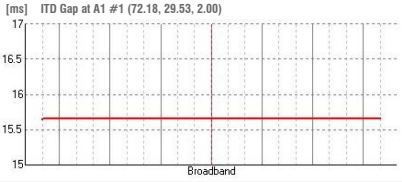
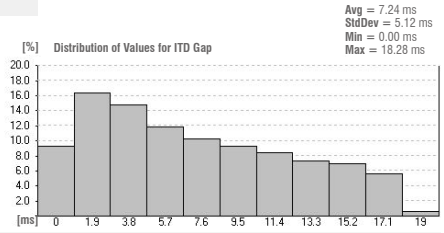


Fig. 77: The Box - **ITD Gap**



Map: ITD Gap
Project: 'The Box' Simulation
Ver: -30° Hor: -120°
Lspk: S1, S2, S3, S4, S5, S6





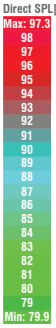
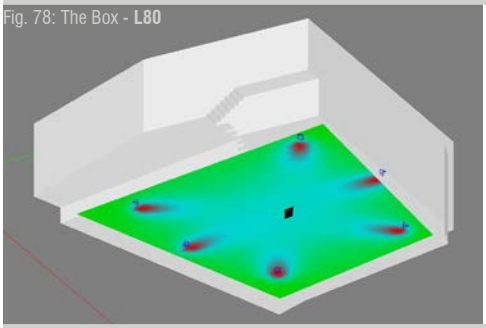
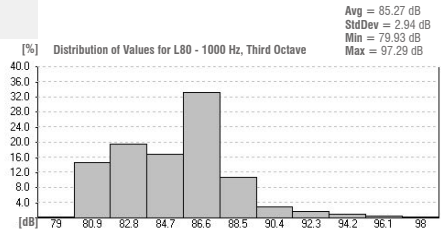


Fig. 78: The Box - **L80**



Map: L80
Project: 'The Box' Simulation
Ver: -30° Hor: -120°
Lspk: S1, S2, S3, S4, S5, S6
Freq: 1000 Hz (1/3 Octave Sum)



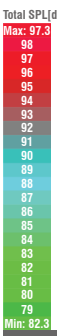
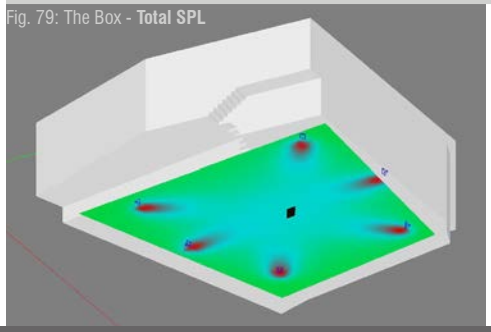


Fig. 79: The Box - **Total SPL**



Map: Total SPL
Project: 'The Box' Simulation
Ver: -30° Hor: -120°
Lspk: S1, S2, S3, S4, S5, S6
Freq: 1000 Hz (1/3 Octave Sum)

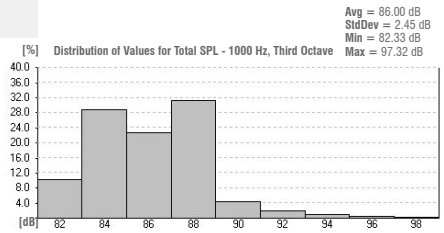


Fig. 71: The Box EASE Model - Plan View

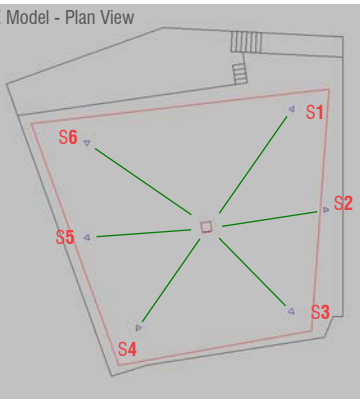


Fig. 70: The Box EASE Model

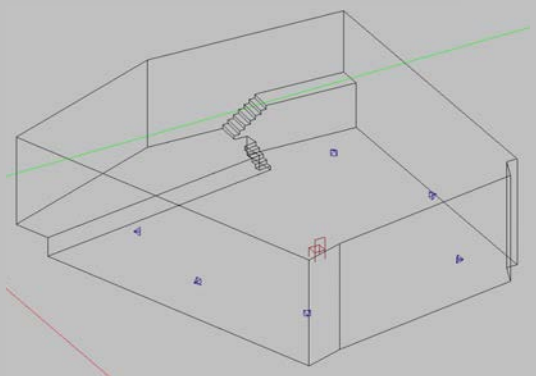


Fig. 80: **Energy-Time Curve:** S6 (Left) + S1 (Right)

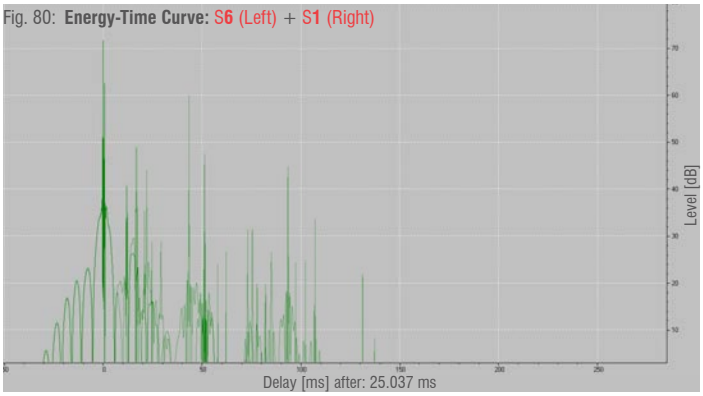


Fig. 83: **Waterfall:** S6 (Left) + S1 (Right)

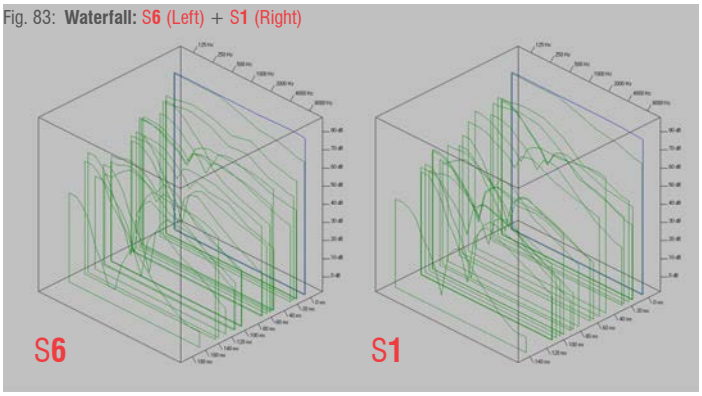


Fig. 81: **Energy-Time Curve:** S5 (Left) + S2 (Right)

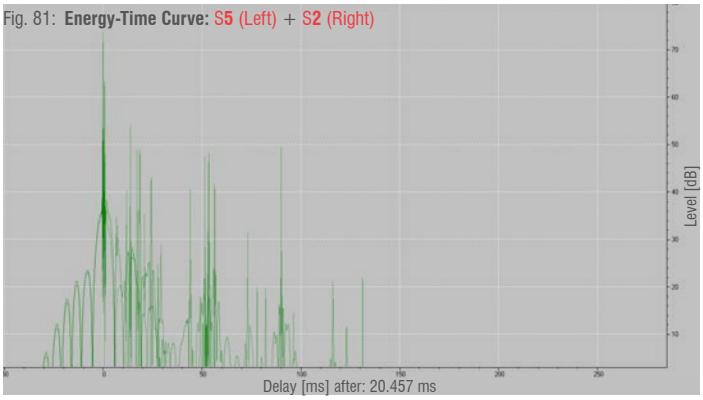


Fig. 84: **Waterfall:** S5 (Left) + S2 (Right)

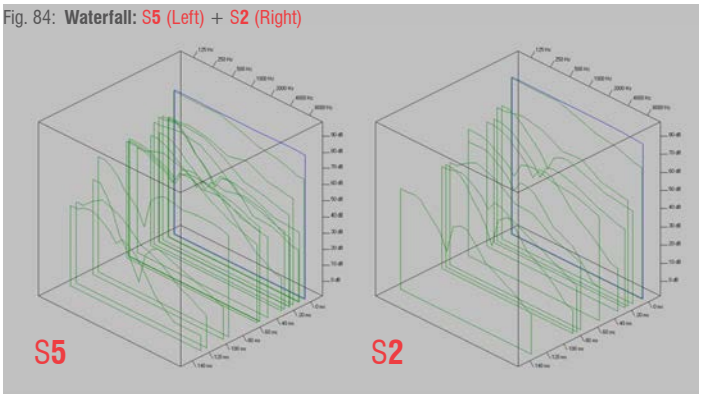


Fig. 82: **Energy-Time Curve:** S4 (Left) + S3 (Right)

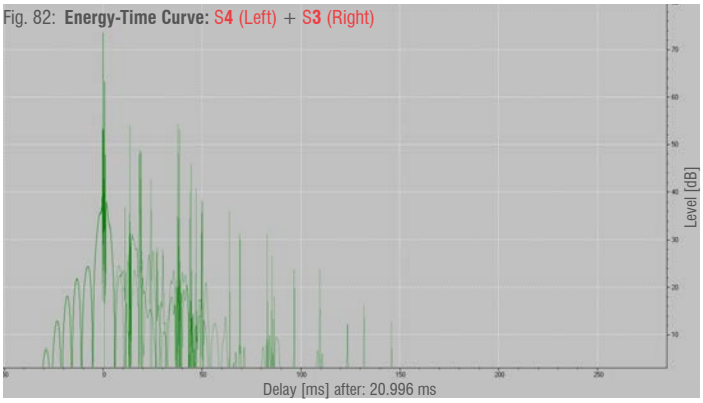
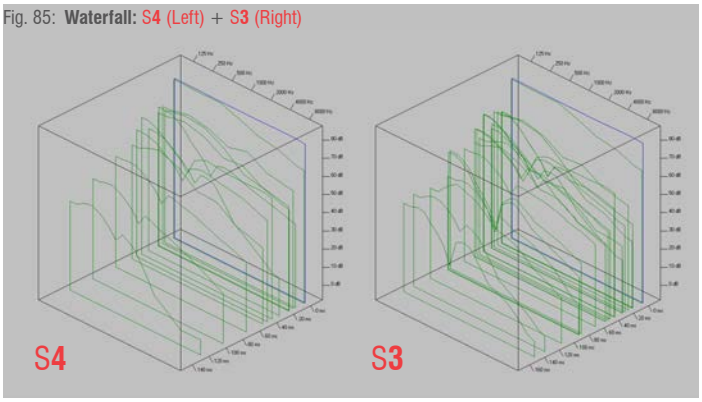


Fig. 85: **Waterfall:** S4 (Left) + S3 (Right)



Simulation Findings: 'The Box'

The Box was acoustically designed and treated for minimal reflections and reverberations. The five-sided shape, sloped ceiling plane, sprung dance floor and acoustical wall treatments all work together to accentuate and absorb the bass, allowing for a crisp and clean sound that doesn't leave people with their ears ringing.

ITD Gap - Displays the difference in arrival times between the first two direct sound arrivals.

- This information is useful in determining the proper place ment of loudspeakers and the delay times needed in dis tributed loudspeaker systems

[Figure 77: The Box – Total SPL Map]: Positioned at the center of The Box's audience area, the maximum difference between the first two direct sound arrivals is around 18.3 ms, which fits the ideal ITDG preference of less than 25 ms. Within the 5-sided pentagon shape, the loudspeaker sources are distributed at almost equal spacing around the center position, allowing for decreased difference in arrival times between any configuration of loudspeakers.

Energy Time Curve (ETC): Acoustic measurement tool for examining reflections and their amplitude over time but gives no insight into the spectrum of that energy (Hedback, 2011)

- Each peak on an ETC after the direct sound is a reflection
- ETC by itself is not enough to tell you if a space is acousti cally good or bad

[Figures 80-82: The Box - Energy Time Curves] are simulated energy time curves showing 3 sets of speaker's pairs where each pair contains a left and right speaker (ex, S6 left & S1 right). The speaker pair images (left and right) are overlaid to get a better understanding of their reflection peaks and decay patterns, whereas the figures to the right are acoustical waterfall representations of each speaker individually, analyzing the reflections through spectral information such as time, energy and frequency. Hedback's criteria for the ETC of both left and right speakers states that it should:

- Be visually identical (with only minor deviations) from 0-40 ms
- Show that peaks are down to at least -10 dB by 40 ms to prevent breakdown of the precedence effect
- Clearly show a decrease in the amplitude of energy over 0-40 ms. The decay pattern may or may not be continuous
- Show the consecutive peaks of the highest amplitude reflections viewed across the time axis to be relatively smooth in pattern and density

In analysis of the 3 ETC's (figures 73-75), each show a ragged profile appearance worthy of further investigation in a zoomed in representation from 0-40 ms instead 0-250 ms. This ragged profile in turn shows to be visually un-identical with noticeable deviations regarding reflection peak and decay points. On the other hand, The ETC's do hit the criteria of showing a decrease in amplitude of energy over 0-40 ms, as well showing that the peaks are down at least -10 dB by 40 ms. But like I stated earlier, the ETC by itself is not enough to tell you if a space is acoustically good or bad and should be considered in conjunction with other acoustical targets and measurements.

D/R Ratio - Shows the ratio of direct to reverberant sound in dB

- Zero dB indicates the sound levels are the same.
- Numbers less than 0 indicate the reverberant sound level is higher than the direct sound level.
- Numbers greater than 0 indicate the direct sound level is higher.

[Figure 76: The Box – D/R Ratio Map]: With all six speakers activated at a frequency of 1000 Hz (1/3 Octave Avg), the simulated mapping of the audience area (2,305 SF) indicates a maximum of 15.59 dB and a minimum of -7.45 dB. This shows that the ratio of direct sound level is about twice as much higher than the reverberation time for 1000Hz, which proves to be accurate considering the design intention was to minimize reverberation times for a direct clean sound.

Clarity Calculations C80 - Often called a clarity ratio. It uses an 80 ms Split Time to predict the articulation (clarity) of different types of music. In other words, it provides a look at the room's musical performance.

- Type of musical instrument:
  Percussive instruments (ex, piano, drums, electronic instruments, xylophon etc.) These instruments have a quick attack and a quick decay.
- Scale for interpreting C80 (Percussive Instruments):
  6+/-2 dB is ideal for percussive instruments.
- For good musical performance:
  the number should not exceed +8 dB at any location.

[Figure 75: The Box – Clarity C80 Map]: With reverberations decreased, the clarity of the sound increases, meaning that the energy of the early direct sounds are greater than those of reverberant sounds within 80 msec after the first direct hit from loudspeaker. This indicates that the room is very dead where the music will be very clear and C80 will produce a large positive value in decibels (Beranek, 2004). According to the simulation for C80, a large positive value was produced, showing a maximum of 21.2 dB and a minimum of 1.3 dB. The average comes to 8.6 dB which slightly exceeds the preferred level of 8 dB for good musical performance whereas the standard deviation of 3.7 dB sits well within the scale of ideal levels for percussive instruments.

Total SPL (SUM) - Displays the sum of the Direct and Reverberant sound energy in dB (displays the total sound level)

- Don't be surprised at the small variation between the mini mum and maximum levels. It's normal.

[Figures 79: The Box – Total SPL Map]: This simulated mapping compares well with L80 where instead of looking at the energy sum at a specified time it looks at the energy sum in dB. This space is not small like a listening room (where sound pressure of reflected sounds is greater than direct sounds) or big like a concert hall (sound pressure of direct sounds in greater than reflected), but sits in the middle as medium sized space where sound pressure is intermediary between direct and reflected. Both Total SPL and L80 fit the normal standards of little variation between maximum and minimum levels. For example, the distribution of values for Total SPL has a max. of 97 dB and a min. of 82 dB at the frequency of 1000 Hz (1/3 Octave Sum).

3 RESEARCH DOCUMENT

Study: Acoustics & Space

Fig. 60: Berghain - Logo

The Project Type: Nightclub
Location: Berlin, Germany
Size: 30,000m (322,917 Square Feet)
Capacity: 1,500
Distinguishing Characteristics:

- Known as the "best club in the world"
- Enormous existing power plant transformed into a club
- Monumental composition
- 18 m-high(60') cavernous main dance floor
- Minimalist interior of derelict concrete and steel
- Unique club restrictions: strict door policy and not allowed to take pictures IF you get inside.
- Place of Unlimited hedonism and permissiveness
- The club is built so there are no dead ends, allowing for free circulation with minimal obstruction

Research Findings:

Common findings:

- One large main dance space with flanking subspaces such as smaller dance spaces,bathrooms, bar, lounge area
- Compared to a 'sancturary', or 'Shrine of Techno', so its also known for people to have a religous experience.
- Containing spiritually/psychologically transformative powers through architectural implications
- Qualities of spaces act as a catalyst for identity dissolution, inverted social structure, communitas, optionality, and a sacred sense of play
- Berghain and the underground community is anti-structural, proposing alternatives to the dominant cultural and socio-political norms

Uncommon findings:

- Berghain is composed of three seperate operational establishments under one roof: Berghain main dance floor, Panorama Bar, and Lab.Oratory Club
- 'Dark Rooms' - More intimate, closed off spaces where both gay and straight sexual activities occur
- Berghain operates as a heterotopic "other place" where visitors disappear for days at a time
- Selectivity or the strict door policy for people entering preserves the sense of sacredness and community

Berghain Context: Social, Political, Cultural, Environmental

Berlin was and still is known for their legendary clubbing experience and strong relationship with electronic dance music, mostly known for the genre 'techno'. Techno was created in the 70's in Detroit, and almost simultaneously worked its way across the globe, landing most notably in Berlin, amplifying popular clubs such as Tresor, E-Werk, and laying the foundations for future clubs: Ostgut and Berghain. Berlin, Germany is known for its hectic past of the 20th century, but saw some light with the Berlin Wall coming down in the 1990's, where techno saw a shift in outlook and attitudes from the citizens 'sociologically trapped' by the wall, especially the youth of Germany. It created a new subcultural movement, which has evolved with techno to make Berlin a 'clubbing paradise' for DJ's, producers and masses of ravers.

Berghain was inherited by a prior club Ostgut which opened in 1998, being the one location for Snax – "a gay sex fetish night". This club was a fulcrum for the partygoers of Berlin as it helped rejuvenate the techno scene in the back end of the 90's. In 2003, the Ostgut was shut down and demolished, repurposing the space for a new development. After the clubs short lived years, a step towards revitalizing techno and its foothold with Berlin was taken into effect by the gay crowds and parties who lost their only place where they could live their lives and express themselves through music and dance. The legacy of Ostgut paved the way for Berghain as a club and a culture, which soon became the new home of the flourishing 21st century raver subculture.

The large 322,917 square foot empty floor space plan of the Berghain had the prior use of a combined heat and power station, erected in 1953-1954 as a socialist neo-classical architectural style, which became abandoned due to the 'inevitable obsolescence' of these power stations at the time. The plant was filled with generators, turbines, and other types of equipment which were removed after going out of service, leaving a large raw concrete structure from the 50's in the creative hands of club promoters Michael Teufele and Norbert Thormann. Berghain got its name through the location of which the structure stands, flanking two neighborhoods named Kreuzberg (BERG) and Friedrichshain (HAIN), which in German means "Mountain Grove".

Conceptual Underpinnings Perspective:

Berghain is another example making use of the cities found spaces, which was an enormous existing powerplant on the outskirts of Berlin. The transformation into Berghain nightclub was in honor of a legendary past Berlin club whose doors were shut due to a redevelopment project. It was a site of freedom, experimentation, unraveling, and excess, especially at a time when the community was socio-logically impacted from the trappings of the Berlin Wall. People wanted their space back, which was sacred in their mind, describing it as a religious experience when in the space of EDM. The fall of the wall in the 1990's changed this, as it changed the overall outlook and attitudes of Techno and what it brings to the underground community and its culture. The story of Techno in Berlin is a true testament to the powerful effects of dance music. The sound evolved into a global force yet maintained resistance to commercialization while uniting people of all types racially, sexually and culturally – and Berghain was the curator for it.

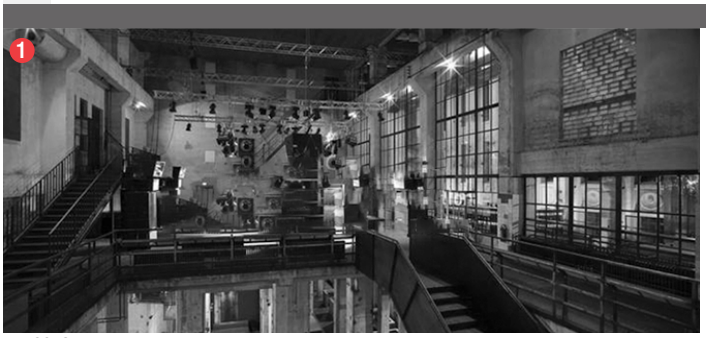


Fig. 86: Sound/Light/Video - Perspective

Berghain-Techno: Dance Floor - Spatial

The space of Berghain (The main dance floor) acts as the club's main hierarchical component with great importance and focus on the double height rectangular void that is centralized within the space as a whole, serving as the club's heart. Other spaces, or 'subspaces' such as other dancefloors, bars, lounges, bathrooms, etc., are radially directed outward from the centralized void with no dead ends and minimal obstruction, allowing for free circulation - which is ideal for the mass amounts of bodies. The transition between the main dance floor and its subspaces is 'loose' and open, serving as a threshold from space to space. Circulation is also emphasized vertically with suspended sets of industrial steel stairs transitioning to the level above and below the main dance floor. These stairs are pushed off to the perimeter walls of the space which also help with easier circulation as well as less congestion.

The Berghain dance floor itself takes the place of the old turbine room, hence the massive scale and the industrial, cavernous, cathedral like 'feel' of the space. The dance floor can hold up to 500 people with approximate dimensions of 45' x 65', which extends back to a double height void of 60' with a mezzanine wrapping around the perimeter. The club essentially has three levels, each level being about 30' in height where some areas are half that for a more intimate feel. The space is constructed around five existing bays of structural concrete columns extending from the ground floor to the roof. Filling in between the bays are concrete walls, which take up three sides of the rectangular space, with the fourth side being glass storefronts that separates the dance floor and the adjacent bar.

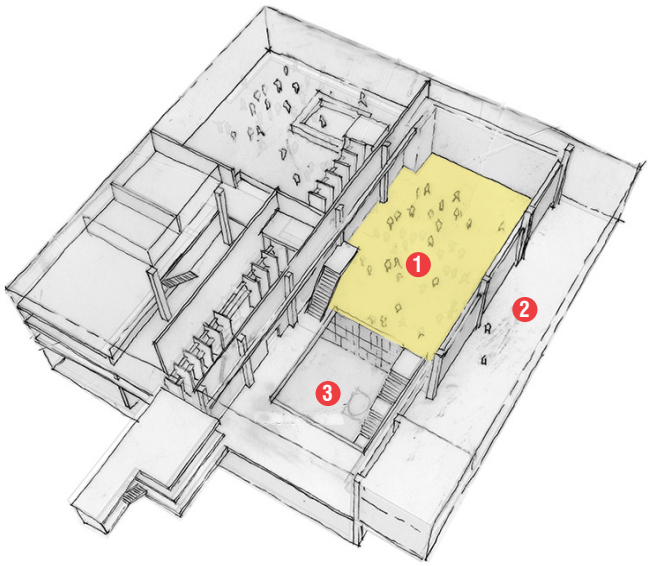


Fig. 87: Axonometric - Berghain Dance Floor

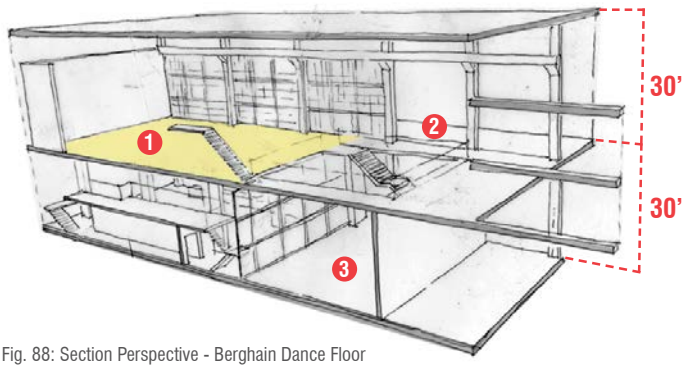


Fig. 88: Section Perspective - Berghain Dance Floor

1. **Berghain Main Dance Floor**
2. **Rough Bar Room**
3. **Dark Room 1**

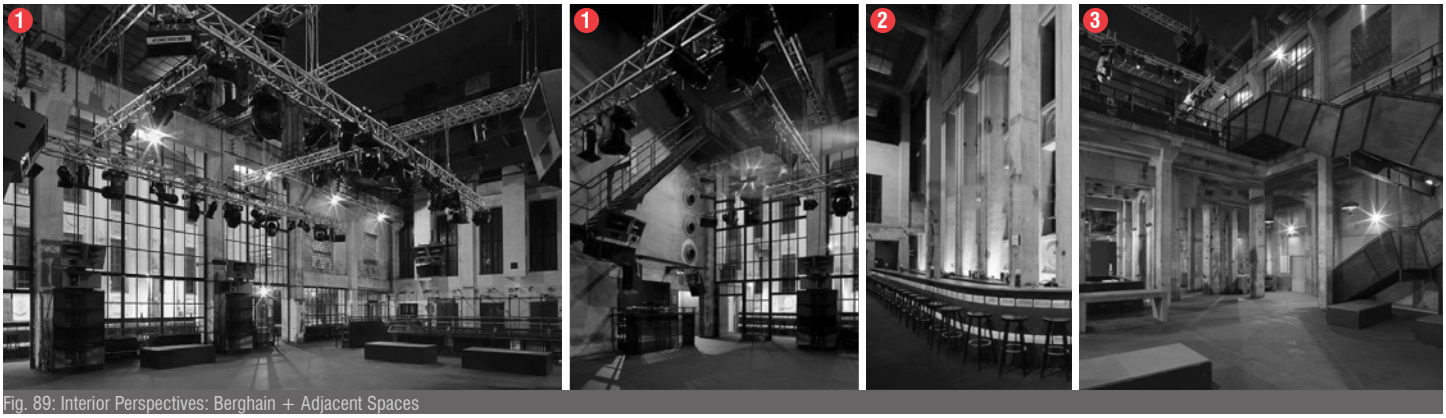


Fig. 89: Interior Perspectives: Berghain + Adjacent Spaces

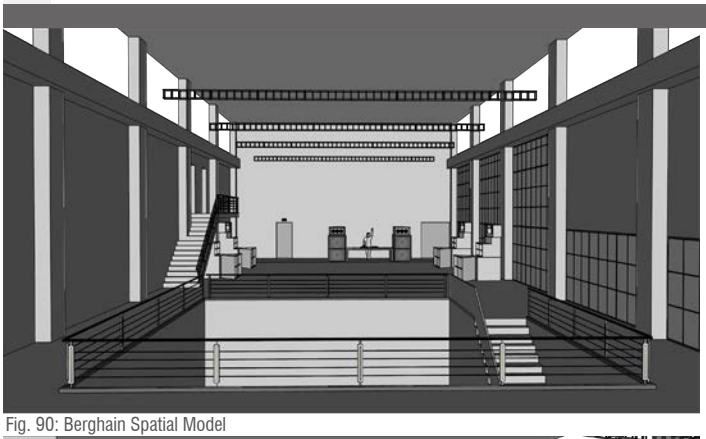
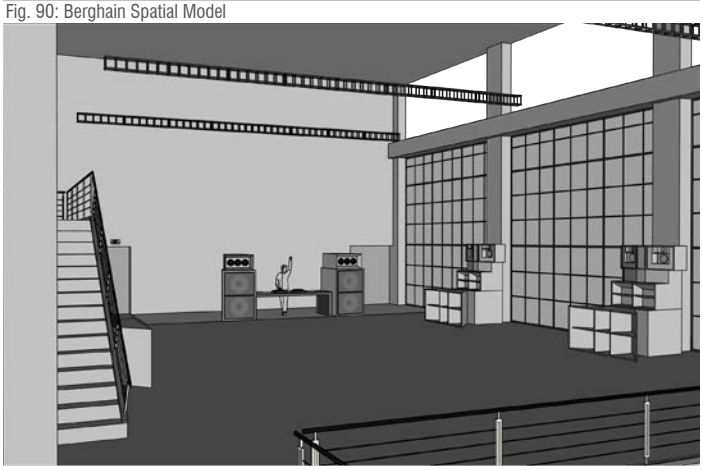
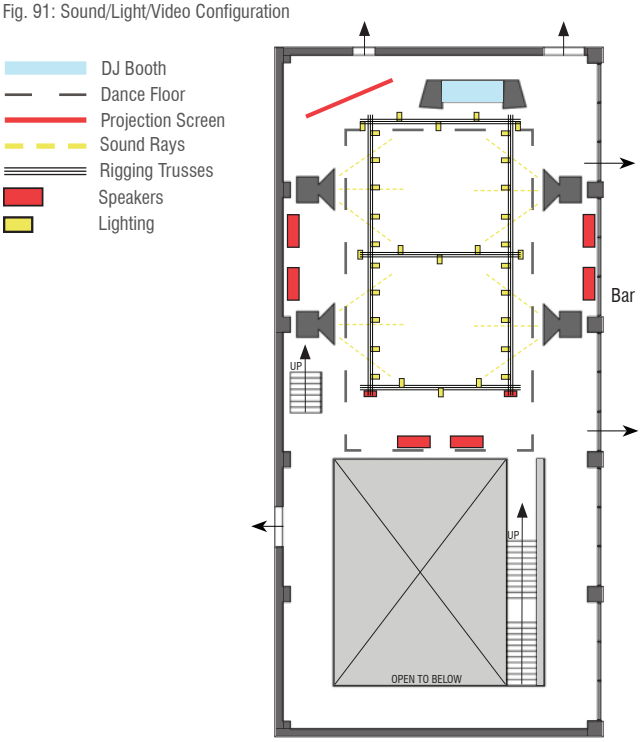


Fig. 90: Berghain Spatial Model



Berghain - Main Dance Floor: Sound / Lighting / Video

Fig. 91: Sound/Light/Video Configuration



Sound / Lighting / Video:

Berghain kept the 'feel' of the existing structure for many good reasons, but with that comes a massive cathedral like space with its surfaces consisting of concrete, glass and steel – which maximize reflections and echo of the sound which is not ideal for reverberation times of music, especially the fast paced booming bass of techno EDM. Due to this, Berghain installed good isolation material that made an 80% improvement regarding the acoustical sound of the space. It also helps that they invested in a good sound system: Funktion One(F1), where there are seven 8' tall speaker stacks configured 360 degrees around the dance floor. Smaller F1 speakers fill in the gaps creating an immersive, powerful and clear sound. With all this sound, you are still able to hold a conversation with a person near you as "the sound of F1's is smooth and free of distortion for very long periods of time" explains the founder of F1: Tony Andrews. He also stresses high quality sound and making it as translucent as possible, when its clean and clear it's like having an invisible landscape of sound around you, stating that it creates an uplifting and spiritual experience which is essential for music and sound. Berghain acoustics is explained well by a resident DJ, stating " In this place [Berghain], the acoustics can be quite restrictive, because it's very loose in there, and part of the appeal is this cathedral effect that you get on the music that you play. It enhances some things, and it has the opposite effect on other things"(Kirn, 2019).

Opposite of Berghains legendary sound system and its wide array of informative resources, the technical specifications of lighting and video fixtures was no where to be found, so I will analyze them by modeling the space. The 60' ceiling space of the dance floor is split by an array of rigging trusses, which are suspended from the ceiling rather than having its structure obstruct the ground surface. Mounted on the trusses are various types of lighting fixtures like lasers, strobe lights, sun strip lights, etc. The trusses commonly host smaller speakers, sending sound from above the audience, but here its minimal with majority of the sound sources coming from 8 feet or less above the ground surface. Berghain has one large video projection screen angularly situated at the front of the dance floor, parallel with the DJ Booth/table – which is oddly offset towards one side of the room as opposed to centralized.

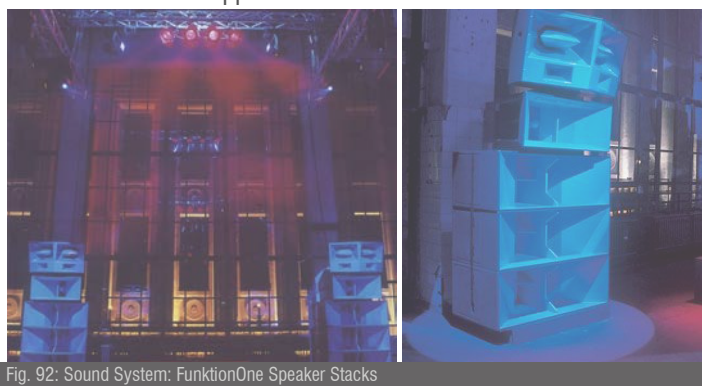
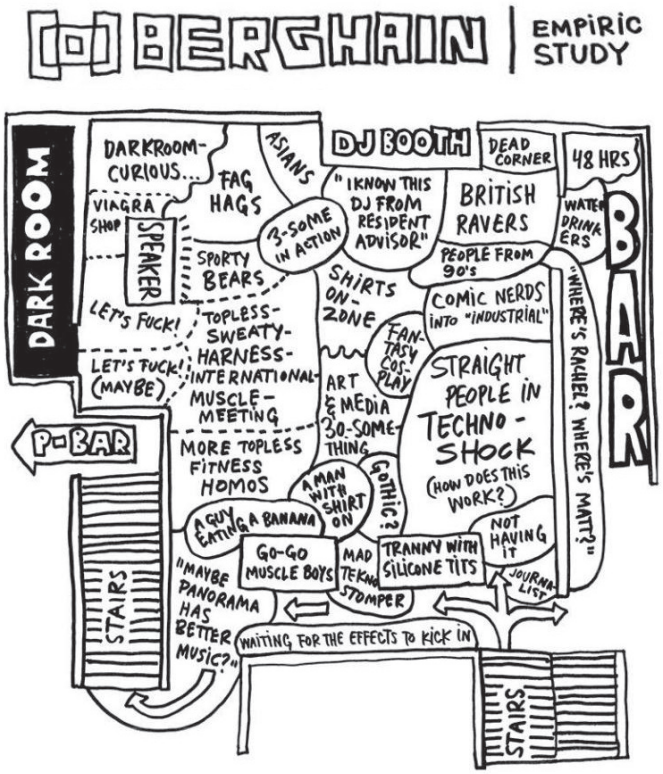


Fig. 92: Sound System: FunktionOne Speaker Stacks

Fig. 93: Berghain - Spatial Empirical Study



Perceptions of Berghain:

The perceptions of Berghain, just like any nightclub setting, are as diverse as the people that inhibit the spaces, where Berghain was a curator for all types of races, cultures, sexuality etc., to dissolve together into oneness and equality, through techno and dance.

Starting with the perceptions of berghains sound, I will examine both the producers (DJ's) and consumers (audience) viewpoints. A resident DJ of Berghain named Barker explains the nice and even acoustical response of the sound is due to the classic shoebox concert hall shape, adding its just a very long and very prominent reverb. Due to this, it takes some working with during sound checks where he describes the process as 'glorious' in a way because it taps into the working of deep historical responses to acoustics. "David Byrne talks about how caves were spiritual places for early humans, because they represented shelter and safety, and this feeling was then exploited in how churches and cathedrals were designed. So, this response to reverb is deeply programmed into our DNA" (Kirn, 2019). Some describe the sound reverberation as hearing the room speaking back to the music, adding that there is something somewhat spiritual about it. Andi Baumecker, another resident DJ states that the space has a call and response to it, further commenting that "sometimes great music that I really love falls totally flat in there and sounds like a mess".

DJ Nick Hoppner provides his viewpoint on EDM sound in cathedral like spaces, presenting the fact that most of these spaces are concrete halls which means there is significant reverberation, which means if the sounds are played too fast (which EDM usually is) then the reverberation covers too much of the silence, where he emphasizes the need for silence (the silence he is referring to is the softer parts of tracks usually between the booming kicks of bass). He further interprets that "The ups and downs are pleasing to us, whether its on a bigger or smaller scale, so if you play in an environment like that – you risk losing your dynamics to reverberation".

Stemming from the more technical perceptions of the sound, I will examine the overall perceptions of the Berghain dance floor from the audience point of view – an empirical study of the space relating to sound, visuals and spatial qualities. I start with Grant Taylor's experience whose main interest in going to Berghain is the sound, stating "it is entirely about the music and the people there. Everyone there, no matter race, age, gender, sexual orientation…, are all there for the music and to have a great time together. This was a common viewpoint for many of Berghain's clubgoers – music and togetherness on the dance floor. Taylor adds that everything was so intimately designed to enhance the experience all while keeping the sound of the music the primary focus, revealing the rareness to find that in other clubs.

The spatial sequence to the main dance floor is also a popular experience among them as well, some describing the vertical ascension through the 60' void as a spiritual sacred threshold, others like Irfan Kubiak describe the anticipation of it: "We began our ascent on the metal stairs, buzzing to the bass. As we rose, so did the volume. I'm getting goosebumps just remembering first setting eyes on the dance floor. You start climbing the stairs towards the outside of the club, halfway up, the stairs U-turn to face the dance floor". The massive space of the dance floor hall is likened for the headroom, leaving little room for the claustrophobic sensation, even in the middle of the crowd, with no need to grab fresh air outside. I also found that this large space invokes a sense of relaxation, which is needed with the constant chaos. The raw, industrial, and minimal character is also a pleasing architectural attribute – where you can see the historic remains of the existing power plant. One last key spatial perception is the positioning of the DJ Booth, already noted earlier for its odd offset rather than centralized hierarchy, Chris Moger adds another dimension: "the DJ booth is right on the dance floor, not on some pedestal above the crowd. I hate that, it has turned DJing into such a spectacle, when at the end of the day, its all just about getting together for the music".

With not a lot of technical information on the lighting and visuals, there are some common desirable perceptions of them and their effect on the space and the users. Taylor makes clear the spectacular incorporation of visuals around the dance floor, stating that often times during music buildups, the less used lights hanging from the ceiling would turn on to light up the crowd so you could see the entire floor – "combining visual energy with audio".

Taylor adds that in other instances, the music drops and would cause the strobe lights to turn on every other beat – “as if time had slowed down or completely froze”. The music and sound are one dimension, and when you add the perfectly syncopated lasers, strobes and light squares with it, you get a timeless dimension’, “an all-out perfect interaction through music” Kubiak adds.

Conclusion:

I picked the massive Berghain dance floor space to study as an exemplar case for the very own reason of it being a massive, ‘cathedral like’ space that kept a lot of the existing powerplants architectural elements and their industrial materialization of concrete, glass and steel – all of which should lead to miserable acoustical quality. They’ve done some work with acoustical isolation material which has said to help, but its still a 60’ tall rectangular void with just less exposed reflective material, still resulting in long and prominent reverberation time. Which then comes down to the sound system, one of the best with the seven funktion One speaker stacks placed around the dance floor with even distribution. The placement and knowing how and where to send the music are key, especially within a massive concrete void, where DJ’s are known to mess around with the system during sound checks to understand the acoustical quality of the space. Its these acoustical implications that made me want to simulate the sound of this legendary club in the acoustical software EASE, aiming to understand how the non-ideal acoustical space of Berghain attracts people from all over the world, with the biggest component being the sound of the music.

Berghain is not a perfectly acoustical treated room such as ‘The Box’ at the Ministry of Sound, but that’s what makes Berghain’s sound so desirable and different – the historic cathedral effect to it, enhancing somethings like the raw, industrial, massive feel of the space – but also having the opposite effect on other things such as the reverberation time which distorts the clarity of the sound. Some people prefer this reverberation produced by the cavernous space, pointing out the natural and spiritual effects of it. David Byrnes statement further explains this desired effect by talking about how caves in early human times were spiritual places, representing safety and shelter, where this feeling informed how churches, temples and cathedrals were designed, concluding that the response to reverberation effects is deeply rooted and programmed into our DNA(Kirn,2019). With that, I conclude that there are many perceptions of the ideal sound within Rave/EDM dance spaces, but what makes this sound stand out is the context in which it is played, Berghain’s sound follows and resembles the natural, large industrial space of the building itself – linking the memories of sound with the physical place.

The physical space of the club and people’s experiences about it is also another reason why I studied Berghain. People like big spaces, and some like smaller intimate spaces – Berghain combines both with its centralized double height voided dance floor space which then flank to more intimate spaces with minimal obstruction to circulation, both horizontal and vertical. I appreciate the fact that Berghain is a found space of the city that was converted into a nightclub but did so in a very nonchalantly minimalistic way by preserving the ‘feel’ of the existing historical power plant with its industrial, cavernous spatial characteristics.

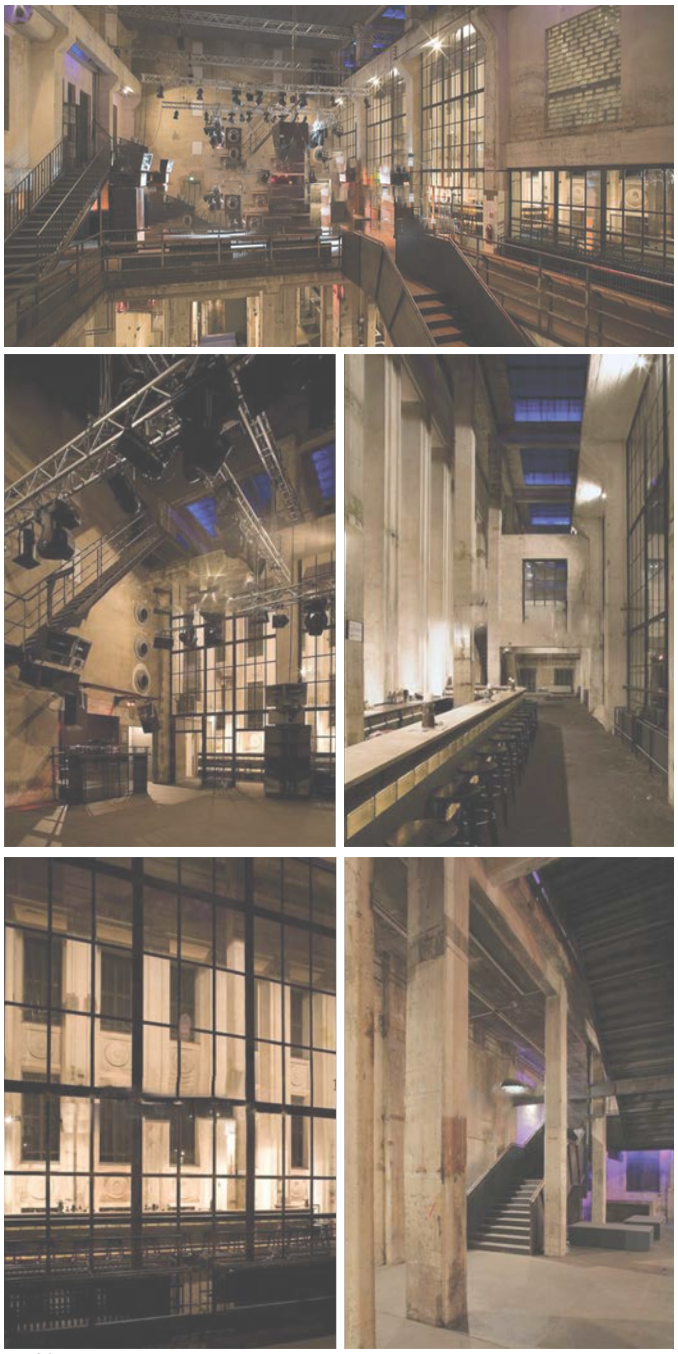


Fig. 94: Berghain - Interior Perspectives

Fig. 95: Berghain EASE Model

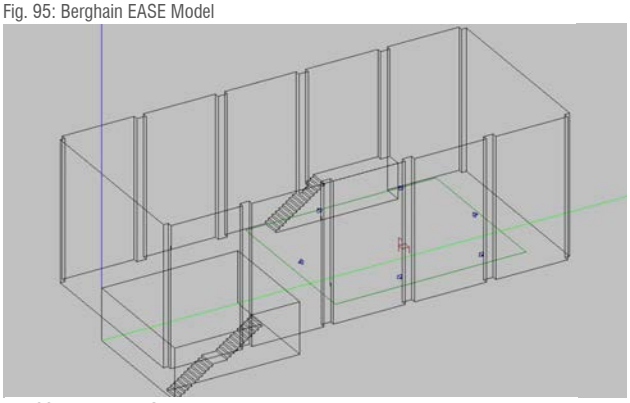


Fig. 96: Berghain EASE Model - Plan View

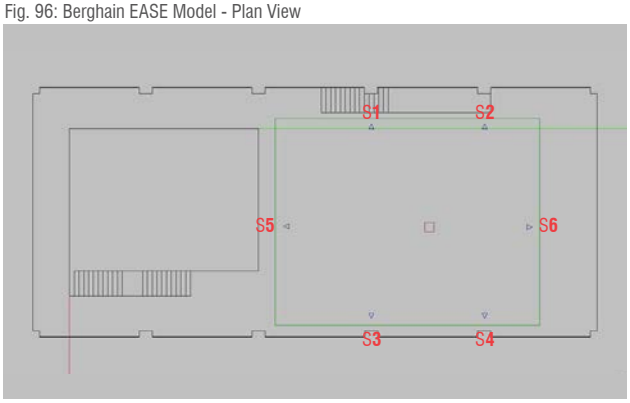


Fig. 97: Berghain EASE Model - One Ray

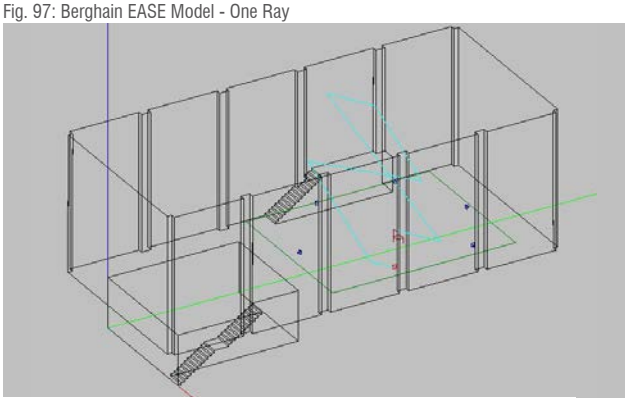
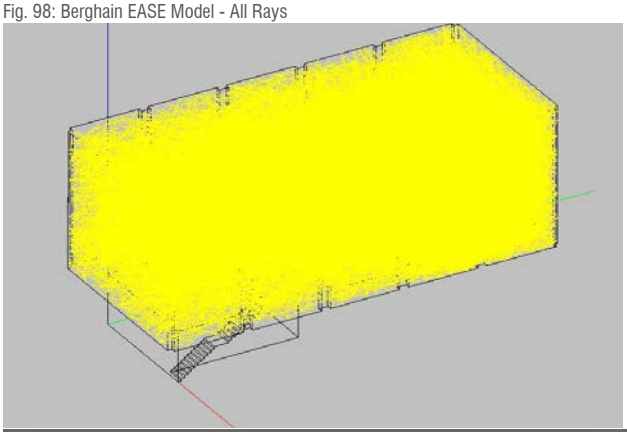


Fig. 98: Berghain EASE Model - All Rays



Room Volume:	229450 cu. ft.
Room Surface:	86209 sq. ft.
Audience Area:	2155 sq. ft.
Room Capacity:	500 standees
Average Room Height:	40 ft.
Average Room Width:	50 ft.
Average Room Length:	108 ft.
Stage Area:	400 ft. sq.
Average Stage Depth:	10 ft.
Average Stage Width:	40 ft.
Mean Ceiling Height: (above stage area)	40 ft.

Surface Materialization:

- **Floor:** One-Way Concrete Slab
- **Side Walls:** (Reflectors)
  - Side wall one: concrete walls w/ indented columns
  - Side wall two: floor-ceiling glass storefronts
- **Rear/Front Walls:** (Reflectors)
  - Front wall: concrete wall
  - Back wall: concrete wall w/ punched window openings
- **Ceiling:** concrete w/ corrugated steel
- **Stage:** concrete slab (no fixed elevated stage)

Loudspeakers:

- Funktion One Sound System
  - (6) x AX88

(Note: One AX88 loudspeaker represents one of the six large speaker stacks - Each speaker stack consists of:
2 x F221 bass enclosures, 2 x DS15 speakers, 2 x DS210 loudspeaker enclosures)

SCAN TO LISTEN

Fig. 99: QR Code - Berghain Audio Wav File

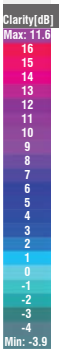
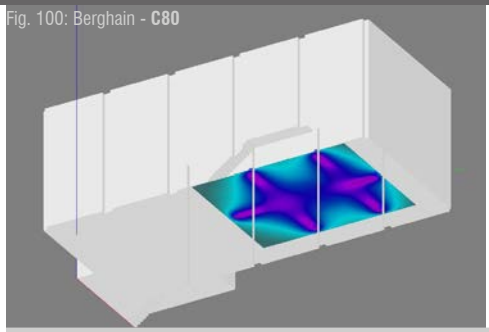
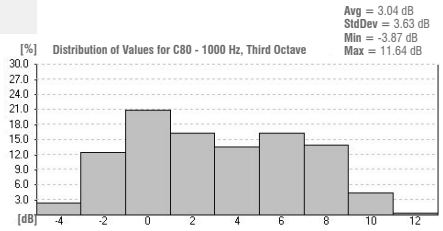


Fig. 100: Berghain - **C80**



Map: C80
Project: Berghain Simulation
Ver: -30° Hor: -120°
Lspk: S1, S2, S3, S4, S5, S6
Freq: 1000 Hz (1/3 Octave Avg.)



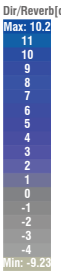
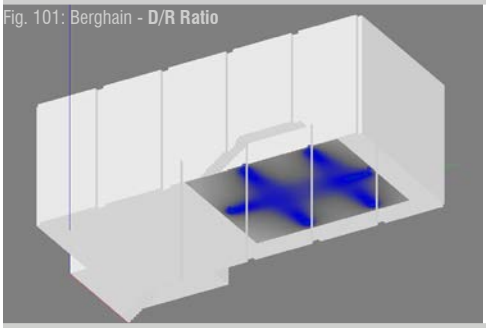
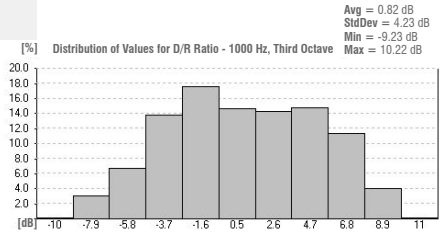


Fig. 101: Berghain - **D/R Ratio**



Map: D/R Ratio
Project: Berghain Simulation
Ver: -30° Hor: -120°
Lspk: S1, S2, S3, S4, S5, S6
Freq: 1000 Hz (1/3 Octave Avg.)



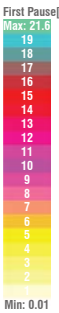
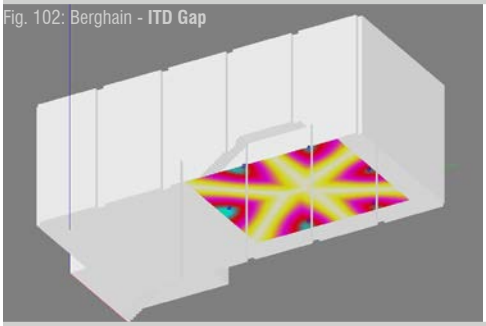
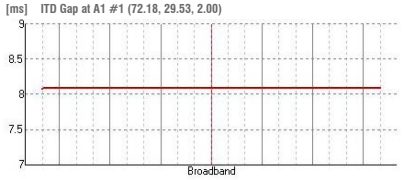
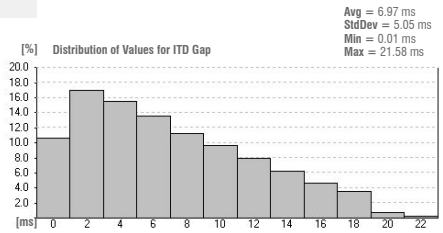


Fig. 102: Berghain - **ITD Gap**



Map: ITD Gap
Project: Berghain Simulation
Ver: -30° Hor: -120°
Lspk: S1, S2, S3, S4, S5, S6





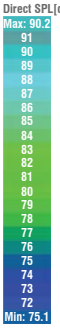
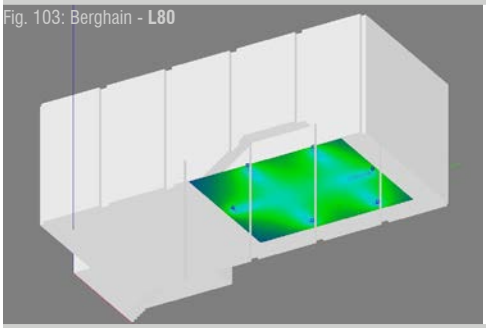
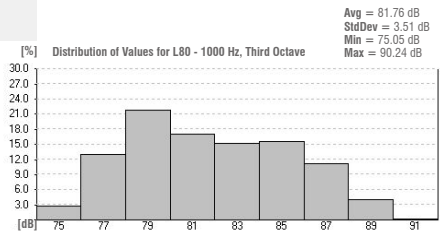


Fig. 103: Berghain - **L80**



Map: L80
Project: Berghain Simulation
Ver: -30° Hor: -120°
Lspk: S1, S2, S3, S4, S5, S6
Freq: 1000 Hz (1/3 Octave Sum)



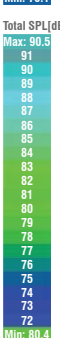
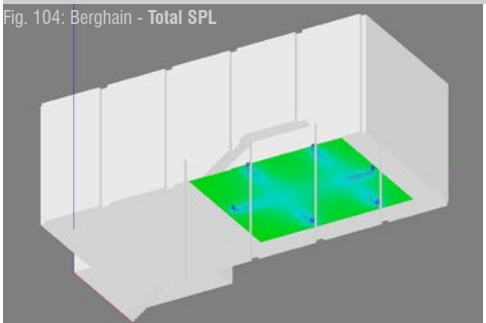


Fig. 104: Berghain - **Total SPL**



Map: Total SPL
Project: Berghain Simulation
Ver: -30° Hor: -120°
Lspk: S1, S2, S3, S4, S5, S6
Freq: 1000 Hz (1/3 Octave Sum)

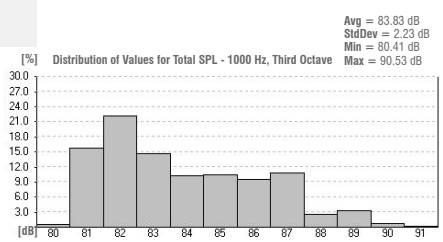


Fig. 96: The Box EASE Model - Plan View

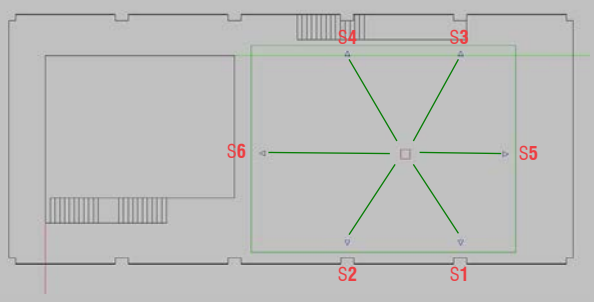


Fig. 95: Berghain EASE Model

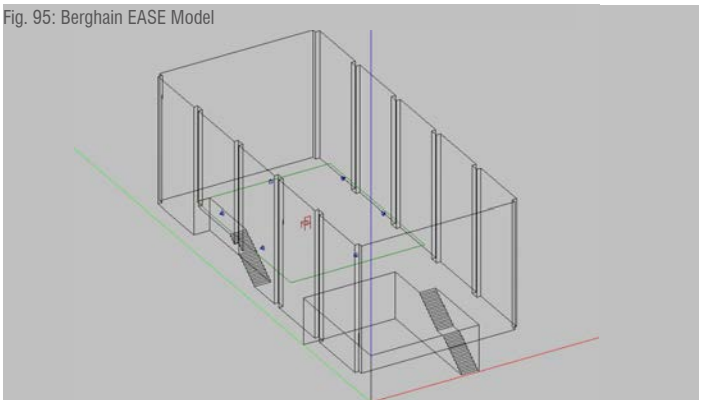


Fig. 105: **Energy-Time Curve:** S3 (Left) + S1 (Right)

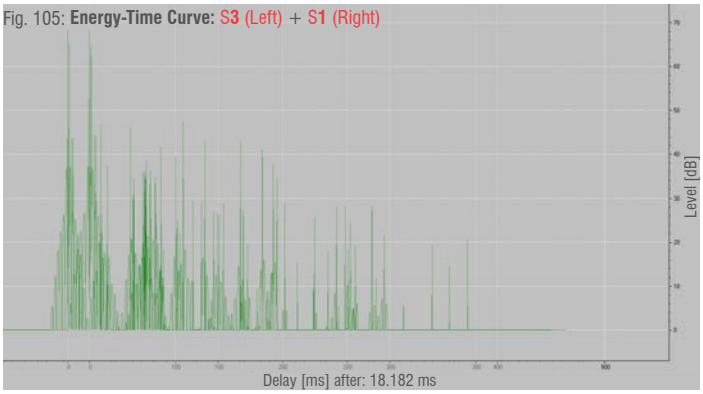


Fig. 108: **Waterfall:** S3 (Left) + S1 (Right)

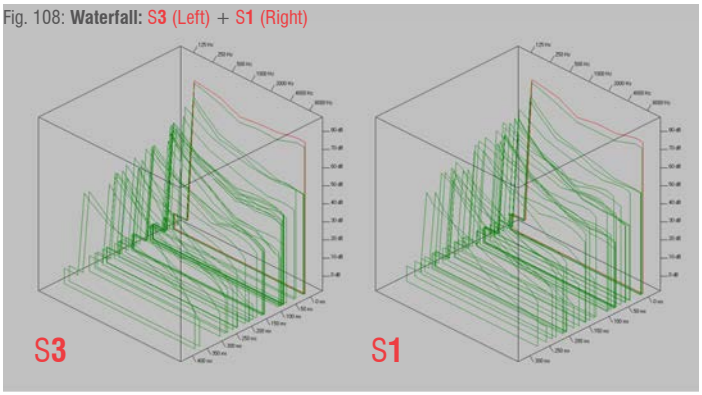


Fig. 106: **Energy-Time Curve:** S4 (Left) + S2 (Right)

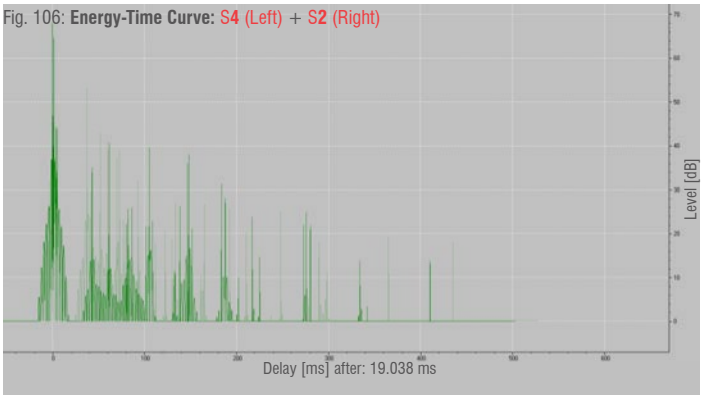


Fig. 109: **Waterfall:** S4 (Left) + S2 (Right)

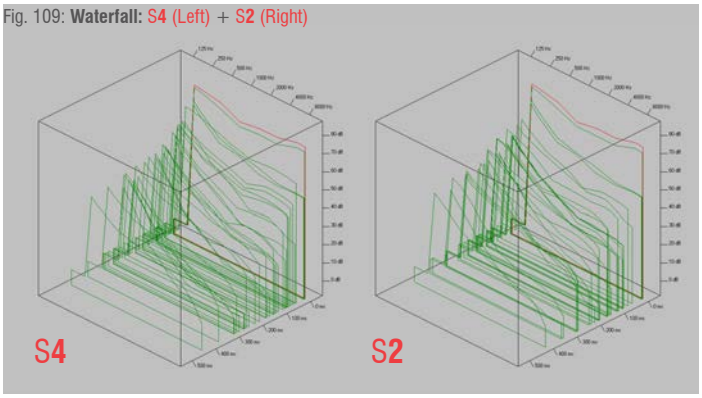


Fig. 107: **Energy-Time Curve:** S6 (Back) + S5 (Front)

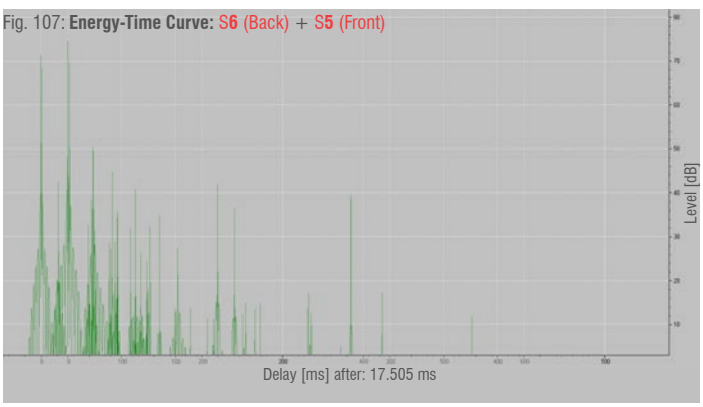
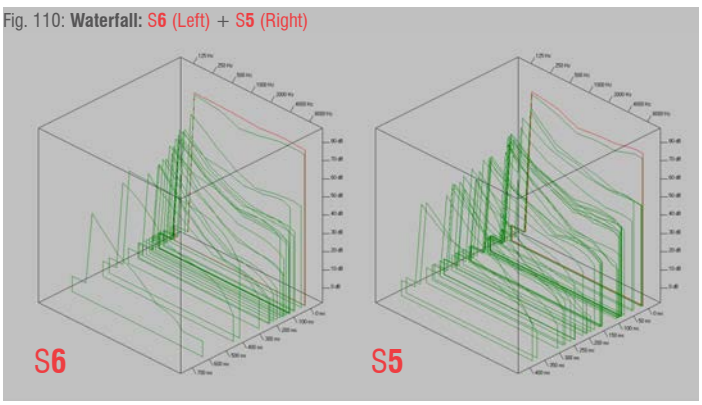


Fig. 110: **Waterfall:** S6 (Left) + S5 (Right)



Simulation Findings: Berghain

Berghain is not a perfectly acoustical treated room such as 'The Box' at the Ministry of Sound, but that's what makes Berghain's sound so desirable and different – the historic cathedral effect to it, enhancing somethings like the raw, industrial, massive feel of the space – but also having the opposite effect on other things such as the reverberation time which distorts the clarity of the sound. Some people prefer this reverberation produced by the cavernous space, pointing out the natural and spiritual effects of it.

ITD Gap - Displays the difference in arrival times between the first two direct sound arrivals.

- This information is useful in determining the proper place ment of loudspeakers and the delay times needed in dis tributed loudspeaker systems

[Figure 102: Berghain – Total SPL Map]: Positioned at the center of The Box's audience area, the maximum difference between the first two direct sound arrivals is around 21.6 ms, which fits the ideal ITDG preference of less than 25 ms. Within rectilinear concrete void, the loudspeaker sources are distributed at almost equal spacing around the center position, allowing for decreased difference in arrival times between any configuration of loudspeakers.

Energy Time Curve (ETC): Acoustic measurement tool for examining reflections and their amplitude over time but gives no insight into the spectrum of that energy (Hedback, 2011)

- Each peak on an ETC after the direct sound is a reflection

[Figures 105-107: Berghain Energy Time Curves] are simulated energy time curves showing 3 sets of speaker's pairs where each pair contains a left and right speaker (ex, S6 left & S1 right). The speaker pair images (left and right) are overlaid to get a better understanding of their reflection peaks and decay patterns, whereas the figures to the right are acoustical waterfall representations of each speaker individually, analyzing the reflections through spectral information such as time, energy and frequency. Hedback's criteria for the ETC of both left and right speakers states that it should:

- Be visually identical (with only minor deviations) from 0-40 ms
- Show that peaks are down to at least -10 dB by 40 ms to prevent breakdown of the precedence effect
- Clearly show a decrease in the amplitude of energy over 0-40 ms. The decay pattern may or may not be continuous
- Show the consecutive peaks of the highest amplitude reflections viewed across the time axis to be relatively smooth in pattern and density

In analysis of the 3 ETC's (figures 123-125), each show a ragged profile appearance worthy of further investigation in a zoomed in representation from 0-40 ms instead 0-250 ms. This ragged profile in turn shows to be visually un-identical with noticeable deviations regarding reflection peak and decay points. On the other hand, The ETC's do hit the criteria of showing a decrease in amplitude of energy over 0-40 ms, as well showing that the peaks are down at least -10 dB by 40 ms. But like I stated earlier, the ETC by itself is not enough to tell you if a space is acoustically good or bad and should be considered in conjunction with other acoustical targets and measurements.

D/R Ratio - Shows the ratio of direct to reverberant sound in dB

- Zero dB indicates the sound levels are the same.
- Numbers less than 0 indicate the reverberant sound level is higher than the direct sound level.
- Numbers greater than 0 indicate the direct sound level is higher.

[Figure 101: Berghain – D/R Ratio Map]: With all six speakers activated at a frequency of 1000 Hz (1/3 Octave Avg), the simulated mapping of the audience area (2,155 SF) indicates a maximum of 10.22 dB and a minimum of -9.23 dB. This shows that the ratio of direct sound level to reflected sound level is about the same, with the average being slightly above 0 at 0.82 dB. Considering Berghain is a large cavernous concrete void, the numbers should be less than 0 for the most part as the reverberant sound level is known to be higher than the direct sound level, this involves further investigation.

Clarity Calculations C80 - Often called a clarity ratio. It uses an 80 ms Split Time to predict the articulation (clarity) of different types of music. In other words, it provides a look at the room's musical performance.

- Type of musical instrument:
  Percussive instruments (ex, piano, drums, electronic instruments, xylophon etc.) These instruments have a quick attack and a quick decay.
- Scale for interpreting C80 (Percussive Instruments):
  6+/-2 dB is ideal for percussive instruments.
- For good musical performance:
  the number should not exceed +8 dB at any location.

[Figure 100: Berghain – Clarity C80 Map]: With the findings that the ratio of reverberation and direct sound levels are similar, that means that the energy between them are similar as well where it's the combination of both direct and reflected sound that make up the clarity, where the clarity can be described as live, vibrant and loud rather than the absorption dominant (minimal reflections) dead space of The Box. According to the simulation of C80, the maximum value is 11.64 dB and the minimum is -3.87 dB, which is slightly over the ideal criteria of being in between 6 +/-2, but when looking at the average (3.04 dB) and standard deviation (3.63 dB) of the numbers, they sit well within that ideal criteria while also not exceeding +8 dB at any location – allowing for good musical performance.

Total SPL (SUM) - Displays the sum of the Direct and Reverberant sound energy in dB (displays the total sound level)

- Don't be surprised at the small variation between the mini mum and maximum levels. It's normal.

[Figure 104: Berghain – Total SPL Map]: This simulated mapping compares well with L80 where instead of looking at the energy sum at a specified time it looks at the energy sum in dB. This space is a large cavernous concrete hall, meaning that its more likely that the sound pressure of direct sounds will be greater than those of reflected because the reflected sounds die off quicker due to the large volume. Both Total SPL and L80 fit the normal standards of little variation between maximum and minimum levels. For example, the distribution of values for Total SPL has a max. of 90.5 dB and a min. of 80.4 dB at the frequency of 1000 Hz.

Conclusion: A Study of The Ideal Acoustical/Spatial Environment for Rave/EDM Performance Spaces

Sound Matters

Through studying a diverse range of exemplar nightclubs, not only through the case studies of Ministry of Sound and Berghain, but others like the early 60's disco clubs to todays high-tech commercial clubs, a key finding is that each nightclub design has the primary purpose of curating a sensorial immersive experience – where music is most often than not placed at the center, where sound matters in creating that experience – both subjectively and scientifically. The Ministry of Sound is a prime example (as it should with the name 'Ministry of Sound') of this intention as the concept of the design was 100% sound system first, lights and visuals second, and design third – in that order. MoS was scientifically (acoustically, spatially) designed for a specific type of music, sound and preference, that being a crisp/clean, acute/precise electronic sound and system within a dead, absorby space with the preference of hearing every single detail in the music, being pleasant for some listeners. Other listeners may prefer Berghain's lively cathedral like quality of EDM where the reverberations produced by the cavernous space bring out the natural and spiritual effects to the sound, a sound that is deeply rooted and programmed into our DNA. Therefor, subjective responses to these specific types of music, sound and space are greatly diverse with many different preferences and desires amongst listeners, concluding that the ideal acoustical/spatial environment really depends on the preference and perceptions of sound, which is where architecture and acoustical design come in. Even though music and sound aren't the only element in creating that sensory immersive experience (lights, 3D projections, communal dance, narrative/utopia, equality, connectedness etc.) – it's the primary element that curates it all and should be an absolute priority.

Running Acoustical Simulations

In the initial planning stages of any concert hall/venue, opera house, performance space, studio/listening rooms – or any space that involves acoustics (speech/music), the starting process should be creating experimental 3D models of the desired space and testing their acoustical performance through simulation software. The 3D models provide a range of alternative ideas according to their aesthetic and acoustical qualities, for example, variations of shape and form, materials that make up the space, as well as what can be done for acoustical treatments for converted spaces. The simulation process aids in the understanding how sound behaves in a certain space, examining how it moves, how it gets absorbed, and determining good vs. bad reflections, percentage of absorber/reflector coverage, speaker positioning and orientation, etc. On a more economical side, the process allows the design to be tested repeatedly virtually on a computer screen, opposed to doing so in real time after it has been constructed. An example of this is the design of the nightclub Uberhaus, where in the process of planning some said that absorbers would need to cover the entire ceiling, whereby running simulations they were able to determine that only 60% of it was needed in order to contain the sound. Another more relatable example would be the case of Berghain wanting to minimize the level of sound reverberation time, I would reopen its representational digital model and experiment with applying absorptive coverage to the 60' concrete and glass side walls that take up most surface area in its long and narrow space, as well as experimenting with sound isolators since the space is loosely connected to adjacent spaces. Simulations are overall part of the scientific process where they help to test a hypothesis, such as the ideal acoustical/spatial environment for rave performance spaces. The idealness of a space and sound can be measured objectively with regards to the preferred acoustical performance criteria of electronic music (percussive instruments: ideal ratio of reverb/direct sound, attack/decay times), but also, if not more importantly, needs to take into account the subjective responses of the listeners and their criteria for idealness.

Contributions to Theoretical Premise/Unifying Idea

My theoretical premise revolves around bringing light to the essence of rave, to bring the rave out of the cave where my unifying idea of designing the ideal 21st century rave space along with its architectural implications helps to achieve that. There are many implications that make up the ideal rave club design, but through this study I found that the most important element is the music and sound itself, acting as the main curator for the audiences sensory and sonic immersion. It is here where architecture and acoustical design come in to play which is where my case studies contributed, allowing me to understand the diversity of preference when it comes down to music, sound and space. With that, I intend on creating a variety of performance (consumption) spaces, each designed to cater to a particular type of EDM music genre, sound, feel/ 'vibe', atmosphere, etc. – almost like combining the cathedral like Berghian and the Box's acoustical perfection under one roof where each have their own autonomy. For instance, a smaller consumption space designed for a crisp, clean, warm sound; an absorption dominant space where each detail of the sound is heard directly and not reflected off any other surface; rather a space for critical listening. A larger consumption space will be that large, cavernous cathedral like feel where the sound is the most loud, vibrant and electric as absorption coverage will be less, allowing for that preferred and pleasurable reverb sound (Enhanced with the Michigan Theatre large ornamental dome). On the other side of consumption spaces brings production spaces, designing small listening/studio spaces with the art of mixing being the focus - inspired by Detroit's strong cultural narrative in the roots of electronic music; the creator of techno (explained more in hist, cult, polit, section of this book). With the intentions of designing three different types of performances spaces (consumption/production), acoustical design will be critical. The acoustical focus will be soundproofing (isolating the spaces from each other), acoustical treatments (dif. acoustic environment in each space) and the sound systems (properly positioned, oriented loudspeakers) – and will be guided by running acoustical simulations throughout the design process.

Site Analysis: Narrative

Beginning in the mid 1950's and continuing into the following decades, Detroit quickly transitioned from one of Americas most flourishing cities to one of the most distressed, abandoned and dangerous. This collapse of Detroit's metropolis was caused by many converging problems, with the most prominent being the automobile industry crisis where thousands of people, both blacks and whites, lost their jobs and benefits due to the switch from assembly line jobs to machinery. Detroit had strong reliance on this once successful singular industry, which is why they took it the hardest when it busted because they had no reliance on other industries like education or banking. Racial tensions were also a factor and have been since the migration of southern blacks to Detroit for those job opportunities at automobile factories, resulting in the white flight to the suburbs, where during the 1950's the city lost 363,000 white residents while it gained 182,000 black residents (Stroup, 2013). This tension in turn started the violent 1967 riots; deaths, fires, and destruction took a major impact on downtown Detroit which had failed to bounce back in the aftermath, resulting in plunged population and thousands of abandoned structures inside and outside downtown. Little had been done to ease these racial tensions and the strained relations have hindered the city's efforts toward economical progression. The financial crisis facing the city of Detroit was decades in the making, not only for the above reasons but for poor leadership as well, which had been an ongoing process full of missteps, inaction and suspected corruption. With poor leadership came poor planning as the city encouraged car culture, prioritizing investments in building highways rather than public transportation systems, fueling urban sprawl and the alienation of neighborhoods, as well as being a missed opportunity to ease the racial tension through public transportation. Poverty was yet another outcome from the causes above, where city officials now are faced with trying to condense and reconnect the city from its isolated and abandoned neighborhoods – to overall reinvent and restore itself from its struggling past and into the future, which is where Detroit Techno and Rave come into play, much like it did in the past

This background contextual knowledge becomes important for justifying my chosen site to be in Detroit, because in the midst of all that struggle, anger and resentment was the emergence of a new kind of music, a new sound that "became a dreamscape, at odds with the post-industrial wasteland that inner Detroit had become"(Prendergast ,2000). It was the creation of a new hope-filled music that had recovered what Motown laid down following their extinction in the 1970's. The first wave of Detroit Techno represented this, where the vision was Detroit specific, capturing a city in transition from industrial boomtown to post Fordist wasteland, from U.S. capital of auto manufacturing to U.S. capital of homicide (Reynolds, 1999). The sound was a "dominant mood of paranoia and desolation", telling the story of urban decay, economic dispossession, racialized class war and technology. The new music appealed to Detroit's marginalized underground population, gaining significant importance in the mid to late 80's through the dancing ruins of Detroit. The Belleville

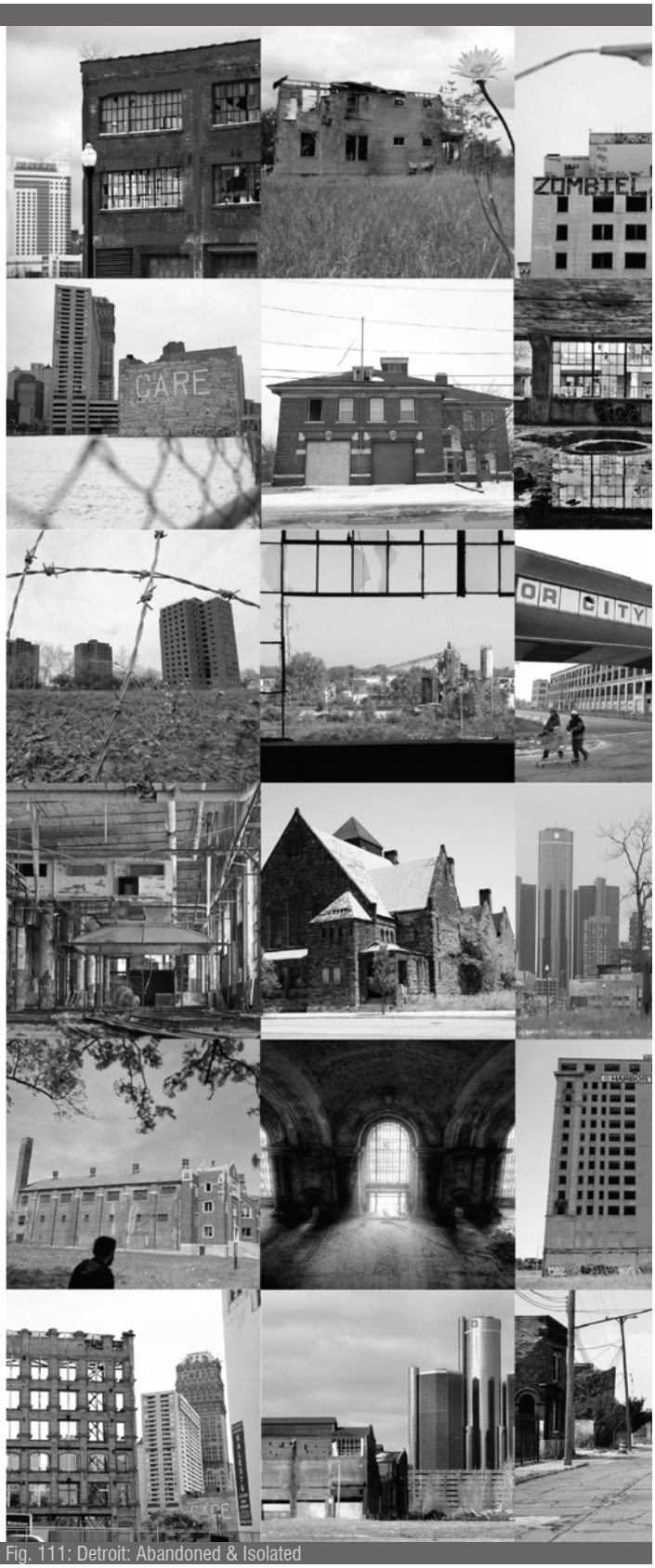


Fig. 111: Detroit: Abandoned & Isolated

4 RESEARCH DOCUMENT

Site Analysis: Narrative

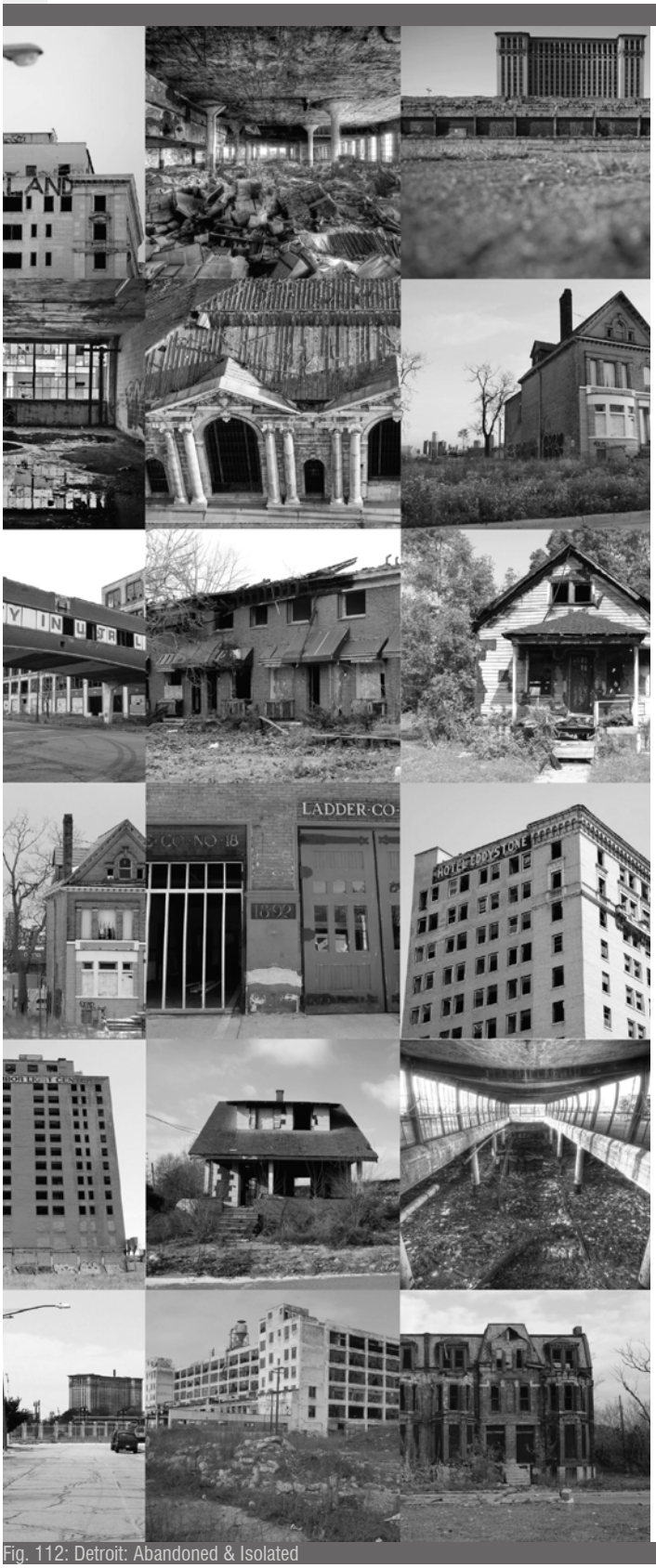


Fig. 112: Detroit: Abandoned & Isolated

Threes (Detroit Techno pioneers) liberating use of machines was engraved with Afrofuturism – a form of 'magic realism', that aims to fictionally and artistically revise the history of the African American community. Derrick May promoted what he dubbed 'techno spirituality' – a form of 'elevated consciousness' that we cultivate in partnership with machines, stating "techno dance music defeats what German philosopher Adorno saw as an alienating effect of mechanization of the modern consciousness". Likewise, Juan Atkins alluded to futurist Alvin Toffler's slogan "techno rebels", which was an insightful source of inspiration for the kind of musical creativity that techno had emerged from (Reynolds, 1999). This first wave of Detroit Techno reached its climax in 1988-89, with the city pumping in underground clubs like the legendary Music Institute and The Shelter, where the Belleville three and other collaborating Resident DJ's would play. At the same time, the sound of Detroit Techno gained mass popularity in the hedonistic European rave scene, which was a big factor in the 1990's demise of the first wave of Detroit Techno but also a big factor in the overall evolution of rave and its music, for better and for worse.

Detroit's strong techno roots, musical creativity and authenticity are what my design intends to maintain/bring back by incorporating not only consumption spaces but production spaces as well, allowing Detroit's local youth to express their creativity and artistry through the collaboration and production of electronic music, which also gives the nightclub another identity/use during the day time while having a greater chance at producing a positive social impact - a new kind of rave behavior to believe in. Its also a celebration of Detroit's musical origins, where Its origins aren't found here just as a reaction to postindustrial urban decay, but it was built here with the systems of communication through Dj's, artists, and the community itself. The justification for choosing the abandoned Michigan Theatre is also influenced by techno music as it has always sought the marginalized, derelict spaces of the city, which Detroit is not scarce of following the automotive factory shutdowns and post industrialization. Converting the abandoned Detroit Theater into a production/consumption oriented techno rave club may contribute to Detroit's urban regeneration (or lack of), where rather than demolishing an urban context or starting from a piece of pure land, regeneration offers a way to symbolically represent Detroit's urban heritage by giving the marginalized space new meaning through the sampling of past symbolic ideas and forms, where regenerative design becomes a discipline of action – a tool for change in the urban fabric history and future. Thus, the architecture of techno rave clubs intends to be interpreted as a celebration of the cultural and social experimentations that emerged out of Detroit's economic decay, racialized class war and technology.

Site Introduction

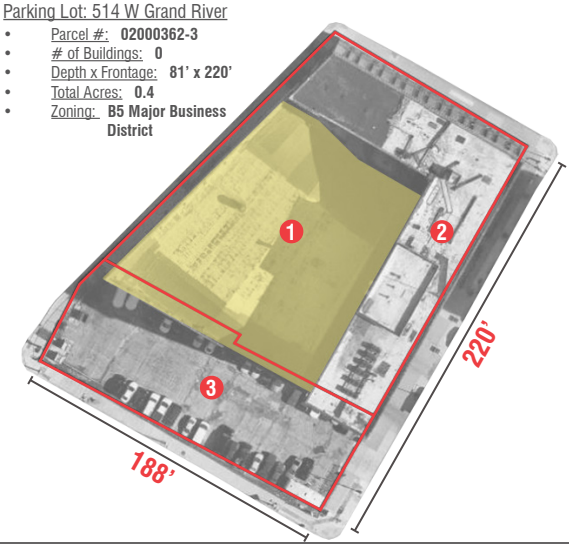
Fig. 113: **Proposed Site Location:** Michigan Theatre, Downtown Detroit

1. Michigan Theatre: 220 Bagley St
+
2. Michigan Office Building: 220 Bagley St

- Parcel #: **02000326**
- # of Buildings: **2**
- Depth x Frontage: **188' x 220'**
- Total Acres: **1**
- Zoning: **B5 Major Business**

3. Parking Lot: 514 W Grand River

- Parcel #: **02000362-3**
- # of Buildings: **0**
- Depth x Frontage: **81' x 220'**
- Total Acres: **0.4**
- Zoning: **B5 Major Business District**



The Michigan Theatre Building

Simple Facts:

- 13 stories (Michigan Building), 9 stories (Michigan Theater) 190 ft tall (Michigan Building), 100 ft tall (Michigan Theater)
- There is a 13th floor but the elevators were designed not to reach it
- It has a separate egress from the 12th floor to the 13th
- Location is bounded by Bagley, Clifford, Middle, & Grand River in Downtown Detroit
- Michigan Building is located near where Grand River and Cass originate
- The Michigan Building Addresses include:
  - 220 – 238 Bagley
  - 501 to 509 Clifford
  - 201 Middle Street
- Design: Beaux Arts style, Exterior, limestone façade
- 245,000 square feet of office space, and parking for 160 cars on three levels, as currently configured
- Original Theatre was completed in 1926 with 4050 seats. Named the Michigan Theatre
- It was designed to be the most magnificent theatre between New York and Chicago

History of Site: Michigan Theatre Building

The former Michigan Theatre opened its doors in 1926 as the largest concert and movie house in Michigan, not only a theatre for Michigan but a theatre for the world. The theatre was simply elegant and was originally imagined by noted theatre owner John Kunsky who had managed over twenty other theatres in the Detroit area. The Michigan Theatre had a luxurious grand lobby that was 1000 square feet and a towering four stories in height, designed as a mirrored and marbled tiled gateway to the heavens of theatre. The lobby displayed murals, oil paintings, chandeliers and royal red carpet with accents of gold. The lobby contained over 20 oil paintings in the entry coves as well as one larger interior panel mural painting – each of which were done by profile artists of the National Academy. There wasn't anything to match the design at the time, which was envisioned by Chicago architects Cornelius Rapp and George Rapp, who had earlier designed the New York Paramount Theatre and the Chicago Theatre, along with Michigan theatres neighboring Leland building. The Michigan Theatre was designed with an attached 13-story office building to allow for consistent cash flow as opposed to depending solely on the Theatre. Back in 1926, the cost to construct the Michigan Theatre/Building surpassed 5 million dollars, where in todays money it equals out to about 70 million – with the theatre alone costing 3.5 million of that total price of construction. The theatre was also known to be very well constructed, so well-constructed that if it were to be completely gutted it would put the connected office building in danger of collapse.

The Early Years: Prior to the Michigan Theatre/Building, the site on which it sits today was home to the Ford family, where Henry Ford designed his first Ford Quadracycle. Around this time of 1900's, Detroit's population was thriving from their predominant lumbar and fur exports. Detroit's population continued to rise in the first quarter of the 20th century when large car manufacturing companies such as Ford promised living wage jobs and reasonable housing. Leading to 1926, the year that the "most lavish theatre ever" was built, Detroit was surrounded by money, pride and prosperity. The lavish Michigan Theatre and its four-story grand lobby consisted of marble columns, carved balustrades, a grand piano and a variety of oil paintings. It appeared more as a museum with its appointments, sculptures, carvings, onyx pedestals, painting and granite surfaces. The theatre contained a large mezzanine level that was reserved for black tie events and consisted of women's cosmetic rooms, men's smoking lounges, many seating areas, lavish side coves and many more well-crafted sculptures. The grand auditorium had a orchestra pit that was raised from the ground level which hosted Edward Werner's Michigan Symphony orchestra along with one of the five largest constructed 2500 pipe Wurlitzer Organ. The auditorium also had six aisles of seating on each floor, a balcony on the upper floors and boxes line on each side for live theatre. The theatres grand opening brought in huge crowds, often waiting in line for hours to attend films that started at 10AM and ran through the late evenings. It was the same on the theatre side too as live shows were featuring virtually every New York and Hollywood

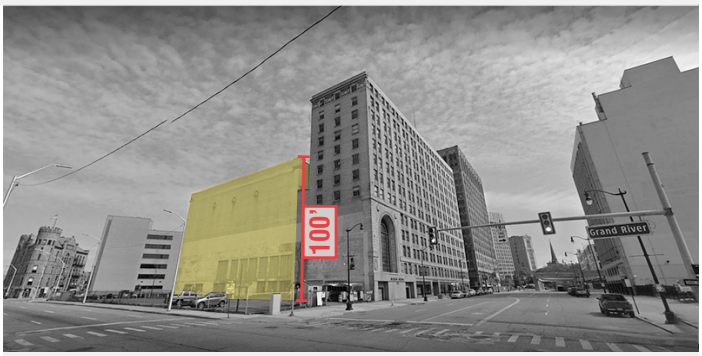


Fig. 114: Michigan Theatre - Southeast View

Fig. 115: Michigan Theatre - Southwest View

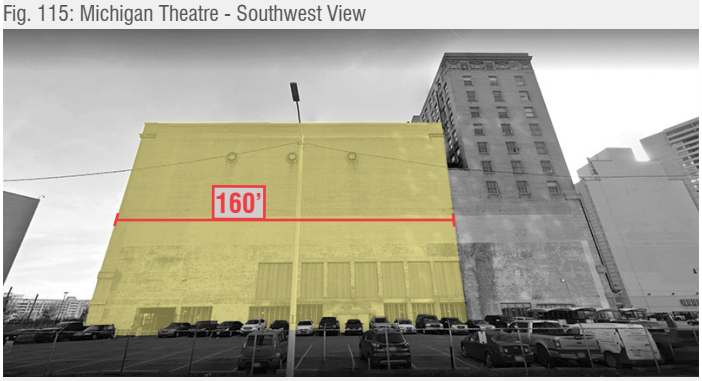


Fig. 116: Michigan Theatre - South View

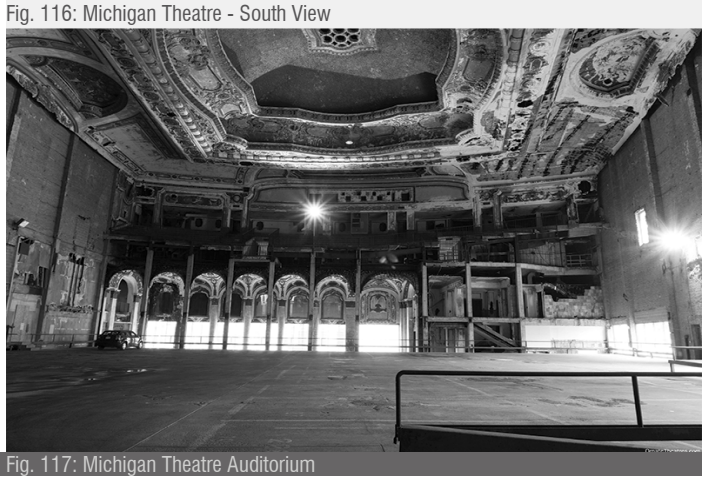


Fig. 117: Michigan Theatre Auditorium

Fig. 118: Michigan Theatre: 1926 - Current

entertainer at the time. This continued until the WWII years of 1940 to 1945 where attendance began to decrease because by then film transitioned to full stereo sound leading to fewer bookings of stage acts.

The 60's: By the 1960's, the theater was only being used for films after they sold the Wurlitzer Organ in 1955 and replaced it with a screen that took over the whole stage. By the mid-60's, the Detroit movie house was losing money due to high maintenance costs, the plummeting urban population to the suburbs and that people who worked downtown left by dark – resulting in the Michigan theatre to be sold off to Sam Hadous in 1970, who had visons for a 1500 seat supper club with many levels and top act performers. He started by removing all the theater seats, leveling the floors and cleaning/refurbishing all the details that can be seen. The club opened with the name Michigan Palace and had attempted to capture some of the previous Michigan theatre characteristics in the design as well. But within less than a year since its opening, it had closed, and the Michigan theatre once again went dark.

The 70's: The 70's brought change to the theatre again when rock act promoter Steven Glantz wanted to promote more live acts, ones that were different from the previous theater acts, where in 1973 he took a lease on the theater and called it The Michigan Palace Concert Venue. The concert venue ended up being a big hit for major rock act performances and attracted masses of people in Detroit. The theatre was able to hold around 5000 people with the tickets starting out at $3.50 for two acts, which it didn't matter how much it was since the acts were attracting more people than the buildings capacity. The theatre became trashed consequently, which was also due to the dimly lit design of the space. The venue continued to thrive with Glantz booking major rock acts such as Kiss, 10CC, Blue Oyster Cult, Bob Segar, Iron Butterfly – pretty much the world's biggest Rockstar's at the time. The theatres years as a rock performance club came to an end in 1976 as The Michigan Palace concert venue was eventually sued for $175,000 worth of damage to the theatre. The Michigan Theatre was decided to be done with performances by the theatres largest tenant Leo Comey, who then then proposed for the theatre to be converted into a parking garage for the 13 floors of office space attached. The plan proceeded to create the parking garage, costing $550,000 to construct the 160-stall parking deck, which had overall left the theater hanging from the walls. In the 1990's, The Michigan Building and its attached glorified parking garage (The Michigan Theatre) was bought out by Anthony Pricroni, who then gave it to his son Matt Priconi to take charge and manage/control the building. Matt and his wife started to do so in the early 90's and continue to manage and repair the Michigan Building and Theatre to this day. The theatre still stands as a parking garage today, but the Priconi's did reopen the Bagley Bar in The Michigan Buildings ground level to new operators. The Priconi's took pride and joy in the building and have always been intrigued by its rich history and character. They both have a strong feeling for what Detroit was in the past and have even stronger hopes for what Detroit can become in the future - and it can start with revitalizing the Michigan Theatre.

Fig. 119: Mercedes-Benz Auto Show Event - 2018

Michigan Theatre Building Current Condition and Use

Interior: Since the Michigan Theatres grand opening in 1926, the structure has been used for a diverse range of uses such as a movie palace, a supper club, a rock club and now a glorified parking lot. The construction of the parking garage in 1977 started by partially gutting the interior: knocking down walls, the upper mezzanine and balcony, the grand staircase as well as one of the main walls in the lobby. Even with interior gutted, much of the theater and its historical character remains today, such as the ticket booth, the four-story lobby, the proscenium arch, part of the upper balcony, the projection room and lobby ceiling – with the intention of wanting to leave some of the theatres beauty intact. The parking ramp hosted within the walls of the theatre is three levels of parking allowing for 160 parking spaces. The parking on the ground floor takes up the whole surface area (24,200 square feet), whereas the two upper parking slabs stop at the perimeter of the four-story lobby space, maintaining the lobbies 'grandness' and visibility to the ornamental ceiling. The two raised 6" concrete slabs are held up with the construction of gridded steel columns and beams which terminate at the northeast corner for the sloped concrete ramp to reach each level. The two concrete slabs are raised up with a genrous 10' floor to floor separation between them allowing for cars to come in and out. The third and top floor parking slab opens to the previous auditoriums grand space with the most prominent element being the ornamental plaster/painted ceiling that seems to be hinged from the rafters with large gaps left between the exterior walls. The space is a large cavernous void that is bounded by concrete and brick walls on three sides with the fourth side opening to the grand lobby through structural concrete columns. The space doesn't only make use as a glorified parking experience, but also for large events like car shows, concerts, and skateboarding competitions. Other than being a glorified parking garage and temporary event space, the historical narrative and the distressed beauty of the theatre attracts many people to come and visit and experience the space – "sometimes up to 15 people a day" said by my tour guide. Photographers and filmmakers also hold value in the space as it makes for great urban decay photographs and film scenes, most notably in the movie '8 mile'.

Fig. 120: Zumiez Best Foot Forward 2014 Skateboarding Championship

Fig. 121: Michigan Theatre - Interior Condition

4 RESEARCH DOCUMENT

Site Analysis: Exterior Condition & Use

Exterior: Wrapping around half of its attached theatres northwest side is the 13 story Michigan Building, extending four stories above the theatres approximate 9 stories. The Michigan Buildings prominent Italian Renaissance style limestone façades run parallel with Bagley and Clifford street, and at this location the theatre is hidden behind. The 245,00 square foot L-shaped building was designed for office spaces, which is still the use currently though its only 50 percent occupied. The ground floor running parallel with Bagley Street consists of office lobby/administration space and connected dining area, a bar called Coaches Corner, and two car entryways into the parking garage. The lobby contains three elevators that only reach to the 12th floor, where the 13th floor has a separate egress to the 12th floor. The other three sides of the Michigan Theatre/ Building have no other ground floor uses or entries unless it's used for parking. On the southwest side of the building, the connected theatre and its blank facades can be seen from the main Grand River avenue and its intersecting less active Middle Street. The only two visible facades of the theatre run the south and west sides of the 188' x 220' property and consist of boarded up existing window/ door openings on the facades bottom half, two sets of exterior steel egress stairs on the west façade and a diverse material synthesis of older and more older masonry work of brick (upper floors) and limestone block (ground level). The roof of the Michigan Theatre is claimed to have holes that drip water down the floor, which also contains debris from the plastered ornamental ceiling above. The 81' x 220' property sitting in front of the theatres south façade has a different owner and is used as an outdoor pay and go parking lot.

Site Context

The Michigan Theatre and Building sits on a property that's just over one acre in size and is located on Bagley Avenue between Clifford Street and Grand River Avenue. Downtown Detroit sits within a rough square bounded by the Detroit River; the Lodge, I-375 and I-75, just south of the Midtown area. Within the context of Downtown, the site rests within Western side and is blocks away from downtown hotspots such as Grand Circus Park, Ford Field and Comerica Park. Downtown Detroit is a year-round popular place to be for pro sport action and offers a wide range of cultural and entertainment activities such as music venues, opera houses and casinos. It is also a fast-growing destination for popular restaurants, shopping options, museums, universities, skateboard parks and many more. Detroit's revitalization projects are also popular and fast growing as they are emerging all throughout Downtown and its surrounding neighborhoods – hoping to transform the city as a whole. Detroit's manifesto is "Lets roll up our sleeves", which is exactly what the city is doing as they've invested $5.1 billion dollars in current and future construction projects (Moutzalias, 2018). The immediate neighboring context of the Michigan Theatre/ Building is majority businesses, market price apartments, restaurants and a plethora of parking and derelict structures. The site also rests between 3 major park areas: The Grand Circus, Beacon Park (+ Lumen restaurant) and DTE Park & Plaza. The following page displays the neighboring context visually through perspective views and aerial diagrams.

Fig. 122: Michigan Theatre - Exterior Condition

Site Analysis: Neighboring Context

Fig. 123: Site Neighboring Context - Aerial View

Context: Views and Neighboring Buildings

1 Lumen Detroit - Restaurant/Park
2 Misc. Commercial/Apartments
3 Republic Building - Historic Site
4 United Artists Building - Commercial
5 Mint House - Hotel
6 The Detroit Leland - Apartments
7 Rosa Parks Transit Center
8 Savannah Blue - Rest.
9 Nicks Gaslight - Rest.

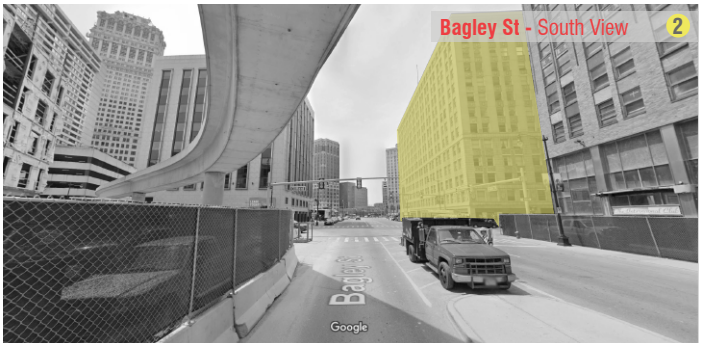


Fig. 124: Site and Neighboring Views

Site Analysis: Modes of Transportation

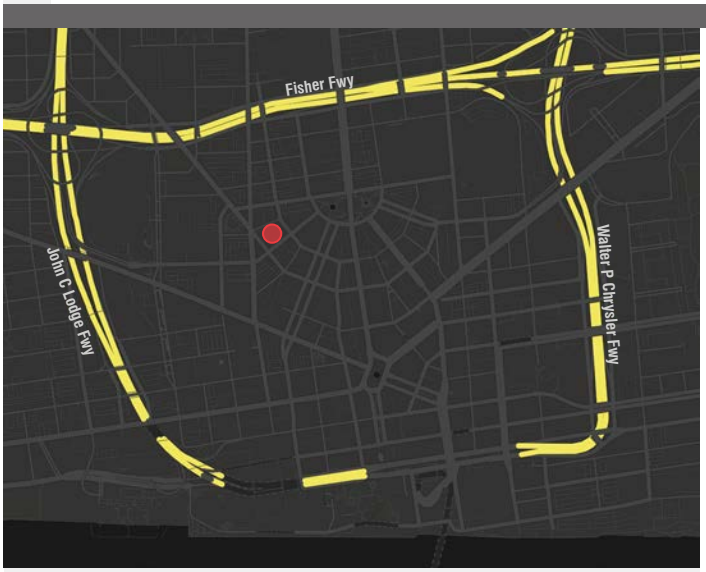


Fig. 125: Detroit: **Major Freeways** Site Location

In 1956, Dwight D. Eisenhower's Federal Aid Highway Act was conducted where this system and other public policies promoted car culture and invested more money in building highways as opposed to public transportation systems. The highway system bounds the area of Downtown Detroit making transportation quicker to and from the city but also separating it from its surrounding neighborhoods, fueling urban sprawl and alienation of communities.

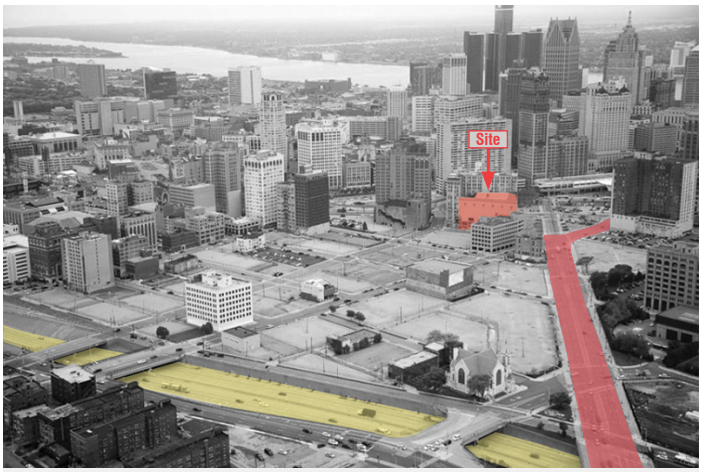


Fig. 126: Detroit: **Major Freeways**

Downtown Detroit and my proposed site are bounded by the Detroit River to the south along with these **three main highways:**

- Fisher Freeway (I-75) - North
- John C Lodge Freeway - East
- Walter P Chrysler Freeway (I-375) - West

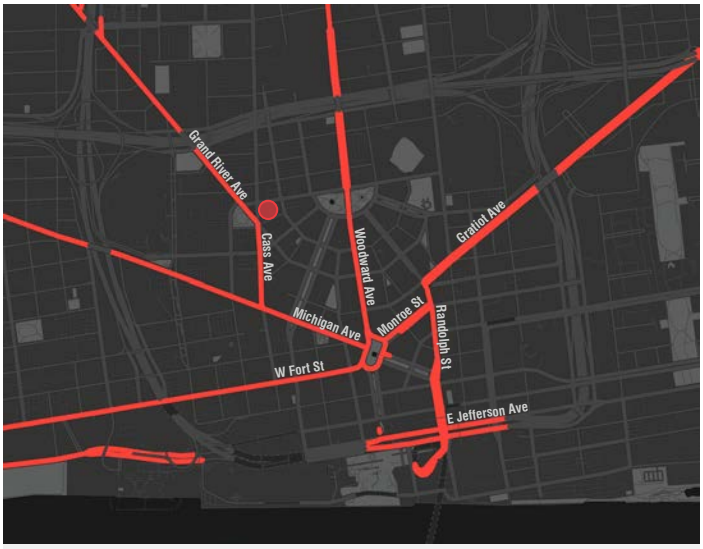


Fig. 127: Detroit: **Major Roads** Site Location

Within the bounding major highways are a system of major roads and avenues that take you to different areas of Downtown and its surrounding neighborhoods. All major roads start at the node of Campus Martius Park and radiate outward in a baroque styled radial fashion to different nodes such as Grand Circus Park (tree lined boulevards and parks) in the north and Hart Plaza in the south. This system was devised in the Woodward Plan following a historic fire in 1805 and consisted of hexagonal street blocks, wide avenues and large circular plaza nodes.

Fig. 128: Detroit: **Major Roads** Site Location

Neighboring Major Roads:
- Grand River Avenue
- Cass Avenue
- Michigan Avenue
- Woodward Avenue

Outer Context Major Roads:
- Monroe Street
- West Fort Street
- Gratiot Avenue
- Randolph Street
- E Jefferson Avenue

4 RESEARCH DOCUMENT

Site Analysis: Modes of Transportation

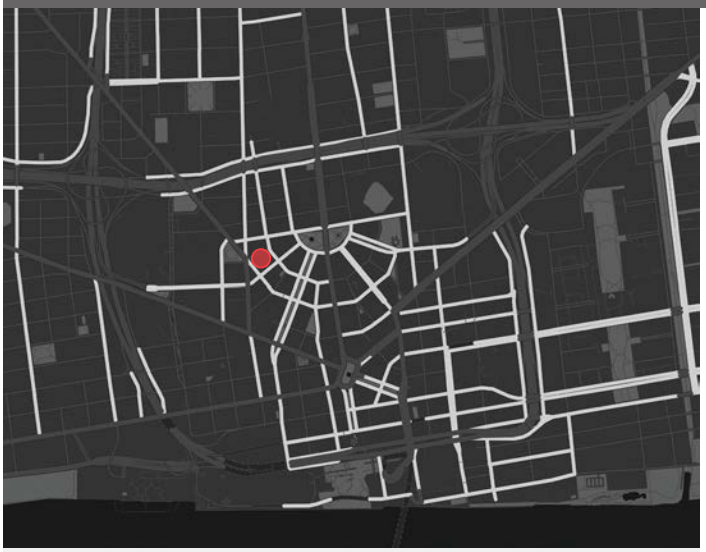


Fig. 129: Detroit: **Minor Roads** Site Location

Fig. 130: Detroit: **Minor Roads**

Stemming out from the major roads are minor streets, avenues and boulevards which are organized to connect to those areas where the major roads don't reach. Majority of the major roads run north and south whereas these connecting minor roads run more east and west in a radial fashion. The most prominent minor roads are those radiating out from Grand Circus Park where two of its western branched roads (W Adams Ave & Bagley St) take you to the site.

Neighboring Minor Roads:
- Bagley Street
- W Adams Avenue
- Clifford Street
- Middle Street
- Park Avenue
- Washington Blvd

Outer Context Minor Roads:
- Broadway Street
- E Adams Avenue
- Brush Street
- Madison Street
- Witherell Street
- W Fisher Service Drive

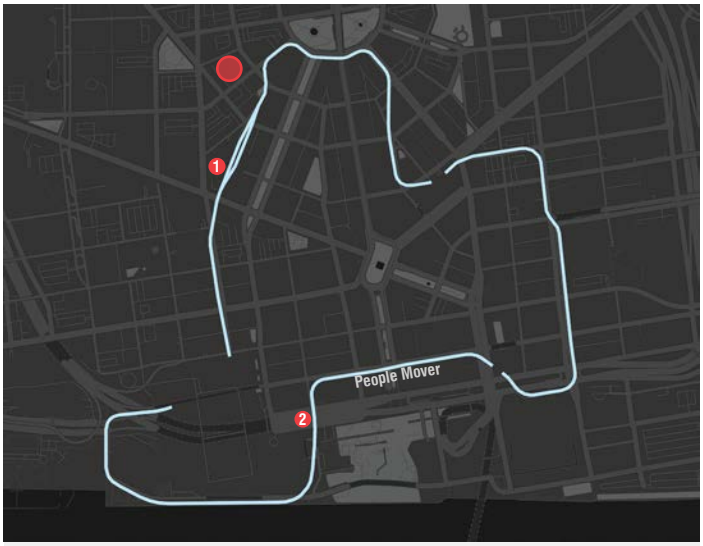


Fig. 131: Detroit **People Mover** Railine Route Site Location

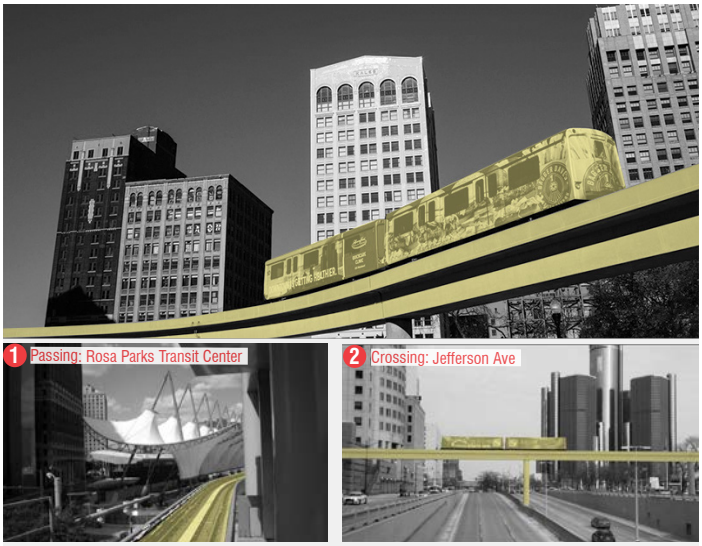


Fig. 132: Detroit **People Mover**

The Detroit People Mover is an automated light rail system on an elevated track in Downtown Detroit's Business District. The system is nearly a 3-mile loop and has 13 stations situated throughout its path. When constructed in the 1980's, it received a lot of criticism for not being cost effective as it primarily serviced visitors to restaurants and stadiums rather than helping the city's residents to get around efficiently.

People Mover Stations:
1. Michigan Station
2. Times Square Station
3. Grand Circus Park Station
4. Broadway Station
5. Cadillac Center Station
6. Greektown Station
7. Bricktown Station
8. Renaissance Center Station
9. Millender Ctr. Station
10. Financial District Station
11. JLA Station
12. Cobo Center Station
13. Fort/Cass Station

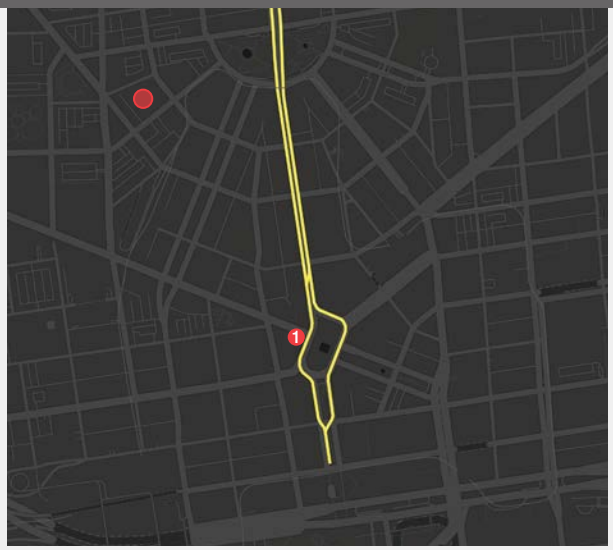


Fig. 133: Detroit Rail System: **Q-Line** Site Location

Q-Line Rail System

The new Q-Line provides riders with a 3.3-mile jaunt up Detroit's main street, Woodward Avenue, from downtown to the New Center Area – providing close access to my site as well as sporting events, theatres, shopping, dining, and many more.

Fig. 134: Detroit Rail System: **Q-Line**

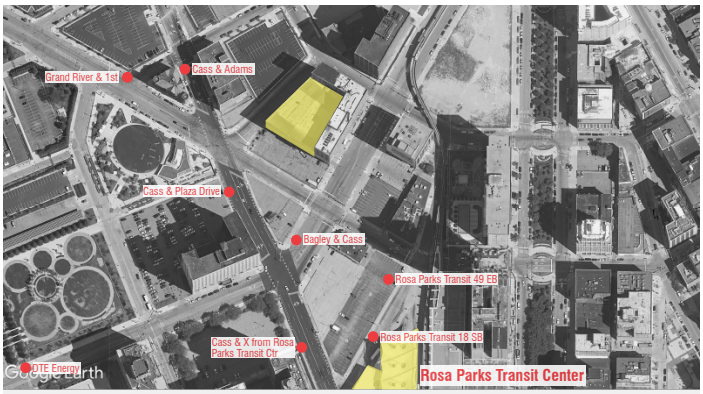


Fig. 135: Detroit **Bus System**: Rosa Parks Transit Center Bus Station

Bus Transit System

Fig. 136: Detroit **Bus System**: Rosa Parks Transit Center

Bike Share

Fig. 137: Detroit Public **Bike-Share**: MoGo

Scooter Share

Fig. 138: Detroit Electric **Scooter Share**: Lime & Bird

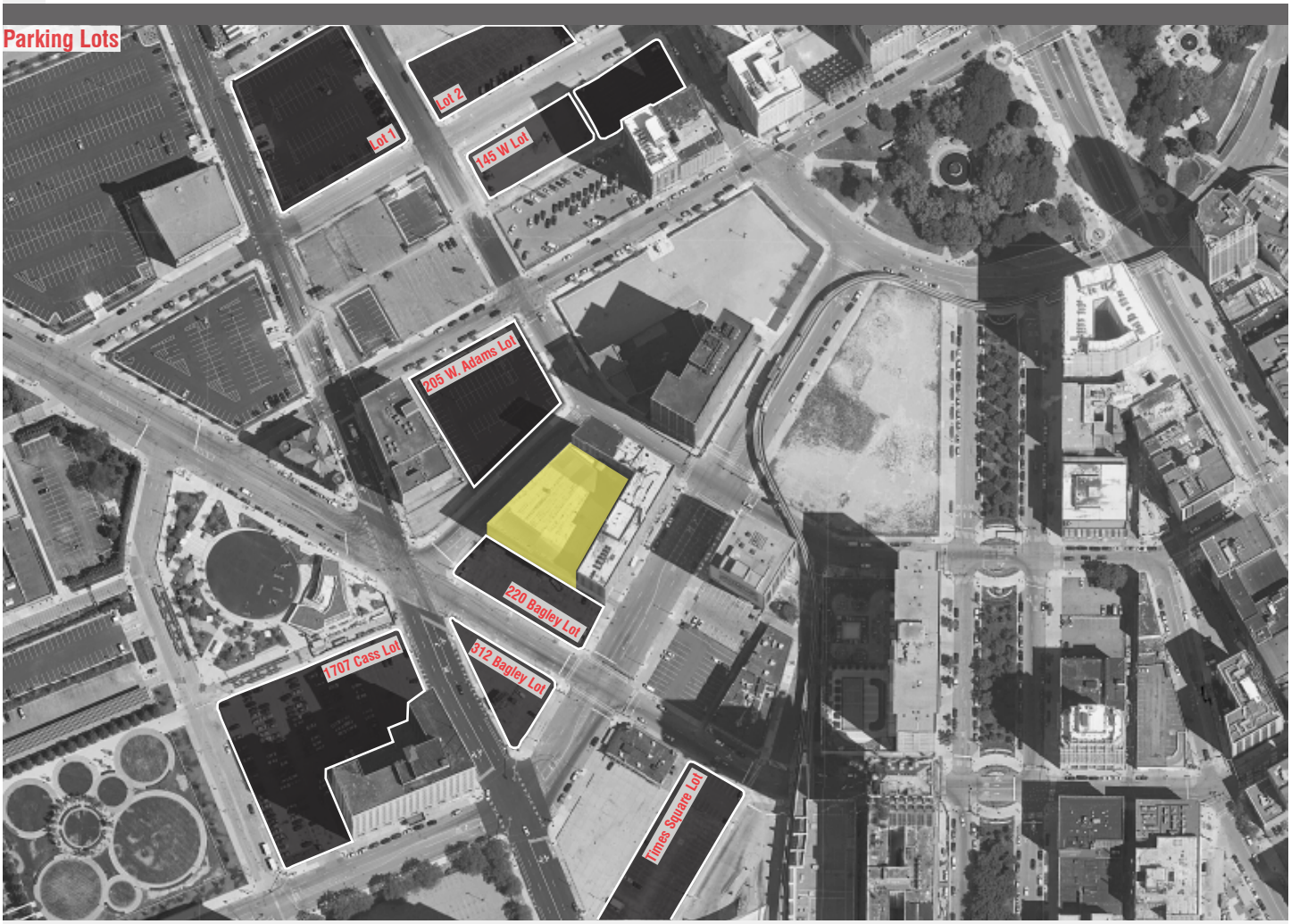


Fig. 139: Nearby **Parking Lots**

Parking Lots

Downtown Detroit has a plethora of parking in off-street garages and open lots, especially near my site with all the open properties and abandoned structures. The average rate for hourly off-street parking is around $5 and 24-hour parking can cost upwards of $20, even though some surface lots offer daily parking for less than $10. These parking areas are mostly used during the weekdays from normal working hours whereas on the weekends there are plenty of open stalls which are usually free at cost during the nighttime and during the day when there is no major events going on.

Nearby Parking Options

- 220 Bagley Lot
- 312 Bagley Lot
- 1707 Cass Lot
- 205 W. Adams Lot
- Times Square Lot
- 215 Elizabeth Lot 1
- Prime Parking Lot 2
- 145 W Elizabeth Lot
- Park-Rite Inc Garage

Fig. 140: **Parking Lots**: 220 & 312 Bagley Lots

Site Analysis: Vehicular/Pedestrian Traffic

Vehicular Traffic

- **Heavy** Traffic
- **Medium** Traffic
- **Light** Traffic

Heavy Vehicular Traffic

Fig. 141: Vehicular Traffic

Pedestrian Traffic

- Main Pedestrian **Nodes**
- Main **Paths**

Main Pedestrian Nodes

Fig. 142: Pedestrian Traffic

Site Analysis: Parks & Vegetation

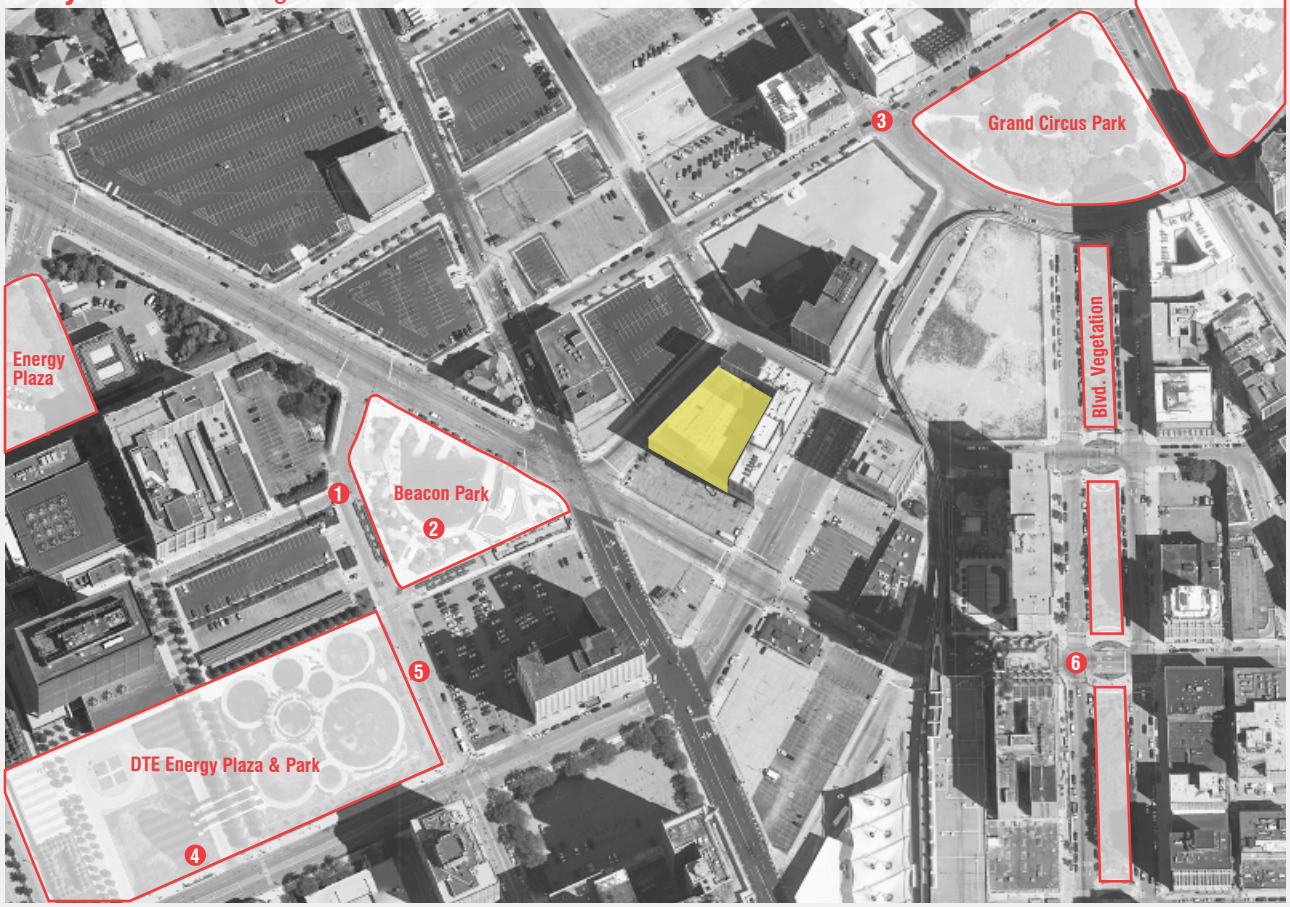


Fig. 143: Parks & Vegetation

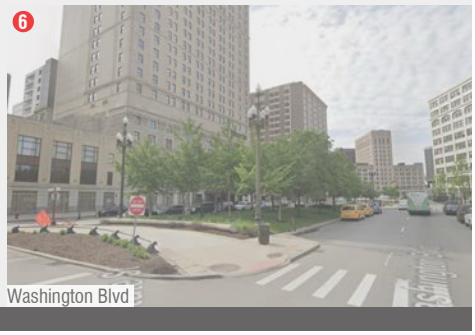
Beacon Park

Beacon Park

Grand Circus Park

DTE Energy Plaza

DTE Energy Park



Washington Blvd

Fig. 144: Parks & Vegetation Perspectives

Site Analysis: Climate, Sun, Wind

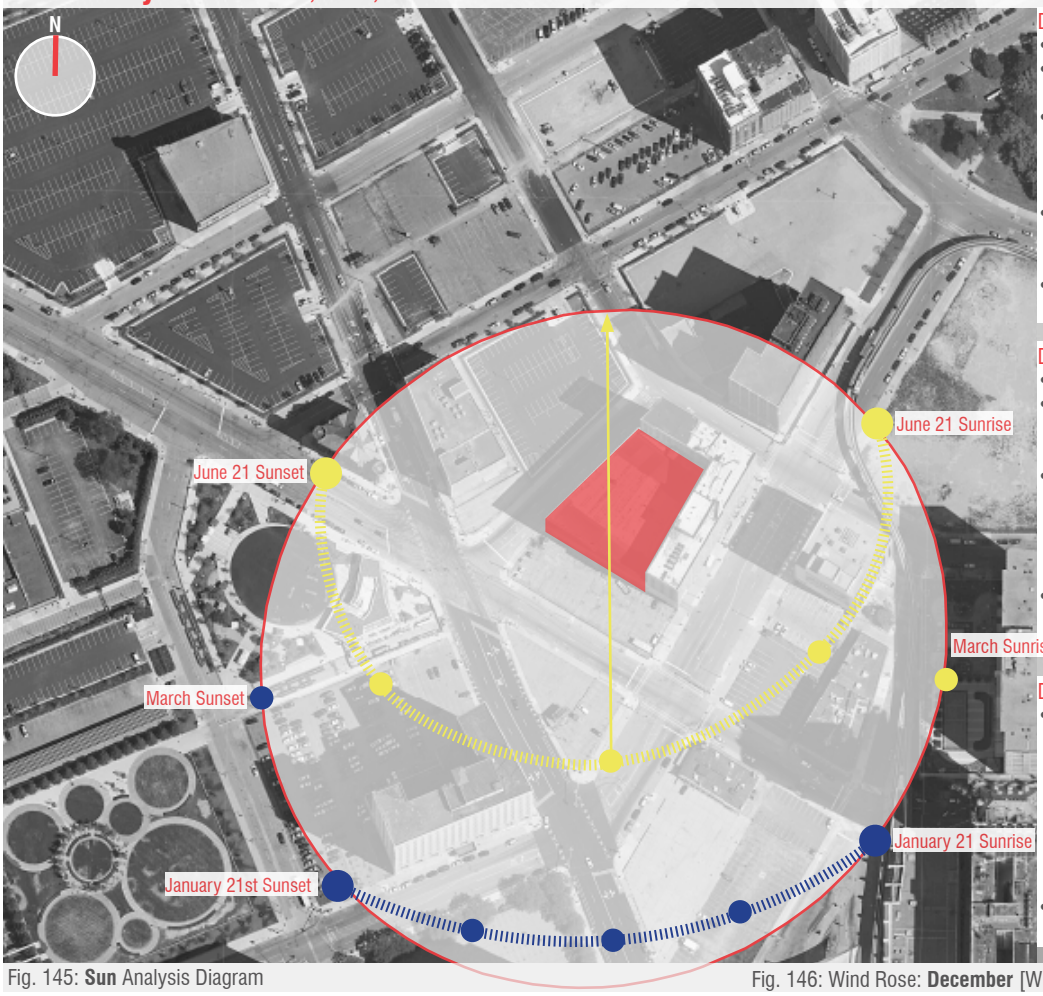


Fig. 145: **Sun** Analysis Diagram

Detroit **Summer:** (June - August)

- Mildly hot with moderately high humidity
- Avg. temperatures range from 50°F and 82°F, with a peak of 93°F
- Most summer days are sunny with an average of 9 hours of sunshine per day whereas the humidy reaches 68% throughout the season
- Precipitation is distributed evenly throughout the year but summer recieves slightly more compared to other seasons
- May is the rainiest month with a relatively high precipitation of 3.9".

Detroit **Winter:** (December - February)

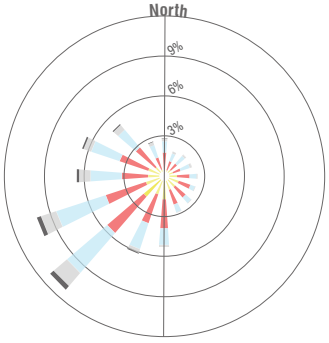
- Freezing weather and high humidity of 75%
- Avg. temperatures remain low, in range of 19°F and 37°F, where snowfall is experienced an average of 9 days each month
- The nights are cold with temperatures often dropping below 10°F (the drop in temp. is caused by strong and cold winds that blow across Lake Michigan from the southwest - making the temps. at night feel freezing)
- During the day, the lake warms up and causes the weather to feel warmer than recorded

Detroit **Wind**: Summer and Winter

- During the summer month of June the wind blows from the southwest direction about 16% of the time, and from the northeast about 7% of the time. The winter month of December also has the most percentage of wind blowing from the southwest (14%), but has less than 3% blowing from anywhere in eastern orientations.
- (Summer and Winter Wind Rose maps below)

Detroit's weather can be characterized as cold winters with moderate snowfall and summers that are hot and sunny. Michigan is surrounded networks of rivers and large lakes on its north, east and west sides, which are big influences on Detroit's weather. Even though Detroit lies on the Detroit River, the biggest influence on the weather is Lake Michigan – a large body of water that bounds the entire east side of Michigan. This is where majority of Detroit's winds originate as they blow east across the state and into Detroit. My site rests within the first frontier of defense against these east coming winds as it's on the outskirts of western Downtown, where to the west is all open surfaces for parking with some isolated buildings which only help to pick up the speed. With that, my site is defenseless to the incoming winds and should be considered within my design, especially in the winter as clubs usually have outdoor entry lines. With my typology being a nightclub, sun isn't much of a concern unless a daytime use is present. The sun rises north-east of my site where much of this sun is blocked from the 13 story office building until around noon where the sun wraps around the south façade at its highest point and sets at the northeast corner where the two exposed sides of the theatre connect. Nightclubs are also known to start getting busy later into the night, slightly past sunset, but the ones that arrive earlier would get a good unobstructed view of it while waiting in line or at nearby parks. Projection shadows from neighboring buildings is minimal as my site is fairly isolated and isnt worthy of analysis since my building typology is most inhabited during the nighttime.

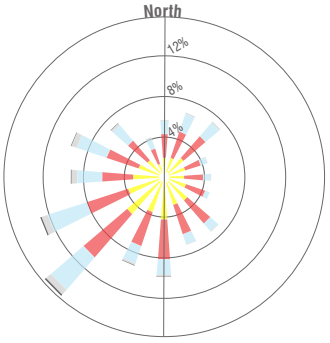
Fig. 146: Wind Rose: **December** [Winter]



Wind Speed [m/s]
>11.06
8.49-11.06
5.40-8.49
3.34-5.40
1.80-3.34

Avg. Wind Speed: 5.27 m/s
Calm Winds: 2.54%
Orientation: Direction (blowing from)

Fig. 147: Wind Rose: **June** [Summer]



Wind Speed [m/s]
>11.06
8.49-11.06
5.40-8.49
3.34-5.40
1.80-3.34

Avg. Wind Speed: 4.38 m/s
Calm Winds: 5.31%
Orientation: Direction (blowing from)

Site Analysis: Utilities/Lighting/Drainage

Fig. 148: Front Southwest View - **Utilities/Lighting/Drainage**

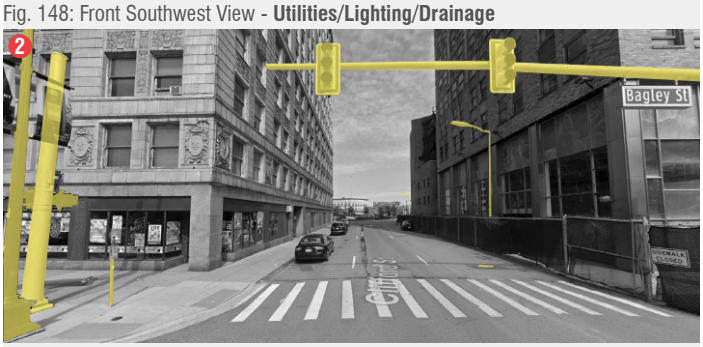


Fig. 149: Rear West View - **Utilities/Lighting/Drainage**

Fig. 150: Side South View - **Utilities/Lighting/Drainage**

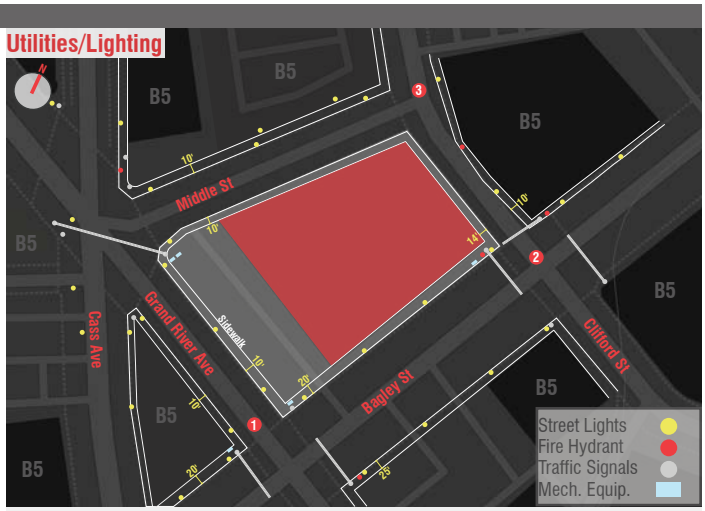


Fig. 151: Site **Utilities/Lighting** Diagram

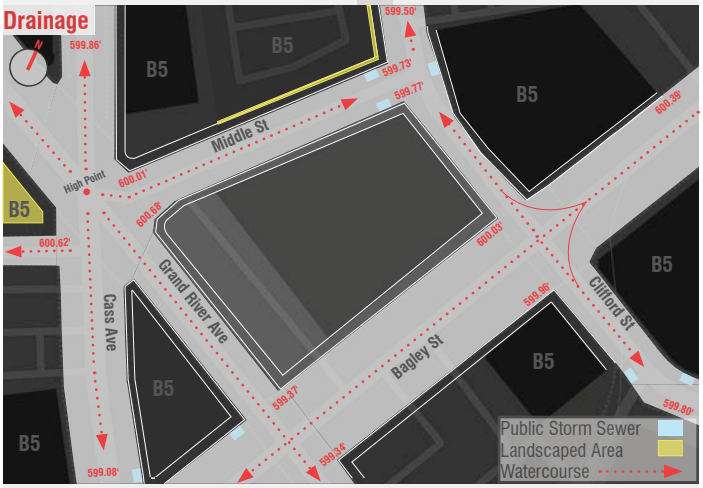
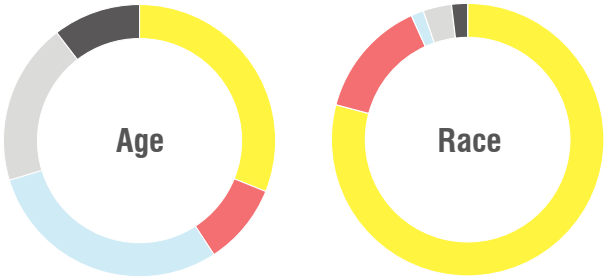


Fig. 152: Site **Drainage** Diagram

My site is a corner lot situated at the corner of Grand River Ave and Bagley Ave and consists of the Michigan Theatre/Building (188' x 220') and an attached fenced in southern parking lot (81 x 220), which are combined to take up the whole lot with overall depth of 269' and frontage of 220'(1.4 acres). Both properties are within the B5 Major Business District and have the same owner: Bagley Acquisition Corporation. The neighboring city streets and public right of ways (sidewalks) are controlled by the Public Lighting Department – a sub division of Michigan's Department of Environment, Great Lakes, and Energy – which authorize the stringing and removal of any overhead wires, setting of poles, the location of underground conduits and cables for the purpose of avoiding conflict with street lighting and traffic signals. Majority of the these utility and lighting fixtures/equipment sit within the outer perimeter of the sidewalks and streets, running parallel with the curb and street lines, with their main priority being to protect and aid the health safety and welfare of city residents through coordinated pedestrian circulation, open spaces, landscaping, screening, buffering, lighting and utilities. The public right of ways bounding my site have varying widths designed to serve more active pedestrian/vehicular street frontages and less active ones. The most active right of way runs parallel with Bagley Street and has a full width sidewalk of 20' that extends from the curb line to the lot line of the Michigan Building – which is also the most congested in terms of mechanical equipment/fixtures, but the extra width helps promote safe and efficient systems of right of ways. Which makes sense as this side contains all the pedestrian/vehicular, entry/exit points – into the parking lot, parking garage, the Michigan Building/Theatre and the Coaches Corner (Bar). The right of way situated at the rear of my site, running parallel with one-way Clifford Street is 14' in width, and contains no utility/lighting equipment at all, resulting in minimal security lighting as the only source of light is a post on the other side of the street. The sidewalks situated on the west and south portions of the site are each 10' wide, being the least in width due to less active pedestrian/vehicular. The west side right of way running parallel with the least active road (Middle St.) also contains minimal utility/lighting equipment, as again, the only source of light comes from across the street. The right of ways on Grand River and Bagley are the most efficient in terms of distributed security light, making the more active streets and sidewalks safer whereas the less active streets (Middle and Clifford) are more susceptible to danger and criminal activity as they have less public eye exposure and lighting. The east, west and south corners of the sites right of ways are the most congested with utilities as it's the point where main pedestrian and vehicular traffic converge. The main drainage watercourses run radially outwards from the highpoint where Grand River and Cass Ave intersect, where the water that flows down middle street along my site is collected by 3 storm drains. The other watercourse starts from the northern highpoint of Bagley which flows south across my site with drainage low points positioned east and west of my site on Clifford and south of my site down Bagley.

Detroit Demographics & Districts

Detroit's population and economy has been declining for many years partly due to urban decay where educated young people move away from the city for better options. The decline has also been aided by segregation, politics and most notably through the collapse of the auto industry. What remains in the city and its districts are a plethora of abandoned buildings and homes along with the inhabitants that aren't financially capable of picking up and leaving, with majority of those inhabitants being African American (79%) youths (31%) and their families (30%). Detroit is also one of the poorest major cities in the U.S, and poverty is a real problem as 1 in 3 residents of the city are situated within it ("World Population Review", 2019).



Detroit, Michigan Population:
2019
District **1**: 98,967
District **2**: 97,555
District **3**: 93,204
District **4**: 98,599
District **5**: 92,361
District **6**: 98,603
District **7**: 93,373
Total: 672,662

Detroit Population by Year
1900: 285,704
1950: 1,849,568
2000: 951,270
2010: 711,120
2012: 700,159
2015: 679,305 [Growth: -3,364]
2016: 676,883 [Growth: -2,422]
2017: 674,188 [Growth: -2,695]
2018: 672,662 [Growth: -1,526]

Age Distribution

18 >	31%
18 - 24	10%
25 - 44	30%
45 - 64	19%
65 <	10%

Race Distribution

Black	79%
White	14%
Asian	2%
Other	3%
2 +	2%

Detroit is still one of the most racially segregated cities in the country. Blacks and African Americans makeup only 13% of the state's population as a whole but account for 82% of Detroit's population.

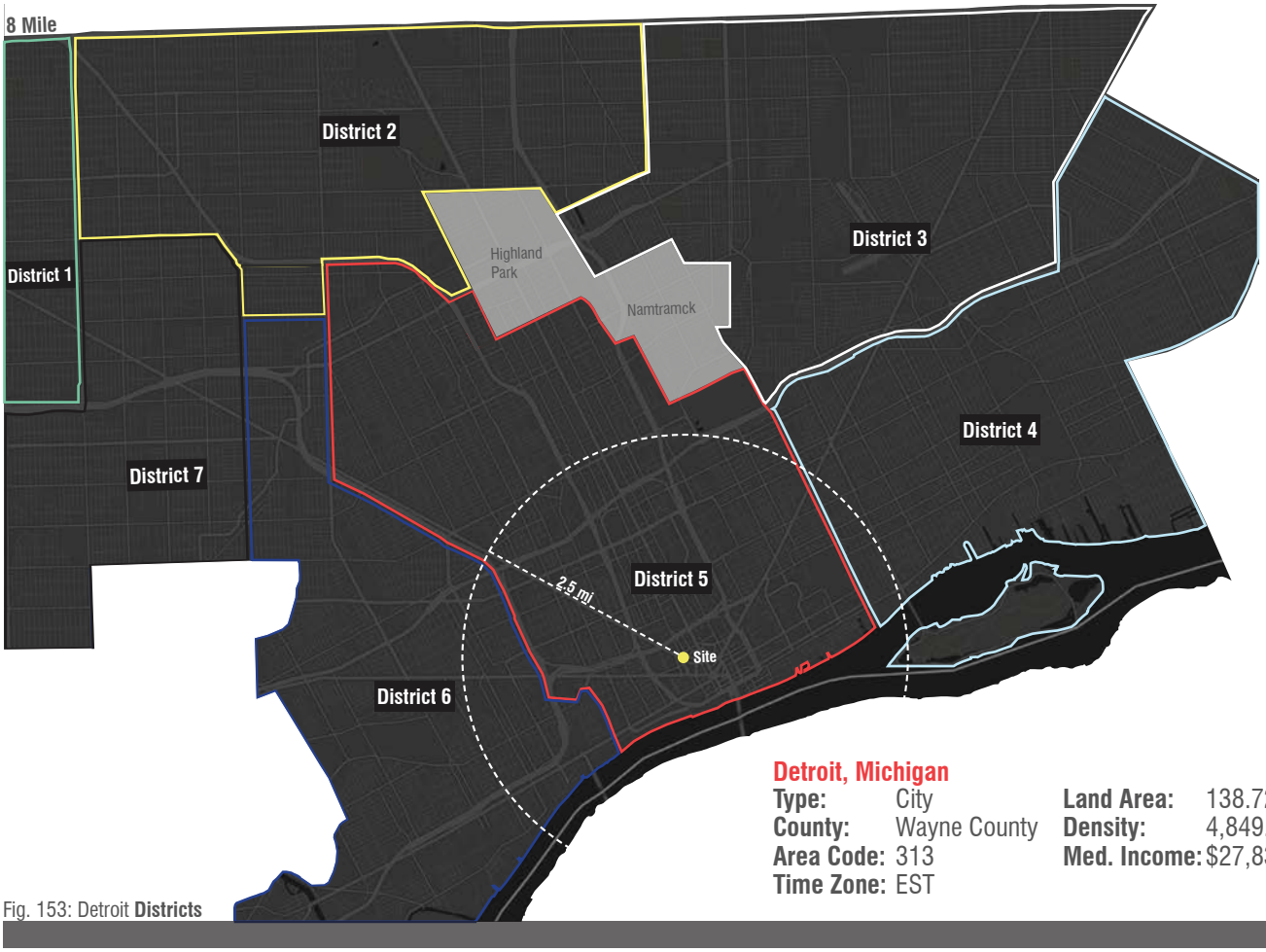


Fig. 153: Detroit **Districts**

Detroit, Michigan
Type: City
County: Wayne County
Area Code: 313
Time Zone: EST
Land Area: 138.72 mi²
Density: 4,849.13 mi²
Med. Income: $27,838

Detroit Zoning

My 269' x 220' proposed site is a corner lot off the main roads of Grand River Ave and Bagley Street as is owned by The Bagley Acquisition Corporation. My overall site consists of a frontage parking lot (81' x 220') and the Michigan Building/Theatre (188' x 220'), which both have the same zoning of B5 Major Business District. My sites immediate neighbors of commercial offices, hotels, mixed use apartments and restaurants are also within the B5 zoning district, along with much of Downtown Detroit. Residential zoning such as single family, two-family, low/medium/high density – start at the outer perimeter of Downtown, where my proposed nightclub remains a good distance away from those properties as the typology can often be injurious to them. In regard to the neighboring buildings and their uses, my typology fits well within the spacing regulations characterized by Zone B5, and is in close proximity to other nightclubs, which are regarded as "cabaret" if liquor is served or a "concert café" if liquor is not served - where I plan to have both for production (daytime) and consumption (nighttime) uses. The daytime production spaces can also be characterized as a youth activity center with the primary purpose is to provide education, recreational, cultural and/or leisure activities for minors. R-zoned properties are also at a distance away from my site where vibrations and noise wont be felt or heard, but the sensitivities of B5 zoned neighboring buildings will also be taken into consideration to not obstruct the areas

P1: Open Parking
PC: Public Center
PCA: Restricted Central Business
PD: Planned Development
PR: Parks and Recreation

M1: Limited Industrial
M2: Restricted Industrial
M3: General Industrial
M4: Intensive Industrial
M5: Special Industrial

B1: Restricted Business
B2: Local Business and Residential
B3: Shopping
B4: General Business
B5: Major Business
B6: General Services

SD1: Small-Scale Mixed-Use
SD2: Mixed-Use
SD4: Riverfront Mixed-Use
SD5: Casinos
TM: Transitional-Industrial
W1: Waterfront-Industrial

R1: Single-Family Residential
R2: Two-Family Residential
R3: Low Density Residential
R4: Throughfare Residential
R5: Medium Density Residential
R6: High Density Residential

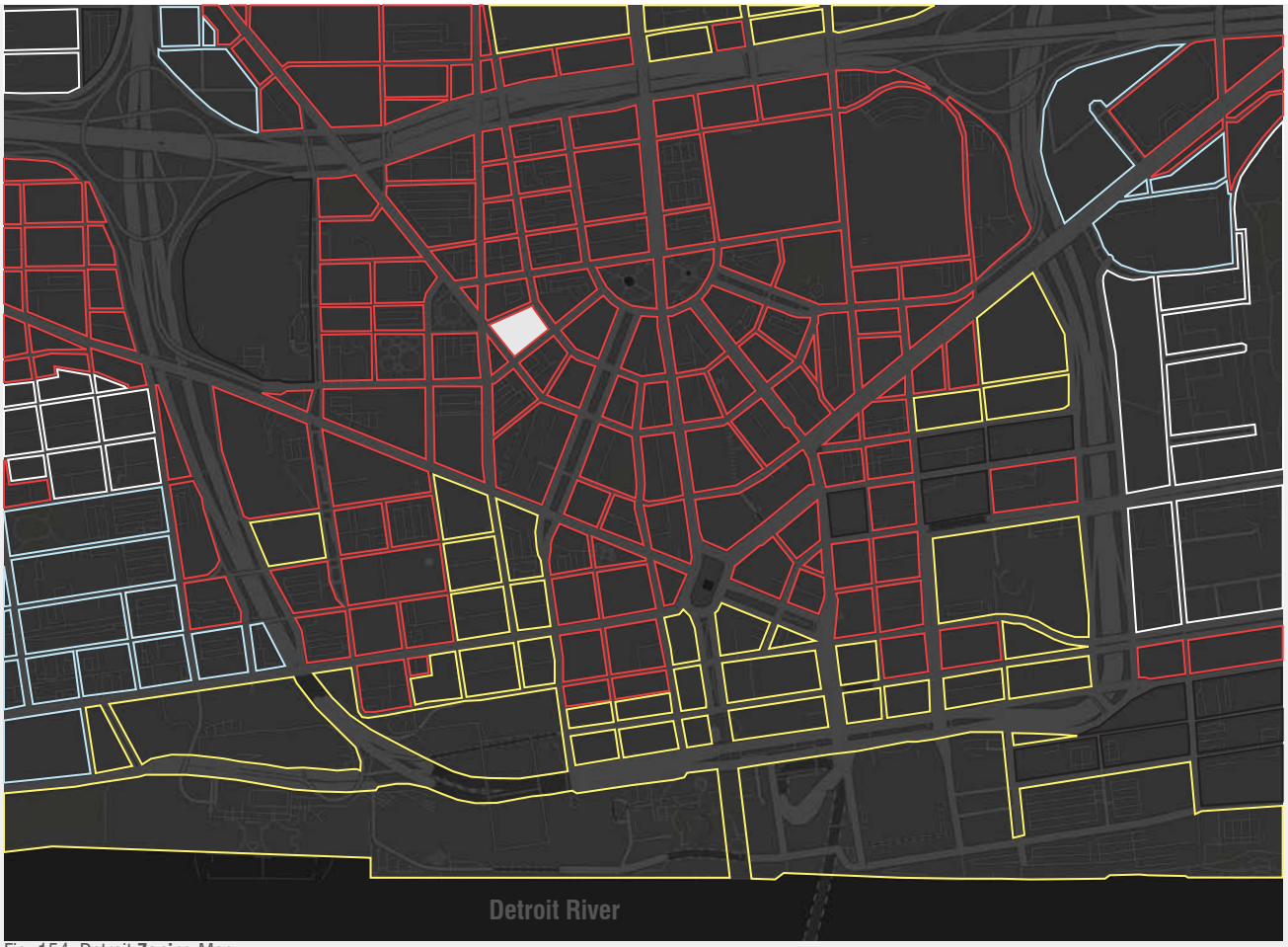


Fig. 154: Detroit **Zoning** Map

Performance Criteria: Existing Spatial Condition

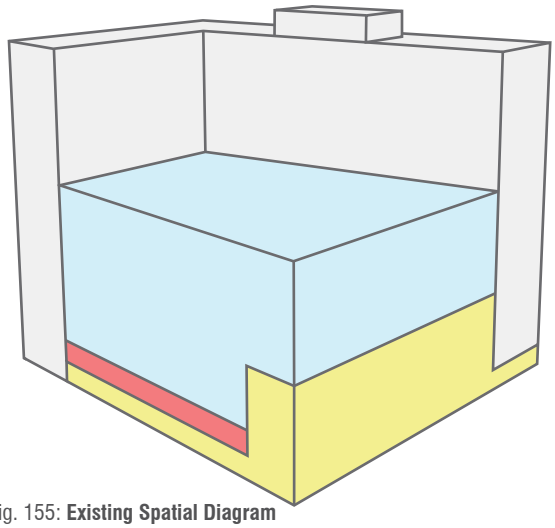
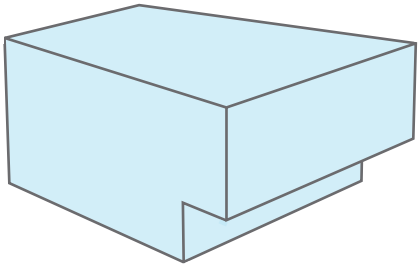
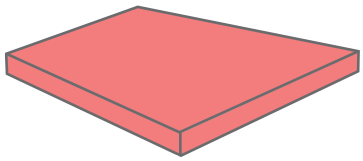


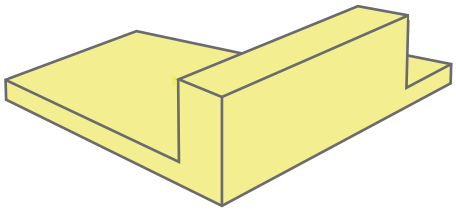
Fig. 155: **Existing Spatial Diagram**



Level 3 Parking + Large Auditorium



Level 2 Parking



Level 1 Parking + 4-Story Grand Lobby

Level 3 Parking + Large Auditorium
Floor Area: 19,497 + 4,706 = 24,203 ft²
Volume: 1,756,519 ft³
Ceiling Height: 78 ft, 50 ft

Level 2 Parking
Floor Area: 19,497 ft²
Volume: 214,468 ft³
Ceiling Height: 11 ft

Level 1 Parking + 4-Story Grand Lobby
Floor Area: 27,089 ft²
Volume: 480,858 ft³
Ceiling Height: 11 ft, 50 ft

Building Total
Square Footage: 70,789 ft²
Volume: 2,451,845 ft³
Ceiling Height: ~100 ft

Fig. 156: **Existing Spatial Images**

Performance Criteria: Spaces

The Program and Performance Criteria for this project revolves around the mixing and sampling of different cultural and physical aspects of both Detroit techno music (site specific) and Rave Culture (macro), which were found in this semesters work of research and is documented earlier within this book. My initial idea was to design an ideal rave space for rave culture, but through the process of choosing Detroit for my site and researching its strong rave origins (cultural/physical aspects) and the cities struggling past, I found that Detroit's rave/city narrative is worth designing for – where past/present contexts and subjective surroundings will be key in designing the ideal rave space in the context of Detroit. This idea thus informed my decision on the nightclub's spatial organization, which are grouped into three primary programmatic elements: **consumption spaces**, **production spaces** and **intermediate transitional spaces**. The program specifics come from various sources, from the diverse range of case studies documented earlier to Reynolds music-oriented side of rave production and technical equipment, and through my own experiences at raves both indoors at clubs and outdoors at festivals.

1. Consumption Spaces

Consumption spaces are those spaces where music is consumed, which varies greatly within the rave phenomenon, but the focus for my project is indoor performance and consumption spaces that host local and mainstream DJ's who perform their electronic music tracks for the consumption of the local and worldwide audience. There are many implications that make up the ideal rave club design, but through earlier studies I found that the most important element is the music and sound itself, acting as the main curator for the audiences sensory and sonic immersion. It is here where architecture and acoustical design come in to play which is where my case studies contributed, allowing me to understand the diversity of idealness/preference when it comes down to music, sound and space. With that, I intend on creating three district types of consumption spaces, each designed to cater to a particular type of EDM music genre, sound, feel/ 'vibe', atmosphere, etc. – almost like combining the cathedral like Berghain and the Box's acoustical perfection under one roof where each have their own autonomy. More specifically, the three consumption spaces and their dancefloors will first vary in size, where there will be one large main space and two smaller spaces, with the intensions of holding a combined 2000 people. The large main consumption space will be ideal for larger live performances and will provide that cavernous cathedral-like feel where the sound is the most loud, vibrant and electric as absorption coverage will be less, allowing for that preferred spiritual/pleasurable reverb sound (Enhanced with the Michigan Theatre large ornamental dome ceiling). The smaller more intimate two consumption spaces will be designed for a crisp, clean, warm sound; an absorption dominant space where each detail of the sound is heard directly and not reflected off any other surface; rather a space for critical listening and not all about dancing. Apart from the variance in overall size and sound, there are many other qualitative architectural elements that will be taken into account when designing, such as the different characteristics in form, space, time, lighting, color, etc., that invoke a sense of spirituality apart from the music, as well as characteristics that invoke a more sensory immersive experience – these are discussed on the following qualitative page. Specifics of the consumptions spaces program is stated in its space allocation table but will generally consist of stage areas as DJ platforms which require minimal space for the DJ and their equipment but demand more space for sound systems and visual effects. The offstage and projection areas will not only be present adjacent to the front stage but also all around the dance floor, creating a 360-degree immersive experience in an invisible landscape of sound, light and visuals.

2. Production Spaces

On the other side of consumption spaces brings production spaces, designing small listening/studio spaces with the art of mixing electronic music tracks being the focus - inspired by Detroit's strong cultural narrative in the roots of electronic music; the creator of techno (explained more in hist, cult, polit, section of this book). These spaces will foster a collaborative and developmental environment for various techno artists to work together as well as offering individual workspaces – which will help facilitate the creative artistry that goes into the production of music. Each studio will be equipped with a variety of production equipment ranging from older style analog drum machines, synthesizers and samplers to today's newest digital technology, aiding all styles of musical production creativity. My project intends on providing a total of five smaller individual studios, two of the larger collaborative spaces, a lounge space and other supporting spaces that will be listed in the space allocation table. The production spaces should be efficiently assessable to the city and will be physically grounded on the main floor for this. Depending on the final space allocation and whether or not there is space left over, I would like to include a small gallery of sound that explores the brief historical autonomy of the music and the relationship between its consumption and production, especially with Detroit Techno.

3. Transitional/Intermediate Spaces

The third and final major program element is the transitional/intermediary spaces that connect to the different consumption spaces among different levels throughout the structure - where efficient, easy flowing and uncongested horizontal and vertical circulation are key factors in the design of nightclubs, especially for safety of the inhabitants. Transitional spaces are formed as they stem off from the main circulation paths, these spaces include all the other nightclub standard requirements not found in the consumption/production spaces such as lobbies, bars, lounges, restrooms, etc., where the full list of these spaces will be indicated in the space allocation table. I see these transitional spaces as being interlocked through circulation paths yet remain autonomous in their relationship to other spaces - much like the autonomous nature of designing three totally different consumption spaces. This notion would allow my design to step out the standardized nightclub design which often consist of a large central dance floor space that radiates out to more intimate subspaces and will overall follow my projects trend of non-conventionality and experimentation to create something new. The architectural experimentation in these spaces will focus on sensorial perceptions through time in the autonomy of each space, where each person experiences the a space differently with different choreographed subjective moods and actions.within it ("World Population Review", 2019).

Soundproofing, Acoustic Treatments, Sound Systems

With the intentions of designing three different types of performances spaces (consumption/production), acoustical planning and design will be critical. The acoustical focus will be soundproofing (isolating the spaces from each other), acoustical treatments (different acoustic environments in each space) and the sound systems (properly positioned, oriented loudspeakers) – and will be guided by running acoustical simulations throughout the design process. The programmatic transitional spaces and their acoustical treatments and isolations will be key here as they will perform almost as an acoustical roundabout that exponentially isolates the sound as you're walking from one consumption space to another, hearing less and less sound from the first space and more and more sound to the second space.

Performance Criteria

Space	Quantity	Square Footage	
Consumption Spaces (Rave Spaces)			
Consumption Space (Large)	1	~8,000 SF	~8,000 SF
Large Open Dance Floor	1	6,000 SF	6,000 SF
Stage/DJ Platform/Booth	1	500 SF	500 SF
Control Booth	1	200 SF	200 SF
Amp Room	1	150 SF	150 SF
Dressing Room	1	200 SF	200 SF
Janitorial	1	200 SF *	200 SF *
Mechanical/Electrical	1	300 SF *	300 SF *
Total:			7,450 SF
Consumption Space (Small)	2	~4,000 SF	~8,000 SF
Small Open Dance Floor	2	3,000 SF	6,000 SF
Stage/DJ Platform/Booth	2	250 SF	500 SF
Control Booth	2	150 SF	300 SF
Amp Room	1	200 SF	200 SF
Dressing Room	2	150 SF	300 SF
Janitorial	2	100 SF *	200 SF *
Mechanical/Electrical	1	300 SF *	300 SF *
Total:			7,800 SF
Subtotal Consumption:			**16,000 SF**
Gross Area Percentage	20%		3,200 SF
Total Consumption:			**19,200 SF**
Transitional/Intermediate Spaces			
Entry Lobby		~2,500 SF	~2,500 SF
Vestibule	1	400 SF	400 SF
Reception/Tickets	1	200 SF	200 SF
Security	1	900 SF	900 SF
Cloakroom	1	800 SF	800 SF
Total:			2,300 SF
Main Lobby		~16,000 SF	~16,000 SF
Main Bar	1	1,000 SF	1,000 SF
Commercial Kitchen	1	2,000 SF	2,000 SF
Lounge/Seating Areas	1	~10,000 SF	~10,000 SF
Pocket Bars	3	400 SF	1,200 SF
Restroom	4	500 SF *	2,000 SF *
Janitorial	1	200 SF *	200 SF *
Mechanical/Electrical	1	300 SF *	300 SF *
Total:			15,800 SF
Quiet Space		1,000 SF	1,000 SF
Lounge/Seating Areas	1	1,000 SF	1,000 SF
Total:			1,000 SF
Outdoor Public Space		~5,000 SF	~5,000 SF
Smoking Area	1	TBD	TBD
Seating/Tables	1	TBD	TBD
Perfromance Space	1	TBD	TBD
Artwork/Sculptures	1	TBD	TBD
Total:			5,000 SF
Subtotal Transitional/Intermediate:			**24,500 SF**
Gross Area Percentage	20%		4,900 SF
Total Transitional/Intermediate:			**29,400 SF**
Production Spaces			
Lobby	1	1,700 SF	1,700 SF
Independent Mixing Studio	5	400 SF	2,000 SF
Storage	5	75 SF	375 SF
Large Collaborative Studio	2	600 SF	1,200 SF
Storage	1	250 SF	250 SF
Lounge	1	1,000 SF	1,000 SF
Janitorial	1	50 SF *	50 SF *
Mechanical/Electrical	1	150 SF *	150 SF *
Restroom	2	100 SF *	200 SF *
Total:			6,925 SF
Subtotal Production:			**7,500 SF**
Gross Area Percentage	20%		1,500 SF
Total Production:			**9,000 SF**
Total Consumption:			**19,200 SF**
Total Transitional/Intermediate:			**29,400 SF**
Total Production:			**9,000 SF**
Overall Total:			**57,600 SF**

Possible Other Spaces	Quantity	Square Footage	
Institutional Spaces			
Lobby/Welcome Desk	1	1,000 SF	1,000 SF
Exhibition Gallery	1	5,000 SF	5,000 SF
Collection Storage	1	500 SF	500 SF
Vinyl Shop	1	1,000 SF	1,000 SF
Cafe Prep/Service	1	450 SF	450 SF
Cafe Seating	1	800 SF	800 SF
Janitorial	2	50 SF *	100 SF *
Mechanical/Electrical	1	400 SF *	200 SF *
Toilet	2	500 SF *	1000 SF *
Total:			10,050 SF
Subtotal Institution			**10,050 SF**
Gross Area Percentage	20%		2,010 SF
Total Institution			**12,060 SF**

* Indicates a speculative projection without considering specific codes

Fig. 157: **Space Allocation Table**

The three diagrams on this and the next page include a Space Allocation Table, an Interaction Matrix and an Interaction Net, which illustrate the sizing of spaces in square footage and percentage, as well as the spatial interactions/relationships to each other. The information shown in the diagrams is informed from various sources, such as the diverse range of case studies documented earlier, Simon Reynolds music-oriented side of rave production and technical equipment, and through my own experiences at indoor rave clubs.

Space Interaction Matrix

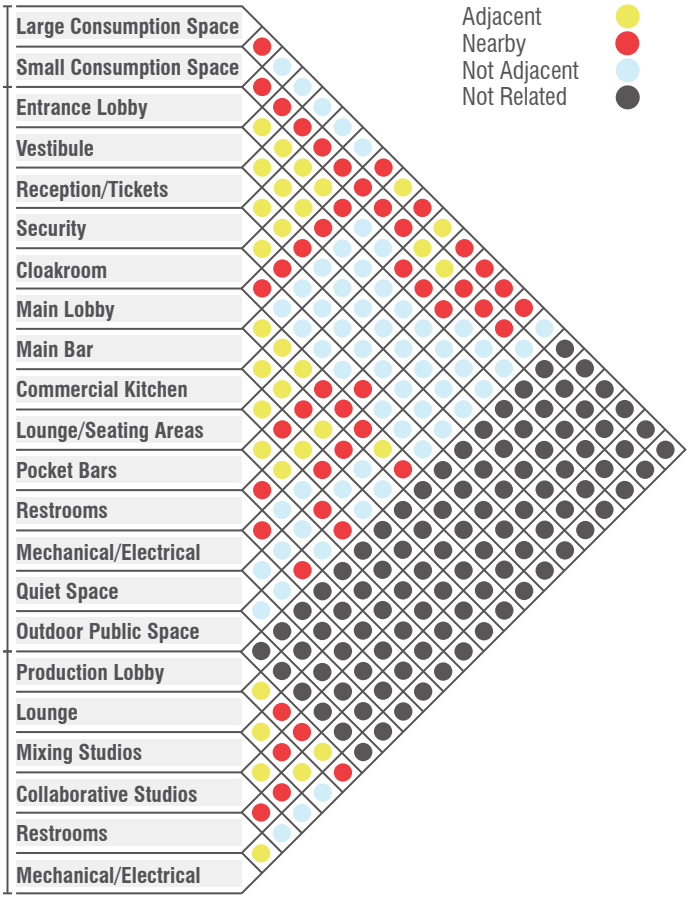


Fig. 158: **Space Interaction Matrix**

Space Interaction Net

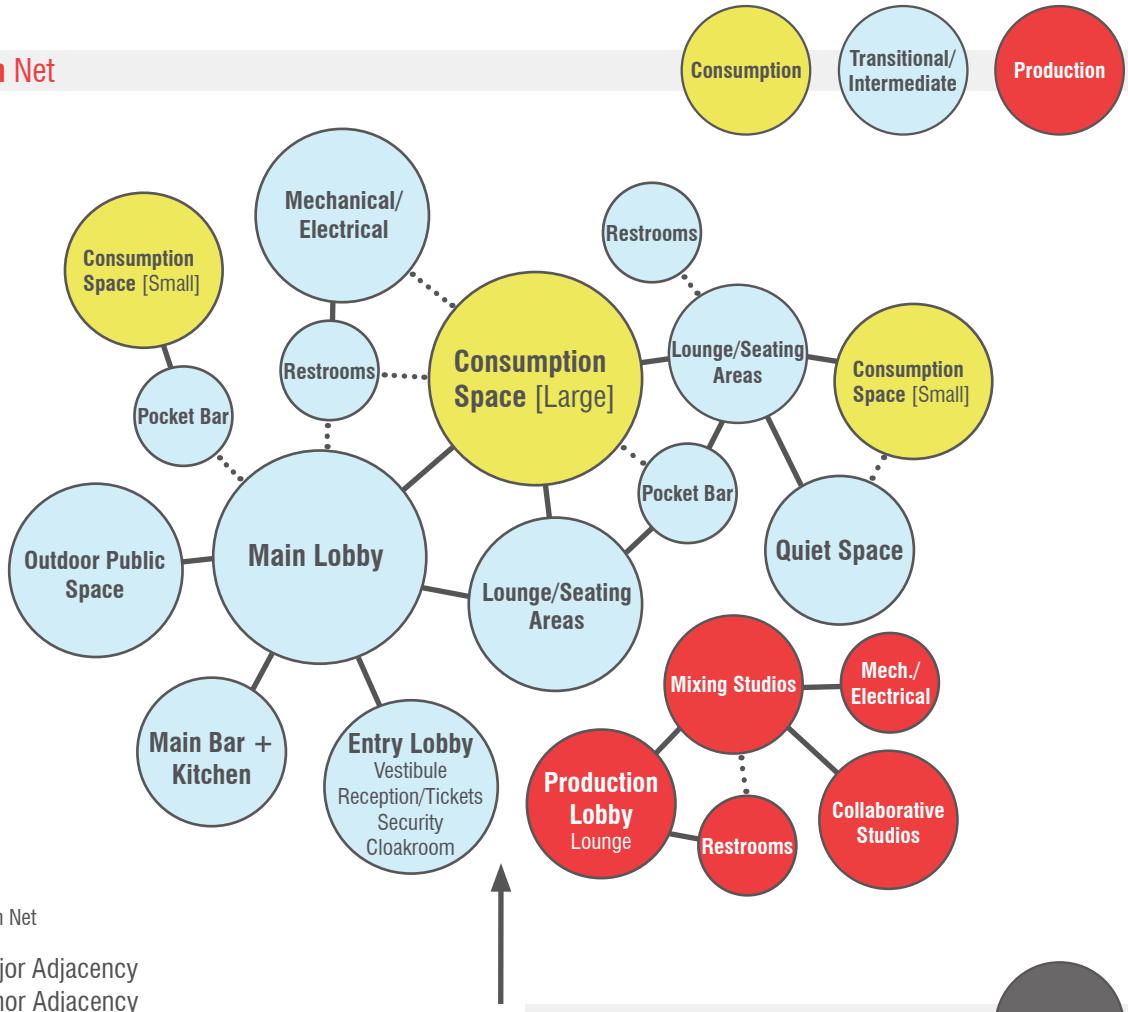
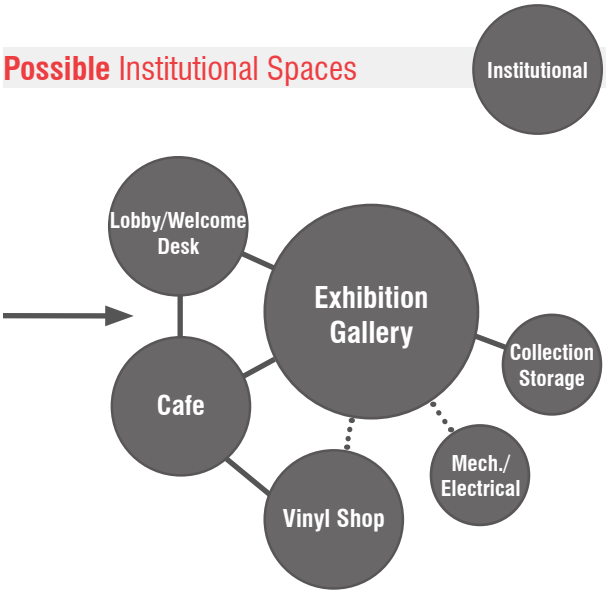


Fig. 159: Space Interaction Net

Major Adjacency
Minor Adjacency
Entrance

Possible Institutional Spaces



Psychological Impacts

	The Center	Axes & Directionality	Boundaries & Edges	Gravity	Levity
Alexander et al.	Eccentric Nucleus Activity Centers		Neighborhood boundaries, Realm	Connection to the earth	High Places
Michael Brill	Making a location and a center	Making orientation and direction	Differentiating Boundaries	Triumph over the underworld	Reaching Upwards
Moore & Lyndon	Markers that command	Borders that control	Borders that control	Water that pools and connects	Space that leaks up into the light
Phillip Tabb	Acknowledging a center	Finding Direction	Bounding	The Descent	Reaching Upward
	The Nature Within	**Materiality**	**Transitons & Thresholds**	**Spatial Hierarchy & Intimacy**	**Anthropo-morphism**
Alexander et al.	Tree places Access to water Indoor sunlight	Soft tile and brick Canvas roof Warm colors	Main Entrance Entrance Transition	Intimacy Gradient Flow through rooms	Short Passages Alcoves Ornament
Michael Brill	Nature in our places, Light	Materials for Making	Passage	Order	
Moore & Lyndon	Gardens that civilize Light that plays		Openings that frame, Portals that bespeak	Rooms that define Order that comes and goes	Allies that inhabit Shapes that Remind
Phillip Tabb	Nature Within Sacred Geometry	Materiality	Passage	Internal Order	Anthropo-morphism

Fig. 160: Table of sacred-secular design patterns & functions

Facilitating the Spiritual/Sensorial Experience

Explained earlier in this Performance Criteria Section is the programmatic organization of the three main types of spaces my project will consist of, focusing on the spaces size and their relationship to other spaces, with regards to the existing Michigan Theater spatial boundary. I also highlight the importance of musical sound and acoustics as it will be the number one priority for my design due to my intentions of designing three different types of acoustical spaces (consumption, transitional, production), each catering to a particular type of purpose, genre, sound, feel/ 'vibe', atmosphere, etc. Good acoustics and sound also play a major role in my designs intended psychological impact: facilitating the spiritual and sensorial experience of the users. This experience isn't only facilitated through good music and sound but through the fusion of light, space and bodies as well – leading me to ask how nightclub architecture and its spatial implications (form, path, material, color, etc.) can help to facilitate the experience rather than just being the curator. Architecture has consciously facilitated the religious/spiritual experience since some of the very first designed churches, making use of symmetrical plans (sacred geometry), high ascending ceilings, religious iconography, semiotics and many more. Raves are also known to have a role in facilitating the spiritual experience through the combined stimulus of electronic music, psychotropic lighting, chemical alternants and all-night dancing – overall curating an experienced sense of sacredness, collective oneness and egalitarianism among the youth masses across the globe. In fact, raves are even referenced by many as 'going to church' or 'Sunday Mass', where their characteristics and experiences moved many commentators to employ interpretations of other traditional religious frameworks, such as Christian, Hindu, Buddhist, etc. That fact justifies the meaning behind wanting to facilitate the spiritual experience and is further justified through a study by PEW Research Center conducted between the years 2012-2017, finding that Americans are less religious but more spiritual than ever, which is where the ideal rave space comes into play to help facilitate that experience.

Psychological Impacts

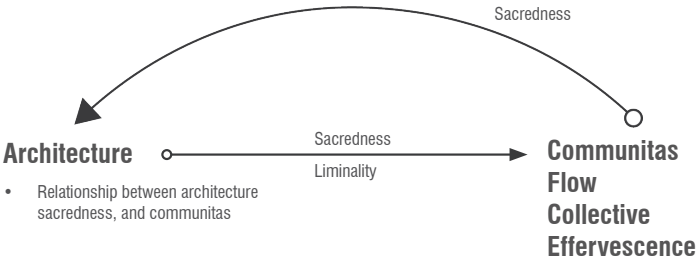


Fig. 161: Sacred Circuits

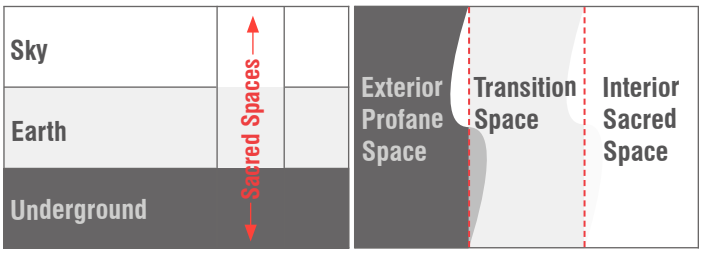


Fig. 163: Sacred Spaces Characteristics

The earlier case studies allowed me to investigate this facilitation, most notably Berghain which is where the above chart and supporting diagrams come into play. Berghain and its spiritual facilitation is explained earlier in the case studies section but is summarized in the architectural patterns of sacred space chart. The overarching design patterns consist of: The center, axes & directionality, boundaries & edges, gravity, levity, the nature within, materiality, transitions & thresholds, spatial hierarchy & intimacy, and anthropo-morphism. My case study of Berghain examines its facilitation by walking through its space one element at a time, with some key elements being sequestered spaces, proportions, ascending industrial staircases, centralization, thresholds and transitions, and light that plays. The three above diagrams help to visually explain the relationship between architecture and the characteristics of sacred spaces, from ascending upwards to the heavens to the transition from exterior profane space to interior sacred space and the threshold in between. This not only spiritual, but typical nightclub sensory immersive experience is also enhanced architecturally through the ideologies of heterotopia and liminal space. Heterotopia space plays with the transition from non-places to places, where the who that attends the nightclub can escape reality and ephemerally lose themselves in a space that is simultaneously physical and mental.

Philosopher Michel Foucault defines it as a space with more layers of meaning or with a relationship to other spaces (Diagrams of heterotopia space – bottom left). Another facilitator is liminal experience, which is defined by Victor Tuner as “a general state of in-betweenness in which participants move from one state or place to another” (St John, 2004). During liminal sequences of time and space, normative elements of social structure and the individual identity within are temporarily inverted or dissolved. Through applied research into a diverse range of nightclubs, these spiritual and sensory immersive experiences are most powerful at the entrance of the club with the transition from exterior profane space to interior sacred space, most often than not involving the heterotopic-liminal sequence of time and space. With my design aiming for a spiritual experience, it allows it to stand out from typical clubs whose primary purpose is sensory immersion, focusing only on light and sound. With my project, the spiritual experience through sacred space will combine and be aided by the sensory and sonic immersion experience of light and sound. The different spaces and intended sequence of events of my design will focus on the eight main sacred space characteristics while also maintaining the typical club sensory immersive experience through well thought out acoustical and visual design.

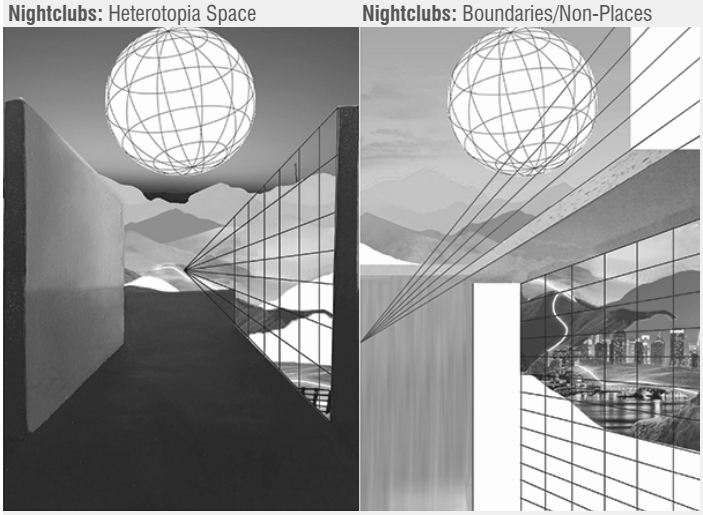


Fig. 162: Heterotopia Space/Boundaries/Non-Places

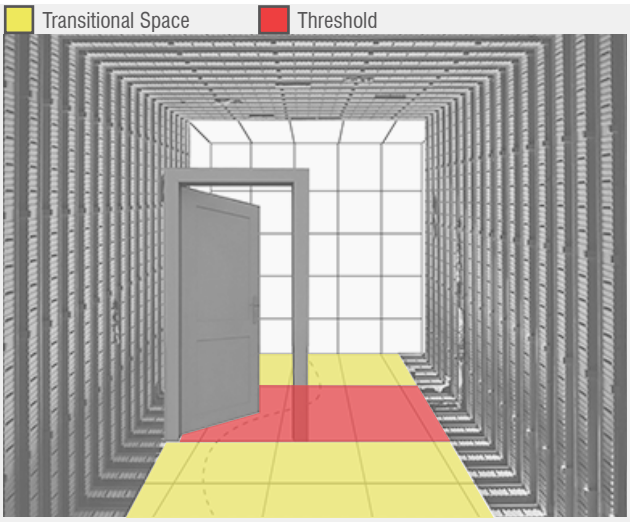


Fig. 164: Transitional & Threshold Relationship

Experimental Collages - Sequence of Interactions, Time & Space - Facilitating Spirituality/Sensorial Experience

Collages have been utilized as a tool for experimentation within a wide variety of creative endeavors due to the infinite possibilities in which the process can take. Collages were most prominent as a method for the 60's and 70's Avant Garde artists with the intensions of reintroducing art into the praxis of life by providing readable fragments as an allegory placed together to produce new meaning that can speak back to reality (Burger, 1974). Techno also uses collage as a method, where Reynolds describes the collage process of electronic music sampling, remixing and distorting of found sounds as sampladelia, which is a large component to the evolution of rave and the sounds that curate the ecstatic & spiritual experience. Detroit, the proposed context of my design, was one of the first cities who experimented with found sounds, such as taking the hammering and clanking of their industrialized factories and mixing it with other sounds in a rhythmic repetitive pattern to overall create a new sound. Much like Detroit, I may use the process of collage to experiment with different ideas, where instead of found sound I can use found abandoned structures such as the Michigan theatre to act as the foundation to this process – with the true internal meaning sampled on the interior. It is this process in which I can design in the lens of techno producers(DJ's), taking the autonomous art of mixing and sampling in Detroit and applying the same tactics to architectural creation – which can link back to their strong musical origins whether perceived consciously or unconsciously. The collage method used are narrative-image sequences which are artifacts depicting an encounter in graphic terms. It is defined as a collection of at least five distinct frames, arranged chronologically, displayed in a horizontal format reading from left (first in the sequence) to right (last in the sequence). Collectively, the frames depict an encounter for its entire duration through time and space. The found images used are those of exemplar rave club spaces from past and present with the intention of creating a collage of different sacred/liminal/heterotopic spaces, each sampled and distorted to a degree to conceptually inform new spaces, meanings and experiences.

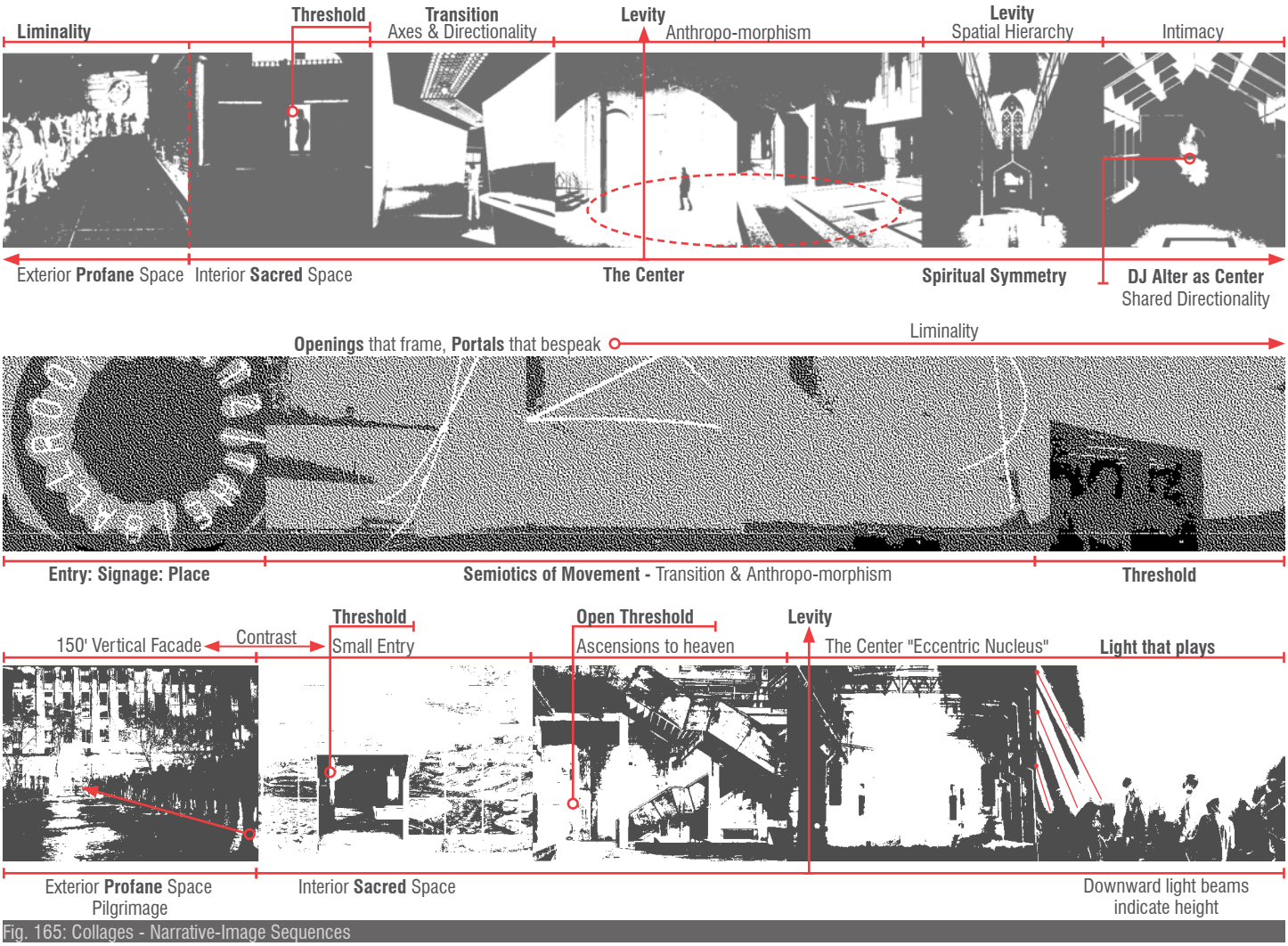


Fig. 165: Collages - Narrative-Image Sequences

APPENDIX

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Figure 1-4: Rave Typologies
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Figure 5: Berghain Perspective
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Figure 6: Ministry of Sound II Perspective
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Figure 7: Hacienda Perspective
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Figure 8-10: Structure/Spatial Relations
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Figure 11: Massing/Hierarchy
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Figure 15-17: Interiors
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Figures 18-25: Spatial Diagrams/Floor plans/Perspectives
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Figure 26-28: Axonometric Diagrams
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Figure 29-31: Circulation/Space
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Figure 32-33: Interiors
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Major Project Elements:

Figures 34-36: Dance Floor, Performance Spaces, Transitions
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User/Client Description:

Figure 37-40: Detroit Techno Culture Images
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The Site:

Figure 41-42: Proposed Site Location: 220 Bagley St. Detroit
https://www.mapbox.com

Figure 43: Proposed Site Location: 220 Bagley St. Detroit
https://www.google.com/earth/

Research Document:

Context: Historical, Cultural, Physical

Figure 43: Underground/Commercialized Rave Scene
https://www.calvertjournal.com/articles/show/6970/rave-nightlife-techno-new-east

Figure 44: Rave/EDM Genre & Sub Genre

Figure 45: Rave Perspective: Participant vs. Mainstream

Figure 46: Generation X & Y - Compare/Contrast Sampled
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Figure 47: Detroit Techno - Circuit Diagram
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Figure 48: The Belleville Three
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Figure 49: Detroit Techno - Past & Present
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Figure 51: Analog/Digital Sampling Technology
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Figure 52: Avant Garde Sampladelic
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Fig. 53: Rave Flyers - Sense of Escape From Reality
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Fig. 54-57: Rave Rituals - The Spiritual-Liminal Experience
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Figure 59: Ministry of Sound Logo
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Figure 60: Berghain Logo
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Figure 61: Event Spaces Interior Perspectives
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Figure 62: Spatial Configuration Diagram
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Figure 63: Audio/Visual/Spatial Diagram

Figure 64: Axonometric - 3D model

Figure 65: Sound/DJ Booth/Video/Lighting
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Figure 67-69: Sound/Light/Video Perspectives
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The Box Simulation

Figure 70: The Box EASE Model

Figure 71: The Box EASE Model - Plan View

Figure 72: The Box EASE Model - One Ray

Figure 73: The Box EASE Model - All Rays

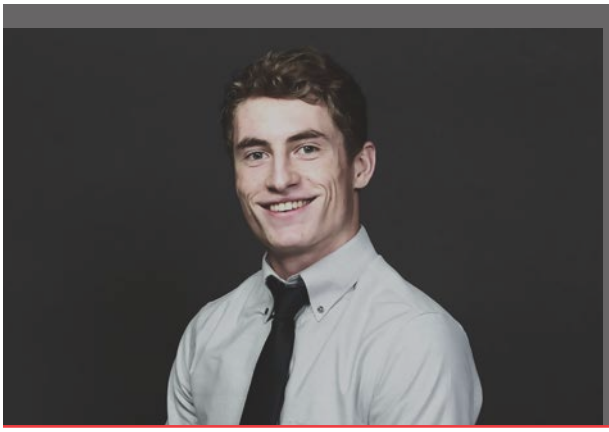
Figure 74: QR Code - The Box Audio Wav File

APPENDIX

Figures & Image Credits

APPENDIX

About the Author



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Second Year:

Fall 2016:
Studio: Charlott Greub

- Tea House - Moorhead, MN
  Designing for a site with purposeful meaning

Spring 2016:
Studio: Cindy Urness

- Montessori School - Fargo, ND
  Design of an alternate early education facility
- Dwelling Project - Marfa, TX
  Design of a small dwelling within the context of a small intentional Eco-Community

Third Year:

Fall 2017
Studio: Mike Christenson

- Art Gallery - Chicago, IL
  Design of new art gallery for the purpose of exhibiting a collection of sculptural pieces
- Border Crossing - Lochiel, AZ
  Design proposed for both the U.S. and Mexico side, united into one whole station.

Spring 2017
Studio: Regin Schwaen

- Informative Viewing Port - Fargo, ND
  Creating a strong visual connection between my proposed design, the river, and the existing civic buildings.
- Affordable Housing, Fargo, ND
  Designed to connect the community to the exten sive line of parks and trails that flank the Red River.

Fourth Year:

Fall 2018:
Studio: Don Faulkner

- High Rise - Miami, FL
  Mixed use high rise located in the up & coming Arts and Entertainment District of Downtown Miami

Spring 2018:
Studio: Mark Barnhouse

- Barnhouse Residence - Fargo, ND
  House design for my professor and his wife at thier current North fargo lot
- Sea Barrier - Miami, FL
  Design proposal to combat the rising sea levels in Miami, Florida due to climate change

Fifth Year:

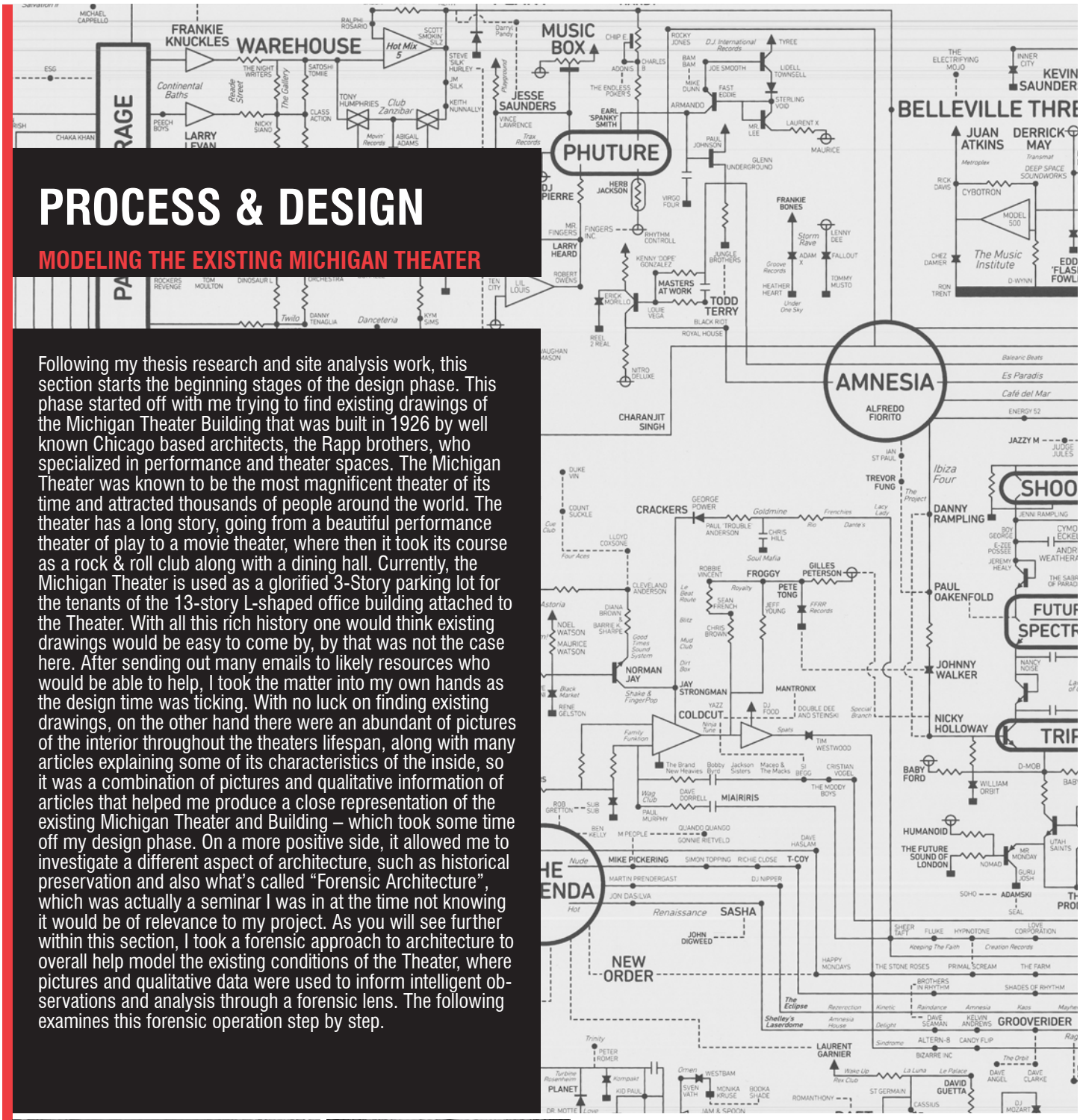
Fall 2019
Studio: Ganapathy Mahalingam

- Research Design Studio
  Research a question related to the thesis proposal

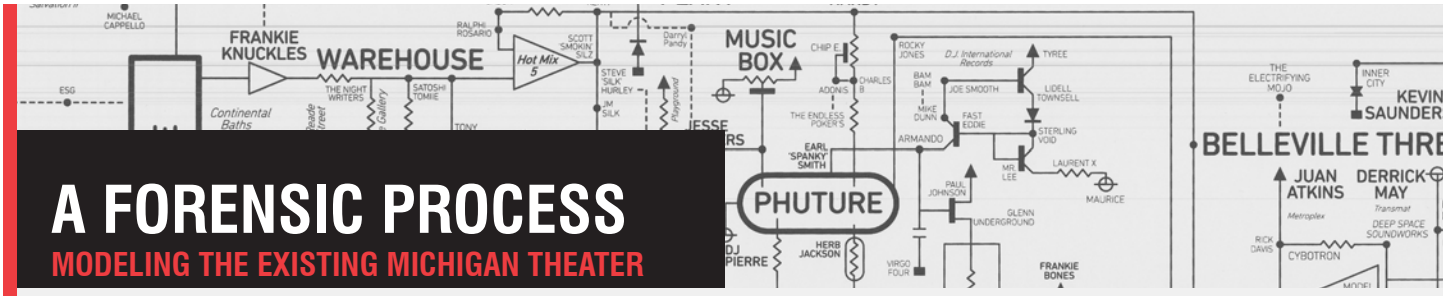
PROCESS & DESIGN

MODELING THE EXISTING MICHIGAN THEATER

Following my thesis research and site analysis work, this section starts the beginning stages of the design phase. This phase started off with me trying to find existing drawings of the Michigan Theater Building that was built in 1926 by well known Chicago based architects, the Rapp brothers, who specialized in performance and theater spaces. The Michigan Theater was known to be the most magnificent theater of its time and attracted thousands of people around the world. The theater has a long story, going from a beautiful performance theater of play to a movie theater, where then it took its course as a rock & roll club along with a dining hall. Currently, the Michigan Theater is used as a glorified 3-Story parking lot for the tenants of the 13-story L-shaped office building attached to the Theater. With all this rich history one would think existing drawings would be easy to come by, by that was not the case here. After sending out many emails to likely resources who would be able to help, I took the matter into my own hands as the design time was ticking. With no luck on finding existing drawings, on the other hand there were an abundant of pictures of the interior throughout the theaters lifespan, along with many articles explaining some of its characteristics of the inside, so it was a combination of pictures and qualitative information of articles that helped me produce a close representation of the existing Michigan Theater and Building – which took some time off my design phase. On a more positive side, it allowed me to investigate a different aspect of architecture, such as historical preservation and also what's called "Forensic Architecture", which was actually a seminar I was in at the time not knowing it would be of relevance to my project. As you will see further within this section, I took a forensic approach to architecture to overall help model the existing conditions of the Theater, where pictures and qualitative data were used to inform intelligent observations and analysis through a forensic lens. The following examines this forensic operation step by step.



1926 — 2019

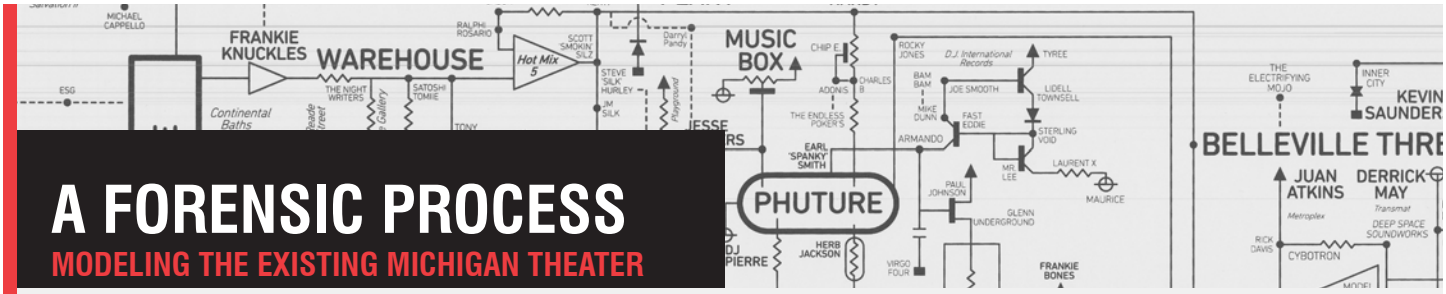


A FORENSIC PROCESS

MODELING THE EXISTING MICHIGAN THEATER

Michigan Theater - Interior Condition

Michigan Theater - Exterior Condition



A FORENSIC PROCESS

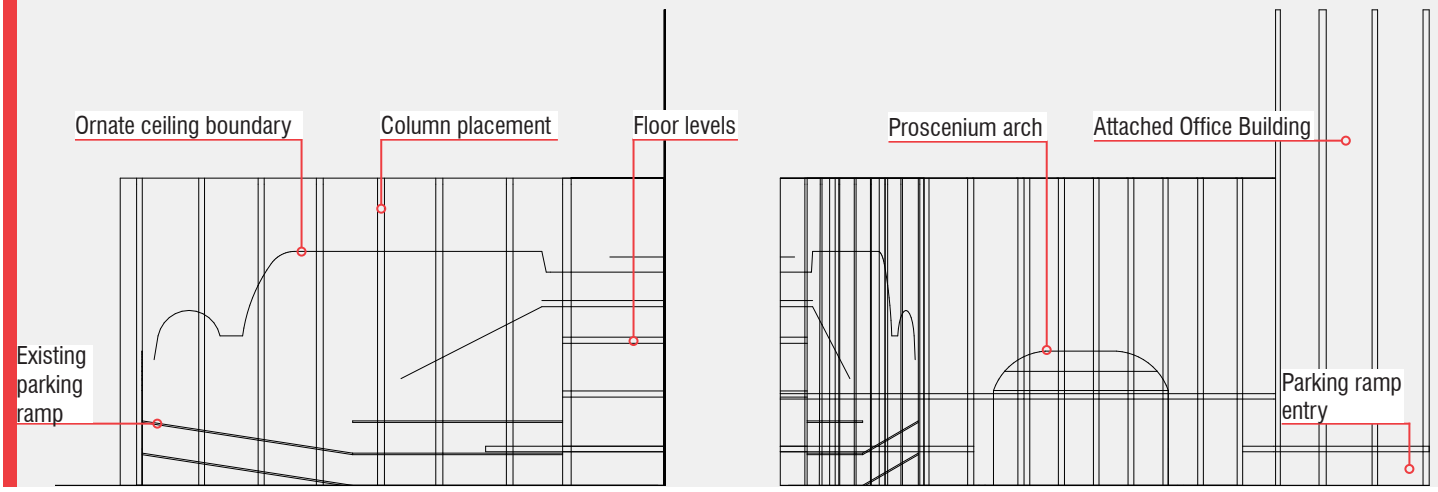
MODELING THE EXISTING MICHIGAN THEATER

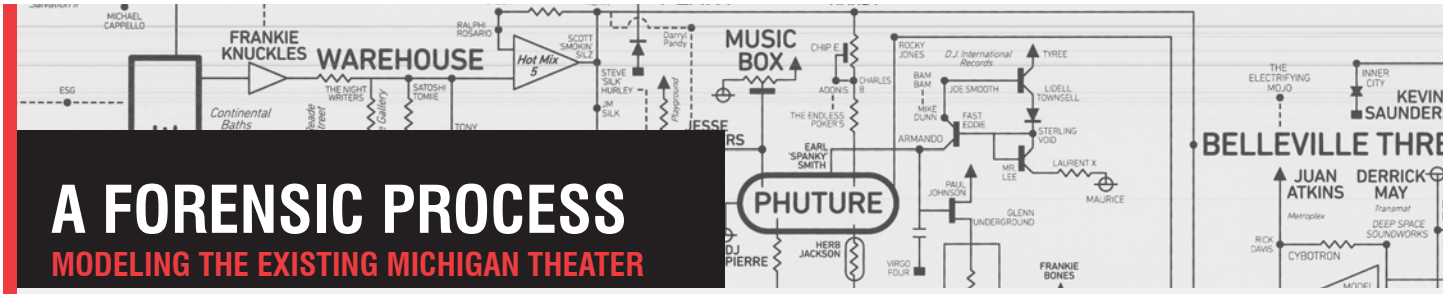
1 MAPPING ON EXISTING PROFILES

Step one of this process was constructing a rough mass model based off the qualitative information and physical images provided, such as the buildings and neighboring buildings heights and plot sizes, number of stories, etc. I then used found images of the buildings four profiles (elevation views) and scaled and mapped those onto the surfaces of the mass model, which luckily lined up fairly well as you can see in the illustration to the left. Knowing the plot size that the building sits on was helpful as it extended all the way to the property line edges, giving me a accurate starting point for the existing conditions.

2 PLACEMENT: COLUMNS, FLOOR LEVELS, CEILING, ARCH

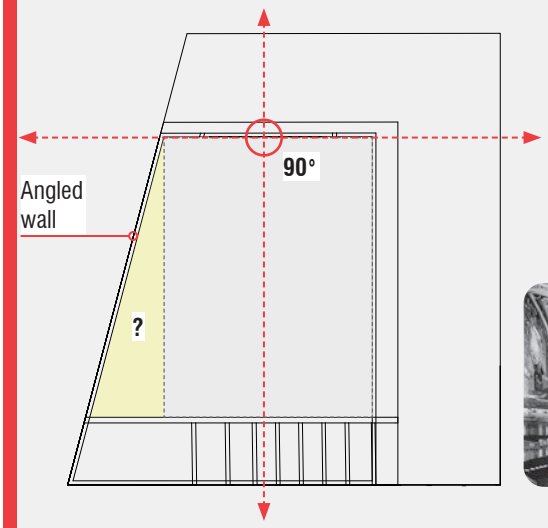
With step two, I used those existing mapped on profiles to estimate the placements of major architectural elements of the building, such as the placements of columns, floor levels, ornamental ceiling boundaries and the main proscenium arch. Here I used individual lines to outline these elements where in the illustration to the left you can see how I found rough column placements by tracing the gaps between the openings in the wall which I assumed is where the columns were configured. This and the other major outlines were further examined with the use of interior images to make sure that the traced outlines were as accurate as possible.

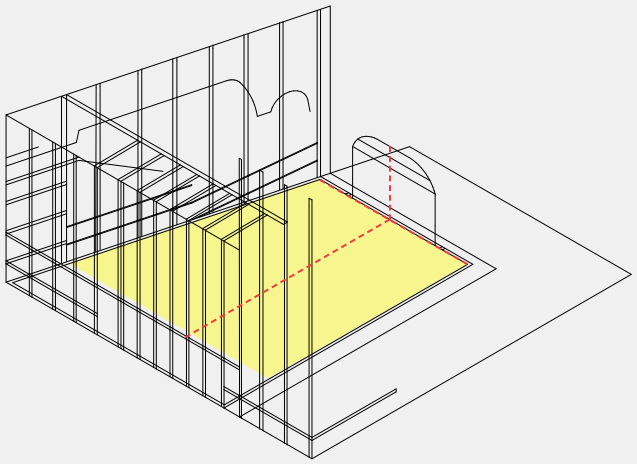




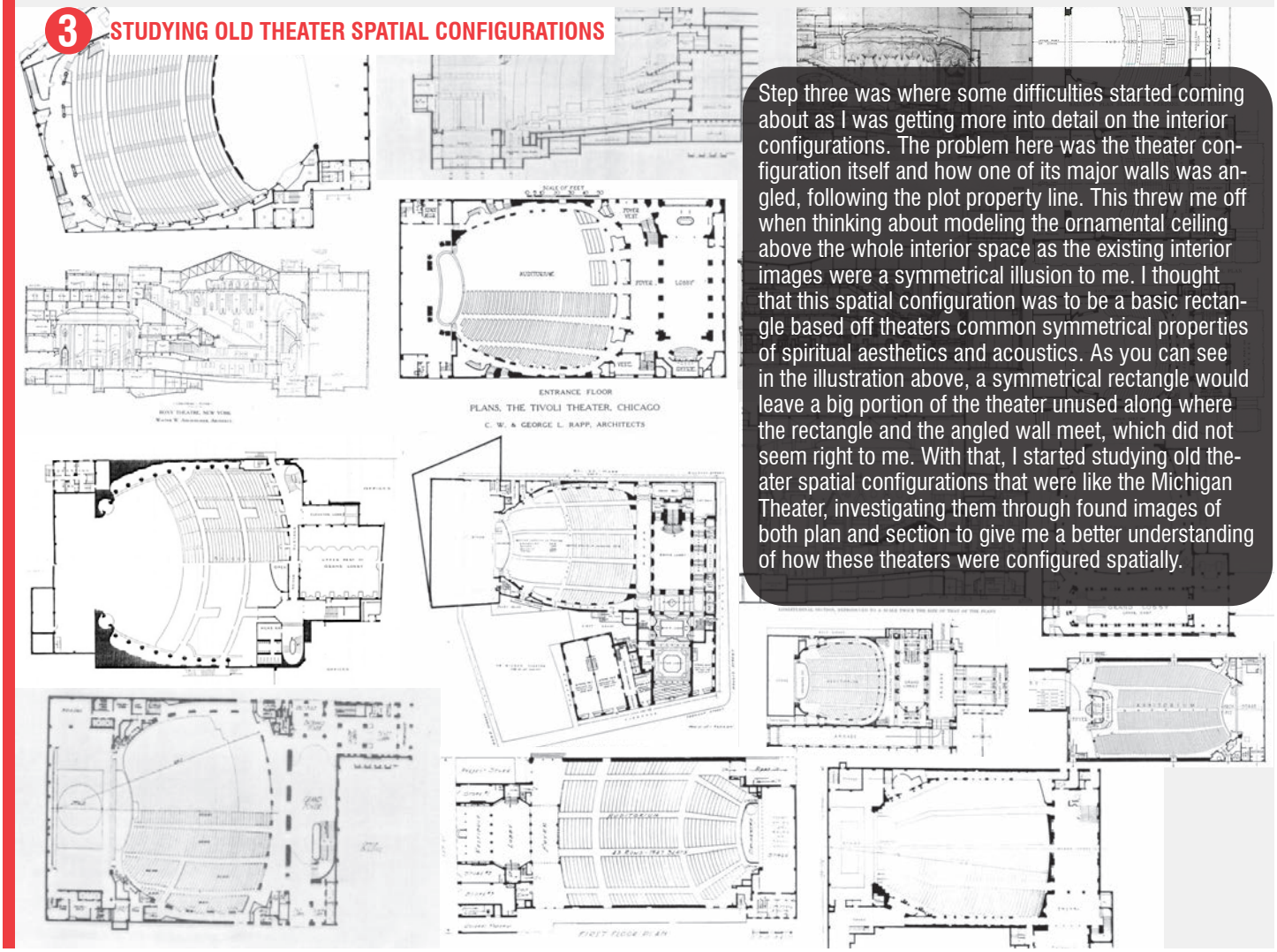
A FORENSIC PROCESS

MODELING THE EXISTING MICHIGAN THEATER

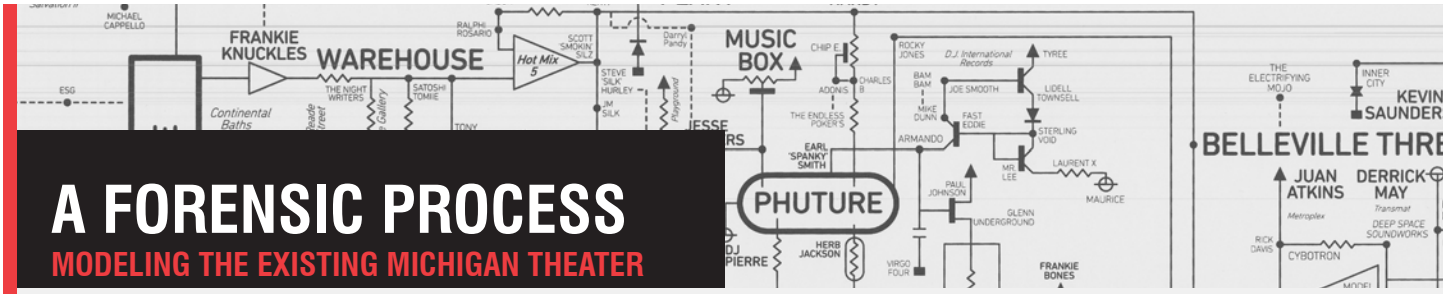




3 STUDYING OLD THEATER SPATIAL CONFIGURATIONS



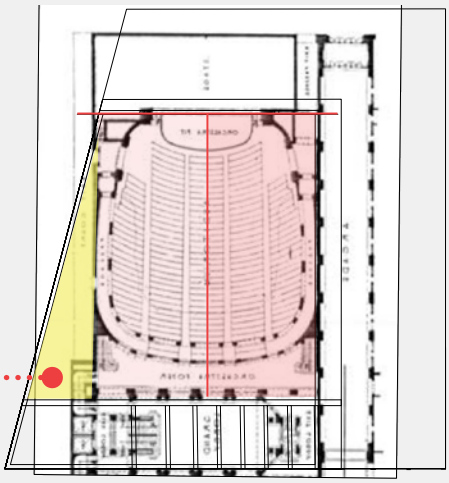
Step three was where some difficulties started coming about as I was getting more into detail on the interior configurations. The problem here was the theater configuration itself and how one of its major walls was angled, following the plot property line. This threw me off when thinking about modeling the ornamental ceiling above the whole interior space as the existing interior images were a symmetrical illusion to me. I thought that this spatial configuration was to be a basic rectangle based off theaters common symmetrical properties of spiritual aesthetics and acoustics. As you can see in the illustration above, a symmetrical rectangle would leave a big portion of the theater unused along where the rectangle and the angled wall meet, which did not seem right to me. With that, I started studying old theater spatial configurations that were like the Michigan Theater, investigating them through found images of both plan and section to give me a better understanding of how these theaters were configured spatially.

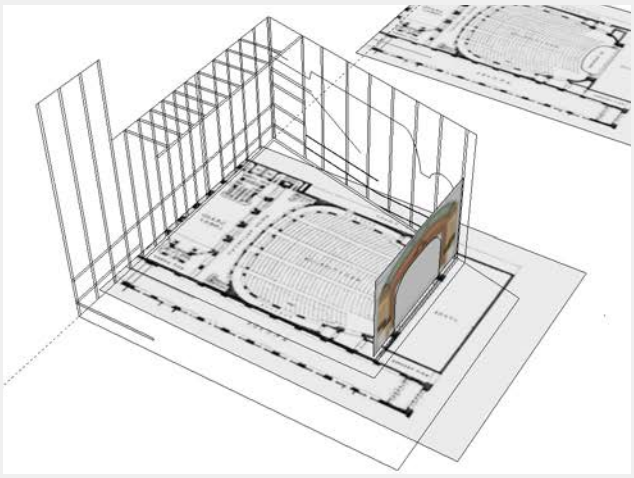


A FORENSIC PROCESS

MODELING THE EXISTING MICHIGAN THEATER

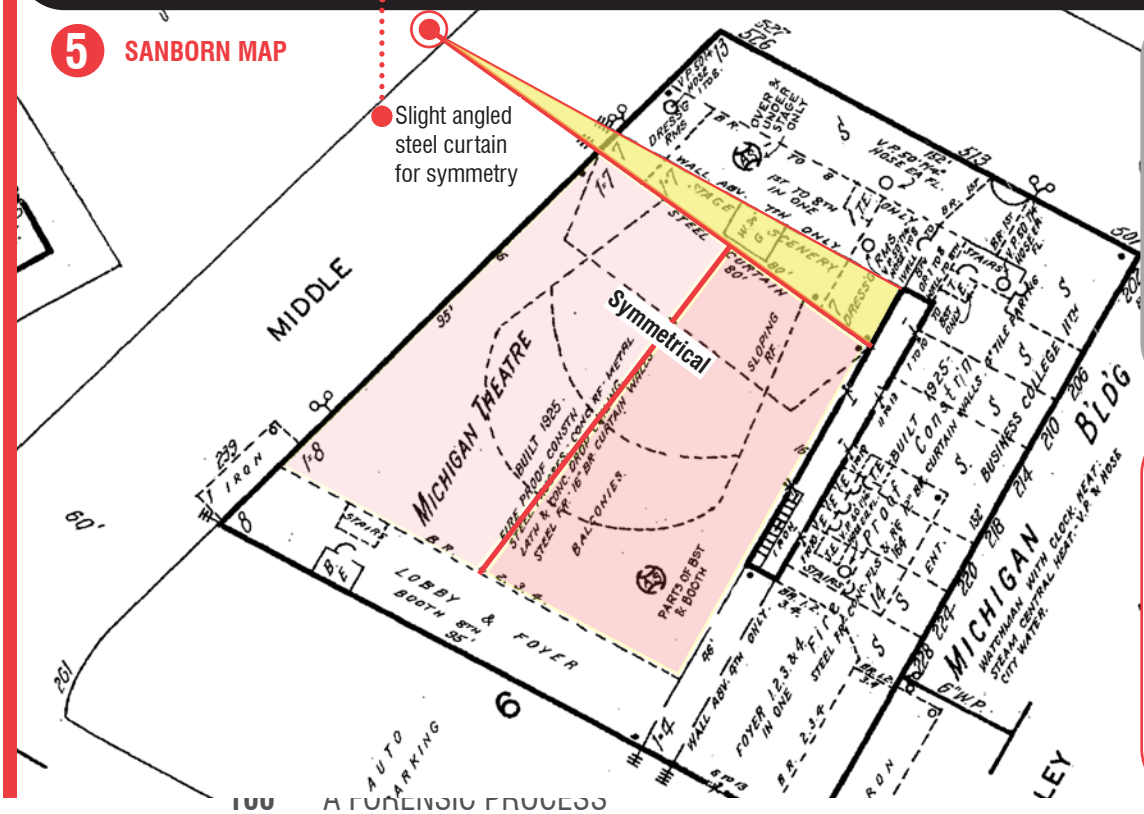
4 OVERLAYING OLD THEATER PLANS

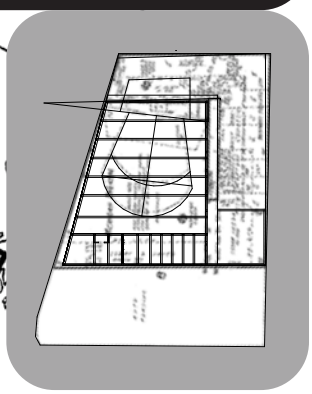




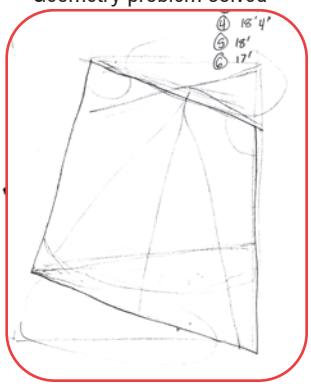
In step four of this process, I used the found images that most related to the configuration of the Michigan theater to overlay them onto the traced outlines of the theaters plan boundaries with hopes to solve this geometry problem. In the illustrations on the top of this page, you can see how these images lined up almost perfectly with the existing conditions of the Michigan theater, especially with how the main theater space transitioning to the balcony and grand lobby space (lobby promenade of columns lines up very precisely). Yet still, the triangulated gap along the angled wall remained a problem. It was at this point I started emailing all the resources who could be of help to find at least some kind of existing configuration and luckily something came about – A Sanborn map from 1926 which was sent by a Detroit building inspector/plan reviewer from Buildings, Safety Engineering and Environmental Department (BSEED). This was a big step in the process as it solved the angled wall geometry problem. Though the Sanborn map wasn't very detailed, it gave me very helpful information that helped me to double check the initial massing I accomplished in the earlier forensic steps, such as major wall widths and heights, parapet dimensions, existing construction methods, major mechanical/electrical and plumbing locations and most of all solving the angled wall problem. This problem was an easy geometry problem which was actually pointed out to me by one of my studio peers even before I received the Sanborn map (sketch in bottom right), but was to caught up in the ceiling illusion to notice. The problem was solved by introducing another angled element (the main steel curtain) to counteract the angle of the outer wall, producing a symmetrical quadrilateral shape that takes up that triangulated space that I was struggling with. And so, the process continues…

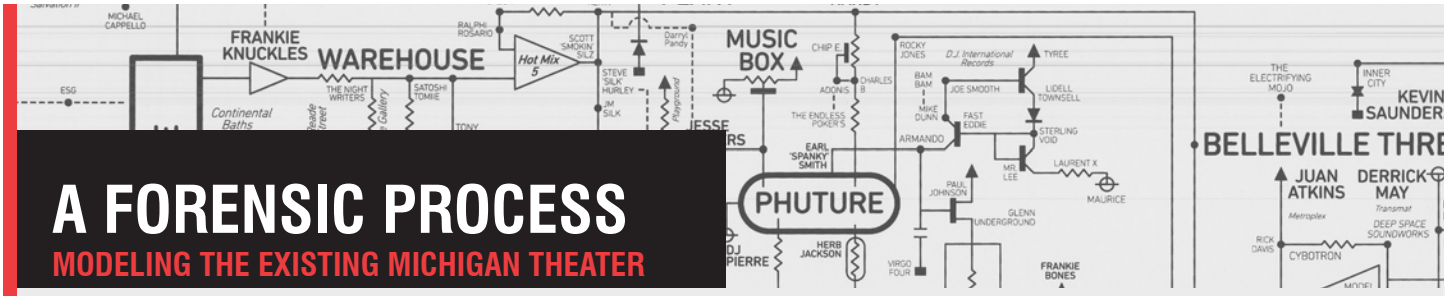
5 SANBORN MAP





Geometry problem solved

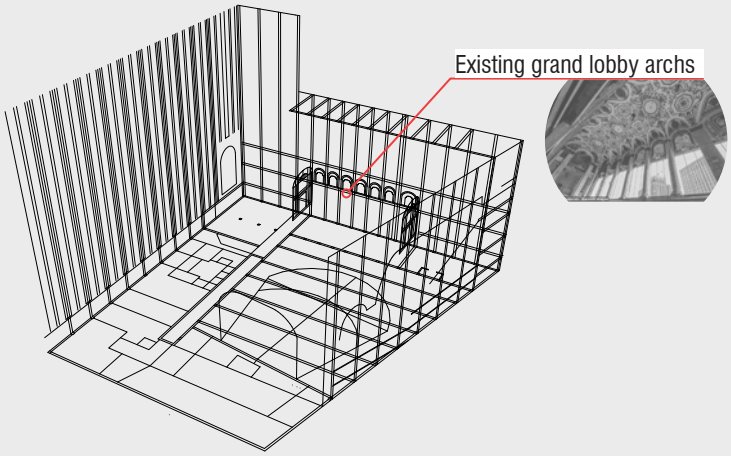


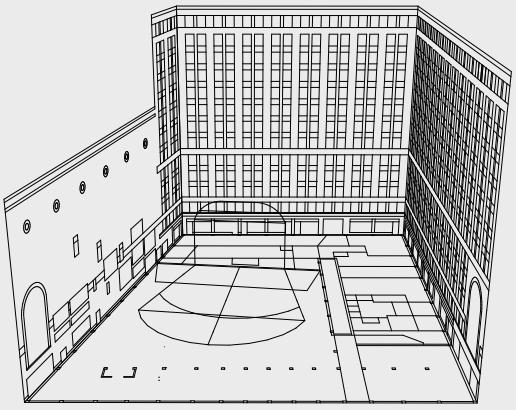


A FORENSIC PROCESS

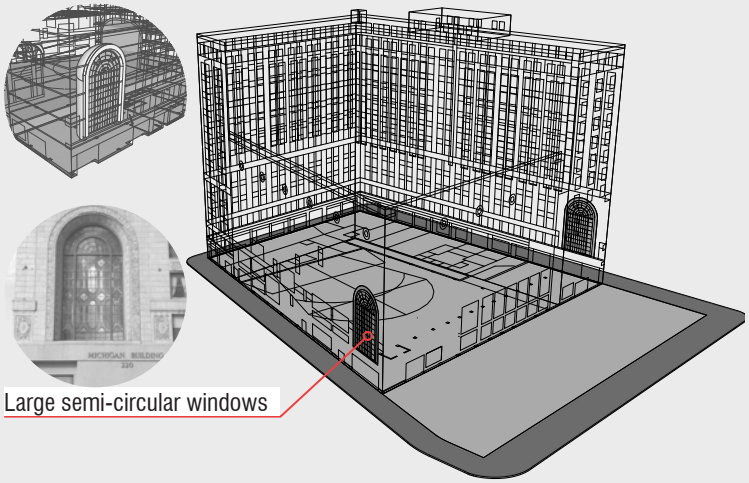
MODELING THE EXISTING MICHIGAN THEATER

6 TRACED FACADE IMAGES FOR GUIDELINES OF EXISTING BUILDING



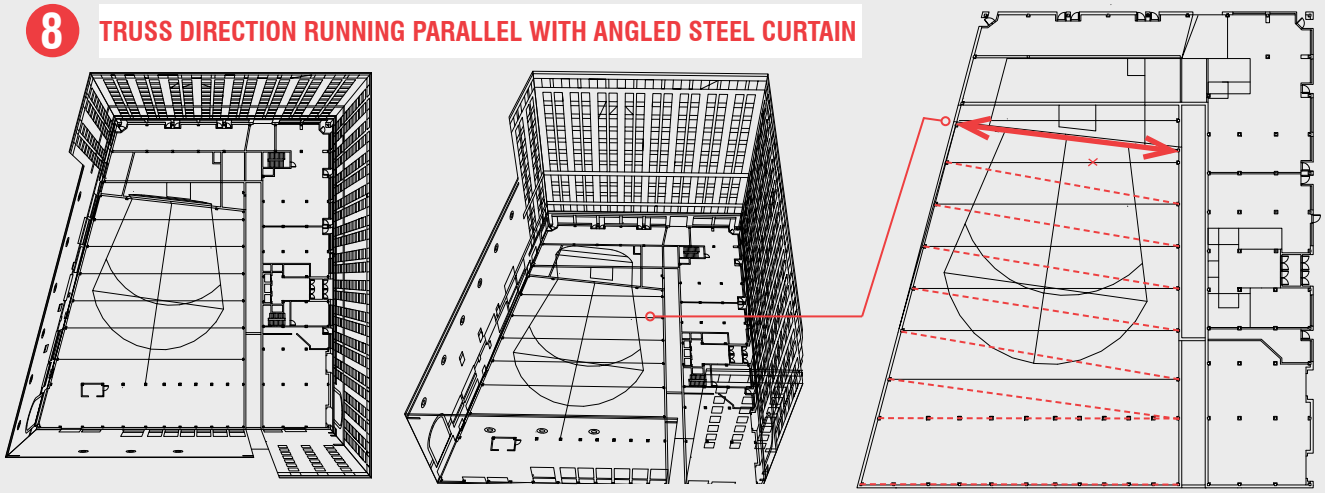


7 TRACED DETAIL OUTLINES: FACADES, WINDOWS, OPENINGS



Step six and seven of this forensic process was adding more detailed outlines that will help guide my proposed design into the existing conditions of the Michigan Theater & Building. These detail outlines focused on the major elements that I will be keeping in my design such as the main ornamental ceiling, the grand lobby ornamental ceiling and promenade, and the grand windows that are mirrored across from each other. Step eight analyzes the major truss structure that holds up the ceiling and roof loads above. With further investigation of the column placements, I realized that my initial truss direction was wrong, rather than staying with the parallel 90 degrees the trusses went with the angle of the steel curtain and goes back to 90 degree directionality once it hits the 4-story grand lobby space.

8 TRUSS DIRECTION RUNNING PARALLEL WITH ANGLED STEEL CURTAIN

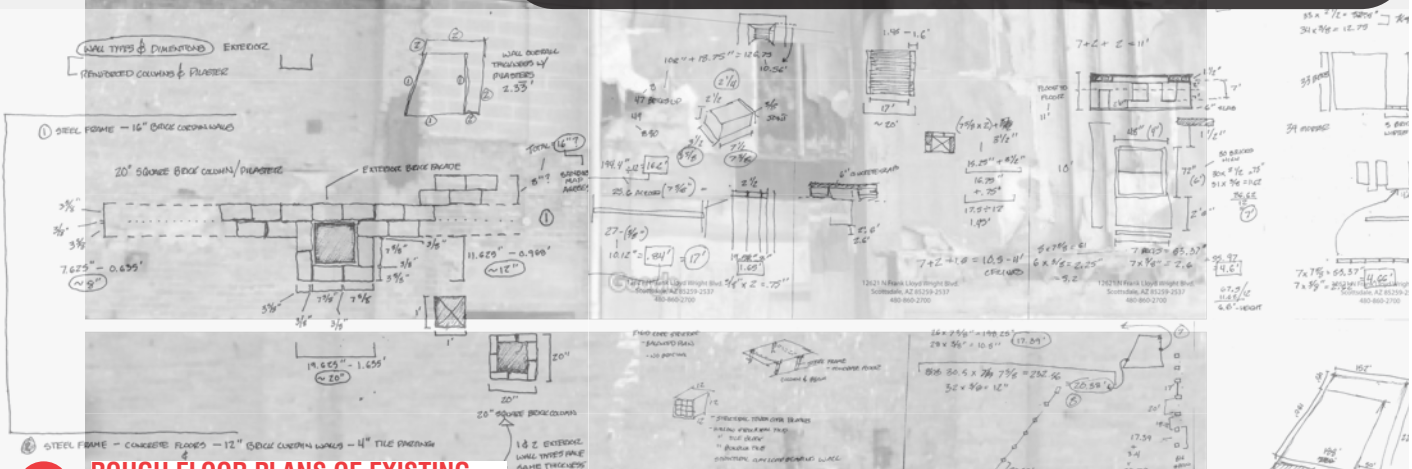


A FORENSIC PROCESS

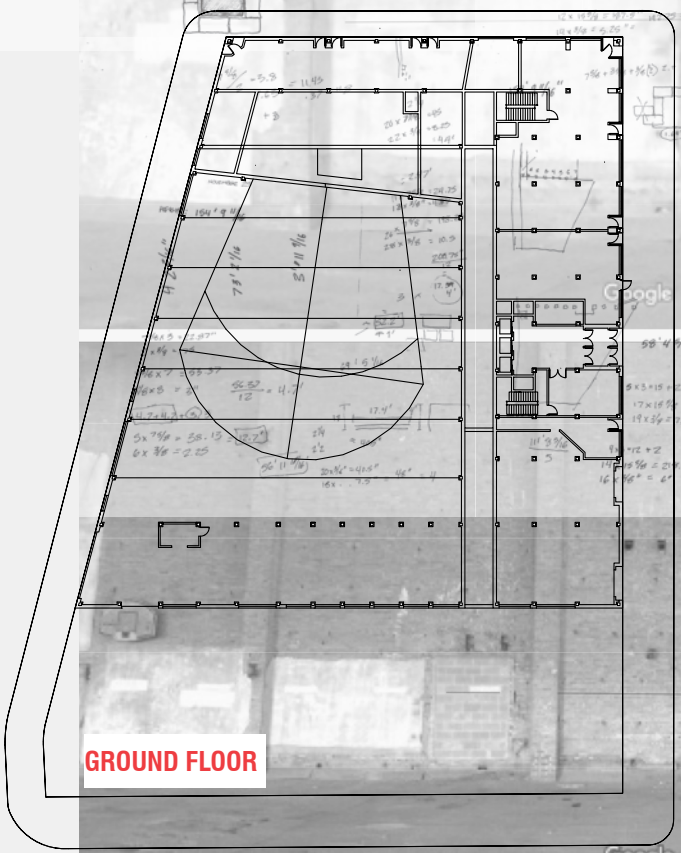
MODELING THE EXISTING MICHIGAN THEATER

9 FIGURING OUT CRITICAL DIMENTIONS

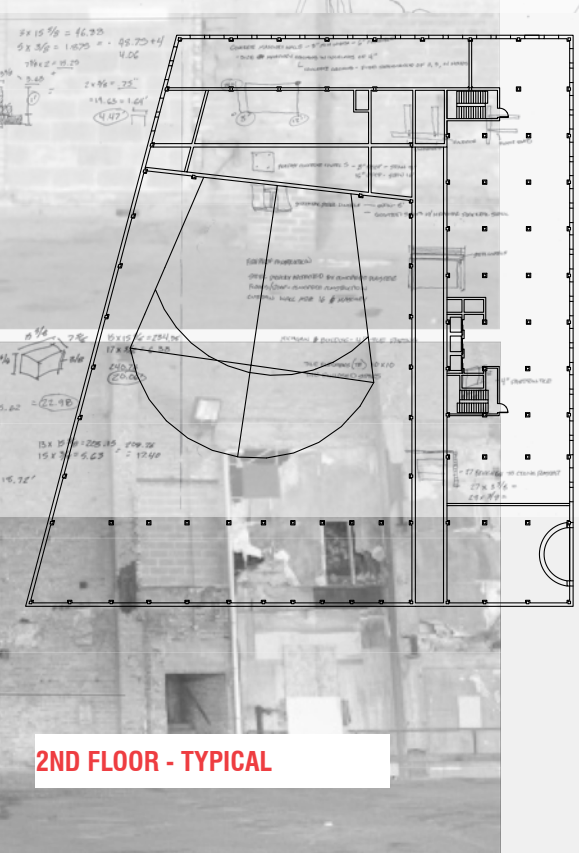
Step nine was a further investigation into the critical dimensions of the existing structural elements which is a big component to doing an adaptive reuse project. This process was a detailed examination of column sizing and spacing, along with brick work, floor heights and other existing critical elements. Step ten shows the final rough floor plans that provide me with enough information to start modeling the major component of my project – the main ornamental ceiling that takes up majority of the interior upper space above the theater auditorium itself.



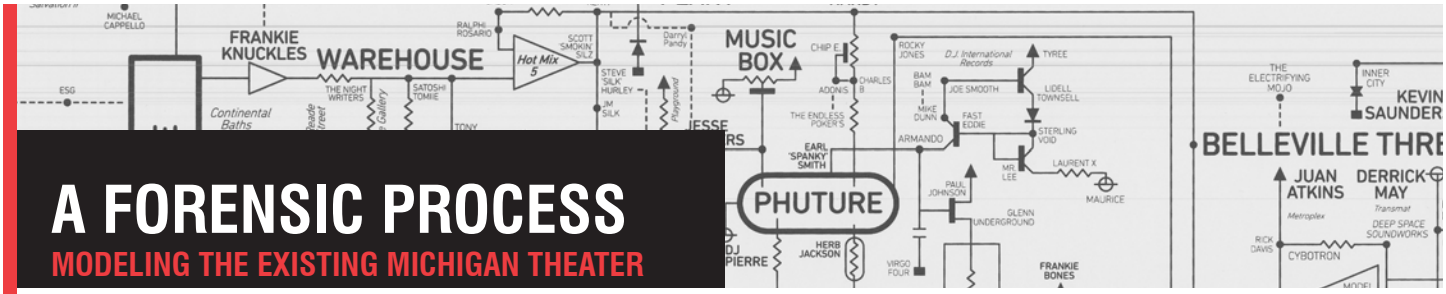
10 ROUGH FLOOR PLANS OF EXISTING CONDITIONS



GROUND FLOOR



2ND FLOOR - TYPICAL

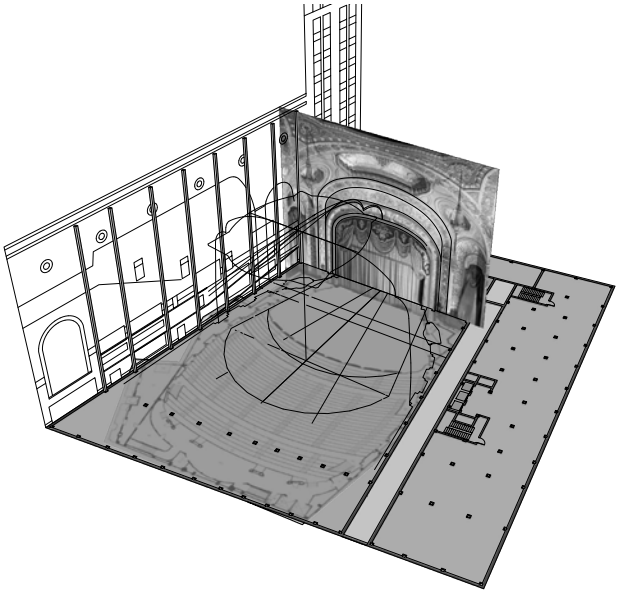


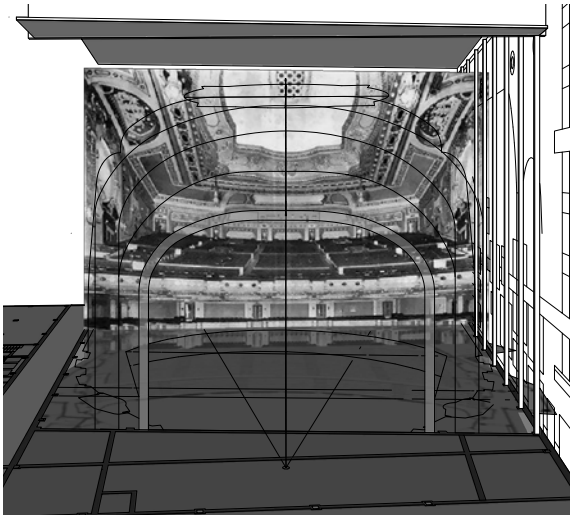
A FORENSIC PROCESS

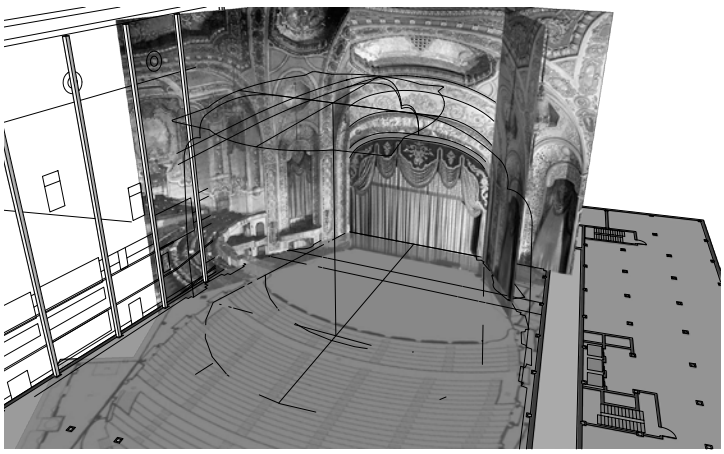
MODELING THE EXISTING MICHIGAN THEATER

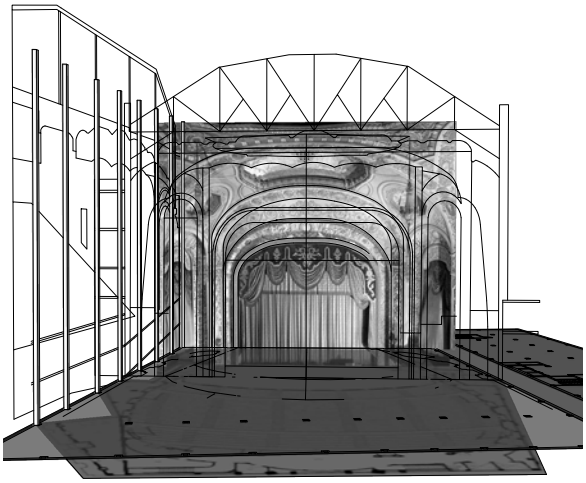
11 GUIDELINES FOR MODELING ORNATE CEILING

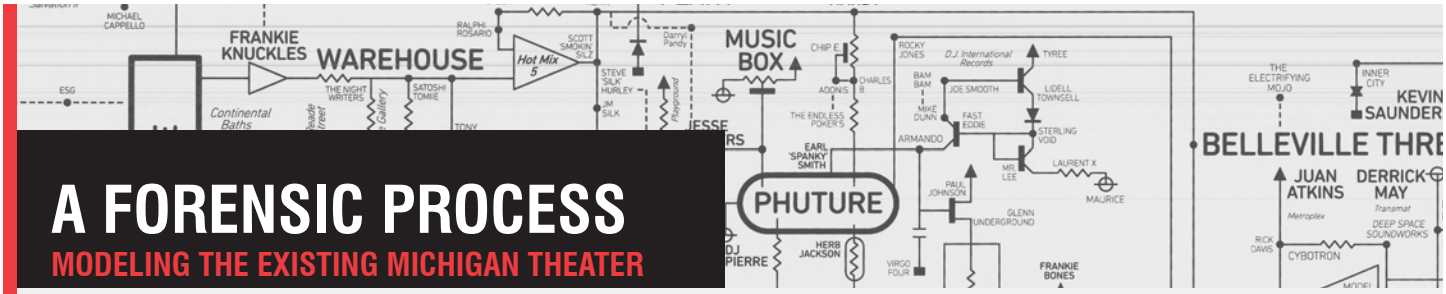
Step eleven takes you into the process of using lines as guides to outline where the ceiling is positioned within the space. Found images of the interior theater space and other alike theater configurations of plan and section also helped to guide this process. The illustrations on this page take you through the steps taken from left to right, working in all types of viewports to make sure this ceiling is a close approximation of what it is in real life. There was much emphasis on symmetrically aligning everything together which was a difficult process when combing multiple different mediums together to produce it.







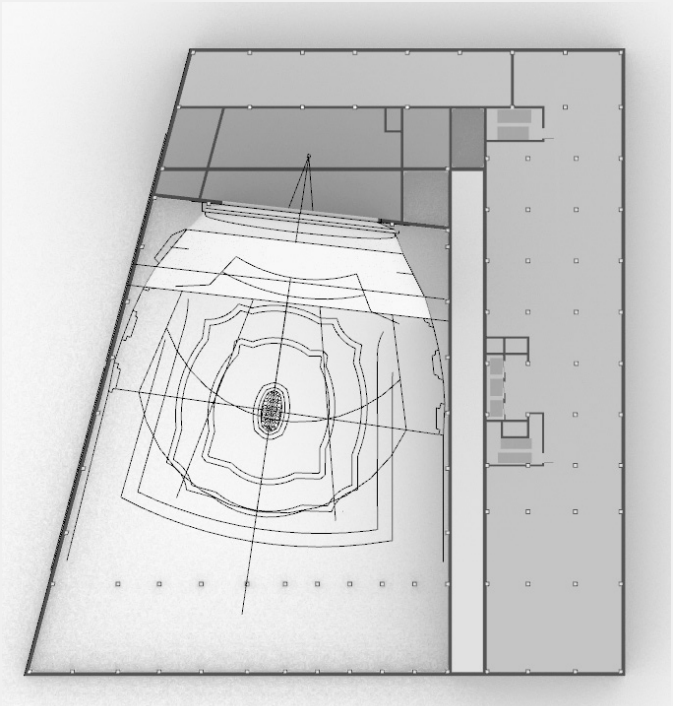


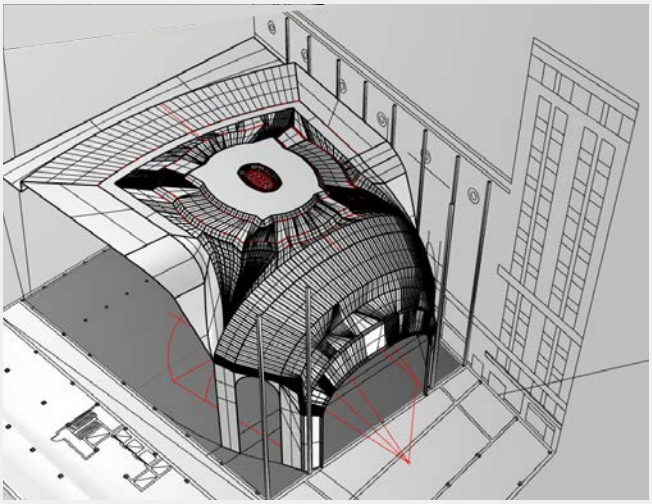


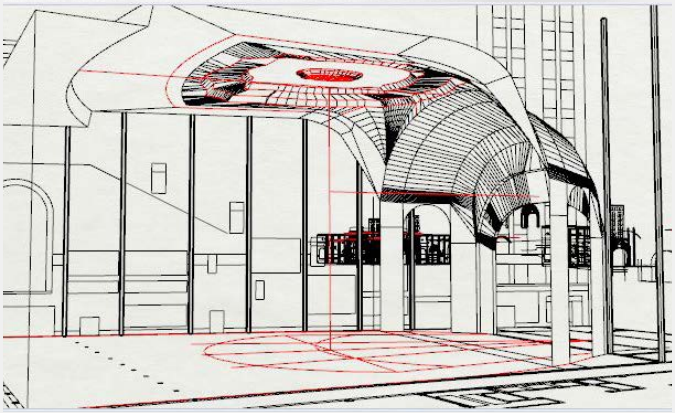
A FORENSIC PROCESS

MODELING THE EXISTING MICHIGAN THEATER

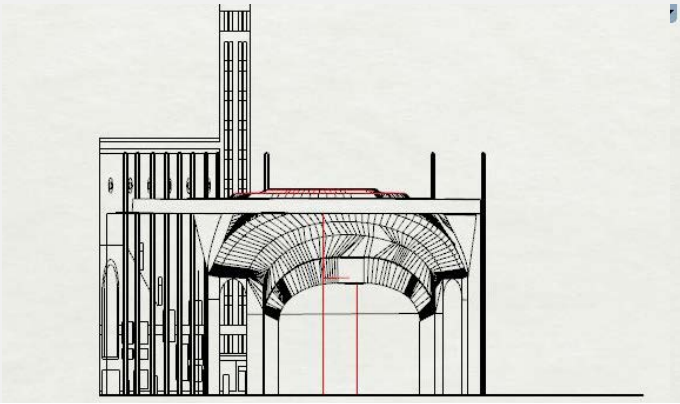
11 USING GUIDELINES TO MODEL ORNATE CEILING

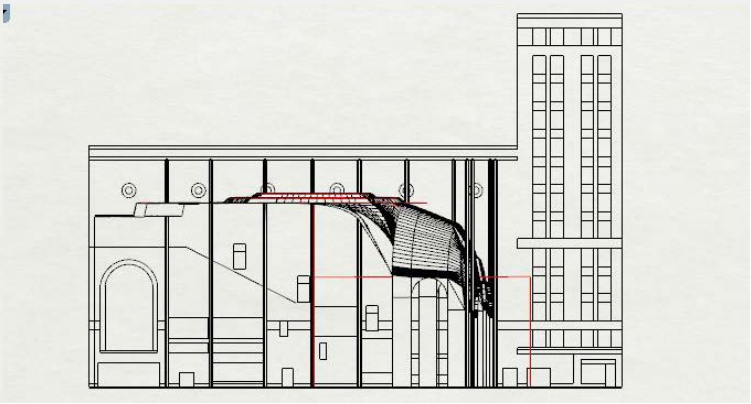


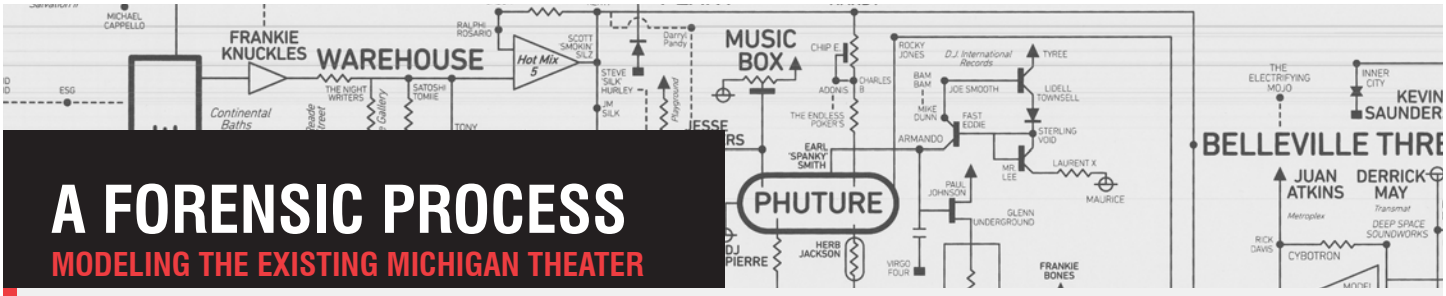




Step twelve delves deeper into the modeling process of using the guided outlines from the previous steps to start extruding the forms to follow those guidelines. Here you can see the focus on centrality and symmetry with the guidelines, making sure everything lines up adequately, especially with the main origin point of the ceiling which was a big part of my projects spirituality aspect, so it was important to get that right. I started the modeling process in rhino due to its advanced procedures in producing curved forms where I then brought it back into SketchUp to clean it up with a plug in that Ganapathy introduced me to called Bubble Soap Skin. This cleaned up version can be seen on the following page in step thirteen.



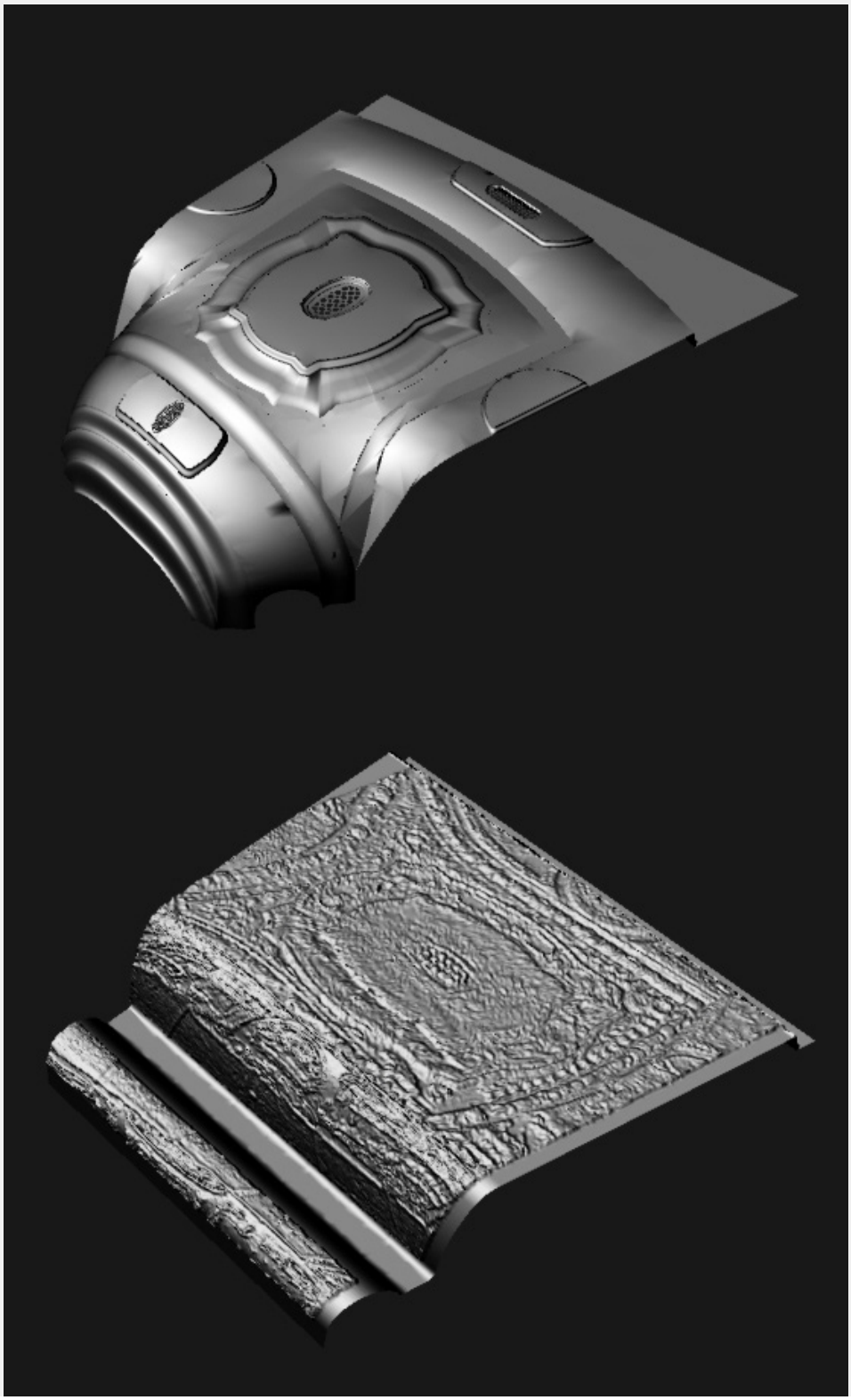




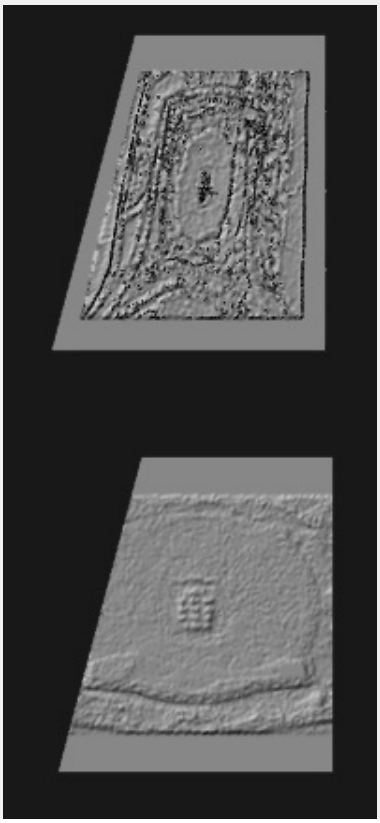
A FORENSIC PROCESS

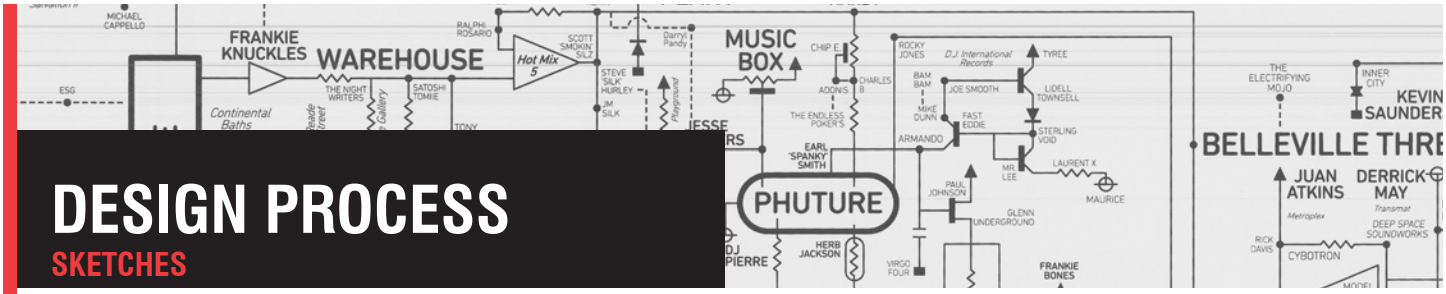
MODELING THE EXISTING MICHIGAN THEATER

12 FINAL CEILING & DISPLACEMENT EXPERIMENTS



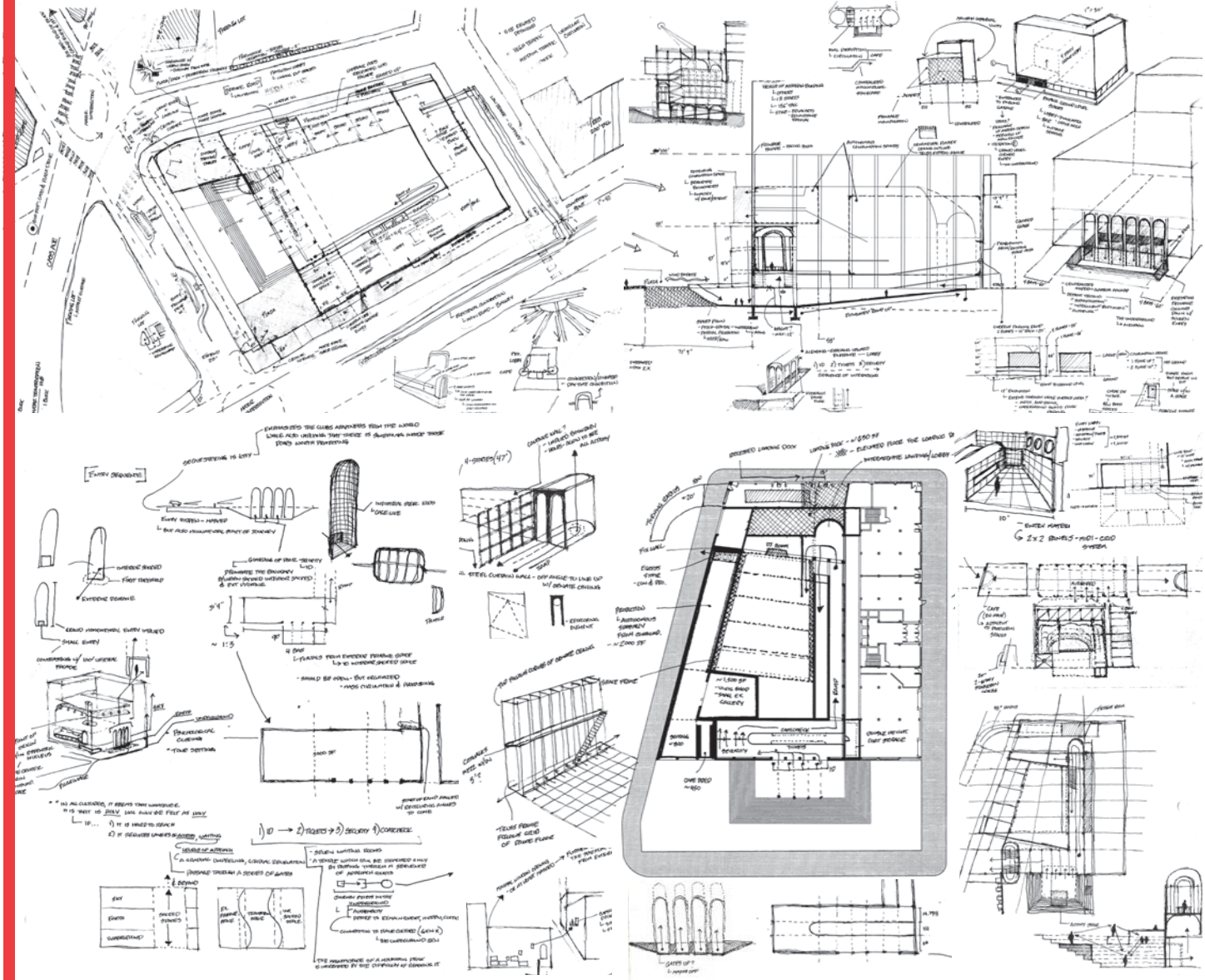
Step thirteen shows the final product of the ornamental ceiling and its cut modifications due to previous adaptabilities of the space. Here you can see just how the soap skin works, adding more intricate ornate curves to the ceiling to give it that detailed plaster look. I further examined this plaster ornamentation with a program called Autodesk Recap, which takes images that are displaced to black and white (positive and negative space) and creates a 3D model of it based off the different parameter hues of the black and white, allowing the form to be additive and recessive and showing the true detail of the magnificent ornate ceiling.





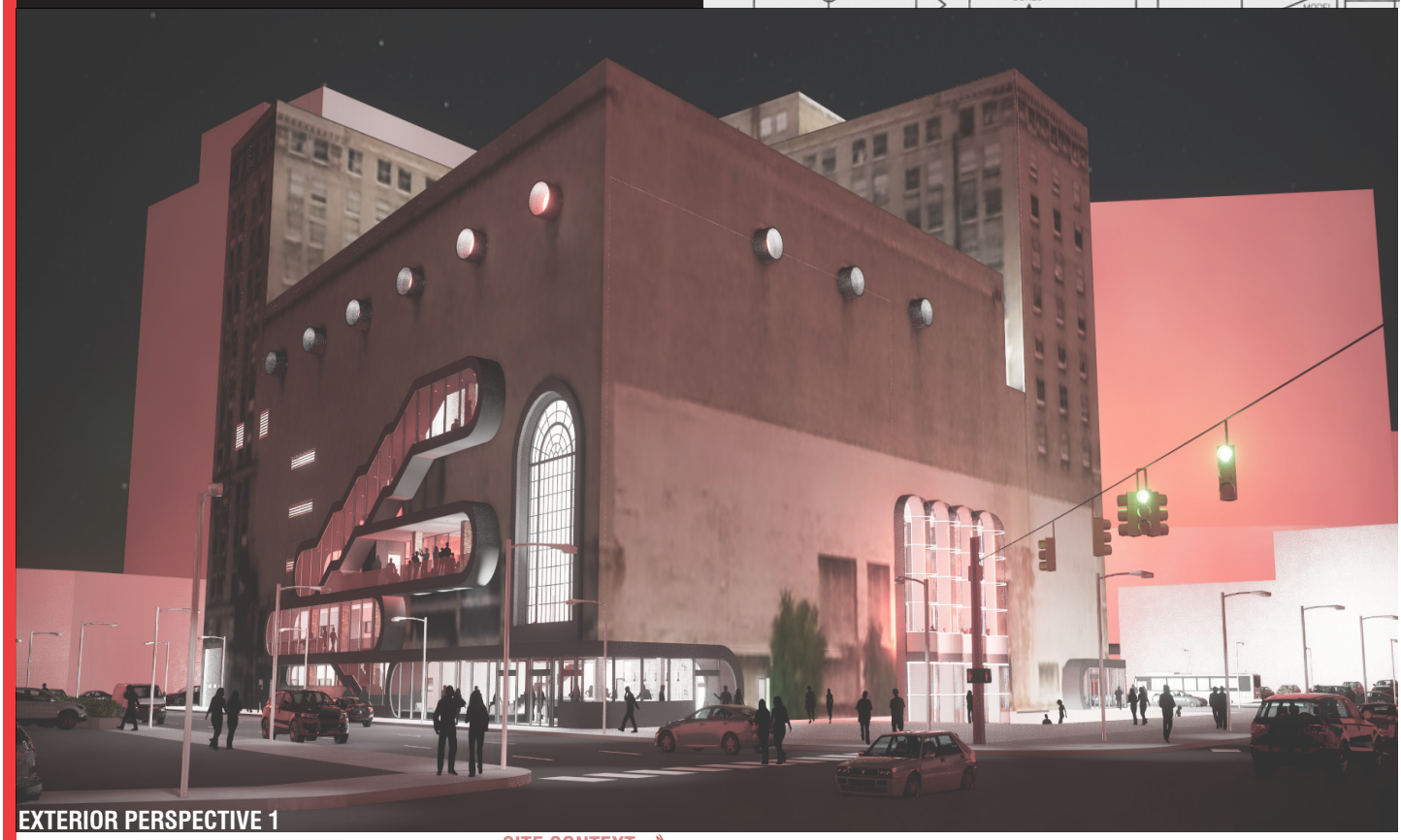
DESIGN PROCESS

SKETCHES



FINAL DESIGN

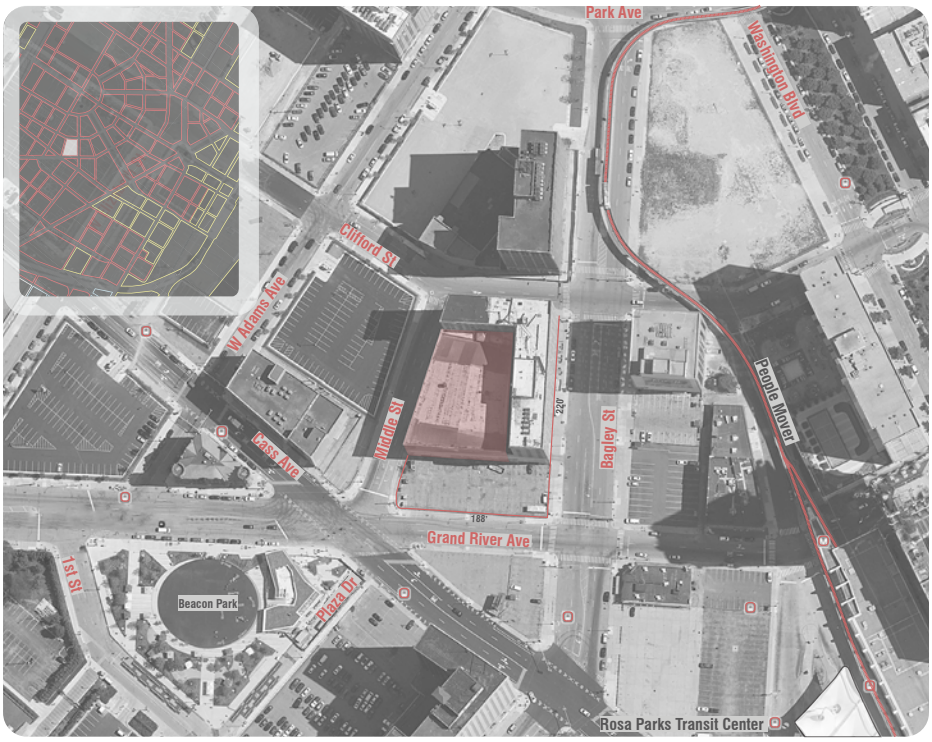
PRESENTATION DRAWINGS/RENDERS

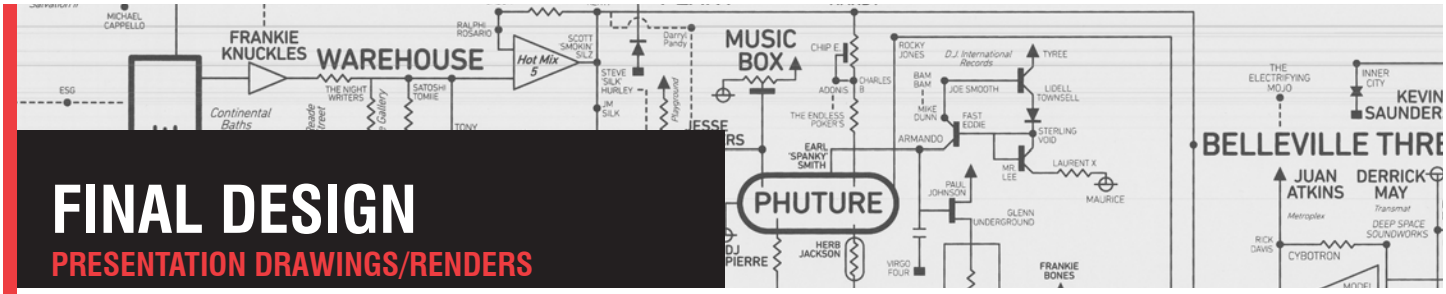


EXTERIOR PERSPECTIVE 1

SITE CONTEXT

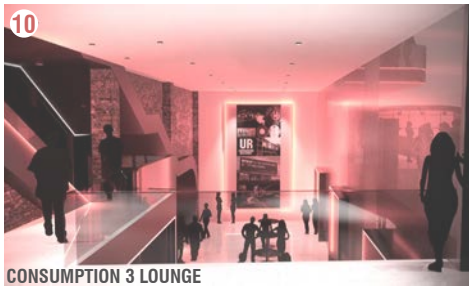
Detroit, MI

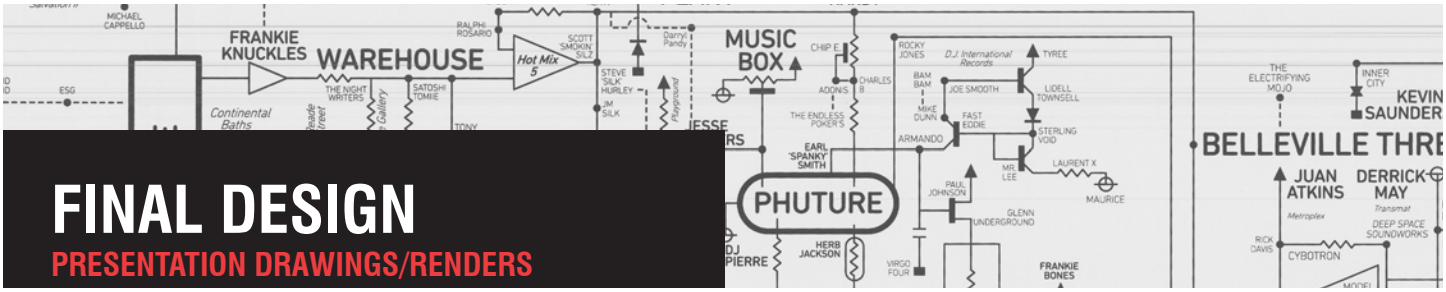




FINAL DESIGN

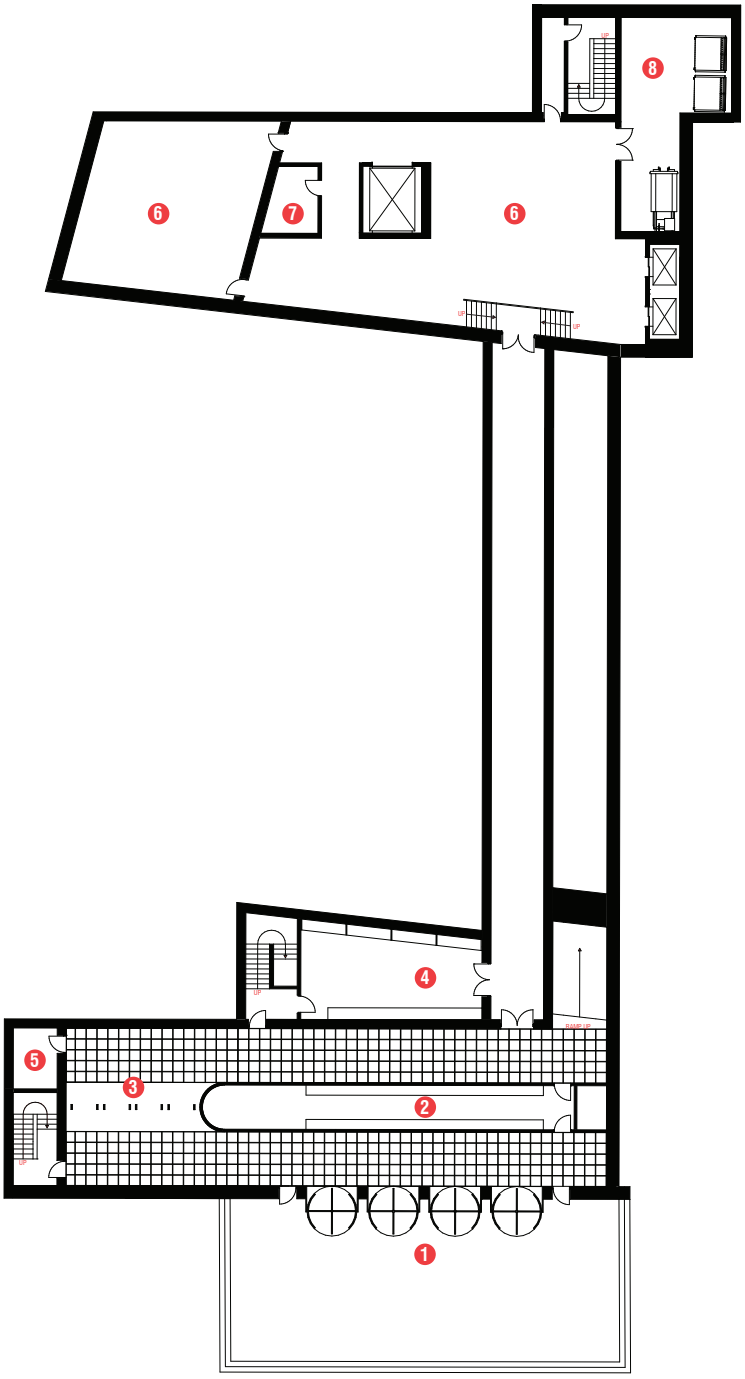
PRESENTATION DRAWINGS/RENDERS





FINAL DESIGN

PRESENTATION DRAWINGS/RENDERS

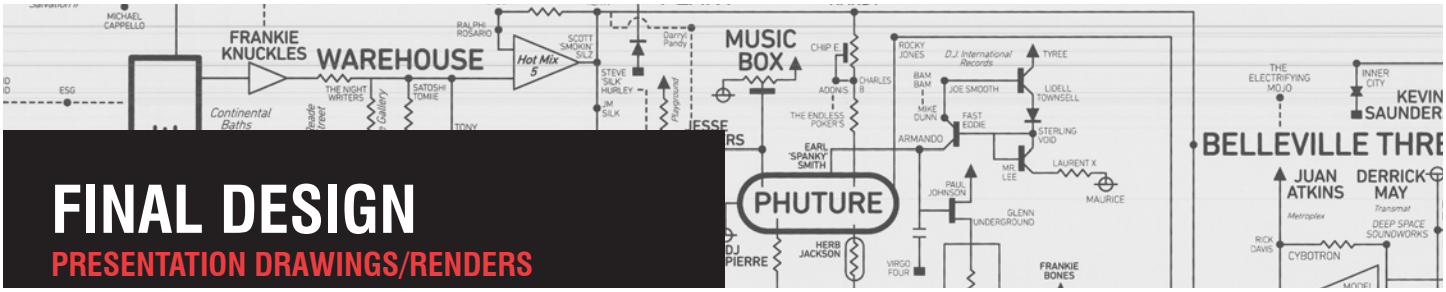


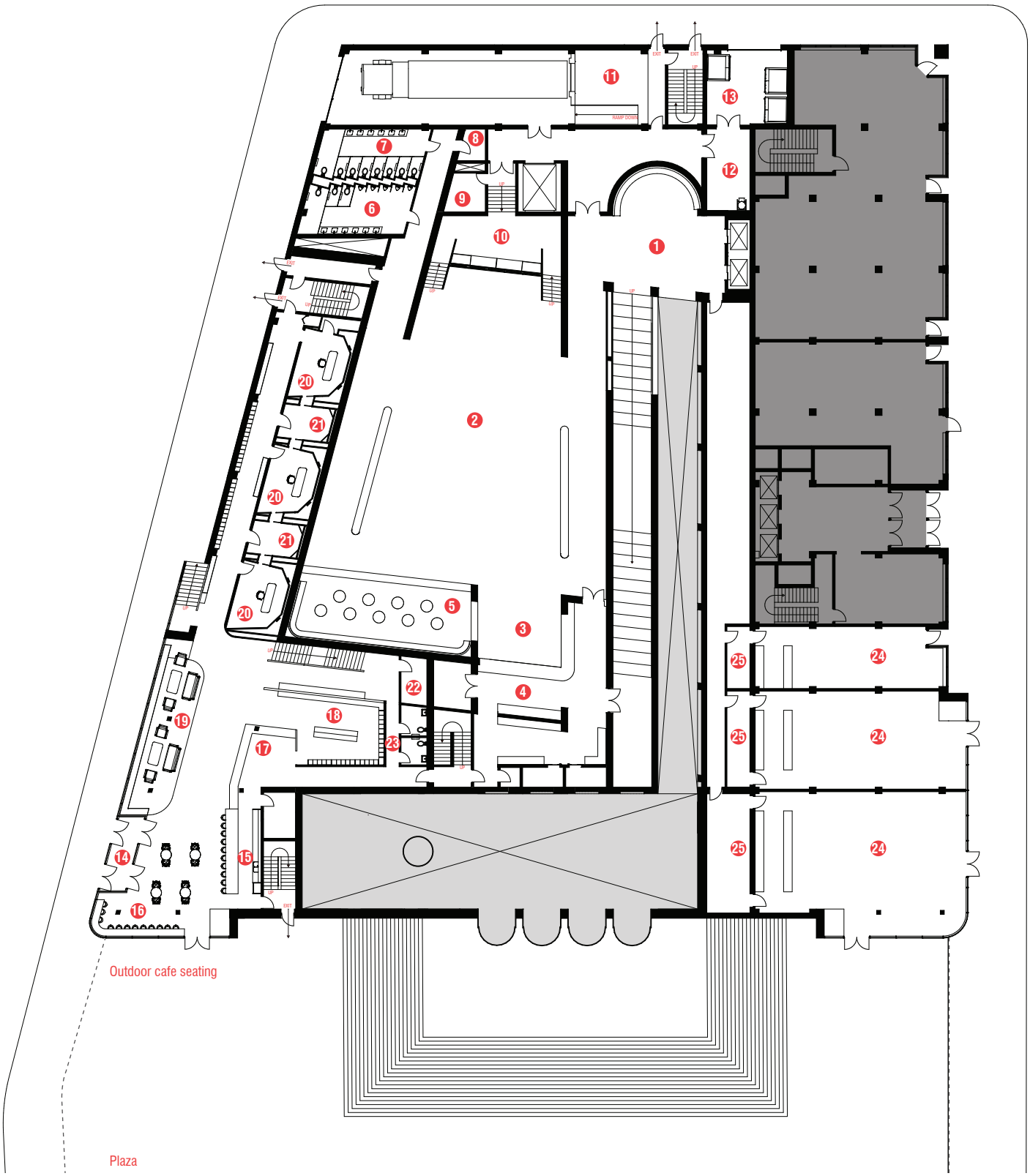
1 LEVEL -1

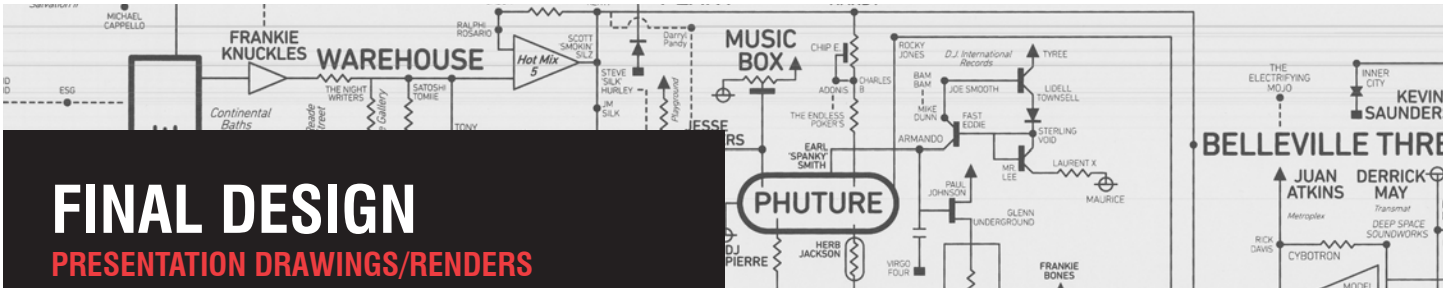
1. Entry
2. Tickets
3. Security
4. Coatroom
5. Storage
6. Mechanical room
7. Electrical room
8. Trash compactor room

FINAL DESIGN

PRESENTATION DRAWINGS/RENDERS







FINAL DESIGN

PRESENTATION DRAWINGS/RENDERS

2 GROUND LEVEL

Consumption Spaces

1. Acoustic elevator lobby
2. **Consumption 1**
3. Bar
4. Bar service/prep/storage
5. Lounge area
6. Male restroom
7. Female restroom
8. Janitors closet
9. Amp room
10. DJ booth
11. Closed loading dock
12. Trash chute room
13. Trash collection

Production Spaces

14. Entry vestibule
15. Cafe prep/service/storage
16. Cafe seating
17. Service front desk
18. Vinyl shop
19. Lounge Area
20. Transient mixing studio
21. Iso room
22. Storage
23. Restrooms

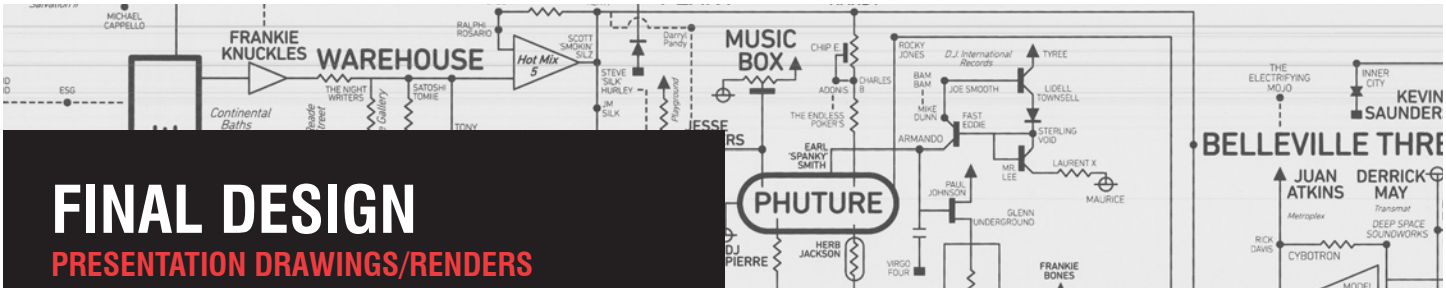
Commercial Spaces

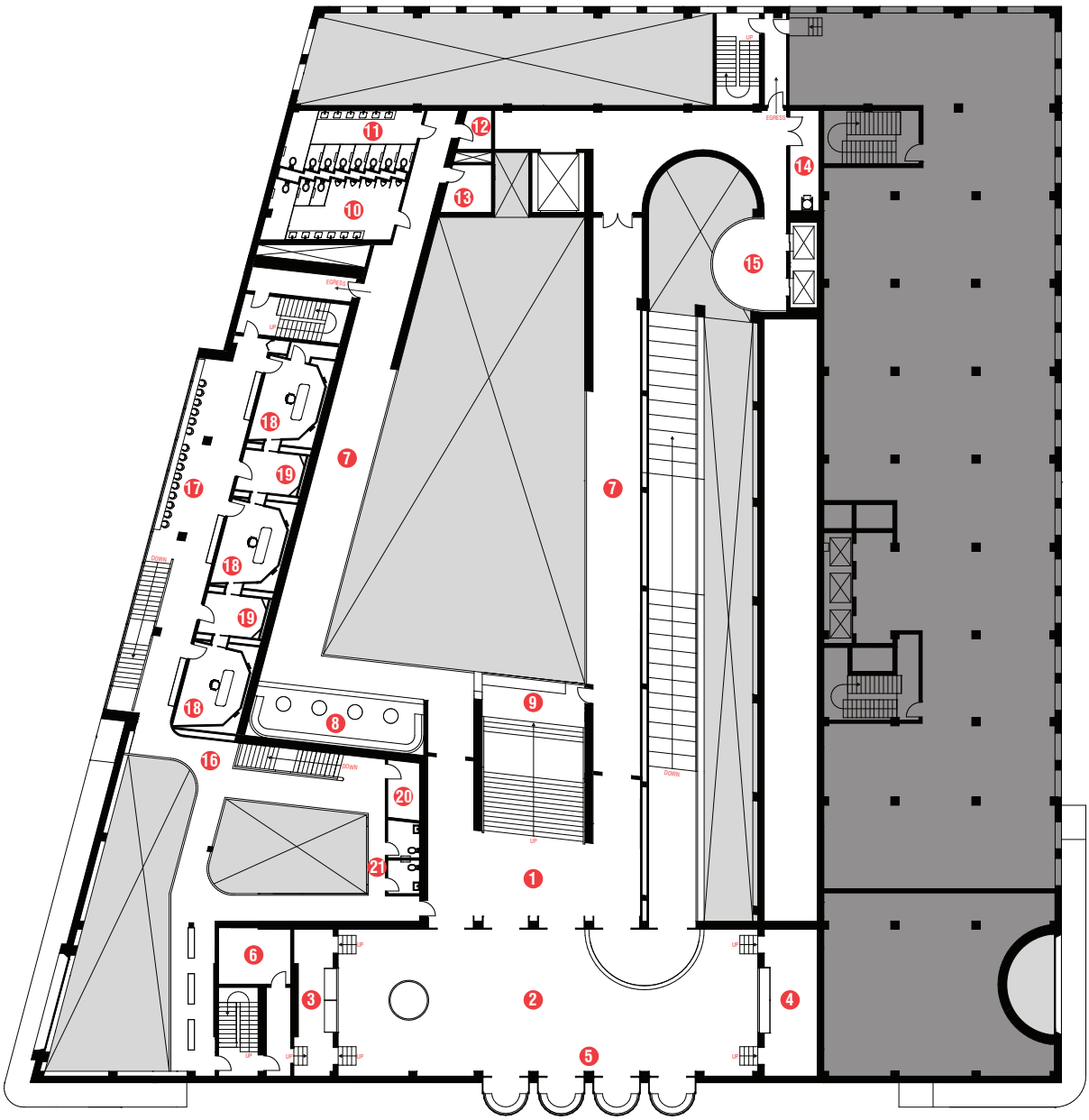
24. Leasable retail space
25. Backroom storage

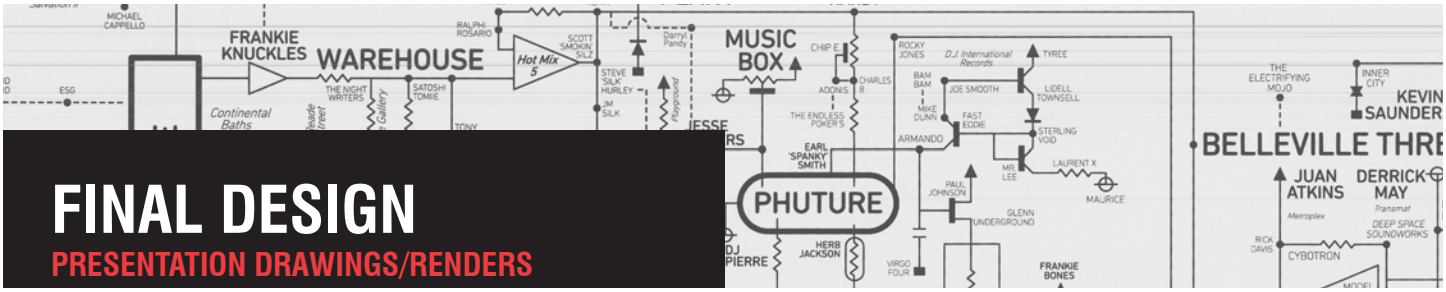
Existing Michigan Building

FINAL DESIGN

PRESENTATION DRAWINGS/RENDERS







FINAL DESIGN

PRESENTATION DRAWINGS/RENDERS

3 LEVEL 1

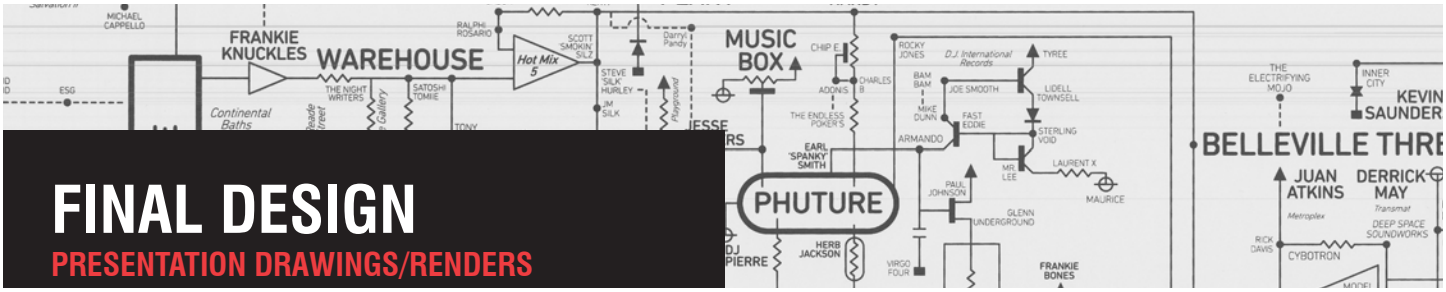
Consumption Spaces

1. Acoustic lobby
2. **Consumption 2**
3. DJ booth
4. Control booth
5. Lounge area
6. Amp room
7. Consumption 1 mezzanine
8. Lounge area
9. Control booth
10. Male restroom
11. Female restroom
12. Janitors closet
13. Electrical room
14. Trash chute room
15. Elevator lobby

Production Spac-

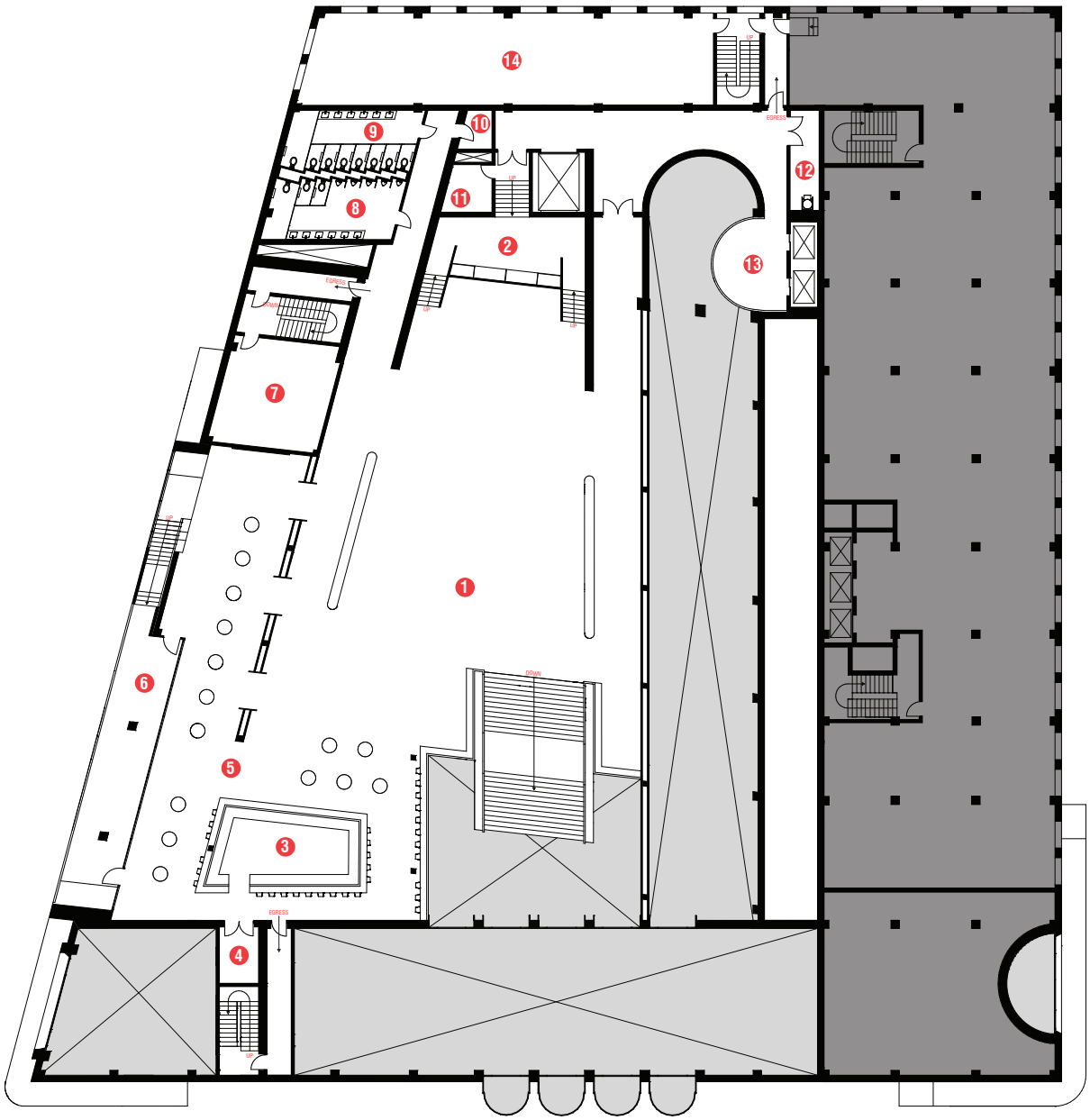
16. Mezzanine
17. Lounge area
18. Transient mixing studio
19. Iso room
20. Storage
21. Restrooms

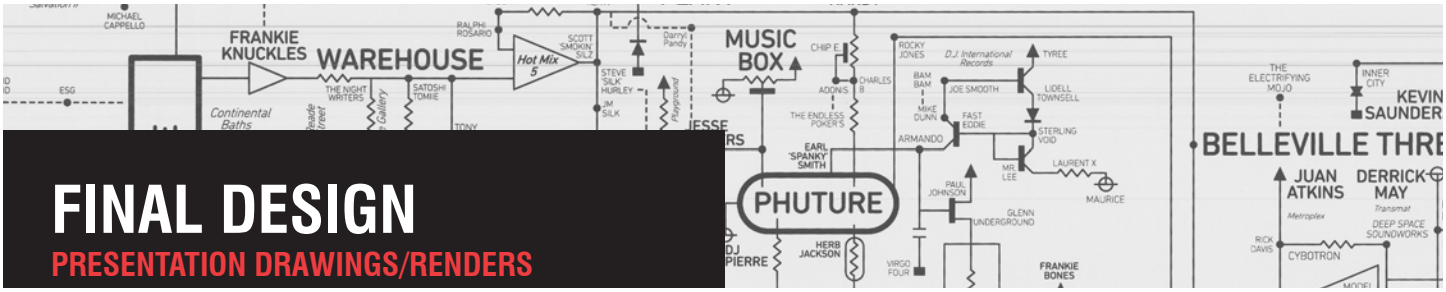
Existing Michigan Building



FINAL DESIGN

PRESENTATION DRAWINGS/RENDERS





FINAL DESIGN

PRESENTATION DRAWINGS/RENDERS

4 LEVEL 2

Consumption Spaces

1. **Consumption 3**
2. DJ booth
3. Main bar
4. Bar storage
5. Lounge area
6. Outdoor smoking area
7. Fan room
8. Male restroom
9. Female restroom
10. Janitors closet
11. Amp room
12. Trash chute room
13. Elevator lobby

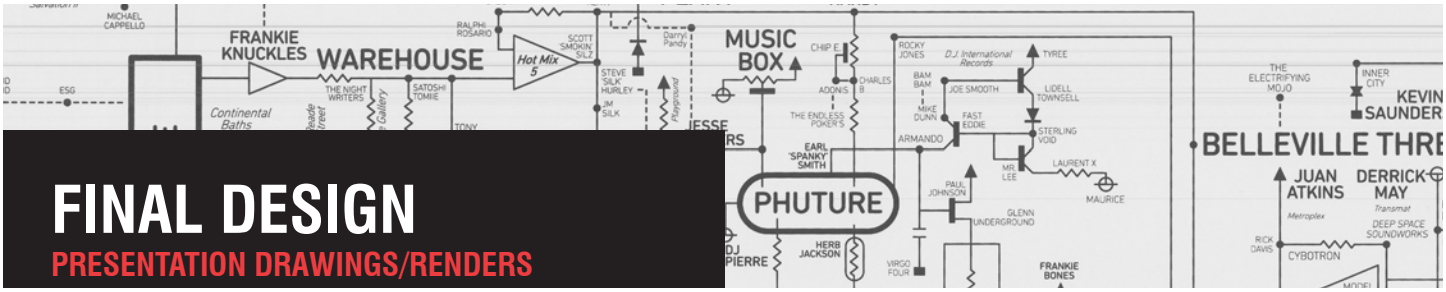
Commercial Spaces

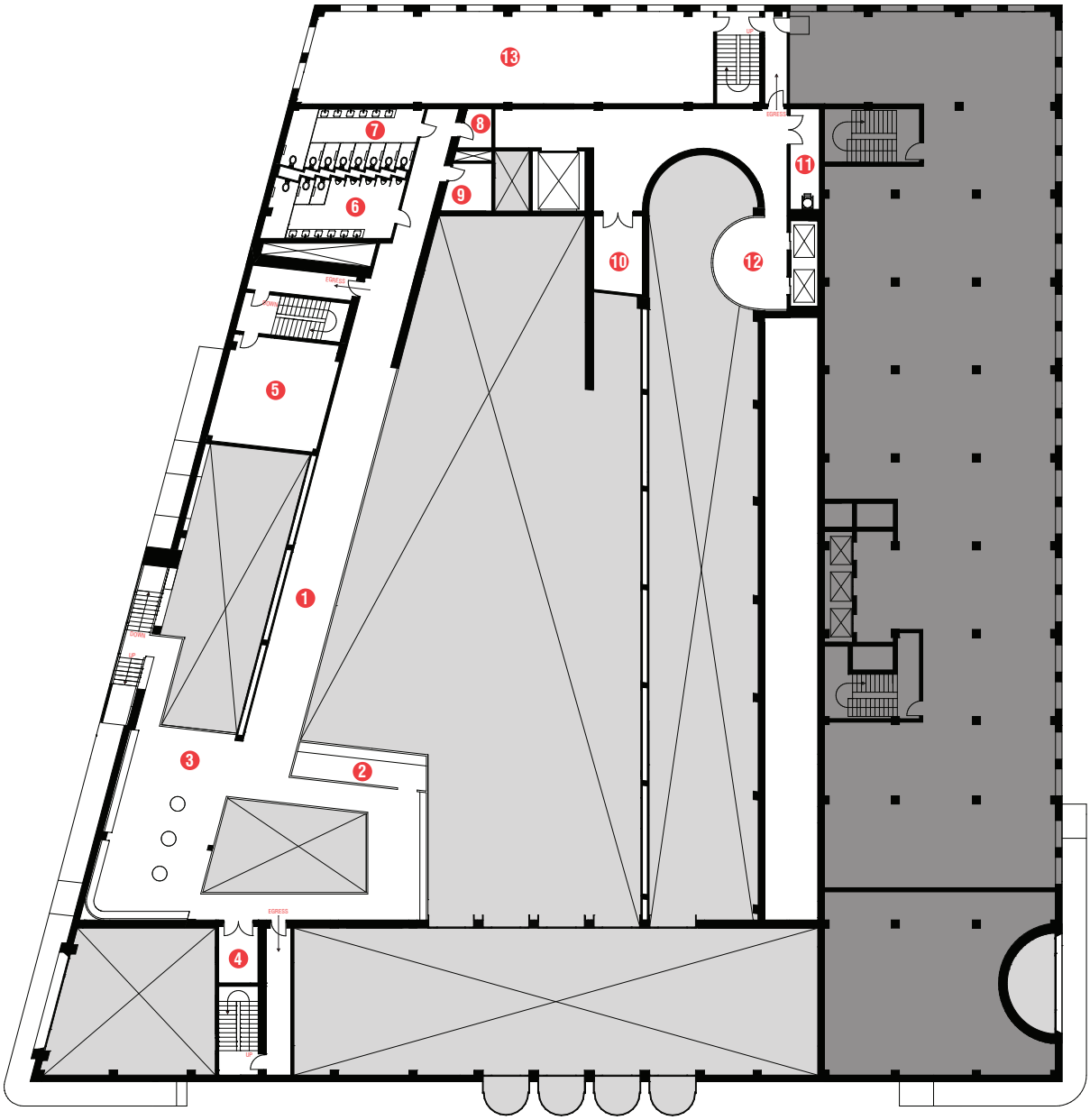
14. Leasable office space

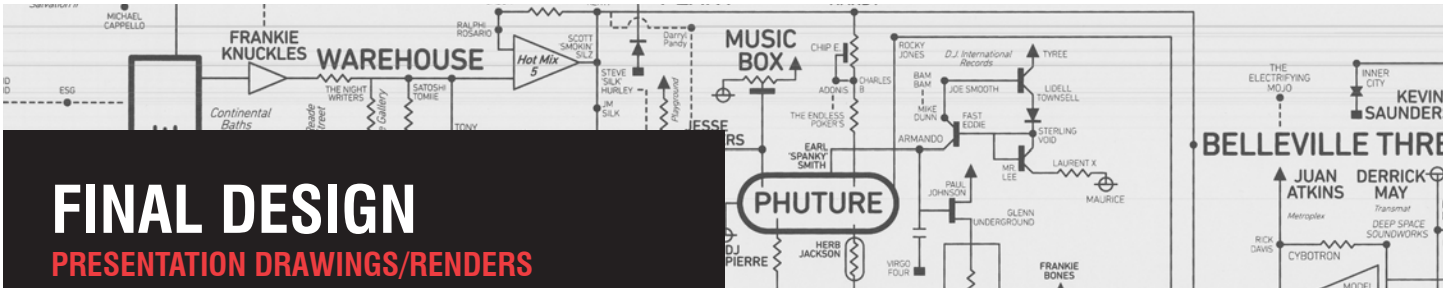
Existing Michigan Building

FINAL DESIGN

PRESENTATION DRAWINGS/RENDERS







FINAL DESIGN

PRESENTATION DRAWINGS/RENDERS

5 LEVEL 3

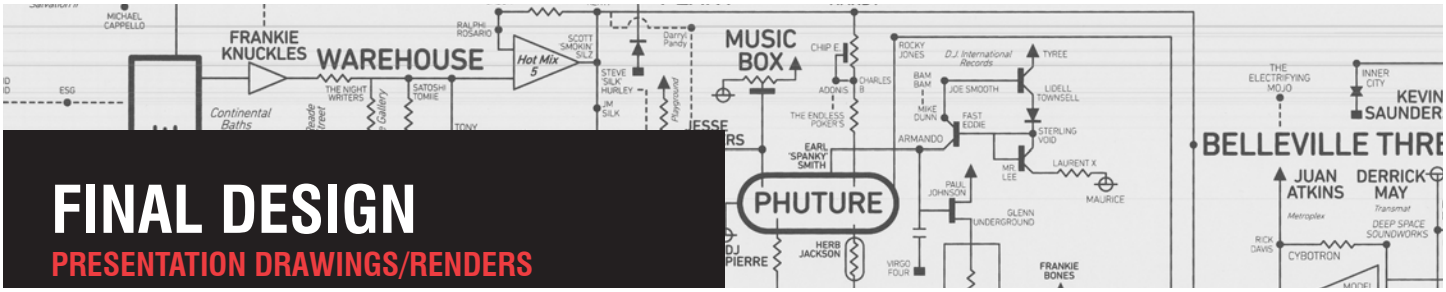
Consumption Spaces

1. Consumption 3 mezzanine
2. Control booth
3. Lounge area
4. Storage
5. Fan room
6. Male restroom
7. Female restroom
8. Janitors closet
9. Electrical room
10. Storage
11. Trash chute room
12. Elevator lobby

Commercial Spaces

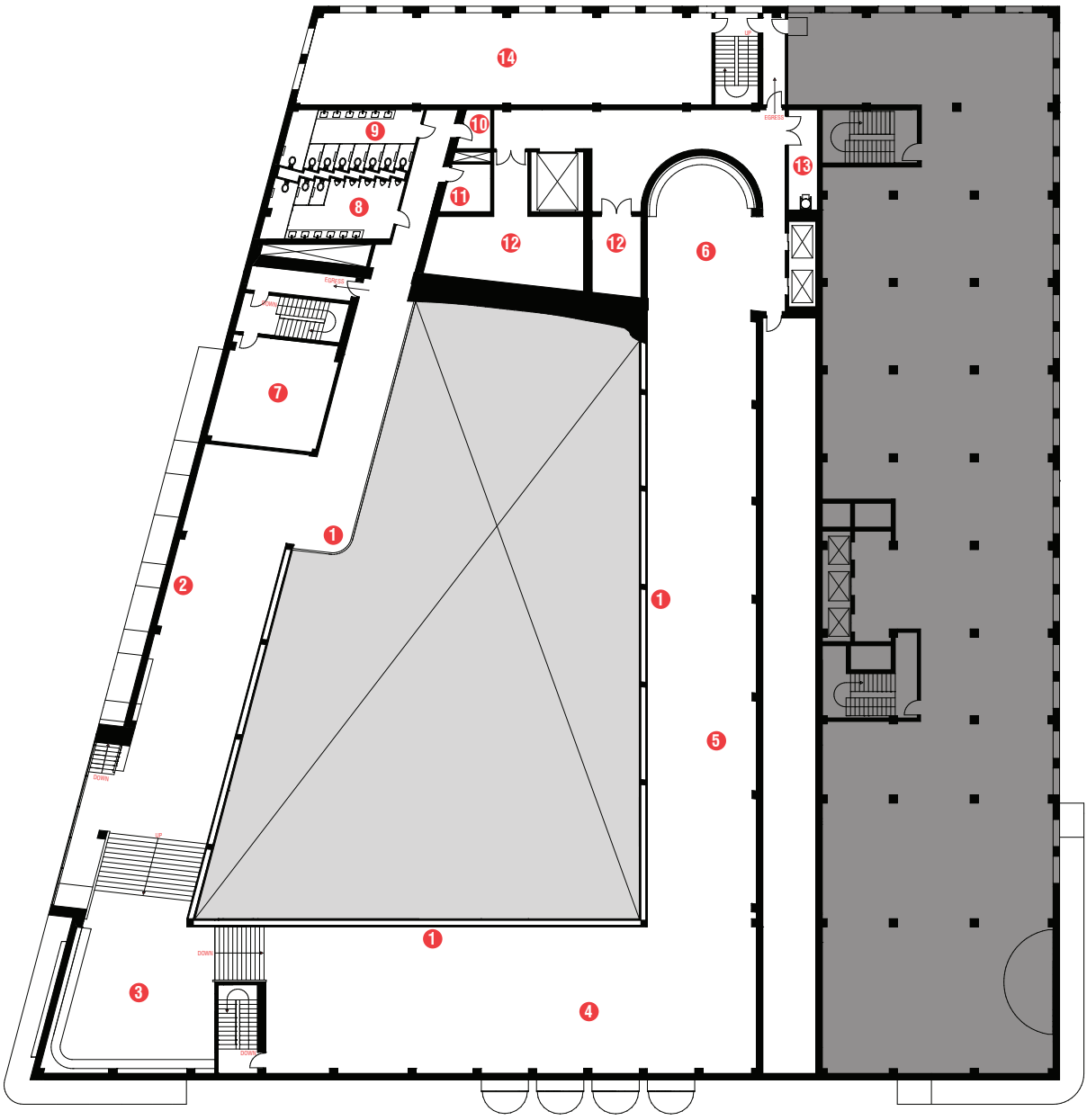
13. Leasable office space

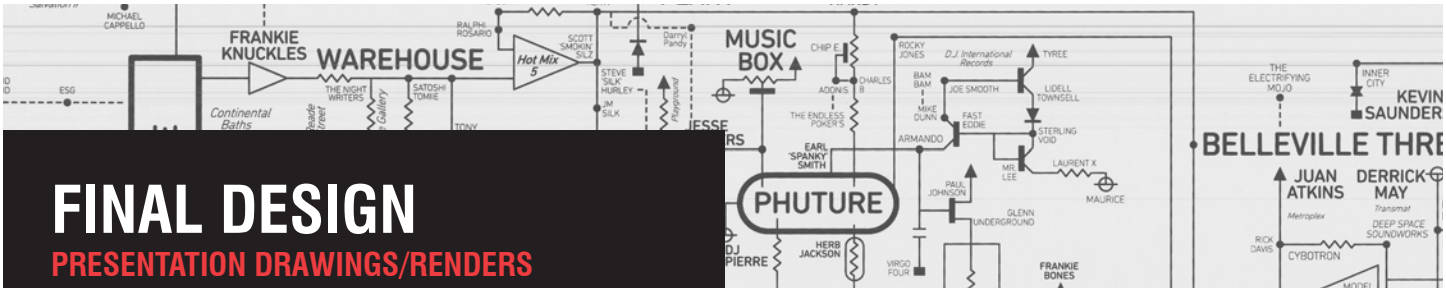
Existing Michigan Building



FINAL DESIGN

PRESENTATION DRAWINGS/RENDERS





FINAL DESIGN

PRESENTATION DRAWINGS/RENDERS

6 LEVEL 4

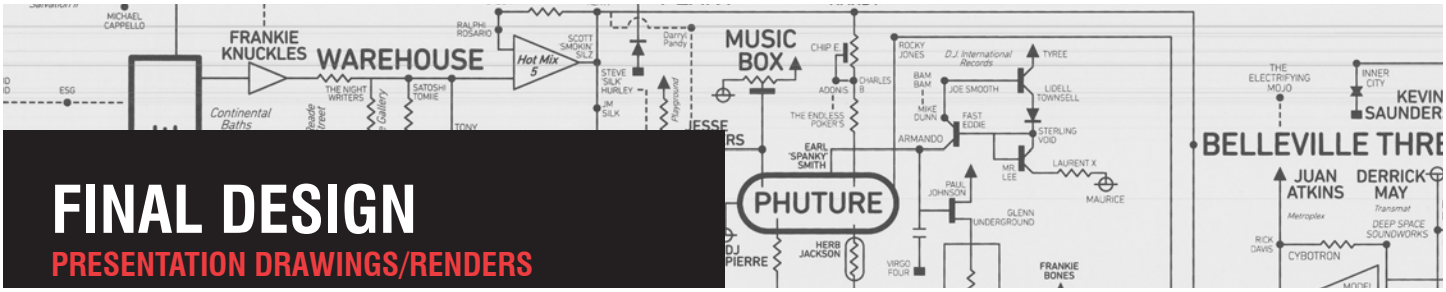
Consumption Spaces

1. Consumption 3 mezzanine
2. Control booth
3. Lounge area
4. Storage
5. Fan room
6. Male restroom
7. Female restroom
8. Janitors closet
9. Electrical room
10. Storage
11. Trash chute room
12. Elevator lobby

Commercial Spaces

13. Leasable office space

Existing Michigan Building



FINAL DESIGN

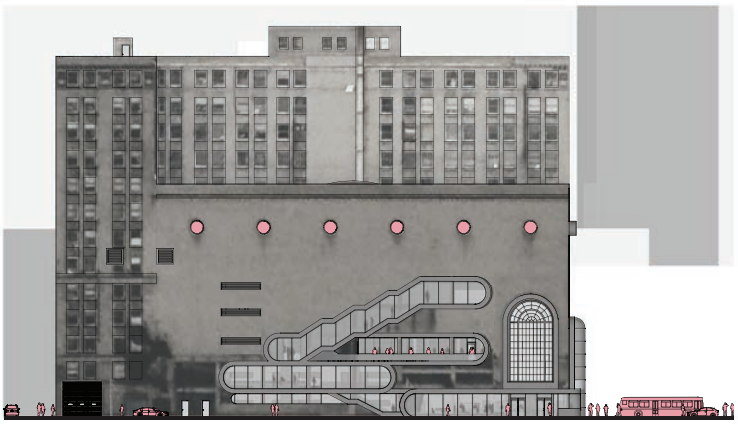
PRESENTATION DRAWINGS/RENDERS

SOUTH ELEVATION

Scale: 1/16" = 1'

WEST ELEVATION

Scale: 1/16" = 1'

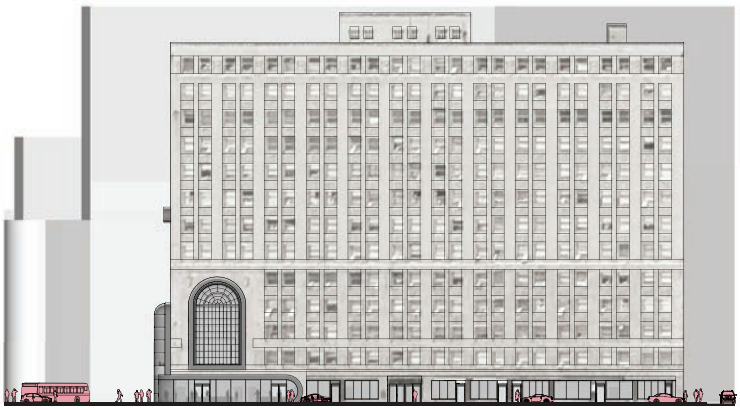


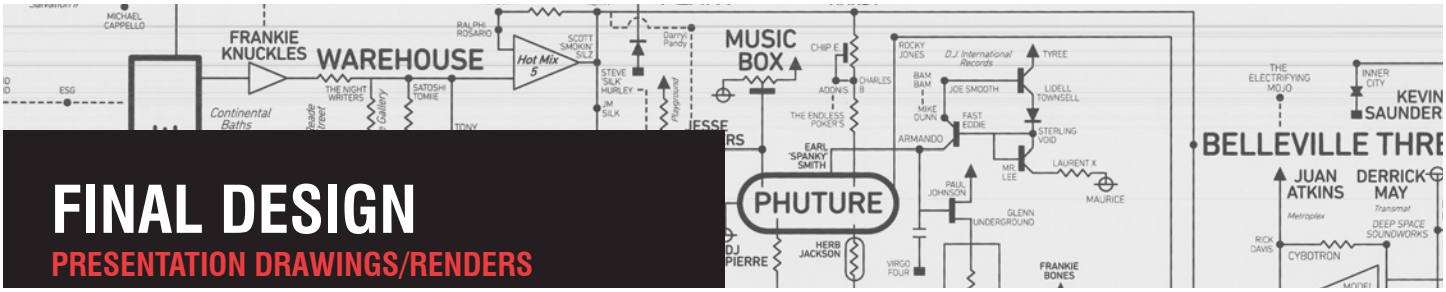
NORTH ELEVATION

Scale: 1/16" = 1'

EAST ELEVATION

Scale: 1/16" = 1'

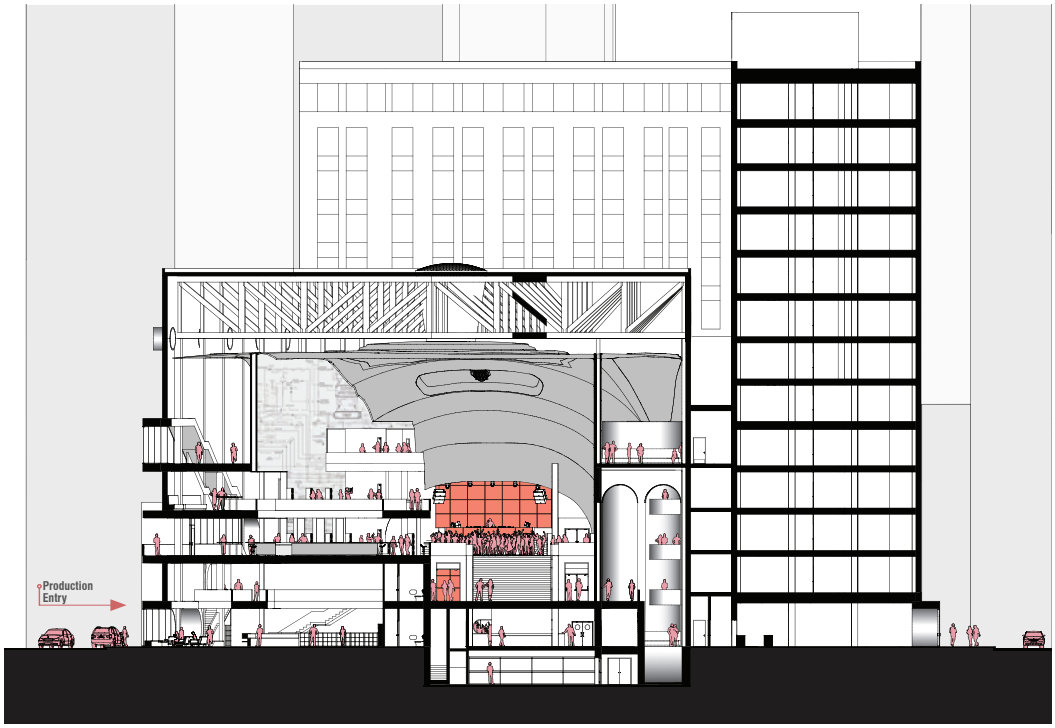




FINAL DESIGN

PRESENTATION DRAWINGS/RENDERS

TRANSVERSE SECTION



LONGITUDINAL SECTION