



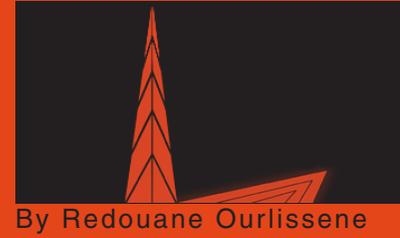
Flame Towers



Iconic Architecture

Source of Iconic Forms

An Inquiry for a Design Theory



By Redouane Ourlissene

This thesis is about understanding iconic architecture, and how forms of iconic buildings are generated. Seeking to understand and investigate the design process and formalization, can we control the process of creation in architecture? Can we build a tool box that will serve as a recipe to design an iconic building?

April - 2019



Iconic Architecture

Source of Iconic Forms

An Inquiry for a Design Theory

Iconic Architecture

Source of Iconic Forms
An Inquiry for a Design Theory

By Redouane Ourlissene
Noah Resnick, Instructor



April - 2019

University of Detroit Mercy
School of Architecture
Master Thesis Program April 2019
Source of Iconic Form by R. Ourlissene
Noah S. Resnick, Instructor



Contents

PHASE I : A World of Architecture

| | | |
|---------------------------|-------------------------------------|-----|
| Section 01: | 1.1 Introduction. | 016 |
| 1.2 What is Architecture? | 1.3 Toward an iconic Architecture. | |
| | 1.4 Understanding the iconicity. | |
| Section 02: | 2.1 Theories of Form Generation | 033 |
| | 2.2 Theory of Function | |
| | 2.3 Theory of Creative Imagination. | |
| | 2.4 Theory of Prevailing Spirit | |
| | 2.5 Theory of Type | |
| Section 03: | 3.1 Case Studies | 052 |
| | 3.2 The Villa Savoye. | |
| | 3.3 The Guggenheim Museum NY. | |
| | 3.4 The Portland Building. | |
| Section 04: | 4.1 Experimenting the Theories. | 057 |
| | 4.2 Site Selection. | |
| | 4.3 Site Analysis. | |
| | 4.4 Theory of Function | |
| | 4.5 Theory of Creative Imagination. | |
| | 4.6 Theory of Prevailing Spirit | |
| | 4.7 Theory of Type | |

PHASE II : Architecture Competitions

| | | |
|-------------|--|-----|
| Section 01: | 1.1 Introduction. | 069 |
| | 1.2 Definition and Purpose. | |
| | 1.3 Types of Competitions. | |
| Section 02: | 2.1 Roles of Architecture Competitions | 073 |
| | 2.2 Competitions as Judging Machines | |
| | 2.3 Competitions as Laboratories. | |
| | 2.4 Competitions as Generators. | |
| Section 03: | 3.1 Iconicity and Competitions. | 080 |
| Section 04: | 4.1 The Bilbao Effect. | 086 |
| Section 05: | 5.1 Case Study: Sky-hive 2019 | 090 |
| | 5.2 Definition. | |
| | 5.3 Competition Site. | |
| | 5.4 Competitions Prizes. | |
| | 5.5 Competitions Schedule and Fees. | |
| | 5.6 Jury and evaluation process | |
| | 5.7 Winners Result Analysis | |
| | 5.8 The Iconic Status | |

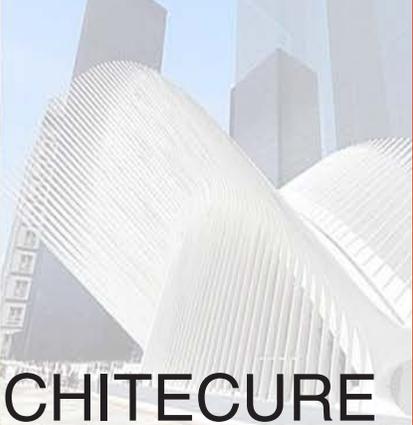
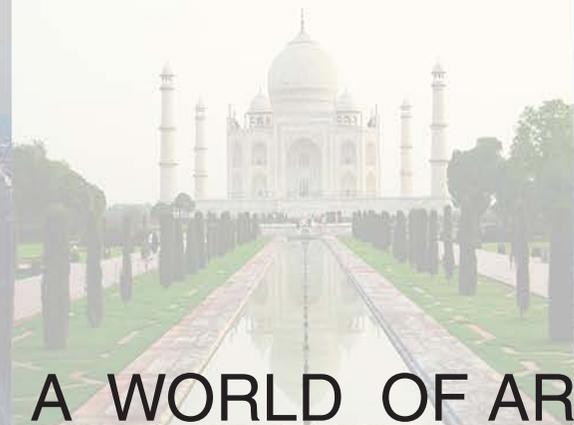
PHASE III : Designing the Iconic Icon

| | | | |
|-------------|-----|------------------------------|-----|
| Section 01: | 1.1 | Entering the Competition. | 105 |
| Section 02: | 2.1 | Site Selection and Analysis. | 105 |
| Section 03: | 3.1 | Product of Time and Place. | 107 |
| Section 04: | 4.1 | Design Experimentation. | 111 |
| Section 05: | 5.1 | Slected Models | 113 |
| Section 06: | 6.1 | Casing the Iconic Status | 115 |
| Section 07: | 7.1 | The Detroit Tower | 117 |

A B S T R A C T

This thesis is about understanding architecture, and how forms of iconic buildings are generated. First of all, what is architecture? Architecture is a complex discipline that puzzled many architects and theorists through human history. It was born from the simple necessity for shelter and made it into the art scene by our complex mind. Living in a cause-effect world, our ancestors built their huts only when this was visualized in their minds.

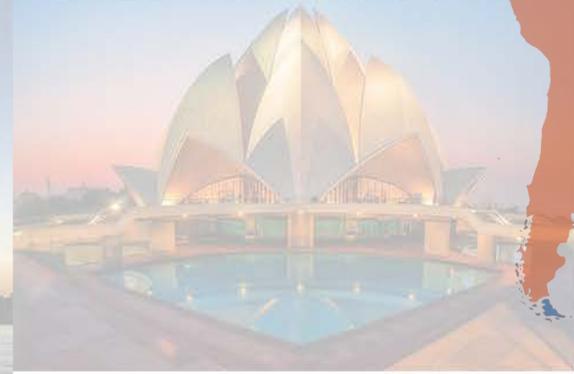
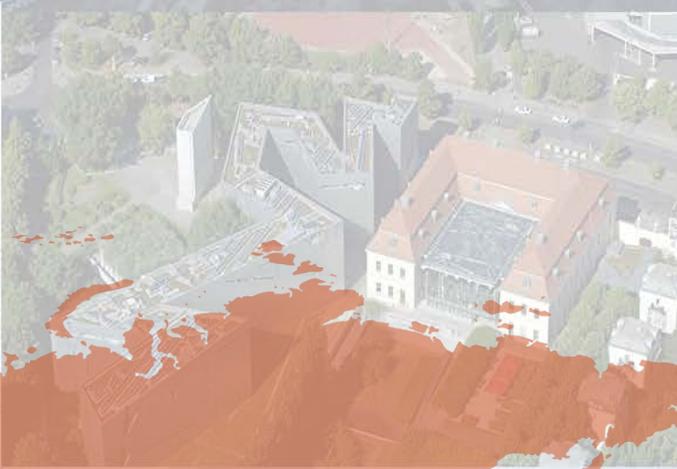
At this end, execution is a result of mental conception, and this conception requires a process developed through intensive thinking. Thus, seeking to understand the design process and formalization in architecture, architectural design is a complex iterative process that does not occur in a vacuum. It does not only require creative thinking and inner talent that fuels the design but must also satisfy intended functions governed by the external world. Can we control the design process? Can we identify and control the process of formalization in architecture? How do architects express physically their creative thinking? Can we build a toolbox that will serve as a recipe for the design process and architectural creation? Is it possible to set up an objective theory that will shape our ideas before the physical world?



PHASE

I

A WORLD OF ARCHITECTURE



1.1. INTRODUCTION

Since the first architectural studio, shaping an idea or expressing meaning through a symbolic form or a pure geometrical form was confusing and considered as a difficult task. However, as a student of architecture, being mindful of the dichotomy and the battle between functionalist and formalist, between the usefulness of the object and the expression of the subject, between the reason and the intuition, between the diagram and the scheme, facilitated to practice the design process.

Every time a designer is trying to satisfy one aspect or side of the equation, he got caught up with the other side, so achieving a balance between the two poles is an aim that should structure our thinking. Accordingly, the biggest concern in architectural design, particularly for young architects, is to achieve a meaning, a meaning between use and expression.

The definition of architecture given by Immanuel Kant in his book "Critique of Judgement" provides more explanation: "Architecture is the art of exhibiting concepts of things that are possible only through art, things whose form does not have nature as its determining basis but instead has a chosen purpose, and of doing so in order to carry out that aim and yet also with aesthetic purposiveness. In architecture, the main concern is what use is to be made of the artistic object, and this use is a condition to which the aesthetic ideas are confined."

Architecture is the art of building, but it is not the physical building itself. It is a work of art, a form of art, and since art is related to human perception. Is not there any relationship between architecture and perception?

One of the previous architectural studios, we have been directed by the instructor to design a historical museum located in a historical city. Going through the site analysis and program as a conventional process, it revealed that the site is surrounded by several types of architecture that evoked several periods of time.

The site required to integrate the surrounding and create a new image that will replicate the identity of the city but also carry on the contemporary reflection. From the first moment, an inspiration plus a concept that should conduct the design process is certainly desired in this situation. In the end, we presented a project purely functional with geometrical forms, but in terms of expression, it was less convincing. The project, on the formal dimension, was lacking a language and a spirit. Since then, the problematic of formalization has a significant interest.

Forms in architecture reveal the purpose and convey a message and meanings through the act of perception. Visual perception is another topic that is related to the problematic of form in architecture. Creatures are related to the external world through their five senses, and the ability to see in humans is so advanced compared to other creatures. The human eye is a sense organ that provides a three-dimensional image and allows to communicate with the surrounding.

In his book, Sources of architectural form, Mark Gelernter illustrated this statement: "If we want to understand the mood of a person, a glance at his or her face may reveal all; but a scientific investigation would take a long time and perhaps never fully discover what the more immediate perceptions had revealed in instant."

At this end, visual perception is a powerful tool that could guide the designer through the process of creation. The designer can rely on visual perception to shape and express his intents. Thus, is it possible to set up visual perception as a tool for measuring architecture? Can visual perception also serve as a way to build a design method? Before going any further, it is relevant to understand the work of architecture and identify the nature of it.

“Great nations write their autobiographies in three manuscripts, the book of their deeds, the book of their words and the book of their art. Not one of these books can be understood unless we read the others, but of the three the only trustworthy one is the last. On the whole I think this is true. If I had to say which was telling the truth about society, a speech by a minister of housing or the actual buildings put up in his time, I should believe the buildings.”



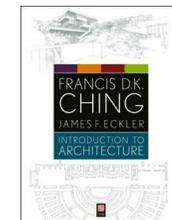
John Ruskin

1.2. What is Architecture?

Definition:

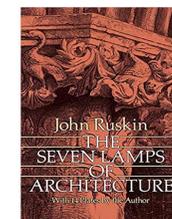
To begin with, what is architecture? This is more like a philosophical question that needs a philosophical answer. To understand the concept of architecture, it is rational to turn back to the history of architecture and understand its evolution.

For this reason, the definition F. Chin in his book, **Introduction to Architecture**, is a good starting point. “Architecture was born from the necessity for a shelter, forged by science of materials and energy, and made into an art form by our creative instincts and search for meaning. It reflects culture and society as it responds to real and imagined human needs.”



Introduction to Architecture

The earliest work found in a history of teaching architecture goes back to the Vitruvius elaborated in his book *De architectura*. Vitruvius identified three fundamental elements that qualify any work of architecture *formatas, utilitas, and venustars* translated as *firmness, commodity, and delight*. According to Vitruvius, the designer should strive to accomplish these three elements.

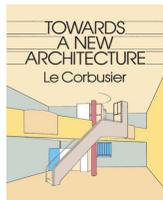


The Seven Lamps of Architecture

Leon Battista Alberti, Vitruvius' follower, saw the architecture primarily as a matter of proportion that is ideally found in the human figure. In the nineteenth century, John Ruskin, English art critic, published his book, **Seven Lamps of Architecture**, where he defined architecture as “the art which so disposes and adorns the edifices raised by men ... that the sight of them contributes to his mental health, power, and pleasure.”

In the same century, Louis Sullivan, American architect of skyscrapers, introduced the concept of function to architecture where “form follows function”. This concept came to override all other aspects of architecture such as ornament, aesthetic, and enjoyment and encompassing it to function and use.

This concept hosted a new era and style known as modern architecture. One of the pioneers of this modern movement, Le Corbusier, during the twentieth century defined architecture in his book, **Toward a New Architecture**, as “the mastery, correct, magnificent play of forms under the light.” Many theories were created within this modern movement that influenced architects and the building environment such as rationalism, empiricism, structuralism, and phenomenology.



Towards a New Architecture

In the same century, Louis Sullivan, American architect of skyscrapers, introduced the concept of function to architecture where “form follows function”. This concept came to override all other aspects of architecture such as ornament, aesthetic, and enjoyment, and encompassing it to function and use.

In the late twentieth century, a new concept was implemented for both the function and form which is sustainability or sustainable architecture. The green building should be constructed in a manner that is eco-friendly and using renewable resources for heating, cooling, water, and lighting.

In the late twentieth century, theorists and architects rejected the doctrine of modern movement by returning to the past for the sake of monumentality. Architects incorporated in their design ornament, complexity, and contradiction ignored in the previous movement. Many of them embraced the idea that architecture derives

from the past by invoking historical forms and elements for the purpose of expression.

Nowadays, the dominant drivers of architecture have shifted from monumentality to iconic architecture. A movement that is led by the capitalist corporation and supported by globalization and the ideology of consumerism. Iconic buildings are considered as symbols that represent the city, country, and the culture they were built in. Thus, what is iconic architecture? Are there any ingredients or theories that explain this kind of architecture? Could we identify the principals and elements that qualify this kind of buildings?



SITE



PURPOSE



SCALE



SYMBOL



AESTHETIC



FAME



I C O N I C
A R C H I T E C T U R E

1.3. Toward an Iconic Architecture

To understand the iconicity of the architecture, it is useful to identify the word icon. From the Oxford English Dictionary, the word icon originally meant a representation. It could also be considered as an image, picture, or a sign that stands for its object by resemblance or analogy to it.



The Icon Project

In the world of architecture, an iconic building is an edifice that is attractive and universally well known. Leslie Sklair in his book, **The Icon Project**, defined iconic architecture as “In my formulation, it is the unique combination of fame and symbolic/ aesthetic significance that creates and sustains the icon.”

It is clear that iconic architecture means famous, and it has a symbolic and aesthetic judgment. Mainly, it symbolizes something or several things, and it expresses aesthetic values.

It is possible to add more elements that might explain deeply the concept of iconicity in architecture. The site and the context can alter a building into an icon. Taking the Fallingwater as an example, Frank Lloyd Wright had to place the house on top of the flowing water creating a moment of architectural drama widely recognized as the most iconic residential building on the planet. The scale and the size of the building is another element that can create an iconic project. For example, Burj Al Khalifa in Dubai, the highest building on earth, is considered as an icon for the city and the country built in. The purpose can also be an element that participates in the iconicity of the building since some objects are valued according to their purpose.

1.4. Understanding the Iconicity

Paul Keskeys, Architizer journalist, published an article on Architizer website, The Ten Secret Ingredients of Iconic Architecture. In this article, the author discussed ten unique qualities that can create a truly legendary building. Distinctiveness and unique vision is the key for a compelling structure. According to Paul Keskeys, buildings considered icons often possess a groundbreaking aspect, something never seen or done before.



SILHOUETTE

The first element is the silhouette. Usually, a distinctive silhouette of the building that can be seen far away makes a sustainable icon and creates a landmark for the city and the urban environment. This theory applies to the Pyramids of Giza in Egypt, Eiffel Tower in Paris, and Opera House in Sydney.



[Fig 01]: Pyramids of Giza, Egypt.



[Fig 02]: Eiffel Tower, France.



[Fig 03]: Sydney Opera House, Australia.

SIMPLICITY

The second element is simplicity. A pure simple concept or shape might provide a strong message that can clearly orchestrate and express the design intents. For instance, Apple Park in California designed by Foster and Partners highlights this element. a circular design at a large scale evokes a feeling of a spaceship which represents and symbolizes the iconicity of the brand.



[Fig 04]: Apple Park, USA



[Fig 05]: Apple Park, Site Plan.

SYMMETRY

Another element that can make a building an icon is symmetry. Perfect symmetry is a universal and historic concept that qualifies many legendary buildings. Buildings throughout the world utilize strong symmetry such as, the Empire State Building, Hagia Sophia, and Taj Mahal, all create a balance and harmony that leave an impression of satisfaction in the mind of the visitor.

METAPHOR

A poetic metaphor is the fourth element that describes an iconic architecture. Many architects utilize symbols and metaphors to invoke meaning and cultural values through the design. For example, Path Terminal in New York City, designed by Santiago Calatrava, evokes a white bird taking flight, a poetic metaphor for freedom, peace, and adventure.

MATERIAL

The selection of materials is another important ingredient for creating an iconic structure. Designers and architects have used different kind of materials to advocate the nature of their design. From stone and marble to steel and concrete, materials improve and highlight the expression and the form chosen by the designer regardless of the context, function, and scale.

COURAGE

The sixth element deals with the designer himself. The designer needs to be brave enough to break the rules. The artist Henri Matisse once said that creativity takes courage. Breaking free away from the conventional way to creatively produce a distinctive iconic structure takes bravery. The falling water serves as a good example. Placing the house on top of the flowing water with a fifteen-foot overhang requires an act of courage and bravery from the author.



[Fig 06]: Empire State Building, USA.



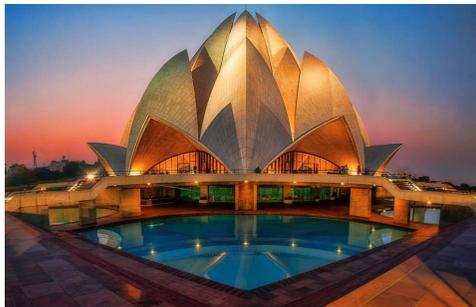
[Fig 08]: World Trade Center Station, USA.



[Fig 09]: National Parliament House, Bangladesh.



[Fig 10]: Fallingwater, USA.



[Fig 07]: Lotus Temple, India.



ENGINEERING

CONTEXT

NARRATIVE

CLIENT

The amazing engineering is the seventh requirement for an iconic gesture in architecture. Shaping the structure of an iconic form requires innovative solutions and collaboration with other fields. Many iconic buildings brought to life by brilliant engineers. The example comes in the shape of Zaha Hadid Architects Project, Heydar Aliyev Center, a marvel form constructed with the help of Werner Sobek, AKT and Tuncel Engineers.

The challenge to context is the eighth element that qualifies iconic architecture. Challenging the context makes the building stand out from its surrounding. In some situation, the contrast can play a key role in the iconicity of the building. The Jewish Museum in Berlin is a good illustration. A strong radical contrast to the architecture surrounding the building symbolizes the tragic journey of Jews through recent history.

A brilliant backstory is another element that can generate iconic architecture. Iconicity stands to narrate a story, a brilliant backstory. Thus, the significance of the icon is achieved when the story that is created for is revealed. As for instance, the Taj Mahal, ornate mausoleum, designed and built to express and symbolize the love that Mughal emperor had to his wife Mumtaz Mahal.

The ideal client can also serve as a driver for an iconic architecture. As Fran Silvestre said: "Behind a good project came a great client." The pursuit of an iconic building requires a great willingness from both the designer and the client. Considering the Villa Savoye as an example, the client gave Le Corbusier the complete freedom to design an iconic building for the residential modernism.



[Fig 11]: Heydar Aliyev Center, Azerbaijan.



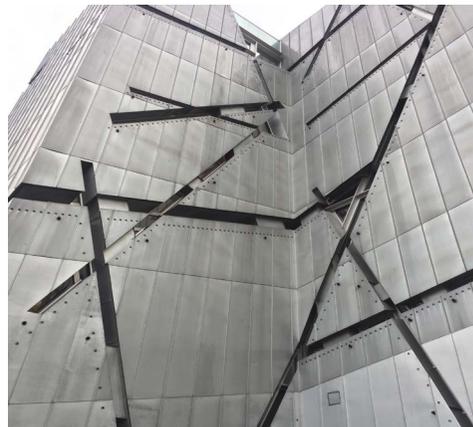
[Fig 12]: Jewish Museum Berlin, Germany.



[Fig 13]: Taj Mahal, India.



[Fig 14]: Villa Savoye, France.





2.1. Theories of Form Generation

Many theories in many different periods of time tried to solve the problematic of form in architecture. Many investigations and research were done in order to understand the way forms were generated. Most of the theories vary between the notions that form are created from the human mind within the inner talent, within the creative imagination and the opposite notion that forms derive from the outside world, from the function and climate. These following theories will sum up and explore the major western theory of design.



[Fig 15]: Wainwright State Office Building, Missouri, USA. [Details and ornaments of principal facade].

2.2. Theory of Function

In this theory, an architectural form takes shape from the function expected to perform. Accordingly, a well-designed building should strongly respond to the various physical, social, psychological, and cultural functions required at any given situation.

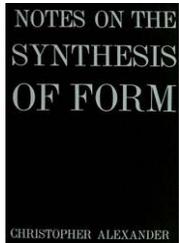
In the late of the nineteenth century, the functional theory was initiated by the doctrine developed by the American architect Louis Sullivan who explained that forms follow function. In his 1896 essay “The Tall Office Building Artistically Considered.” Sullivan refers to the idea that a shell or the exterior design of a building should translate the different function and activities of the interior design. The two skyscrapers that he designed, The Wainwright Building in St. Louis, Missouri, and the Prudential Building in Buffalo,

New York, serve as a perfect example where the form of the two skyscrapers follow their function. This statement sets up Sullivan’s philosophy to define new design principals as an opposition to form follows precedent, where the designer derives the shell of the building according to the prevailing style. The form is considered as a given element rather than something needs to be determined and discovered through the design process. Sullivan’s legacy documented a philosophy that influenced the future of design, architecture, and many other fields. It implemented new ideas and opened a new perspective that still discussed and debated these days.



[Fig 16]: Wainwright State Office Building, Missouri, USA.

Frank Lloyd Wright, one of the most influential figures in the modern architecture, was the young apprentice and draftsman for Louis Sullivan. He had never forgotten nor rejected the doctrine of his mentor; however, he took the expression and made on his own “form and function are one.” According to Wright, L. Sullivan was using the expression as a starting point for his design process “form-with- outward.” Later during his career, F L Wright suggested that L. Sullivan did not go deep enough in his reflection to understand that form and function should be one entity. Wrightn has written. “Form follows function” is mere dogma until you realize the higher truth that form and function are one.”



C. Alexander's Book

It is relevant to cite the work and research, from the late twentieth century, elaborated by Cristopher Alexander who set out the most influential design method published in his book **Notes on the Synthesis of Form (1964)**, where he defined design as “the process of inventing things which display new physical order, organization, and form, in response to function.”

C. Alexander referred explicitly to Walter Gropius and Moholy-Nagy to develop a design method that is based on scientific induction. He restated the Bauhaus arguments to develop his approach: “design consists of solving functional problems; the problems of the modern world are too complex to solve with personal intuitions.” For this end, designers avoid preconceptions that might impose solutions that have never been discovered in the problem, but rather rely on facts and natural law just like Isaac Newton.

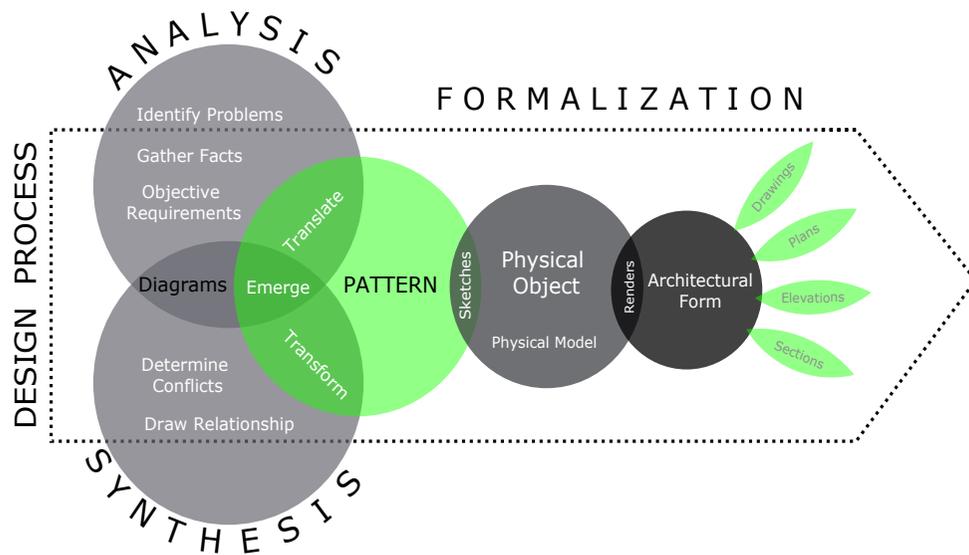
C. Alexander identifies two stages for his design method. In the first stage, which is the analysis, he advises the designer to diagnose and investigate the problem in order to collect information where we can draw up a list of relationships related to the issue. Out of this diagrams emerge patterns

of interrelated subsets of problems. In the second stage, which is the synthesis, the designer should be able to transform and translate those diagrams into physical objects. Therefore, the architectural form is generated according to a physical order identified by the pattern which is dictated by the functional problem. In this scenario, the form-making process is purely rational and scientific.

Alexander's method of design had influenced many schools of architecture and theorists; however, the theory clearly rejected the subjective formalism and tended to reform architecture as a scientific discipline which strives to respond to people and their needs rather than an artistic profession oriented to more personal expressions.

To sum up, The exterior shape of the building should take its existence from the inside. The architectural form is a result of the interior space. The designer starts from the program by developing a diagram that creates the relationship between different activities. When transforming these activities into space, it generates a form. In this view, the designer is considered as a scientist who avoids preconception at any cost but relies on pre-existing facts and client needs to formalize a building.

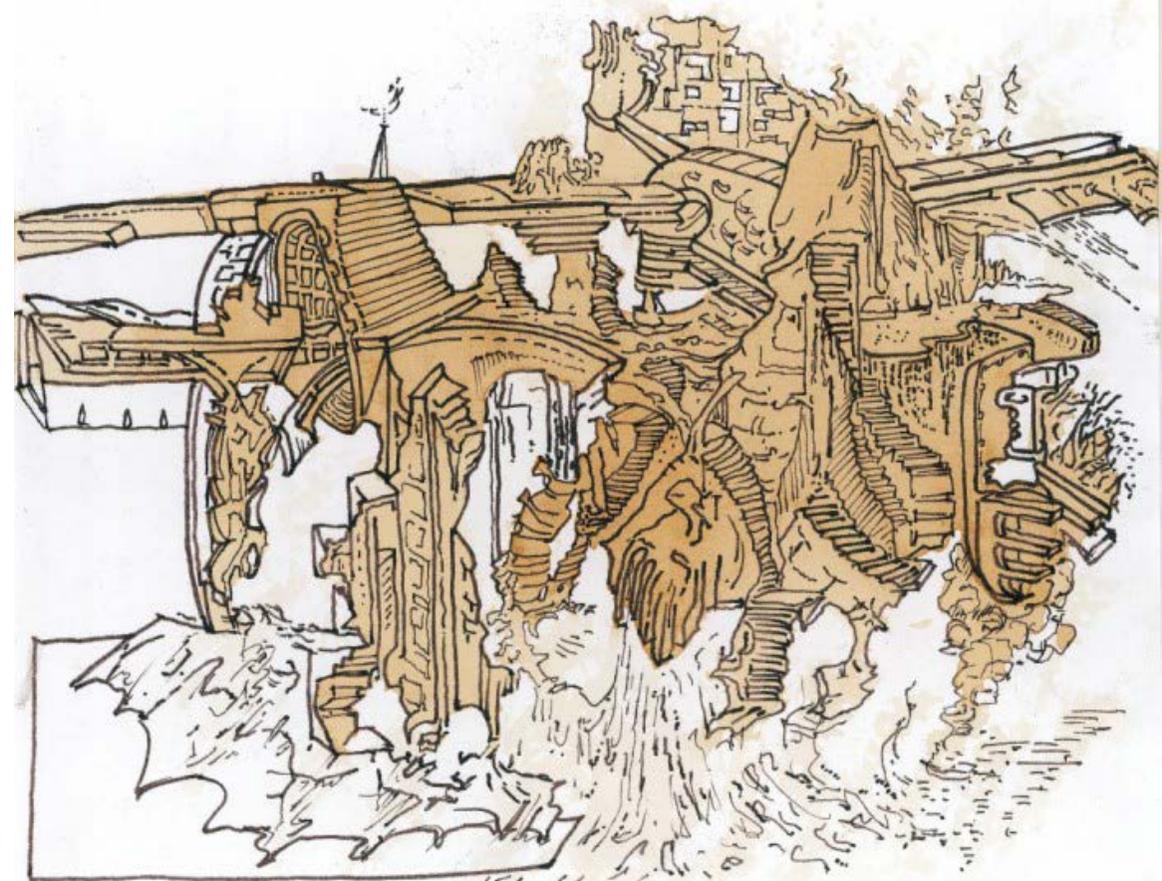
The functional theory of form failed partially to solve the problematic of form in architecture like many other theories. It left behind many puzzling questions unanswered and led many architects and designers to disillusion and confusion. If function and problem solving were the only determinants of form, how is it possible that buildings perform the same function have a different form? Even buildings designed at the same time with the same style have a different appearance. Indeed, buildings do have a personal touch of the architect and this cannot be neglect in architecture.



Functional Hierarchy

Structural Hierarchy

[Fig 17]: Diagram explaining C. Alexander's Theory and how the two stages of the theory formalize an architectural object.



[Fig 18]: D. Libeskind's Drawing - SONNETS IN BABYLON- Source: Studio Libeskind

2.3. Theory of Creative Imagination

In this theory, the ideal architectural form derives from the imagination and intuitions of the designer. The architect gets inspired from a special feeling for a building, which could derive from memories, ideas, or thoughts when combined all together, an original form flourished from the brain and the pencil. Good architects and designers recognize and claim to experience a state of mind and being where their architectural creativity is trigged.

This activation essentially produces a high quality of architectural works. Educators also have noticed, in certain gifted students, the ability to design innovative forms generated from their innate talent. However, the source of forms in

this theory is unclear and rejects any kind of rational explanation. The theory of innovation claims that the process of formalization is at the expense of the individual personality. The architectural form depends upon the imagination and the inner resources of the designer, and his or her ability to manifest a visionary thinking and artistic visualization of the form.

To this end, certain designers have shown their special interest and sensitive feeling toward creative architecture than others. Likewise, the theory also explains why most of the designers and architects display in their collective design similarities and principals despite the individual projects, themes, and locations.

However, the theory of creativity does not tell the whole story of the design process, and the way to shape a building in architecture. The theory on its own is unsatisfactory and considered partly true. If the building is a pure product of the individual expression and inner resources identified as imagination, how it is possible to clarify the similarities of buildings located in different sites and through different periods of time? How to explain the shared notions and ideas about architectural forms known as architectural style?

Actually, the universal use of generic forms such as basilica, courtyard, and atrium through the history of architecture with different kind of styles testifies the shared ideas by many generations. This theory is unable to explain how shared notions influence and affect the individual mind.

Additionally, the version of this theory stands in conflict and opposition to the functional requirements. When a designer shapes a building according to the inner resources, she or he might

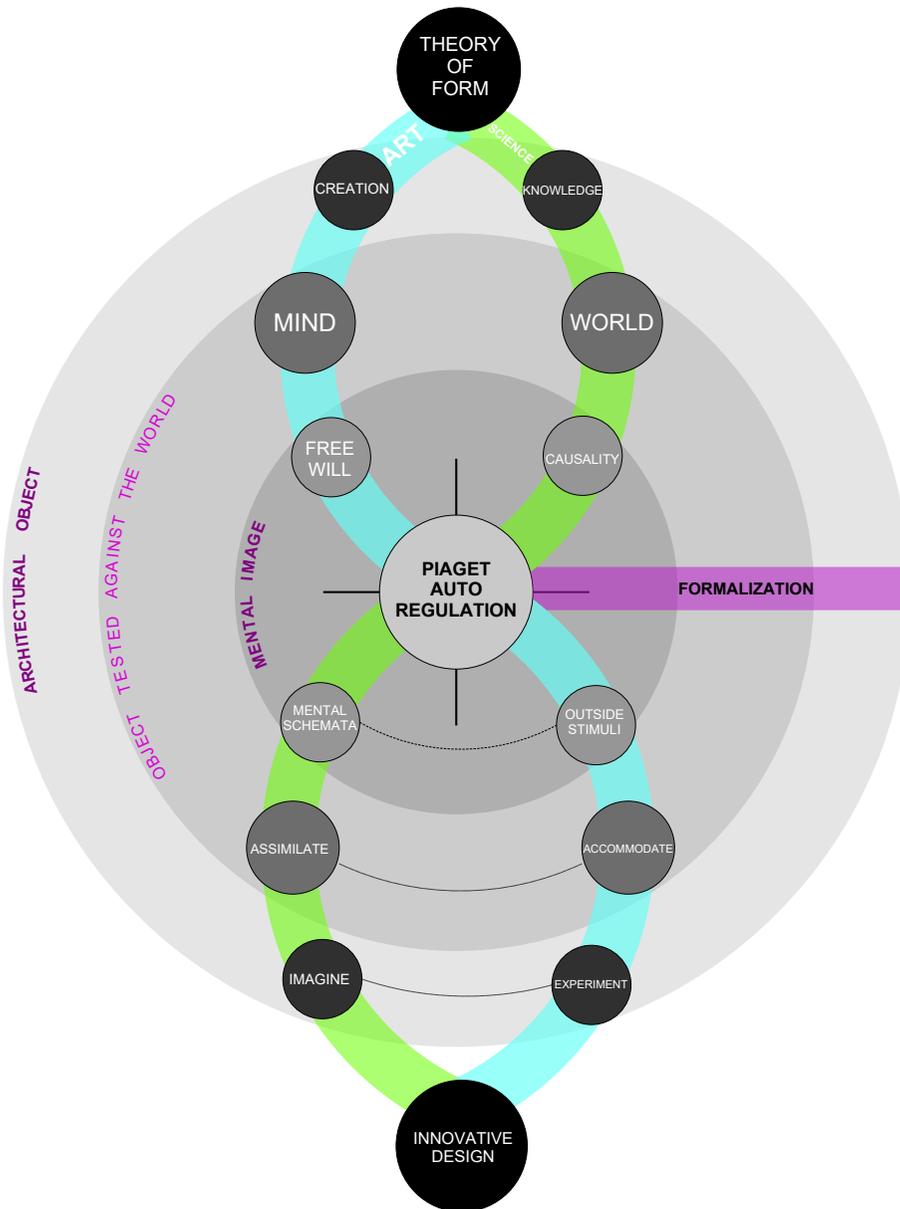
find a rejection from the outside world. Too many constraints, such as a difficult site or low tight budget, can deviate and distort the original idea.

Mostly, an extensive focus on the inner resources and individual expression, but neglecting the real world, might conduct the design process to create a building qualified as utopian. Utopian architecture or visionary architecture is a branch of architecture that exists only in papers produced by the human imagination. This type of architecture is presented by drawings and physical models that cannot be built in the near future.

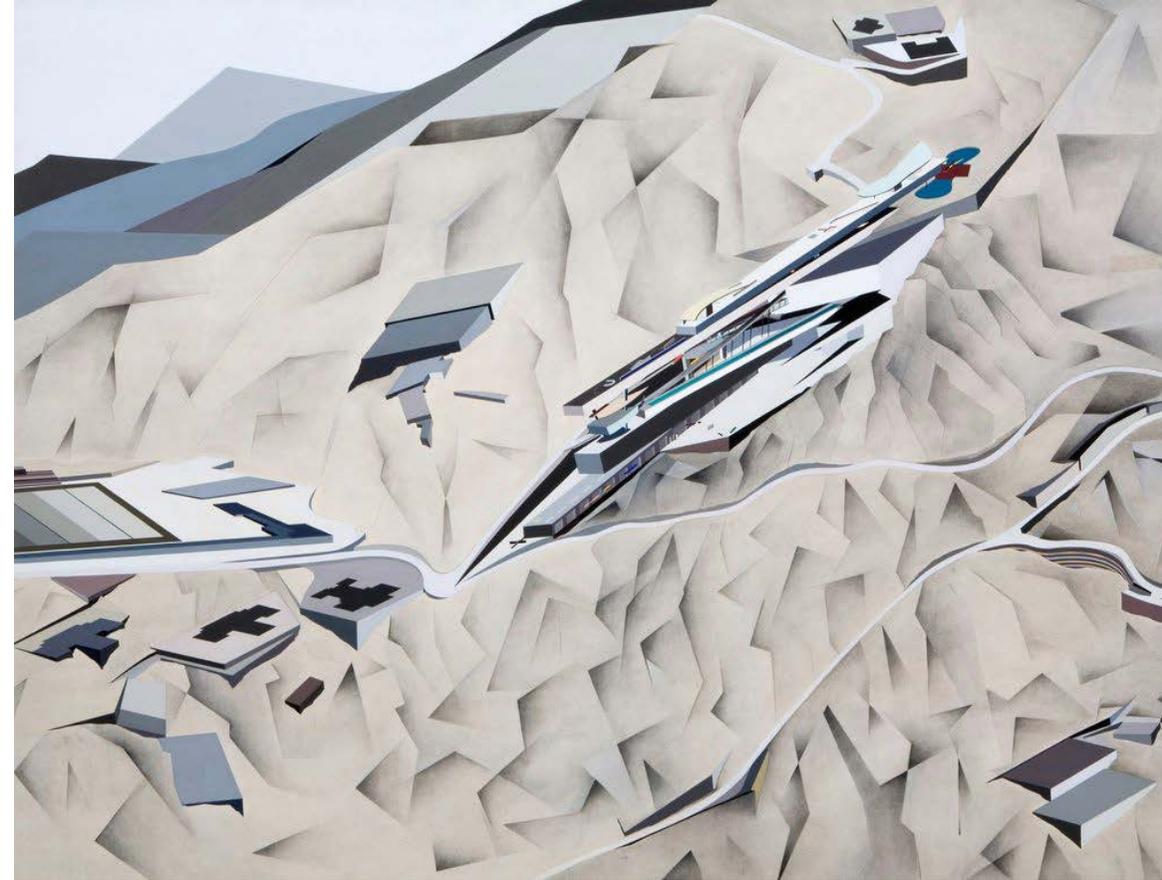
Likewise, it is relevant to explore in order to understand the relationship between the human mind and the external world. Immanuel Kant, a German philosopher, saw that the mind creates the form whereas the world provides the content, so the process of formalization is a result of an interaction between facts and information obtained from the outside world and the structural organization of the mind. In the twentieth century, Jean Piaget, the Swiss psychologist and philosopher, developed his research based on Kant's opinion. Piaget is well known for his extensive study of children cognitive development. He discovered a concept that he called "mental schemata". It is something that people do not innate with but rather developed and evolved in response to the outside world.

When a person is facing a problem, he or she will check and assimilate in his repertoire existing schemes that might solve the problem. If no existing schema works, the individual would select the one closet, and experiments with it until the problem solves and a new schema emerges. Piaget says that the new schema has been accommodated to the

problem, so by assimilation and accommodation the individual will creatively find solutions to any given problems. Mark Gelernter, in the Sources of Architectural Form, wrote: “As in Piaget, the mind creatively invents a possible solution to a problem, tests it against the world and then either accepts it or modifies it and tests it again.”



[Fig 19]: Diagram explaining the theory of creativity and Piaget's Auto regulation



[Fig. 20] A painting the Iraqi architect Zaha Hadid, influences from her travels in China as well as from Russia's Suprematist

2.4. Theory of The Prevailling Spirit

This theory identifies in every age a certain spirit which influences all artistic and cultural creation and activities of that particular period of time. In this view, the designer responds unconsciously to the world-view that he or she shares with other designers. This theory helps to explain the continuity of the design approach and style in architecture.

No matter how creative the designers might think, they are subject to outside influences. The external factors surrounding the designer will determine the design thinking and control the forces that shape the architectural object. In this view, the theory suggests that the designer work is a result of an unconscious response to the world-view.

The design process does not occur in a vacuum, but it requires an inspiration offered by the prevailing artistic movement known as the spirit of the age, which somehow control the process of formalization. Frequently, the sources of ideas that shape a building are brought from outside of the architectural discipline. Disciplines such as painting, sculpture, and other artistic activities help the designer to take meaningful decisions to formalize the physical object.

Eventually, this theory identifies common characteristics of the design shared by a giving generation usually qualified as style or architectural tendency. The spirit of the age fosters this architectural style and fuel the reflection that controls the design process. However, the theory is unable to resolve many puzzling problems. Like any other theory, it does not solve the problematic of forms in architecture.

First of all, what does the prevailing spirit represent? How does it shape the designer actions? It seems like the prevailing spirit is something abstract difficult to comprehend. It does maintain the design approach and architectural style through a period of time; however, it does not explain how the transition from one style to another is taking place. Secondly, how is it possible that some designers were able to step outside of this spirit qualified as the divine force responsible for any kind of artistic creations? How does the new style translate into a new spirit? Thirdly, how does this theory explain the existing of several spirits in the same period of time?

In this scenario, how can the designer select the most convenient spirit to shape the architectural form?

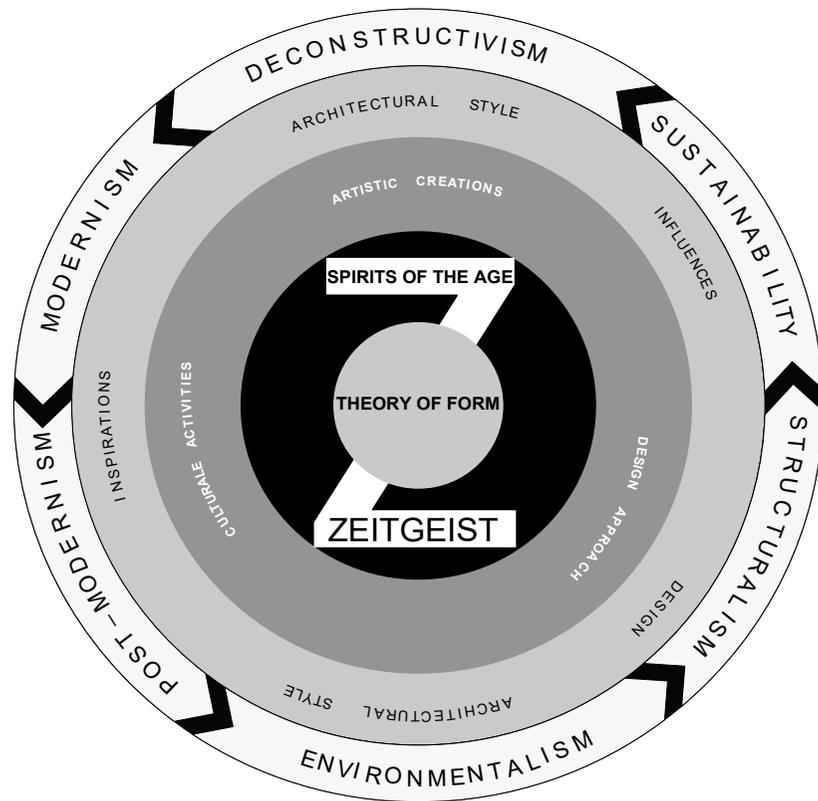
Nowadays, there are several prevailing spirits that produced many different architectural styles. These architectural styles have been pulled out in many directions that are hard to discern the most important one. Actually, the conflict between these different spirits provides a state of confusion particularly for young architects and causes complexity in the discipline of architecture. The battle that is happening between formalism and functionalism have strengthened the problematic of form. In the last decade, deconstructivism and sustainable architecture both have won the design international scene.

For example, the deconstructivism [Fig 00] is an architectural movement that appeared in the 1980s, that expressed a world without order or logic. Mainly, it is characterized by fragments of forms crashed into each other, inclined, incomplete, and twisted. These fragments express a movement and chaotic status that defies gravity and order. Many famous architects have adopted this movement such as Peter Eisenman, Daniel Libeskind, Frank Gehry, and Zaha Hadid.

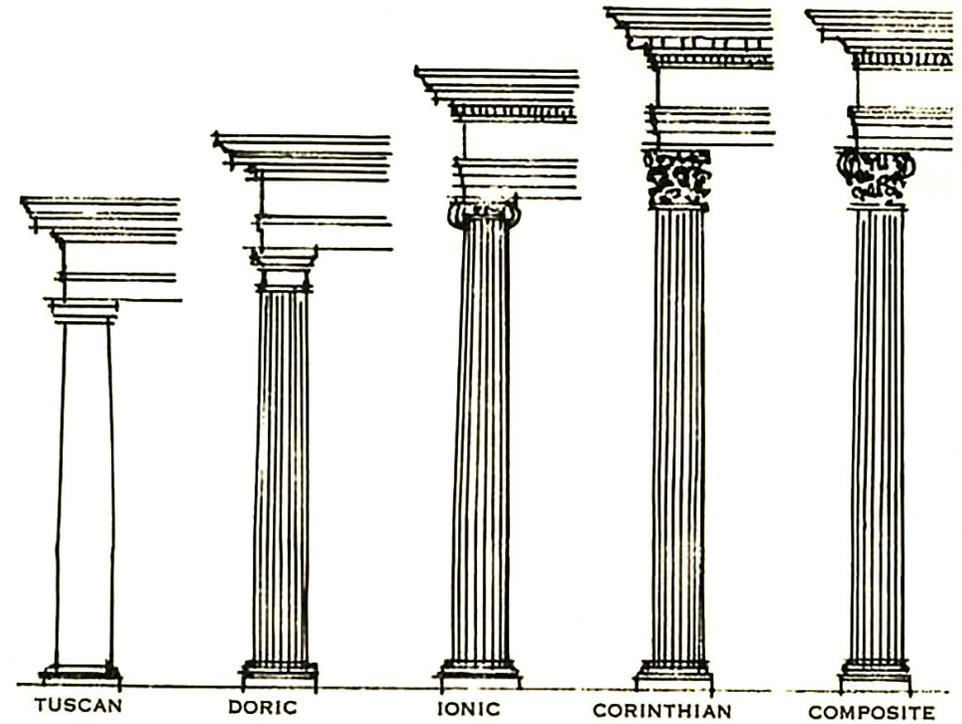


[Fig 21] Port offices of Antwerp, Zaha Hadid Architects

These architects noted that the previously imposed order by many theories and styles through the architectural theory is useless and delusional. They rely on the spirit of the age to design buildings qualified as the architecture of the twentieth-first century.



[Fig 22]: Diagram explaining the theory of the Prevailing Spirit - Zeitgeist-



[Fig 23] The five classical orders of architecture

2.5. Theory of Type

This theory suggests that certain universal principals and forms identify all well-designed architecture regardless of the surrounding constraints or the design problem. In this view, there is a typical design or form that can provide ideal solutions to different kind of problems in architecture.

Architectural form such as the basilica, the courtyard, and the atrium are components of a universal design language derived logically from geometry and common rules that govern the physical forms. These forms underlay a basis structure shared between many different types of buildings regardless of the culture or the climate.

For example, the basilica type serves as an essential organizing element to formalize different types of structure such as the ancient Roman law court, Romanesque churches, and gothic cathedrals. Arguably, by referring to this universal type, the designer can create a building based on timeless principals that might provide an attractive shape with a well-functioning program and spaces.

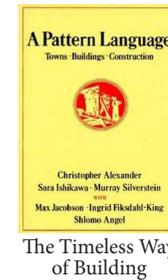
Another universal type that promises the same effect is the five orders of classical architecture. These orders (Tuscan, Doric, Ionic, Corinthian, and Composite) embody principals and rules of a language that shapes a harmonic structure. The proportions of these columns with their entablature and ornaments set a guideline and serve as a reference for the designer. These proportions identify all essential characteristics of good design.

More recently, Le Corbusier, of the most important figures of the modern movement in architecture, set up the five points of modern architecture (Pilotis, free plan, free façade, ribbon window, and roof garden). These points characterize and compose the physical form of modern architecture.

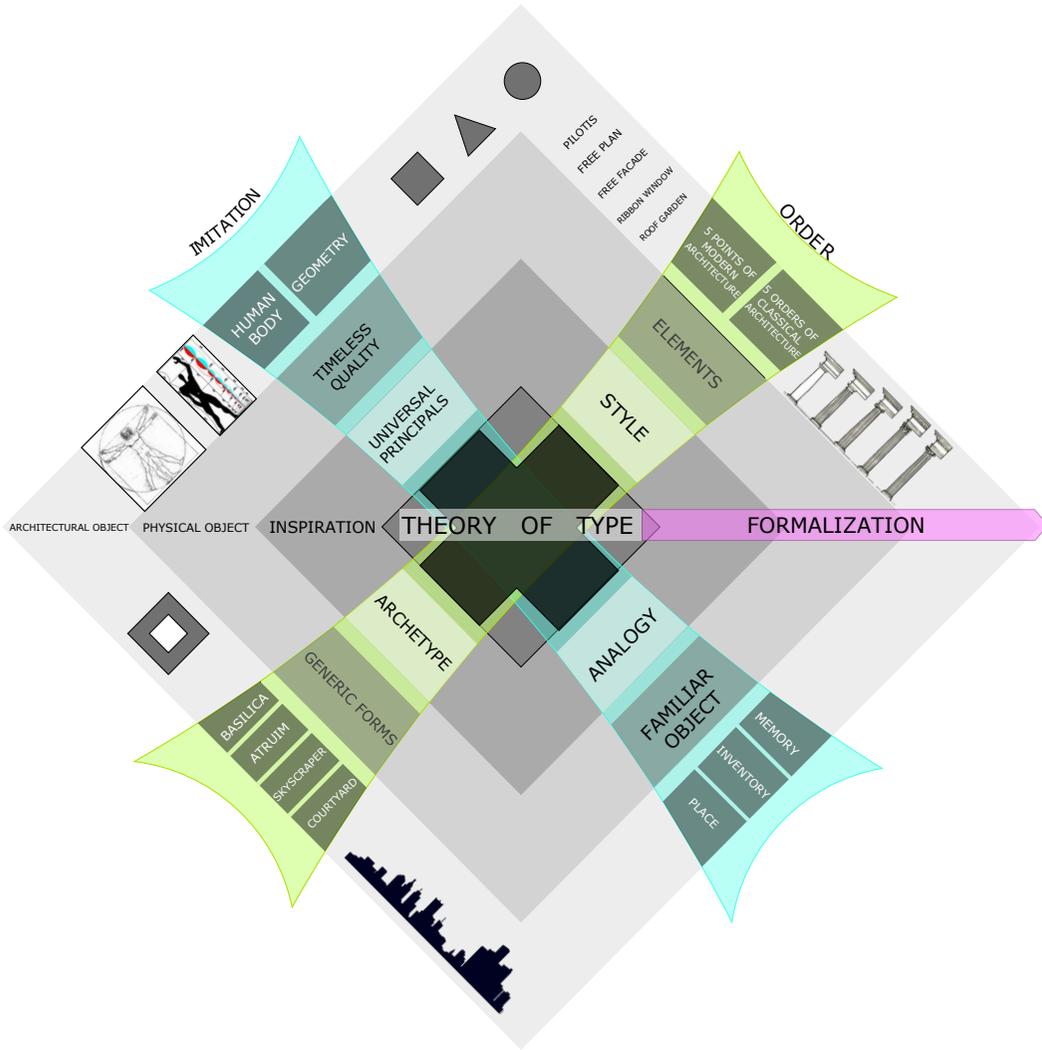
Furthermore, Many theorists and architects through their design works have tried to solve the problematic of forms by setting up universal codes to identify a possible receipt for a good design. Mark Gelernter in his book, Sources of Architecture Form, wrote: “some theorists have set out universal principals of abstract visual form- rhythm, proportion, scale, contrast, color, and so on- which

they claim lie behind all visual form, including painting, drawing, sculpture, architecture, and film. Like the five orders but even more universally applicable, knowledge of these principals enables the designer to create an endless variety of visual forms, all of which still obey universal rules.”

Definitely, the theory, however, is unable to explain the differences regardless of the fact that the designer took the typology as a starting point. How is it possible to comprehend the emergence of new types such as the skyscraper? With this view, the theory is unable to uncover the whole process of formalization, but for some reasons, it is partially valid.

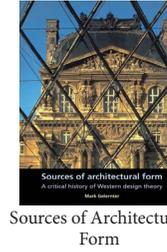


In this theory, it is relevant to mention the work and research explored by Cristopher Alexander published in his book **The Timeless Way of Building** in 1979. The author noticed that traditional buildings and city forms are more coherent and adapt better to cultural conditions and climate than the modernist design. Traditional buildings and cities like the Italian hill towns or the English market towns possess a timeless quality that qualifies the universal design language. C. Alexander concluded his research by discovering geometrical patterns that underlay all good design. These patterns should resolve most of the conflict forces giving by any situation, and apply them at any period of time.

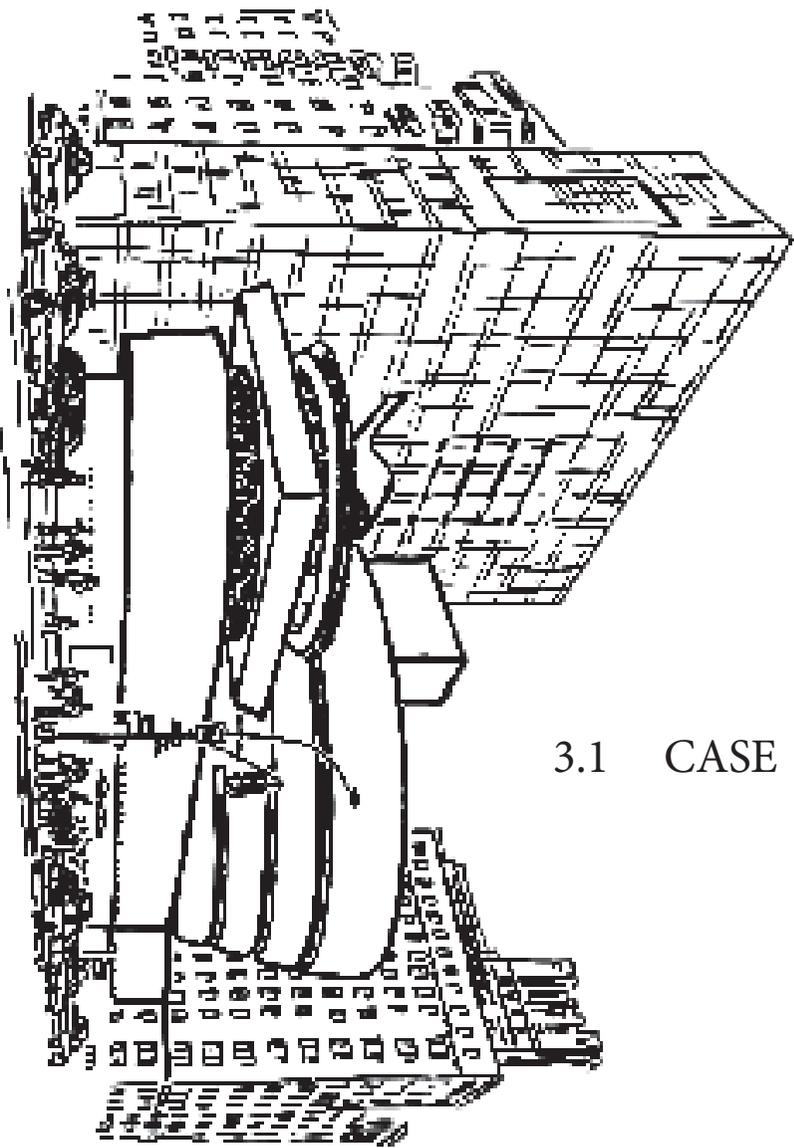


[Fig: 24] Diagram explaining the theory of type

To sum up, all the four theories of form generation develop and reveal only one aspect of the equation. Each theory is unable to tell the complete story of the design process on its own. Therefore, a request for a balanced approach is a solution to design compelling forms in architecture.



In the Sources of Architectural Form book, the author wrote: "... Good design requires creative, original thinking, that the designer's work should attend carefully to the specific requirements of the climate, the culture and the design program, and that the designer should obey certain universal principals of the form like balance and proportions."



3.1 CASE STUDIES



[Fig: 25] Villa Savoye- Front Facade-

3.2. Villa Savoye (1928- 1931)

It was designed by the Swiss architect Le Corbusier and considered one of the most important buildings of the Modern Architecture. Influenced by the Mediterranean Architecture, the Villa was a reflection of the five points of new modern architecture. The source of form in the villa developed based on the function expected to perform. The ground floor wall, for example, is curved for cars to turn and park. The features on the terrasse, ramp and guardrail of a ship with a steam chimney, give an impression of a machine.

The concept of subtractive form keeps the exterior shape pure as well as satisfy all functional interior needs like light, air, and circulation. Le Corbusier borrowed four Cubist principles and translated them into architecture and the Villa Savoye as the art of conception, the fourth dimension, defragmentation, and ambiguous boundaries. Le Corbusier described it as a “box in the air”.He did not pretend a real house with pitched roof and regular windows or a central door. The Villa has no privileged facade same pilotis, same proportions, and same window strip running through the whole width.



[Fig: 26] Aerial View of the Central Park and the Solomon R Guggenheim



[Fig: 27] The Portland Building



3.3. Solomon R. Guggenheim Museum (1943 - 1959)

The museum was established by the Solomon R. Guggenheim Foundation in 1939 as the Museum of Non-Objective Painting, under the guidance of its first director, the artist Hilla Von Rebay. The cylindrical building, wider at the top than the bottom, was conceived as a “temple of the spirit”. The concept of the museum satisfies the theory where the building is taking its shape from the function expected to perform, a continuous vertical stairless path where the artwork is discovered. The unique ramp gallery extends up from ground level to the upper level under the ceiling skylight.

The iconic spiral form presented a groundbreaking environment for the exhibition of art when opened in 1959. It was a catalyst for change. The museum was a product of its place and its time. F L Wright created an organic architecture which seeks harmony between the museum and its surrounding environment.

3.4. The Portland Building, 1982

“A symbolic gesture, an attempt to re-establish a language of architecture and values that are not a part of modernist homogeneity.”
M. Graves

Located in a dense urban context, the Architect, Michael Graves, replicated the shape of the site to create the form of the building. As a result, the building is a massive box as pure geometrical form with a well-decorated skin. Michael Graves and many other architects embrace the idea that architecture derives from the past by invoking historical forms and elements for the purpose of expression.

The architect used the concept of anthropomorphic or classical order and organization. This classical triplex organization consisting of a base (teal), body (terracotta), and top (blue) symbolized the cultivated land or garden, earth, and the heavens. The building is considered an icon because it is the first major public building designed in a postmodernist idiom, and it a colorful urban monument for the public.



URBAN
CONTEXT



ACCESSIBLE



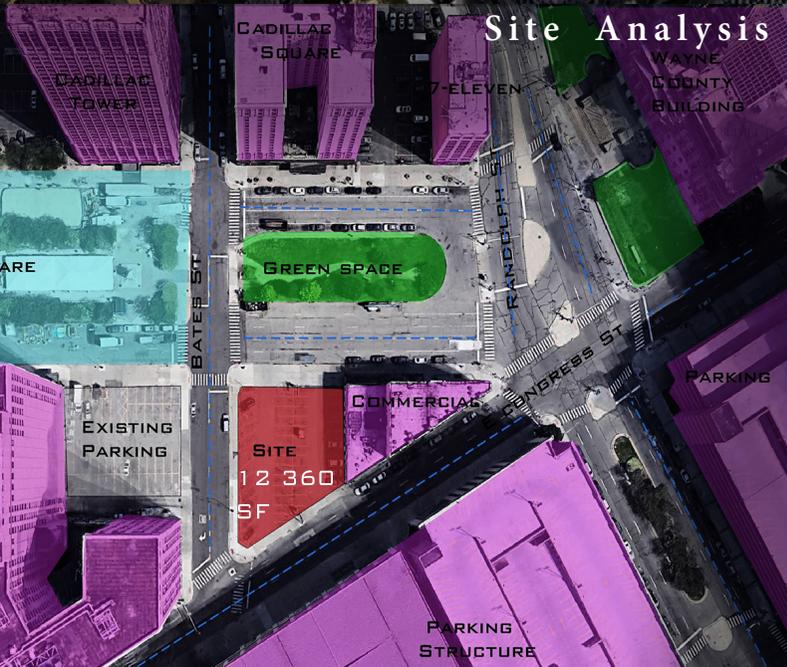
CADILLAC
SQUARE



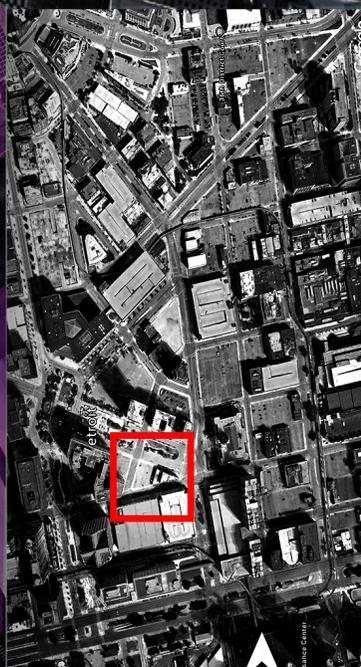
PEDESTRIAN
TRAFFIC



Site Selection



Site Analysis



4.1. Experimenting the Theories

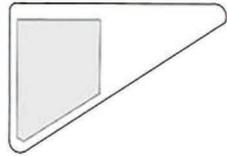
4.2. Site Selection:

The site selected is located in the city of Detroit, downtown area, adjacent to the Cadillac Square Park. It is limited by Bates Street from the west, E Congress Street from the south, Checker Bar building from the east, and Cadillac Square from the north. The site is considered as one of the most vibrant and animated urban areas in the city. It was selected to design a public building that interacts with its surrounding, and testing out the four theories of form generation. Likewise, the attention is to design an urban monument such as an art museum which will have mixed-use spaces emphasizing the public aspect of the building. The building also is not meant to be overdone or detailed but rather testing out the concepts behind the previous theories. In every theory, the aim to comprehend and demonstrate how the mental image effect and generate the general picture of the architectural form.

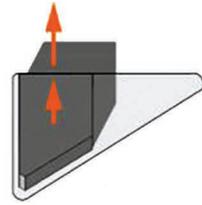
4.3. Site Analysis

In this primary phase of the process of formalization, the goal is to gather information and facts surrounding the site and determine the different forces that might participate in the formalization process. In this dense urban fabric, the different components that have been analyzed are public spaces, pedestrian traffic, type of building surrounding the site, accessibility, prevailing winds, and solar orientation. The key elements that qualify the location are the urban aspect, the presence of residential buildings surrounding the site, and the degree of its walkability.

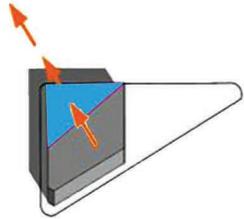
DIAGRAM



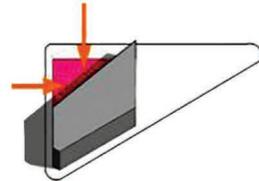
00 SITE



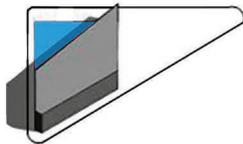
01 EXTRUDE



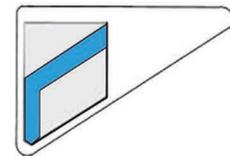
02 ORIENT



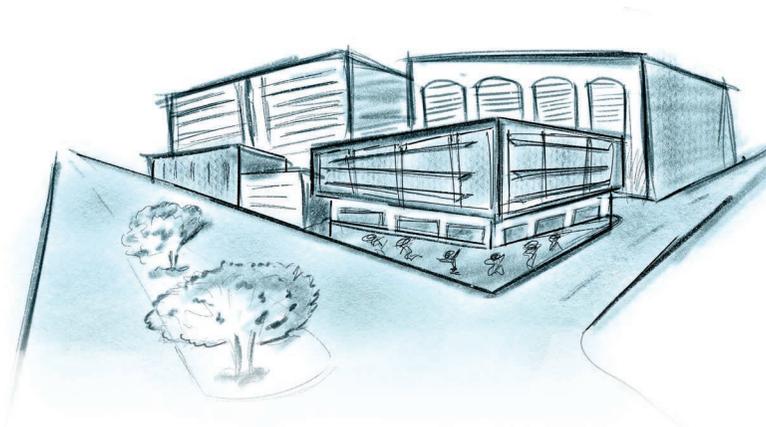
03 SUBTRACT



04 PLAZA



05 INTERACT



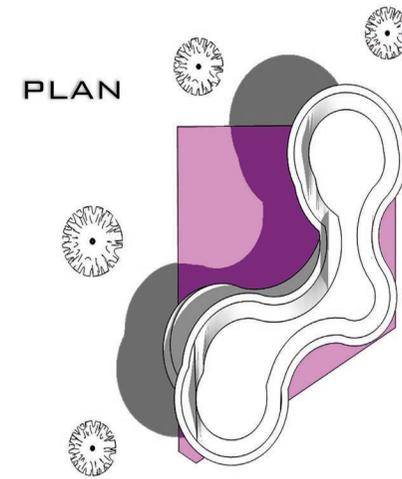
4.4. Theory of Function

In this theory, the form of the museum is derived from the numerous functions expected to perform. The shape of the building is a reaction and result of various forces surrounding the site such as physical, urban, architectural, and cultural dimensions that will determine the performance of the exterior shell of the museum. Likewise, the recipe to design a functional building relies deeply on the geometry, the shape of the site, and the program. In this scenario, the trapezoidal form of the site, as shown in Diagram [00], can serve as a starting point or a first step in the design process. The second move will be the orientation of the building toward the Cadillac Square Park, and then subtracting a front plaza for the building as a transitional space. Finally, creating a gallery to interact between the interior and exterior. The result is a simple geometrical form interacting with Cadillac Square Park and plaza through the gallery and the curtain wall. The orientation of the curtain wall to the north allows the penetration of the ambient light to the building serving the prominent function of the museum which is the exhibition.

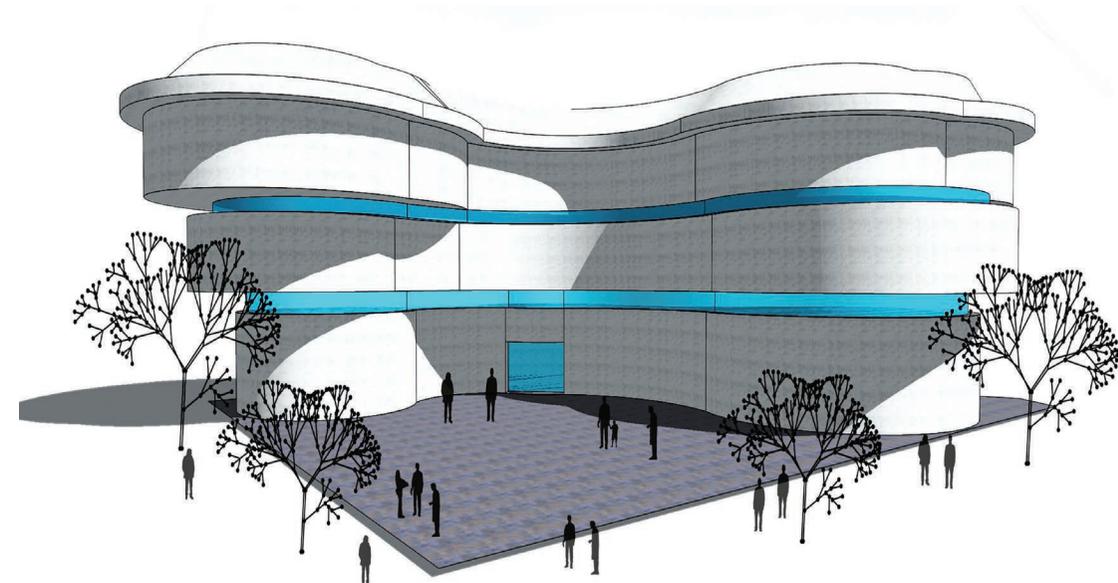


4.5. Theory of Creative Imagination

In this theory, the architectural form is produced based on the personal feelings and intuitions of the designer. The designer depends on his imagination to shape an authentic form; however, an empty mind cannot innovate a creative form because the design does not occur in a vacuum but rather relies on inspirations and external sources to activate the process of creation. Drawings also play a key role in this situation. The ability to translate this imagination on paper is manifested through the creativity of the object. The coordination that exists between the brain and the hand might influence the degree of authenticity of the form. In recent time, most creative forms were designed based on the assistance of the computer and 3d programs such as 3ds Max, Maya, Cinema 4d, and Rhinoceros 3d. For the art museum, the form is created by using SketchUp, and the building consists of three connected circles developed on three levels. It is inspired by nature evoking the structure and organization of cells.

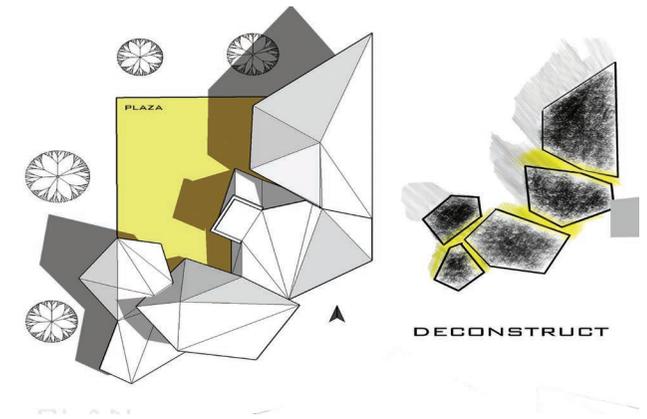


[Fig: 28] Bird View -showing the building in the context-

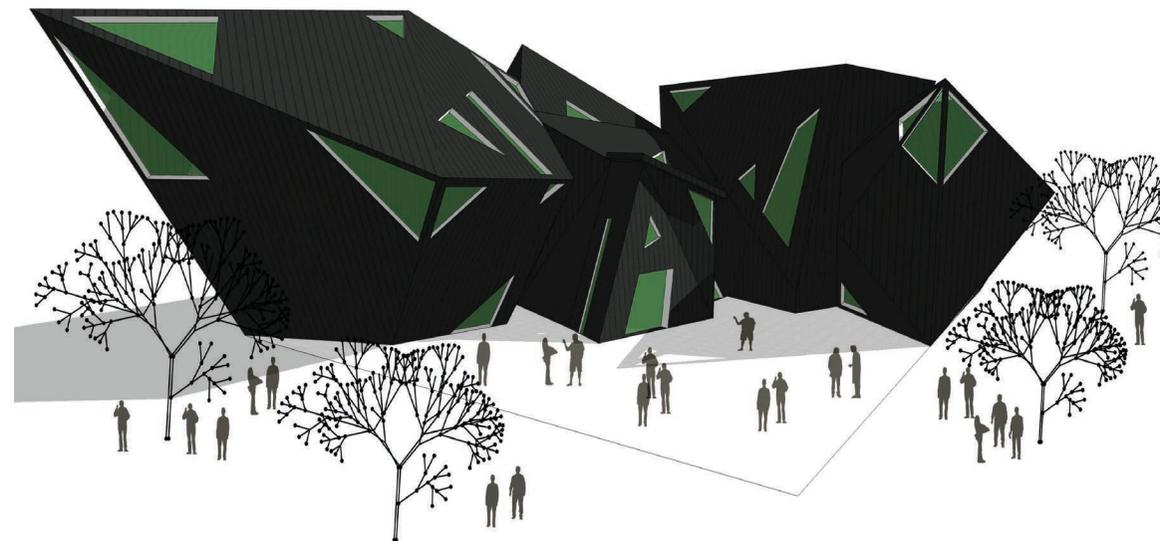
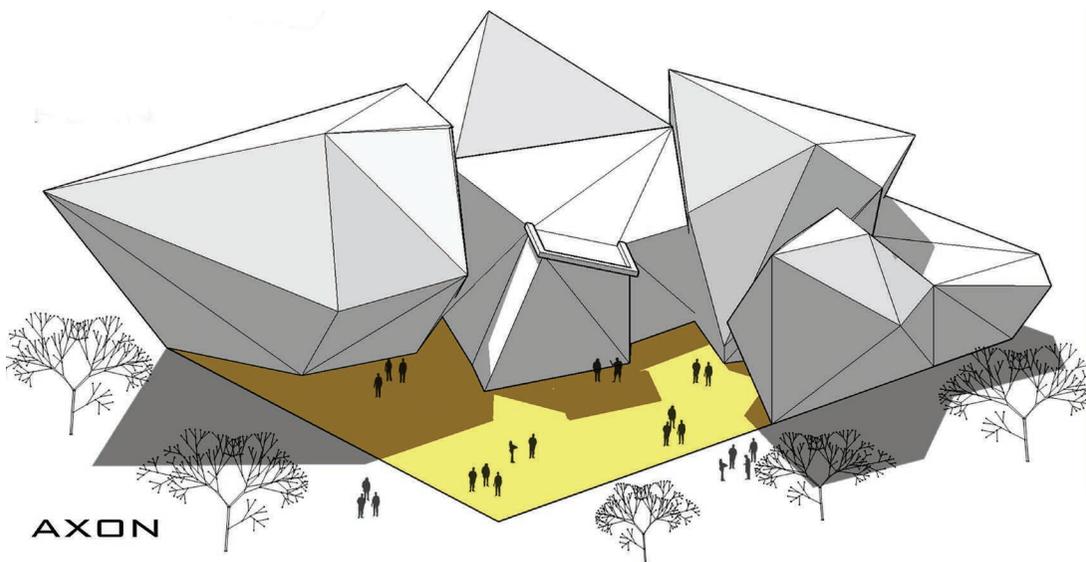


4.6. Theory of the Prevailling Spirit

This theory identifies a certain spirit that dictates the process of formalization. The spirit is responsible for the general aspect and picture of the architectural form. Usually known as the theory of architectural style, this theory determines criteria and standards that qualify the work of architecture and all other artistic activities. In recent time, the presence of several spirits such as Post Modernism, Environmentalism, and Deconstructivism made the discipline of architecture more complex. For instance, the form of the art museum was designed according to the spirit of Deconstructivism. Fragments of form crashed into each other expressing chaotic status that defies gravity and order. The result is a complex architectural form expressing disorder and a disoriented shell. The final object stands out as a distinctive structure disconnected from the context, that creates an impressive image.

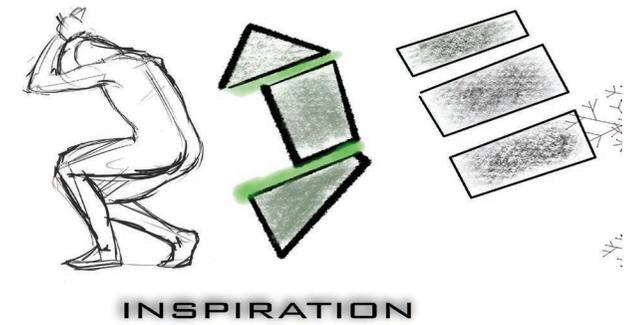


[Fig: 29] Bird View -showing the building in the context-

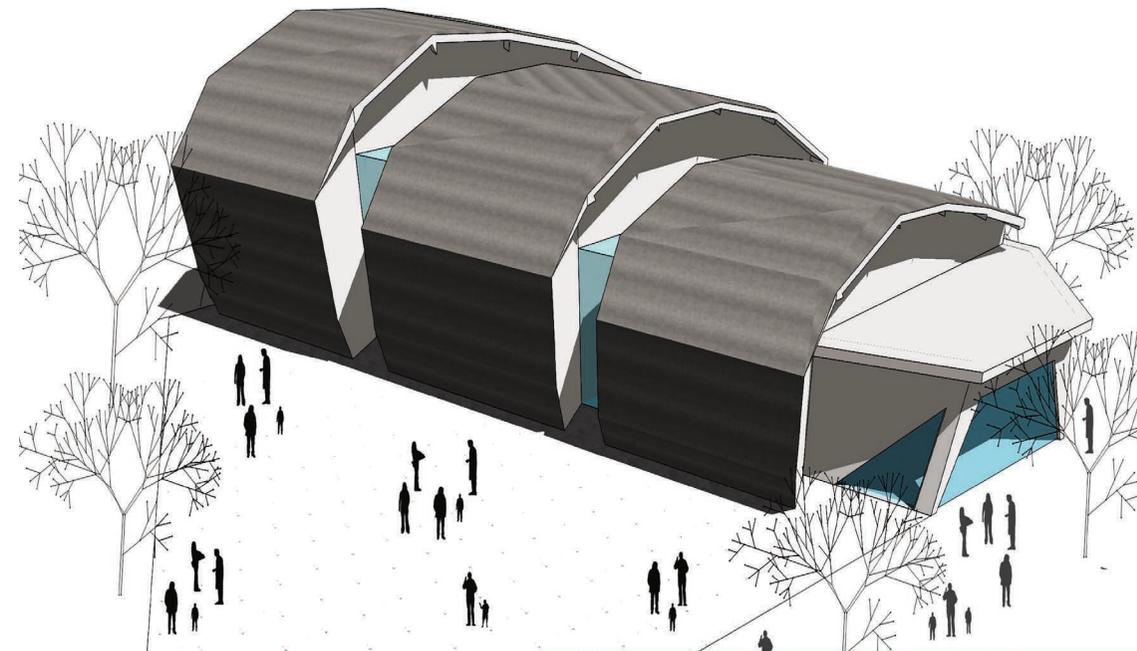
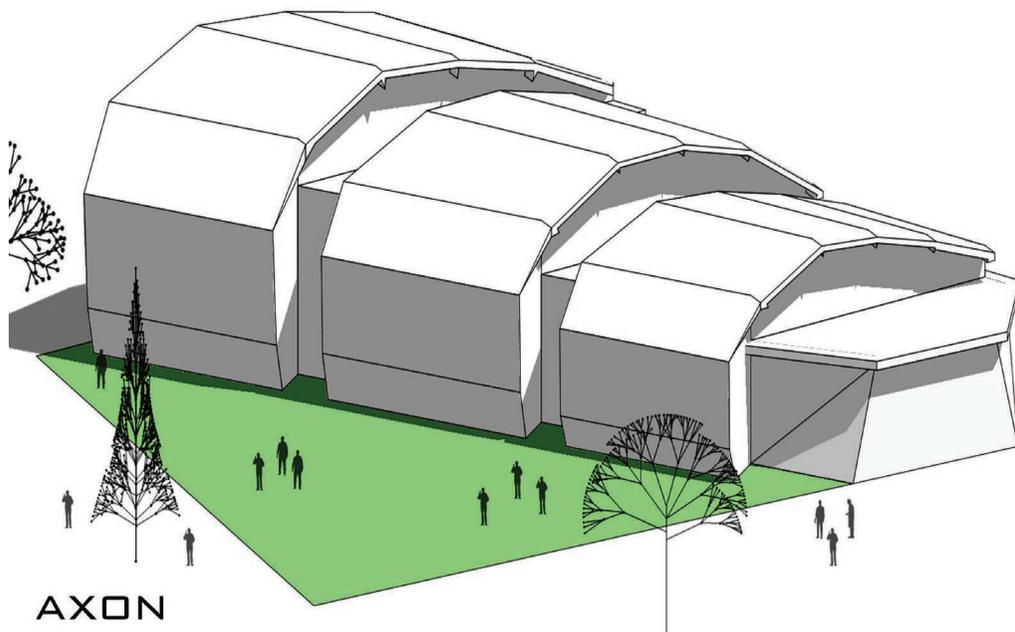


4.7. Theory of Type

This theory recognizes universal and timeless principals as determinants that qualify all well-designed form in architecture. These principals are related to the human dimension such as the proportion of a human body, the five senses, and the human scale. The theory also classifies certain archetypes manifested through the generic forms as models that qualify the ideal architecture form. Generic forms such as Basilica, Courtyard, and Atrium retain the ideal solutions for many kinds of problems in architecture. Likewise, the five orders of classical architecture served as a platform to shape and compose the proportion of an architectural object. In the case of the art museum, the form is inspired by a sculptural gesture revealing a triplex organization as top, body, and bottom. The curved form of the museum replicates the curved gesture of the sculpture.



[Fig: 30] Bird View -showing the building in the context-



PHASE II



ARCHITECTURE COMPETITIONS



“Competitions are driven by the desire to go beyond what already exists – unthought- of architecture- whereas commissions are mostly demand- driven and often by those of the market. We could say that competitions are to everyday architecture what competitive sport is to everyday fitness training. Competitive sports break existing human boundaries and set records for bodily capacities. Similarly, architectural competitions are invitations to make conceptual leaps and open new frames, speeds and scales through which we perceive space and time.”



Farish Moussavi

1.1. Foreword:

In the previous semester, the research was focused on the theoretical aspect of architecture, the source of forms and the way to generate an iconic building. It was an inquiry and attempt to comprehend the design process and how to create a compelling structure in architecture. As a general rule, a well-designed building does not confine only to the decorative aspect of architecture, it extends beyond that point. As defined by the professionals, good design refers to all parts and aspects of the building. It includes efficiency, aesthetic, cost, and durability. At this end, good architects have the unique ability to combine many parts together, putting many systems and mechanisms in one entity. Similarly, design operates in excellence, which requests a consistent pursuit in order to be achieved.

The innovative design has opened doors of many horizons and brought many concepts to life. Thus, not all architects are great designers. Many architects have remarkable strength and knowledge of materials, construction, management, but not in design just like not all doctors are good surgeons, nor are all lawyers great in courtroom argument. Therefore, many countries and governments set up architectural competitions as the best way to achieve better design. They organize architectural competitions to sort out the best designers and provide them the deserved attention.

1.2. Definition and purpose:

The concept of competition is found in every aspect of life. It allows humanity to grow and push the boundaries to the unknown. It provides the evolution that promises a better world to live in. Because they operate at their best, even societies and cultures compete between each other the same as architecture does. In the creation of a building, the matter of competition is found in every single step, from competing for the land, through builders and suppliers, to the architects to get commissions. Even once it is built, we compete to preserve it or to tear it down, so the life of buildings is definitely related to competitions.



Design Competitions

The aim of architectural competitions is the pursuit of excellence. The frequency of fine architecture is deeply related to the quality of competitions. International competitions always provide better outcomes. They explore more possibilities and options channeled by innovative concepts that lead to a better quality of design. Paul D. Spreiregen in his book, **Design Competitions**, wrote: “The primary purpose of design competitions is to find new possibilities for architectural form, to embody a mood toward which society is tending, and an occasion, to advance possibilities for living hitherto not clearly disclosed. Competitions operate as well as society operates. They operate at their best, as do other human enterprises when they are free to concentrate on the main purpose of design – which is design.” Thus, the purpose of architectural competitions is identified as:

- Searching for advanced thinking that provides an advanced design.
- Free the process of selection from political or any kind of favoritism.
- Attract and motivate talented designer throughout the world.

- Boost the creativity of designers and stimulate their performance at its best.
- Give the opportunity for young architects to flourish and improve the quality of their design.
- Provide endless possibilities and options for an adequate selection.
- Sort out the genius of design in the profession of architecture.
- Identify besttalented designers eager to serve communities.

1.3. Types of Competitions:

There are many types of competitions in design. They vary from architectural to non- architectural competitions. Architecture competitions, which is the subject of this discussion, have always been a procedure for producing outstanding buildings and pushing the limit of design. They consist of student competitions, idea competitions, renewal competitions, turn-key competitions, invited and limited competitions, and open competitions for real projects.

In this situation, idea competition is the perfect type that will link this research with the previous part of this thesis. Therefore, diving into the understanding of ideas competitions will not only clarify the purpose and mechanisms of this kind of competition but also testing out the previous form theories and setting up an agenda for the upcoming work.

In architecture, idea competitions is a competition of concepts. They have many different subjects and they could touch many kinds of buildings. Idea competitions have an academic and research purpose to fulfill. However, in this kind of competitions, projects are not meant to be built and should not be overdone. Idea competitions are also held to explore a world of potentialities, search for the unknown and knock on the doors

of future. They give the space for change and evolution and provide the opportunity to the emergence of brave, innovative ideas. In their book, *Architecture Competitions and the Production of Culture, Quality and Knowledge*, authors wrote: “Every competition remains a world of possibilities an intermediary space-time locus for the search for excellence in architecture. In some ways, competition projects function like utopias.”

The American Institute of Architects AIA and the American Society of Landscape Architects ASLA, in their competitions codes, refer to this type of competitions as secondary type or class B.

Thus, there are many types of architectural competitions that are suitable for different situations. Idea competitions are more appropriate to provide architectural solutions to design problems with inspiring, innovative thinking. From the book, *Design Competitions*, Paul D. Speiregen wrote: “As a general rule, idea competitions are appropriate where some general problem of broad social interest has been identified. They seem to be less appropriate where a parochial or self-serving interest is the case Thus some reasonable subjects for idea competitions would include low-income housing, the remaking of old towns.... Still, there is no substitute for coupling new thinking with real building- soliciting innovation and demonstrating it in the flesh.”



Architecture Competitions and the Production of Culture, Quality, and Knowledge

2.1. Roles of Architecture Competitions:

The productive roles of design competitions in the field of architecture involve quality, knowledge, and culture. George Adamczyk, professor at the school of architecture, University of Montreal, and director of the Laboratoire d'étude de l'architecture potentielle (LEAP) identifies in his text “Final Cut” the multirole of architecture competitions. He reflects on architectural representation to explain how competition studies clarify a transcultural and renewal of knowledge in the field of design and architecture.

It is easy to recognize that competitions have a multirole that can affect both the knowledge and the quality of design; however, how do we can explain or understand the cultural role of competitions? Is it possible to simulate the impact of competitions on culture and social behaviors?

From the book, *Architecture Competitions and the Production of Culture, Quality, and Knowledge: An International Inquiry*, authors wrote: “If the competition situation promotes research and experimentation, our hypothesis is that the qualitative judgment procedure at the heart of it will continue to contribute to the building of meaningful public spaces.” Therefore, by producing meaningful public space, the result of architectural competitions will have an impact on social interactions and society itself, leading to cultural influence and transformation. This will also open the door for the public to share their opinion and give a chance to competitions to treat community issues in a collaborative process. In order to prove the relevance, the authors suggested to establish a constitution of competition databases, ideally interconnected, which will contain libraries of projects. This will not only help to understand the multirole of competitions and their effect on both

the discipline and the profession of architecture, but also nourish the debates of social values, and promote an edification of what they call “our future heritage”. For example, the Canadian Competition Catalogue (CCC), created in 2002, is a digital library archiving all architectural, urban design, landscape architecture projects designed in the context of competitions in Canada. Opened to the public since 2006, the premise of the digital library consider that every project, built or unbuilt, is a source of knowledge for research and inspiration. It allows for competition studies, comparative analysis of concepts, and create a history for the built environment. The CCC is directed by J. P. Chupin, author of the recent book, *Competing for Excellence in Architecture*, wrote “The CCC’s efforts of sharing all competition projects thus nourish discourse on societies’ value, and as such constitutes, I believe, dissemination of culture and knowledge. This study should contribute to helping to shape public policy that advances the profession.”

2.2. Competitions as Judging Machines:

In the field of design, critics and judgment have a long disciplinary tradition. It is hardly possible to ignore or reject the concept of judging in the field of architecture. Even for designer themselves, they are frequently asked and reminded to judge their own work for improvement. Judging in competitions serves as a tool to measure and evaluate the quality of design. It is also a common practice where the process is used to evaluate the work of students, architects, and professionals in their fields as studios, offices, and competitions. In the world of architecture, the essence of competitions is aimed to designate and identify the highest level of perfection in any kind of project. Competitions are qualified and meant to achieve

excellence through the process of judging a widely diverse project conceived in comparable conditions. According to international research, published in 2015, entitled *Architecture Competitions and the Production of Culture, Quality and Knowledge: An International Inquiry*, reveals that architecture competitions are first and foremost judgment situations. Good competitions rely on good preparations and critical debates at all stages.

Judging in competitions is understood as a machine because it is developed as a mechanism of decisions and selections through different steps which determine the jury process; however, the definition of the design quality impacts these steps. Thus, how is the architectural quality identified and judged? Is there any procedure that explains the way the process operates? Camille Crossman, a doctoral student in Architecture at the University of Montreal, identifies two types of judgment criteria in the jury process, the elimination-style, and the elective procedure. She wrote: “an elimination-style judgment procedure which results when judges comment on the problematic aspects of a project and a selective judgment procedure where judges comment on the ideas as well as the efficient and innovative solutions of a project.”

2.3. Competitions as Laboratories:

In this section, the purpose of architecture competitions confines to the production of knowledge through the lens of experimentation. Competitions would have an impact on the future of the discipline through the accumulation of knowledge and exploration of the unknown. Participants always consider architecture competitions as special events and fields to produce audacious ideas and visions that might change the course of the profession. However, how does this accumulation of knowledge is taking place? What is the purpose of experimentation in the field of architecture? Competitions archive knowledge obtained from the submitted entries. This knowledge is a result of extensive experimentations investigating different perspectives.

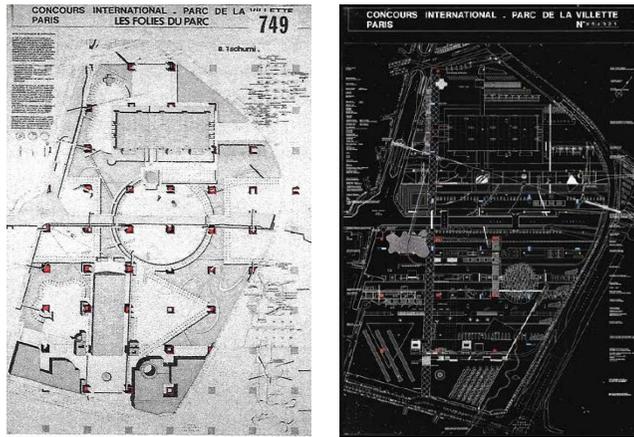
Likewise, the purpose of experimentation is deeply anchored with the activity of research, and competitors rely on research and experimentation to develop creative thinking which produces innovative designs. Moreover, there are two types of experimentation, scientific and artistic.

The scientific approach focuses on the thinking, and the process to approve hypothesis aiming to build new knowledge. In the other hand, the artistic approach stands up to create and build new models and objects. In architecture, there are two types of experimentation as well, experimentation in architecture and experimental architecture, scientific and artistic. Bechara Helal in the book, *Architecture Competitions and the Production of Culture, Quality and knowledge*, wrote: "Experimentation in architecture as seen from the point of view of the project. As previously discussed, experimental architecture can be described as the result of research for new models for the future."

Thus, experimentation in architecture is a research for a different process of thinking that might discover new knowledge, whereas experimental architecture search for new and futuristic models. Experimental architecture is more concerned with the development of new concept and tools challenging the conventional method. This branch was introduced to architecture by Peter Cook in 1970, by publishing his book *Experimental Architecture*. However, how can architecture competitions be considered as laboratories that produce experimental architecture?

In order to identify and explain the relationship, authors of the book mentioned previously, *Architecture Competitions and the Production of Culture, Quality, and knowledge* studied the remarkable La Villette Park competition, in France. Took place in 1982, the international competition had 471 participants submitted their schemes from 41 countries. The task of the competition was to redesign and rethink the landscape of thirty hectares site with integrating an auditorium and scientific museum. There were 9 schemes selected for the second round.





[Fig. 31] : Entrees for La Villette Park Competitions
left Bernard Tschumi winning scheme and OMA second

Finally, the jury selected the Swiss architect, Bernard Tschumi, as a winner followed by OMA, Rem Koolhaas, from the UK. Both architects were unknown at that time, and they had never done any qualified work within the profession of architecture besides theoretical thinking. However, both entries were evaluated by theorist and historian as experimental architecture due to the new thinking implemented in the design approach, which had an impact on the future of the discipline. Both schemes responded to the objectives of the competition to design an urban park that goes beyond the physical object to design a model for the twentieth-first century urban park.



[Fig. 32] : The La Villette Park, France.

2.4. Competitions as generators:

In this role, architecture competitions are considered as a tool to generate culture and urban fabric. Here the competition is not understood or perceived as judgment process nor experimentation, but rather as a generator that produces principals for cultural and urban development. The good example that could illustrate and simplify this notion of an urban generator is the competition held for Les Halles in Paris, particularly, the ones organized between 2002 and 2004.

Les Halles is an iconic district located in the heart of the city, first arrondissement, of Paris, between Pompidou center and the Louvre. The life of the site started as a market serving the community and the city. In 1971, the gastronomic site was converted into a major transport hub, shopping center, and public space, and relocating the market outside the city. This conversion created tensions between social, cultural, commercial, and political functions. It was considered as the city forum of Paris. However, the site remained vacant and under construction for a decade due to the tension and uncertain decisions.



[Fig. 33] Les Halles Architecture Competition- winner submission

In 2004, an international architecture competition took place to rescue and rehabilitate the heart of the city. The jury selected four finalist participants, J.Nouvel (AJN), Winy Maas (MVRDV), Rem Koolhaas (OMA), and David Mangin (SEURA). David Mangin won the competition by submitting a very classical and conservative design [Fig.32] which integrated and respected the urban environment. In this scenario, architecture competition allowed the selection of the most convenient reflection and proposed design to regenerate the urban fabric, and carry on the cultural evolution of the city.

3.1. Iconicity and Architecture competitions:

The practice of architecture competitions has permitted the improvement of the quality of the architectural design especially international competitions held for the purpose of designing public buildings. Public buildings are usually considered as attractive poles of the urban tissue, and as landmarks representing public activities of cities, they were built in. In the past, monuments played an important role in the urban environment as landmarks that represent time and cities. Nowadays, the power of monuments has been shifted to create a new phenomenon and type of buildings known as iconic.

The iconic building, or the self-important building as C. Jenks puts it, is an icon that has the ability to draw attention particularly a visual attraction. It stands up to provoke the public opinion and create a journalistic excitement. This journalistic excitement and saturation frequently embodies and shapes the fame of iconic buildings. Typically, famous buildings stand as icons to represent the identity and the image of the city. They also help put the city on the map to create a global and

universal reputation. However, among the most important ingredients or elements that generate iconic architecture are innovation and context.

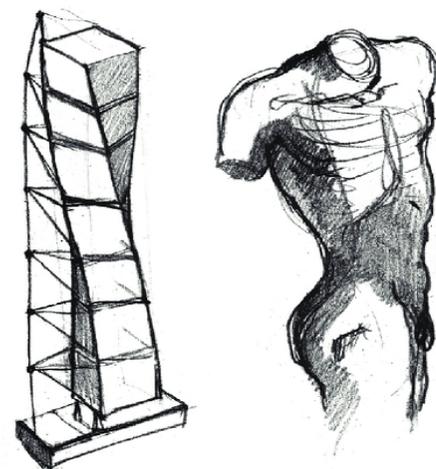
Charles Jenks in his article, the iconic building is here to stay, argues that the key element to produce an icon depends deeply on the novelty of the building, he wrote: “If the building is not new or unusual enough, it will not have sufficient charge to become iconic.” This novelty does not confine only to ideas and concepts, but it goes beyond the subject of the building toward the architectural object.

This novelty could be reflected and expressed in terms of architectural forms. It could be represented through a sculptural gesture or a new type of movement as the twisted tower. To illustrate, The Turning Torso is the first twisted building in the history of architecture. Designed by Santiago Calatrava and completed in 2005, it was inspired by a sculpture created by the architect himself. Therefore, innovative forms are usually expressed with weird forms, unfamiliar objects, and unusual geometry that provoke and challenge the context surrounding the icon.



The Iconic Building

Escultura ③ torso desnudo



[Fig 34]: Santiago Calatrava's 'Turning Torso' and the inspiration, 2005

The iconic building is also an object that is charged with multiple and unclear meanings, particularly a search for new types of meanings, or the “enigmatic signifiers” as Charles Jenks mentioned it. It is an icon that does not have clear iconography, but it is a building that should imply and allude to multiple allusions and metaphors. The building should also refer to unfamiliar code.

For example, The Gherkin, or Swiss Re, building in London design by Norman Foster in 2003. The visual metaphors and codes of this building are barely noticeable. The building calls upon several metaphors, and it can understand as a missile, screw, bullet, and finger [Fig. 34].

As C. Jencks explained: “If an iconic building must have a new and provocative image, and also cannot directly call on the iconography that underlay traditional or religious architecture (because that is no longer believed), then it must produce enigmatic signifiers that allude to unusual codes. These will be effective, and some of the excitement will come from the convulsive interaction of the meanings.”



[Fig 35]: Re Swiss, N. Foster’s Building in London, 2003. and a scheme of Charles Jenks.

Generally, the icon status must rely on the perception and appeals visually. These enigmatic signifiers are determined by the unconscious process that occurs between the eye and brain. This process will trigger the public and journalistic excitement. Another potential virtue of these enigmatic signifiers is the ability to link these allusions to nature and cosmic. Charles Jenks explains: “If you scratch an iconic building hard enough, it bleeds such meanings; overtones of the sun and water; fish and animals; crystals and our body parts; rhythmical growth of plants and galaxies.”

The common ground that exists between iconicity and architecture competitions is innovation. Innovative and creative design solutions commonly mentioned as the principal prerequisites of architecture competitions. For this reason, architecture competitions promote and strengthen the demand for iconic buildings. Many architects and designers enter architecture competitions to compete for excellence and design an iconic proposition.

Likewise, many architects and designers also compete for attention, fame, and building the trademark. The media through publicity, advertisement, and influence similarly can make a building famous and iconic. The credibility of icons are obtained and earned through the media saturation, and architecture competitions do participate in this saturation. Furthermore, architecture competitions created a new branch and status of professional architects known as starchitects. When an architect keeps winning international competitions especially in a short period of time, which is the case for Bjarke Ingels, she or he becomes a starchitect. Starchitects are international well-known architects and most of their design is iconic.

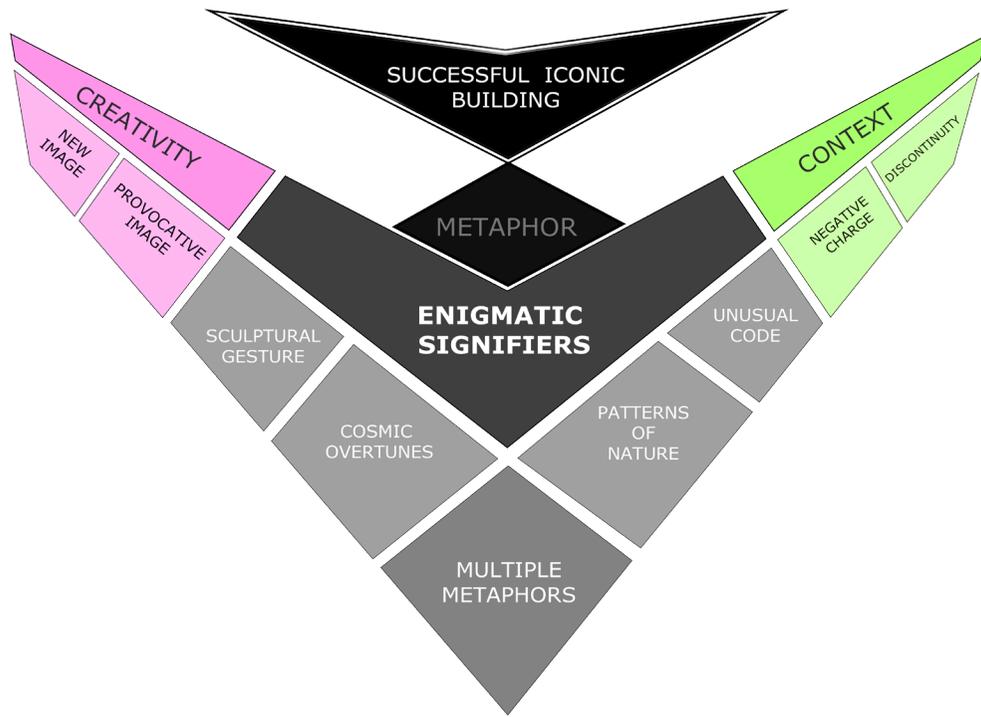


Fig [36]: Diagram explaining the three principal components of a successful iconic building.

To sum up, what certainly makes an iconic building is a novelty and the creative aspect of the architecture form. The formal creativity triggers negative charges producing a provocative image. This new or provocative image provides a discontinuity with the context but rather creating a striking image that is meant to stand out from the surrounding environment. The provocative image will also induce an impressive effect allowing for the iconic building to generate public excitement.

Frequently, this public excitement is fostered by a massive media saturation which feeds and supplies the fame of an iconic building. Hence, the credibility of an iconic building is promoted and maintained from both the media saturation and public excitement.

Architecture competitions also participate in this process since the first prize winner is the best-selected entry highlights the honorable mention. Another aspect that invokes the iconic status of an architectural object is the enigmatic signifiers repeating the words of Charles Jenks.

These enigmatic signifiers are multiple metaphors without a clear iconography. They allude to so many objects allowing for an investigation that occurs between the eye and the brain, which incubates the excitement of an iconic building. These enigmatic signifiers have the potential to not only amplify the architectural excitement but also the ability to invoke cosmic overtones and patterns found in nature. The allusion to cosmic and nature develops an unusual code of the architectural form leaving the user with ambiguous thoughts and impression of wonder, admiration, and excitement.

Cosmic Overtunes



Patterns of nature





[Fig. 37]: Aerial view of the Bilbao city showing the Nervion River

4.1. The Bilbao Effect:

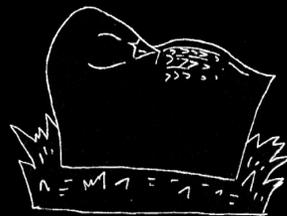
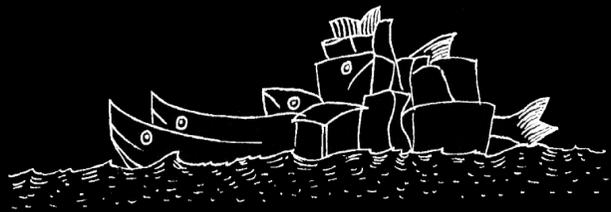
Bilbao is a city located in Spain, the largest city in northern Spain and the tenth largest city in the country. In 1991, the Basque government suggested to the Solomon R. Guggenheim Foundation to fund a museum in the city of Bilbao alongside the Nervion River. A small selected architecture competition took place between Arata Isozaki, Coop Himmbleau, and Frank Gehry. It was requested from the competition brief to design a building like the Opera House in Sydney, the Bilbao city needed a new museum to do what the Sydney Opera House did to Australia.

The Gehry's entry was selected as the winner. Since the opening, the building was a successful icon for the city. In 1997, the Bilbao Guggenheim Museum opened its doors to the public, and right after the inauguration, people started visiting the city creating architectural pilgrims. The new museum is deliberated as one of the most important buildings constructed in the twentieth century.

It is the most important building built between 1980 and 2010. According to market researchers, the building boosted and dramatically improved the social and economic developments of the city. 1.3 million Guests visited the museum in the first year, and 1.1 million in the second year, a total of 2.7 million visitors in only two years. They mainly increased tourist spending by over than \$400 million in two years. The cost to build four new Guggenheim. The media started to talk about the so-called Bilbao Effect impressed with the phenomenon effect of this iconic building.

This effect was not the first one in the history of architecture; however, it was the most efficient. Many cities around the world competed for the same effect eager for instant fame and economic growth. Mainly, this type of architecture is designed and created by Starchitects, a celebrity status gained them credibility in public opinion.



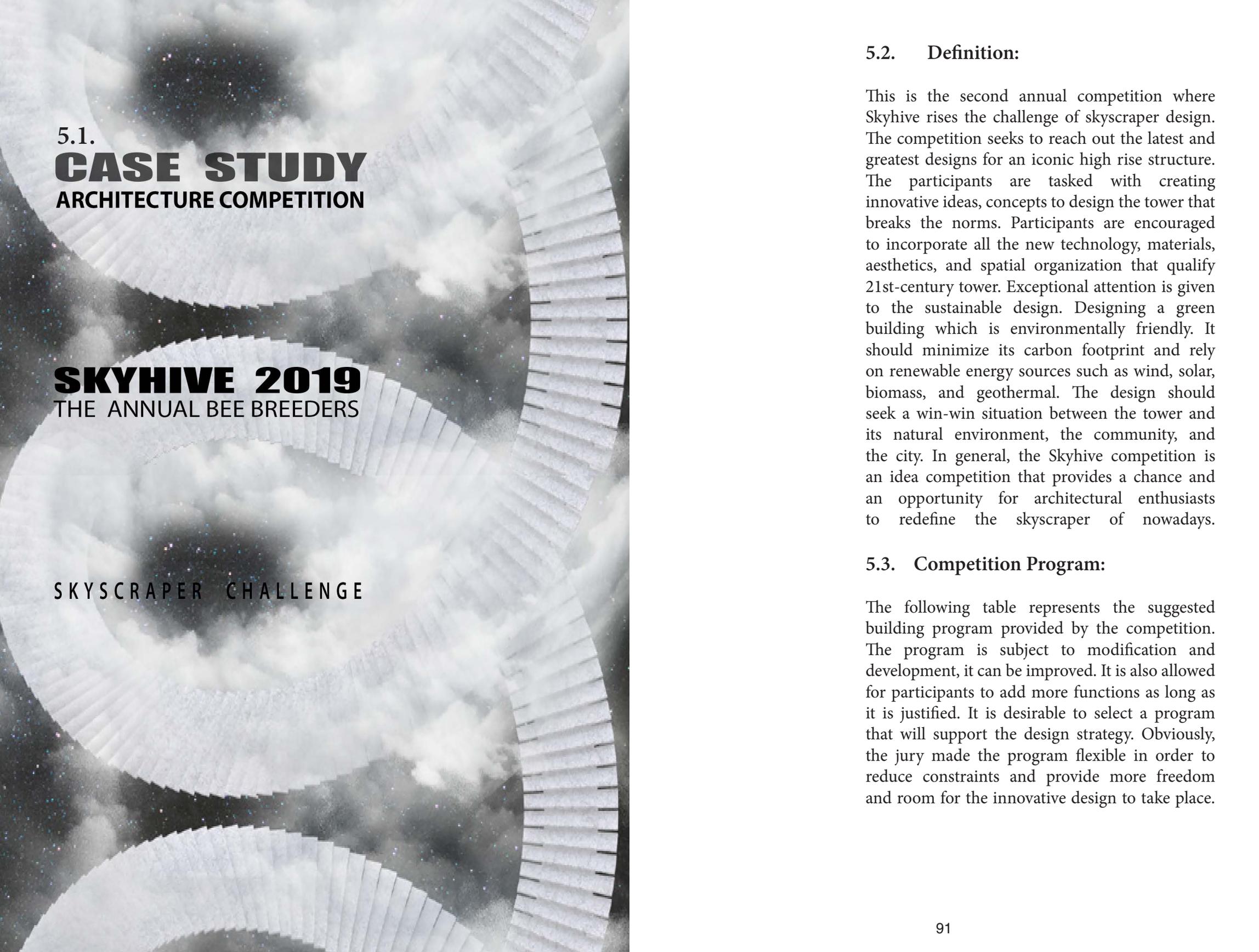


The Guggenheim Museum Bilbao is designed by the Canadian American architect Frank O. Gehry. The formal aspect of the building is spectacular and innovative. The curves of the exterior fragments of the building create a feeling of random and chaotic invoking the deconstructivism style; however, the architect had refused any affiliation to any movement or style. The shiny titanium panels made the scene more dramatic and spectacular especially when viewed from the Nervion River. The interior of the museum is conceived and organized around the atrium called the Flower due to its shape.

The mixed metaphors or enigmatic signifiers are the strongest elements that might determine an iconic building. The new Guggenheim museum calls upon many objects and entities related to the cosmic or found in nature such as a fish, swan, duck, artichoke, or mermaid [Fig. 37] qualifying the designer as a foolish or a genius.

According to expert in the field of architecture, in the Bilbao Guggenheim Museum, the architect has exploded and destructed the inspiring box of the modern movement altering the decoration of a square architecture and right angle world to more flexible and spectacular forms.

[Fig.38] : Enigmatic signifiers or mixed metaphors of the Bilbao Guggenheim Museum drawings by Madelon Vriesendorp from *The Iconic Building* by C. Jenks



5.1.
CASE STUDY
ARCHITECTURE COMPETITION

SKYHIVE 2019
THE ANNUAL BEE BREEDERS

SKYSCRAPER CHALLENGE

5.2. Definition:

This is the second annual competition where Skyhive rises the challenge of skyscraper design. The competition seeks to reach out the latest and greatest designs for an iconic high rise structure. The participants are tasked with creating innovative ideas, concepts to design the tower that breaks the norms. Participants are encouraged to incorporate all the new technology, materials, aesthetics, and spatial organization that qualify 21st-century tower. Exceptional attention is given to the sustainable design. Designing a green building which is environmentally friendly. It should minimize its carbon footprint and rely on renewable energy sources such as wind, solar, biomass, and geothermal. The design should seek a win-win situation between the tower and its natural environment, the community, and the city. In general, the Skyhive competition is an idea competition that provides a chance and an opportunity for architectural enthusiasts to redefine the skyscraper of nowadays.

5.3. Competition Program:

The following table represents the suggested building program provided by the competition. The program is subject to modification and development, it can be improved. It is also allowed for participants to add more functions as long as it is justified. It is desirable to select a program that will support the design strategy. Obviously, the jury made the program flexible in order to reduce constraints and provide more freedom and room for the innovative design to take place.

| | | |
|---|--|--|
| \$ Retail Component | Ground & Mezzanine Floor, preferable with separate entrance | 15,000 m ² / 161 450 SqFt |
| → Grand Lobby Entrance for Offices | | |
| 🍴 Food & Beverages Outlet | In the form of a food court, designed to have access to outsiders as well as offices | 5,000 m ² / 53 820 SqFt |
| 🪑 Office Spaces | | Area excluding circulation - 60,000 m ² / 645 830 SqFt |
| 👤 Executive Offices | | Area excluding circulation - 10,000 m ² / 107 640 SqFt |
| ⚙️ Ancillary facilities like busines centre, small size auditorium, Spa/Health club | | Area excluding circulation - 10,000 m ² / 107 640 SqFt |
| P Basement | Parking (1 Car Park every 50 sq.m. + 1 Car Park for 60 sq.m. area of retail area). | |
| P Podium Parking | If necessary | |

5.3. Competition Site:

There is no defined or proposed site for this competition. The participants are allowed to select a context that they think is more suitable for their design strategy and intentions. They can even select a hypothetical site measuring 425 FT X 260 FT, which can be accessed by roads on two side where the context and surroundings are to be assumed. The building can be located in a city or anywhere in the world as long as it is kept with the region's skylines and surroundings.

However, the design should at least respond to these restrictions:

- Maximum allowed site density 100%
- There is no maximum building height.
- There is no distance required for a setback.
- There are no restrictions for underground construction.

5.4. Competition Prizes:

The competition will award the three first proposals and select six honorable mentions. The competition will prize a total of US \$ 6,000 to the winners as follow:

| | |
|--|-------------------------------------|
|  Prize money US \$6,000  | |
| 1st Prize US \$3,000 | BB Student Award US \$500 |
| 2nd Prize US \$1,500 | BB Green Award US \$500 |
| 3rd Prize US \$500 | + 6 HONOURABLE MENTIONS |
| More information about the special awards at SKYHIVE2019.beebreeders.com | |

5.5. Competition Schedule and Fees:

| |
|--|
| Early Bird Registration NOVEMBER 15 - JANUARY 18 |
| Advance Registration JANUARY 19 - MARCH 5 |
| Last Minute Registration MARCH 6 - MAY 7 |
| Closing date for registration MAY 7, 2019 |
| Closing date for submission JUNE 20, 2019 (11:59 pm GMT) |
| Announcement of the winners AUGUST 1, 2019 |

| | Architects, designers, enthusiasts and companies | Students* |
|--------------------------|--|-----------|
| Early Bird Registration | US \$90 | US \$70 |
| Advance Registration | US \$120 | US \$100 |
| Last Minute Registration | US \$140 | US \$120 |

5.6. Jury and Evaluation Process:

The jury consists of the core jury and the consultant jury panel. Their task is to set up the criteria that the participants need to fulfill based on the site and brief and will evaluate each submission accordingly. The jury will also evaluate the design based on these elements:

- The sensitivity to the environment.
- An iconic structure that serves as a landmark in the city.
- The analysis of form, and creativity.

To sum up, the Skyhive challenge is an idea competition which encourages the participants to submit an iconic design by exploring the limits of architecture. The jury might select the proposal that shows a high degree of creativity, even if the rules are breached as long as it is justified.

5.7. Winner Result Analysis

SKYHIVE SKYSCRAPER - THE CHALLENGE OF 2018

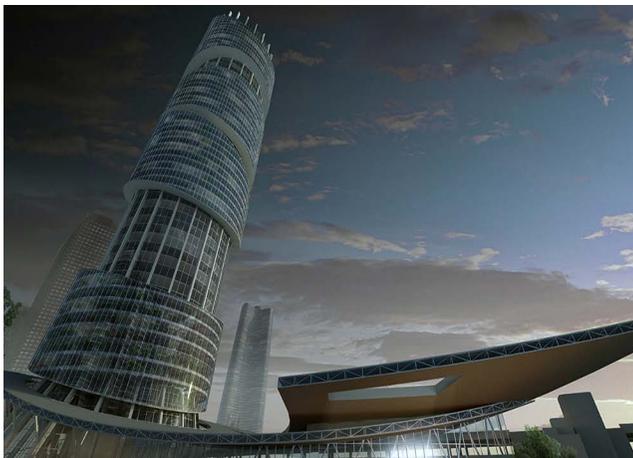
The last year, 2018, submitted entries touched and treated many contemporary issues related to architecture and design, issues such as sustainability, globalization, and technology. Each submitted entries demonstrated an ambition toward redesigning the 21st-century skyscraper. The jury evaluated projects based on numbers of factors including sustainability, iconicity of the object, and creativity. They found that participants submitted the work from all around the world, and covered endless possibilities governed by all kind of ideas that can be explored by human imagination.

- First Prize Winner -THE AERO HIVE-

Located in Kai Tak, Hong Kong, The Aero Hive consists of two towers mostly identical with porous and organic form. Each tower is fragmented through vertical elements allowing daylight to the core of the tower. The two towers are connected in the middle by a sky-bridge and each tower features a roof garden open to the sky. The jury criticized the way the two towers meet the ground, which is unclear; however, they consider the entry as a beacon for sustainable design.



[Fig. 39] : First Prize Winner -THE AERO HIVE.



[Fig. 40] : Second Prize Winner - CHICAGO PILLAR-



[Fig. 41] : Third Prize Winner - THE WALL-

Second Prize Winner - CHICAGO PILLAR-

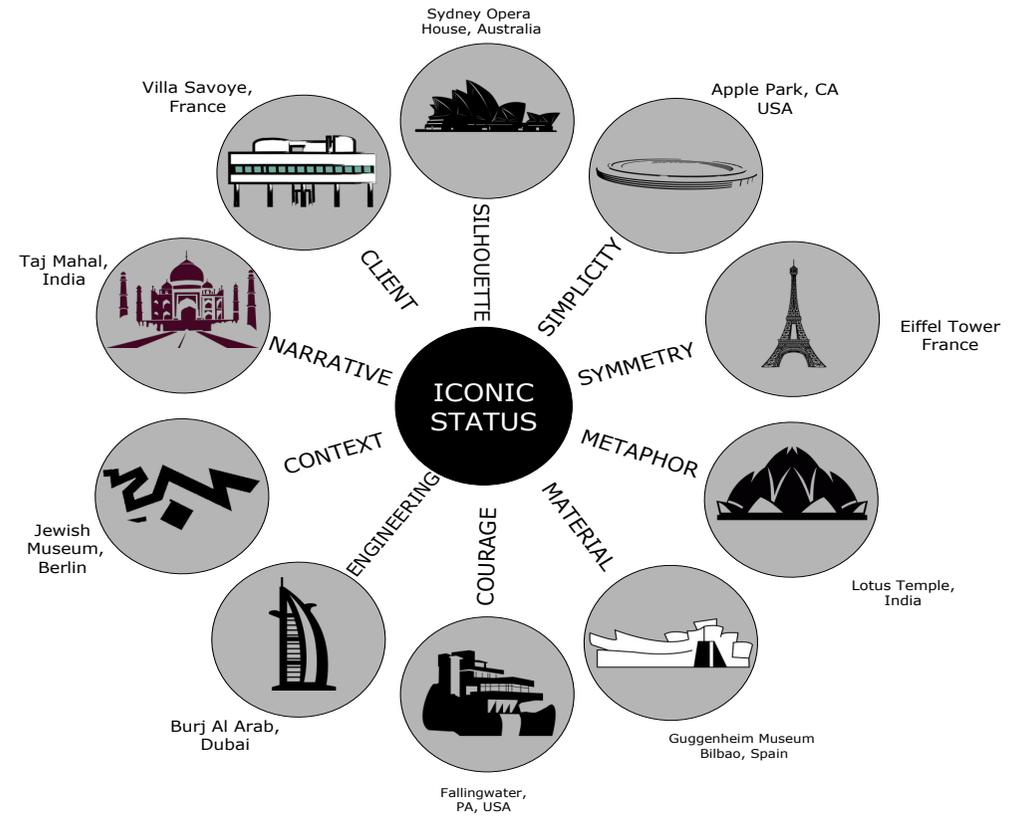
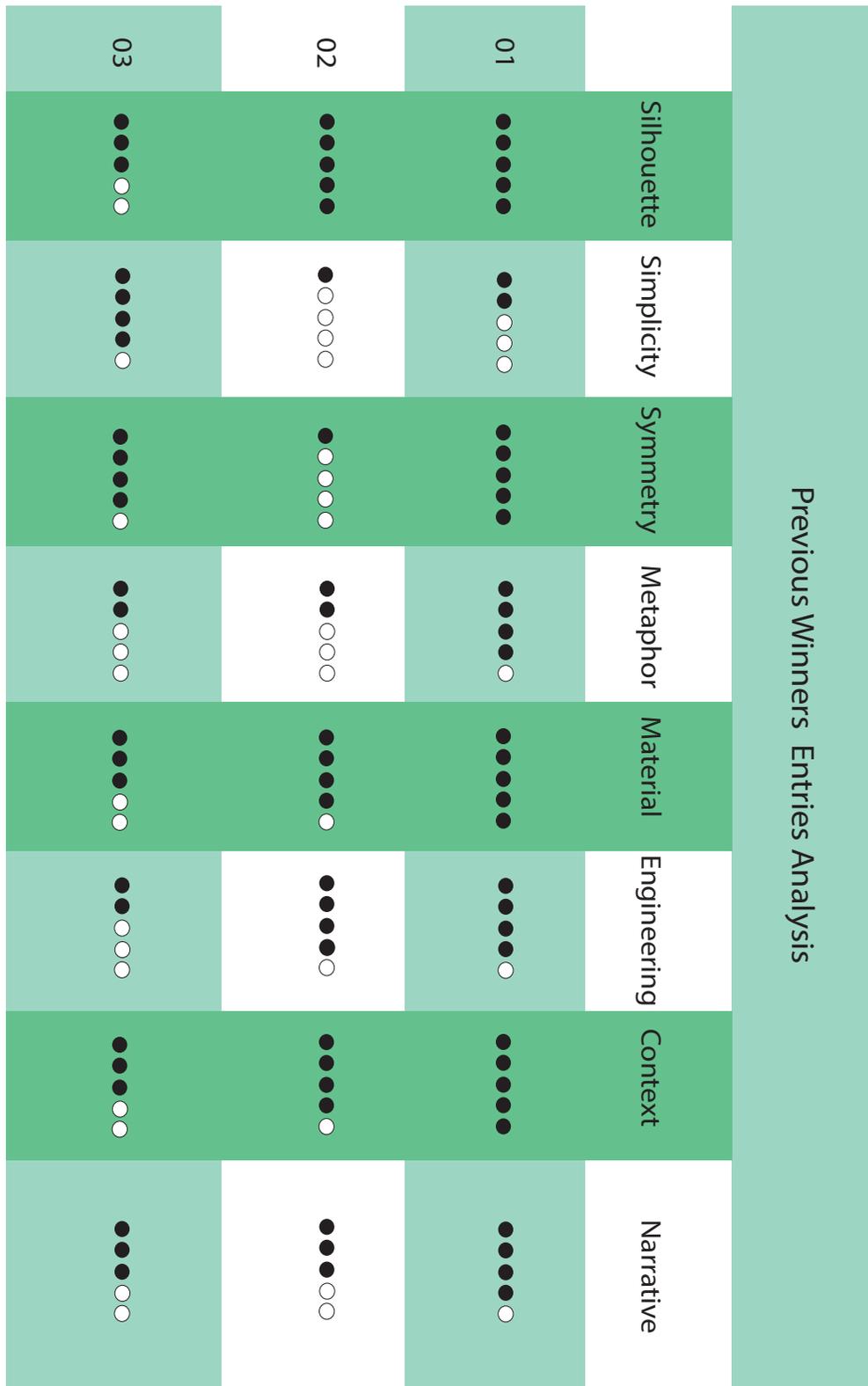
The Chicago Pillar is a simple cylinder tower which is wrapped around ribbons of green spaces that transfer the offices into vibrant space. The resulting concept is attractive and unique; however, the jury encouraged the participant to include the green features in the renders and sections.

Third Prize Winner - THE WALL-

The third prize is awarded to students who submitted an entry called The Wall. The design strives to solve the problem of building a wall that separates two nations or countries. The design treats the question of how to specialize this limit and shelter people crossing the American border? What if the housing is the solution to this conflict? The spaces visualized in the rendering form a sort of intermediary nations, people in-between. However, the project needs more to explore.

5.7. The Iconic Status:

In this section, the goal is to determine and identify the ingredients that generate the status of an iconic building. What is the formula or receipt to create an iconic building? What are the principal actors responsible for this status? Thus, in order to understand this status and the actors behind this effect that can catalyze an iconic form, a survey and an architectural analysis were elaborated on the three last year winners according to the ingredients of iconicity discussed in the previous section.

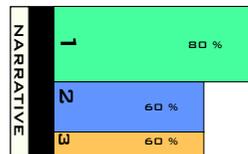
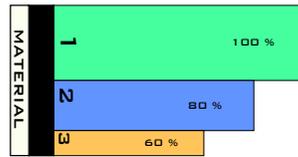
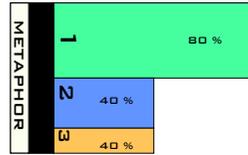
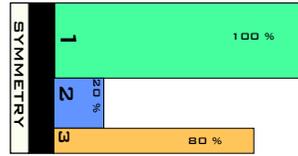
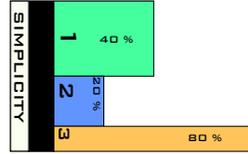
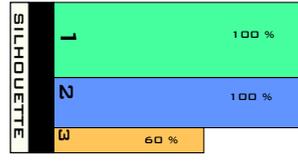
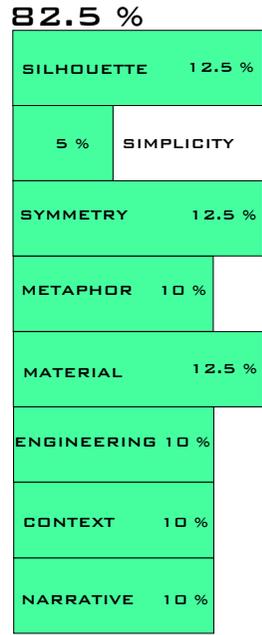


[Fig. 43] : Ingredients of the iconic status

The survey [Fig. 41] was done to measure the degree of iconicity of each entry. Each proposition was analyzed based on the ingredients such as symmetry, metaphor, context, and silhouette. Isolating each ingredient by itself allows to study and compare the three entries. [fig. 42] is a diagram that explains the different components and criteria that generate the iconic status. Each component is exemplified with an iconic building around the world. Each example or icon, however, can illustrate more than one ingredients.

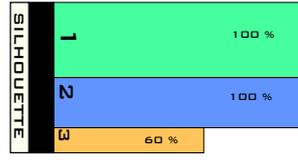
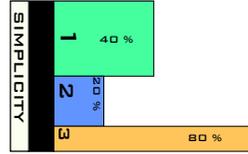
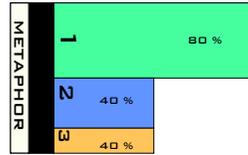
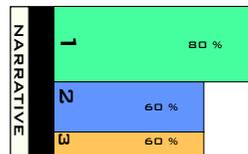
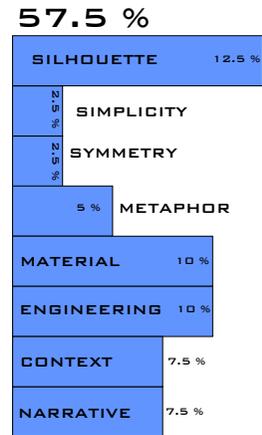
[Fig. 42] : Previous winners entriees analysis

1 FIRST PRIZE WINNER

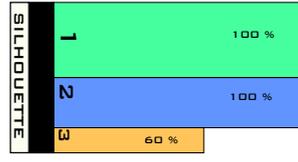
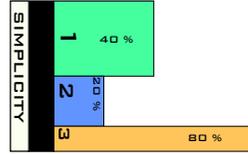
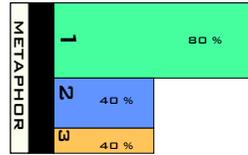
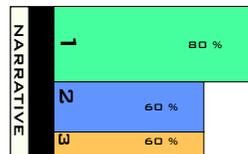
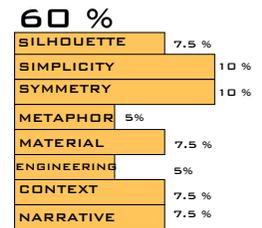


Degree of iconicity : graphical representation

2 SECOND PRIZE WINNER

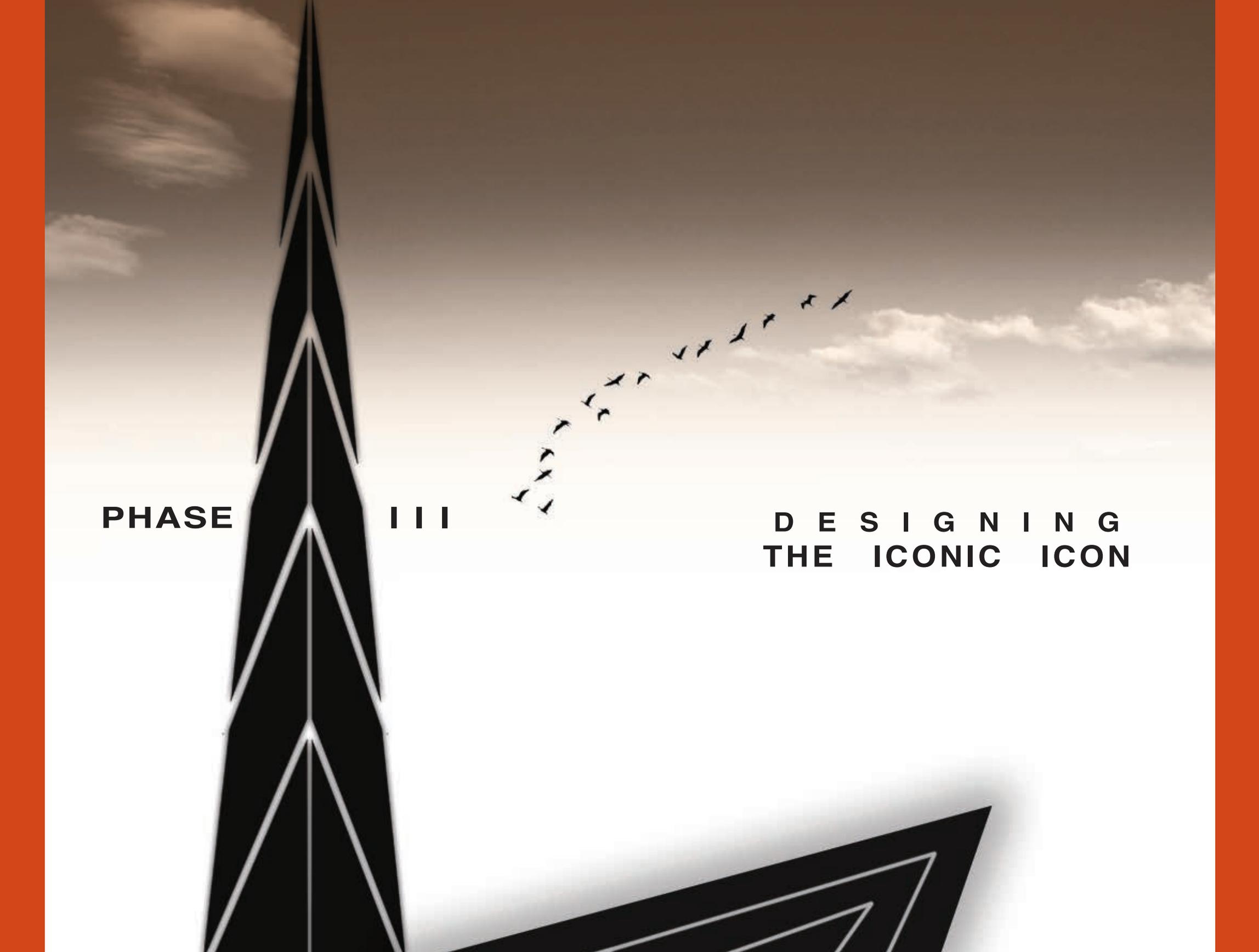


3 THIRD PRIZE WINNER



For instance, the iconicity of the Lotus Temple in India can be translated into metaphor, symmetry, material, silhouette, and engineering, but the strongest component that qualifies the icon is the metaphor. [Fig 43] is a graphic representation measuring the percentage of iconicity of each building. The first prize winner, Aero Hive, represents 82.5% of iconicity where silhouette, symmetry, and material are the predominant components characterizing the icon. The second prize winner, Chicago Pillar, is valued with 57.5% iconicity. The iconic status is manifested through silhouette, engineering, and material. Finally, The Wall, third place, represents 60% of iconicity where simplicity and context are the important factors.

[Fig. 44] : The degree of iconicity

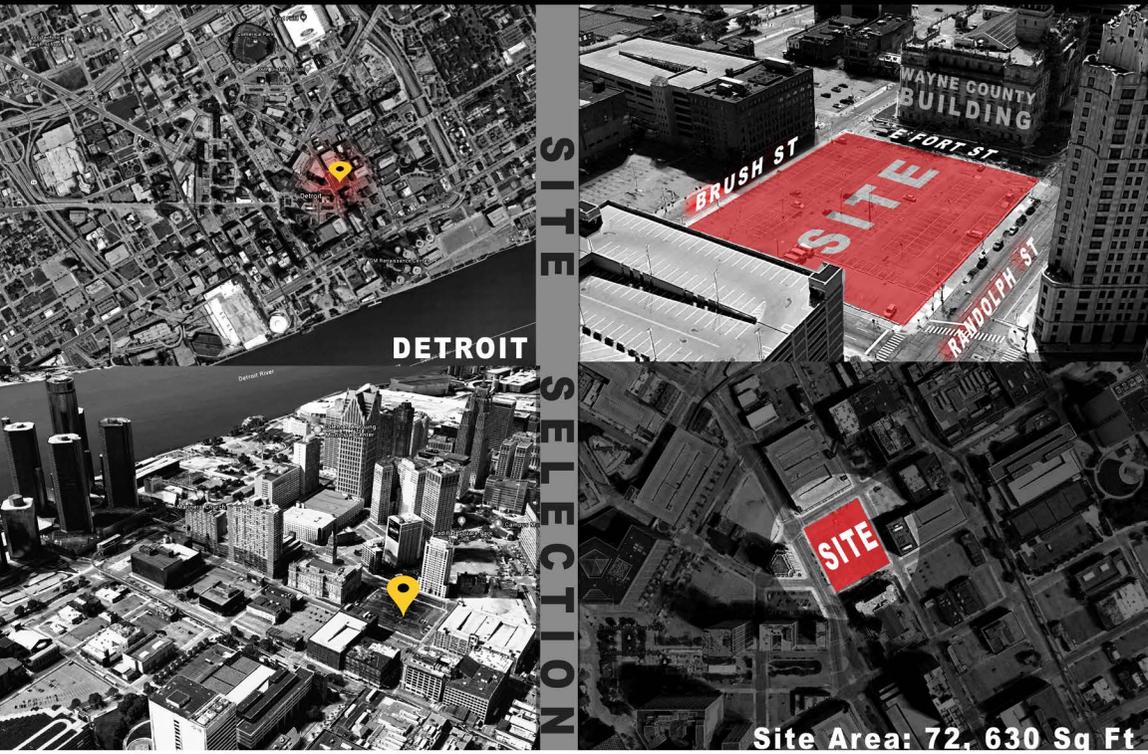


PHASE

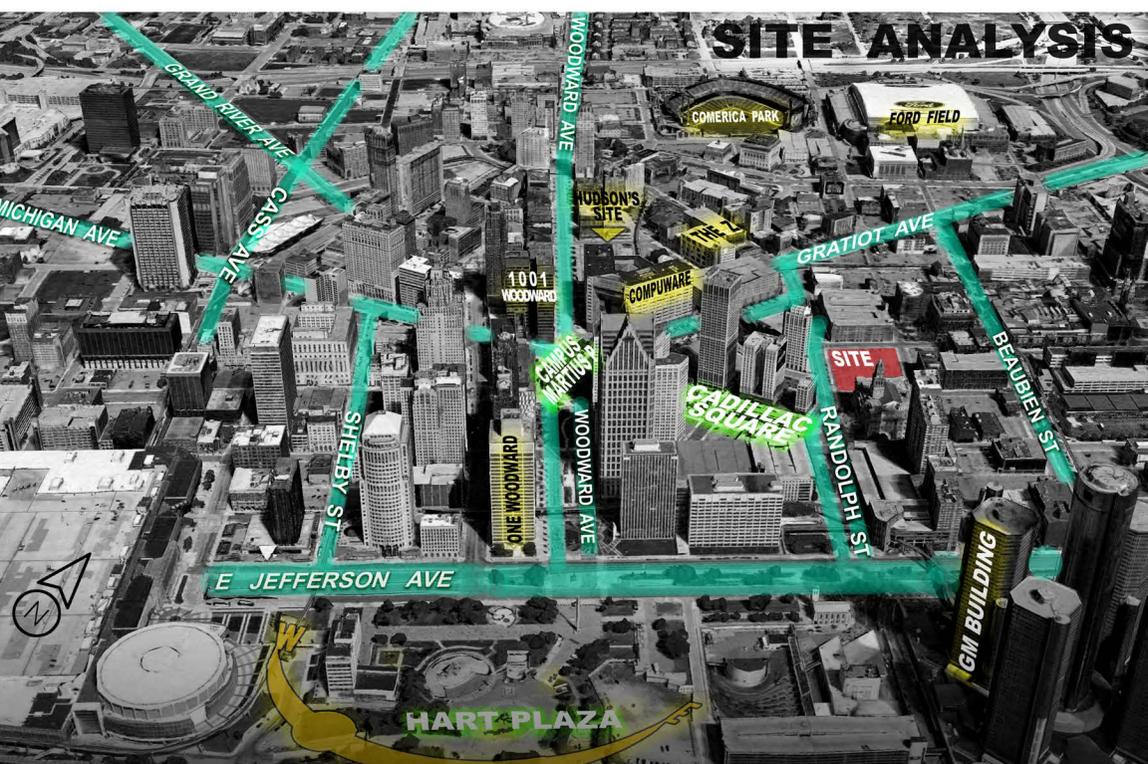
III

**D E S I G N I N G
T H E I C O N I C I C O N**

COMPETITION SITE



PUBLIC SPACES ACCESSIBILITY TRAFFIC ORIENTATION ADJACENT BUILDINGS WIND



1. Entering the Competition:

Entering any architectural competition motivates the designer to compete for excellence and sets up his or her performance at its best. The jury of the Skyhive 2019 competition, the skyscraper challenge, are expecting to evaluate an iconic tower that breaks the norms and changes the image of the twenty-first-century skyscraper. Likewise, the aim of this phase, third phase, is to put in practice and implementation of the study and extensive research elaborated previously. This phase will also serve as a design exercise for the thesis. The exercise consists of designing an iconic skyscraper in a selected city. The city chosen to design an iconic building is Detroit.

2. Site Selection and Analysis:

The site selected is located in Downtown Detroit next to the Wayne County Building. The site is vacant with rectangular shape used as parking. The area of the site is estimated at approximately 72 thousands square foot. The site is bounded from the North by E Lafayette St, from the South by E Fort St, from the West by Brush St, and From the East by Randolph St. The urban analysis focused on pedestrian activities and public spaces such as Hart Plaza and Cadillac Square Park. The analysis also served to measure traffic and identify the function and architecture type of adjacent buildings around the site. Another factor that has been investigated is the walkability and how friendly is the area for pedestrians. Finally, identifying the physical and environmental factors such as the prevailing winds and solar paths.

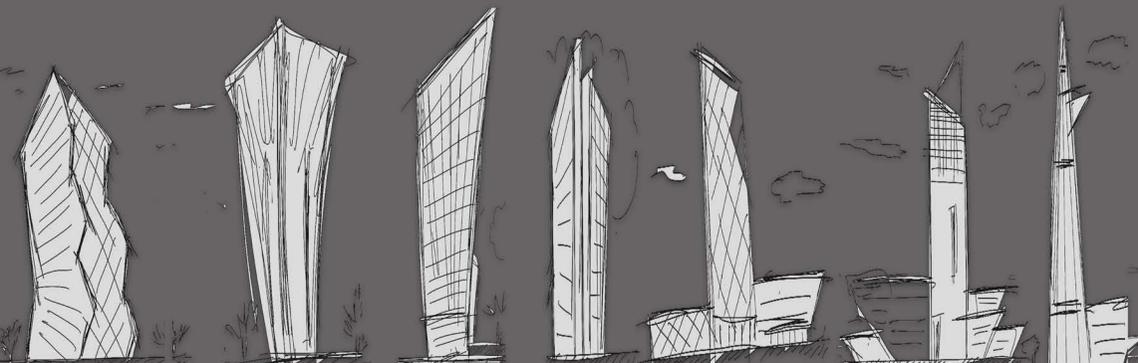
A PRODUCT OF TIME AND PLACE



LINKING THE TOWER TO THE CITY



SKETCHING

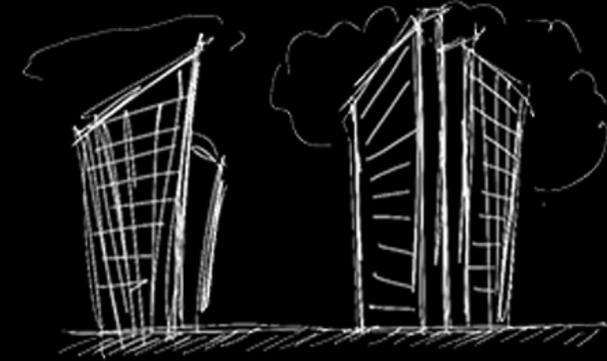
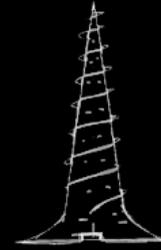
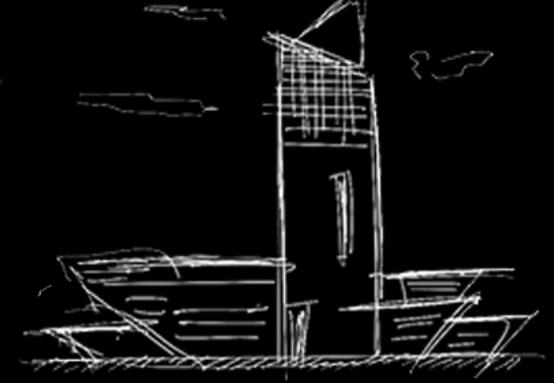
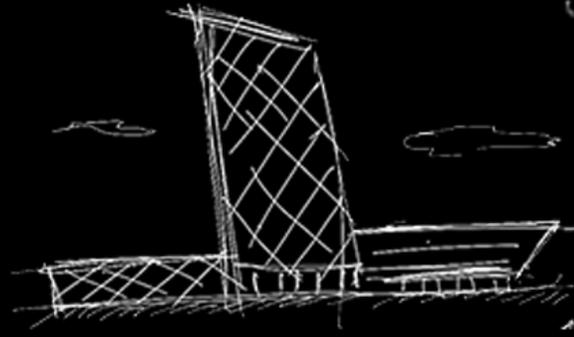
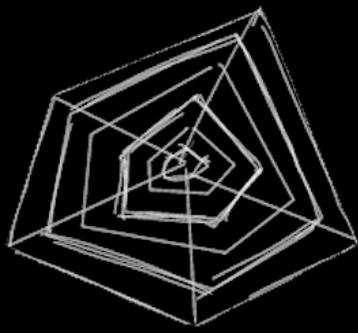


3. Product of Time and Place:

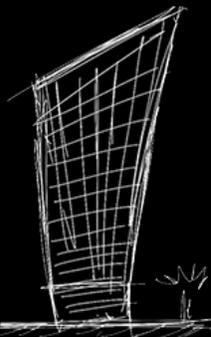
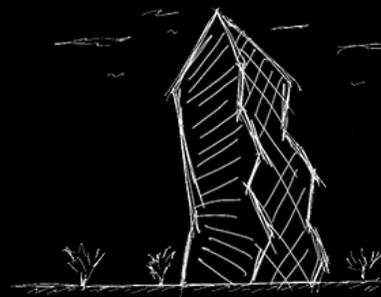
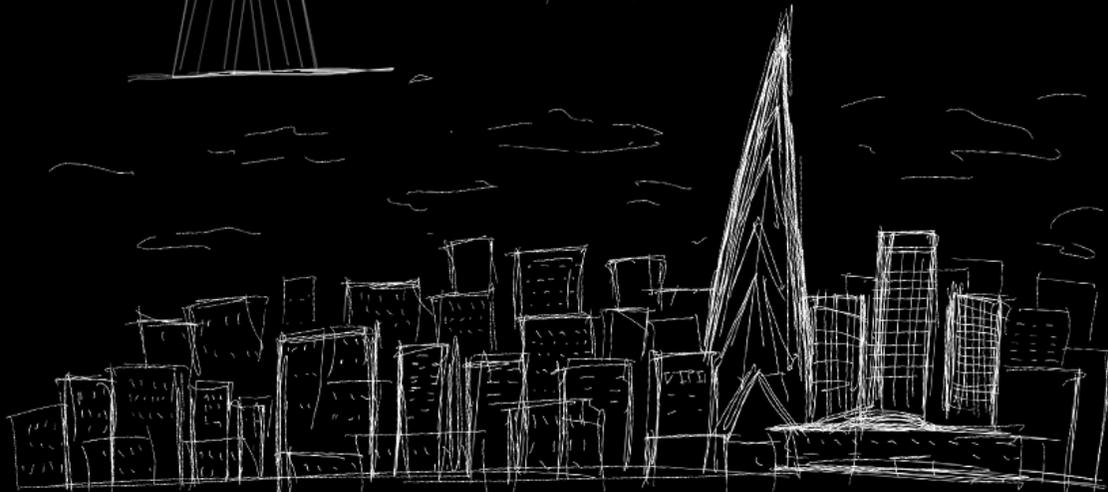
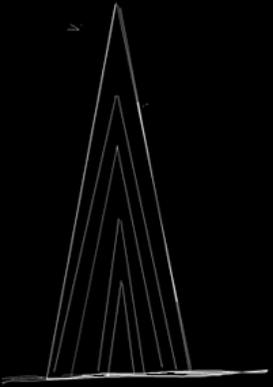
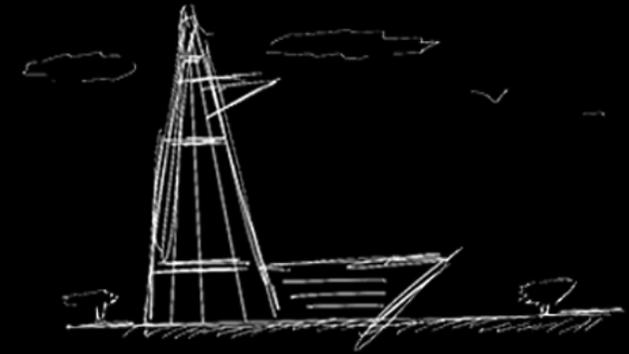
Buildings are products of time and place. One of the most important stages of the design process is the phase where the designer links the building to its time and place. The place does not only confine to physical boundaries and aspects of the site, but it should extend beyond that to culture, society, history, and climate of the site. The time, on the other hand, concerns more the evolution of architecture in terms of technology, materials, and the prevailing spirit responsible for all artistic movement and creation.

Likewise, the time connects the building to the prevailing architectural style to approve the period of time built in. Mainly, the most important and critical phase of the design process is the early stage of the design where the author is chasing meaning and inspirations through the dimensions of time and space. This phase also influences and structures the designer's mindset that has a direct impact on the form and the final result.

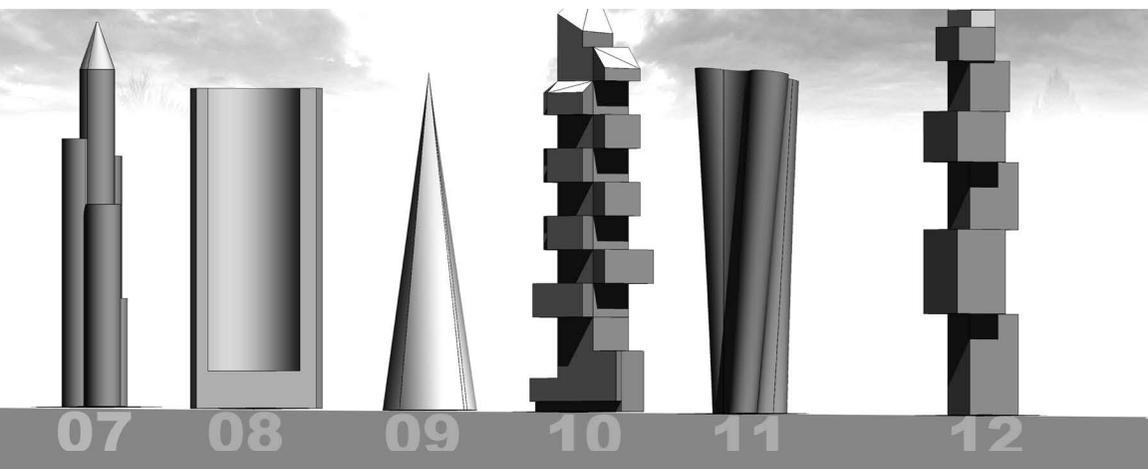
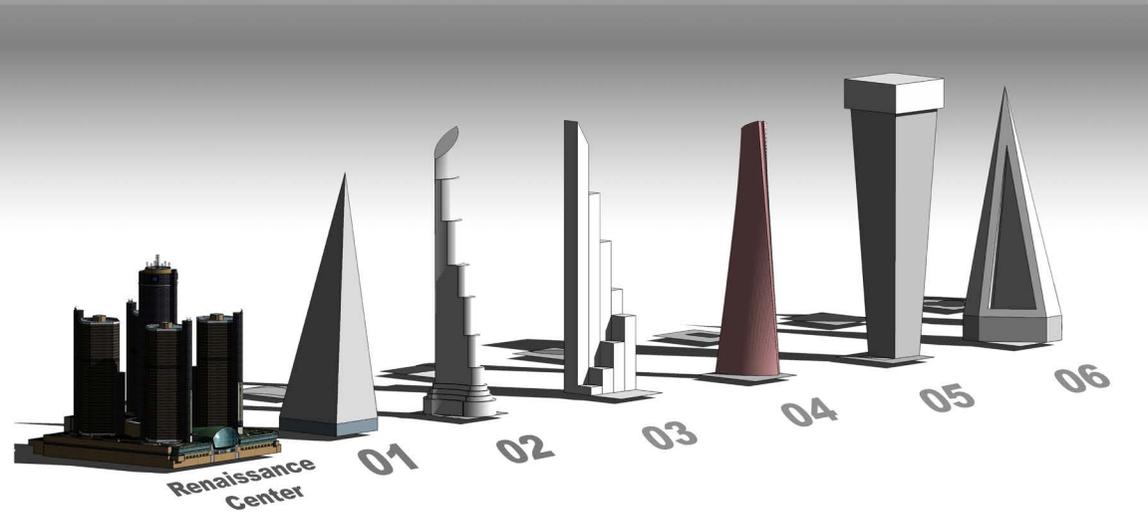
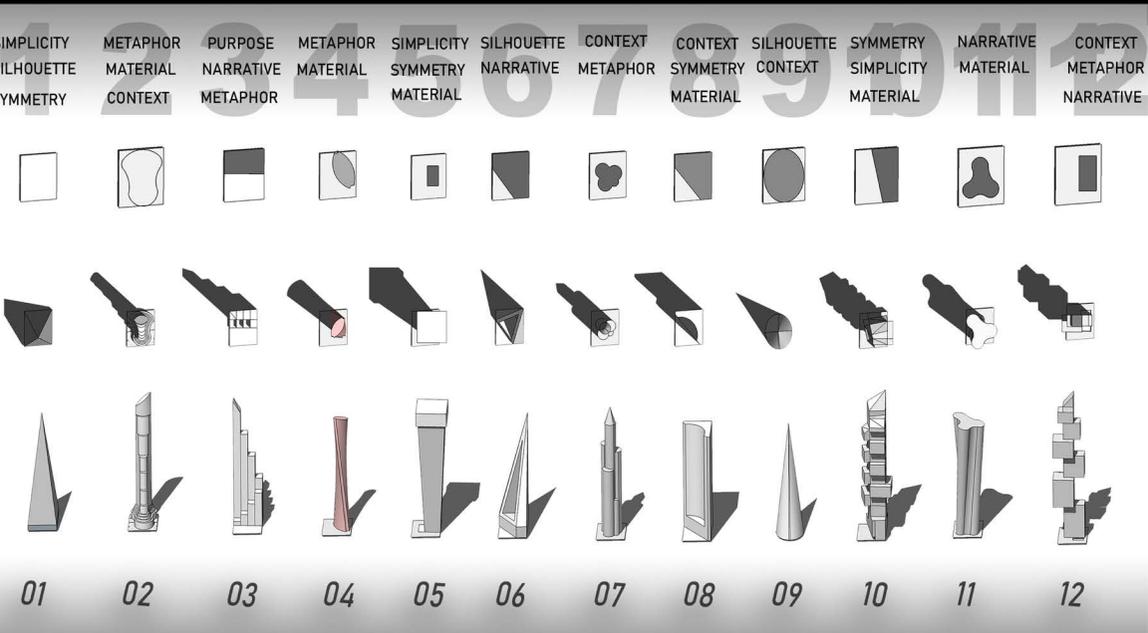
For the Detroit Tower, time identifies the prevailing international styles led by Architects such as Rem Koolhaas and Daniel Libeskind where their architecture in most scenarios is iconic and impressive by creative forms through play and movement challenging gravity as never seen before. Secondly, the place is identified characterized mainly through boxy towers located in the city such as One Woodward Building and the Renaissance Center.



BRAIN STORM



DESIGN EXPERIMENTATION



4. Design Experimentation:

The design consists of two major components investigation and experimentation. Half of the design is examination, diagnose, research, analysis, and inquiry for meaning, and the other half is essay, test, brainstorming, and trial of the previous section. This is why most of the good designers are good observers and watchers just like most of the good speakers are good listeners.

In addition, design operates in excellence in order to be achieved and fulfilled, it requires consistent pursuit and effort. In this phase of the design, the aim to experiment and explore with a maximum number of propositions. This number of propositions vary from number one to twelve. Each suggestion is a variant combination obtained from the ingredients of iconicity explored previously. These ingredients compose and qualify the status of an iconic building.

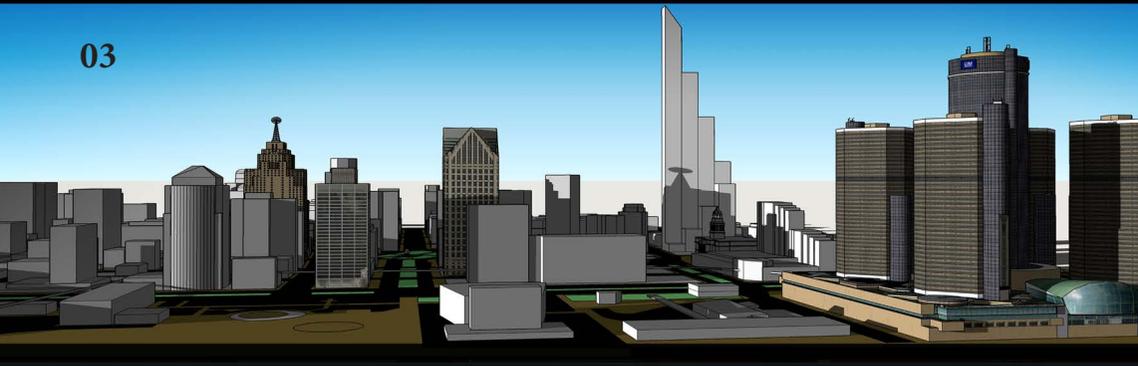
Therefore, the strategy is to explore a wide range of possibility in order to select not only the best available option but also to determine the most convenient one that is going to fit the site, the urban environment, and the story of the building. The process of selection will promote the quality of design by exploring a potential possibilities thought and imagined during the brainstorming phase.

SELECTED MODELS

09



03



10

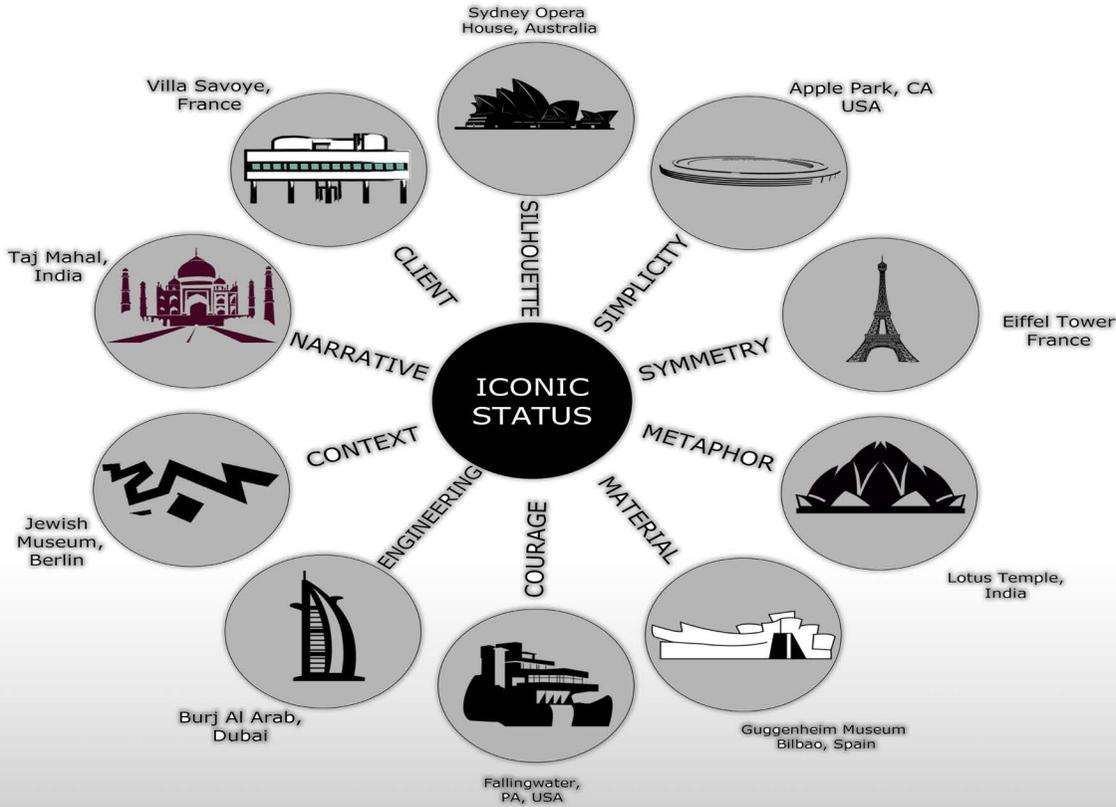


5. Selected Models:

The process of designing an architecture object requires an iterative process where the form flourishes through a back and forth movement between the different steps and layers of the design process. Each step and layer consists of exploring and experimenting with possible forms and icons representing the building and the image of the city.

Indeed, by developing several possibilities of the building, it promotes the formal quality of the design through a process of selection. Thus, the selected models 3, 9, and 10 are the most convenient and suitable models that can generate an impressive effect and the architectural icon. Mainly, these selected models are composed with ingredients of iconicity such as context, metaphor, and silhouette. However, the most important combination responsible for the iconic status is the combination that occurs between context and metaphor allowing the generation of a striking image challenging its context and creating the self-important building.

CHASING THE ICONIC STATUS

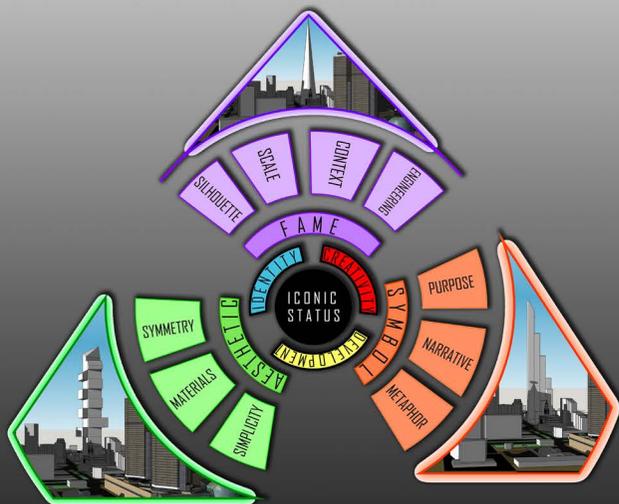


6. Chasing the Iconic Status:

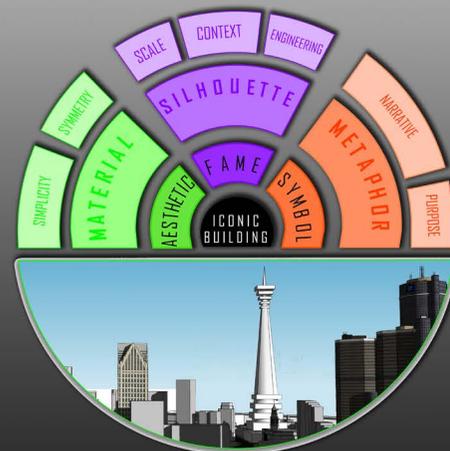
In this phase, the aim is to identify the adequate combination that might qualify the way to design and generate the iconic status in architecture. This iconic status can be manifested or expressed through many different ingredients and combination. It depends mainly on variants such as site, culture, and public opinion.

For the Detroit Tower, the most important and prominent ingredients that should generate the iconic status are metaphor and context. The metaphor invokes a divine sign or gesture, and the context should provide the discontinuity and the negative charge between the icon and its surrounding.

The iconicity diagram represents the exploration of the three selected models with the ingredients that compose an architectural icon. The combined proposition composes and merges the three fundamental elements of iconicity as aesthetic, fame, and symbol to generate the iconic status.



ICONOCITY DIAGRAM



COMBINED PROPOSITION



7. The Detroit Tower:

One of the main purposes of the Detroit Tower is to redefine the skyline of Detroit City and create a new image of the city. The Detroit Tower is an iconic skyscraper designed to reach the height of 1,200 FT, tallest building in the city. It is designed with the attention to create a striking image and impressive effect that should challenge the surrounding environment and the public opinion.

This challenge will promote and maintain the iconic status of the tower.

Likewise, the multiple metaphors or enigmatic signifiers used for the landmark are elements and objects that qualify cosmic overtones and patterns in nature such as waves, mountains, spider web, pine tree, and missile. The form of the tower is divided on two scales, city and street scale. The base or the podium represents the street scale where the tower responds to the scale of the city. The front urban plaza of the project serves as an extension to the Cadillac Square Park, and as an urban space to activate and promote the public aspect of the building.

The podium also serves as an articulation between the plaza and the tall building. The architectural elements such as the ramp, roof garden, and green roof highlight the monumental aspect of the icon. The open plan and mixed-use program of the podium increase the publicity of the landmark. The tower hosts offices, hotel, restaurant, and luxury apartments with stunning views. The two underground levels are dedicated to retails and the third level for underground parking.

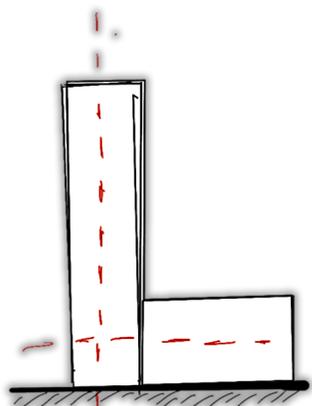


THE DETROIT TOWER

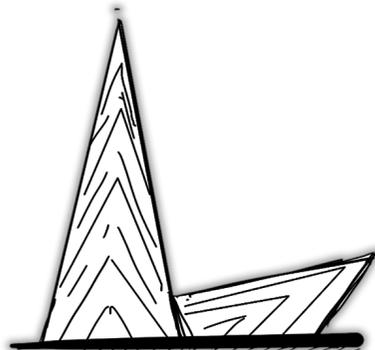


SITE PLAN

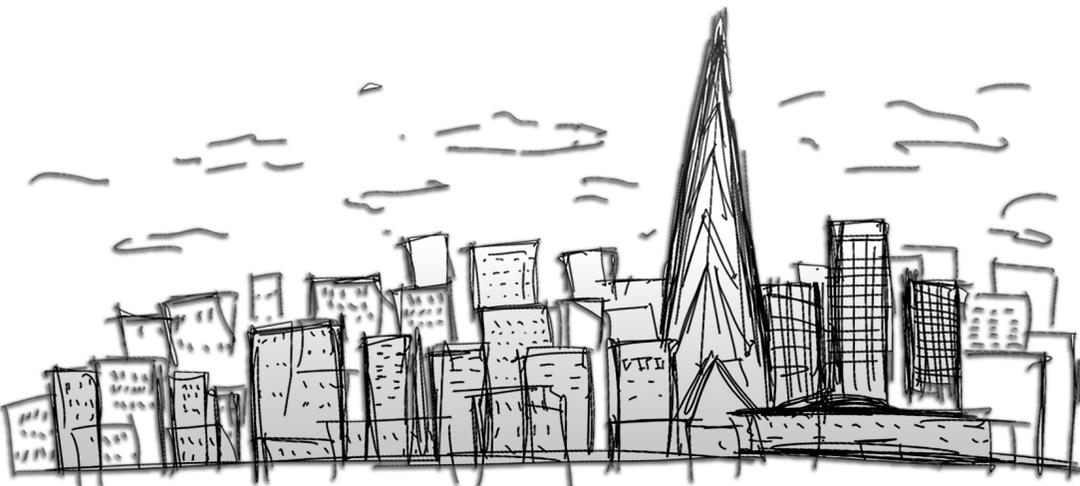
SKETCHING



MASSING



ARTICULATION



CONTEXTUAL DISCONTINUITY

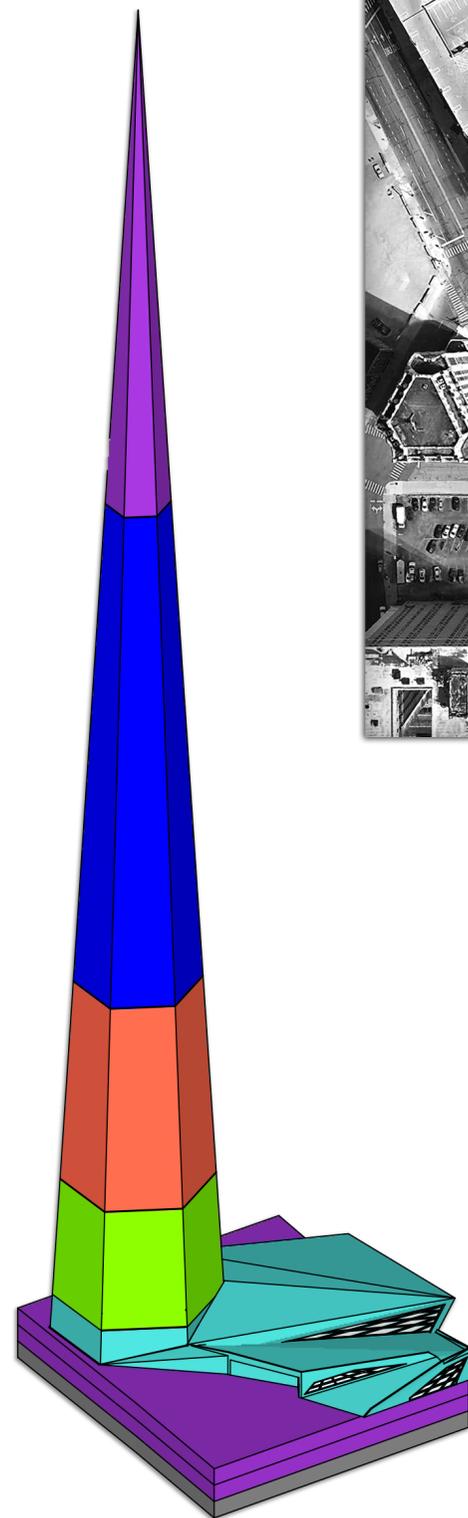
PROGRAM

RETAIL

RESIDENTIAL

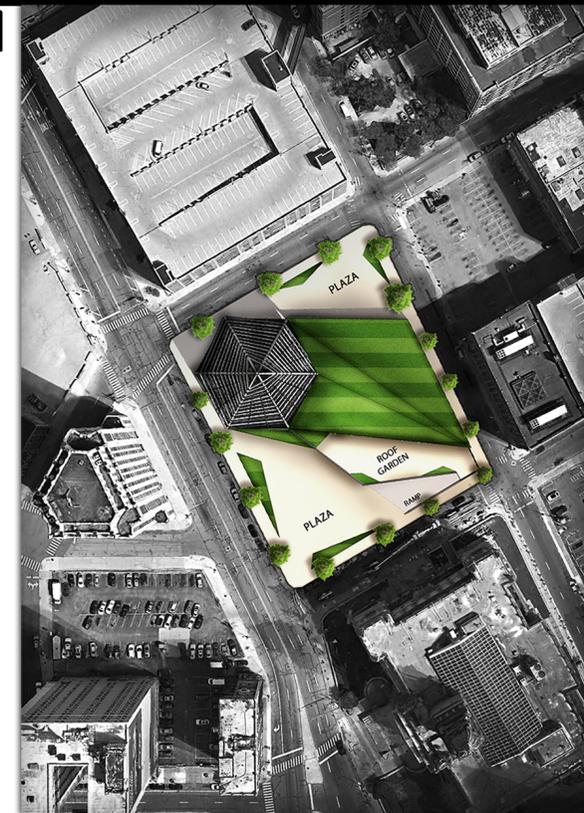
HOTEL

OFFICE



MIXED USE

RETAIL
PARKING





ENIGMATIC SIGNIFIERS

+ 1200.00'

+ 810.00'

+ 720.00'

+ 630.00'

+ 540.00'

+ 450.00'

+ 360.00'

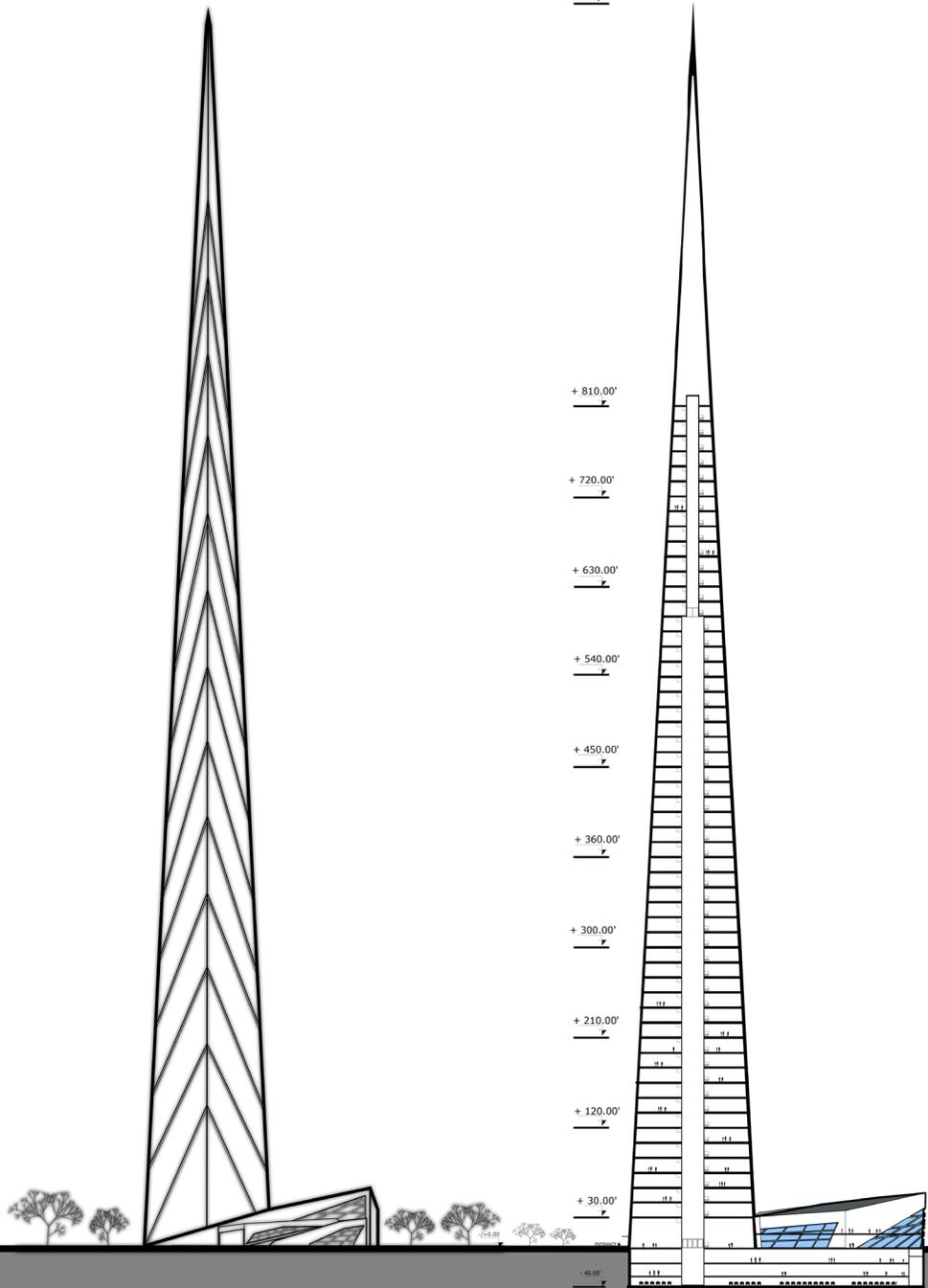
+ 300.00'

+ 210.00'

+ 120.00'

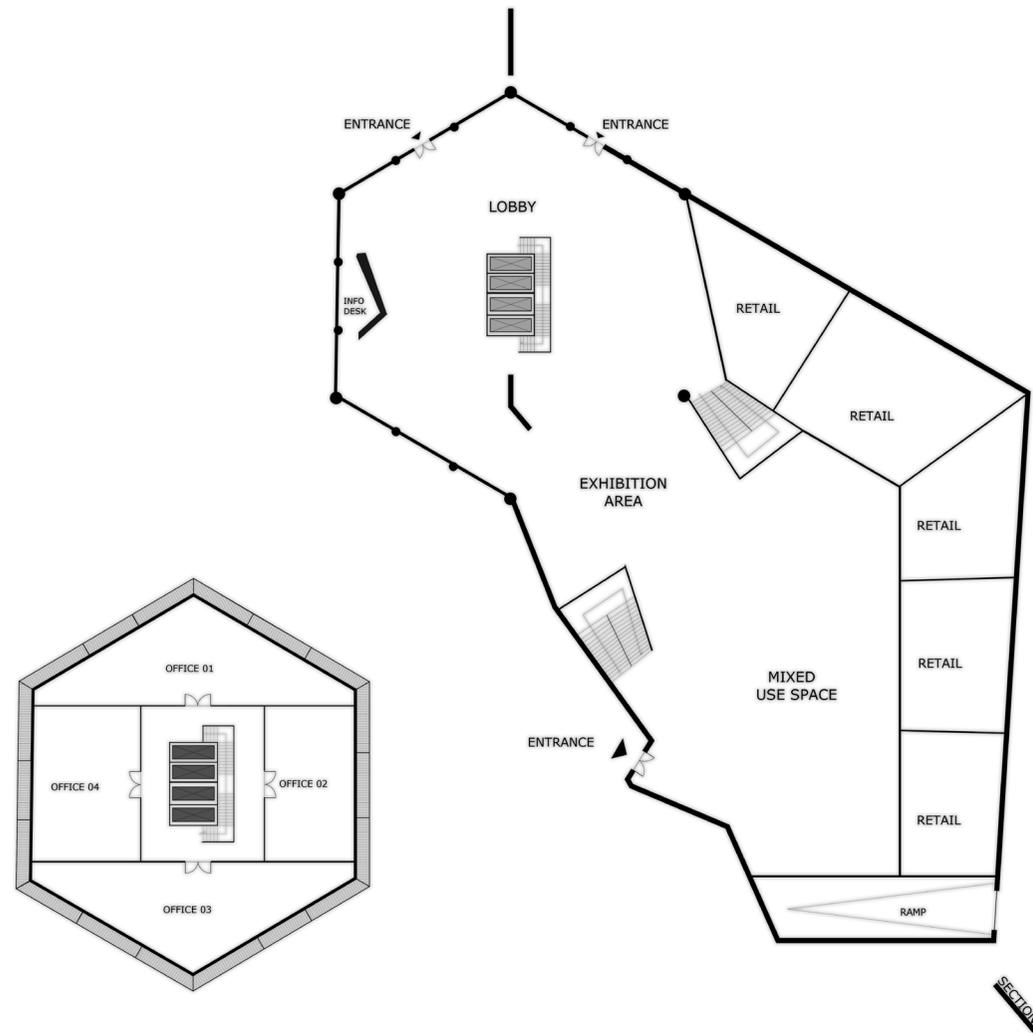
+ 30.00'

- 45.00'



ELEVATION

SECTION



▲ OFFICE LEVEL FLOOR PLAN

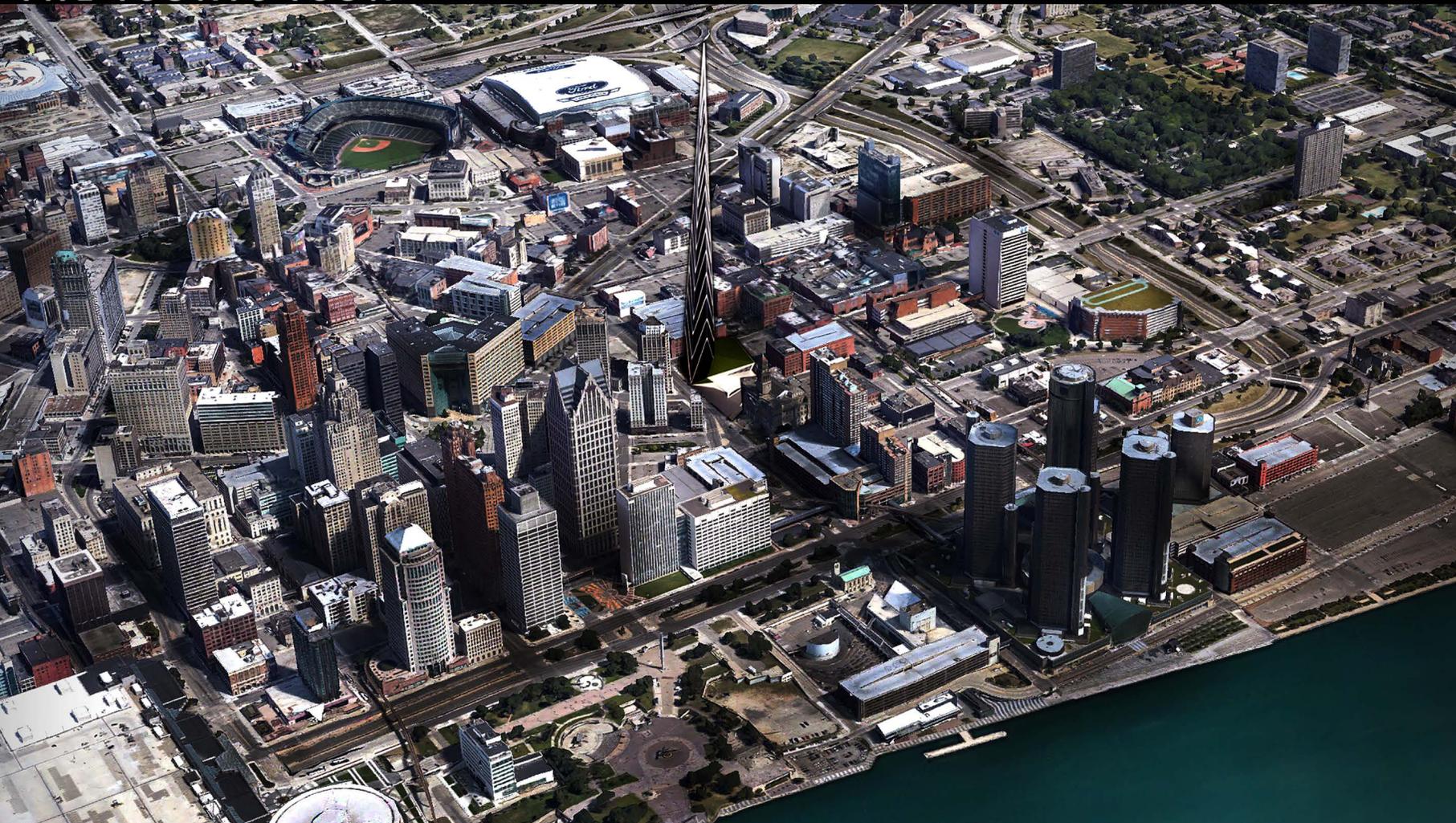
▲ GROUND LEVEL FLOOR PLAN

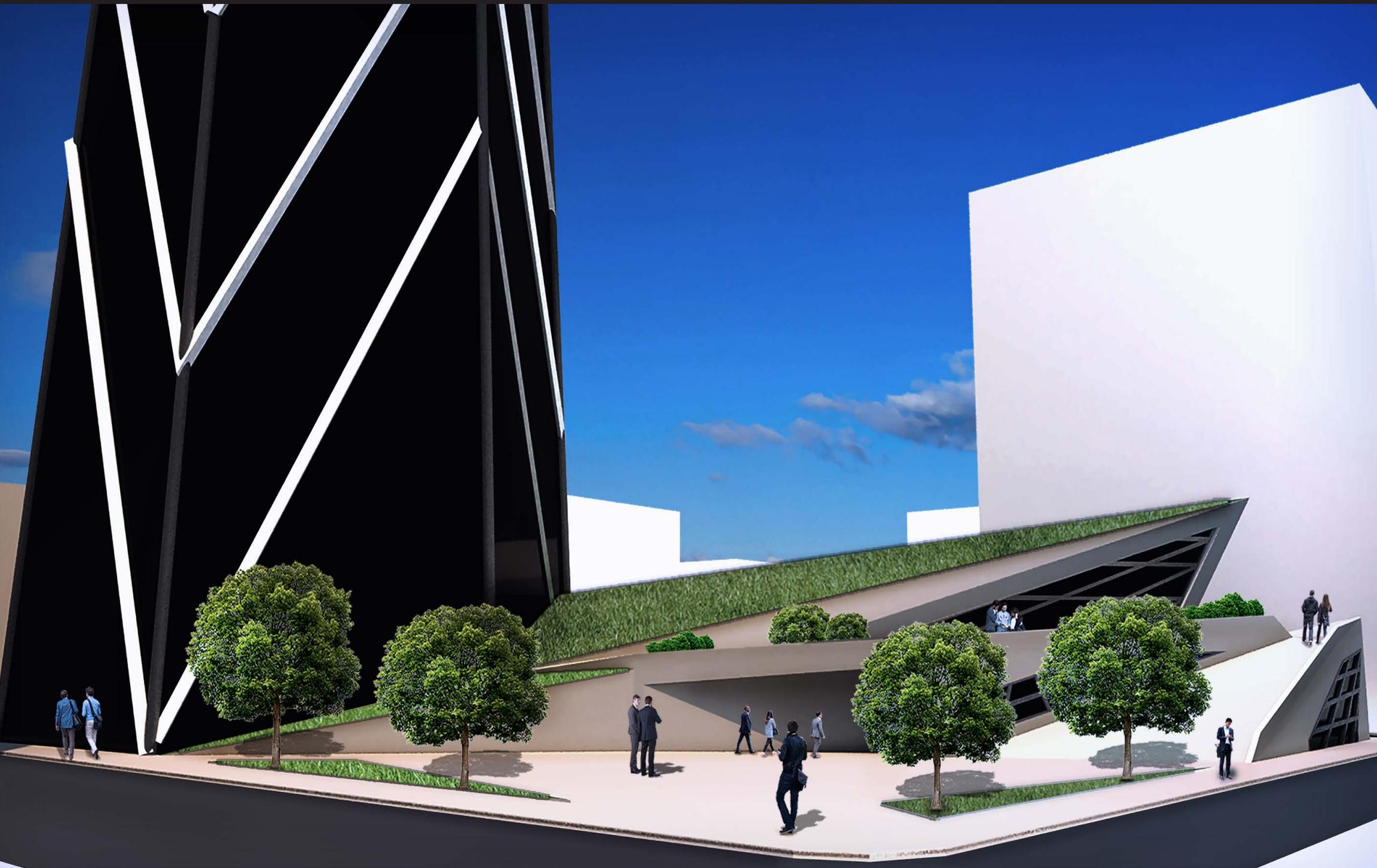
PLANS



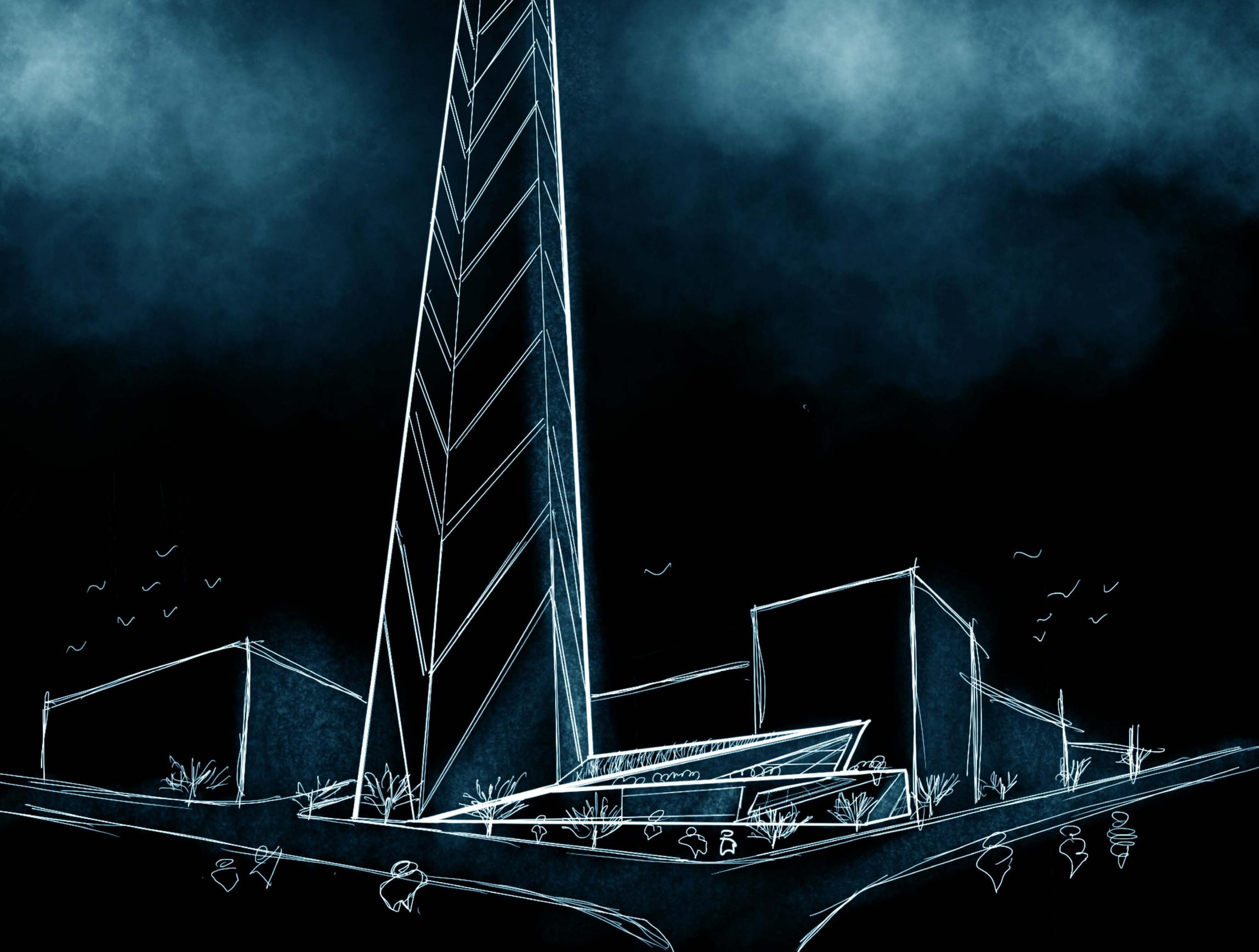
THE ICONIC ICON

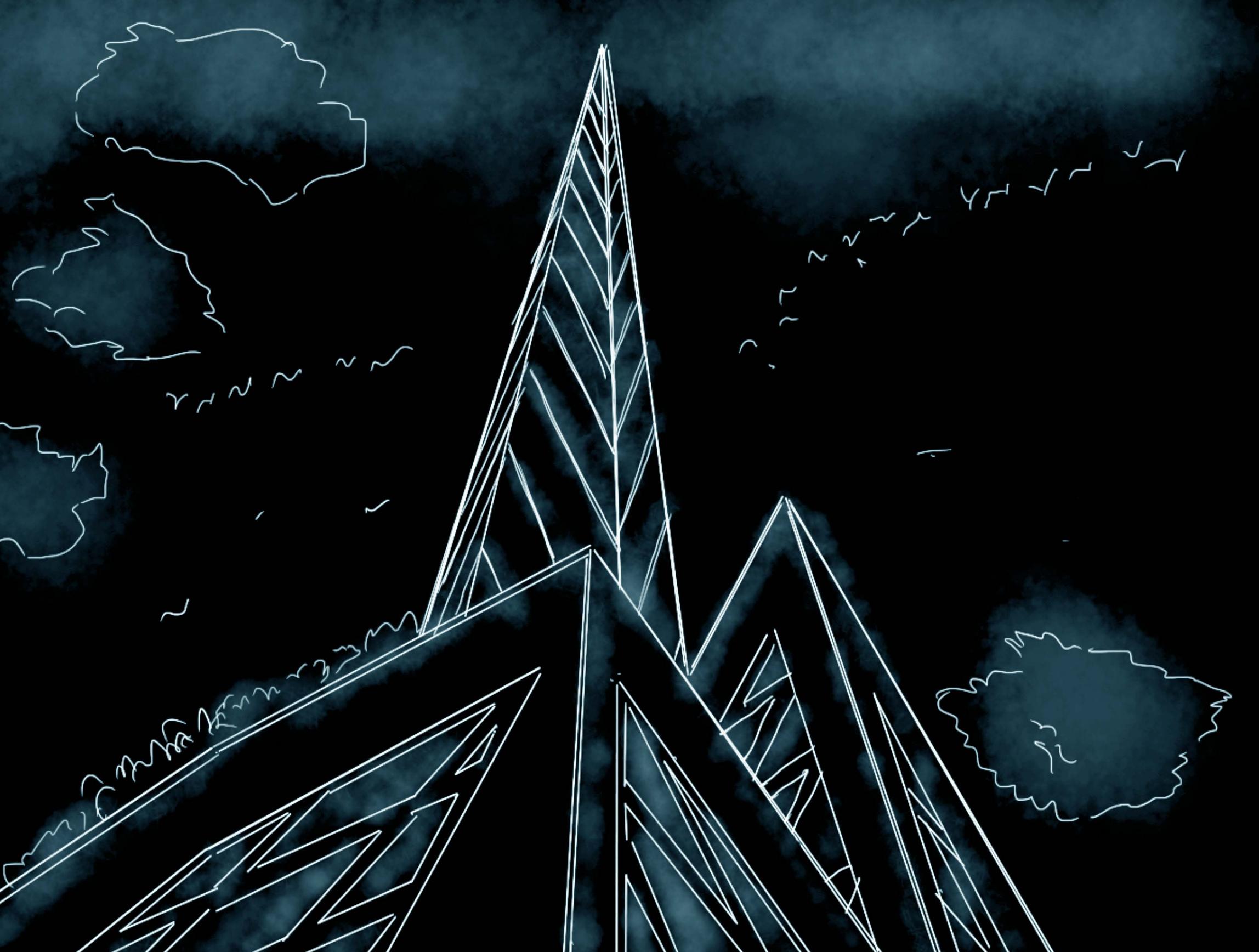
R E N D E R S











BIBLIOGRAPHY

- Mark Gelernter (1995) *Sources of Architectural Form: A Critical History of Western Design Theory*.
- Frank Ching and James F. Eckler (2012): *Introduction to Architecture*
- Rudolf Arnheim (2004): *Visual Thinking / Edition 2*, University of California Press.
- Rudolf Arnheim (1977): *The dynamics of architectural form*, University of California Press.
- Le Corbusier (1923): *Toward an Architecture*.
- Christian Norberg-Schulz (1962): *Intentions in architecture*.
- Edward Winters (2007): *Aesthetics and architecture*.
- Jean-Pierre Chupin, Carmela Cucuzzella, Bechara Helal (2015): *Architecture Competitions and the Production of Culture, Quality and Knowledge: An International Inquiry*.
- Jean-Pierre Chupin (2017): *Competing for Excellence in Architecture: Editorials from the Canadian Competitions Catalogue (2006 - 2016)*.
- Student Journal- school of Architecture- University of Detroit Mercy *Dichotomy 23: Hungry*.
- Charles Jenks (2005): *The Iconic Building*.
- Leslie Sklair (2017): *The Icon Project: Architecture, Cities, and Capitalist Globalization*.
- HOK *Tall Buildings (2014)*

BIBLIOGRAPHY

- Eric Firley and Julie Gimbal (2011): *The Urban Towers Handbook*.
- John Ruskin (1849): *The Seven Lamps of Architecture*.
- Christopher Alexander (1964): *Notes on the Synthesis of Form*, Harvard University Press.
- Christopher Alexander (1979): *The Timeless Way of Building*, Harvard University Press.
- Christopher Alexander (1977): *A Pattern Language*, Harvard University Press.
- Paul D Spreiregen (1979): *Design competitions*.
- Peter Cook (1970): *Experimental architecture*, Universe Books.
- Richard Cleary (Author), Neil Levine (Contributor), Mina Marefat (Contributor), Bruce Brooks Pfeiffer (2009): *Frank Lloyd Wright from Within Outward*.
- Robert Venturi (1966): *Complexity and Contradiction in Architecture*.
- Robert Venturi (1972): *Learning from Las Vegas*, MIT Press.