ARCHITECTURAL ANALYSIS:
A Methodology to Understand and Inform the Design of Spaces

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The following research is an explorative study on ‘architectural analysis’ as a means of thinking and designing architecture. It is a space of dissection, observation and representation to establish (new) relationships creating elements that discuss, deepen and extend the ideas. An analytical exercise on the works of selected architects - *Villa Savoye* (Le Corbusier), *Neue Staatsgalerie* (James Stirling) and *Educatorium* (OMA/Rem Koolhaas) - to analyze the simplest, yet unknown and inevitable fundamentals of architecture: space, its perception and organization. Questions, ambitions, ideas and possibilities are analyzed architecturally; elements are organized differently and new relationships are established. This is an act of critical thinking that allows questioning of the orthodox regulations.

The resulting analysis revealed *promenade architecturale* as the common compositional tool in spatial arrangement of all three buildings. Subsequently, the discovery lead to a connection between *promenade architecturale* and ‘theatricality’.

Additionally, two public squares - *Piazza Del Campo* (Sienna, Italy) and *Schouwburgplein* (Rotterdam, Netherlands) – are analysed as the precedents for Aotea Square, along with *Palais Garnier*, a typological precedent for the proposed opera house.

Eventually, ‘architectural analysis’ was delved into and developed, to study, examine and extend strategies to compose and organize complex spaces of a new type of performance art centre, called *Performatorium*, in the contemporary urban context of New Zealand. *Performatorium* incorporates spaces, resources and facilities required for production, representation and preservation of performance art, especially opera, to form a center of gravity for Aotea Square and Aotea Quarter as the cultural nucleus of Auckland.
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ANA\textsc{ly}sis noun

1
: separation of a whole into its component parts

2
a : the identification or separation of ingredients of a substance
b : a statement of the constituents of a mixture

3
a : proof of a mathematical proposition by assuming the result and deducing a valid statement by a series of reversible steps
b (1) : a branch of mathematics concerned mainly with limits, continuity, and infinite series (2): calculus 1b

4
a : an examination of a complex, its elements, and their relations
b : a statement of such an analysis

5
a : a method in philosophy of resolving complex expressions into simpler or more basic ones
b : clarification of an expression by an elucidation of its use in discourse

6
: the use of function words instead of inflectional forms as a characteristic device of a language

7
: psychoanalysis
What is "architectural analysis"? Is it to observe an operation? Or is it the operation itself?

"Architectural analysis" is
* to dissect: to peel off the building’s skin to reveal the ideas and dissect them until the nerves are exposed
* to observe: to think, compare and realize the relationships and
* to assemble: to cut, copy and paste the elements to establish (new) relationships.
Vitruvius presenting De Architectura to Augustus

Durand analysis of buildings based on their function

Karl Friedrich Schinkel. Plan of the Altes Museum Composed in the manner of Durand (top), analytical diagram of the Altes Museum as designed by Schinkel.
Colin Rowe first taught me how to see what was not present in a building. Rowe did not want me to describe what I could actually see: for example, a three-story building with a rusticated base, increasingly less rustication in each of its upper stories, and with ABCBA proportional harmonics across the facade, etc. Rather, Rowe wanted me to see what ideas were implied by what was physically present. In other words, less a concern for what the eye sees—the optical—and more for what the mind sees—the visual. This latter idea of “seeing with the mind” is called here “close reading.”

INTRODUCTION

Architectural analysis emerged during the era of modern architecture, but a historical flashback affirms its presence as a thinking and designing device since the very beginning of the history of architecture. From Vitruvius, who studied Greek architectural ideas and suggested them to the emperor Augustus in his treatise De Architectura, to architects such as Jean-Nicolas-Louis Durand, who surveyed the whole history of architecture according to function, Karl Fredrik Schinkel, whose drawings suggest a continuous analysis between Neoclassical and Periclean Athens, and Le Corbusier who established a language within which a century later architects still work. ‘Architectural analysis’ is used as a methodology that provides architects with a vision. A vision to see what is ‘not present’.

Throughout the history of architecture and science, the concept of space, its perception and organization has been questioned and explored from various angles, but less delved into is the question of methodology. The question of ‘how to’ as oppose to ‘what is’: As is usual, architectural analysis is a mean to research and investigate the subject; to achieve a deep understanding of the qualities of the analyzed subject and extract the underlying strategies. However, in this research the architectural analysis is the subject of investigation itself and therefore the focus is more on the mean rather than the end.

This lead to a formation of the question:

How can architectural analysis be used as a methodology to comprehend and inform the design of spaces?

Le Corbusier four composition
It is helpful, I repeat, to study one’s own work constantly. An awareness of one’s evolution is the springboard of progress. 

The research will continue with formal analysis of three selected buildings - Villa Savoye, Neue Staatsgalerie and Educatorium - studying their formal evolution and the formation of spaces from outside in, through a step by step axonometric representation to find out the formal strategies used in their spatial organization. The analysis will then be conducted from the experiential point of view. These series of analyses are focused on moving, seeing and the relationship between spatial arrangement and the perception of the spaces through the use of analytical drawings. To inform the design of the immediate context - Aotea Square- surrounding the building, two squares will be analyzed. Similar analysis will be conducted on Aotea Square to diagnose its weaknesses and problems. The last set of analysis covers the basis of building’s program. Palais Garnier as a precedent informs the building’s program. It will be analyzed to explore and investigate the relationship between the spatial and programmatic arrangements of the building.

In response to the lack of cultural awareness of the opera as an art form, there is a need to find ways to design settings that facilitate such awareness through exposure to engaging public with culture as work and participation not passive consumption. Within this context, it is important to explore ways of developing spaces that provide adequate exposure to not interrupt the production while bringing people closer to the concept of culture as work.

While many texts describe the unseen and unpresented qualities of different architectural buildings, not many describe the methods of how to see the unseen. Finally all these strategies and techniques will be used in the design of the project.

itself, to see if architectural analysis can be used as a design methodology, one which reveals the unseen, and help to understand space, and its arrangements.

Among the few resources on architectural analysis, the following texts are of particular importance to this project as they not only describe the unpresented architectural qualities but also look deeply into how to conduct analysis as means of ‘close reading’ the works of architecture: The Mathematics of the Ideal Villa and Other Essays by Colin Rowe¹, The Formal Basis of Modern Architecture⁴ by Peter Eisenman, Ten Canonical Buildings: 1950-2000³ by Peter Eisenman and Design Strategies in Architecture: An Approach to the Analysis of Form¹ by Geoffrey Baker. These texts discuss how to construct architectural analysis to develop a close reading of work of architecture and what buildings can be read closely.

In regards to the selected buildings for analysis, many texts were available however Bruno Reichlin’s⁶ essay on the works of Le Corbusier and the issue of El Croquis⁷ magazine on early works of OMA/Rem Koolhaas came to of great importance to this research. While information on Palais Garnier in English is elusive; it has proven necessary to rely heavily on the book by Christopher Mead, Charles Garnier’s Paris Opera: Architectural Empathy and the Renaissance of French Classicism⁸. This research is also indebted to Caroline van Eck and Stijn Bussels invaluable book of Theatricality in Early Modern Art and Architecture⁹ that investigate the exchange between art, architecture and theatre.

⁵. OMA / Rem Koolhaas (Madrid: El Croquis, 2006)
“What is essential is invisible to the eye.”
Antoine de Saint-Exupéry
ARCHITECTURAL ANALYSIS
11. Anthony Vidler. “Notes from the Archive: James Frazer Stirling”
Three buildings have been selected for dissection, observation and representation through architectural analysis:

- Villa Savoye, Le Corbusier
- Nue Staatsgallerie, James Stirling
- Educatorium, Rem Koolhaas

Each architect marked a golden stroke on the mural of architecture; Corbusier, as the architect who spanned pre-Modern to Modern and James Stirling, as the one sitting on top of the fulcrum that swung from Modern to Post-Modern. James Stirling was influenced by Corbusier and exposed to the success and failures of Modernism through his mentor and friend, Colin Rowe; his Neue Staatsgallerie is a prime example of his architectural humour and intelligence.

Looking at the present, Rem Koolhaas as the ‘l’homme d’architecture par example du jour’ makes an interesting case study for an understanding of the contemporary condition. Though it is hard to say anything specific about Koolhaas, which has a lot to do with the way OMA runs, his work is nevertheless psychedelic, yet convincing and rich to be analyzed and compared with that of Corbusier and Stirling. Educatorium, one of the early works of OMA is chosen as a scaled down built version of the manifesto that caused the birth of unbuilt, yet critical, buildings such as TGB (Très Grande Bibliothèque) and Jussieu Library.

Initially, all three buildings are formally analysed; a step by step demonstration of each building’s formal evolution from outside in, as the internal spaces materialize slowly into a coherent whole.

“...most architects can’t do ‘architecture’; I would argue...the only work that remains in the history of architecture is the work about ideas...there are always very few architects...you are going to a book store in an airport. Is that literature? No! Is it necessary? Yes! You go into cinema, Cineplex. Is that film? No! Is it necessary? Yes! You go into any town, 90% of the buildings are not ‘architecture’. Are they necessary? Yes!”

“I consider 99 percent of modern architecture to be boring, banal and barren.”

“It is absolutely fascinating, but utter nonsense. You say he talks about it, Where? (He opens a copy of S,M,X,L). Look, the words freedom and liberty don’t even appear in his dictionary, or anywhere else in these 2000 pages that I can remember. Koolhaas is like any other architect, all he does is try to make things beautiful. He has a tougher, grittier eye than most, but he’s great at it, probably the best in the world. That’s why the kids loved him before anyone else, and that’s why has finally become so fashionable for the rest of us old farts. If you really want to take a chance, try writing that. But then your article will be too short and no one will think you are brilliant.”
Ground Floor Plan
1. Entrance
2. Utility Room
3. Servant's Room
4. Garage

First Floor Plan
5. Living Room
6. Kitchen
7. Guest's Room
8. Son's Room
9. Mr & Mrs Savoye's Room
10. Boudoir
11. Hanging Garden

Roof Plan
12. Solarium
VILLA SAVOYE

Villa Savoye, Poissy-sur-Seine, France. 1930
Le Corbusier (Charles-Édouard Jeanneret) with Pierre Jeanneret.
Photo courtesy the Architecture and Design Study Center, The Museum of
Modern Art, New York.
A white cuboid sitting on a landscape whose pure form hovers over the ground to hide the entrance. The facade appears quiet and secretive. Moving along the curved glass wall, the white sculptural spiral staircase drills into the pure, hovering cuboid. It charms the visitor to move upwards, but not by the spiral - it turns its back to the visitors - but through the ramp. The light pouring out of the windows illuminates the stretched and bent ramp, highlighting “the preferred route”. The ramp leads the visitor through the house. As the visitor moves, the compressed and expanded spaces unfold, sometimes introverted, revealing the compact maze of spaces, and often extroverted, opening to the views and framing the landscape. It seems that the building is not a house anymore, but a museum showcasing its architectural wonders and beautiful context. Designed by Corbusier and constructed in Paris in 1929-31 the villa is so well known that it is quite difficult to look at it once again from a first principle’s view, clearing the mind of the vast amount of existing commentary.
1. Starting from a simple geometric form

2. Extruding and Lifting up the cuboid to form two separate spaces.

3. The Ground plane is defined by the car’s axes of movement, marking the boundary of the lower space

4. Extruding the boundary to form the servant’s space
5. Both lower and upper volumes are pierced to be connected.

6. Ramp: the spine of the building that connects all the separated volumes is added. It is dedicated to owner and guests.

7. Upper and lower volumes are pierced again to form a second connection.

8. Spiral: Sculptural but secondary, it is only to be used by servants.
9. Voids are treated as spaces, carved out of the main volume.

10&11. On both levels spaces are organized around the circulation elements, the ramp and the spiral.
12. Spaces superimposed

13. Voids

14. Adding a vertical plane to the surface of the upper volume forms another space, the solarium.

15. Final formal outcome
Through the application of formal analysis, it becomes apparent that the spectator’s ‘moving eye’ was a major concern for Corbusier while designing the Villa Savoye.

From approaching the building with a car, to moving through the building on a ramp, it is the beholder that determines the design decisions. It is the reason that the spaces are organized around the movement route.

It is important to note that, the movement route does not simply mean ‘circulation’, rather it supersedes the term ‘circulation’ and operates at a much deeper level. It refers to a complex web of ideas that Le Corbusier recognized as promenade architecturale.

Architecture can be seen only by a walking man...so much so that when it comes to the test, buildings can be classified as alive or not according to whether the rule of movement has been applied or not.\textsuperscript{13}

“In this house [the Villa Savoye] we are presented with a real architectural promenade, offering prospects which are constantly changing and unexpected, even astonishing. It is interesting that so much variety has been obtained when from a design point of view a rigorous scheme of pillars and beams has been adopted. . . . It is by moving about . . . that one can see the orders of architecture developing.”\textsuperscript{14}


Plan at Entry Level

1. Entrance Terrace
2. Entrance Hall
3. Information Desk
4. Sculpture Court in Base of Drum
5. Temporary Exhibitions
6. Lecture Theatre
7. Restaurant
8. Kammertheater Foyer

Plan at Gallery Level

9. Galleries
10. Kammertheater
11. Music School
12. Library
13. Gallery
14. Link to Old State Gallery
15. Upper Terrace
NEUE STAATSGALERIE

Neue Staatsgalerie, Stuttgart, Germany. 1977-83
James Stirling, Michael Wilford and Associate.
Announced as the winning entry of the architectural design competition for an extension to the old museum in Stuttgart, Germany, *Neue Staatsgalerie* (1977-83), aroused many controversies between architects and public. It was described as “inhuman and totalitarian” by architects such as Frei Otto while others praised it as “a perfect integration into the existing fabric”\(^{15}\) of the city. The strange, arrogant combination of classical architectural language with modern and high-tech elements, the use of bold, vibrant colour and its effect on the evolution of modern architecture and its path were the essence of this very heated controversy.\(^{16}\) Three decades later, the controversy continues and the building keeps dividing the architectural scene into opposing groups.

There is certainly more to this building than a clever negotiation between the classical and modern language and its “monumental and informal”\(^{17}\) characteristics. Influenced by Corbusier\(^{18}\), James Stirling has used *promenade architecturale* as one of the key design strategies for *Neue Staatsgalerie*. An extended circulation path passes between, above and below the strong, easily recognized forms and functions symbolically at a city scale. *Neue Staatsgalerie* was described as “urbanism”\(^{19}\) by its architect and designer, James Stirling.

16. Ibid., 252.
17. Ibid., 260.
1. Responding to the immediate context: Main axes of the site mimics the axes of the old state gallery

2. Starting point: The rectangular boundary of the site is extruded

3. The slope of the site is taken into consideration
4. Responding to the immediate context: The volume is divided into three parts following the rhythm of the old state gallery.

5. Responding to the immediate context: The height of the volume is adjusted to the height of the old state gallery. A stepping platform, consists of three main volumes, is formed.

6. Projecting the existing U-shape rhythm of the old gallery on the initial massing creates a sense of closure and locks the building within the context.
7. Physical connections between the new and old galleries
Two line of trees forms a natural colonnade while separating the building from the expressway and its noise.

8. Carving volumes: The drum pierced the volumes to anchor the stepping platform it between both ends of the sloping site. The entry ramp from Konrad-Adenauer Strasse is carved out of the second platform.

9. Carving volumes: The drum and the U-shaped volume is carved to form the route-on the geometrical axis of the site-through the drum.
10. Spaces are arranged within the lower in relation to the drum’s position and axis.

11. The second route through the drum is formed on the cross axis of the site. It connects the upper volume to the spaces within the lower volume. The circular ramp follows the form of the drum to create a shortcut through the site.

12. Carving volumes.
13&14: Entrance hall, information desk, lift, restaurant and ramp: Using bold, pure forms, Stirling has housed each function within a geometric volume and stacked them. The space are carved both ways, inside out and outside in.

15. Formation of spaces around the promenade
16. Adding volume
17. Adding and carving volume
18. The final results is a well balanced organization of spaces with in-between moments. However, the singular element that binds these geometrical parts into one, unified whole is the circulation.
Circulation has always been an important generator of Stirling’s works. In *Neue Staatsgalerie*, the use of circulation supersedes that of most architects of the twentieth-century, suggesting an integration of circulation and form, resulting in an experiential dimension. It is a Corbusian *promenade architecturale*, revealing a visual sequence, contains enclosure and exposure with geometrically composed spaces and volumes. Geoffrey Baker reads the *Staatsgalerie*’s promenade as one that “emanates from analysis of the complex texture of the city resonances of which are evoked by metaphor and allusion and by a juxtaposition of forms that combine visual surprises with vitality and grandeur.”

“The promenade architecturale surges across the [Staatsgalerie] complex in a magical mystery tour that resonates with memories of city structuring. In this scenario associations are transformed and decoded so that, for example, the traditional rotunda acts not as a point of culmination (as in the Pantheon or in Schinkel’s Altes Museum) but as a dynamic participant in an elaborate dialogue between inside and outside and between an ideal and reality.”

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19. Promenade architecturale’s routes in Neue Staatsgalerie

21. Ibid., 72-75.
Educatorium an invented name alluding to a factory of learning, is an exchange point and centre of gravity for all fourteen faculties and many research institutes of the Uithof. The building comprises two interlocking forms

- a raised surface that folds back into itself
- a box

The surface is a tilted ground plane, forming a large open space above and underneath, called the “pause area”. The continuous ‘pause area’ - flexible, porous and permeable - is broken up by the insertion of two volumes as auditoriums. There is an absence of intentional enforcing architectural design for the pause area to provide the user with freedom and power to engage and define the space according to their desire. As a result, the users turn into participants and the space into a “field of play”. The other interlocked box-shaped form, however, is rigidly articulated with a deep spatial structure. As required by the housed program, three examination halls calls for more control over the space and the users.

23. Ibid., 302.
24. Ibid., 302.
1. Site axes are responding to the surrounding buildings
2. Starting point: the rectangular boundary of the site is extruded
3. The extruded rectangle is divided horizontal into four levels
4. The ground plane is lifted
5. The raised ground plane is folded on to itself to match the third level
6. The malleable ground plane is banded to create two flat surface
7. The malleable ground plane follows the axis of the site
8. The folded plane is sliced in two ways partially to form the mixing chamber
9&10. The raised plane is partially sliced in three ways following the longitudinal axis of the site except one that marks two thresholds. One connecting to the space below the raised plane and the other remain connected to the raised plane.

11. The volume for the bicycle parking is inserted between the raised ground plane and ground.

12. The volumes as auxiliary spaces are inserted underneath, above and in between the manipulated raise plane.
13. The auditoriums’ volumes are inserted within the fold
14. Two planes are interlocked: The rigidly bent plane caps the folded plane
15. Volumes as Auxiliary spaces are inserted
16. The connection to the building next door
Yet again the element that unifies the building as a whole is the promenade or, as OMA has named it in this particular building, the ‘pause space’. The pause space is materialized through the ground plane that is raised, sliced, bent and folded. The formal analysis demonstrates the dominance of the ‘pause space’ over the other spaces. The program-less ‘pause space’ is not the normal circulation space that one regards as secondary to the programed spaces within a building. It performs as a ‘magic carpet’ taking the spectator through the building, unfolding the spaces while creating a social platform for students to interact. Juxtaposition of differences between the circulation, space and social activity contextualize the entire campus and university within one single building.

18. Promenade architecturale’s routes in Neue Staatsgalerie
DERIVED FORMAL STRATEGIES

Comparing the formal analysis of Villa Savoye, Neue Staatsgalerie and Educatorium it is clear that promenade architecturale is the main theme of all these buildings. Although, the formal outcome is different in each building they share certain formal strategies:

1. Starting from a generic form following the boundary of the site
2. Organizing each program into separate volumes
3. Arrange (stack, carve, layer and insert) the volumes into one cluster
4. Connect the cluster of volumes internally through architectural circulation elements (ramp, stairs and lift)

The above commonalities are illustrated in the following diagrams. The numbers denote the strategies.
The underlying key to all these shared formal strategies in Villa Savoye, Neue Staatsgalerie and Educatorium is promenade architecturale. Consequently, this leads to the emergence of a crucial question:

What is promenade architecturale?

Is it the ‘preferred route’ that is highly articulated for the observer to move through a sequence of space? A sequence of images that unfold before the eyes of observer as he moves through the space that at once connects the observer with the internal space of the building and its external context? Or is it a set of instructions for reading the work of architecture, and a setting to perceive the space?
Promenade is an urban design term rather than an architectural one; a public place where people walk through in order to ‘be seen’ and be considered part of ‘society’.

“Public place where people walk (or, in the past, rode) at leisure for pleasure, exercise, or display. Promenades are pedestrian avenues pleasingly landscaped or commanding a view, often located along waterfronts and in parks. Vehicular traffic may or may not be restricted.”

The notion of promenade architecturale in modern architecture was used by Corbusier for the first time to describe two of his villas: Villa La Roche and Villa Savoye. However, tracing back the history of architecture proves that promenade architecturale is not originally a Corbusian idea. Spatial analysis of the Acropolis reveals that the notion of apprehension of space through an engagement of “seeing and moving” was a notion in architecture since ancient times.

Promenade architecturale is the legacy of this former concept. However, Christopher Schnoor explained how the idea of promenade architecturale developed for Corbusier through many different sources and, like most Corbusian things, refers to a complex web of ideas. Corbusier’s studies of urban situations in libraries of Berlin and Munich, readings of Auguste Choisy’s interpretation of the Acropolis, his 1910 research on Camillo Sitte and urbanism and most importantly his legendary journey through the Balkans to the Bosphorus and the ancient Mediterranean world where he visited the Acropolis in Athens for the first time in 1911 and formed the notion of promenade architecturale.

“Taking this idea further, it is suggested that particular urban situations which he studied from books and from nature served as models to be translated into particular architectural moments in his buildings. Thus, the interior of the Maison La Roche-Jeanneret, translated as a picturesque medieval town square – an adaptation of lessons learned from Paul Schultze-Naumburg and Theodor Fischer – intensified, on a domestic scale, the experience of visual and bodily engagement a flâneur would have in an ‘urban theatre’, in the well-composed streets and squares of vernacular or traditional towns.”

27. Camillo Sitte (17 April 1843, Vienna– 16 November 1903 in Vienna) was a noted Austrian architect, painter and city planning theorician with great influence and authority of the development of urban construction planning and regulation in Europe. (Source: Wikipedia)
All this research and analysis came to fruition a decade later, when he designed Maison La Roche-Jeanneret (1923).

“This house [the Maison La Roche-Jeanneret] will be rather like an architectural promenade. You enter: the architectural spectacle at once offers itself to the eye. You follow an itinerary and the perspectives develop with great variety, developing a play of light on the walls or making pools of shadow. Large windows open up views of the exterior where the architectural unity is reasserted.”

Le Corbusier, subsequently, developed this idea further by designing Villa Savoye.

“In this house [the Villa Savoye] we are presented with a real architectural promenade, offering prospects which are constantly changing and unexpected, even astonishing. It is interesting that so much variety has been obtained when from a design point of view a rigorous scheme of pillars and beams has been adopted. . . . It is by moving about . . . that one can see the orders of architecture developing.”

The following analyses show the movement route of the promenade in each building. It explores:

- the location of the promenade within the plan and its arrangement,
- its arrangement in relationship to the spaces outside the promenade,
- and finally the arrangement of the spaces outside the promenade in relation to the promenade itself

30. Ibid., 24.
PROMENADE IN VILLA SAVOYE

The promenade in Villa Savoye starts when the spectator enters the green meadow on a car moving towards the villa. While passing along the pilotis the spectator catches the first glimpse of the interior, the spiral and the ramp. The ramp is the manifestation of the promenade. However, it is only to be used by the guests and the Savoye family. The promenade is a vertical route ascending from the ‘underworld’ (where servants are living) through the ‘world above’ (that is dedicated to the Savoye family and guests) to the ‘world beyond’, where Le Corbusier hand framed a part of the scenery for the spectator, opening up to where the spectator had started his journey. Thus, the building that once was seen surrounded by the beautiful setting now frames the setting and has itself become a platform. The roles have reversed and the promenade is now complete.
Ground floor - movement route of promenade architecturale & spatial arrangement within the promenade

First floor - movement route of promenade architecturale & spatial arrangement within the promenade

Roof - movement route of promenade architecturale & spatial arrangement within the promenade
Ground floor - movement route of promenade architecturale & spatial arrangement outside the promenade

First floor - movement route of promenade architecturale & spatial arrangement outside the promenade

First floor - movement route of promenade architecturale & spatial arrangement outside the promenade
Ground floor - movement route of promenade architecturale & spatial arrangement within & outside the promenade

First floor - movement route of promenade architecturale & spatial arrangement within & outside the promenade

Roof - movement route of promenade architecturale & spatial arrangement within & outside the promenade
In Villa Savoye:

- promenade is the centre of the plan and located on the main axis of the building
- the spaces within the promenade have the highest density at the entrance
- the spaces within the promenade are overlapped with blurred boundaries
- comparatively, the spaces outside the promenade are clearly defined
- the spaces outside the promenade are pushed against the facade of the building
- the spaces outside the promenade are arranged around it as if they are hanging off the promenade
There are two main promenades in Neue Staatsgalerie designated for the two main groups of spectators:

- museum visitors
- public

To explain the essence of promenade architecturale in Neue Staatsgalerie both promenades are selected for analysis and description.

Both promenades start on the street through different entries of the museum. Both groups of spectators, public and museum visitors arrive together on the entrance terrace to take different paths.
The external promenade:

The external promenade appears to be a shortcut connecting Konrad-Adenauer Strasse to Urban Strasse through the museum. The promenade is linear and stays as one, controlled route and not giving the observer any option of diverging from the path. It instead carries them directly from the starting point of the promenade, Konrad-Adenauer Strasse, to the destination (Urban Strasse), while maintaining visual connection with the surrounding spaces. Despite its linearity, the promenade is quite pleasurable to walkthrough as it overlaps and exposes the internal promenade running beneath it.

The internal promenade:

Passing the green entrance hall and through its glazed curtain wall the observer is able to see the next stage of promenade, the information desk. However, prior to entering the hall, the observer is unable to see the sculptural ramp, the glass lift, and brightly painted gantry. This combination of vertical circulation, lit by means of skylights, is the next visual cue in the promenade, leading the observer to the upper level of the galleries. However, walking towards the ramp the observer passes the colonnade that traces the drum. The sculpture court in the base of the drum appears through the colonnade. This visual transparency creates a tension within the path of promenade by providing the observer the choice of their path. Eventually, the promenade becomes more curious while encouraging the spectator to participate.

Upon deciding to go to the sculpture court the observer is able to enjoy the framed sky and the movement of public passing through the site via the elevated circular ramp. There are two set of staircase located on the cross axis of the site. One going down to the gallery of temporary exhibitions and the other going up towards the upper terrace level.

Back to the entrance area the observer can choose to either go to the theatre’s lobby on the left, or take the ramp or glass elevator to reach the upper galleries. However, the ramp and elevator grant priority to the route toward the galleries; a series of enclosed rooms one connected to the other, all lit by the means of skylights in the roof. Galleries form a chain of enfilade spaces, connected both visually and spatially so that the observer can reach the last gallery room without any interruptions. The last link of the gallery chain connects the new museum to the old one via a bridge.

“One can readily imagine Le Corbusier applauding this virtuoso rendering of his celebrated promenade architecturale. And in so doing he would recognize the difference between the Mediterranean origins of his own philosophy and those northern European sensibilities of his disciple.”

Entry level - movement route of promenade architecturale & spatial arrangement within the promenade

Gallery level - movement route of promenade architecturale & spatial arrangement within the promenade
Entry level - movement route of promenade architecturale & spatial arrangement outside the promenade

Gallery level - movement route of promenade architecturale & spatial arrangement outside the promenade
Entry level - movement route of promenade architecturale & spatial arrangement within & outside the promenade

Gallery level - movement route of promenade architecturale & spatial arrangement within & outside the promenade
In Neue Staatsgalerie:

- the external Promenade is the centre of the plan and located on the axis of the museum
- the spaces within the promenade have the highest density at the entrance
- The spaces within the promenade are highly overlapped and yet fragmented
- the spaces outside the promenade are pushed towards the boundaries/facades of the building
- the spaces outside the promenade are hanging off the promenade and promenade appears as spatial connection
- the spaces outside the promenade are defined and arranged rigidly
PROMENADE ARCHITECTURALE IN EDUCATORIUM:

The promenade in Educatorium consists of a dense network of movement routes that go to various destinations within the building.

Promenade starts on the street. Going up the wide ramp that starts outside the building, the observer moves through an outdoor plaza before reaching the first level. This ramp provides the shortest and fastest path to the lecture hall level. However, the observer is also able to enter the building via a mediatory flat surface that is called a “mixing chamber”. The mixing chamber overlooks the cafeteria on the ground floor while also being shared as a platform for all ramps and entries. From the mixing chamber the observer can take the ramp that descends towards the cafeteria, or the adjacent ramp running along the external ramp housing the outdoor plaza. As the observer reaches the first level, the floor plane becomes flat and provides more options; either
move ahead by turning left or go straight to the ramp squeezed between the glass facade of the building and the glazed wall of the lecture hall (Theatron). Going up the ramp both side views are open, while the front view is blocked, encouraging the observer to gaze outside the building. The front view is saved for the next part of the promenade. Upon reaching the end of the ramp the axis changes and forces the observer to turn. At the turn the observer confronts another threshold. One half is exposed to the outside by means of a glazed wall with an exposed roof structure. The other half is blocked by the concrete floor that is folded upon itself, forming the wall and the roof. The threshold accommodates entries to both lecture halls. The lecture halls are separated by a ramp stretched along the longitudinal axis of the building. The ramp leads the observer to where both longitudinal and latitudinal axes overlap. This marks an important point within the building as it is where the observer can experience the fluid and rigid plane interlocked; where, the observer looking over the two interlocked planes and the movement of other observers through the two planes. This is where promenade ends, facing a void that, despite interrupting the continuity of the promenade, creates a visual connection between the two separated parts of the building: the folded plane and the rigid plane. The other ramp, positioned between the box-shaped lecture hall (Megaron) and the fire staircase, connects the folded plane to the examination halls.

All the aforementioned ramps weave and wrap around volumes and voids, interlocking the fluid plane with the rigid plane. Thus a single trajectory is created in which the entire university experience – socialization, learning, and examination – can be encapsulated.

Ground floor - movement route of promenade architecturale & spatial arrangement within the promenade

First floor - movement route of promenade architecturale & spatial arrangement within the promenade

Second floor - movement route of promenade architecturale & spatial arrangement within the promenade

Third - movement route of promenade architecturale & spatial arrangement within the promenade
Ground floor - movement route of promenade architecturale & spatial arrangement within & outside the promenade

First floor - movement route of promenade architecturale & spatial arrangement within & outside the promenade

Second floor - movement route of promenade architecturale & spatial arrangement within & outside the promenade

Third floor - movement route of promenade architecturale & spatial arrangement within & outside the promenade
In Educatorium:

- promenade is the centre of the plan and located on the main axis of the building.
- the promenade is also pushed against the facades of the building so it seems that the spaces outside the promenade are wrapped around by the promenade
- the spaces within the promenade are highly overlapped with blurred boundaries
- the boundary between the promenade and the spaces outside it is occasionally blurred
PROMENADE ARCHITECTURALE

TYPES

Bruno Reichlin describes promenade architecturale as a set of instructions that assist the beholder in "reading of the work" and understanding architecture and space.

"The understanding of architecture requires a multiplicity of views from categorically different viewpoints integrated with each other during the real time of a tour. Such a process of understanding requires a scenario. It is here that the idea of a promenade arises. What is required is a "tour" that, in the real time and space of observation, selects and structures "physical sensations" so that the viewer’s mind—the observer’s mental, fixed "place"—yields a synthesis of "elective" images that permits an exhaustive understanding of the object, a re-creation of the "creative moment". In the "theatrical" space of the "garden terrace" the promenade guides the ‘reading of the work’.

He divides the Corbusian promenade architecturale into two types:

1. The linear promenade that has controlled transitions and does not privilege any viewpoint or no framing threshold. This type of promenade was used in the very first of Corbusier’s architectural projects: Villa Besnus at Vaucresson.

2. The second type is a diversified promenade that provides multiple readings of the work. This type of promenade involves enjambment, a term that Corbusier used to describe the effects of spatial interface, of overlap or ambiguity, for which Rowe and Slutzky later proposed the term “phenomenal transparency”.

"In poetics, enjambment means the breaking of congruence between syntax and meter, which occurs when the end of a phrase or part of a phrase does not coincide with the end of a line (rhymed or not). Transposed into architecture, enjambment seems to describe perfectly the overflow of one space into another..."

If enjambment is the quality that refers to an overlapped and continuous space, then the promenade architecturale in Villa Savoye, Neue Staatsgalerie and Educatorium can be classified under the second type.
The following diagram illustrates the spatial continuity of the promenade in Villa Savoye. The promenade in all three building represents a continuous space. However, this continuity is of a different nature in Villa Savoye and Neue Staatsgalerie compared to Educatorium. The promenade in both Villa Savoye and Neue Staatsgalerie is of a stacked, layered and carved out nature. As the formal analysis illustrated previously in this document, in Villa Savoye both upper and lower volumes are carved for the ramp and spiral insertion (vertical insertion). So that the spectators partially moves through the in between spaces of the stacked volumes. Similarly in Neue Staatsgalerie the stacked volumes are carved or layered with ramps and lifts to create spatial continuity for the beholder.

Conversely in Educatorium the promenade is originally conceived as one, literally continuous, surface. In Educatorium both voids and functional volumes-spaces-are inserted within the continuous surface of the promenade, unlike Villa Savoye and Neue Staatsgalerie where the spaces hang off the promenade.

The continuous space of the promenade in Educatorium is broken up by the insertion of the volumes to form a “contiguous discontinuity”. The ramps and stairs are not inserted anymore but the surface is manipulated (sliced, folded, bended, wrapped) to create them while showcasing the formal strategy of horizontal disturbance. In Educatorium the circulation spaces are not subordinate of specifically programed spaces therefore the circulation is a dense network of movement routes with no hierarchy, hence no preferred route.

As a result, the observer is provided with many options turning the building into a field of play and the observer into an active player.

Despite the different nature of continues space in Villa Savoye, Neue Staatsgalerie and Educatorium, the experience of the spaces within the promenade is like “an architectural theatre in which spaces, places, and objects take on a different meaning and a new shape depending upon weather they are viewed or used.”

So an important questions emerges:

What is the relationship between theatre, architecture and promenade architecturale?

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37. The initial concept of the building was one continuous surface, but due to structural limits the final design was broken down into two different plane one fluid and the other rigid (Rem Koolhaas / OMA (Essays in Architecture)


39. Ibid., 203.

40. Ibid., 220-228.

The diagram is constructed of still images taken from a video recording. The video is a recorded experience of the spectator walking through Villa Savoye (which is a museum currently) with a handy cam video camera. The still images of the video then constructed to show the journey of the spectator through the villa.
The interplay between seeing, moving and perceiving is integral to no other traditional cultural phenomenon as much as it is to theatre. Architecturally, this translates to the notion of promenade architecturale; walking through a space, seeing, being seen and perceiving.

“The front of a building is like the prologue of a play, it prepares us for what we are to expect. If the outside promises more than we find in the inside, we are disappointed. The plot opens itself in the first act and is carried on through the remainder, through all the mazes of character, convenience of arrangement, elegance and propriety of ornaments, and lastly produces a complete whole in distribution, decoration and construction.”

John Soane (1753-1837), mentioned in the notes for one of his academ laid lectures that the experience of seeing and walking through a building is comparable with that of watching a theatre performance.

The connection between architecture and theatre is discussed thoroughly by Caroline van Eck and Stijn Bussels in “Theatricality in Early Modern Art and Architecture”. The disciplines of architecture and theatre, while distinct, have shared a companionable, mutually beneficial relationship throughout history with practitioners of each regularly experimenting in the parallel field. Theatre has borrowed elements from architecture, from the primitive wooden scaffoldings used in Athens in the 5th century BC to perform Bacchic plays, to the elaborate perspectival backdrops with their suggestion of infinite space developed in the 18th century by the Galli-Bibbiena family. Conversely, architecture has borrowed many attributes of theatre to make the buildings perform and unfold the drama as can be traced in Classical, Baroque and Beaux Arts schools of architecture. They both require, and play to, the spectator; in fact, the presence of an audience is a required dynamic for both architecture and theatre. Both make use of visual techniques to provide an impression of reality, albeit a performed reality contained within clearly observable borders. Finally, the viewer's eye is (hopefully) directed through the visual cues established by the architect or dramaturge.

Modern architecture, however, is often associated with film rather than theatre and, therefore, it seems that the influence of theatre on modern architecture is relatively less explored. There are fundamental similarities between theatre

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and film which originate from theatre, such as scripts, sets, costumes, production, direction, actors, audience, storyboards and scores. There is, however, an indispensable difference; the relationship of the performer to the audience. The experience of being in the presence of the performer is of most importance to the theatre. At the heart of theatre experience is the performer – audience relationship: the immediate and personal exchange. It is this chemistry and magic that gives theatre its special quality.

Theatre shares this performer – audience relationship with architecture and promenade architecturale.

It can be argued that they tend to share certain relationships such as:

- space and its organization (stage and mise en scène), and
- observer (performer and audience).

Consequently, considering the theatrical relationships, it is appropriate to analyze ‘promenade architecturale’ within the context of modern architecture as an architectural theatre with all its theatrical attributes.

Focusing on the ‘theatricality’ of the spaces arranged in ‘promenade architecturale’, the intention is not to investigate a superior influence between theatre and film on architecture. The focus is to realize and delve into the ‘theatrical’ qualities of architecture and its implications for the space and its organization with regard to the presence of the observer.

However, before exploring the theatrical qualities of promenade architecturale a necessary question needs to be answered.

What is theatricality?
THEATRICALITY

‘Theatricality’ is a concept with many meanings, ambiguity being a constant feature. On one side of the semantic spectrum it simply refers to anything pertaining to the theatre - from the props to the script - on the other the term has ethical and political connotations. It also carries the negative meaning of being deceitful and, therefore, against the truth. However, ‘naturalness’ comes to rescue theatre and theatricality from being unreal and artificial. Further explanations are required to elucidate how naturalness in theatre and visual arts is achieved and also how naturalness is to be translated and applied to architecture and landscape.

THEATRICALITY: UNREAL AND UNNATURAL

The multi-faceted concept of theatricality demands multiple foci. Therefore, instead of taking the latest definition of ‘theatricality’ as the point of departure, it appears more logical to study the implications of the use of elements that make up theatre both as a technical medium, and the wider social phenomenon: the work on stage, the spectator and, ultimately, the relations between them.

Prior to the 2nd century - the Greek word ‘thea’ (derived from the verb ‘theomai’ meaning to gaze with admiration or bewilderment, or to contemplate) and its cognate ‘theatron’ were used to identify the distinctive visual characteristics of the theatre. It is only since the 2nd century that the word ‘thea’ apart from its reference to the visual
characteristics of the theatre, started to be used to refer to exaggeration, distortion, and deceit. The term ‘theatricality’ was first documented in English in 1711 and later in French. Both languages use the word to refer to subjects, objects and situations directly related to the theatre. However, towards the end of the 18th century it came to be associated with exaggeration and affectation attributed to the theatre.

“Theatricality becomes associated with everything unreal and unnatural, with conscious deceit, not only of the audience in the theatre but of society at large, and even with a loss of self.”

Theatricality commonly carries negative connotations by challenging the value of the work of art and architecture. This negative understanding of theatre has a long history that goes back to Plato’s famous anti-theatrical, or rather anti-mimetic, arguments in the tenth book of The Republic. Plato attacked what he saw as the theatre’s distortion of reality. Theatricality for him was ‘a corruption of the mind of all listeners who do not possess as antidote a knowledge of its real nature.’ As Caroline van Ech and Stijn Bussels explain in their article, “The Visual Arts and the Theatre in Early Modern Europe”, the distortion of reality was one of the greatest dangers of theatre for the audience who might be unable to differentiate it from the truth. However, Bram van Oostveldt has shown in his article, “Ut pictura hortus/ut theatrum hortus: Theatricality and French Picturesque Garden Theory (1771-

46. Ibid., 12.
95)“that it is not the theatre itself that posed
the problem, but the danger of theatricality.
This apparent danger forms the concept of anti-
theatricality as the subtext to theatricality.”

NATURALIZATION OF THEATRALITY

The rejection of theatre and theatricality
and the view of naturalness as its apparent cure
turned into a hot topic among European scholars
in 18th century. Johann Sulzer provided a
definition for the word natural for the fine arts
in the Encyclopédie and acknowledged it as an
appropriate adjective for theatre and, as a result,
dissociated theatricality from theatre itself.

“NATURAL, Fine Arts, adjective by which one
designates artificial objects that are presented to us
as if art is not involved and as if they were products
of nature itself. A painting that strikes the eye as
if it were the object itself; a dramatic action that
makes us forget it is only a spectacle; a description,
the representation of a character that gives us the
same idea of things as if we had seen them...all this
is called natural.”

In searching for a theatre without theatricality, and changing the artificiality of the classical theatre, the theatre theorists tried to moderate their declamatory and speaking style. Denis Diderot was the first person who attempted to overcome the problem of theatricality from a different angle by shifting the focus from the literary and verbal to the visual. Diderot associated the problem of theatricality with spectatorship and the position of the spectator. He developed a simple yet magnificent solution known as ‘the fourth wall’.

“Do not think of the spectator anymore. ...Imagine at the front of the stage a great wall that separates you from the parterre; play as if the curtain will not rise.”

To invite the beholder to forget that he is attending a performance he found it necessary for the actor to keep the performance natural through sustaining the illusion that he was not acting a role. This, in turn, would help to persuade the viewer that he was watching the events themselves, not a play.

Diderot’s dramaturgic and theatrical concept of ‘the fourth wall’ may appear to be a simple strategy, but in fact it is a multilayered one. Other than the double strategy of forgetting, it also formulates a secret gaze. The secrecy of ‘seeing’ in the concept of ‘the fourth wall’ is not only providing the representation with its natural and non-theatrical qualities; it also defined spectatorship as voyeurism.

53. Ibid., 172
ABSORPTION AND PASTORAL

Diderot’s solution for naturalization of theatricality was thoroughly discussed and analyzed by Michael Fried in his much cited study Absorption and Theatricality: Painting and beholder in the Age of Diderot. He identifies Diderot’s strategy as being an exclusive one because it rejects the presence of the spectator from the depicted scene. Fried named it “absorption.”

“Character depicted in a painting or presented on stage must be absorbed by what they are doing, hearing, thinking or feeling that they seem to forget that they are the object of a beholder’s gaze, just like actors in front of the imagined fourth wall.”

Fried described absorption as a strategy of persuasion that neutralizes the awareness of the spectator and, most importantly, makes it secretive. Otherwise, as Bleeker rightly pointed out, if it reveals itself as a strategy, it will have a negative effect and it appears theatrical.

This exclusive strategy of Diderot is quiet effective for curing the artificiality of theatricality in theatre and painting. However, it is not much of an answer to this problem in the context of architecture and landscape as the depiction of human action is not the central theme any more. Diderot, being aware of the different condition for architecture and landscape, had proposed a second strategy. This strategy, similar to the ‘absorption’, deals with spectatorship and its relation to the representation but is totally opposite to his former

exclusive strategy. This second strategy that Fried calls ‘pastoral’ is inclusive; the viewer is no longer said to be excluded from the depicted scene but is now understood as being invited to participate, or seduced into doing so. Fried described Diderot’s paradoxical strategy this way: “The estrangement of the beholder from the objects of his beholding is overcome; the condition of spectatorship is transformed and thereby redeemed”56. The ‘pastoral strategy turns the spectator into a participant who has successfully closed the gap between representation and spectator.

Such redefinitions of spectatorship, ‘absorption’ and ‘pastoral’, were used widely to resolve the problem of theatricality in landscape especially the French picturesque movement.

Complementing each other, both strategies are used to simultaneously naturalize and neutralize the performance, observation and voyeurism. The result is a carefully constructed mise en scène, strictly defining the place of the spectator and encouraging them to overcome the theatricality of the garden in order to become a participant in the grand spectacle of nature. Consequently, the notion of voyeurism in architecture has developed from the one way, secretive, observation to a mutual act through turning the architecture into a simultaneous stage and auditorium. This in turn encourages the spectator to be active and constantly transforming from spectator to performer and vice versa, while architecture offers itself as a platform for this change.

PROMENADE AS THEATRE

To understand the theatrical experience of the promenade in Villa Savoye, Neue Staatsgalerie and Educatorium; and to explore the architectural technique to achieve this theatrical experience further investigation is required. The following analysis explore the connection between moving and seeing; the connection between the observer, the building and other observers.

Previous analysis (the relationship between the line of movement and the spacial arrangement) revealed a repeating some spatial pattern in all three buildings:

- Long spaces/threshold
- Overlapping
- Layering

One specific point/space in each building is selected to closely analyze and investigate the relationship of these techniques with the moving spectator.
The vision lines are illustrated from the point that the observer standing. The lines reveal how much of the building is revealed to the observer. As it can be seen from the photograph (taken from the same point in Villa Savoye) layering the columns, spiral and walls with the thresholds at the background has created a rich depth of field. This intensity of depth field along with layering and the use of thresholds at the background creates several different vanishing points as the spectator moves through the spaces. The moving observer perceive a constant tension that is the characteristics of ambiguous spaces of promenade. The use of similar techniques can be seen in Neue Staatsgalerie and Educatorium.
Since Neue Staatsgalerie and Educatorium are public buildings, the other spectators will be added the layered spatial structure of the buildings, adding more complexity and ambiguity.

This visual connection of observer-building and observer-observer combined with the formal changes of the ground plane results establish theatrical relationship. The building turn into a stage while the observer change into a performer while at the same time another space with certain visual connection turn into the auditorium and the beholder will be the audience. This constant change of stage and auditorium and performer and audience results into a dynamic space.
the spectators vision lines in Educatorium

The combination of formal and visual strategies in Educatorium
'ramp verb

Definition of RAMP
intransitive verb
1
a : to stand or advance menacingly with forelegs or with arms raised
b : to move or act furiously
2
: to creep up —used especially of plants
3
: to speed up, expand, or increase especially quickly or at a constant rate —used with up <ramping up to full speed>

Comparing Villa Savoye, Neue Staatsgalerie and Educatorium promenades establishes the ramp as a consistent element of the promenade architecturale. In fact Jurgen Joedicke defines ramp as architectonic of the promenade. This understanding leads us to question:

What is a ramp and what does it convey as the architectonic of the promenade?

The ramp is not a Corbusian invention. Stanislaus von Moos in Elements of Synthesis suggests the late Italian and French Renaissance tradition of articulating “arrival-zones in terms of solemnly exposed ascents” as the ramp’s most likely historical precedent.

“Having reached the entrance to the monastery [of Ema, which Le Corbusier visited on his first journey to Italy in 1907], the visitor encounters a long, gently ascending ramp with low steps leading upward in the opposite direction. Going up this ramp one is looking out through large apertures enclosed with semicircular arches onto the path one has come. Was this the proto-type, the model-retained in the memory—for the ramp in the Villa Savoye and for all other ramps in Le Corbusier’s later work?”

Practically, a ramp adds a fast, vertical movement to the usual horizontal movement pattern of the observer within the promenade. However, a ramp is more than a vertical path. In Corbusian terms it could constitute many characteristics:

- Spectacle of pure form and space
- Space-time construction
- Explicit machine-age symbolism
- Ceremonial ascent
- Guideline; a materialized axis

"[T]he ramp was designed as the preferred route of what the architect [Le Corbusier] calls the promenade architecturale through the various spaces of the building--a concept which appears to be close to that almost mystical meaning of the word “axis” that he had employed in Vers un Architecture."

Reyner Banham's concept of the ramp is very close to the concept of axis defined by Corbusier:

"An axis is perhaps the first human manifestation; it is the means of every human act. The toddling child moves along an axis, the man striving in the tempest of life traces for him an axis. The axis is the regulator of architecture. To establish order is to begin to work. Architecture is based on axes. The axis is a line of direction leading to an end. In architecture you must have a destination for your axis. In the schools they have forgotten this and their axes cross one another in star-shapes, all leading to infinity, to the undefined, to the unknown, to nowhere, without end or aim. The axes of the school is a recipe and a dodge. Arrangement is the grading of axes, and so it is the grading of aims, the classification of intentions. The architect therefore assigns destinations to his axes. These ends are the wall (the plenum, sensorial sensation) or light and space (again sensorial sensation)."
The ramp in Villa Savoye is the path that signals the beginning of the promenade. A set of axes is embedded within the path. The primary axis follows the geometrical axes of the ramp, guiding the spectator towards the destination, the solarium on roof top. While the secondary set of axes is a collection of many single axes that start somewhere through the path on the ramp, and end at different destinations outside the path and away from the primary axis. As Corbusier has mentioned, these destinations could be the spaces arranged around the promenade—such as the bedrooms, kitchen and living room in Villa Savoye—or a wall or even light. The overlap of primary axis with secondary axes creates a constantly changing rhythm to the ramp (path). The secondary axes inject a sequence of images into the primary axis, exposing the spectator to a dynamic spatial experience while moving up the ramp until reaching the destination.

In Villa Savoye the ramp, the beginning of the upward path through the house and the terminal point of this path, and finally the vista point— from which one looks out onto the landscape—are all situated vertically. The promenade concludes as a full circle.

“movement through space became the guiding principle of a new and different architecture, not just movement in and through space but also in the alternation between movement and being stationary. Thus the ramp in the Villa Savoye not only leads from one place to another, it also connects places that are harmoniously balanced within themselves. It does not simply lead through the building but has a beginning and an end, and when one end is reached it begins to lead us once more to another place.”

RAMP IN NEUE STAATSGALERIE

Two main ramps can be identified in Neue Staatsgalerie:

The ramp that connects the entrance area to the upper galleries:

The ramp next to the glass elevator with the brightly coloured gantry has a sculptural effect. It seems that Stirling intentionally designed them both (the ramp and the elevator) as functional sculptures and lit them from above through the skylights to attract observers. Overlapping the entry hall level and gallery level plans shows that reaching the galleries does not require any initial change of axes. It is only after visiting the first gallery room that the observer needs to turn as the axis is changed. However, a vertical connection is required to transition the observer from the entrance space at the lower level, to the gallery rooms at the upper level. Stirling uses the ramp as an architectural statement that addresses axes, changes of levels and beyond. He conceived the ramp as a ceremonial path, ascending from the entrance space towards the upper galleries – the exhibition space for art - connecting profane to sacred. By locating the ramp with its back to the observer - approaching from the entrance - Stirling decided to accentuate the change of axis making the ramp an entry to the gallery. This in turn highlights the transition from one space to another. The ramp makes the axis fold back upon itself twice before reaching the upper level. This deliberate repetition makes the approach longer and the delay creates anticipation in the observer. Anticipation results in greater awareness of the destination.
The ramp that constructs the external promenade: “The promenade architecturale surges across the [Staatsgalerie] complex in a magical mystery tour that resonates with memories of city structuring. In this scenario associations are transformed and decoded so that, for example, the traditional rotunda acts not as a point of culmination (as in the Pantheon or in Schinkel’s Altes Museum) but as a dynamic participant in an elaborate dialogue between inside and outside and between an ideal and reality.”

The second important ramp goes through the drum connecting Konrad-Adenauer Strasse to Urban Strasse. The ramp starts from the entrance terrace, positioned at an angle on the axis of the eastern entry. As the spectator walks up the ramp the city is revealed on one side and the monumental cylindrical form of the drum on the other. The axis changes as the ramp turns and the spectator locates along the main axis of the building. The route then enters the drum at its midpoint, piercing its cylindrical volume and creating a focal point for the two axes.

The drum is the most important space within the museum and, as Geoffrey Bakers describes, it acts as “a dynamic participant in an elaborate dialogue between inside and outside and between an ideal and reality.” The drum connects and separates the lower and the upper volume simultaneously by puncturing through them. The drum is a void: a space of nothingness. Its circularity is reinforced by the ramp that traverses it.

The other main axis that crosses the building is occupied by the museum visitors walking in the sculpture court at the base of the drum. Within the drum at the concentric point of

two axes there is no physical connection between the public and museum visitors. However, the visual connection is maintained, thus giving the public the opportunity to watch people and the liveliness of the museum, while walking up through the drum via the ramp. Prior to the moment of exit the drum’s axis changes by 90 degrees and it aligns with the main axis of the building. The spectator follows the ramp that splits the upper galleries through a tight threshold. Before leaving the promenade, the axis changes for the last time to conclude the promenade and indicate that the observer is about to leave the museum for the city.

“To walk inside is to enter a magical domain where architecture is condensed to its essentials; the courtyard is a processional stage set where the spirit of architecture promenades its hieratic presence.”

The promenade in the Educatorium

RAMP IN EDUCATORIUM

is organized around a cruciform of two corridors, subdividing each level into quadrants that function as the main connectors. A secondary system of paths allows the building to function as a network. This network includes many ramps that run parallel to the main cruciform axis of the building. However, the most important ramp within the building is the one located between the two lecture halls. This ramp runs along the longitudinal axis of the building and concludes at the point of intersection of the two axes. This intersection is the culmination of the building as it is the point of mergence for all the promenades in the building. It also holds a visual connection to the rigid plane volume that houses the examination halls.

63. Ibid.
Any site will serve the theoretical aspect of this research as merely a test-field. However, the limitations and opportunities of a specific site are valuable in augmenting the development of this project. Hence, it is logical to deal with a site with a certain amount of complexity.

Auckland with its bustling CBD of 404,658 residents comprises seven urban quarters, with Aotea Quarter as a tremendously attractive zone to locate the test-field.

This map of Auckland by Eric Fischer, photographer and digital cartographer, reflects the density of footfall in different parts of the Auckland City. The geotags of photos uploaded to Flickr and Twitter are used to plot out every photograph taken on a street map to demonstrate a more cultural consensus of photogenic places or tourist spots. The data visualized in blue, red and yellow dots. Blue represent locals, people who have taken pictures in a city over a period of a month or more; red represents tourists, people who took pictures in a city for less than a month while yellow is for undetermined.

Evidently the Waterfront, Queen Street, Karangahape Road and Sky Tower zone are the socially attractive areas in Auckland, visited and occupied by both tourists and locals on a daily basis. However, the most notable and concerning aspect of the map is the dramatic reduction of pedestrian density from Upper Queen Street on towards the Karangahape Road. This low density patch is the location of the biggest public square in one of the most livable cities of the world. Therefore, it is to be expected that a prominent area such as Aotea Quarter be a social hub and a high density location.

AN OPEN ‘HEART’ SURGERY

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Located in the Queen Street valley and bounded by Mayoral Drive, Wellesley Street, Lorne Street and Khartoum Place, the Aotea Quarter lies at the heart of Auckland’s CBD. Within the CBD, Aotea Quarter is Auckland’s nucleus, intended to bind other zones into the coherent body of Auckland City. Aotea Quarter is intended as not only a focal point in geographic terms but also in socio-economic and cultural terms. Renowned as the hub of the “cultural infrastructure” of the city, a vicinity of art and entertainment for Aucklanders; it houses an attractive and collection of cultural public buildings and spaces: Auckland Art Gallery, Auckland Central Library, Imax and Civic Cinemas, Q theatre, Town Hall, Aotea Centre and Aotea Square.

However, currently Aotea Quarter lacks a strong socio-economic character to initiate Queen Street. Travelling northwards away from Downtown the pedestrian density starts to dissipate. Metaphorically, the Viaduct and Downtown, respectively, provide Queen Street with an anchor point as the recreational and shopping areas, but Aotea Quarter fails to maintain the balance between Downtown and Upper Queen Street. It
fails to provide any semblance of a focal point, mainly due to the failure of Aotea Square, the largest public component of the Aotea Quarter. Looking at the big picture, the failure of the “heart” sabotages the performance of the CBD. Subsequently, a question emerges:

Considering its location within the Aotea Quarter, Why is Aotea Square, a failure in the urban scenario?
The relationship between the Aotea Quarter, Square and Centre is intertwined. Aotea Centre, the largest component of the Square that defines the northern edge of the Square, has the biggest influence on Aotea Square. Subsequently, the square acts as the heart of both Aotea Quarter and CBD and its failure affects both accordingly. Therefore, it is crucial to consider the problems of Aotea Centre within the context of Aotea Square, Aotea Quarter and ultimately Auckland CBD.
The diagram demonstrates the timeline of Aotea Square since 1940 (before it existed) until 2013. It illustrates the formation of Aotea Square and its changes during this period of time. The red dot represents the period (1974-89) that Aotea Center was under construction.
AOTEA SQUARE: PAST

The Council had no inducement to place the centre city on any special pedestal of attention until the 1960s so the primate status of the area remained unchanged and unquestioned.

Since the public announcement of “The Central Area Proposals” in 1971 centre city started to shift towards an urban centre. Although the immense amount of construction, followed by the surging office-boom of the mid-1980s added up to the rebirth of the centre city, some moves pushed the centre city further into the grave by the end of the 1980s. Some of these mistakes include:

- Preference for car parking buildings over people and public spaces, which has hindered the CBD
- The mirror-glass ‘anywheresville’ towers following the American style with the promise of bringing dynamism to the city defined by developers
- Destruction of heritage buildings and sites

The initial plan for the Aotea Centre comprised an auditorium with a sitting capacity of 5,000 and a 1,200-seat theatre. However, due to the cost of construction, the building was reduced to a 2,300-seat auditorium and an 800-seat theatre. The final design by Ewen Wainscott was unveiled to the public in 1980. Eventually, “a generation overdue” because of financial struggle, the controversial Aotea Centre, described as “a tragic and expensive mistake” by opponents broke ground in August 1985, a day which some called “a momentous day for Auckland”.

A ‘not desirable, but no other option’ scenario left behind an ailing, incoherent building that did not fit within its surrounding. Since then, Aotea Centre, the largest public component of the cultural hub of Auckland City - Aotea Quarter - has turned into the weakest link of the Aotea Square.
AOTEA SQUARE: FUTURE

Auckland City Council is certainly acquainted with Aotea Square’s failure. A popular subject of debate amongst urban designers, architects and critics, the Square has been gradually upgraded since 2000. The goal was to transform it into the “city’s living room”; a comfortable and familiar place for people to relax and socialize; a place for people who come for a conference, a show, a night in the town, or simply to browse, promenade, sit and relax.

In the recent Auckland’s masterplan, published in September 2011, Auckland City Council identified the Quarter and the Square as one of the areas to house a new rail link, Aotea rail link station, along with other development opportunities that will reinforce the role of Aotea Quarter as the “cultural and civic hub” of Auckland.

The images show the development capacity of Aotea Quarter and its potential built form. The potential areas of development, highlighted in orange, include sites fringing the square:
- Land behind the Aotea Square and Auckland Council’s Civic,
- West Bledisloe and South Town Hall sites,
- Southern flank of the square

The prospective effect of the proposals on Aotea Centre does not seem thoughtful. Aotea Centre, as can be seen from the images, is encased by recent and future development. One of the major performing art venues in New Zealand, once the symbol of “a new, bright and vibrant city,” is now proposed to be secretively hidden away. So, a question emerges:

Is there an alternative plan to this scenario?

71 The station will see an estimated 13,000 rail trips per day, Aotea rail link will be situated on the corner of Wellesley and Albert Streets as a major feeder station eastwards for both University of Auckland and AUT (Auckland University of Technology).
72 Bush, Advance in Order, 238.
potential landmarks: 
buildings, art work, landscape

Development opportunity

Enhanced pocket parks

Existing vegetation

Proposed vegetation

Enhanced active edge

Enhanced pedestrian access

Aotea Quarter action plan—proposed by Auckland City Council
Aotea Quarter potential built form - proposed by Auckland City Council
Two squares are selected as precedents for Aotea Square:

1. Piazza Del Campo in Sienna, Italy as a classical precedent
2. Schouwburgplein in Rotterdam, Netherlands as a contemporary precedent. It is also known as 'Theatre Square'.

Piazza Del Campo and Schouwburgplein are contradictory, yet they share five key elements:

- Void
- Theatricality
- Threshold
- Edge
- Profile
The concept of ‘void’ in both squares is employed similarly. As a positive and productive concept to develop the urban space. The void points to the absence of intention, architecture and preprogrammed use. It is the domain of unfulfilled promise and unlimited opportunity. It is the project screen of the public’s desire.

The figure-ground diagrams of both squares illustrate certain aspects of the voids. Similar to all ‘classical Italian cities’, narrow alleyways connect the dense fabric of Sienna to the empty void. Piazza Del Campo, despite its irregular shell-shaped form, is self-contained, like a vast urban interior room. The form of the square is marked clearly by the buildings aligned along its hard edges.

The square contains no specific program, except the Palio di Siena. It is, therefore, an urban space defined and programmed by people, both locals and tourists, who enjoy the sun and the view all year round.

73. The Palio di Siena - known locally simply as Il Palio - is a horse race that is held twice each year, on July 2 and August 16, in Siena, Italy. Source: Wikipedia)
The two dimensional figure-ground diagram of Schouwburgplein fails to show the ‘void’ as a contained space. However, the bird’s eye photograph does justice to the square. The quality of the space in Schouwburgplein is poor by comparison with Piazza del Campo. Schouwburgplein is not confined by walls, but is open to the skyline creating a panorama. Schouwburgplein has a greater relationship with the abstract urban skyline in the background rather than the surrounding public-oriented theatre, concert, and shopping facilities.

The elevated ‘urban void’ does not have any program. The absence of preprogrammed use allows urban dwellers to create their own use of the square.
Unlike void, theatricality is achieved differently in both squares. Piazza Del Campo and Schouwburgplein both have the elements of the stage and auditorium, and both are settings to develop relationship between people as performers and audience.

Piazza del Campo has a slight slant towards the town hall, Pallazzo Comunale, turning the square into a big amphitheatre with the town hall and its enormous tower at the place of the stage. The square is paved with vibrant shades of red brick and nine strips of white travertine to express both the concavity of the square and its role as a big urban theatre, while the balconies on the surrounding buildings function like theatre boxes during municipal celebrations such as the Palio. This medieval square - a medieval urban showroom - functions as a centre of civic and social interaction.

Schouwburgplein is designed as an urban theatre for the public. The surface of the square is designed as a slightly elevated stage. Covered with different industrial materials, it appears to withdraw from its immediate surroundings and evokes the atmosphere of the Rotterdam’s expansive World Harbour. Schouwburgplein is more than a stage and encourages public to take an active stance. The most iconic element of Schouwburgplein, the movable coin-operated crane lightings, can be controlled and changed by public, thus making them responsible for a part of the square’s character during the day and night.

Piazza del Campo and Schouwburgplein are both ‘urban theatres’, but no comma contrasting. In Piazza de Campo the formation of ‘urban theatre’ is effortless.
The essence of theatre is reduced to its essentials:

- Slanted plane of the square
- The elevated balconies overlooking the square

These simple architectural gestures coupled with the already strong space of the void are just enough to make strong visual relationship between the people occupying the square and the ones standing in the balconies, resembling the relationship between the audience and performers within a theatre. Conversely, the gimmick of Schouwburgplein’s four big light towers and the emphatic stage function give rise to an explicitly aesthetic type of staging that stands in marked contrast to the elegant staging of Piazza del Campo.
No specific program or activity anticipates visitors, especially the locals at the ‘void’. The dark, narrow alleyways occupied by retail, direct people to the bright, wide, open space of Piazza del Campo. Entering the ‘void’ through the threshold is certainly dramatic.

The line of retail, restaurants and cafes stretched all along the edge of the square, holds the public inside the square, while balancing the absence of preprogrammed use in the ‘void’.

Similar to Piazza del Campo, the streets leading to Schouwburgplein are filled with
restaurants and retail. However, they are neither narrow, nor dark. Lacking any sense of approach and contrast to mark the entry to Schouwburgplein eliminates all the drama that visitors normally experience as they enter Piazza del Campo. This could be one of the reasons that the quality of space in Schouwburgplein is not as refined as the Pizza del Campo.
The continuous line of retail, restaurants and cafes stretch from thresholds all along the edge of the square. This continuous band of program brings people to the square and holds them inside it, while balancing the absence of preprogrammed use in the ‘void’.

Similar to Piazza del Campo, the streets leading to Schouwburgplein are filled with restaurants and retail.
Piazza del Campo - Profile
PROFILE

Pallazzo Comunale is situated at the focal point of the slanted plane of the square and marking the stage, is in contrast with the other buildings surrounding the Piazza del Campo. It announces its superior presence with its tall tower, stealing the stage from other buildings that are relatively uniform judging by their facades.

Cinema Schouwburgplein is the landmark of the Theatre Square. Its grey, raised volume is relatively inviting and public oriented by comparison with the town hall that is a government building and, thus, highly reserved. The appearance of the building is not in stark contrast with other buildings on the square. Cinema Schouwburgplein stands out because of its out of the line position on the square, not by breaking the skyline of the square.
As has been diagnosed in the chapter “an open surgery of the heart” Aotea Square is a failure within the context of Aotea Quarter and Auckland’s city centre. In order to specifically identify the weaknesses of Aotea Square the conditions of void, theatricality, threshold/entry, edge and profile in the square are investigated and analyzed.

ANALYZING AOTEA SQUARE:

VOID

It is difficult to identify Aotea Square on the figure-ground diagram. Looking at the figure-ground diagrams of Aotea Square, what can clearly be read is Aotea Centre, not the square itself. On the diagrams Aotea Centre appears as an island in the middle of a massive void. The location of Aotea Centre and the massiveness of the void makes it difficult to distinguish the boundaries of the square. However, that massive void is not the square. The square can barely form an “urban void” as it is not coherent, productive and positive. This is mainly due to lack of any mass or defined edge to cap the square on the southern side.
Aotea Square - Looking from Aotea Center towards Queen Street
THEATRICALITY

The flat surface of the square forms a stage, while the elevated set of stairs located on the eastern side of the square overlooking the square forms an auditorium for people to sit and watch. The same relationship is maintained on the western edge of the square that is defined by Aotea Centre. The recent renovation of the balcony housing the Box Cafe creates a platform for people to sit and overlook the square. The location of these two settings in front of each other creates a third: the raised stairs on the eastern edge and the balcony on the western. All these settings have the potential to create a more socially dynamic space within the square but, due to the lack of foot traffic on the square, this potential does not get used to its maximum capacity.
Aotea Square - Looking from east (standing on the square) looking towards Aotea Centre
Thresholds and entries have an important role in defining Aotea Square and its occupancy and, therefore, a thorough investigation is required. Currently, eight entries can be recognized, two of which are defined by Aotea Centre, connecting Queen Street to Mayoral Drive and Grey’s Avenue through Aotea Square.
The weak, unarticulated and pedestrian unfriendly connection from Mayoral Drive leads to the square's entry defined by Aotea Centre and Belidesloe building.

The entry to the civic underground carpark, located on the north-east side of Aotea Centre.
The entry from the Mayoral Drive to Aotea Square on the north-west boundary is extremely poorly defined. It is formed partly by the entry to the civic underground car park and partly by Aotea Centre on one side, and on the other side by an open space on the junction of Mayoral Drive and Victoria Street. This is amplified by the weak, unarticulated and pedestrian unfriendly connection from Mayoral Drive to the Square.
The northern entry to the square. This entry forms the end part of an immature threshold that connects Mayoral Drive to Aotea Square to Queen Street.
The threshold/entry is defined by Bledisloe House and Civic Cinema, connecting the Square and Queen Street to Victoria Street.
Looking towards the incomplete threshold connecting Mayoral Drive to the Square. As photographs show it is more of a car zone rather than a pedestrian zone.

From the existing square one walks through a carpark to reach Mayoral Drive. The carpark, however, will accommodate Aotea Rail Link within ten years. This will bring more traffic to Aotea Square through this entry.
As the observer moves through the northern entry to the Square to get to Mayoral Drive, this is the scene that he is confronted by; carparks on both sides!
The entry from Mayoral Drive to the back of Aotea Centre on the western side of the square goes through the Centre’s backstage carpark.

From the carpark entry, pedestrians can either share the path with cars to reach the Square’s ground or take the stairs to reach the offices located at the back of Aotea Centre.

Looking from the square towards the western entry/exit.
One of the most important, yet undefined and problematic, entries to Aotea Square is the one located on the western boundary of the square. This entry connects Queen Street through the square to the junction of Mayoral Drive, Vincent Street, Cook Street and Federal Street.

Due to the steep topography of the site there is a ten metre drop at the western, undeveloped, end of Aotea Centre. This area has turned into an urban leftover space, resulting in a humble and undefined pathway that leads into the square.
The other entry located on Mayoral Drive, initially serves the offices at the back of the Aotea Centre. The pathway goes through the carpark located on top of the backstage areas. Pedestrians from there can go towards the northern entry to reach Aotea Square.
Grey's Avenue entry to the Civic carpark
Southern entries to Aotea Square looking from Grey’s Avenue towards Aotea Square
The entry on the south west side of the Square again passes through a carpark. This entry has the potential to be part of a threshold, but the lack of massing on the southern boundary of the Square has left both, the Square and this entry, weak and undefined.

Looking back from Aotea Square towards Grey’s Avenue
Contrary to the other entry on the southern boundary, this one is articulated and successful; on one side constructed between the Town Hall and Q Theatre and on the other the raised surface of the Square. This articulated threshold stretches along the square from south to east, connecting Grey’s Avenue to the Queen Street.

Looking through the threshold towards the Queen Street

Looking through the threshold towards the Grey’s Avenue
Aotea Square does not have any face on the eastern boundary, looking from Queen Street. Therefore, Aotea Center’s facade—although sitting a square away from that edge—contributes to Queen Street.

There is a height difference between the square plane and the pedestrian walkway along the Queen Street. The gap is filled with a set of wide staircase that provides access and seating for the public.

The formal entry to Aotea Square from Queen Street is located between Civic Cinemas and the mentioned staircase. The entry seems adequately working.
Aotea Square’s edge condition follows the incomplete and undefined boundary of the Square. The interruption of the edge has been amplified by the lack of activities around the square. Looking at the diagrams more than half of the buildings are offices. Very few public buildings operate during the day while, the rest are dedicated to programs that are only activated during the night. As a result, less public life is brought to the square during the day which leaves the Square unoccupied and lifeless.
foreground building

background building

Aotea Square - Profile
Location wise Aotea Centre is the dominant building on the Square. However, practically it is the most unpopular public building of the site. That in turn affects the coherence of Aotea Square as it lacks any gravitational point.

Currently Aotea Centre is the only performance art centre in Auckland that houses opera performances. However, it does not have any positive impact on the square and public as the largest public component of Aotea Square.

The following photographs shows the lobby (public) spaces of Aotea Centre, on a weekday between 12 am-1pm. As it is clearly demonstrated, the building manifest emptiness. Although it is open to public and highly maintained yet public does not have any desire to use it during the day. At night the building is still open to public but it will be used only if a performance on.
Aotea Center, manifesting emptiness
Class Act Opera, Southern Opera, Opera Factory and New Zealand Opera

The company was formed in 2000 when the Wellington City Opera (1992–1999) and Auckland Opera (1970–2000) companies decided to merge into one organization for financial reasons. New Zealand Opera grew larger when Southern Opera joined them this year.

[http://nzopera.com/about/intro]
Stories and storytelling seem to tap into a basic human need and opera is the art of telling human stories with power and beauty. Opera, as a western form of musical storytelling had its beginning at the height of Renaissance. A highly creative and multidisciplinary art form, it has always been associated with social, political and technological changes; reflecting them back to society as a mirror. Born during the Renaissance, a time of upheaval and creativity, opera has existed for more than four hundred years. Although opera is considered a major art form of cultural expression and the greatest art form to ever be created, it struggles to stay alive. It is no exception for New Zealand and it can even be argued that opera status is more fragile in New Zealand by comparison with Europe and America.

The history of opera in New Zealand only goes back to the early 1860s. It is hence a relatively young industry by comparison with other countries. Opera in New Zealand has remained an imported art form, produced and played by visiting opera directors and actors from overseas. Other forms of opera, known as light opera, became popular amongst the New Zealand public, yet it was only after several amateur productions of grand opera that New Zealand Opera company was founded in 1954 as the first New Zealand’s professional “grand” opera company. Today, out of four existing institutions, New Zealand Opera is the largest, producing two fully staged operas each year.
The process of making opera

Opera performances are highly technical and mechanical. The production process is a highly collaborative activity, involving many different skills and talents. This process can be broken down into three main parts:

- Planning (3-4 years before the show time)
  - casting
  - production cost
  - touring plan
- Training (2 years before the show time)
  - Rehearsing
    - music call: chorus, principal singers, the cast, Sitzprobe
    - production rehearsals
    - theatre rehearsals: piano accompaniment, Stage orchestral
    - dress rehearsals

This process, from beginning to end, happens within a time-frame of three to four years due to the huge amount of preparation and long-term planning required.

As the process diagrams show, creation

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Sitzprobe (German) is a term used in opera and musical theatre to describe a seated rehearsal—the literal translation of Sitzprobe—where the singers sing with the orchestra, focusing attention on integrating the two groups. It is often the first rehearsal where the orchestra and singers rehearse together.
(Source: Wikipedia)
and staging of an opera performance is extremely complex and hierarchical. Each stage of this process happens in a designated place which can be classified in three groups:

- Administration offices
- Studios
- Auditorium

Administration offices:
In these rooms different directors involved in making the opera come together to plan out the stages of an opera production. Similar to most office spaces, the rooms are designed open plan to provide maximum flexibility.

Studios:
Studios can be divided into two different types.

- Technical studio/workshop
- Artistic studios

Technical studio/workshop:
It is here that the sets, props, costumes and wigs are designed and created. Sets and props workshop is an industrial high ceiling warehouse that hold a different range of technical tools used to build sets and props. Due to the industrial nature of the sets and props workshop, it is normally located in an industrial area of a city and, thus, far away from the opera house. For each opera show sets and props are made inside the workshop and then transferred to the opera house. There are storage places designed for the backstage area of all opera houses to hold sets and props during the show season. Comparatively, the costume and wig workshop is small scale as smaller equipment is required to make costumes and wigs. This small workshop is located within the opera house as costumes and wigs are required to be altered, fitted and repaired constantly before during and after the show.

Artistic studios:
Artistic studios are where the opera performers train and rehearse. Both production and theatrical rehearsals are done in the artistic studios that belong to the related opera company. Spatially, these studios are open plan, high ceiling and large rooms. They can be located inside the opera house, which is certainly preferable, or where the opera company is based.

Auditorium:
The auditorium is one of the most important spaces in an opera house. It is a space of both production and presentation. Sitzprobe and studio rehearsals are done on the main stage in the auditorium. These rehearsals are considered to be final ones and happen a few weeks before the show. Finally, the show is staged in the auditorium where the audience experiences the final production.
1. Facade Portico
2. Grand Vestibule
3. Vestibule de Controle
4. Outer Vestibule
5. Ticket Vestibule
6. Grand Scalier
7. Bassin de la Pythia
8. Emperor's Pavillon
9. Pavillon des Abonnes
10. Vestibule des Abonnes
11. Rotonde des Abonnes
12. Orchestra Pit
13. Backstage
14. Administration offices

1. Loggia
2. Grand Foyer
3. Avant Foyer
4. Rotonde de la lune
5. Rotonde du soleil
6. Galerie de Glacier
7. Salon de Glacier
8. Auditorium Corridor
9. Auditorium
10. Stage
11. Backstage
12. Administration offices
OPERA HOUSE PRECEDENT ANALYSIS:
PALAIS GARNIER

The superimposed diagram illustrates the timely, hierarchical and complex creation of an opera performance. Consequently, the program’s complexity reflects the opera house’s spatial qualities and organization.

The following section is a study on the relationship between the program of opera, spatial organization and its qualities within an opera house through a series of analyses done on Palais Garnier.

Palais Garnier, is the well known Paris opera house named after its architect Charles Garnier. It was the winner of an architectural design competition—the very first of its kind—and the largest and most prestigious public building of Francis II empire.

Charles Garnier was trained in Ecole des Beaux Arts and exposed to the Beaux-Arts system of composition. However, being a student of Louis-Hippolyte Lebas also influenced his understanding of composition, so much so that he developed his own compositional system. Garnier system was a combination of what he had learned in Beaux-Arts and what he had been taught by Lebas into a single “fundamental principle.”

“Garnier’s “fundamental principle” was “a sort of condensation.” Programmatically rational, it was guided by a compositional method that liberated architecture from set formal paradigms while permitting the diverse, if impressionistic, use of real models; it incorporated Romanticism’s concern for functionally determined form, yet transcended the vrai to reach the higher truth of the vraisemblant. This epitomizes Garnier’s intuitively synthetic thought. Caught between the two absolutes of Neoclassical idealism and Romantic rationalism, he sought a flexible middle ground.”

Garnier has explained his “fundamental principle” in Le Théâtre by using four key terms:
- Distribution: programmatic division of a building into its separate functions
- Disposition: Disposition was the spatial organization of those functions in plan
- Composition: Composition was the three dimensional development of those spaces in a unified whole
- Character: the expressive consequence of a coherent composition
The opera house external form consists of four separated volumes placed next to each other.

- Administration and offices
- Back stage and fly tower
- Auditorium
- Access and lobby area
- Pavilions added on both sides
The external form of the opera house follows a rational approach, as Garnier believed that the overall shape of the edifice ought to express the spaces inside and their function. The structure was designed as a succession of four clearly separated segments each housing a particular function:

First segment: public and access  
Second segment: the auditorium  
Third segment: stage  
Fourth segment: various technical and administration services

Although the stage and the auditorium make up the highest volumes of external form they are not the dominant spaces within the opera house. The most important segment of the Palais Garnier is the access areas belonging to the public. Until Palais Garnier access areas had always been the architectural Cinderellas in theatres and were treated as simple, utilitarian necessities. However, in Palais Garnier the access areas have been given so much importance by Garnier that nearly a quarter of the building has been devoted to them.
Garnier, in his treatise “Le Théâtre,” defined theatre as being a social interaction, paraphrasing Shakespeare’s famous lines “All the world’s a stage, And all the men and women merely players” - Garnier was convinced that built forms are a consequence of social interactions within the symbiotic relationship between human and architecture. Hence in “Le Théâtre” he has described Palais Garnier from the outside in, based on what the inspector experiences moving through the building.

Garnier considered two main groups of theatregoers who are further divided into two smaller groups:

Pedestrians:
- Holding tickets
- Without tickets

Carriage arrivals
- Holding tickets
- Without tickets

Each group has a designated entry, marking a promenade through the lobby to the auditorium. The promenades start from different points, cross over and connect in the Grand Escalier. The Grand Escalier is the focus of all four promenades for the four categories of theatre-goers. From the Grand Escalier the connected promenades diverge and yet come together in the auditorium.
The pedestrians who have already bought their tickets before the night of the show enter from the front facade, moving through the double door into the Grand Vestibule. The Opera’s Grand Vestibule, without preventing the theatregoers from proceeding immediately to his seat, encourages a pause by revealing through the vestibule’s inner arches both the Vestibule de Controle and the Grand Escalier beyond, indicating the movement route towards the auditorium. Passing through the Grand Vestibule, the theatregoer reaches the Vestibule de Controle. Aligned with the Grand Vestibule, yet substantially narrower and raised by stairs to the level of the Grand Escalier, the Vestibule de Controle acts as a transitional space to pull one onward to the next space, the Grand Escalier.
Pedestrians without tickets need to go to the Outer Vestibule, placed to either side of the Opera facade, which leads through double doors into enclosed galleries that run along the building’s forward flanks. These connect with ticket vestibules at each end of the Vestibule de Controle. From the Vestibule de Controle they enter to the main lobby where the Grand Escalier is located.
The approach for the season ticket holders arriving in carriages is more elaborate than that offered to the pedestrians, though it is similar in conception. The season ticket holders enter through the carriage portico of the Pavillon des Abonnés in their carriages, get dropped off and move inside with their servants. Implicitly, the abonnés belonged to a wealthier class than the pedestrian theatregoers and, consequently, required a vestibule for their servants. From the servant’s vestibule, the abonnés would be pulled visually towards the front of the Opera by the Pythian niche beneath the Grand Escalier. Ascending the ramps on either side of this niche, they would mingle at the foot of the Grand Escalier with the pedestrians coming from the Vestibule de Controle.
Movement lines - super imposed

Movement lines in relation to circulation pattern - super imposed
In the Opera’s foyers and galleries:

Garnier’s development of arrival spaces reflects his sensitivity to the public’s social complexity of experience and his belief that human actions determine a building’s disposition. Hence, to organize the lobby and gallery spaces he moved from a basic distinction between pedestrians and carriage arrivals to an increasingly detailed study of every possible permutation of the human personality. As a result, the Opera’s foyers and galleries are coordinated with the six ways people might behave during an intermission. First are the sedentary types who remain in their loges or, at most, step a few feet into the auditorium corridors. Five types of promenaders, were identified by Garnier as follows:

1. The first type of promenaders are the viewers: they are calm and walk slowly, tending to stop at certain points where the views are extending. From those points they continue their promenade, not by walking around, but by following the other promenaders.

2. Instead of watching this general movement the second type of promenaders take part and walk around to find friendly and familiar faces.

3. The third type of promenader is looking for a place to relax, a place comfortably furnished, where they are not bothered by the crowd.

4. The fourth type of promenader leaves the salons towards the Opera’s facade, loggia, to get some fresh air. They prefer to watch the view of the theatre and what is happening in the galleries.

5. The fifth type of promenader is the smokers who go out for a cigarette during the interval, while many will finally take something to drink, or line up in front of a long buffet, or some find a place to be seated and rest for a while.
CONCLUSION

Studies of the movement patterns, spatial patterns and their relationships prove that the functional and practical requirements were not the only factors for Garnier’s disposition of the spaces. Underlying Garnier’s argument was the concern for circulation which, as an essential component of disposition, had always played a major role in Beaux-Arts systems of composition. Yet Garnier made that role preeminent. By analyzing what the public needs both practically and aesthetically, Garnier transformed the simple element of circulation into a major architectural and social statement. Effectively, the opera house is the product of theatre-goers’ movement patterns in relation to spatial patterns. However, further investigation is required to understand how specific combinations of the movement patterns and spatial patterns are brought together to create the magnificent public and access spaces of the opera house and how these spaces turn the lobby into a social platform for the public to interact.
As mentioned before Garnier perceived architecture as theatre and the consequence of human social interaction. In order to stimulate and encourage social interaction he designed provocative spaces with theatrical qualities, achieved through designing spaces as a series of “real” stage sets, incorporating scenographic techniques. Translated into the realm of architecture, the illusion of space becomes real space, so that apparent movement through the illusionistic recession of the stage becomes actual movement through the real depth of the building. Yet the treatment of those real spaces as scenographic tableaux presents the spectator with a perspectival image that visually defines the path of movement to be taken physically.

The Opera's exterior—the three volumetric masses of facade, auditorium dome, and stage fly-tower is described as a sequence of two-dimensional planes that collectively form a picture, a tableau.

The opera's interior is equally scenographic. Individual spaces are rarely contained by walls. They are instead outlined by generously opened...
screens that layer back in space from the spectator. Standing in the Grand Vestibule, for example, one looks through an arcade screen into the *Vestibule de Controle*, through another screen into the *Grand Escalier cage*, and, at least potentially, through the cage screen into the auditorium corridors that lie beyond. The visual passage from brighter Grand Vestibule, to darker *Vestibule de Controle*, to brighter Grand Escalier cage, to darker auditorium corridors further punctuates and emphasizes the receding tableaux.

Looking at the diagrams that demonstrate the relationship between the movement pattern and spatial pattern, one can see the layered arrangement of long corridor-like spaces around the Grand Escalier, the heart of the spatial composition. These layers of thresholds, positioned one after another, are conceived as screens as the columns are arranged in a way to reserve the full view, while teasing the spectator as he approaches the Grand Scalier. The other artful spatial technique that Garnier used is the arrangement of axis and creating perspectival/visual tensions as the spectator moves through these thresholds towards the destination.

As the diagrams show, Garnier created a strong axis for the spectator to move on and reach the Grand Scalier. The constant hide and reveal of the Grand Escalier through the columns encourages the observer to move on and not to forget the destination. However, by layering a combination of wide, narrow and especially long, Garnier plays a game with the moving spectator.

By shaping some of the thresholds spacially, sufficiently wide and especially long Garnier created an arresting cross axis to the main, straight path of movement. While combining it with narrow, but still long, thresholds, acting as transitional spaces to pull one onward Garnier creates a constant tension for the moving spectator. The constant clash of axis and the resulting tension is amplified by the play of light and shadow to signify the spectator’s procession through a sequence of concatenated spaces.
Garnier’s reference to the spatial arrangement as stage sets carries broad implications. Architecture as the stage implies the public as actors. This relationship between the spectators (public) and the architecture is demonstrated at its best in the Grand Escalier. The Grand Escalier is not only a staircase, but it is the focus of circulation for all four categories of theatre-goers. It is the Opera’s compositional heart, to which even the auditorium seems to be subordinated. Ringing the four categories of theatre-goers, it offers a processional announcement to the public of arriving at the Opera.

The opera’s Grand Escalier and cage epitomize the idea of the architectural mise-en-scène. It fulfills its practical purpose of connecting the main lobby to the different levels of the Auditorium through weaved ramps and the surrounding cage. But most importantly, it marked a significant rethinking of theatre design. The Grand Escalier—its cage an auditorium, and its staircase a stage—becomes a vast spontaneous theatre where the public itself performs. Architecture is the product of a dramatic symbiosis between the building and the public who, by interacting with the building, bring architecture to life.
Lobby - Theater within a theater
GARNIER OPERA HOUSE ANALYSIS

CONCLUSION

Justifying the movement patterns and the spatial patterns with a social analysis of what the public needs, both practically and aesthetically, Garnier transformed a simple element of circulation into a major architectural statement. His detailed narrative of a spectator’s passage through the Opera effectively presents the monument’s composition as the product of its circulation.

By interpreting architecture as a scenographic experience—a combination of layering spaces with clashing axes and games of light and shadow—defined by the perception of a spectator walking through the building, Garnier opened the door to a spatial ambiguity that in turn challenges the spectator’s perception and encourages him to be on the move constantly, while being mentally and visually stimulated.
THE DESIGN PROGRAM: LEARNING FROM GARNIER

Studying Palais Garnier’s spatial organization and qualities in relationship to its program as an opera house, reveals Garnier’s stance about program. He considered the act of ‘attending an opera show’ as a social activity and, therefore, realized the opera house as a platform to create social interaction between the public, regardless of their social class. The development of spaces in Palais Garnier reflects Garnier’s sensitivity for the public’s social complexity of experience. By means of architecture—choreographing the entrances, the Grand Escalier and foyers—he has challenged the norms of society at the time as he believed that those who have already “arrived” in society might have fewer stairs to climb than those still climbing the social ladder, but everyone begins and interacts in public on the same level of equality.78

Learning from Garnier, the challenge that architecture needs to bring for today’s society in Auckland does not have much to do with social class and equality. The main concern is to save opera as an art form in the current cultural context of Auckland and New Zealand. Attending opera performances in Auckland one instantly notices the huge gap between the opera goers demographics; the large number of old and middle age opera goers contrasts with the small number of young opera goers attending. Projecting into future this gap can be quite alarming. Who will attend an opera performance in 50 years time? Is opera as an art form destined to die in the near future?

Considering the price of an opera performance ticket and comparing it to that of a pop concert ticket79, it is clear that it is not a case of economic affordability, but a lack of cultural awareness about...
this art form.
As has been discussed opera production is an extremely technical collaboration between different creative forces. However, this highly time consuming and complex process is never exposed to the opera goers. What they see is only the final result of this collaboration.
Culture is work, not just passive consumption. What is needed is public participation. Attending an opera performance is not simply a cultural act and it does not contribute much to the cultural body of New Zealand. In order to create this cultural awareness, there needs to be cultural education happening through exposure.
The word “opera” in Italian means work (from the plural of Latin opus meaning “work” or “labour”) and, by exposing the real opera to the public, there will be more participation. Participation is the way to inspire creativity and, with creativity, the power to propel opera into a new dimension can be generated.

PERFORMATORIUM

The program through which opera can be exposed to the public to bring cultural awareness is ‘Performatorium’. This program is the result of architectural, contextual and programmatic analyses that have been done within the space of this project. It is the platform against which the extracted strategies will be put on test.
‘Performatorium’ is a performance machine with its engine exposed. It is a facility to produce, present and preserve performance art, mainly opera, while exposing the process to the public. It also acts as the gravitational point of the cultural hub of Auckland city-Aotea Quarter without overlapping the function of any currently existing cultural venues within the quarter.
Generally, in opera houses production areas are located far from presentation areas within the industrial zones. However, in Performatorium, to
expose the production of opera to the public, the workshops are located next to the opera house and exposed strategically to public so that they can engage with the act of producing opera. Also, other educational and creative facilities, such as archival resources and production spaces for amateur and young artists and performers, are placed close to professional production areas. This proximity creates an exchange between experienced and young artists, while opening up new perspectives for opera as an art form. ‘Performatorium’ is a facility that primarily serves NZO (New Zealand Opera) and Royal New Zealand Ballet84, but it also serves other nearby performing arts facilities, such as the Town Hall and Q Theatre. Program-wise Performatorium can be divided into three main phases:

- Production
- Presentation
- Preservation

The phases of production and presentation have already been explained in ‘Introducing Opera’, while preservation of performing art is a fairly new concept and requires further elucidation. Performing art documentation is essential for the survival of this genre of art forms and equally vital to performing art history. The unique experience that performing art provides an audience with is impossible to capture in other media. Therefore, performing art preservation has turned into a challenging task that cannot be accomplished through traditional forms of preserving art works such as paintings or sculpture. To make the preservation possible two main
methods can be considered:

Passive archiving:
Passive archiving refers to the documentation of performances. Documentation is important for future performances as it keeps a record of ideas and concepts which will be used as a resource for future re-presentations. Also, it can be used as an invaluable educational resource.

Documentation can be divided into:
Actual documentation and preserving sets, props, costumes, plays and notes of performers
Visual documentation and recording of the experience of the performance through other media, such as digital video and photographs

Active archiving:
Active archiving refers to preservation by means of re-presentation, which is impossible without any documentation of performance.

Facilities required for the Production phase:

Administration offices:
These offices include the administration offices for NZO, Royal New Zealand Ballet and The Edge as it is the management company of Aotea Centre, Auckland Town Hall, The Civic and Aotea Square.

Artistic studios:
Rehearsal studio for opera performers
Dance studio for ballet dancers

Technical studio:
Sets and props workshop
Wigs and costume workshop
Facilities required for the Presentation phase:

Main Auditorium: ASB Theatre (2000 seats) has recently gone through a two phase refurbishment. The refurbishment included:
- Installation of new seating
- State of the art theatre lighting
- Improvement to air conditioning
- Floor replacement, interior wall linings and ceilings with sound reflective materials to improve the acoustics for a range of performance types
- Improvement to aesthetics of the auditorium

It seems absurd to replace a recently refurbished auditorium with a new one while ASB theatre is highly functional. Therefore, ASB theatre is preserved.

Secondary Auditorium: A 600 seat auditorium for speech and presentation

Conference and function rooms

Facilities required for the Preservation phase:

Preservation hall: Preservation hall is where all the documentation processes both actual and physical are happening.
Digital Chamber: Digital chamber is where the visual documentation is digitized and represented to researchers and the general public.
Galleries: Galleries where the preserved items, such as sets, props and costumes will be displayed.
Experimental theatre: Experimental theatre is a small auditorium (800 seats) where re-presentations happen. It also acts as a secondary space for presentation by young and upcoming artists to introduce their work to the public.
AOTEA [RE]SQUARE:

The immediate context of Performatiorum, Aotea Square, needs to be improved and enhanced so that Performatiorum can be effective as the gravitational point of Auckland City's cultural hub, Aotea Quarter. Previous site investigations have shown that in order to create a strong relationship between city (public) and any public building on Aotea Square, the square needs to be:

- [re]Defined as a void
- [re]Connected to the surrounding context through articulated thresholds/entries
- [re]Staged to maximize social interactions
- [re]Programmed
- [re]Think Aotea Centre
[re]VOID

Axis:

Tracing the boundary of Aotea Square its irregular composite shape becomes obvious. It seems that the square is divided into two parts. The first part is the primary space. This is the main entry located on eastern boundary of Aotea Square that the public enters through. This primary space is defined by:

• The wide urban steps on the eastern side
• Civic cinema on the northern side
• East side of Aotea Centre on north-west
• The southern boundary is open - it has been marked by a row of trees and seats parallel to it

The other part, the secondary space, is defined by:
• Q Theatre in the south-east and Town Hall in the east,
• Rows of the trees and seats towards the northern side,
• South-east of Aotea Centre on west side of the square,
• Civic administration building on south-west, and
• A concrete wall on the south

The primary part of the square is clearly aligned with the surrounding buildings. However, there is an axial conflict between the layout of the secondary part and its surrounding buildings. In its recent renovation the square, once defined by Aotea Centre, has now ignored the building’s position completely. The recently designed rectangular grass area - occupying most of the square’s secondary part - is aligned with the Town Hall not Aotea Centre. This decision seems logical as the current edge of Aotea Centre adjacent to the square, is undefined and weak by comparison with the Town Hall. As a result, the Town Hall’s axis has been offset to indicate the orientation of the grass area and the secondary part of the square respectively. This axial repetition accentuates the dominance of the Town Hall on Aotea Square.

The looseness of the square’s southern boundary - both physically and programmatically - questions the definition of the formed space in between Q Theatre, Town Hall, Civic Cinema, Bledisloe Building, Aotea Square and Civic Administration Building as a square.
The irregular composite shape of the square is the result of the arrangement of the surrounding buildings. The diagram demonstrates the relationship between the shape of the square and the surrounding buildings by illustrating their axial relationship.
The southern boundary:

To complete Aotea Square, and resolve its looseness, a mass needs to be placed on the southern boundary. This mass is conceived as a building to house the extension to Auckland’s Central City Library. This new addition, a public library, will improve Aotea Square by:

1. Completing the square as a void
2. Enhancing both public and cultural profile of Aotea Square by balancing the ratio of government and office buildings to public and cultural buildings on the Square
3. Introducing a new life to Aotea Square by attracting more people to the Square throughout the day

Performatorium:
The second step in redefining the square’s void is to layout and to mass Performatorium.

Layout:
Performatorium is located on the western boundary of Aotea Square and, therefore, its layout affects the Square extensively. The Square is already defined by the buildings on all other boundaries. This leaves Performatorium as the last addition. It is hence more logical to consider Performatorium as a subordinate of the Square’s form.

The following diagrams demonstrate the layout of Performatorium in accordance with Aotea Square and the surrounding buildings taken to be context.
Diagrams demonstrate the development of Aotea Square’s shape in relation to the surrounding buildings.

Diagrams demonstrate the development of Performatorium’s layout in relation to the shape of the square and surrounding buildings.
Initial massing iterations
Massing:

There are two absolutes embedded within the site against the necessary and required programmatic and spatial relationships within the Performatorium. These are strictly inflexible, yet dependent on each other:
- The preserved auditorium, ASB Theatre
- Heavy vehicle access from Mayoral Drive

The ASB Theatre dictates the location of “front of house” (lobby and access areas) and “back of house” (backstage areas). While ‘sets and props’ workshop is to be located in close proximity to the backstage area and vehicle access. These absolutes, and their imposed consequences, construct some compositional guidelines that can be used as a starting point to decide on the programmatic arrangement of the building. The programmatic arrangements are augmented through a series of blue foam massing iterations, demonstrating the initial massing of Performatorium.

Each part of the program is broken down into its main elements and each programmatic element is then housed into a simple, geometric volume. These geometrical volumes are then juxtaposed to satisfy the building’s form both practically and contextually.

Many different options are explored however, only a selection of them are showcased here and from that selection only the blue foam models that marks an important step in the formal evolution of the performatorium are explained further through other diagrams.
The building is divided into three main programmatic volumes. The massing follows the site's axes. The preservation volume is raised so people can have access from Mayoral Drive to Aotea Square. Breaking the front axis of the site and pushing the production volume further into the square. Adjusting the production volume with the dominant axis of the town hall. Lifting up the preservation volume for public access through the building from Mayoral drive to Aotea Square. Adding a volume on top for administration.
[re]CONNECT

The previous analysis of Aotea Square and its comparison with Piazza Del Campo and Schouwburgplein confirms that one of the weaknesses of Aotea Square is the lack of connection with its immediate surroundings. The disconnection is primarily caused by some of the Square’s poor entries/thresholds that are supposed to tie the void to the urban fabric.
Southeast entry/threshold:

The south-east entry, in the proposed massing, is defined by the library on one side and the ‘sets and props’ workshop on the other. The blue foam iterative models demonstrate a step by step and careful formation of this entry based on considering the following:

- The Square axis
- Spatial quality of the entry

Considering the ratio of the entry’s width to the height of the proposed library and production volume was essential to form a strong threshold as the new entry to the Square, defined by the proposed library and production volume. This accentuates the experience of entering the square by marking a contrast between the tight space of the threshold and the wide, open space of the void.

- Civic administration building

The logistics of south-east entry is quite sensitive as it creates a physical and visual relationship between the Square and Civic Administration Building. The Civic Administration
Building is one New Zealand’s finest modernist buildings and an important piece of heritage in New Zealand’s history of architecture.76 However, Auckland City Council has identified the building as a problem and is planning to demolish it.77 The demolition of the building would not only erase an important part of Auckland and New Zealand’s heritage and architectural history but also it can potentially weaken the Square and the surrounding buildings as a whole. Establishing a physical and visual connection between Civic Administration Building and the Square makes the building an essential part of Aotea Square and Aotea Quarter.

77 Ibid.
PERFORMATORIUM AS A CONNECTOR

The western boundary of Aotea Square, the location of Performatorium, has the weakest entries/thresholds to the Square due to the site’s topography. A careful negotiation between the site and Performatorium can establish the missed connection. Therefore, it seems logical to realize Performatorium as a mediator between Aotea Square and its immediate context on the western boundary.

Performatorium is conceptualized as a cluster of programmatic volumes and objects, affixed on the surface of ground plane. The interaction between the objects and the ground plane connects Mayoral Drive via Aotea Square to Queen Street. As a formal strategy the ground plane is considered as a malleable surface, is interrupted by the programmed objects creating a “contiguous discontinuity”. The ground plane is sliced, pierced, interlocked, folded, wrapped, stretched and extended in relation to the programmatic volumes of Performatorium, creating a new spatial condition that unleashes the maximum freedom of movement on the site for public. The public is encouraged to negotiate with the site; that causes social interaction between the public, Performatorium and the Square. Consequently, the public turn into active promenaders, rather than merely passive occupiers.

The “contiguous discontinuity” can be divided into a variety of surfaces that forms several fragments. Each makes a crucial connection between Aotea Quarter and Aotea Square.
Lifting the ground plane
• Fragment 1:
The ramp (stretched from west to east) physically connecting Mayoral Drive to Aotea Square and, ergo, creating a stronger connection to Queen Street
• Fragment 2:
The surface that makes a visual connection between both ends of Aotea Square (the primary space of the Square)
• Fragment 3:
The ramp that connects the junction of Mayoral Drive, Federal Street, Cook Street and Vincent Street to Aotea Square (the secondary space of the Square)
Ground plane, a malleable surface

Auditorium is preserved

Programic volumes are affixed on the surface of the plane

The malleable surface is wrapped around the volumes

Fragment 1

Fragment 2

Fragment 3

Square
Fragment 1, connection between Mayoral Drive and Aotea Square’s northern entry:

This connection is shared between the Civic Carpark entry on Mayoral Drive, northern entry of Aotea Square and the future Aotea Rail Link. As a result, two main categories of people use this connection:

- Pedestrians
- Car drivers

These two main categories can in turn be broken down into more detailed ones:

- Pedestrian:
  1. Pedestrians going to Aotea Square from Mayoral Drive
  2. Pedestrians going to Aotea Rail Link from Mayoral Drive
  3. Pedestrians going to Performatorium from Mayoral Drive
  4. Pedestrians going to Performatorium from Aotea Rail Link
  5. Pedestrians going to Aotea Square from Aotea Rail Link

- Car drivers:
  1. Drivers going to Civic Carpark
  2. Drivers with passengers going to Civic Carpark to go to Performatorium afterwards
  3. Drivers who merely drop off passengers who go to Performatorium, and then leave the site

The ramp, therefore, needs to accommodate access to required destinations for all these different categories. The first design move is to raise the ground plane to the level of Mayoral Drive, forming a pedestrian friendly surface. This forms a wide and long ramp from Mayoral Drive to northern entry of the Aotea Square. This simple gesture of lifting the ground plane emphasizes pedestrians priority over cars; something which had not been previously considered.
A series of test models explored different options of movement for car drivers and pedestrians for the connection between Mayoral Drive and Aotea Square.
• Drivers going to Civic Carpark
The inflexible location of Civic Carpark and its entry to Mayoral Drive has been preserved as an extremely functional piece of the old infrastructure. The proposed ramps provide access to the Civic Carpark from Mayoral Drive.

• Drivers dropping off passengers at Performatorium and then proceeding to Civic Carpark
An additional internal intermediary drop off area along the car ramp allows drivers going to the Performatorium to drop off passengers before reaching the carpark level. The internal drop off area is connected to the internal levels of Performatorium so people who are dropped off move inside the building immediately. The driver parks the car at the parking levels and joins them by an alternate entry.
Drivers going to Civic Carpark

Drivers dropping off passengers at Performatorium and then proceeding to Civic Carpark
Drivers dropping off passengers at Performatorium and then leave the site

For the drivers who merely use the ramp to drop off passengers and leave the site immediately afterwards, an external drop off area is required. Therefore, a driveway near the Civic Carpark entry is located on the ramp, connected to a drop off area that is placed at the midpoint of the driveway. The sequence of dropping off passengers is as follows:

1. cars enter the driveway
2. turn to get into the drop off zone
3. drop off the passenger
4. turn and get on the driveway again to leave the ramp.
• Pedestrians going to Aotea Square from Mayoral Drive

The driveway is designed wider than required so that it can be a shared zone for pedestrians and cars. Following a straight route on the wide ramp will take the pedestrian towards the Square’s entry. The raised surface of the ramp at the point of reaching the Square is sliced into two smaller ramps. One remains untouched to connect fragment 1 to 2, while the other bends towards the Square surface to form a smaller ramp.

• Pedestrians going to Aotea Rail Link from Mayoral Drive

A ramp and elevator is designed on the northern edge of the wide ramp (along the Aotea Rail Link area) to connect pedestrians from the ramp level to the level of the future Aotea Rail Link.

• Pedestrians going to Performatorium from Mayoral Drive

One of the main entries to the opera house is located on this ramp. The ramp, in close proximity to the external drop off area, is pierced to accommodate an escalator, connecting the ramp’s surface directly to the lobby area. The location of Aotea Rail Link close to the Square and Performatorium brings a huge amount of foot traffic, moving towards the Square and Performatorium on a daily basis. However, due to the height difference between the Aotea Rail Link site level, Aotea Square surface and Mayoral Drive these areas are disconnected while sitting next to each other. The space created underneath the raised surface of the ground plane—the ramp—is
a sheltered space mediatory located in between the Aotea Rail Link site, Aotea Square and Mayoral Drive. This space, that is called mixing chamber, is designed as a circulation core where pedestrians gather and move to and from Aotea Rail Link, Mayoral Drive and Aotea Square.
• Pedestrians going to Performatorium from Aotea Rail Link

The mixing chamber is at the same level as Aotea Rail Link site and, therefore, people coming from the rail link can easily flow to this space and enter Performatorium immediately.

• Pedestrians going to Aotea Square from Aotea Rail Link

By going through the mixing chamber and taking up an extended part of the Square's surface formed as a ramp, pedestrians coming from the Aotea Rail Link can connect to Aotea Square.
Fragment 2:

The elevated ground plane is pierced by the opera house volume, leaving only a strip of flat surface. The flat surface forms a public terrace overlooking the Square. The terrace stretches along the length of the front facade of the opera house. It then wraps and bends to form a ramp along the southern facade of the opera house. The ramp connects the first and second fragment of the promenade to the third fragment to form a continuous plane. The northern face of the opera house is open to this terrace at strategic areas. These openings change the observer’s linear line of movement and encourage him to enter the building. The change of level between the terrace, Square’s ground plane, and the elevated steps towards Queen Street side of Aotea Square, generates multiple visual connections within the Square. These visual connections enhance the social interaction between people by turning the Square into an urban theatre, where people constantly change their roles from actor to audience and audience to actor.
Fragment 3:
The raised ground surface in between the opera house, archive, experimental theatre and workshop is sliced to form a long wide ramp to connect the junction of Mayoral Drive, Federal Street, Cook Street and Vincent Street to the surface of Aotea Square. It is imagined as a platform that can accommodate different social and cultural programs. This programmatic flexibility turns the ramp into a contemporary boulevard that grounds Performatorium firmly within Aotea Quarter. The ramp is a pedestrian only connection that cuts through a large variety of public and private programs happening in the Performatorium. As a result, pedestrians using the ramp can be divided into two groups of spectators:

- General public
- Performers and staff

Consequently, each group of spectators can be divided into further, more detailed groups, based on the spectator’s destination:

- General public:
  1. From Aotea Square to Mayoral Drive or vice versa
  2. From Aotea Square/Mayoral Drive to galleries (active archives)
  3. From Aotea Square/Mayoral Drive to the opera house’s lobby
  4. From Aotea Square/Mayoral Drive to the lobby cafe
  5. From Aotea Square/Mayoral Drive to the bookshop
  6. From Aotea Square/Mayoral Drive to the Archive cafe
• Performers and staff
1. From the opera house to experimental theatre’s backstage
2. From opera house to the workshop

For technical reasons there is a need for complete separation between the areas used by the general public and the ones used by performers and staff. However, maintaining a controlled visual connection creates a level of interaction between these two groups, resulting in a greater cultural dynamic and awareness of Aotea Square and subsequently Aotea Quarter.

This scenario has a direct connection with Stirling’s formal strategy - the drum - in Neue Staatsgalerie; separating the general public from the museum visitors while maintaining the visual connection to create social and cultural interaction. Thus, Performatorium provides an ideal opportunity to broaden, develop and represent Stirling’s drum so that it suits a different number of levels and connections.
The zigzag ramp:

The gentle, diagonal sloping ramp allows an easy promenade, while breaking up the ramp into two zones of pause and transition. This enhances the act of promenading by providing pedestrians with a variety of options for movement and visual interaction. The diagonal slicing of the ramp divides the surface into a number of small stages and auditoriums for pedestrians, while providing a sneak view of the hidden underworld, the production spaces that are located beneath the ramp. Thus, the ramp turns into a cluster of small urban theatres. The ramp creates a network of intricate spaces that extends the Square’s public is extended towards Mayoral Drive.

The main piece, sitting flat in the middle is pierced to hold the drum. It is connected to the backstage area of the opera house from the side, while on the other side it forms a shared entry space between the workshop and experimental theatre backstage. The other two pieces connect the main piece to Aotea Square from one side and Mayoral Drive on the other.

The ramp is divided into three main pieces.
The drum is combined with the zigzag ramp to connect the two buildings while keeping them separate.
The connection between Aotea Square and the junction Mayoral Dr and Cook Street
[re]Stage:

As a result of following architectural moves Aotea Square has turned into a cluster of theatres (auditoriums and stages), scattered all around it that encourage social interaction and encounter within the Aotea Square.

[re]Program:

Re defining and reprogramming the square forms an urban promenade, ‘Aotea Loop’ that revitalize Aotea Square.
Redesigning Aotea Square

As a result, the square is defined

Enclosing the square by adding the library

Aotea promenade starting from the downtown going through Aotea Square towards Federal Street

Insertion of a mixed used building at the junction of Mayoral Drive and Federal Street as an traction

The promenade ends where it has started
ARCHITECTURAL ANALYSIS: SEEING THE UNSEEN WITHIN ARCHITECTURE

Architectural analysis was used as a methodology to think and design architecture. Three buildings- Villa Savoye (Le Corbusier), Neue Staatsgalerie (James Stirling) and Educatorium (OMA/Rem Koolhaas)- were analyzed both formally and visually.

Commencing with a formal investigation the analyses demonstrated the underlying formal strategies of the selected building’s formal evolution from outside in. The formal analysis, following Peter Eisenman system of analysis was used to define a step by step and close reading of each building’s formal evolution. The analyses revealed promenade architecturale as the common compositional tool in formal and spatial arrangement of all three buildings. The association of promenade architecturale with movement, seeing and perception highlighted, the connection between architecture, theatre and the theatrical qualities of the promenade. To discover the theatrical implications of architecture within the space of promenade architecturale, further sets of analyses were carried out, to dissect and investigate the underlying strategies of the space as theatre. As a result, the focus was not only on the space and its arrangement, based on the movement routes of the moving spectator, but also on how the implied formal strategies affected the spectator’s perception within the ambiguous space of the promenade architecturale. A set of visual analysis involved in the position of the spectator, movement rout and the visual experiences were conducted. The interplay between movement, observation and perception of space was explored.
to trace the underlying strategies of the ambiguous and theatrical spaces of the promenade.

ARCHITECTURAL ANALYSIS: the testified and PROGRAMMATIC REINTERPRETATION AND APPLICATION

Aotea Quarter appeared as an appropriate test field for the outcome of analysis. Site analysis revealed the failures of Aotea Quarter, the cultural hub of Auckland City, due to the failure of Aotea Square. Further investigations showed the weaknesses of Aotea Square that informed and imposed valuable initiatives towards the design process. Piazza del Campo and Schouwburgplein were analyzed and compared as two urban theatrical squares. Aotea Square was analyzed similarly to evaluate the square and specifically identify its problems. Aotea Centre proved to be the major weak link of the square as the largest public component of the square. Formally, it weakens the square by failing to connect the square to its surroundings and facilitating public access. While programmatically it lacks social attraction.

In an effort to improve the Aotea Square, an alternative solution to the one by Auckland Council was proposed, leading to the redesign of Aotea Center. Aotea Center as the only opera house of Auckland, creates a second anchor to the design project; reintroducing opera as a highly complex, collaborative and creative form of art to Aucklanders.

Traditionally, performance art centers and opera houses tend to restrictedly separate the back of the house from front of the house to maximize the effect of the spectacle's revelation. Most, such as Aotea Center in Auckland, have their production facilities completely separate from the presentation
areas, while on the other hand preservation is also done behind the doors of archives and storages, with audience specifically restricted to the auditoriums as the only place of interaction between artists and audience. They leave unaware of the creative and complex process of producing opera and are only presented by the outcome like a canned soup; ready to be consumed.

Underlying spatial strategies of promenade architecturale and the theatrical spaces in Villa Savoye, Neue Staatsgalerie, Educatorium and Garnier Opera House (as the programmatic precedent), extracted through the process of architectural analysis, were used to reconnect all the pieces this urban socio-cultural puzzle into one coherent image. All the tools and strategies that had been gathered were assembled to create a theatre (Perforatorium) within a bigger theatre (Aotea Square), to encourage an eruption of events, social encounters, exposure and opportunities.

Promenade architecturale is used as the main compositional tool within the building. Using the formal strategies extracted from Villa Savoye, Neue Staatsgalerie and Educatorium, the building is broken down into its main component to be connected back through the malleable ground plane. The ground plane is lifted, sliced, bend and pierced to form a “contiguous discontinuity” that wraps around the volumes of Perforatorium while grounding it within the difficult topography of the site.

Through the use of architectural analysis, as a critical design methodology - that turned the work of architecture into a platform to observe, dissect, doubt, speculate and eventually see the unseen- the old typology of opera house was challenged. Through its design Perforatorium reorganized the opera house to expose the
complex and creative process of opera production to the public; promoting culture as work not merely passive consumption, and to engage the public to participate. Performatormium's location on the western boundary, and a library on the southern boundary, encloses and defines Aotea Square. Thus, resolving Aotea Square's disconnection with its surrounding and the urban void to be programmed, used and occupied by public. The zigzag ramp establishes the missing link of 'Aotea Loop'. Subsequently, it connects the urban island of Aotea Square to form a greater urban promenade (Aotea Loop) to maximize Aotea Quarter's potential as the cultural hub of Auckland City.

ARCHITECTURAL ANALYSIS: FUTURE SCOPE

Throughout this project, capabilities of architectural analysis as a design methodology was studied and investigated. It is used as a pair of glasses to see the unseen and to extend the design possibilities while standing on the shoulders of giants. Through retracing the lines and projecting it back, new possibilities will emerge that can extend and enrich the work of architecture.
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