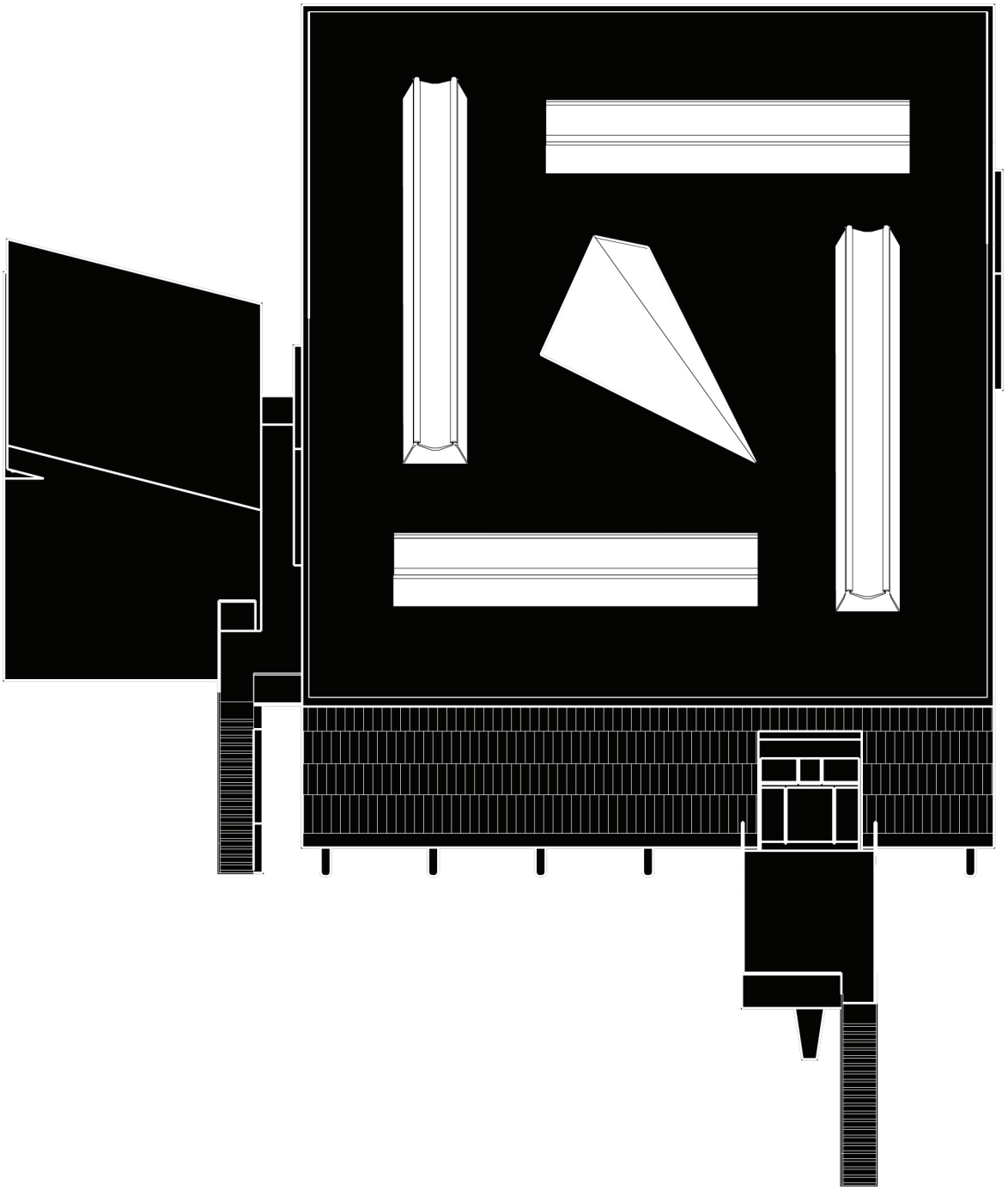
NATIONAL MUSEUM OF WESTERN ART



Scott DiCesare
ARCH 793A
Thesis
University of Southern California
School of Architecture

DOCUMENTATION

NATIONAL MUSEUM OF WESTERN ART

LE CORBUSIER

COMMISSIONED: 1955
COMPLETED: 1959

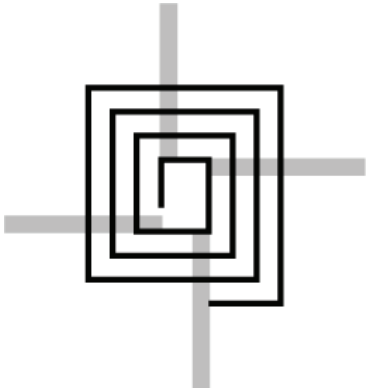
LOCATION: UENO PARK, TOKYO, JAPAN

PROGRAM: MUSEUM OF UNLIMITED GROWTH

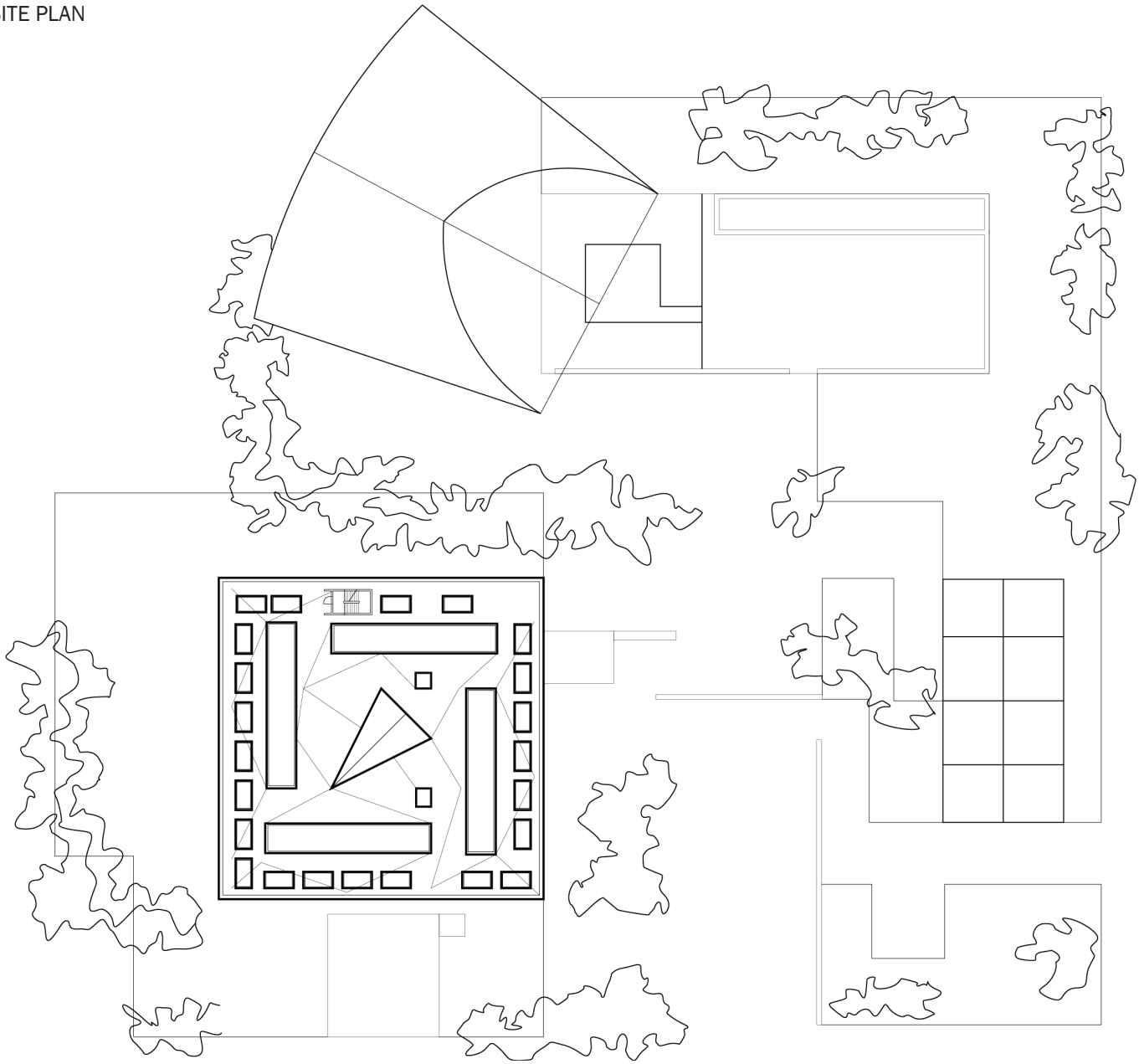
SIZE: 17,369 SQ METERS

SYSTEM: MODULAR // CONCRETE // SLAB // COLUMN
6.35M X 6.35M GRID

The diagram. The museum of unlimited growth theory is exemplified in the Nation Museum of Western Art. The spiral diagram is used to create a building that can be forever expanded upon. This utopian idea was attempted to be built three times in Le Corbusier's career, however the National Museum of Western Art is the most idealized example of the prototype. The prototype had some key features, including entering from the center of the building, ascending through the center of the space to the main gallery above. This main gallery would spiral outward in a never-ending fashion. The diagram itself becomes critical when Le Corbusier overlays a swastika on top of the spiral to create places to both cut through, as well as a means to center the user while experiencing the artwork. As in most of Le Corbusier's work, the museum is made for the common man. This idealized prototype allows for the museum to be at the bequest of him, and not the reverse. The common man could add on and expand to this prototype to satisfy the needs of the common man as generations pass. The unlimited growth becomes a means of sustainability for the building and the space to which it resides.



SITE PLAN

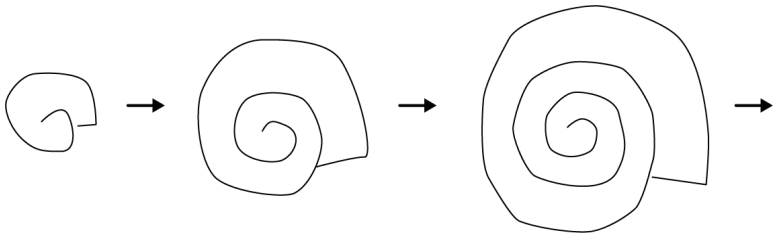


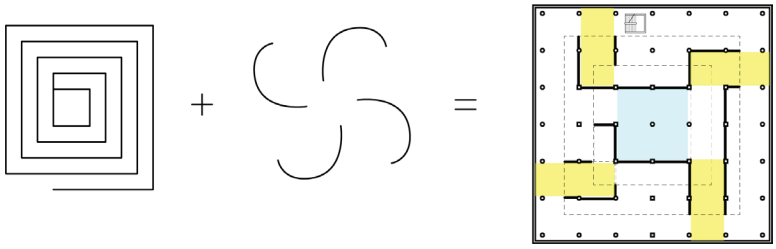
PERSPECTIVE

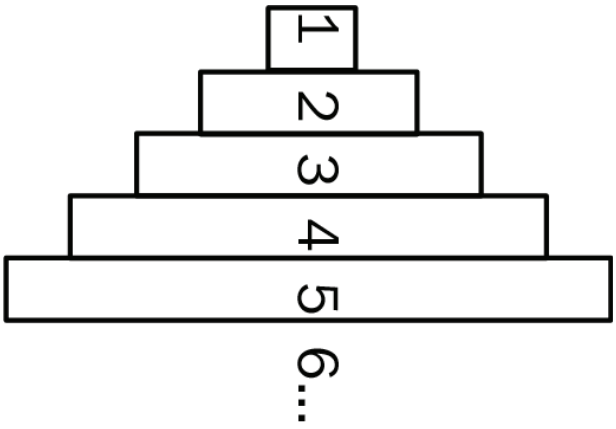
THE PROTOTYPE

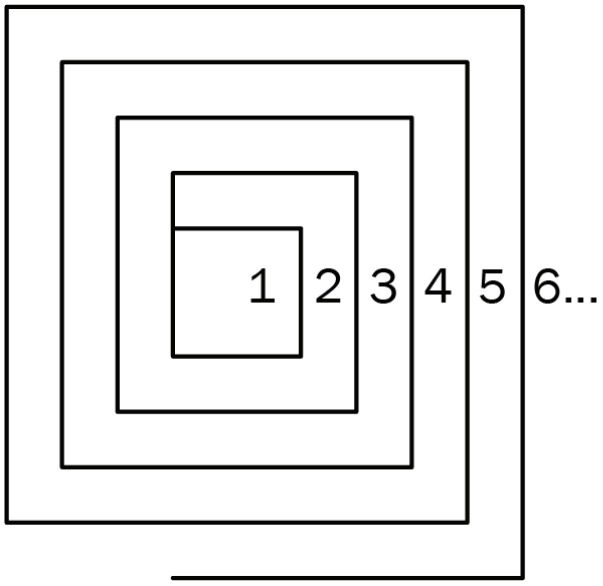
Initial investigation into the National Museum of Western Art in Tokyo revealed a long history of the spiral diagram. This idea was first mentioned in 1930 by Le Corbusier and was finally realized when he proposed this and two other museums in the 1950's. The prototype itself is based on the natural laws of growth as viewed by the snail's shell. This is further investigated by the ziggurat, a utopian building. The building would continue to grow and expand in the future. As time changes, new program will be added to accommodate the common man as the museum itself is for him.

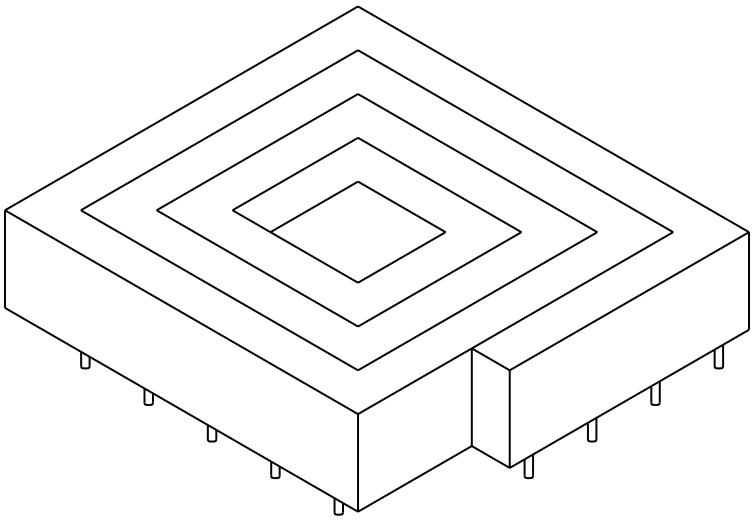
"Regarding Pompeii, 'constitute[s] the single true museum worthy of the name,' then one should work to create ' a museum of our day with objects of our own day' -Le Corbusier. He imagined a museum where all 'objects on exhibition had performed some real function'." p.162
-The Architecture of the Museum by Michaela Giebelhausen

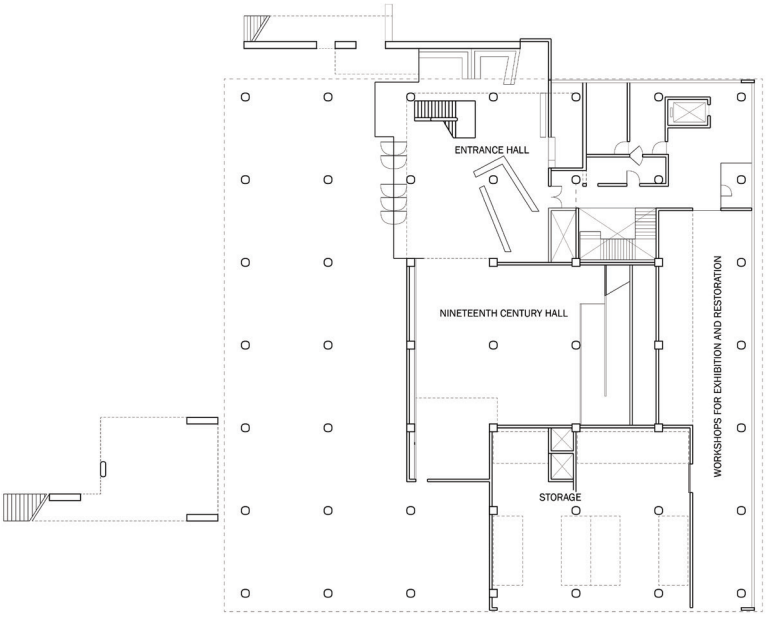






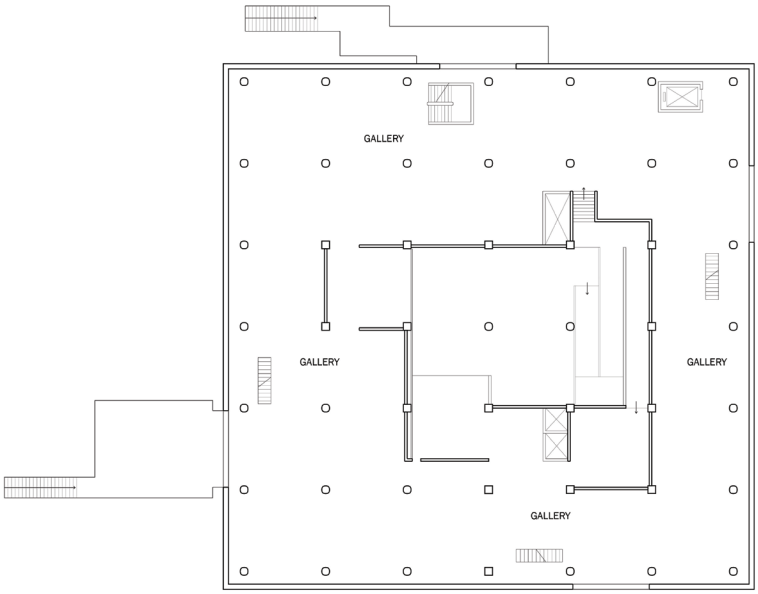






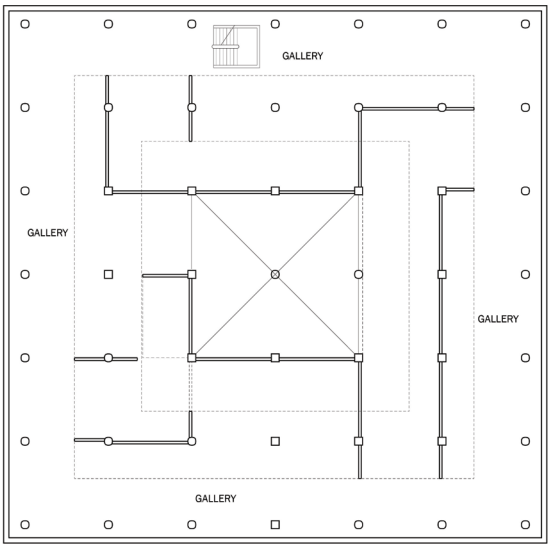
GROUND FLOOR PLAN

The ground floor plan includes the primary central entrance to the museum in the center of the building. The building is entered under the main gallery through an array of columns that make the main volume appear to be floating above the ground plane.



FIRST FLOOR PLAN

The first floor is the floor with the main gallery. The open floor plan originally housed the Matsuyama collection that was gifted back to the Japanese govenrmnet after WWII. The user arrives into the gallery though the center anf it is meant to be viewed through a spiral circulation.

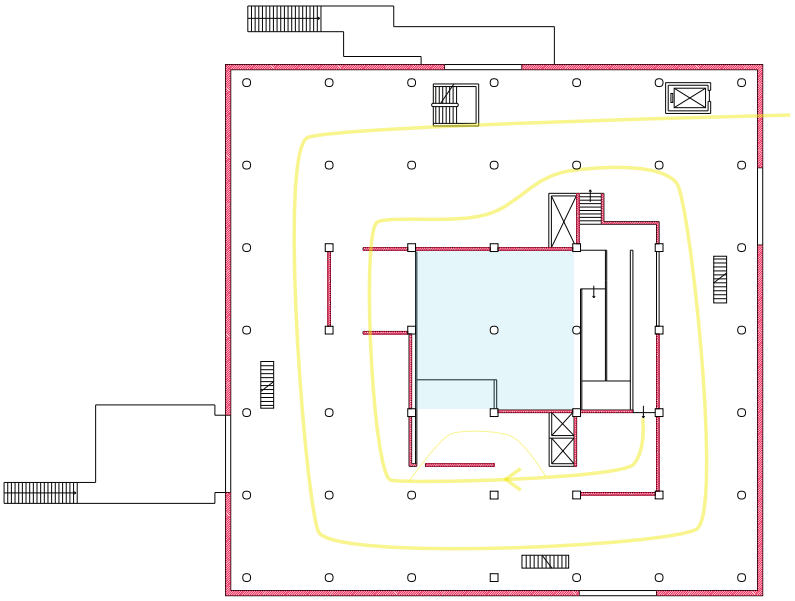


MEZZANINE FLOOR PLAN

The mezzanine was initially created to house additional axpantions of the gallery itself, however it ended up becoming a space for offices and other administrative tasks for the museum.

Sendai, Shoichiro. La Synthese Des Arts De Le Corbusier.

CIRCULATION

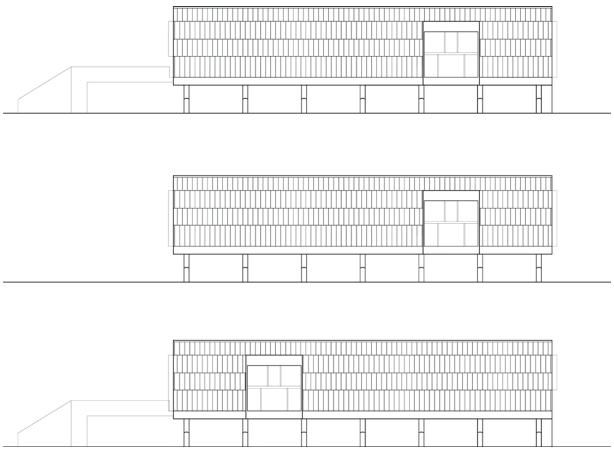


The circulation of the project is directly related to the diagram itself. The initial intended circulation is a guided spiral. The architect would play the key role in the viewed curation of the museum as the path would be defined by the architect. The person was intended to enter through the center of the building and rise to the main floor. On the main floor the patron would have a singular linear path that would guide the experience outward. The horizontally expanding path eventually turns back upon itself guiding the patron back to the center for exit. Although this is a linear diagram in its use, the fact that the spiral is imposed into a square does create smaller linear galleries. Therefore, the singular path could contain several different exhibitions.

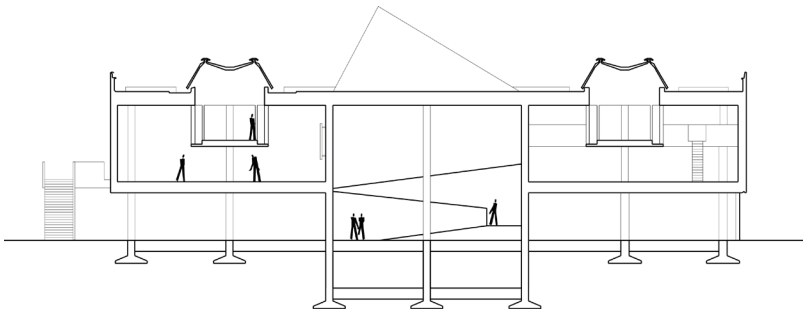
The space ended up quite different. The collection took precedent over the prototype. This ended up tearing down walls to create more space for the artwork collection that is part of this museum.

Another main reason for the tearing down walls from the prototype is light. The art collector, and the Japanese government who were sponsoring this project wanted monotone light throughout the museum. This makes it easier to take care of the artwork inside, creating a more sterile environment. Although this was a request and concern which lead to less walls, and more open plan, Le Corbusier was able to use light the way he intended. The light ended up being a dynamic part of the Museum.

ELEVATION

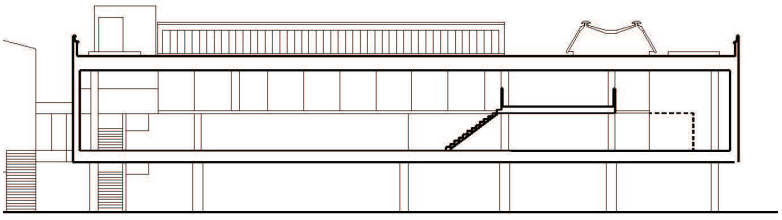


In elevation the building is perceived as a floating box that is standing on thin columns. The facade is a series of rusticated stone concrete conglomerate. These concrete bricks are stacked oriented vertically. The blocks get decreasingly smaller as they ascend on the facade. The large square openings area on each side of the building represent the potential circulation expansions created by the overlaid swastika over the spiral.



In the original section the building shows the main central entrance whose volume extends the height of the building, with surrounding galleries and a basement level. In 1995 there was a large earthquake which spurred changes to the building code. This created additional changes to the building including an increased basement level and an increased diameter of the column.

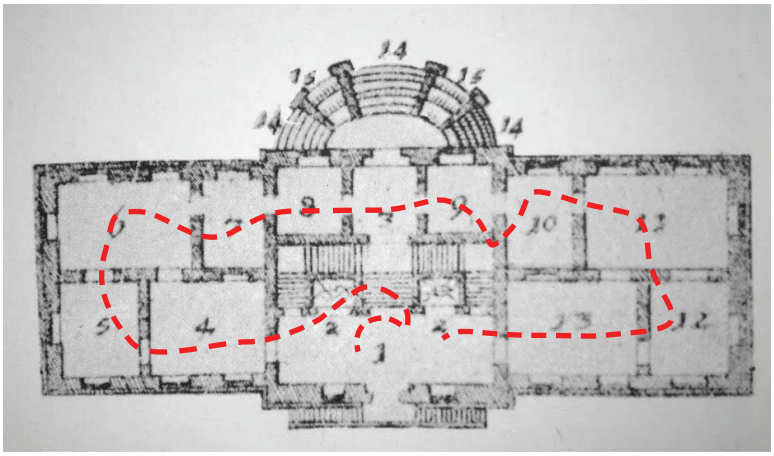
When the section is cut in an exterior gallery it exploits the floating volume that sits above the ground.



SECTIONS

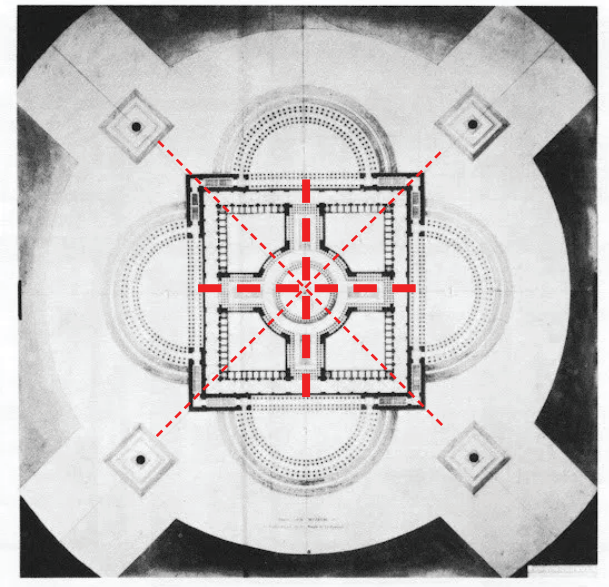
HISTORY

GENERAL MUSEUM HISTORY



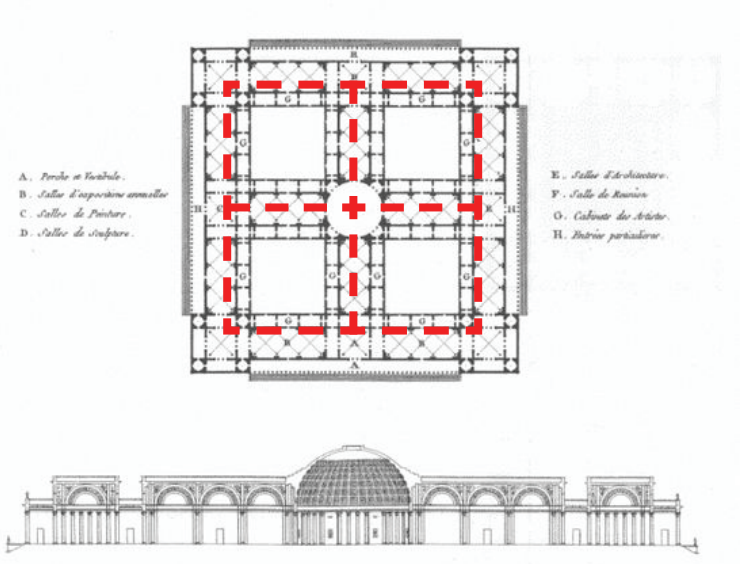
Christoph Leonhard Sturm, Ideal Museum

Christoph Strum, 1704
Single building that house a number of different collections. The museum and collection evolves as a person moved through the building. The contents are organized by scientific criteria, removing any other sort of context the piece may have.



Étienne-Louis Boullée, Projet pour le Muséum

Boullee, 1784
Diagram based around the greek cross. In the middle of the design placed a routunda representing the Pantheon with grand halls flanking the routrunda.

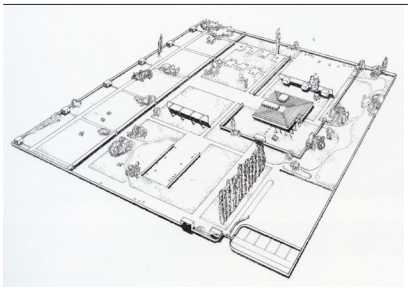


Jean-Nicolas-Louis Durand, Ideal Museum

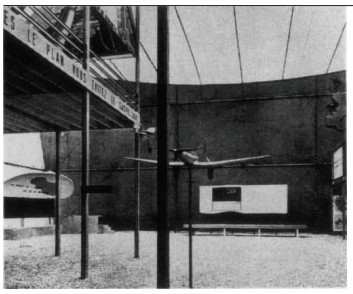
Jean Nicolas Louis Durand, 1813:
Project for a Museum
Preçis des Leçons d'Architecture
Square subdivided by Greek cross with four main patios to maximize lighting. In the center of the cross is a rotunda. The building is made without one main entrance made for easy accessibility and without hierarchy.
http://www.museumfutures.org/museum-futures-in-history/

Le Corbusier Museum Timeline

1931 - Museum of Contemporary Art in Paris

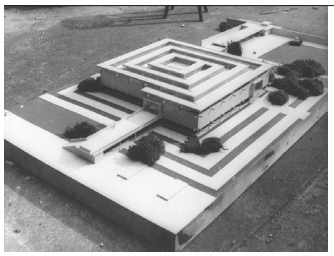


1936 - Pavillion des Temps Nouveaux



1937 - Pavillion B'ata (no picture)

1939 - Museum of Unlimited Growth Theory



1956 - Centre Culturel Ahmedabad*

1959 - National Museum of Western Art*

1968 - Musee Gouvernmental Chandigarh*

*Iterations of Museum of Unlimited Growth

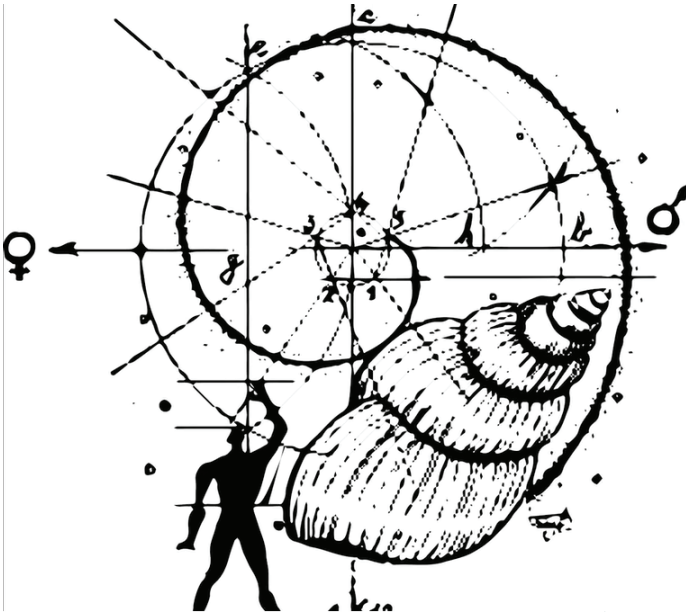
DIAGRAM

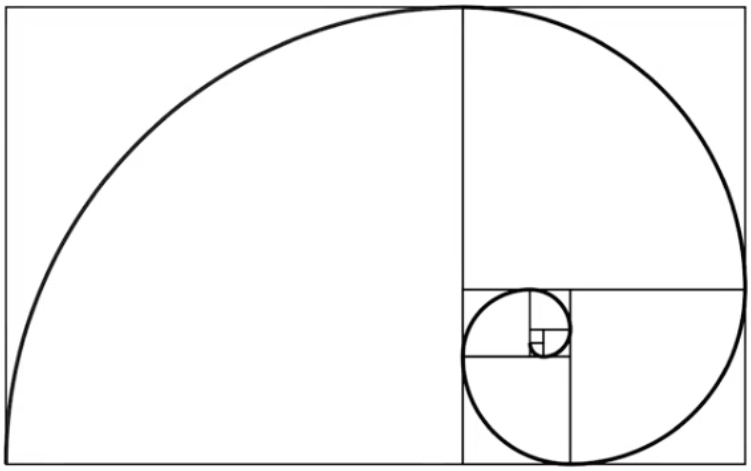
The spiral is entered from the center and continues to grow and expand. Placing the swastika on top of the spiral plan allows for a path through the museum. Could there be other diagrams that can be overlaid that can have a different of better effect on the building itself?

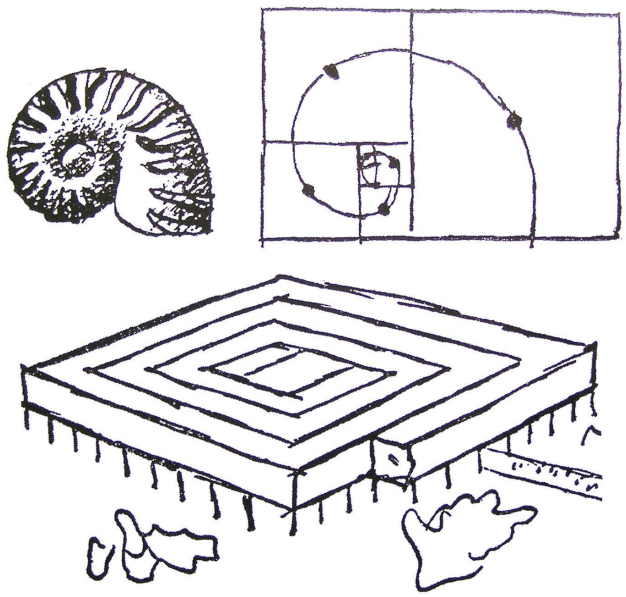
The swastika is added to the never-ending spiral. To Corb, the swastika in Hindu tells of happiness or sunlight shining brightly and appears to be in the shape of a spiral. Corb was enamored with the movement of the sun and correlates this movement with the movement in the swastika. This also allows a person to enter through the middle and have reference to the middle and the windows throughout the space. This creates a "supermarket where the building is in the center surrounded by vast amounts of parking" - Le Corbusier et Japon.

"The swastika for sorting plant and the solution of the headlights of the cover, among others, it is possible to say that all the elements that define the prototype are already ready to begin making variations about the same." (translated from spanish) – The Origin of the Unite De Batisse

Golden Ratio // The Modular







MUSEUM OF UNLIMITED GROWTH PROTOTYPE

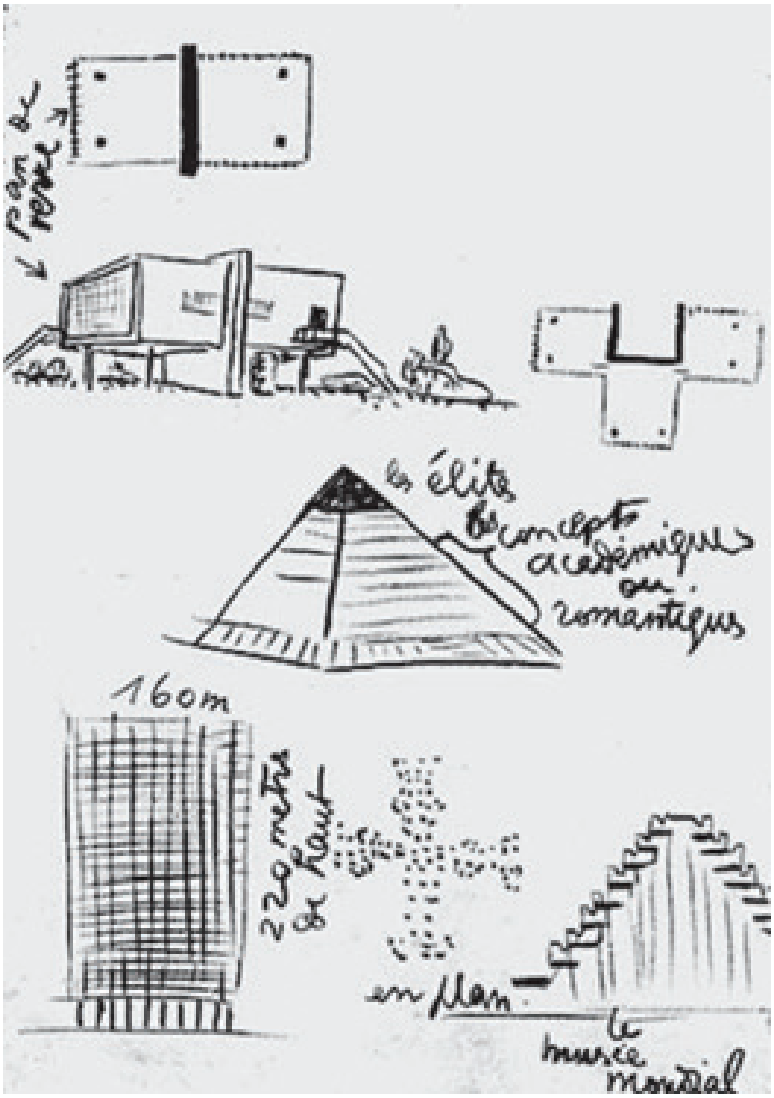
The National Museum of Western Art is part of a larger idea / prototype calle The Museum of Unlimited Growth. This idea was first documented in a letter to Christian Zervos on December 8th 1930.

"Museum of unlimited growth is a cube standing in the midpoint of the structure from which the rooms spin out in an endless spiral." "The museum rises in some suburb of Paris, set in the middle of a field of potatoes or beetroot. If the site is magnificent, so much the better. If the site is ugly and sadden by sprocket-wheel developments or factory chimneys, it doesn't matter" – Elements of Synthesis p.100

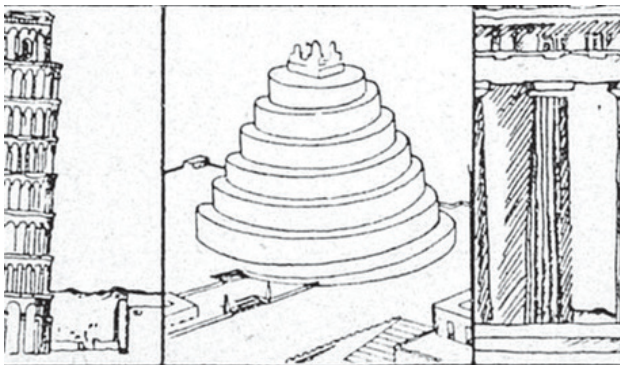
The idea was influence by some of Corbs past projects in practice through a number of works produced in La Chaux-de-Fonds in the 1930s which dealt with designing with natural forms. Corb was investigating the spiral of a snail's shell. This ongoing spiral adhered to natural rates of growth associated with the golden ratio. Additionally, Corb was investigating the expanding box in the 1920s. "Occasionally, the volume of a box may be expanded and form a rounded body of its own accord offset against the straight box to when it belongs" p.86 Corb was also thinking about how one would enter and move through an expanding space. In La Roche gallery wing "in 1929 he insisted that the different levels... be served by elevators and ramps, but not by stairs." p.87 - Elements of Synthesis

"The plan of this version, is interesting, they were mostly archived with the drawings of the project of 1936 which, in turn, were archived with the plans of the Pavillion des Temps Nouveaux of 1937." – The Origin of the Unite De Batisse

Per Rossi, "As a stubborn repetition of some themes work always wanting to solve the same problems. See the process is didactic and disturbing. A teaching that are excited." – The Origin of the Unite De Batisse



Le Corbusier, Précisions sur un état présent de l'architecture et de l'urbanisme (1929)



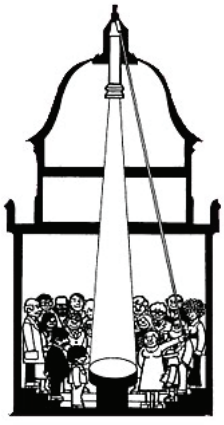
Le Corbusier, dibujo del zigurat de Samarra utilizado en el artículo

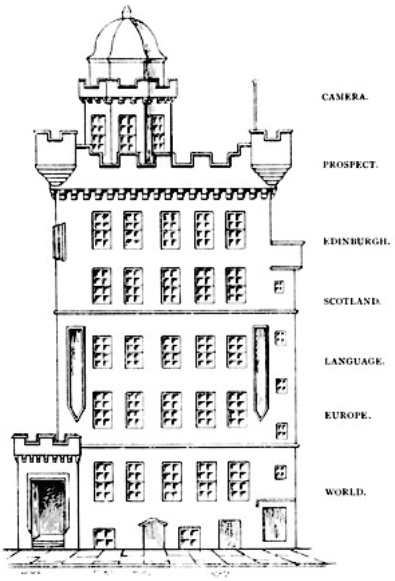
Patrck Geddes – OUTLOOK TOWER, 1892

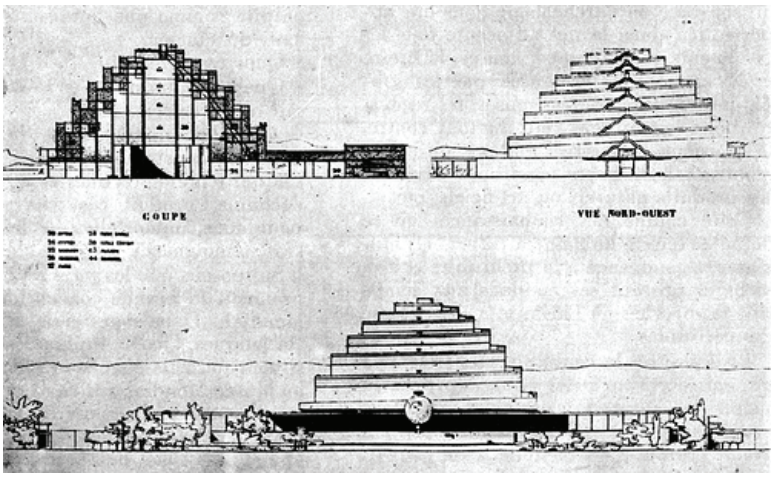
The Outlook Tower is an urbanistic theory along side the ideal museum theory. The city or town itself is viewwed as the museum. It is the paradox of the museum that one must remove parts of the city to be put into the museum for its posterity, but it is really the city or town itself that should be celebrated. Geddes refered to his tower as the "Tower of Thought and Action". "A visitor would be led to the top of the tower where a panorama of the city would display the more complex morphology of the settlement and descended from floor to floor, sucessive rooms would display the widening relationships between the town and the world. The main idea was adopted from Frederic Le Pay's 'lieu-travail-famille' - Place // Work // Family.

It is noteworthy that the patron enters from the top, as in the Musee Mondial, and Guggenheim. Additionally, it is arranced from locality to the world.

'Like Schinkel in the chronological layout of galleries around his central pantheon, Le Corbusier also worked to spatialize time, so to speak, wrapping his temporal spiral around his 'sacred' center of universal values'.







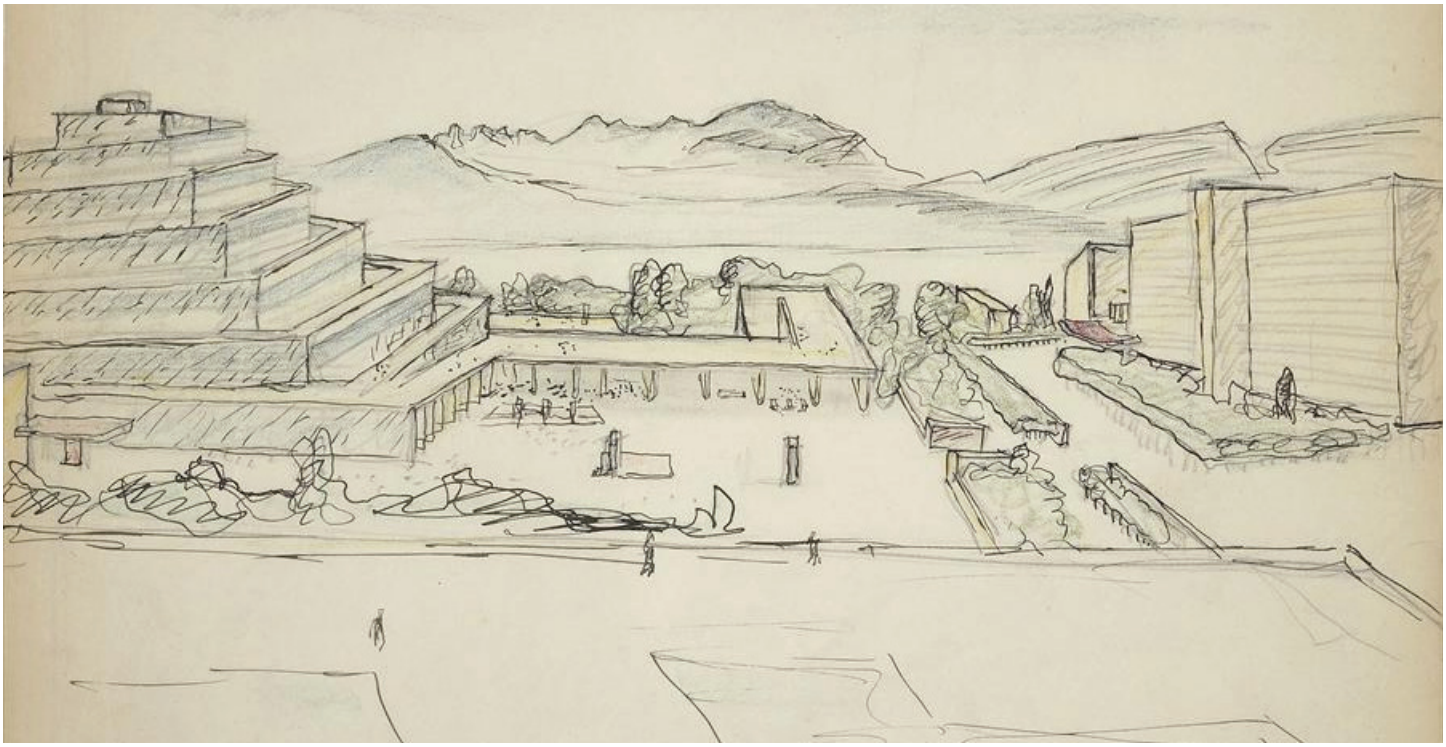
Le Corbusier - MUSEE MONDIAL - 1929

The Musée Mondial by Corb in 1929 is the precursor to the museum of unlimited growth. The building in its most basic form is a pyramid. The patron walks an ascending 2,500m path up to the pinnacle of the pyramid. While they walk they view panoramic views of the city and world that surrounds it. You enter through the top. As in a pyramid, as you descend the internal bowels each exhibit gets larger. In the end the exit is on ground level, bringing the path down to an earthly exit.

Ideally the museum is placed on a high plateau. The internal program has reference to Patrick Gedded Outlook Tower, which is PLACE // WORK // FAMILY. “Uninterrupted development of triple unfolding Le Corbusier of the museum as a continuous spiral, at once a natural ‘organic’ form and a mechanism that would ‘express the uninterrupted succession of the enlarging links of the chain.” “The form that allowed for continuous version of the traditional panorama or diorama no longer present in frontal or circular form, but not followed by the observer in an unwieldy sequence of spirals. (The architecture of the museum: symbolic structures, urban contexts by Michaela Giebelhausen)

“Save for the universal goal of making it function as a didactic machine, a modern encyclopedia, an instrument of progress”

“The plans of the Cite Mondiale have drawn violent attacks from the extreme architectural left of the Germanic countries. I have been accused of academicism… The plans of the Cite Mondiale bring to buildings which are true machines, a certain magnificence wherein one wishes to discover, at any cost, some archaeological inspiration. But from my point of view this harmonious quality arises from another thing, from simple response to a problem well stated” (Kunio Maekawa, Reynolds)



http://www.fondationlecorbusier.fr/CorbuCache/900x720_2049_1603.jpg?r=0

Fank Lloyd Wright – Guggenheim, 1959

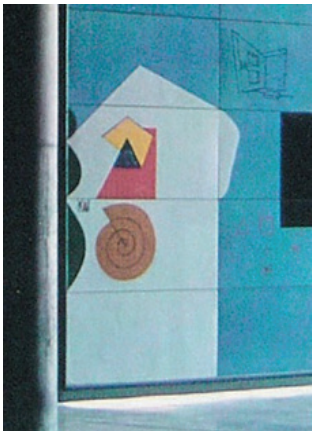
There has been comparison of the National Museum of Western Art to the Guggenheim by Frank Lloyd Wright. Both projects were completed in 1959 and dealt with the concept of the spiral in a museum design. The main difference in the design is that Wright took the spiral vertically where Corb took his horizontally. Corb also introduced the swastika into the diagram to create movement and visual contact to the middle of the space. “In some cases, forms of nature seen to be almost literally translated into architecture, for instance the [National Museum of Western Art], which is based on the regular spiral of a snail shell – a motif that frequently cropped up in Le Corbusier’s early studies.” - Elements of Synthesis p.309 There is no direct proof of a conversation between Corb and Wright at the time, however they did have interaction and altercation over urban design theory. It is not out of the question to think they may have corresponded on the topic or were looking at the same ideas of museum design.

ALT. CORBU-

Le Corbusier has shown throughout his career that he has been thinking about the idea of unlimited growth. This is exemplified through paintings as well as built works. In his paintings he was concerned with the golden ratio, but also paints the never-ending spiral in several of his pieces. Additionally, through several his projects he his thinking about natural growth patterns. This is the beginning of Le Corbusier's module that he uses to proportion several of the building structures and elements. The National Museum of Western Art is built upon a modular grid system.

L-C, Nature Morte Géométrique et racine (1930).

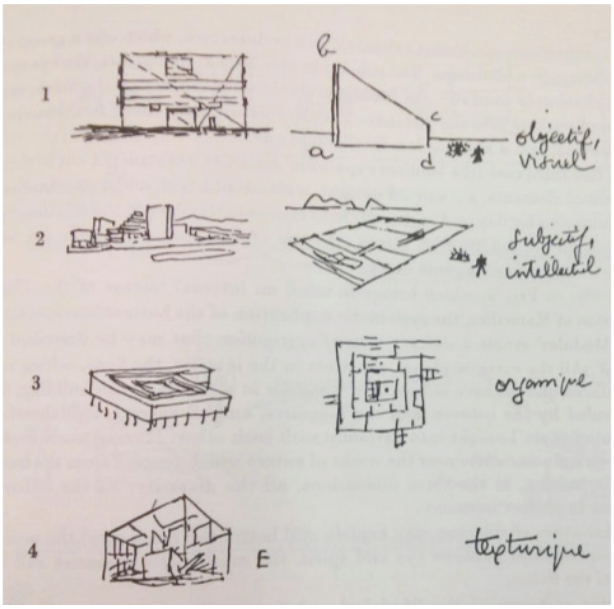
L-C, página 152 del Poéme de l'Angle droit (1947-1953).

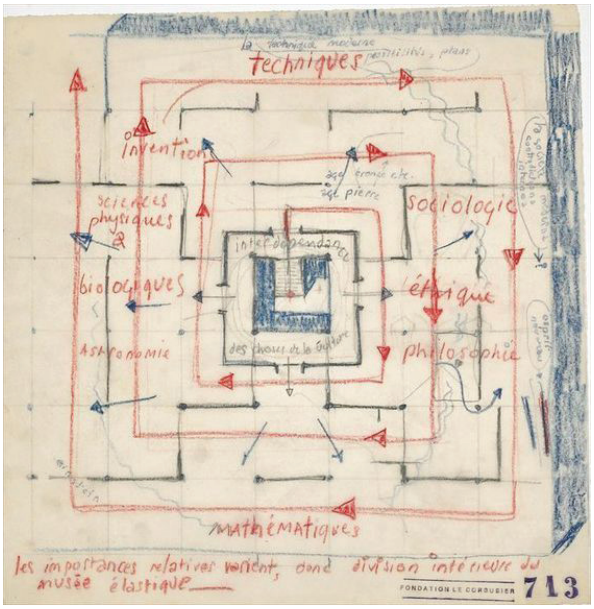


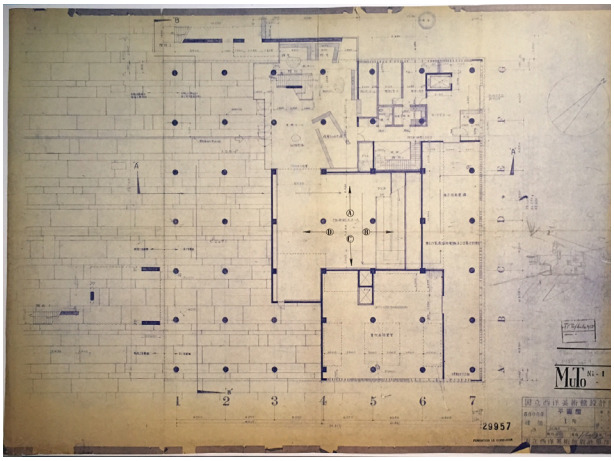
L-C, detalle de la esquina inferior izquierda del interior de la « Porte Email », Capitole, Chandigarh.

La Roche gallery ramp

La Chaux-de-Fonds







NATIONAL MUSEUM OF WESTERN ART

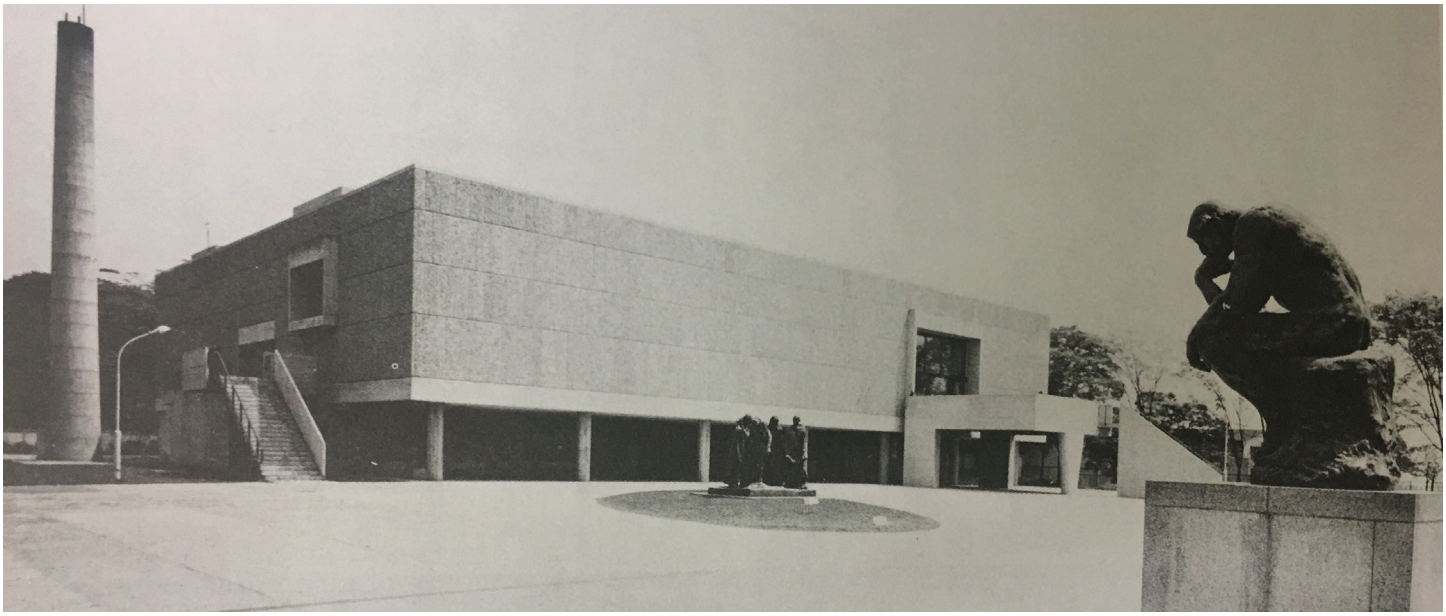
The museum was built for the collection of Kojiro Matsuyama of Impressionist works to modernity. As part of the surrender agreement between Japan and France at the end of the Second World War the artwork from Matsuyama's vast collection of was returned to Japan. The building is a prototype of the Museum of Unlimited Growth and applied to the site in Ueno Park, Tokyo. The museum is entered through the center. It is designed to be a space where you walk through the museum in endless fashion. The swastika diagram is placed overtop the endless loop to provide access of cutting through the museum itself.

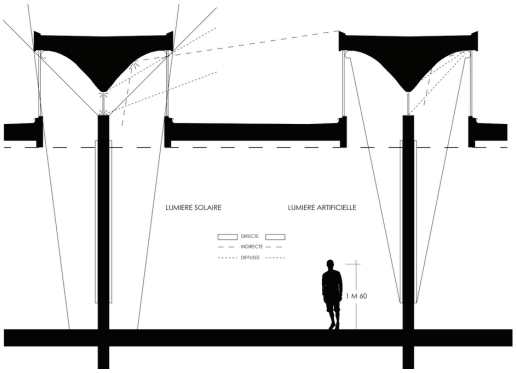
The original plans are sent in July of 1956. Due to a constrained budget and siting, the Japanese government made suggestions for cost saving:

a. The museum in Tokyo is on a smaller site than postulated in the prototype. This restricts is potential
growth. Due to this constraint the modular grid was shrunk from a 7m x 7m grid to 6m x 6m.
b. The government told Corb to give up the court, conference room, library, and room for rest for visitors as these did not directly relate to Matsuyama's art collection.
c. He was asked to review the lighting and construction methods to adhere to cheap materials and methods of the time.
d. They suggested the removal of some walls which prevented the sequence of the museum, and better allowed natural light into the space
e. Indirect light was needed

Corb did adhere to most of these demands, however when it came to light modulation he did not budge. He met with Matsuyama in Paris to show him light rooms and stated that the same light throughout a space creates a monotone space.

Monnier, Gelìrard. Le Corbusier Et Le Japon.





The final set of plans was received in March 1957 which included 9 sheets of instruction. Due to the small amount of information, Corb enlisted three of his disciples to take on the final planning and construction, Japanese Architects: Kunio Maekawa // Junzo Sakakura // Takamasa Yoshizaka

Sakakura and Yoshitaka were tasked with the planning and building of the project, where Maekawa was tasked with the construction and structure of the project.

The Japanese architects took some liberties with the construction of the building. Corbusier chose green stone cut panels. This choice resembles the exterior walls of the cells of the monks at the Tourette monasteries. The formwork for the concrete was supposed to be metal and be left rough and raw. Neither of these were met. Sakakura and the carpenters chose to use wood form concrete because they believed it would more closely relate to Japanese construction method and culturally it would reflect the Japanese countryside. Corb criticized the concrete for being too perfect.

Due to the budget of the building, the Japanese government never had intention of growing the building in the manor that Corb wanted. Kunio Maekawa made an addition to the museum in 1979 which does not follow the logic of the original design. It was an additional “C” shape which created a courtyard between the original museum and the new annex.

In 1995 after a large earthquake, the museum was retrofitted with additions to the foundation as well as increasing the diameter of the columns. This was all done to preserve the art collection as well as the building.

Other Unlimited Growth Museums

1956 - Centre Culturel Ahmedabad
1968 - Musee Gouvernmental Chandigarh

Differences:
a. The National Museum of National Art is on a smaller site than the other two museums.
b. NMWA – on a 6 x 6 grid instead of the idealized 7 x 7 grid (cost and siting constraints)
c. NMWA – concrete formed with wood and smoot, the others were left with a more rough and raw exterior
d. The two museums in India had to deal with more a harsh warm climate. The form needed to be modified to allow for passive heating and airflow. In Japan, the climate is better suited for a sealed box
e. Floors in Tokyo are a red stone where in India they are rough darker colored stone.
f. “Projects are used to explain the origin of the idea, while the next two are used to understand the adjustments that must be done to it when it comes to resolving the prototype in location specific conditions” – The Origin of the Unite De Batisse
g. Siting different based on given land
h. Materiality difference based on region and climate constraints
i. The museums in India have open central courtyards, where the center is closed in Japan.

National Museum of Western Art

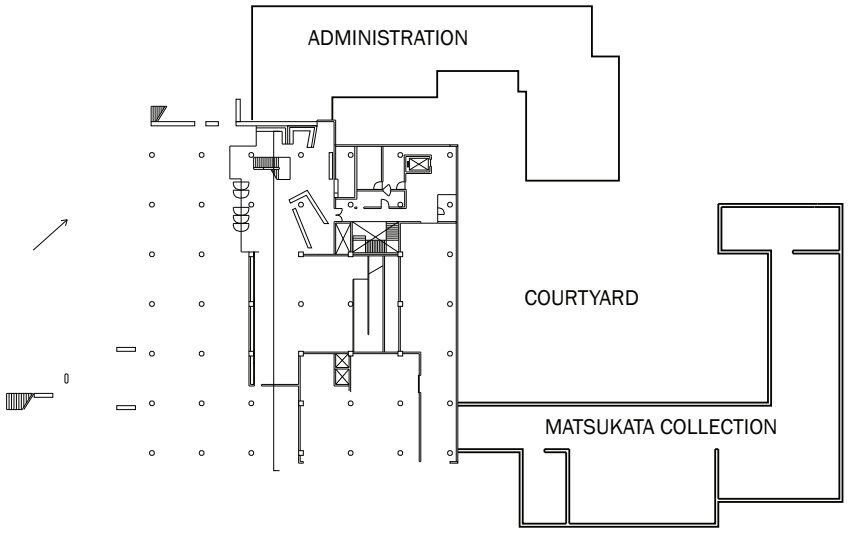
Centre Culturel Ahmedabad

Musee Gouvernmental Chandigarh

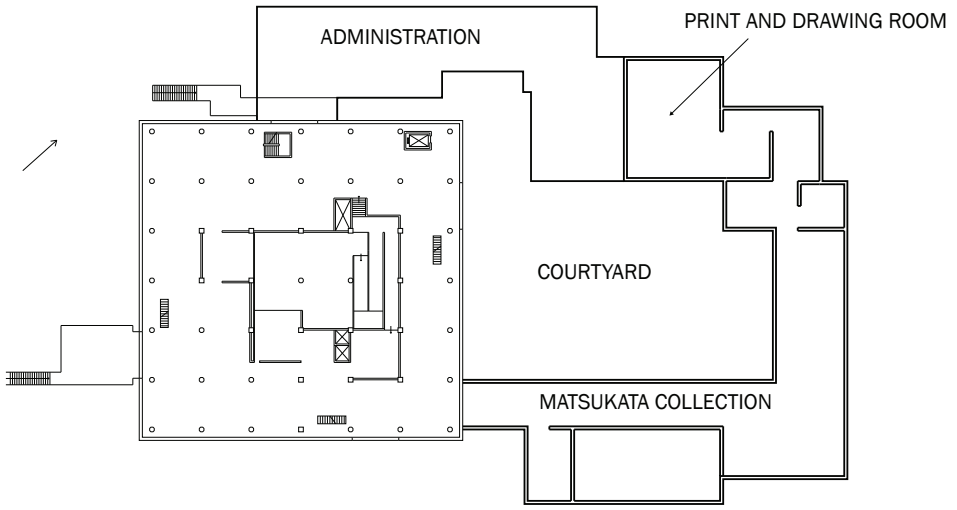
There is much to learn about the current expansion onto the prototype.

From the negative perspective, the prototype disrupts the initially intended circulation path of the building as the expansion is against normal traffic patterns. However, when the user enters the main gallery, the light and light-colored walls from the additional gallery are attractive and pull the user into that space. There is a clear materiality change from the main building, of wood flooring and bright white walls with warm light that are very inviting. The Original building had dark floors, and more dim light, which could feel cavernous. This differentiation in materiality make for a circulatory discrepancy from the natural pinwheel, to a broken one.

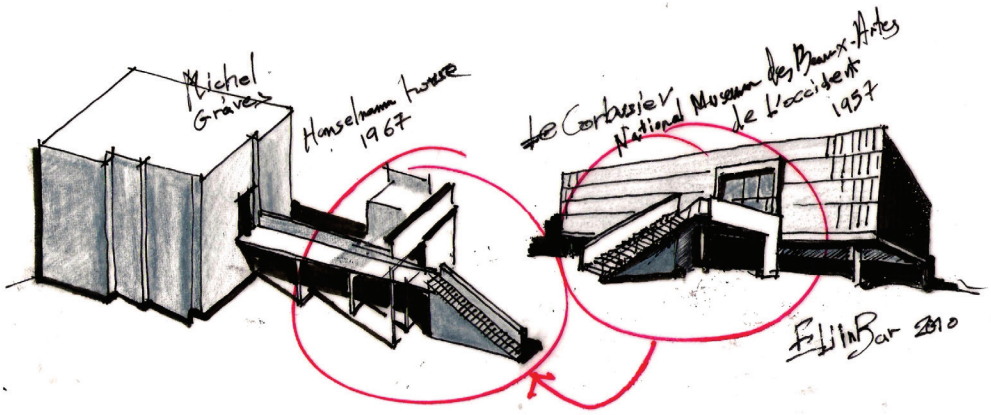
GROUND FLOOR PLAN

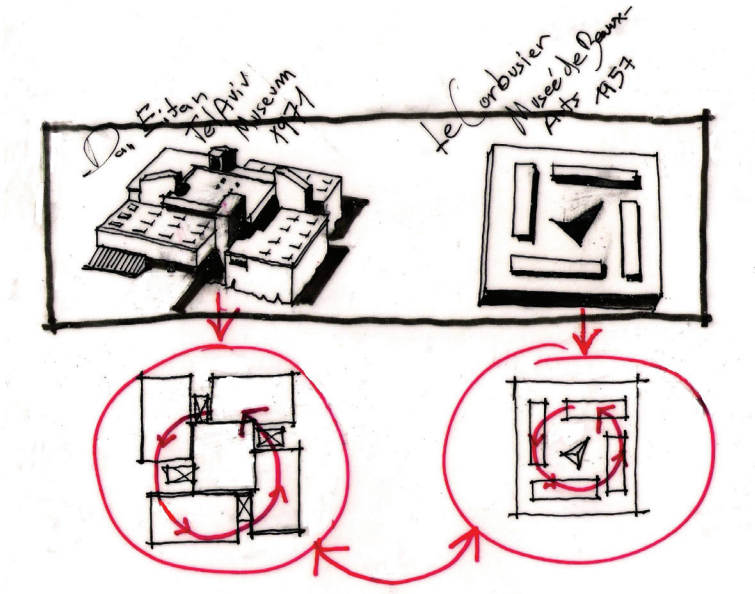


FIRST FLOOR PLAN



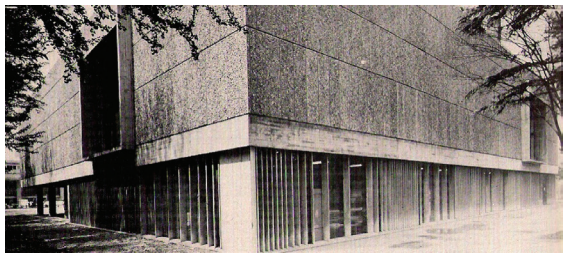
HANSELMANN HOUSE - 1967
Michael Graves

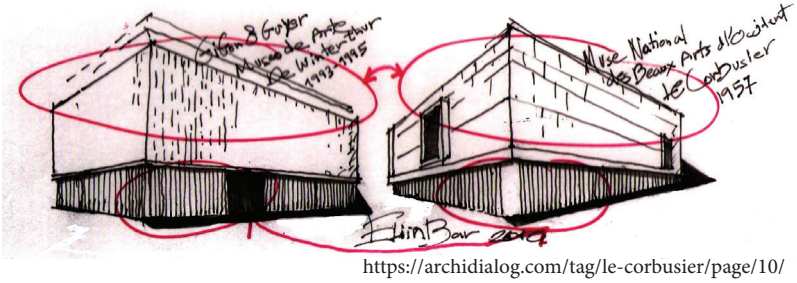




TEL AVIV MUSEUM - 1971
Dan Eitan

WINTERTHUR MUSEUM OF ART, EXTENSION - 1995
Gigon & Guyer Architects





https://archidialog.com/tag/le-corbusier/page/10/

ANALYSIS

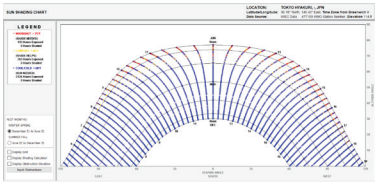
The project began as a question of the spatial diagram but has begun to ask whether the real question is between museum within the pedagogy of museums or is it a question of the diagram of unlimited growth as the true museum prototype. Is this project a truly inwardly focused project or does it begin to look outward as well? The Unlimited Growth museum is a utopian ideal that can house everything that defines the surroundings. It is meant to bring the public in and be a space that can be built upon and used as a device to foster thought, change and empathy. Is this really the ideal, and if so, at what point is the unlimited growth prototype the question over the implementation of the prototype at the National Museum of Western Art in Tokyo.

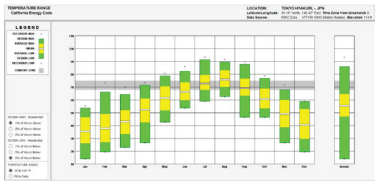
This analysis will begin in five (5) parts.

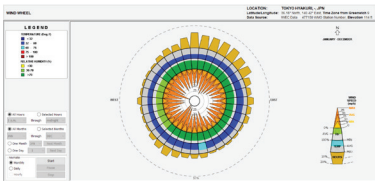
Environmental analysis
The Collection
Field Changes and Additions
Site Analysis
Diagram

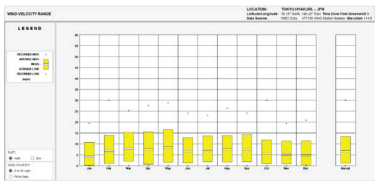
ENVIRONMENTAL ANALYSIS

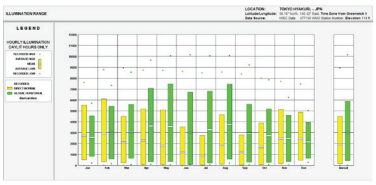
Environmental analysis is an important part to this project, because it was an important part to Corbusier. In a time where conditioned spaces were only looked at internally, without a view to the environment around it as a supporting feature, Corbusier used each environment as a marker for design change to better enhance the users experience and design more responsibly. This becomes very apparent while looking at the other museums of unlimited growth. Corbusier took deep consideration in the climates of both Tokyo and India to make changes for climate. The Tokyo building in a much more internally conditioned space, where in India, the building added in space for additional air circulation.

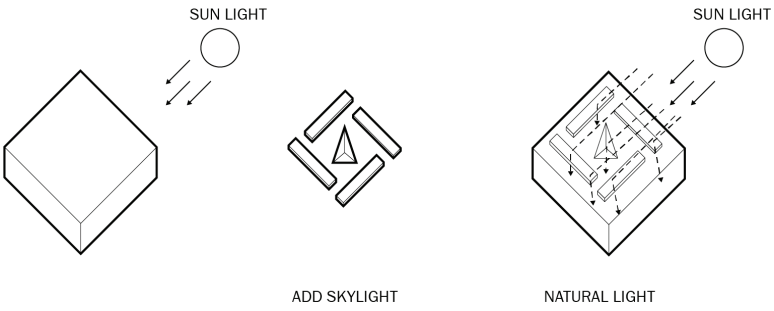


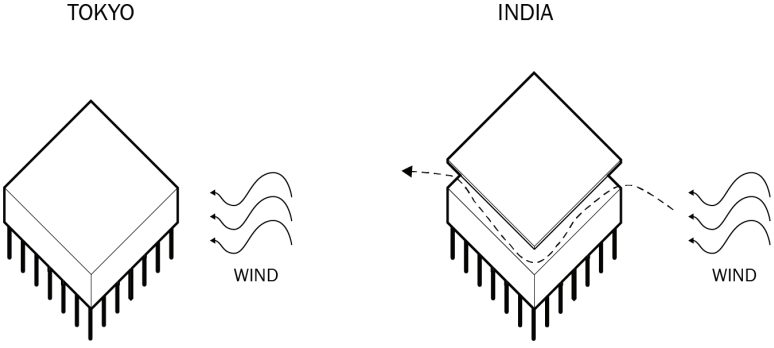


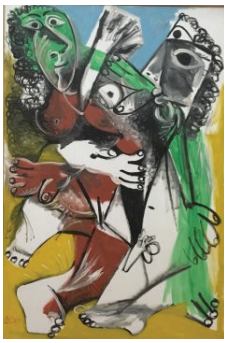






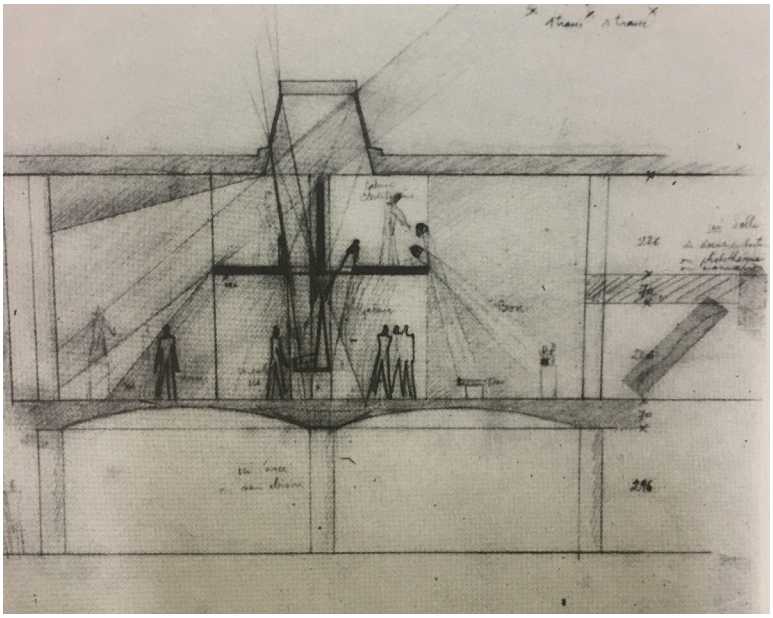






COLLECTION ANALYSIS

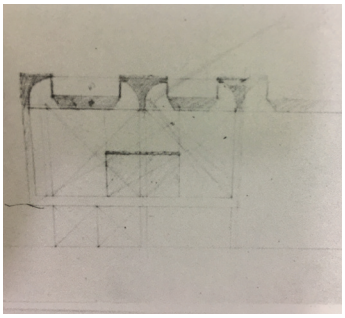
Analyzing the collection could be a critical part to this project. Although the museum was based off Corbusier's prototype of the museum of unlimited growth, the collection itself becomes a critical part and reason for design change to the prototype. A main reason for the first and only set of changes was the neglect of the collection regarding additional spaces. The client, the Japanese government, did not feel the additions to the program were not central to the focus of the project itself. It may be worth continuing to investigate the collection and the idea of curation. There may be clues in creating additional reasons for unlimited growth past the collection itself.

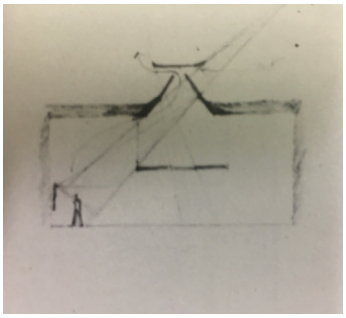


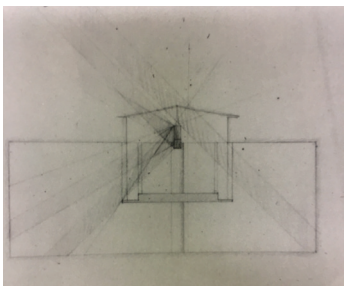
FIELD CHANGES ANALYSIS

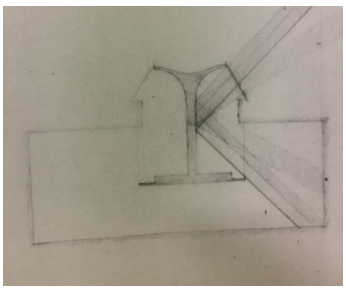
The field changes are an indicator of what was important to this project from a cultural and tectonic impetus. The history of how this project came to pass I believe weigh heavily on why some of the changes were made. This project in some ways represents Japan's loss in World War II, so in some ways, through all the rebuilding in Japan this project of western art, designed by a western architect must have created some animosity to some of the design decisions made by Corbusier. The court, library, and room for rest for visitors were all removed from the original plans and design. The lighting was put into question for the collection. Several internal walls were removed for the collection as well as light. More indirect light was requested. In construction, Corbusier requested formwork done from metal to create a rougher exterior, when wood was chosen to be used in order to more reflect Japanese countryside. The stone used was meant to resemble the monastery at Tourette, was chosen by the Japanese architects.

Finally, two of the Japanese architects that worked on the building were commissioned to add onto the building. However, when the building was finally able to be added into, the unlimited growth was somewhat ignored, as Kunio Maekawa added on a "C" shape creating a courtyard onto the backside of the building in 1979 which is built at nearly the same height as the front building to hide its appearance. Sakakura firm designed a lecture hall and office building in 1964 and a ticket office in 1984. (Kunio Maekawa, Reynolds





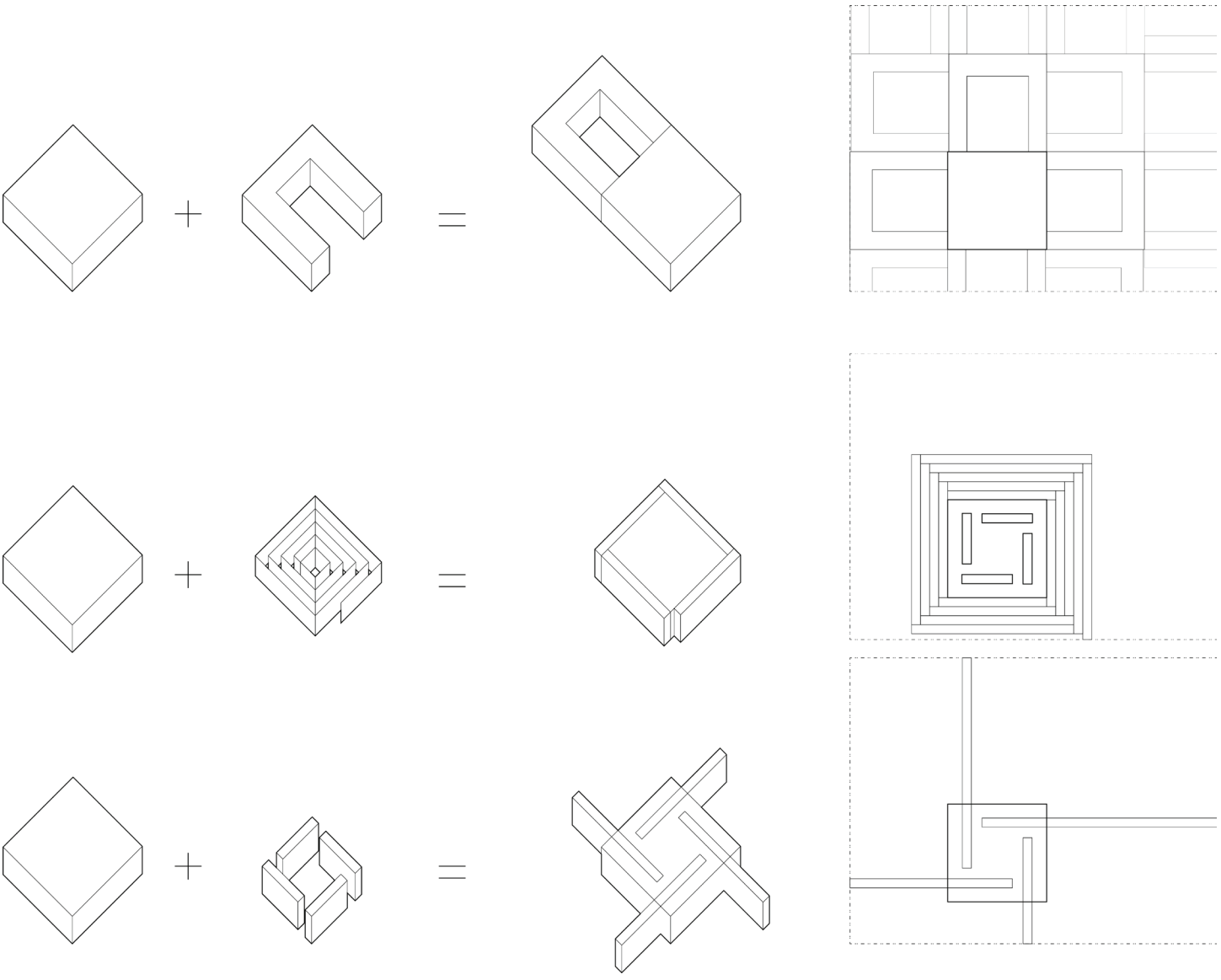




SITE ANALYSIS

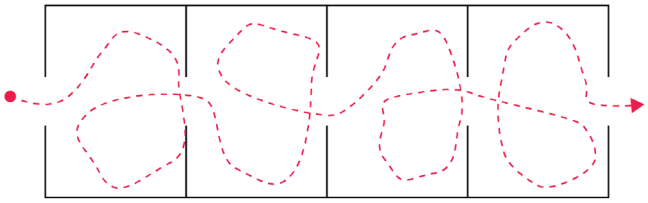
The site analysis focuses on the block diagram of the building, and the way that the never-ending chain can eventually fill the entire site. It is meant to put Corbusier's ideals to the absolute maximum to get the full picture. Corbusier in all 3 built projects ends up with a box on pilot. The suggestion of unlimited growth comes not from the internal snaking around the building but from the arms of the internal divisive overlay of the swastika. This could suggest a few things. One of which is that the unlimited growth is about added on extensions to the original plan, which become supporting limbs to the central core. Alternatively, if it were to continue to spiral, from the internal collection the building would be able to amass a plethora of information, however it would be lacking in diversity of space, and therefore the additional programming of things like theater, library, social space would become difficult to distinguish and define.

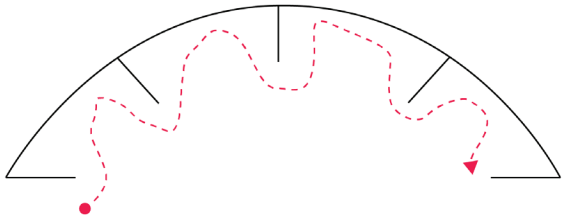
SITE EXPANSION DIAGRAM

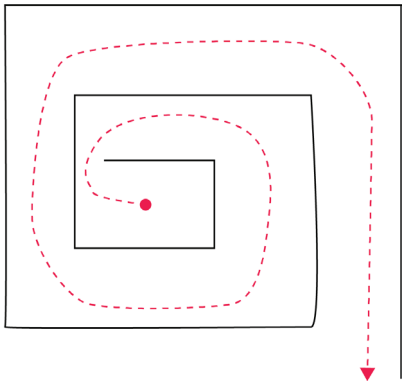


CURRENT CONDITION ADDITION EXPANSION SITE EXPANSION

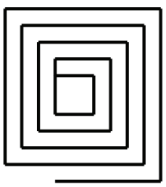
DIAGRAM ANALYSIS

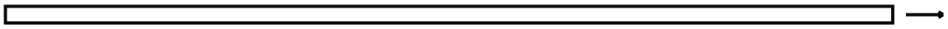


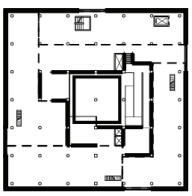


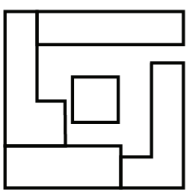


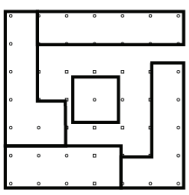
The diagram is the main question of this project. Corbusier overlays a swastika on top of the never-ending spiral. The idea is to allow for the users to have an internal reference to the center. This gives each person the ability to follow the main path, without disorientation. The path itself becomes somewhat disjointed due to constraints put on the project for both financial reasons as well as the art collection. The internal organization therefore must be criticized which in turn, criticized the ideal museum circulation Additionally, the diagram itself has been implemented in other museums, and it would be interesting to see how combining diagrams, or manipulating the original diagram can create a new space. The Guggenheim in NY is a derivative of the spiral diagram, and the mash up of Corbusier's horizontally focused diagram verses Frank Lloyd Wright's vertically focused diagram may lead to interesting results. On a more fundamental level, looking at the overlaid swastika, and see if there is another symbol or diagram that can produce a different space that may be more appropriate for the place as well as the collection. Looking deeper into the implications on the diagram to its implications on circulation, looking at precedents like the supermarket or store like IKEA for alternative ideas and views on patron special manipulation and curation could create interesting results.

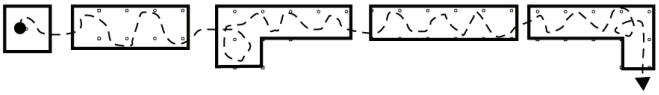






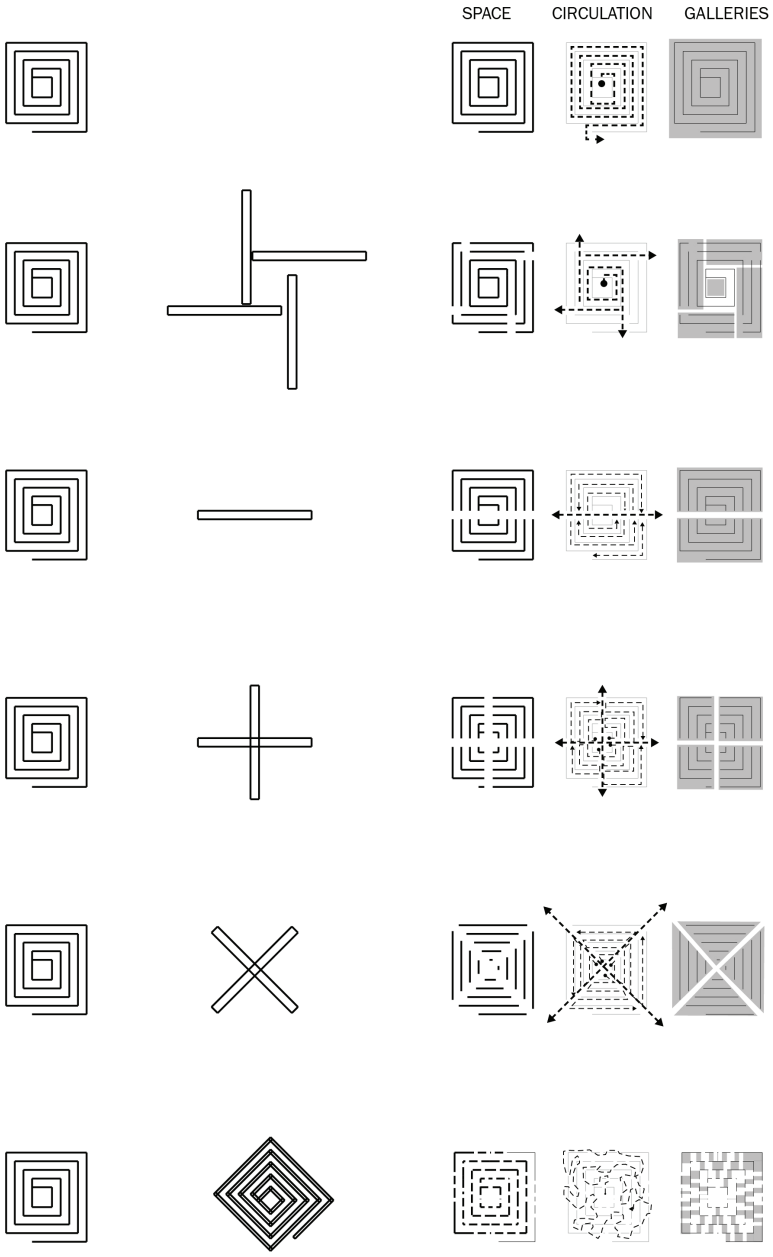


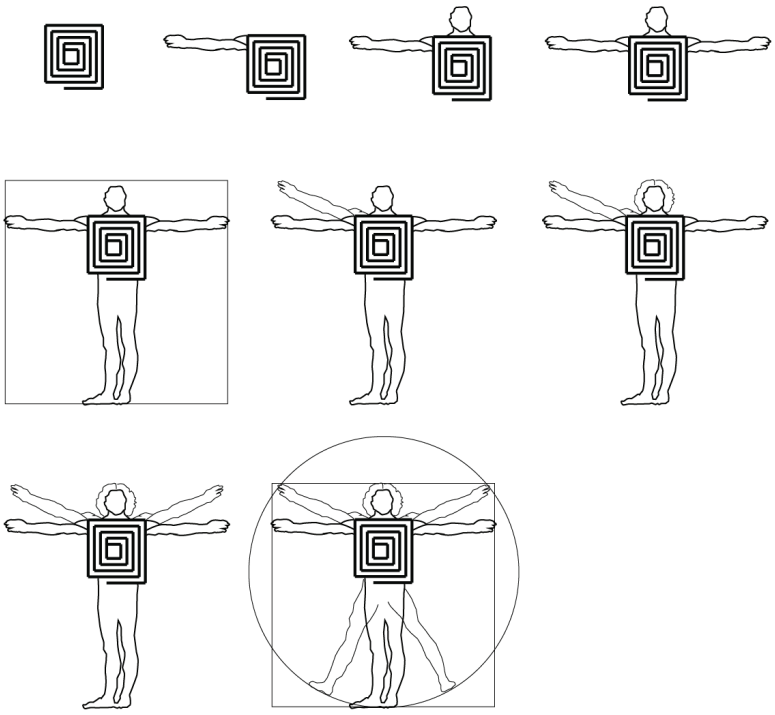




CIRCULATION OVERLAY DIAGRAM

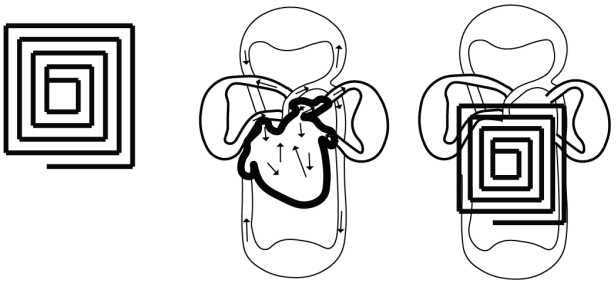
The diagram has implications on both circulation but also the gallery or programmatic spaces that it creates. Overlaying different basic diagrams on top of the unlimited growth spiral can create diverse types of gallery spaces. In the diagram, the grey represents the newly formed gallery spaces or divisions based on the bisection of the overlaid diagram.

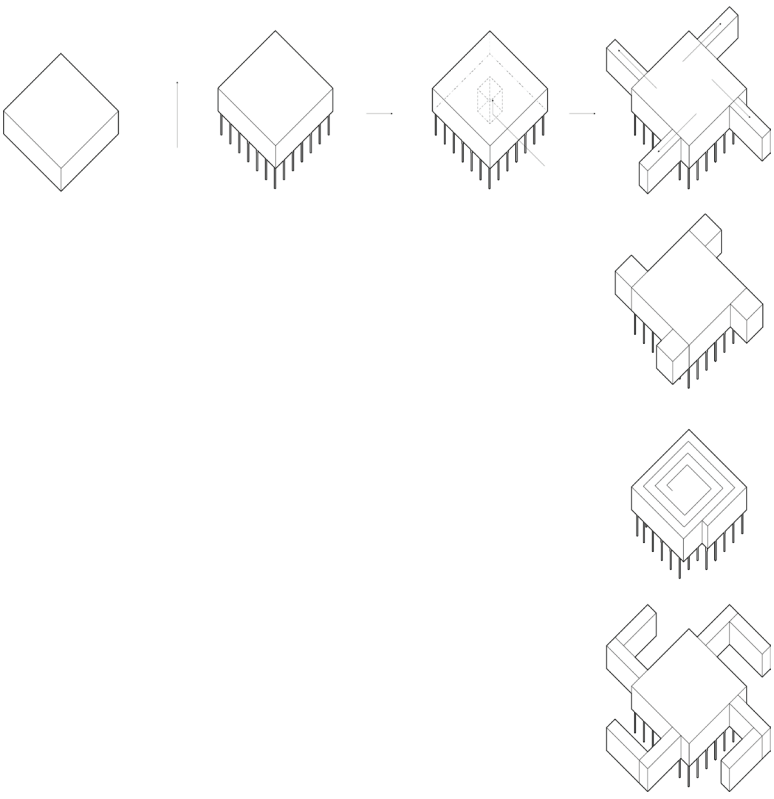




CIRCULATORY EXPANSION

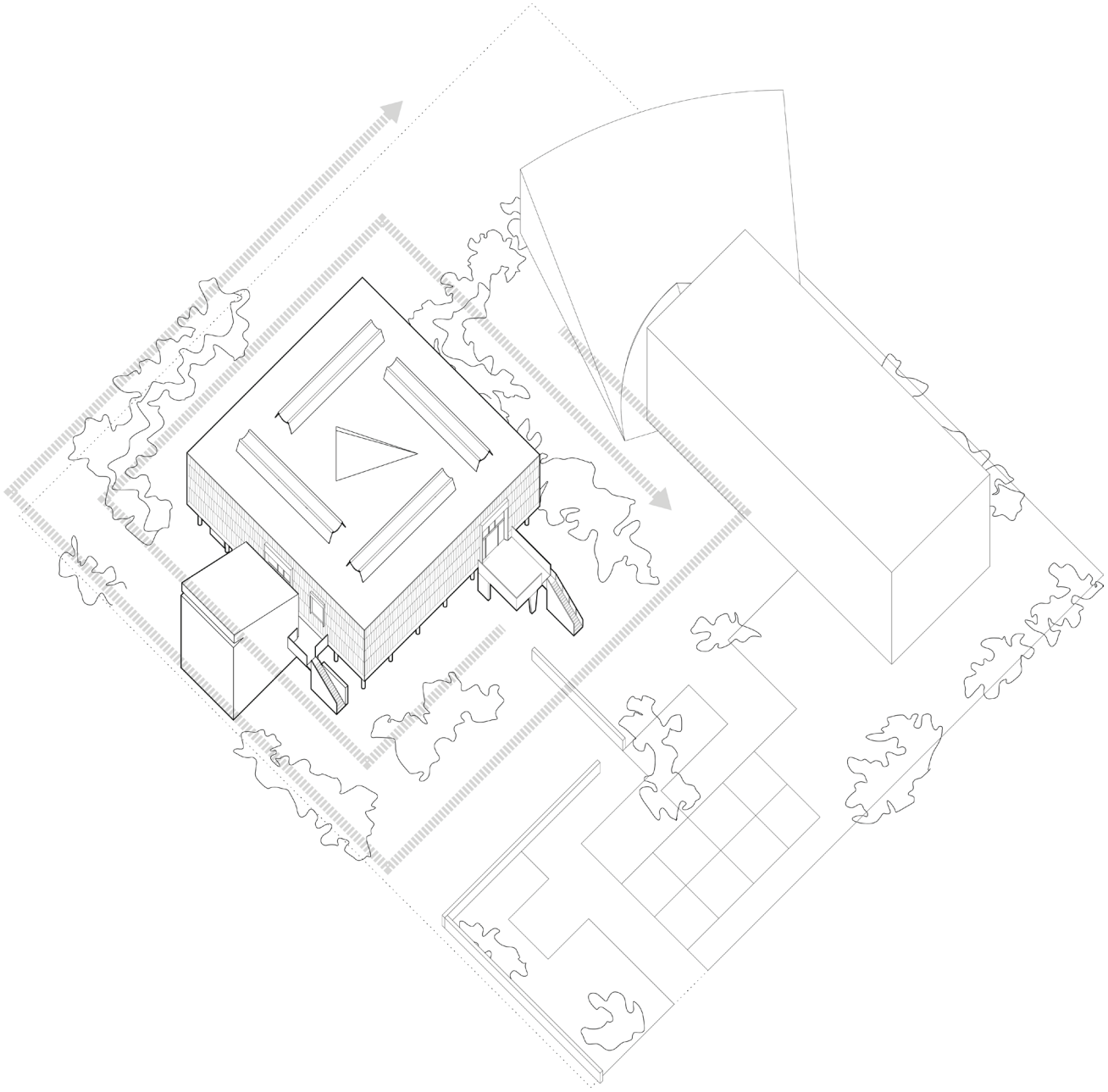
The diagram could take on a more biologic approach. Corbusier's modulor has a basis in biologic design and natural growth. It may be worth looking into the idea of the biologic and apply it to the museum of unlimited growth prototype. These diagrams show the idea of the prototype as a core of the human. Growth can happen in the way of limbs. In other cases, the growth can be like the growth of a child over time. The other diagram shows the unlimited growth replaced as a heart. The circulation could be the arteries that feed into and out of the heart.

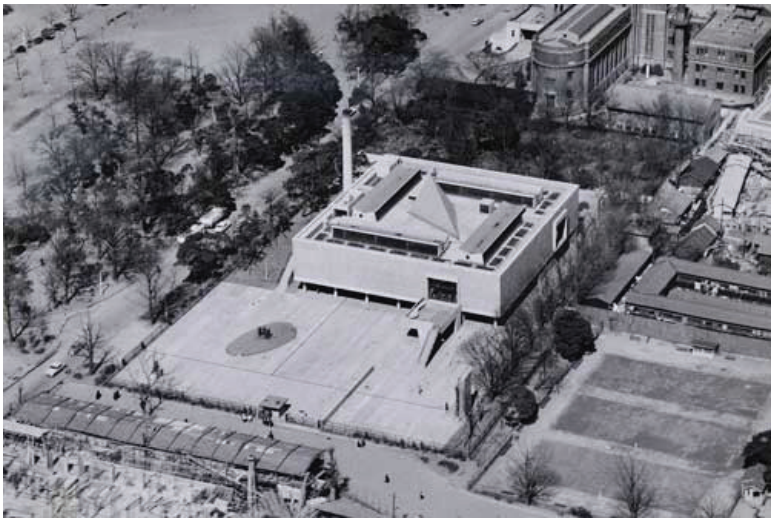




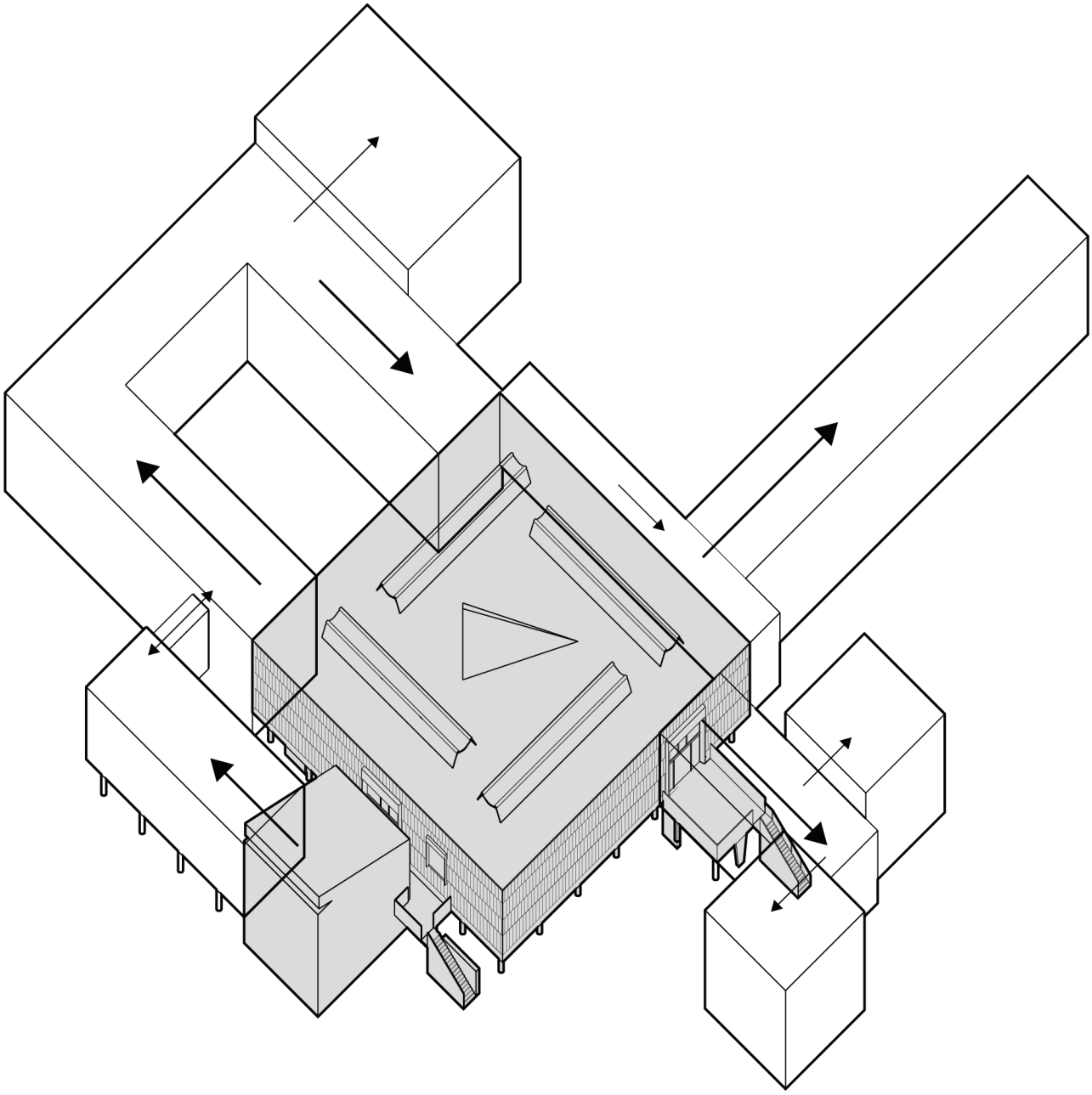
VIRAL EXPANSION

The expansion of the diagram can start to take on many different forms. The idea of a viral expansion can allow for multiple growths or types of growths onto the main cell. The diagram has natural expansion; however, the viral expansion can break out of the normal path and grow and expand. This can create opportunity for different programs to be added onto the original museum.





This is the original siting by Le Corbusier. The prototype is given room for expansion. There is additional programming that the site can grow into. In future years, expamsion onto the rear of the building wuold be a “C” shape plug into the back of the building. The site itself would become populated with buildings too close for the espansive prototype expansion.



What if the expansion took one to many forms? Would the site begin to define the type of expansion or would the type of expansion begin to define the site itself. Is the site expansion a spiral, or linear or a viral expansion like Corbusiers proposal for the Venice Hospital. The exploration of the elemental diagram and the program will lead to further design discovery.

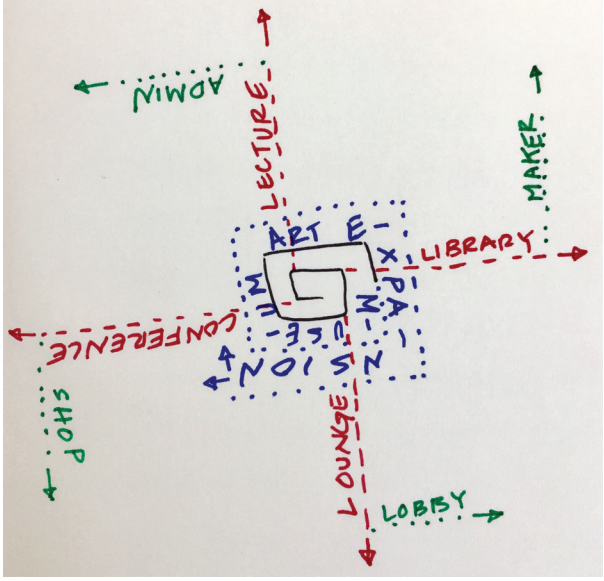
PROPOSAL

ABSTRACT

The objective of this thesis project is to challenge Le Corbusier's diagram for unlimited growth with respect to his project of the National Museum of Western art in Ueno Park, Tokyo, Japan. The challenge is to identify, critique and ultimately update the diagram and the building. The thesis will address the metaphoric and geometric rules of the diagram which they want to embody or obey. This diagram will be the impetus for initial design and eventual growth of the project.

Le Corbusier believed that the museum should be accessible to all, that the program of the museum needed to be useful for the regular man (i.e. the median) and the museum should not be pretentious. The collection of the National Museum of Western, however, was initially designed for young Japanese artists to visit, appreciate, and learn from Western Art. This is an inconsistency to the ideal. Additional program was initially proposed by Le Corbusier and denied.

There are a few initial challenges with the diagram and the building. The diagram consists of a spiral and a pinwheel. The combination of these two basic diagrams juxtaposed create a conflict of circulation, growth, expansion, entrance, and exit. Additionally, issues may occur when the realities of a given program and location are assessed. The program initially begins with 19th century art, a very narrow scope that limits growth potential. The struggle between these constraints will be the challenge throughout. A problem mentioned above, which is central to this project, is how someone enters and exits the building; this needs to be clear and organic. Each person should have a transcendent experience moving into, through and out of the museum. The circulation of the museum needs to be prescribed enough that each person can have ease of use of the path. However, the path needs to be flexible or open enough for self-discovery, as well as, to allow for the opportunity for program to change throughout time.



This diagram shows the juxtaposition of the two main diagrams; the spiral and the pinwheel. The program associated with the spiral is the art of the museum. The program associated with the pinwheel is the ancillary expanded program.

The main issue with this diagram is the juxtaposition of two diagrams, the spiral and the pinwheel. These two diagrams speak two different languages when it comes to expansion, circulation and form. The spiral expands in one direction linearly, circulates linearly and its form becomes a solid mass. The pinwheel, expands in multiple directions linearly, circulates in a circular fashion and formally has many points of potential entrance and expansion. These alternating issues create a difficult problem to solve when combining the diagrams. Through investigation of Le Corbusiers implementation of the diagrams, he uses each one for a specific reason. The spiral represents the art museum. The art museum is meant to expand around itself in a linear fashion. The pinwheel cuts through the diagram creating visual paths to the center as well as creates lines of expansion for ancillary program, such as a library, lecture hall and conference room. This juxtaposition of the diagrams is a metaphor for the juxtaposition of the museum that is defined by both art and its additional programs. This project will explore that juxtaposition to fond a diagram 2.0 and update or replace the building based on the updated and newly resolved diagram.

The ideal museum has a few fundamental features:
Proactive // Symbol // Beautiful // Informative // Interactive

In a digital age where the physical artifact and book is under review, the next building left to defend this is the museum. The museum must be beautiful, proactive, a symbol, informative and interactive. It should not only be for the visiting traveler, or the school class, but needs to be for the everyday person.

Proactive: The museum must continue to grow and be relevant. The museum must never be so proactive and archaic in collection and thought that it becomes irrelevant. Growth must be available through prescription where the building organically grows and expands upon itself or through space for inorganic prescribed growth. The architect must create a building that has an ability to evolve over time.

Symbol: The museum must be a symbol of the community, or opportunity, or information. The symbol is something that can be appreciated by all. The symbol can drive commerce and create a building that is coveted by its community and can be a point of pride. This is the first place that a visitor will come when visiting a city and should be the life of the community. The architect must create a building that exemplifies the community tradition, materiality and ideals.

Beautiful: The museum must be a spectacle and instagrammable. A beautiful project will be recognized by the architectural community along with the non-architectural community. It must stand out in a world flooded by Instagram singular shots. Something that is beautiful begs to be preserved. Only those things that are preserved can beg to be grown. The architect must create a building that is objectively beautiful at the time of conception, but simple enough in design, that growth can be achieved without much intervention to the initial building.

Informative: The museum needs to provide intellectual value to the community and the world. The museum should curate and exemplify local knowledge and grow to worldly knowledge. The museum needs to be the storyteller that can create a space of wonder and intellectual growth. The architect must create a building that allows for growth from the community to the world level.

Interactive: The museum must be able to engage each person. The museum must not be pretentious and create a space that is uncomfortable or cold; it must be inviting and create an environment that allows for each person to experience the museum without pretense. The architect must create comfortable space and a variety of space that can accommodate any number of people.

How is the museum responsible as well as accessible? The idea of a building that can be expanded and flexible where it is useful for all time is an important part of responsibility. The responsible design and diagram will allow the museum to continue to exist and evolve through time. As priority, technology, and relevance change, so must the building. In some ways, the simple can be the most timeless. Ideas, technology, change must be imposed on the building, based on a simple principle visa vi diagram.

PROGRAM

The program has changed and been in question from the start. Initially the program was strpped down from Le Corbusier's ideal for the museum of unlimited growth. The museum went under rennovation and additions that added additional program, like resturant, additional museum space and courtyard. However, even with these additions the program was still missing a conference room, library and lounge that was suggested by Le Corbusier. I would like to propose this thesis project add those items. Additonally, since thins museum should be for the people and continue to grow. I have put in as a place holder of a maker space in order to spark the idea of additional program being added. This program and building should continue to be added to and expanded on. Plans for additonal program and building should be accounted for.

PROGRAM AREA

ORIGINAL	SM
19TH CENTURY HALL	175
ENTRANCE LOBBY	290
MATSUKATA COLLECTION	1450
AUDITORIUM	220
RESTROOMS	75
ADMINISTRATION	764

ADDITIONS	SM
SPECIAL EXHIBITION (B)	1405
LOBBY (B)	307
AUDITORIUM (B)	215
LOBBY MAIN	290
MUSEUM SHOP	215
RESTURANT	200
19TH CENTURY HALL	175
14TH - 18TH CENTURY PAINTINGS	1450
MATSUKATA COLLECTION	1160
PRINTS AND DRAWINGS	190
ADMINISTRATION	2052
COURTYARD	845
RESTROOMS	150

IDEALIZED	SM
SPECIAL EXHIBITION (B)	1405
LOBBY (B)	307
AUDITORIUM (B)	215
LOBBY MAIN	290
MUSEUM SHOP	215
RESTURANT	200
19TH CENTURY HALL	175
14TH - 18TH CENTURY PAINTINGS	1450
MATSUKATA COLLECTION	1160
PRINTS AND DRAWINGS	190
ADMINISTRATION	2052
COURTYARD	845
RESTROOMS	150
CONFERENCE ROOM	*100-300*
LIBRARY	*200-500*
LOUNGE	*50-200*
MAKER SPACE	*200-500*

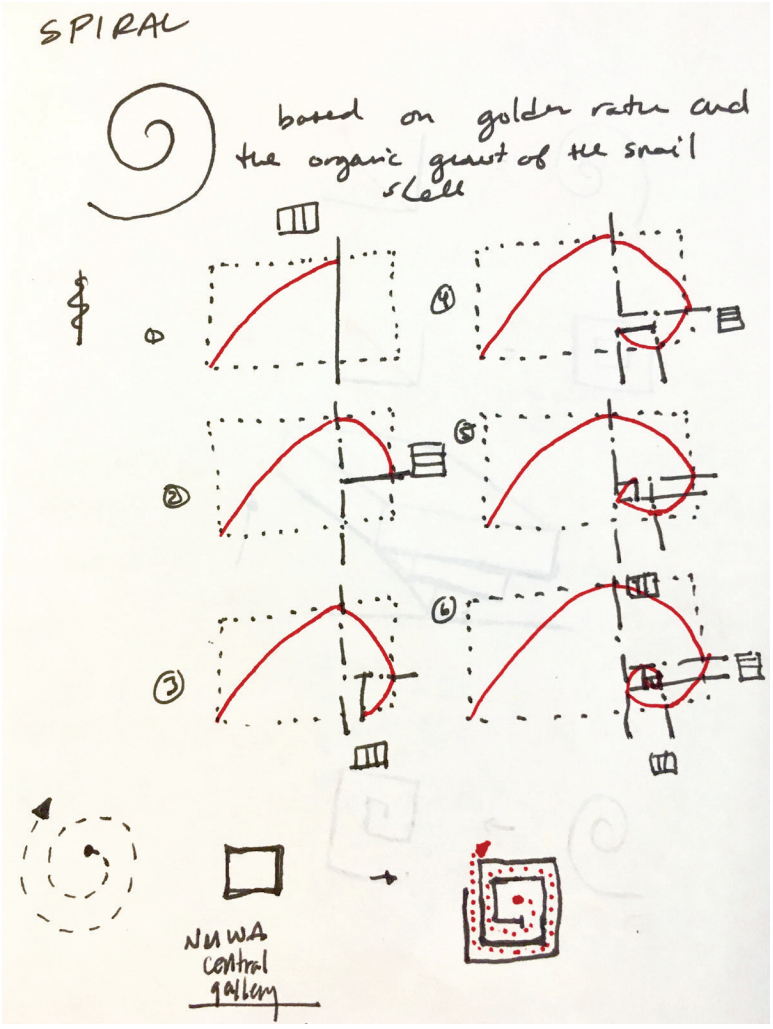
KEY
(B) - BASEMENT
SM - SQUARE METERS

CORBUSIER
DICESARE

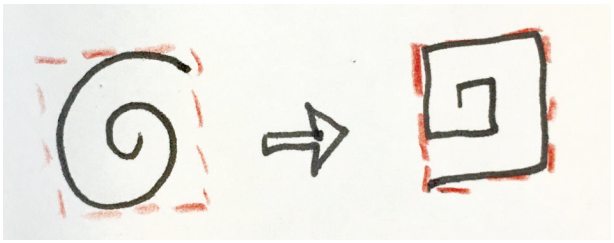
DIAGRAM AS METAPHOR (spiral)

The diagram of the National Museum of Western art can be broken down as a metaphor. The current building, with expansion art collection consists of three parts: 19th Century Art collection, 19th Century Sculpture collection and a new 14th - 15th Century Art collection.

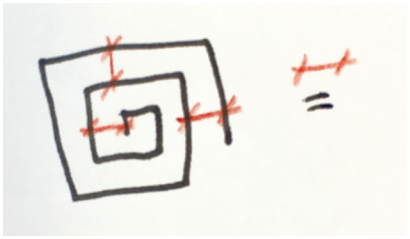
The spiral could represent to Renaissance. The Renaissance was seen as a time of unlimited growth and expansion. This makes it an appropriate metaphor to the original diagram for the museum of unlimited growth. However, the growth of the renaissance appears to be more of a parabolic growth, than a linear growth. Le Corbusier diagram for unlimited growth, has a linearity to its growth pattern, which can be seen as contradictory to the renaissance itself. The diagram of growth may be closer to the growth of the golden ratio diagram. Le Corbusier diagram has equal widths which may represent a more socialist, Utopian view to expansion in that growth is linear, constant, the same, equal, and not parabolic expansion.



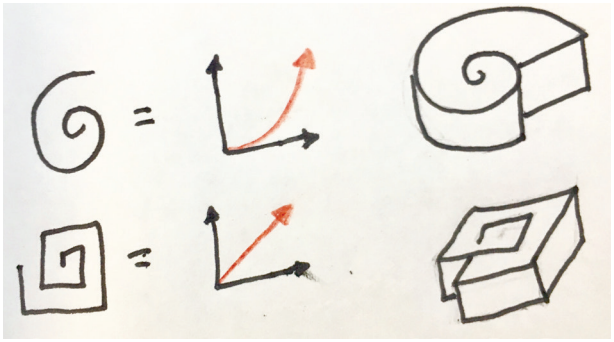
The spiral in the unlimited growth diagram originates from the golden ratio, and more specifically from the predictable growth of the snails shell



When the circular expansion of the snails shell is confined to a site, or a box, it shape becomes deformed to the shape of its confinement.

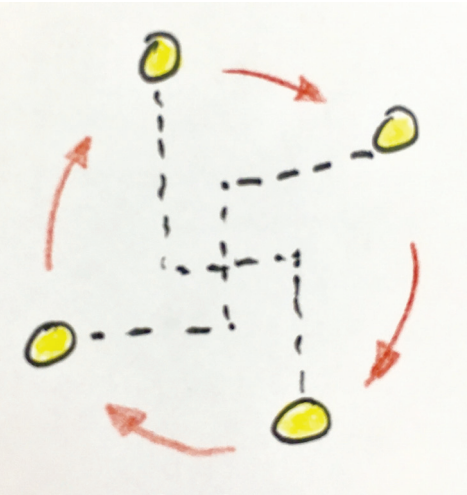


The growth of the spiral has equal width of growth through time. The unlimited growth is purely linear.

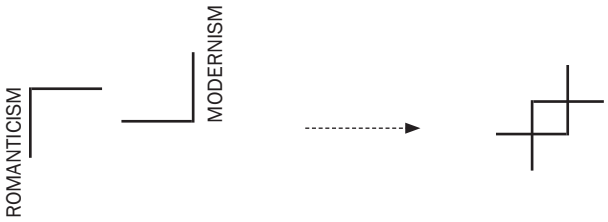


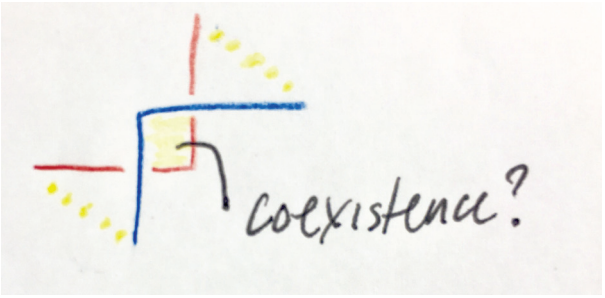
The difference between the golden ratio growth and Le Corbusiers growth is shown through the graph. The spiral shows parabolic growth, where the unlimited growth diagram is linear

DIAGRAM AS METAPHOR (pinwheel)

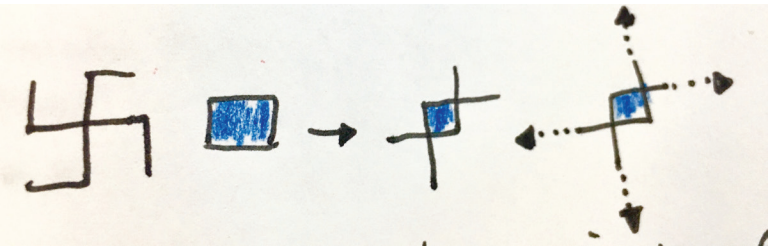


The pinwheel is a derivation off of the Hindu image of the swastika. The swastika represents the path and movement of the sun. The four points could represent the four seasons, and or the movement of the sun around the earth. The is the diagram that Corbusier overlays on top of the spiral diagram.



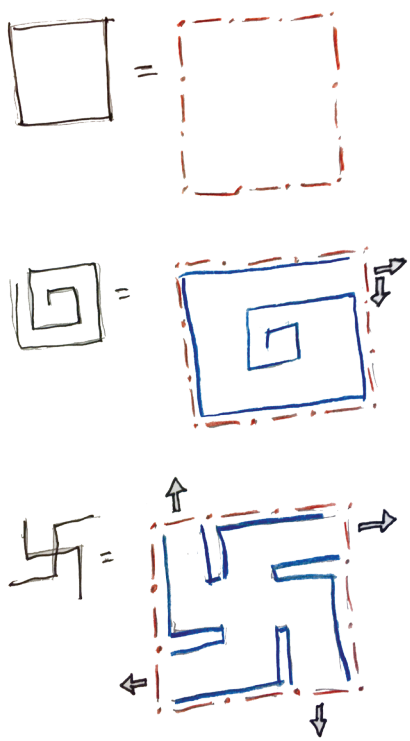


The diagram can be broken down into two parts. The 19th Century collection consists of two main phases of art, Romanticism, and Modernism. The broken down diagram can create a conversation between the two phases of art history.

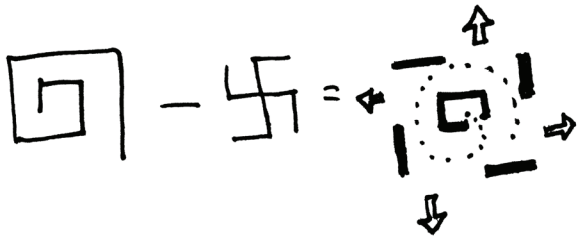


However, when the central sacred entrance space is added, the diagram transforms. This diagram cuts through the pinwheel and creates visual paths to the center . It also creates external expansion paths or directions based on the break up of the linear openings at the end of the pat. Could this be some kind of double helix?

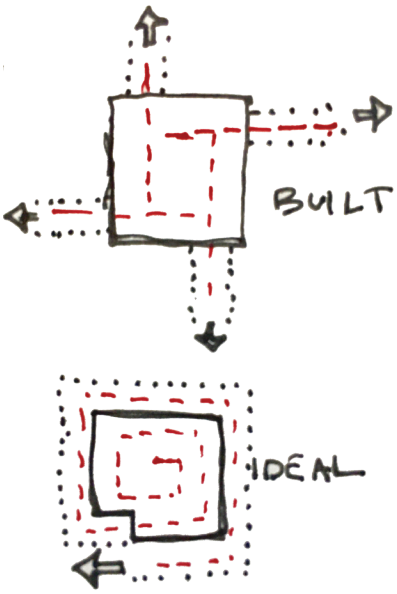
COMBINING THE DIAGRAMS



This diagram shows the different diagrams constrained within the lines of the boxed museum. It shows the opportunity of expansion and the limitations of circulation.

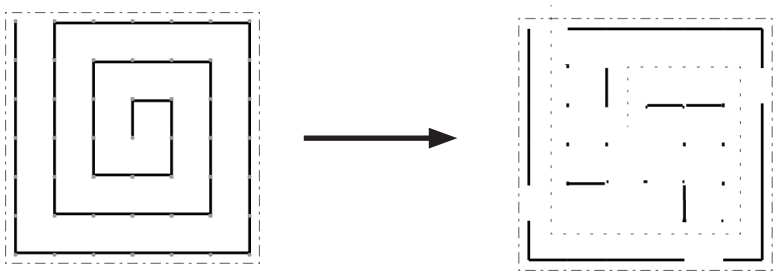


The diagrams are combines in a subtractive process. This subtractive process creates a more open floor plan and creates a more unconfined and in some ways a more uncontrolled space

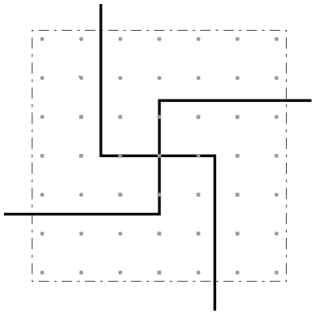


The diagrams combined in plan could create simple, elegant responses to the ideal circulation.

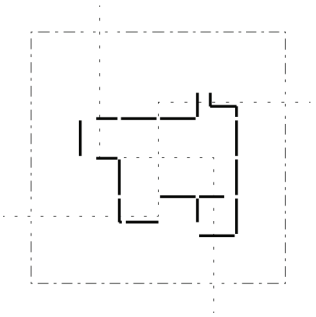
COMBINING THE DIAGRAMS



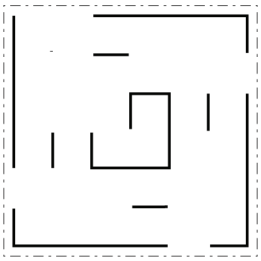
pinwheel



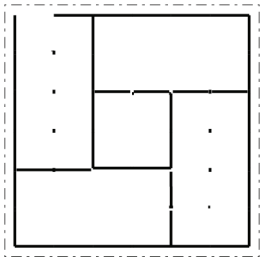
Tokyo 1



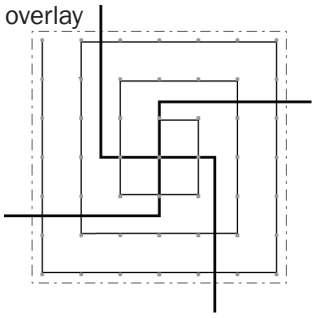
subtraction



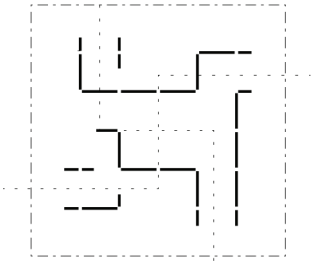
chrome



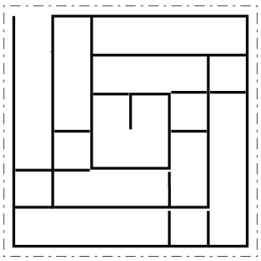
overlay



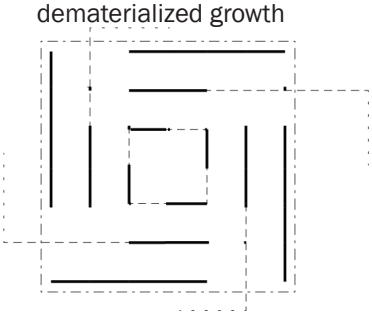
Tokyo 2



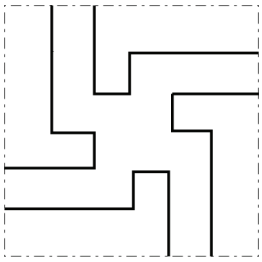
addition



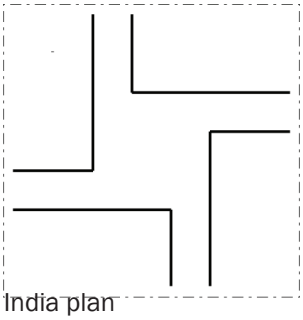
dematerialized growth



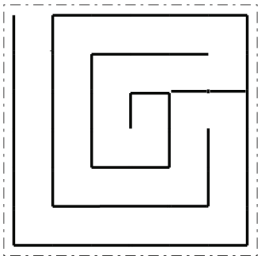
sight paths



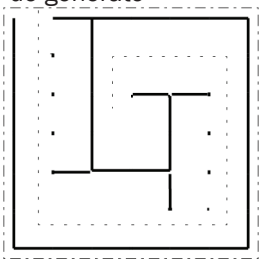
India 8 vs. Tokyo 7



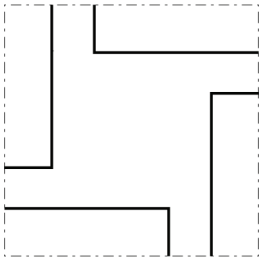
maze



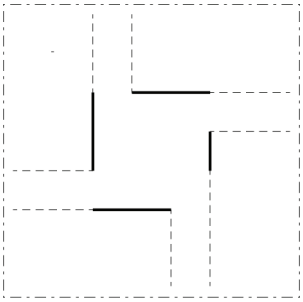
de-generate



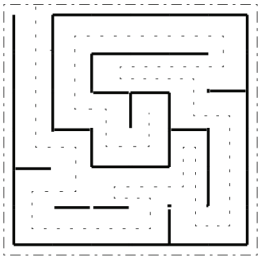
free plan



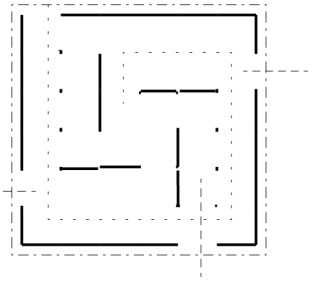
India plan



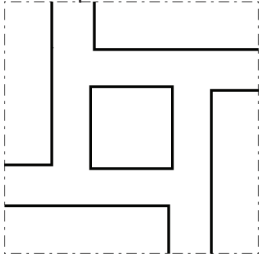
pacman



pinwhell



sacred space



linear

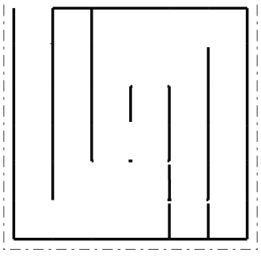
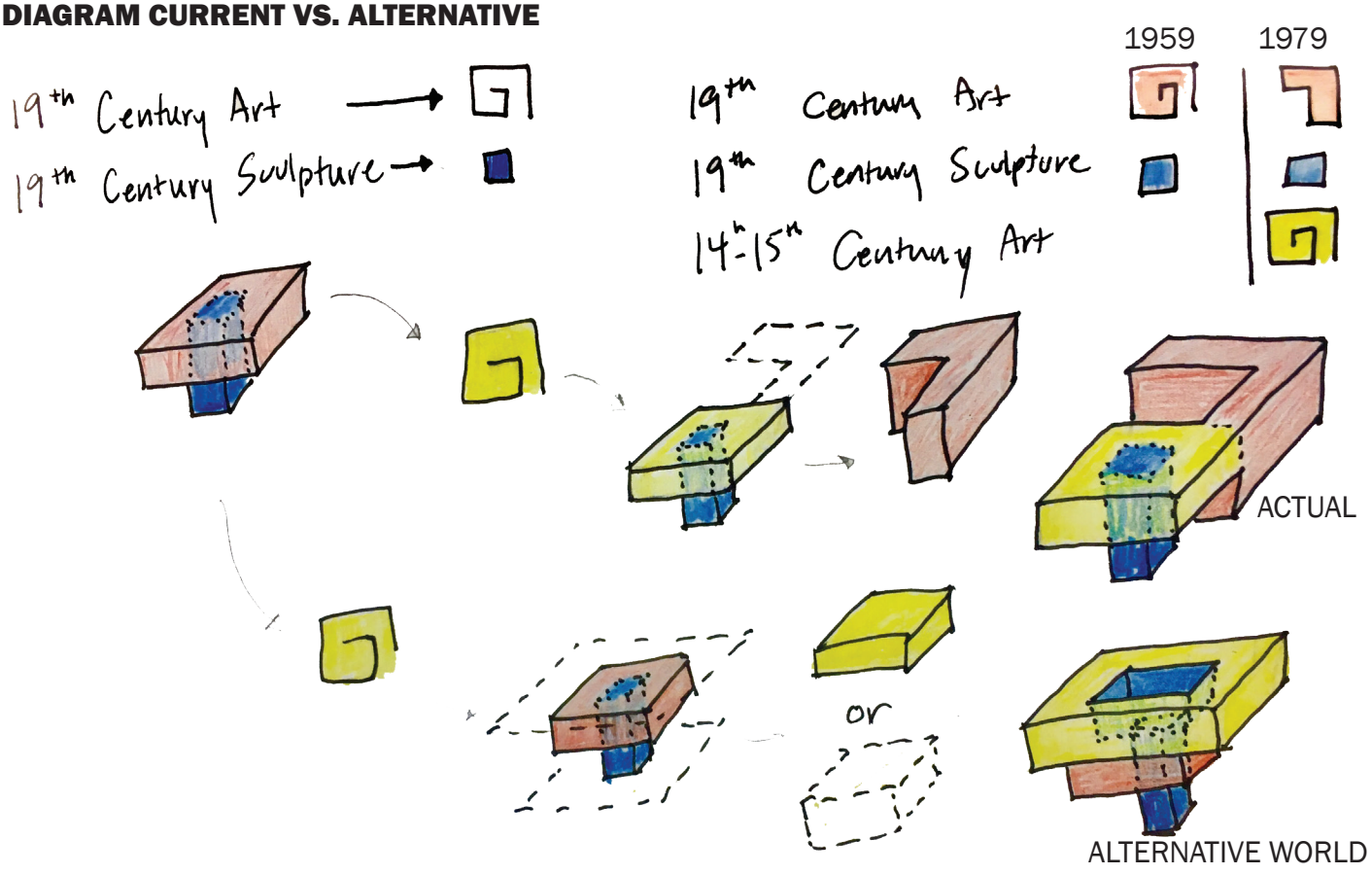
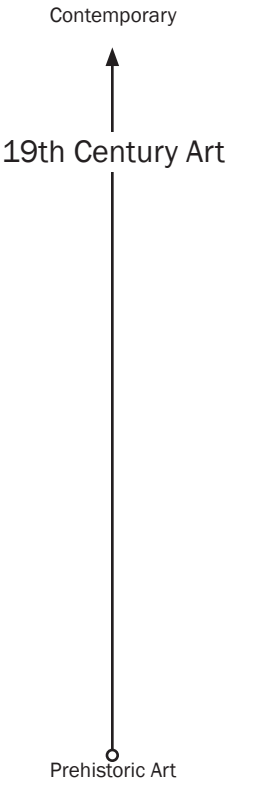
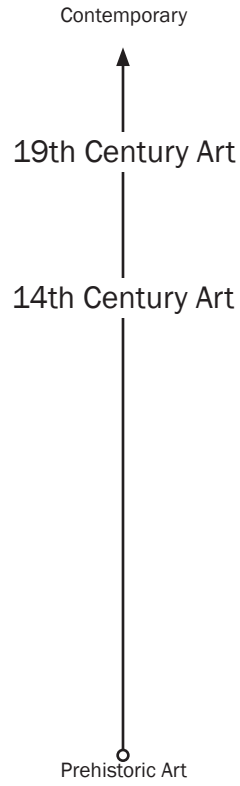


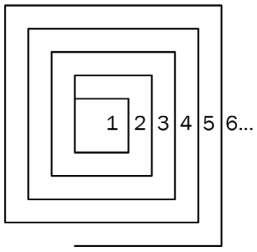
DIAGRAM CURRENT VS. ALTERNATIVE







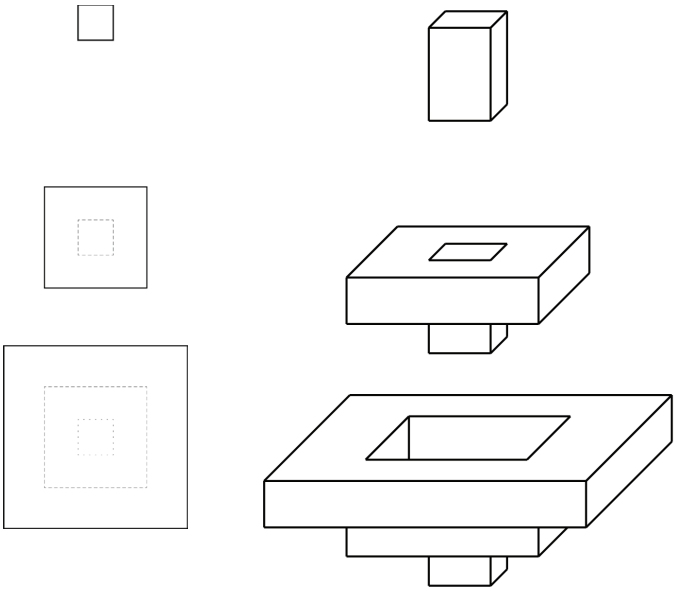
The main issue with the project is that the initial art program is not conducive to an unlimited growth diagram. The artwork was 19th century paintings and sculpture. In 1979, new program was added, which was 14th-15th century art. The solution made for this building was to displace the current art collection and push it to a new wing. The new circulation then flows, 19th century sculpture to 14th Century Art to 19th century Art. This alternative world pushes the diagram to its limit and respects the ideals of the diagram over the current building.

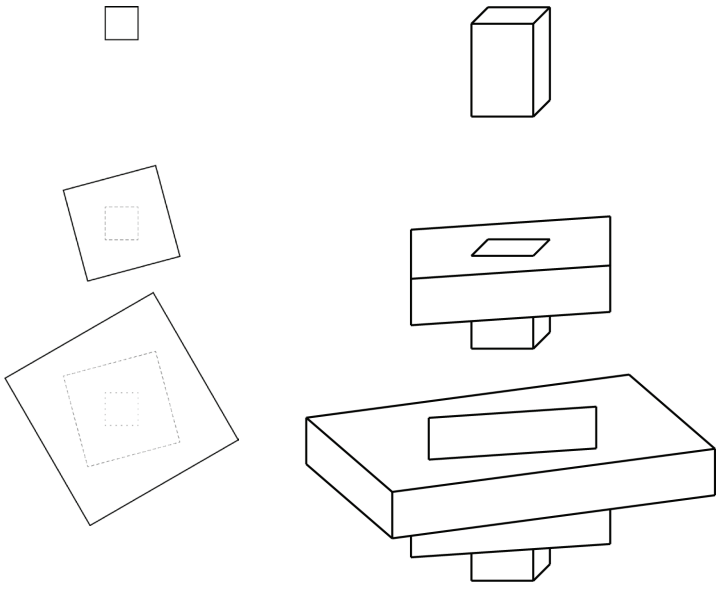


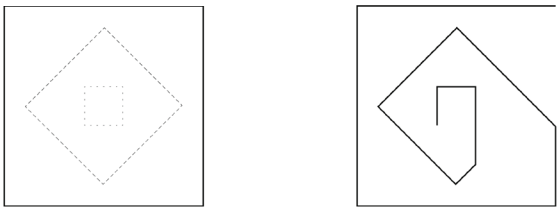
DEFORM THE DIAGRAM

The diagram could be deformed. In this study the diagram is deformed through rotation. The roation is made at 15, 30 and 45 degrees respectively. The dieagram, while expanding is also rotating. This can create different types of spaces. From the exterior the building begins to read movement. The current box that confines the diagram does not allow the building to be read as an expanding growth.

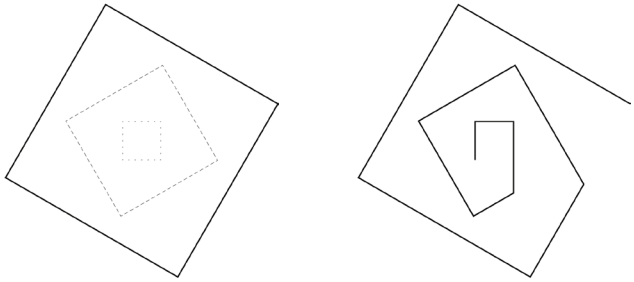
The rotation begins around a central spine which is the spiritual center of the museum. The rotation could be informed by environmental factors. Ideally, the museum will take advantage of natural light and other factors to create a more thermally comfortable space along with proper light venitlation for the artwork.



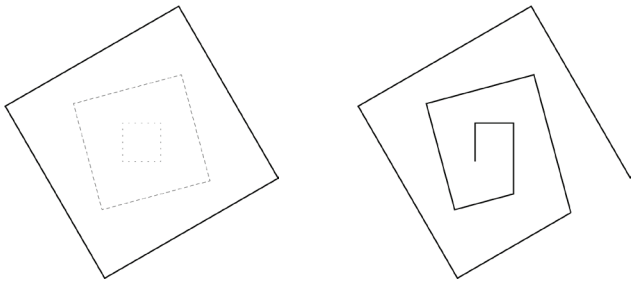




45 degrees



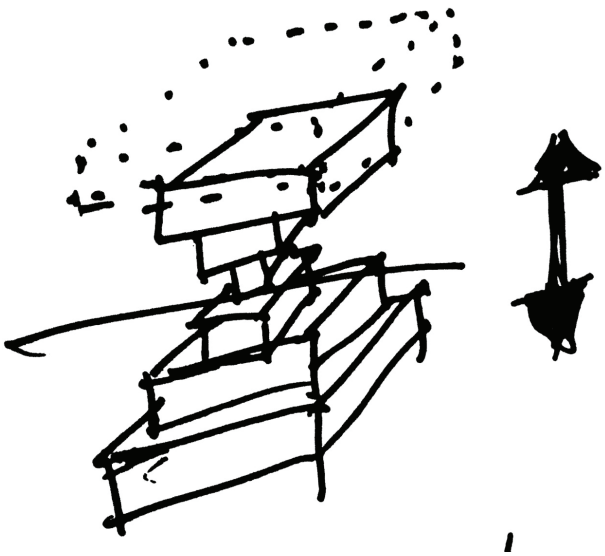
30 degrees



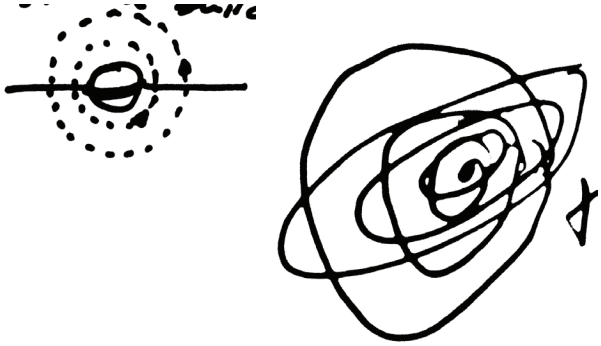
15 degrees

IDEAL TO 4D

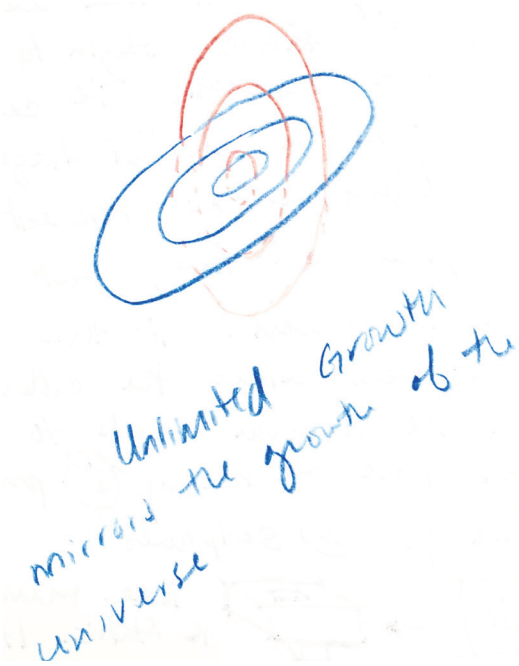
How do I get this diagram to the ideal? The metaphors of the spiral to Renaissance and lines for Romanticism and modernism seem too loose of an idea. Investigation into the original diagram and its larger idea seem to be the most viable for a new architectural solution. If this project is meant to deal with the collection itself, it may produce different results than investigating the ideal, why this program does not work for this diagram, and diagnose the issue, and find a solution for true unlimited growth. The current problem is the original museum in static and confined within its own box. It is only dealing with one time. The museum does not fundamentally have a beginning or an end. This is not what the ideal unlimited growth museum represents. All potentials of this design begin to disintegrate. The addition of the pinwheel over the spiral is a clear indication that something needed to change about the diagram to accommodate the current collection, and nothing else.



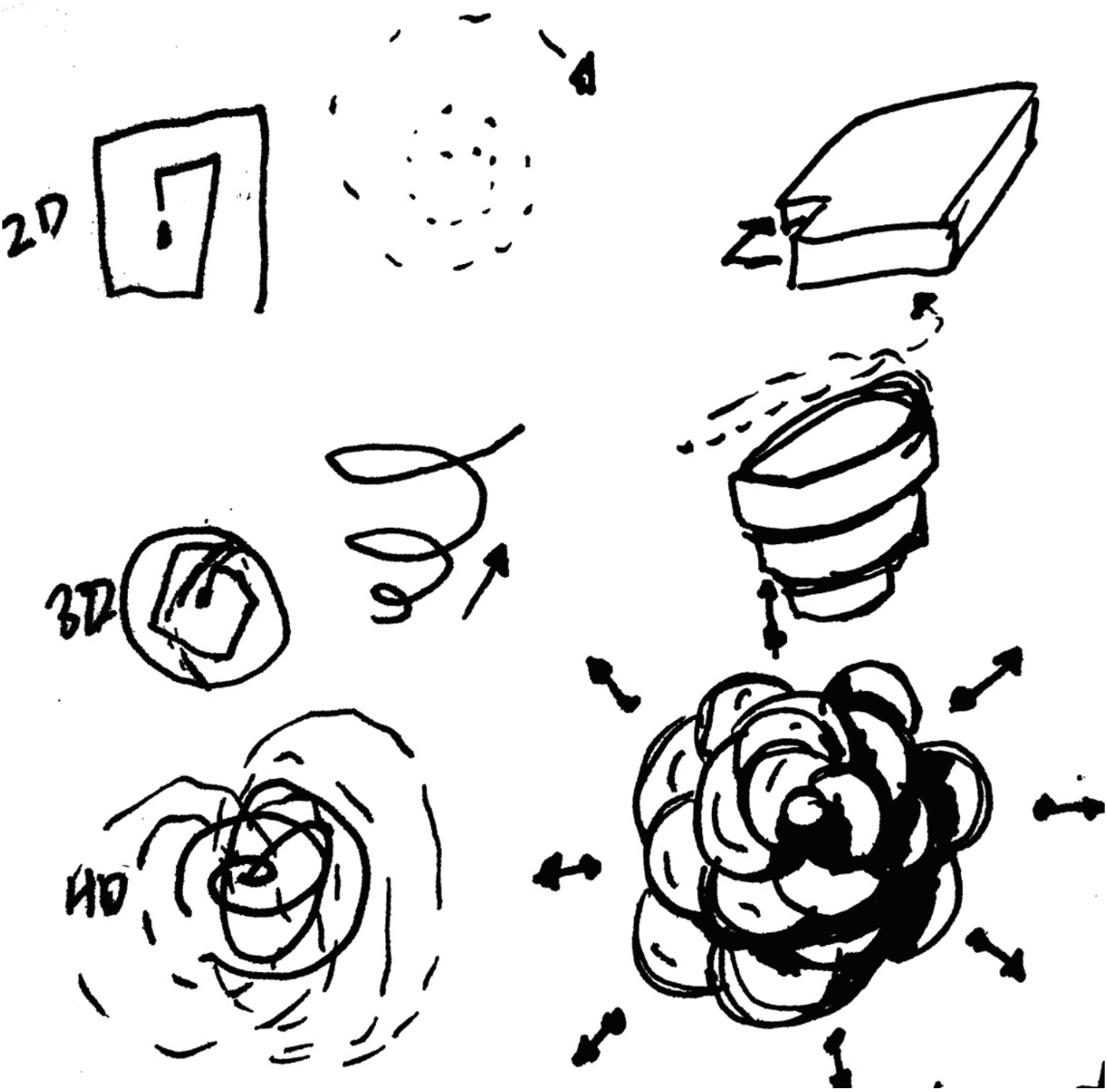
The museum, if ideal, needs to evolve and grow BACKWARDS AND FORWARDS. There is too much before, and too much in the future. The building has its set central spine, sacred 2 story space, of the 19th century sculptures. Building off of this, the museum must grow into the earth or up towards the heavens.

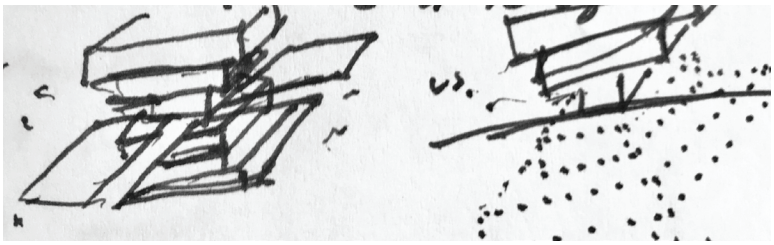


Unlimited growth cannot be in 2D. Unlimited growth must be in 3D or even 4D. This means the diagram itself is flawed.



Maybe unlimited growth is in the same factor of the growth of the universe?





With something that is underground, should it be in a pit or thoroughly submerged? The open air pit seems logistically play a better game with additional circulation opportunities.

The question lies on how do you expand further and further into the ground and on top of the building at the same time? Is this a question of construction? What do I let limit expansion or fight against the ideal diagram.

HOW DOES THIS DIAGRAM EXPAND FURTHER. AT WHAT POINT DOES THE DIAGRAM REACH ITS LIMIT?

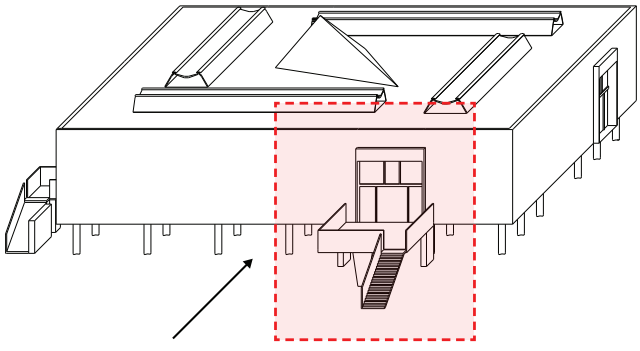
ENTRANCE TO THE MUSEUM

The center of the building is not a noticeable entrance. The question is whether it needs to be more noticeable, or if the issue is with the fronting of the faux stars. Some responses could be to have some sort of way-finding through the architecture or through lighting. I want to be able to keep the idea of the floating mass above the forest of columns. In any forest, there is a path. The modular grid may need to be broken up in order to get to the center.

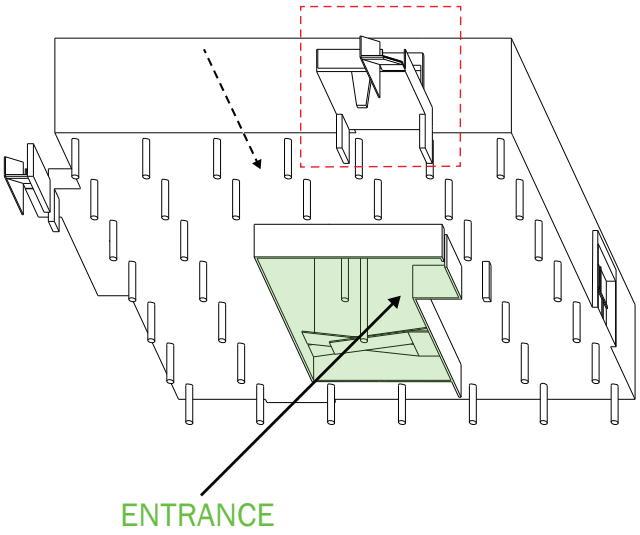
A bigger idea that is part of the pedagogy of museums is not “fronting” the museum. I believe that the diagram for the museum does not have a front. So there has to be a way to work without a front and have a way into the building.

Additionally, the large “apertures” on each side of the building and the stairs are punt in the “front” to break up the static front. This is an improvement on the Museums in India, however this is creating a false front, and in my opinion confusing on the idea of the entrance. I would like to use this perceived external circulation and not just have the stairs as sculptural aesthetic piece. Ideally, these external “entrances and exits” would be used to make a clear entrance or exit. The external circulation may become critical in smooth circulation in and out of the museum.

OBLIQUE PROJECTION

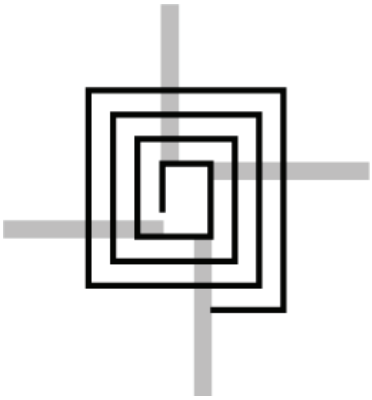


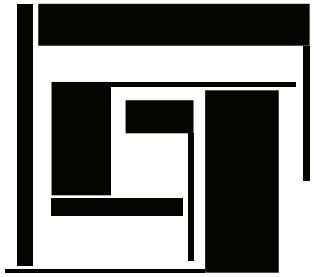
WORMS - EYE OBLIQUE

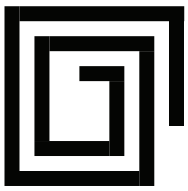
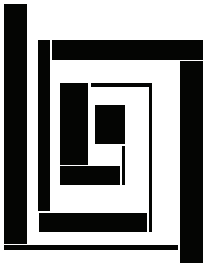
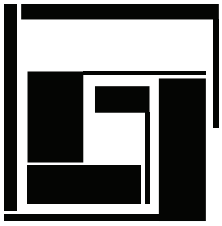
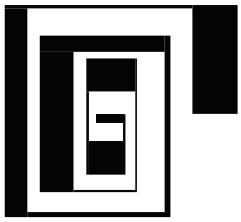
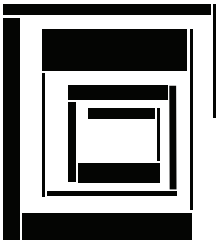
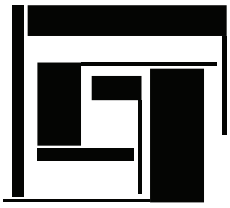
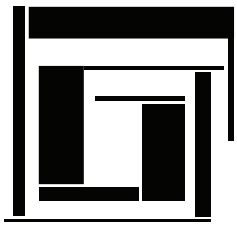
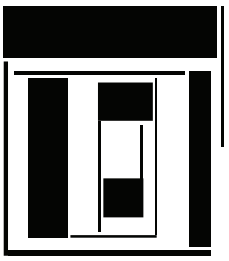
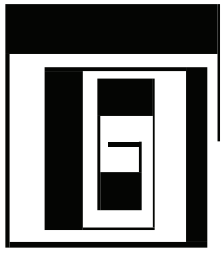
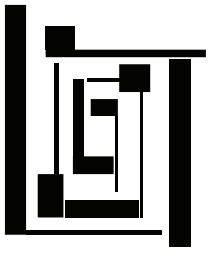
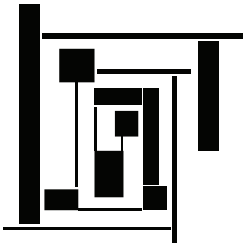
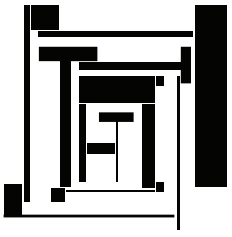


POCHE PLAN

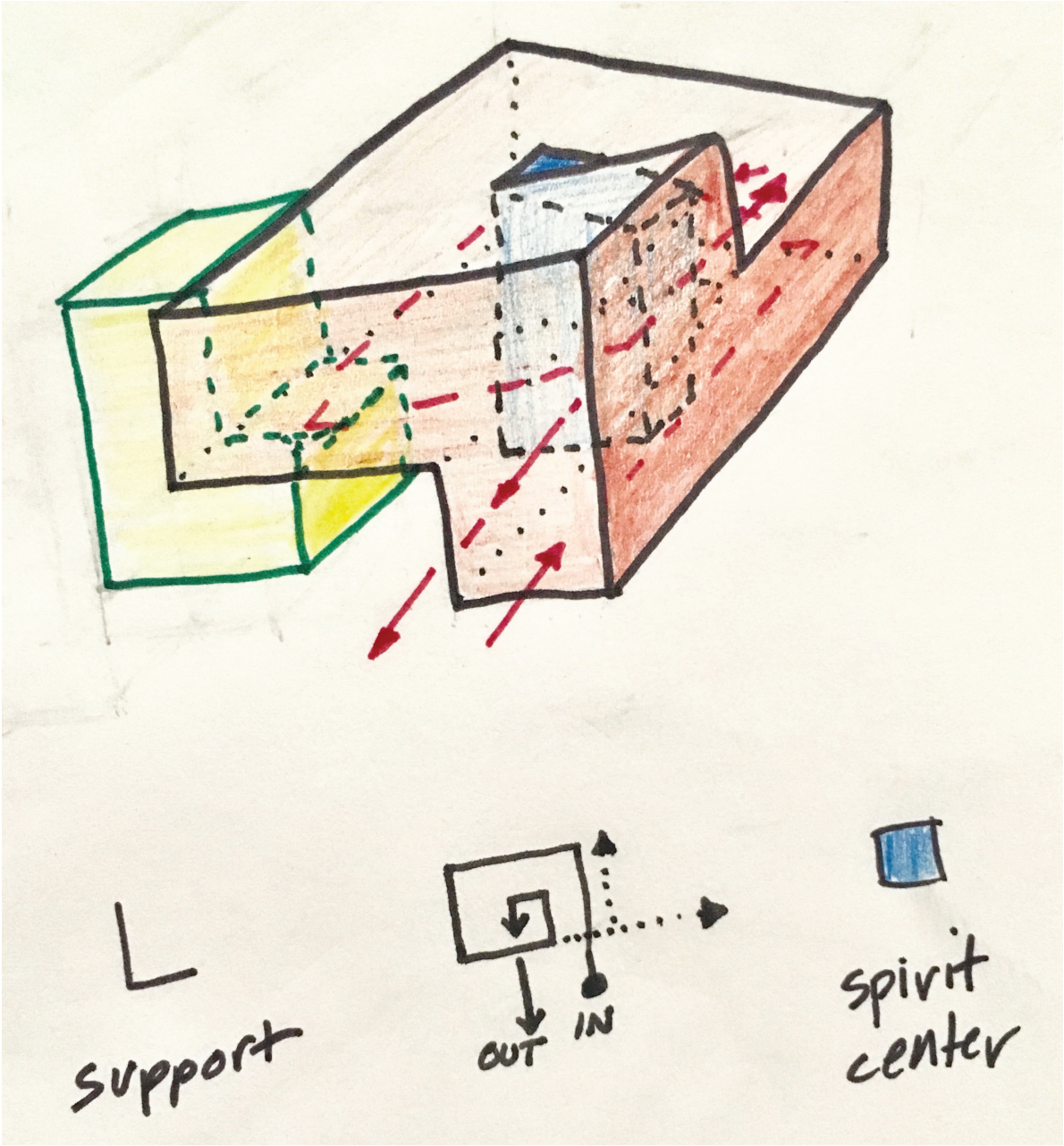
The spiral plan does not account for the additional ancillary program In order to account for all of the additional program the spiral is deformed and mutated to accomodated for the additional program within the pocheof the spiral. The poche created opportunity for program, light and structural elements. Holes and passthroughs are created cut throughs and moments of visual access and alignment. Additionally, the poche creates moments where the patron may not know if they are moving next to a standard wall or a full room. This illusion will add to the mystic of the expreience.





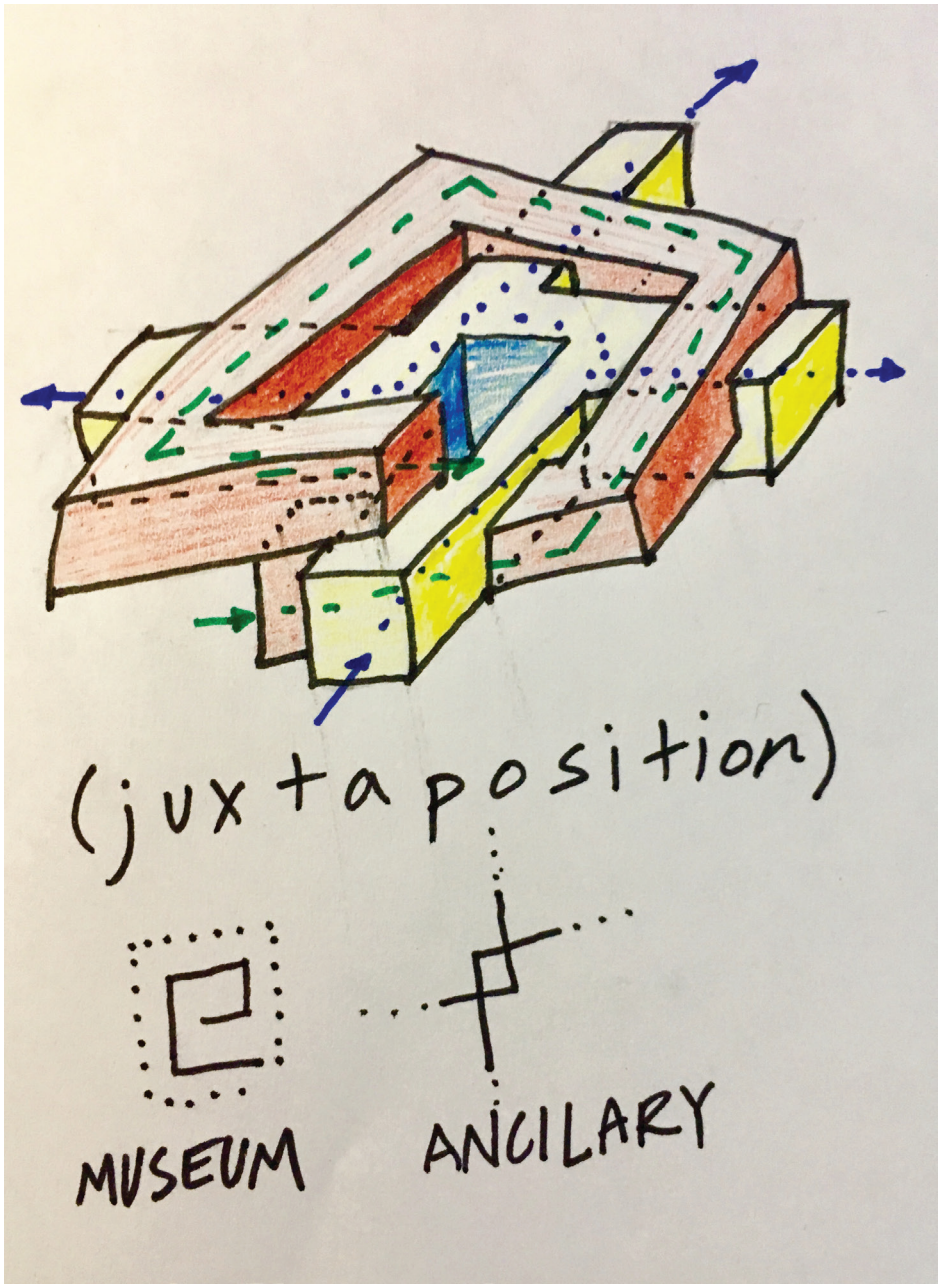













ESQUISSE



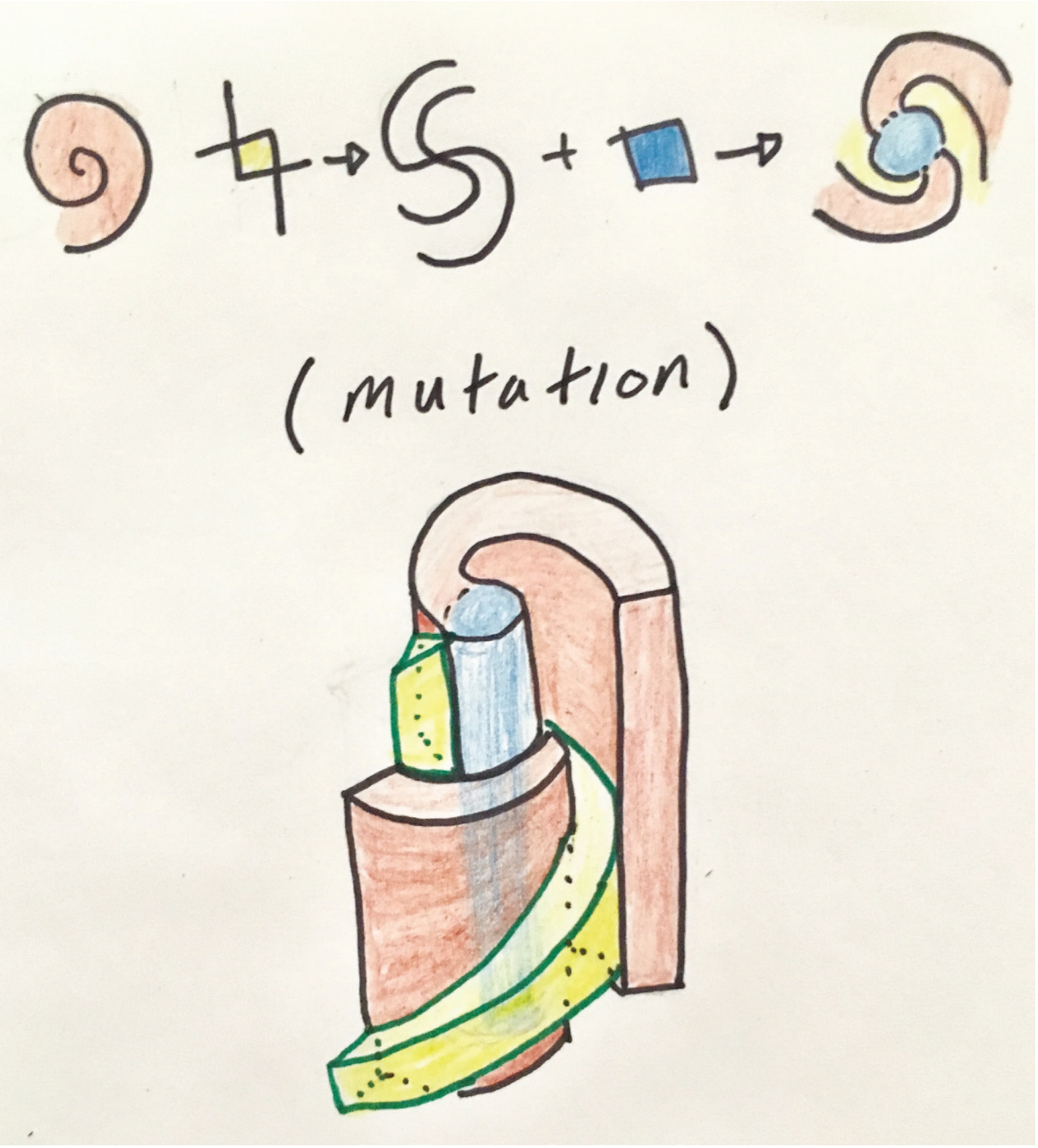
Spiral Centric

In this version, the main focus is the museum spiral. In the initial diagram the spiral dominates for the museum and the pinwheel is made for additional non museum program. This version exemplifies the spiral museum with support program literally supportin the expanding museum. Circluation begins in the front of the building and exits outdoors through the spiritual center bringing the person back down to earth.



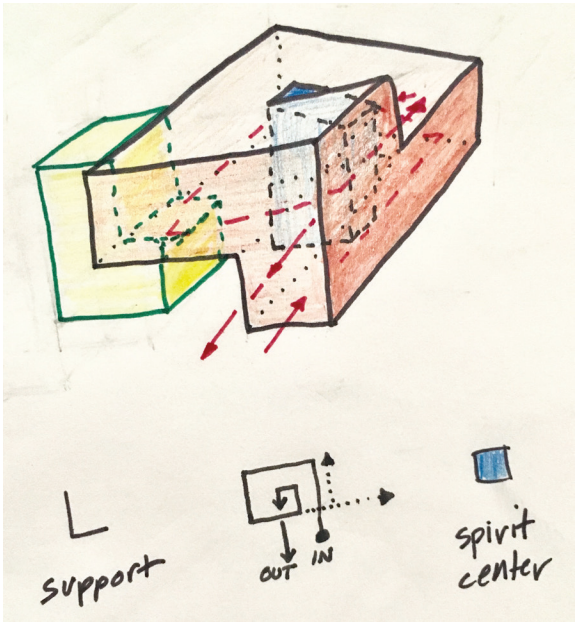
Juxtaposition

This building has the two initial diagrams shoved into one another. This is a more crude version of the diagram. However, the diagram is more well read from the exterior. The diagram is the building. The circulation of this project has points of bumping into and around one another to create a more literal conversaion between the diagram and the program within the building.



Mutation

This building begins to deal with the idea of a new diagram. This is an equation that creates a mutation or a next generation of the diagram. The program are intertwined within one another in a double halix mutation. THe pathe would be linear up and down. Currently this shows program in two clear divides, however the building could start to blend together in a more organic way.


support
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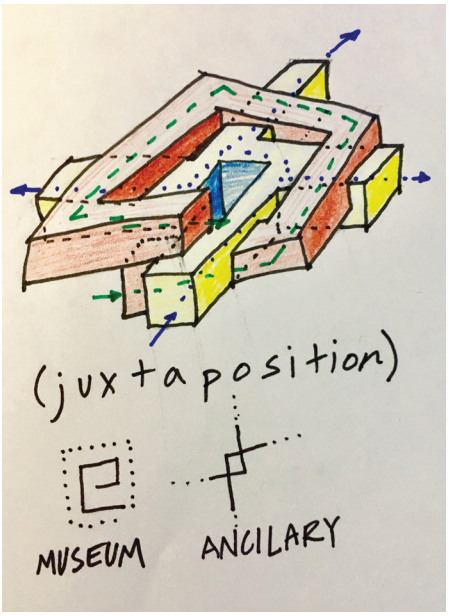
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MUSEUM
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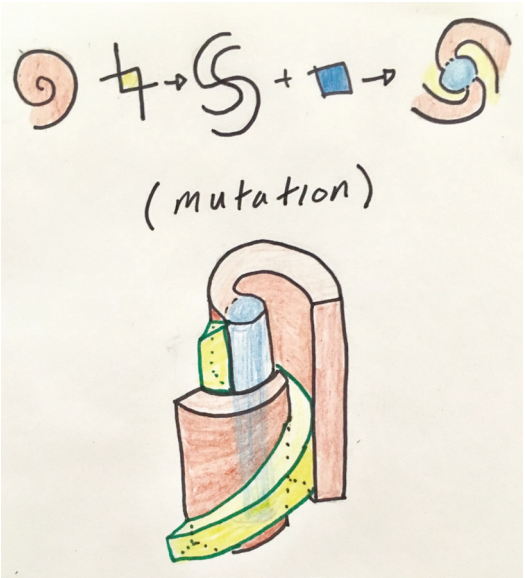
(mutation)

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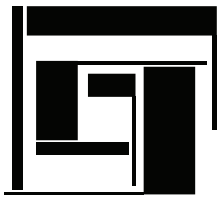

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