

VILLA MAIREA BY ALVAR AALTO

PRECEDENT STUDIES OF MODERN ARCHITECTURE

ARCHITECTURE CULTURE AND HISTORY II (ARC 60203)
SCHOOL OF ARCHITECTURE BUILDING AND DESIGN
Centre for Modern Architecture Studies In South-East Asia (MASSA)

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1.0 INTRODUCTION

ARCHITECTURE CULTURE AND HISTORY II (ARC 60203)

PRECEDENT STUDIES OF MODERN ARCHITECTURE

The Project requires students to conduct an investigation on the Modern Masters and major influences that led to its development and in turn its influence in other architectural aspects. For group submission, students are required to compose and present their findings that include general information, concept and the architectural details in the form of plan, elevation, section, detail sketches and short annotations using a presentation board. Photographs may be included. Each student is to be assigned specific building.

The individual component analysis is about answering the 'why' questions to further understand the underlying concepts and philosophy of the Modern Masters by using the physical evidence gained from group analysis. In the Analytical Essay, students will be required to write a comparison analytical essay of their chosen Modern Master with another Modern Master. We need to elaborate on how it assigned the building reflected the architect's philosophy and how does it differ or is similar to the other architects philosophy?

2.0 GROUP MEMBERS

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3.0 Biography: Alvar Aalto



Figure 3.0 Portrait of Alvar Aalto

Hugo Alvar Henrik Aalto was a Finnish modern architect, and artist. He was born on 13th February 1898 in Kuortame, Finland. Aalto started off his career as an artist, painter and sculptor. He furthered his architecture studies during the Civil War in 1918

Aalto was known as the “Father of Bentwood Furniture”, as he worked closely with his wife Aino Aalto in producing new techniques of bending wood and transforming them into works of art that he incorporated into his designs. His architecture style varied throughout the years of practice. He started off with Nordic Classicism, and ventured into more functional and monumental buildings in his later years.

1. Nordic Classicism

is a type of classical architecture that blossomed in Nordic countries like Sweden, Denmark and Finland between the years 1910 and 1930. One of the buildings created during this period was the Sejnajoki Defense Corps Building in 1924.



Figure 3.0.1 Sejnajoki Defense Corps Building

2. Functionalism

Aalto quickly shifted from classical architecture to a more modern approach during his functionalism period. He emphasized more on function compared to design aesthetics. The Auditorium of Viipuri Municipal Library is a perfect example of this period.



Figure 3.0.2 The Auditorium of Viipuri Municipal Library

3 Experimentation

The experimentation period was when Aalto started to become more active in organic architecture. He started to experiment with laminated wood, making sculptures and abstract reliefs. He also incorporated a lot of bentwood techniques in his architecture during this period. Aalto explored with irregular and organic shapes for example the Baker House in 1948, and the Auditorium of the University of Helsinki in 1949.

One of his most renowned works during this period was also the

Heilig-Geist Church in Germany.

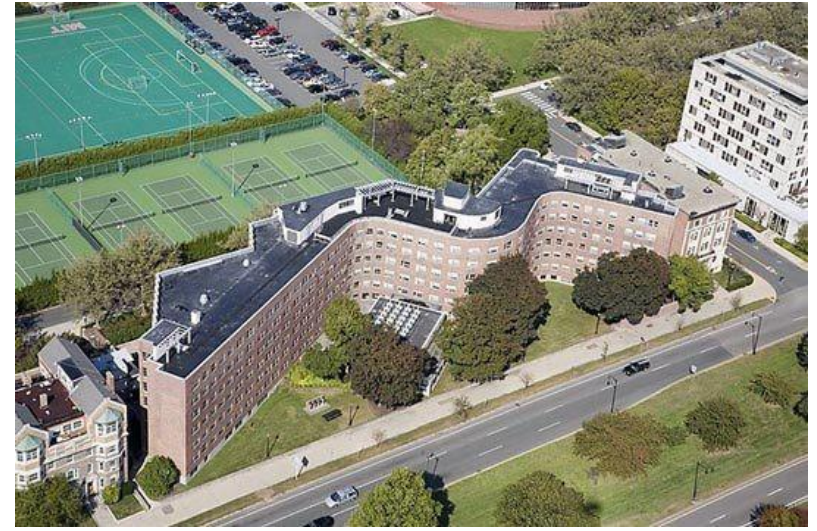


Figure 3.0.3 Baker House



Figure 3.0.4 Heilig-Geist Church in Germany₇

4 Monumentalism

His last and final years were dedicated to monumental buildings. During this post war period, Aalto's buildings were more industrial and concrete compared to his previous years. Most of designs are for the public , in order to give back to the society for what was lost in the war. One example was the Finlandia Hall in 1962.



Figure 3.0.4 Finlandia Hall in 1962

4.0 Villa Mairea

Villa Mairea was built from 1938 to 1941 and was considered as one of Aalto's most significant works of all time, because of its intricate detailing and form. It is located in Noormakku, Finland and was designed for Maire and Harry Gullichsen. It functions as a private residential area and a guest house. Aalto was also given complete freedom in designing the house, so Villa Mairea was considered as an experimental house- as he was able to truly express his aesthetics in this building.

The house itself was inspired by Frank Lloyd Wright's Fallingwater. Just like Wright, Aalto tried to persuade his clients into building the house over a stream. He applied the concept of free form and nature in this architecture,

and used organic form that is in direct contrast with the modern world. The house itself was also an L-shape- this is to distinguish the spaces of public and private accommodation.

Initially the design was a square shape with an enclosed courtyard, with a separate art gallery for Maire. But later during foundation works, he decided to change his design- combining the art gallery with the living area, because he believed that art should not be separated from the day to day life.

5.0 Massing

Prepared by Adibah Awang

5.1 Massing

Villa Mairea was truly a one of a kind piece of artwork from Aalto. It's intricate forms and shapes can be seen as early as its massing. This specific villa was a bit challenging for Aalto himself, as he was given complete freedom in expressing his aesthetics in this project. Aalto pushed for individualism. He believed that each person requires different needs and necessities- therefore mass produced houses should not be the way to go.

The general idea seems to be that there is a distinct contrast between small-scale mass-produced housing on the one hand and residential buildings designed according to the needs of the individual, on the other. Special one-off houses have thus, in a way, been left outside the trend

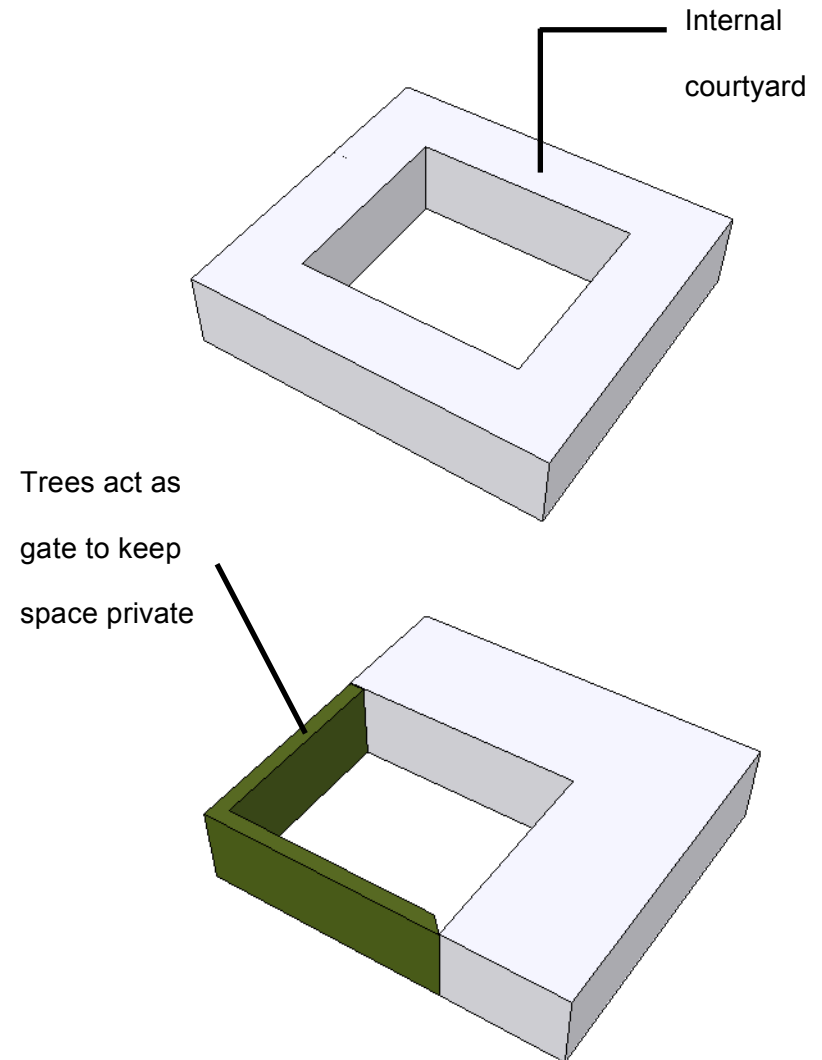
which has made the production of small dwellings the main social issue. However, there are circumstances in architecture where individual lifestyle, personal instincts and cultural concepts form the basis for the commission can have unique, far-reaching, even social significance, in the long term. This points the way to a new individualism; what with the continuing development of production machinery and improved forms of organisation, this will make more flexible consideration of the individual possible, even in places where the still partially developed machinery of our primitive mass production leaves its mark on housing today. One-off architectural commissions can be used as experimental laboratories where things can be done which are not possible with today's methods

of mass production, but which will gradually spread further and become available to one and all as production methods advance. (Aalto, 1986, p.154)

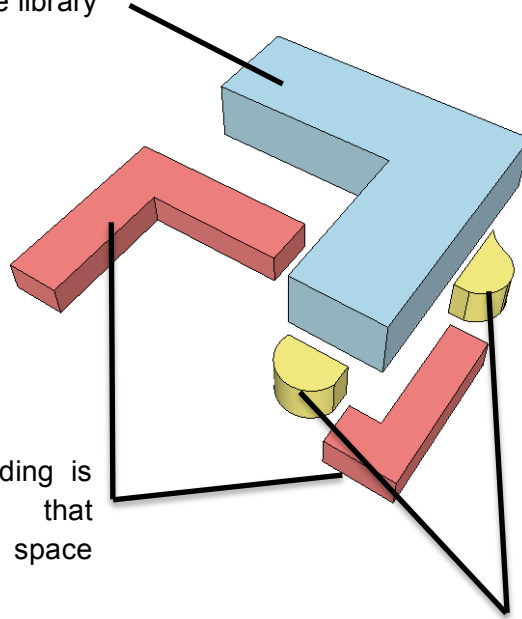
In his first few stages of design, he tried to combine geometric planes of different shapes and sizes into one solid form- similar to his main inspiration throughout the project, which was the Fallingwater by Frank Lloyd Wright. Besides expression through geometric forms, he was also inspired by the surrounding nature – which was further interpreted in his sketches and design.

Through these two main inspiration sources, Aalto decided to combine these elements together in creating Villa Mairea. Since the villa was dedicated to an artist- which was Maire Gullischen, he designed an art gallery to display some of her works within the compound of space. Initially, the gallery was separated from the main living area. The gallery and main living area encloses the courtyard in the center making it an internal space.

While the foundational works progressed, Aalto then suddenly decided to change his design- as he was dissatisfied with the fact that people had to separate their lives from art. He believed that it should live hand in hand with daily activities, hence combining the two spaces together. This finally resulted in an L-shape plan that fixes the final form of the building. The L-shape plan allows more freedom for the user to experience the entire space without having to worry about privacy, since one side of the building will be enclosed, but still allowing a fantastic view of nature. The surrounding greeneries act as a gate or boundary that will still keep the place private, even though it is slightly exposed. Besides that, Aalto also decided to change the shape of the roof, from a curved line to a horizontal line.



Addition of other smaller I-shape forms that make up spaces like the outdoor walkway and the library



Main form of the building is the I-shape plan, that encloses a private space within it

Addition of organic shapes that adds more aesthetic values to parts of the building such as the studio, and the main entrance

From then on, Aalto started to build up the form of the building by adding other geometric elements to it to make up the spaces in the building. Smaller L-shape forms

were added to make up additional spaces such as the terrace/outdoor walkway that leads up to the sauna, and the library. These elements can be seen protruding out from the main body of the building. Furthermore, Aalto also added organic forms to other parts of the house, such as the studio and the main entrance. One of them, took shape of a piano and further developed into part of the building. The swimming pool and the rooftop can also be seen to have these organic features to it. These elements proved that Aalto was not simply about functionalism, he believed in the aesthetic values of architecture, art as well as harmonizing his works with the surrounding. According to him, "We should work for simple, good, undecorated things" and he continues, "but things which are in harmony with the human being and organically suited to the little man in the street." (Aalto, 1957)

5.2 Comparison (Mies Van der Rohe)



While Aalto focuses more on aesthetics, and intricate detailing, Mies Van Der Rohe- on the other hand, stresses more on the principle of, “less is more” . Mies Van der Rohe focuses more on basic, rectangular shapes and kept ornamentation to a minimum- focusing

more on the structural detailing, and the function of the building itself. A lot of his buildings were simplistic in form, yet elegant because of the wise choices of materials and structure.

Barcelona Pavillion (1929)

The German pavilion in Barcelona was one of his greatest design to date. It poses as an elegant and sophisticated building, with open spaces, simple massing and materials. Although both Aalto and Mies Van der Rohe directed towards the same purpose, which was nature and how the building assimilates with nature- they both have very different approaches in achieving this goal. Van der Rohe stripped the massing of the pavilion to its bare minimum, using only basic rectangular forms, and very little enclosures to allow seamless flow between the outside and the inside. Aalto, however used an L-shaped building with large openings, and timber, to bring

the outside in. Besides that, in Aalto's building, he used multiple forms to make up a space with different programs and function, while in Van der Rohe's pavilion, he used very few but multifunctional spaces.

Farnsworth House (1946-1951)

The Farnsworth House was another example of minimal yet exquisite architecture by Mies Van der Rohe. It only comprises of a transparent box supported by steel columns. This house is a direct contrast to Aalto's Villa Mairea. The Farnsworth house was basically made up of one single rectangular form, divided by walls- while the Villa Mairea was made up of organic forms, in addition to its three basic L-shape forms. Besides that, the Farnsworth House's massing was mainly made up of a combination of parallel lines, while Aalto's villa consists of a mixture of both horizontal and vertical planes that creates a complete space.

Although these two architects have different approaches and principles, their main reason for building that specific house in the first place remains the same, which was to assimilate and become one with nature. The Villa Mairea sprawls up to a large amount of space, allowing a lot of room for social activities with the existence of terraces and courtyards. Aalto's main focus was to let the user interact with nature as much as they can, by opening parts of the building towards nature. Most of Mies Van der Rohe's design, on the other hand focuses more on simplicity and letting the building speak for itself. He doesn't allow the form of the building to overpower the natural context surrounding it. That's why he chose to use basic rectangular forms, and opening up most of the façade to allow users to interact with the nature surrounding it. At the end of the day, it is

essentially the same principle, with two different approaches.

Summary

Alvar Aalto	Mies Van der Rohe
Believed in the concept of art, and aesthetic values- therefore making his designs more elaborate with ornamentalations.	Believed in the principle of less is more, making his buildings more simple, with very few or no unnecessary ornamentation. Everything revolves around functionalism.
Building forms consist of collage elements, with a combination of geometric forms and free forms.	Building form consists of a combination of horizontal and vertical planes
Connected with his surroundings through the	Tried blurring the lines between interior and

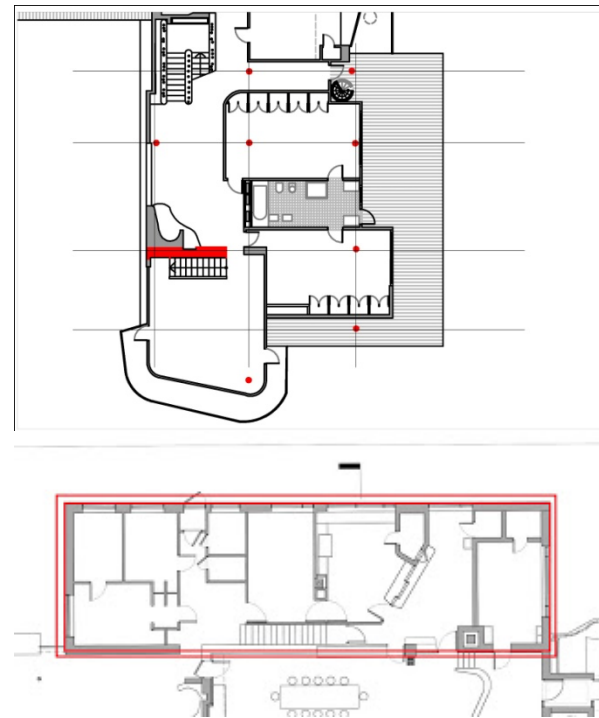
choice of material, positioning of columns, and added ornamentalations that replicate nature.	exterior by using free plan, and large openings like the Farnsworth house.
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6.0 STRUCTURE, CONSTRUCTION, AND MATERIAL

Prepared by Muhd Azzam

6.0.1 VILLA MAIREA by ALVAR AALTO

Villa Mairea is structures that build in the middle of pine forest to the old Noormarkku, Finland that have been construct in 1938-1939. It is a two storey residential building with an L-shaped composition that is interlocking with each other. For the building structure Alvar Aalto use reinforced concrete as the building was build in the early of industrial revolution, he also combined of symmetrical, free form and three of the organic shape which are the swimming pool, the studio and the entrance canopy. Beside that he also makes a deliberate collage on the exterior wall of the building using timber stick to show the image of the modern movement and art as he an artist. For the open living room Alvar Aalto planned it around a rectilinear structural grid whose dimensions are adjusted to suit the disposition of rooms above.





Figured 6.0.1a

For the material of the Villa Mairea, Alvar Aalto give a full interest to the materiality, he just not simply allow an unprocessed material in his design, instead he used material that derived from the nature to produce their natural mood. Besides that, because of the building was experimental building he often to put variation of material in the building. Next he also used materials derived from nature to produce their natural feeling. The materials that we can find in this building are reinforced concrete, red pine, brick, timber, steel, stone, tiles cement, glass, and many more (figured 6.0.1a).

For construction Villa Mairea mostly focus on the column as it is one of the important element that make the design of the building interesting and different with another building, just for the column it have around six different types of column that been construct randomly and free form inside and outside of the building (Figure 6.0.1b),



Figured 6.0.1b

so basically for the construction columns it have four basic of construction, for the first column called single beech-clad and triple beech-clad column, both of it been construct in the same way which is a metal for the form, reinforced concrete for the structure and cooper beech cladding that secured by brass wire around the column

for the design of the column. The second type of column was called rattan wrapped column, basically it has the same construction of the first column but have a difference exterior design which been wrap by rattan instead of cooper. The last two columns has the simple construction that only use timber poles that been stack random and some of been stack on the stone. Beside that the construction of the timber roof that rest on the concrete beam and been supported on metal column that painted by white color also really unique construction method for that era (figure 6.0.1c), this construction can be found in the sauna path way.



Figure 6.0.1c

As Alvar Aalto inspired by Japanese bamboo scene, he often to stack a timber pole with random pattern, for example we can see it on the staircase and near of the inside of the main entrance (figure 6.0.1d)



Figure 6.0.1d

from this we can see that Aalto want bring us the feeling of being outside to the inside of the house, beside that he also use the poles that he make to define space and remove the element of wall that been replace by poles.

6.1 COMPARISONS: STRUCTURE, CONSTRUCTION, and MATERIAL

6.1.1 BARCELONA PAVILION BY MIES VAN DER ROHE

The structure of Barcelona Pavilion was really difference if we want to compare with Villa Mairea because most of the structure that Barcelona Pavilion was a geometry form with minimalist style that have simple geometry plan with steel frame, glass and polished stone. Though, the structure was more of hybrid style, that some of the plan also acted as a supports. Beside that Mies also create a structural grid to conceive a regular counterpoint to the independent spatial disposition of the free plan. He also create eight steel column that been stack a cross the flat roof. Next, he use a big glass not simply to serves the pattern for the laying travertine pavers, but also to serve an original framework of working system for interior walls. For the construction of Barcelona Pavilion by Mies Van

Der rohe, he use steel frame that made by chromium-plated frame with glass and difference type of polished stone that stack to the roof, this is show how model and luxurious the Barcelona Pavilion it is considering the era of the building. Beside that he also makes a lot of open space and big glass window to create a feeling of nature and open space to the interior. Next, the material that we can find in the Barcelona Pavilion was glass, steel, reinforced concrete and four variations kind of marble such as Roman travertine , green Alpine marble , ancient green marble from Greece and doré onyx Atlas in Africa. The material that Mies put on the pavilion was playing a big role, for example the marble make a symmetric partition in the pavilion. Beside that the glass and steel

give frame and cover the walls built with large blocks of marble, which themselves become the "work of art " pavilion, with its gorgeous colors and patterns, it also

create a luxury feeling as the purpose of The building was a ceremonial for Spanish king and queen.

7.0 Spatial Organization

Prepared by Amir Fauzan

7.1 Introduction

Alvar Aalto and Mies Van der Rohe is my selection architect to compare the differences of their significant of designing the spatial organization. This topic has caught my attention as it offers a lot for me to explore within the spaces context, as well as develop my own individual identity of designing a building. As form and function are also things that I hold to define spaces, I feel that this topic is something that will retain my interest throughout the duration of the project and allow me to be really creative. Spatial organization is highly prevalent in architecture world of designing and it has become a main part of preliminaries. Spatial organization is when information in a passage is organized in order of space or location. If you were to describe the room in which you were sitting right now, you would be using spatial organization. It can relate with the sense of surroundings

or architecture metaphorically, as a structure which fleshes out the organizations.

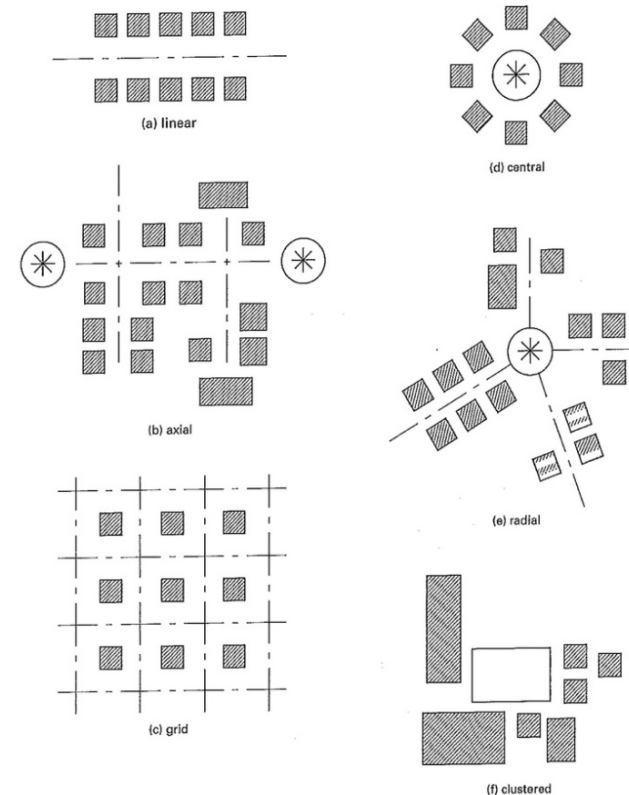


Figure 1.0: 6 fundamental organization concepts (pinterest)

Many architecture and designers have focused on the concept of the order, and how concepts of order can produce a sense of beauty, discipline, and meaning in building. There are many types of spatial organizations. Figure 1.0 show the schemes can be seen as compositional constructs wherein diverse forms and spaces can be arranged into an enter-related whole via systematic and disciplined forethought. For example Figure 1.0 (a) shows linear organization which consists essentially of a series of spaces or objects. These spaces can be directly related to one another or linked a separate and distinct space. These spaces that are functionally or symbolically important to the organization can occur anywhere along the linear sequence and their articulated by size and form. Figure 1.0 (b) a centralized organization is a stable, concentrated composition that

consists of a number of secondary spaces grouped around a larger center space or object.

7.2 Architect's significant: Aalto and Van der Rohe



Alvar Aalto was a highly talented architect and an eager spokesman for the international modernist movement, which he used as an inspiration to create his own unique style. Aalto was innovative and radical and became known for his experimental approach to bending wood. His style became known as human modernism. Alvar Aalto's dialogue with nature, architecture, design and the human being has become a living legacy. Alvar Aalto 's is

an architecture that manifests an understanding of the psychological needs of modern society, the particular qualities of the Finnish environment, and the historical, technical, and cultural traditions of Scandinavian architecture

Alvar Aalto always designed a building that has a relationship with the site context and the psychological needs of the spaces for example, Paimio Sanatorium (1929-1933) was the first building Alvar Aalto designed that was furnished entirely with his own factory-made furniture. Aalto's entries for this competition, the buildings were grouped in a neo-classical manner with sun balconies representing a more modern architectural approach. Figure 2.0 shows the floor plan of the building. The clustered building orientation is informally planned, each department occupying a separate wing and the wings radiating from the center at different angles,

determined by the direction of sunlight and view.
(architect.architecture.sk) By using clustered organization, it uses proximity to relate its spaces or objects to one another. Clusters can accommodate within its composition spaces that are dissimilar in size, form and function. Because the pattern does not originate from a grid, geometric concept, the cluster is flexible and can accept growth and change easily.

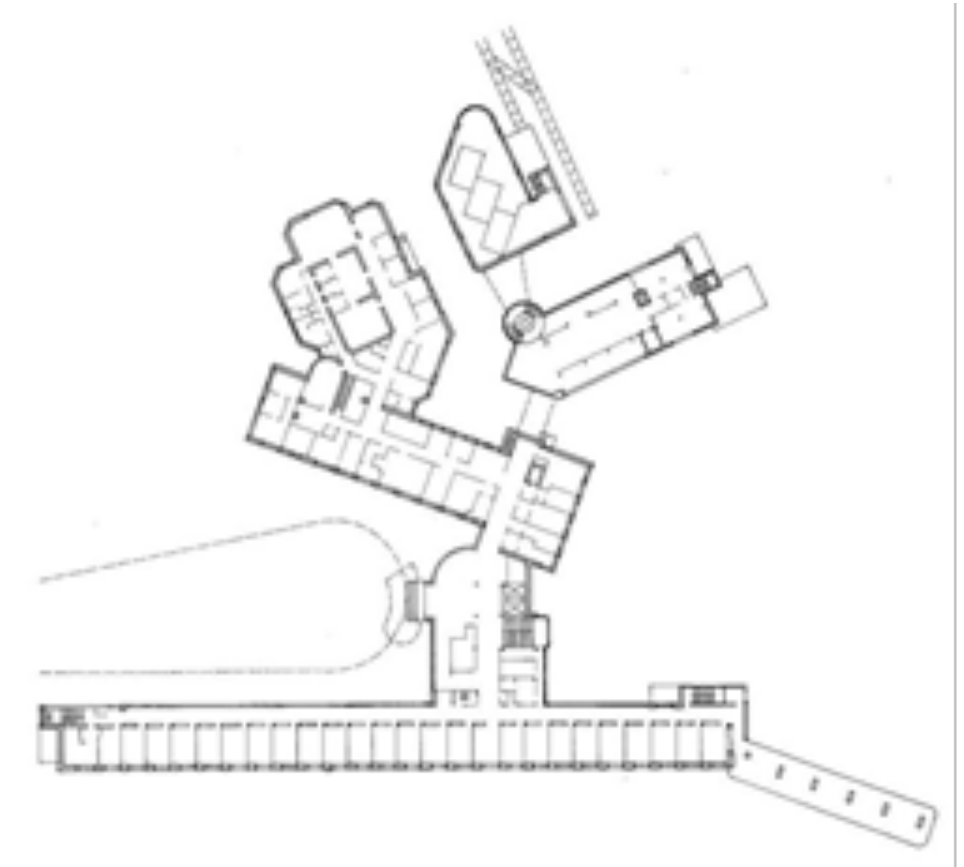


Figure 2.0 (Alvar Aalto, TB Sanatorium, 1929-1935, Paimio, Finland)



Ludwig Mies van der Rohe, a German-born architect and educator, is widely acknowledged as one of the 20th century's greatest architects. The modern city, with its towers of glass and steel, can be at least in part attributed to the influence of architect Ludwig Mies van der Rohe. Equally significant, if smaller in scale, is Mies' daring design of furniture, pieces that exhibit an unerring sense of proportion, as well as minimalist forms and exquisitely refined details. By emphasizing open space and revealing the industrial materials used in

construction, he helped define modern architecture. (mies van der rohe society, 2012). For almost a century, Mies' minimalist style has proved very popular, his famous aphorism "less is more" is still widely used, even by those who are unaware of its origins. He introduced the concept of ribbon window (figure 3.0) in 1922, a window that has bands glasses between the finished faces of concrete slab. It becoming the influence of many commercial structure until nowadays (WHITMAN, 1969)

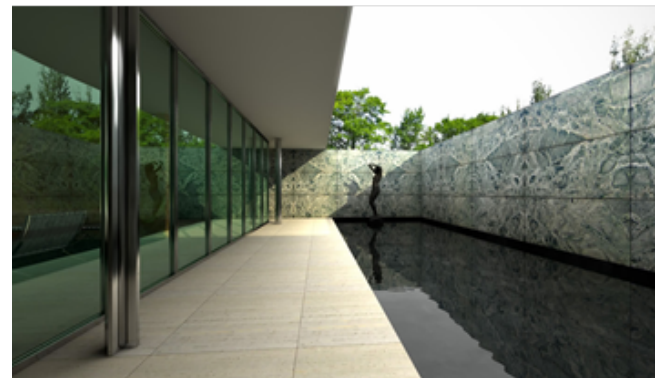


Figure 3.0 Example of Ribbon windows at Barcelona Pavilion

7.3 Villa Mairea Spatial Organization

Villa Mairea was built in 1939 as a modern residence for Maire and Harry Gullichsen, who were ardent lovers and promoters of art. Progressive and unprejudiced, they were interested in modernist abstract art and utopian ideology. The designers of their home, the like-minded architects Aino and Alvar Aalto, were given free hands and an opportunity for unrestricted experimentation. At the beginning of the design, his first proposal was a rustic hut model on a vernacular farmhouse until MaireGullichsen (client) exclaimed it to become a finish house bases but in the spirit of today. (Weston, 1999) Hence he changed it and took the Falling Water by Frank Lloyd Wright's as inspiration.

7.3.1 The Free-Form

Aalto's used a lot of free form of nature in his sketches which resembles the symbols of human freedom. Aalto's remarked that the curving, living, unpredictable line which runs in dimensions unknown to mathematicians, is for the incarnation of everything that forms a contrast in the modern world.

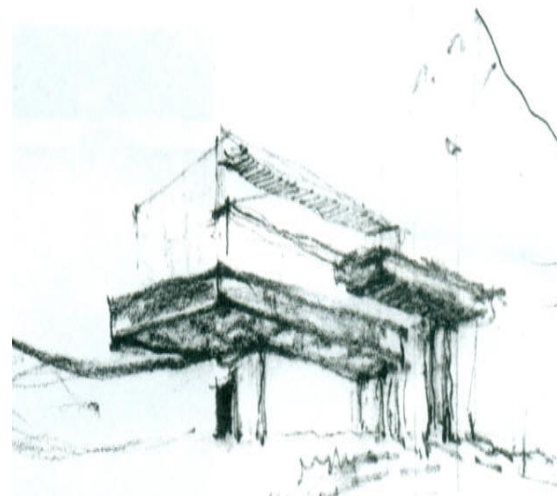


Figure 4.0 The influence of Fallingwater is evident in several sheets of studie.

7.3.2 L-shape plan

L-shape plan will separates the family accommodation from that of the servants and guest, and forms two sides of a courtyard/garden variously enclosed by combination of walls, fences, trellises and wooden sauna.

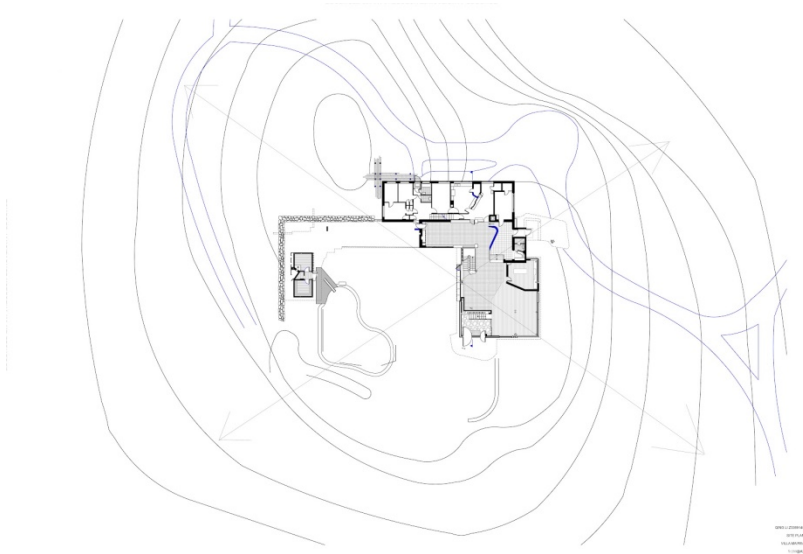


Figure 5.0 top plan views

7.3.3 Ground Floor

Starting from the entrance, it opens into a small, top lit lobby, from which another door straight ahead leads into an open hall, positioned four steps below the main level.



Main Entrance of Villa Mairea



Steps to open hall

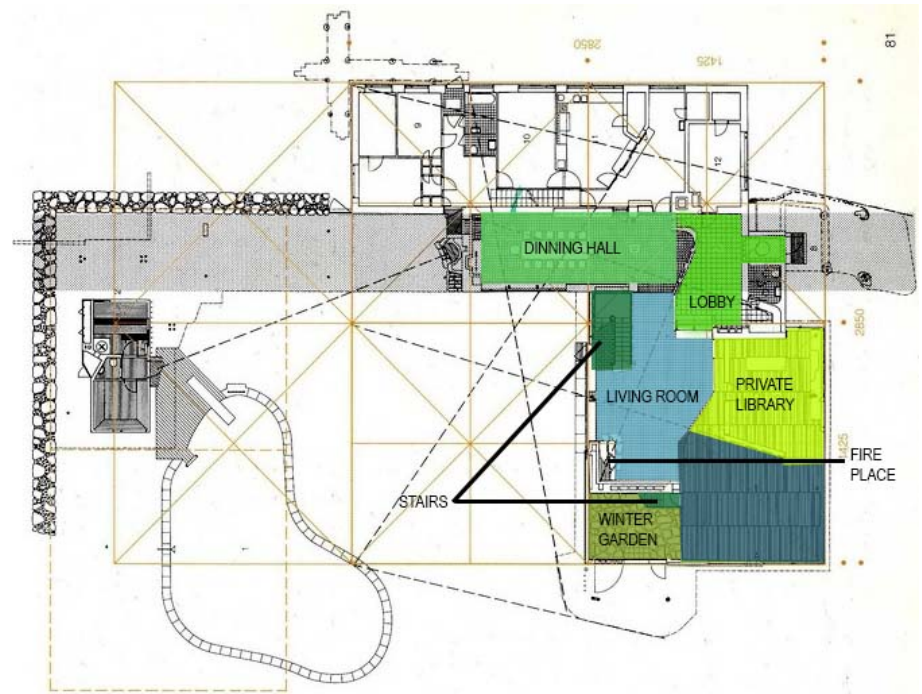


Small main door

One enters the small lobby, it will be a asymmetry of a screen of wooden poles and a free standing angled wall which beyond it will be a dining hall. A small steps lead to the open hall that has a white plastered fire place which becomes the natural center of attention. Similar diagonal relationships are established between Harry Gullichen`s private library/study and the winter garden which Maireia used for flower arranging and from which a stair leads directly up into her studio.

The open living room is planned around a rectilinear structural grid whose dimensions are adjusted to suit the deposition of rooms above, in contrast to the conventional modernist practice exemplified by the work of Le Corbusier and Mies Van Der Roh, in which the structural grid was conceived as a regular counterpoint to the independent spatial disposition of the free plan. (Weston, 1999)

Figure 6.0 shows the position of the rooms and spaces



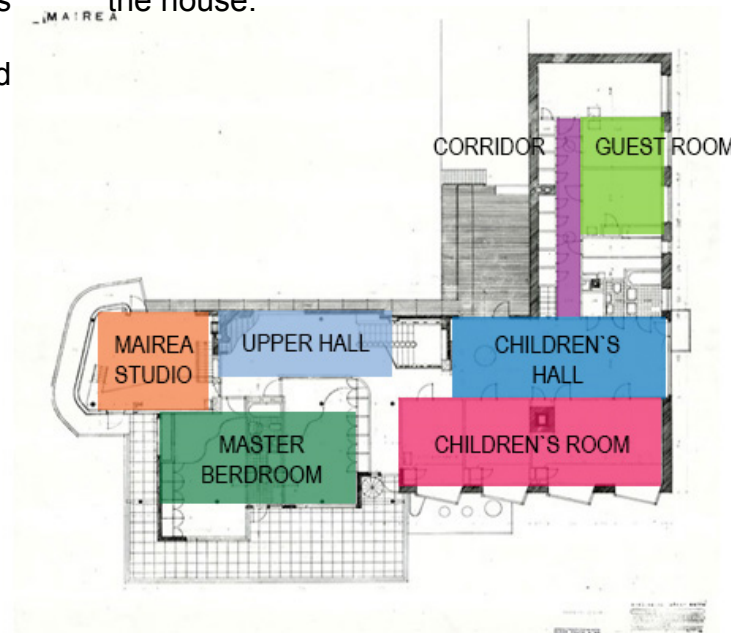
By contrast Aalto does everything he can to avoid an artificial architectural rhythms in the building. He is at such pains to subvert any clear geometric reading of the structural and spatial organization that it comes as something of a surprise to discover that the whole plan is in fact regulated by a series of squares

7.3.4 First Floor

The first floor is a linearly organization of private rooms. The main stairs arrives to an open hall, which has its own fireplace above the below. The owner's bedrooms are paired either side of the suite bathroom and are entered under a slightly dropped ceiling, which houses vents for conditioned air and terminates in a familiar serpentine line. Children's bedrooms open onto a large circulation play space, fitted with wall bars and exercise. Guest's bedrooms positioned along a single banked corridor and look out north east into the forest. (Weston, 1999)

Figure 7.0 first floor plan view

The studio tower also dominates the west elevation, but the powerful mass of the tower is balanced by the long canopy leading to the sauna. The west elevation is the most colourful part of the building. Besides the dark studio tower and the green of the plants, there are ultramarine ceramic tiles on the external wall of the dining room. The colour of the tiles was chosen by the lady of the house.



7.4 Conclusion

Alvar Aalto introduced to the world the propitious conditions that generated a unique total work of art, which has attained world-wide recognition as one of the greatest masterpieces of 20th-century architecture. In Alvar Aalto's oeuvre, Villa Mairea represents the phase of his shift from the simplified forms of Functionalism towards a more organic modern architecture combining motifs from various origins. The interior design of the villa was the work of Aino Aalto.

Villa Mairea stands out as Aalto's most passionate legacy of poetic inspiration, personal dedication and the art of play. It is frequently listed as one of the most important one-family houses of the 20th century along with the Villa Savoye (Poissy 1929) of Le

Corbusier, the Tugendhat House (Brno 1930) by Mies van der Rohe, the Glass House (Paris 1932) by Pierre Chareau and Bernard Bijvoet and Frank Lloyd Wright's Kaufmann House (Bear Run, PA 1939). It is remarkable that these masterpieces of modern residential design were all conceived within a single decade of enthusiasm and optimism.

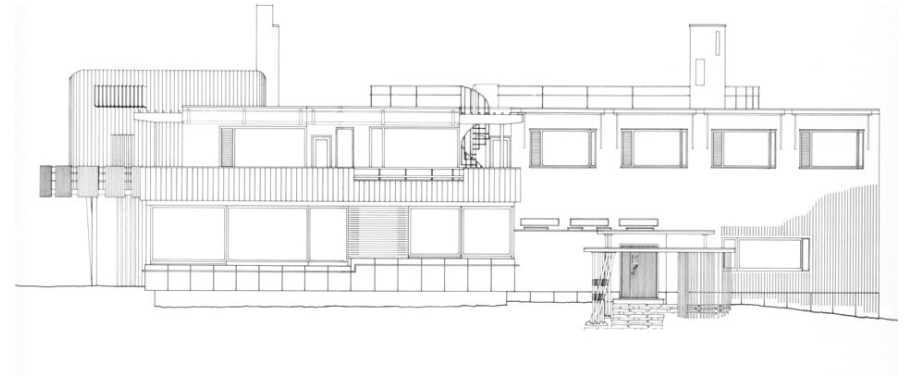
8.0 Façade

Prepared by Hafizi Sidratul

Facade

Villa Mairea, Alvar Aalto

Alvar Aalto's Villa Mairea was the first successful experimental project; the reason behind this is because that he had satisfied all the clients' needs. This is so because Aalto was an artist himself, just like his clients. Aalto mixed architecture and art and that's what made the house so beautifully built and adored by millions. The façade of the building plays an important role in contributing to the beauty of it, and this particular villa is quite unique, for having more than one main façade, Villa Mairea has two facades; one is where the entrance is located, and one acts like a courtyard where it surrounds the swimming pool.



Façade 1 : Entrance

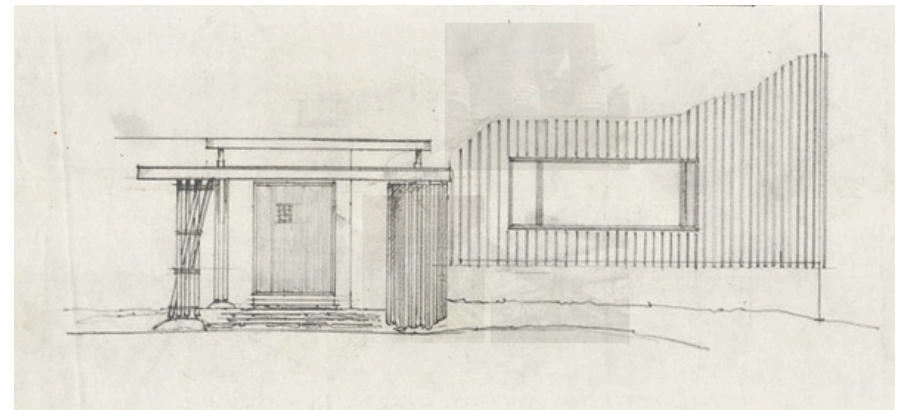
The main entrance is positioned towards the south, facing the forest. It is more rigid and formal compared to the second façade where it is subtle. The entrance is made up of vertical wooden sticks bound together by rattan, and forms a short walkway before reaching the door. The door on the entrance is relatively small in comparison to the size of the entire building which gives off an uninviting feel. However, this

was countered by the usage of timber structures to give off the feeling of warmth, and being welcomed.

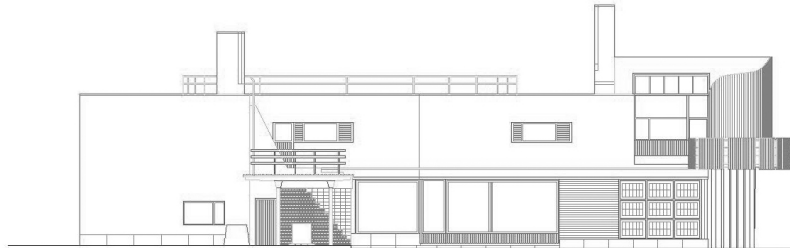
There is also a series of vertical wood sticks arranged together, creating a wave like form throughout the wall on the front façade. This serves as an aesthetic purpose to reflect Aalto's attention to detail. The purpose is also to evoke a miniature jungle when it's looked from a far as a creative design from Aalto. Besides that, the library can also be seen from this angle. Large open windows are placed on the walls to allow maximum amount of sunlight to enter. Other than that, as his clients are artists, he uses the large windows to allow the user to frame the surrounding views of the context, which will be an inspiration or motivation for the clients to get ideas on their paintings.

Aalto also plays with collage of components where he used angled windows to escape the composition of a rigid building. From plan view, the angles of the windows are not focused to the front of the building rather to the view of the

walkway for the user to know if any visitors are coming. Furthermore, Aalto uses his creativity to add a piano-shaped shade for the entrance as an irregular shape also to escape the rigidness of the building composition. He added more vertical elements where small radius timber columns are used as a purpose of the continuity with the forest to blur the lines between the building and the context. For the materials used on the main façade, he uses plastered-brick for the walls, with addition of wood sticks for aesthetic purpose. As a result, this gives a very warm welcoming look for the visitors and the users, which are adored by many including other master architects during that era.



Wall details on the front facade



Façade 2 : Enclosed courtyard

T

he second part of the façade opens up to the private section of the house, which encloses the swimming pool, and the garden. From this point, another set of large opening windows can be seen to highlight the stairs that leads up to the second floor. It also frames the stairs perfectly to show the element of reflection, by the usage of wood as columns to replicate the birch trees surrounding it. The horizontal and door overhang in the overall composition meet the flat expanses of the site, and the curves of the pool lines embrace the topography of the surrounding forest. The pool gives a sense of irregularity

where it breaks from feeling being in a geometric building giving a result of free space to enjoy the activities to do around the pool area. Also, the composition of the building makes the pool area a semi-private for friends and family spaces where the user doesn't feel too open for people to see. Furthermore, the trees surrounding the building also act as a wall for the users' privacy. As on the ground floor, large windows are also placed to obliterate the boundary between the users inside and outside where it allows the control of security whereas for the floor above, Aalto blanks the wall with just a small window to prevent the user in the studio to prevent from being distracted by the noises and activities outside in a result of increasing in progress of work. Besides that, the internal façade also opens up from the dining area that allows guests to enjoy a serene view.

Barcelona Pavilion, Mies van der Rohe

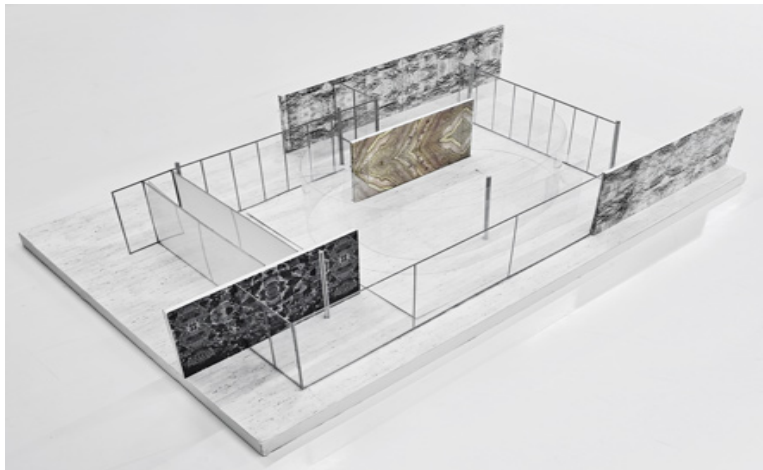
Mies' famous Barcelona Pavilion was built to restore German's prestige lost after World War 1 (WW1) and the single-storey jewel box was celebrated and adored by millions due to the luxurious look of the building. The beauty lies in Mies' positioning of steel, glass and marble in a simple and elegant structure. The building was raised on a rectangular podium to give an elevating effect and it gives a sense of lightness.



Barcelona Pavilion façade

The façade of Barcelona pavilion looks flat from elevation view, this is because Mies only uses vertical planes for the walls to have a sense of openness which gives an open plan to the building. For the wall of the building, red shade of marble is used to show the flatness of the building. When the façade is seen at first sight, people can know the concept of the building that is a flat open plan modern building. Barcelona

Pavilion is elevated from the rectangular podium as if to elevate it from the rabble of the fair. This is a significant strategy to make it look bigger than it is supposed to be from a far. Furthermore, Mies also uses freestanding marble in deep shades of red and green to show the luxury as the initial purpose of the building was a ceremonial hall for receiving the Spanish king and queen and other dignitaries by the Weimar government.



Different shades of marble walls used

As a sense of clarity and openness, Mies added large glass windows at every corner of the building. An exterior courtyard, dominated by the large reflecting pool lined with black glass, occupied most of its ground plane. The pool follows the geometric of the composition of the building to evoke the plane of it all.

VILLA MAIREA

BARCELONA PAVILION



The facade blurs the line between the building and the forest context

Uses repetitive wooden columns to evoke to context

Entrance consists of collage of different shapes of components

Uses soft looking materials like concrete, timber and glass.

Uses soft colour materials

Installed big windows to frame the view of the surroundings



The facade faces the pool

Breaks the feeling of being in a geometric building instead sensing irregularity

Semi-private

The building acts as an inner courtyard



Elevated to show the sense of lightness rather than block of building

Uses different types of marble walls to show

Horizontal planes

Uses big windows to show openness

Pool follows the geometric composition of the

Has exterior courtyard which is surrounded by diverse planes

9.0 Elements and Components

Prepared by Akmal Jamal

9.0 Elements and Components

Villa Mairea has a lot of different elements that makes the villa very intriguing and unique. From the exterior into the interior, everything was put or designed there for a reason. Each and every aspect of the villa meant something to Aalto or to what he is trying to experiment and design for. Aalto really catches the eyes of viewer who look upon his work not only as a villa but more than that, as if it has a soul of its own.

The word component means a part or element of a larger whole, which is in this case a part of the Villa Mairea. If you look closely at Villa Mairea everything that is included throughout its design is an element. The element itself could have been small like door knob or big as the windows, however it plays a huge role in making the villa bond with its surrounding. However, talking



Figure 9.0.1 the angled windows which are located at the façade of the Villa Mairea.

about the concept of the villa we could see that the exterior relates more to the site context and the interior more inspired by Japanese architecture, just how he tackles on designing the support beams which we will go more into details. One of the examples of a component on the villa is the angled windows. These windows are located at the main entrance of the building. It is unique mainly due to the fact how Aalto placed the windows to

give an effect from the outside and the inside. From the outside it project out at an angle to address the line of approach to the house through the forest. Meaning it is parallel to the forest making it blend on how the trees are organized around the villa. It also shows an interesting view which Aalto wanted his client to feel when looking at it. It is as looking through a view which only focuses on the beautiful area of the forest. This gives his client and



the viewer an effect where they feel that nature around

them is in fact with them from the first step that they take when going inside the villa till the last step when exiting it.

Figure 9.0.2 main entrance of the villa which is supported by timber columns and two canopies. Just below the angled windows is another element which creates the façade of Villa Mairea and that is the main entrance leading towards the building. The entrance is approached by two – level free form canopy that is supported by compound timber columns. The canopy are designed in a shape where it starts small then big to give an illusions when going out the house you are looking at the forest in a more luxurious manner. Aalto wanted the client to see along the axis to the entrance beyond the pine forest which is screened by ‘forest’ of timber poles on the side. It gives and illusion that it doesn’t break the view of the forest but it continues throughout the building. The elements in just the entrance itself show a lot to

incorporate with the site context of the villa. Therefore, Aalto combines all the elements together as a concept of collaging different materials or components to create one masterpiece. The unique part of Villa Mairea is the uses of timber columns throughout the building from the exterior to the interior. Aalto was inspired by Japanese bamboo on how it was stacked or organizes throughout the field and the way that bamboo isn't as perfect straight columns. Furthermore, from there he uses the unexpected shape of the bamboo to relate back to his timber columns by applying the bond technique in a way it is different from one column to the other. The columns also represent how the trees around the villa are stack, which is not in an order but in a natural way that it was placed randomly.

Along the corner of the exterior just right under the windows are a cluster of poles stacked on to the walls. If

viewers first look at it they will either think what the purpose of it is. However, there are a lot of reasons to why these poles are place on the wall and around the lower windows. One main reason is to allow the plants to climb up and engulf the whole area which is covered by

the



Figure 9.0.3 the cluster poles that is covered with plants and trees growing from it.

poles. This allow the plants to give a more soothing

feeling when being around it as the villa is one with the nature around it. When the plants started to grow more and more it is not only for looks but good for the environment as it gives out oxygen and making the area around the villa cooler. Around the villa the house represents a remarkable array of forms, colours and textures. This is also part of the components or elements that make the villa how it is, Since this is one of Aalto's greatest work it will include such components to make the villa mairea itself unique and apart from other well-known building. Since Aalto started by being an artist, architecture is where he conveys his artwork that is translate onto a piece of paper into a 3D object making it more clear as how he express the feeling of freedom throughout the building. He also stated that curving and unpredictable line which is an incarnation of everything that forms a contrast in the modern world of architecture

is his motif when designing a building. Just as how he show this by creating a very intriguing and unique piece of art that is located on the chimney. This is also known by many as Aalto's ear. The free form and curve of the masterpiece is how he expresses the feelings of how an artist does his or her work when painting.

Also located inside the Villa Mairea is another unique feature which located as a gap fill between the ceiling and the walls. With the curvy shape of it looks very odd and it stands out when going in each room. However, this feature is not only for show but there is a function for it. Throughout it there is a hole which creates a light shaft which allows natural lighting in from the outside. Not only this gives an organic feeling as it was natural and not man made light that shine through each room but this is an effect that when sunlight shine through the forest trees it create a broken sunlight. This broken sunlight shines in

a different manner and angle where it is unique only could be seen when being inside the forest or jungle during daytime. This really give the feeling of when his client are in each rooms not only they are able to do their activities on specific rooms but achieving it as it was being achieved in a forest of trees.

9.1 Compare and Contrast – Mies Van De Rohe

For the comparison we as a group have decided to choose another well-known architecture which is Ludwig Mies Van De Rohe. Even though Van De Rohe and Aalto have a different style on how they approach their design they do sometimes have similarities on how they express their design when making the building. The main difference between both architects is that Alvar Aalto is more of an experimental architect where he tries to design things that aren't being designed yet throughout

his timeline of career. Where Mies Van De Rohe is more a simplistic architect who believes the motto of less is more into designing his buildings. He also focuses on certain things that make his style a signature that people around the world could recognize.



The building that is suited to be compare against Villa

Figure 9.0.4 Farnsworth House designed by Ludwig Mies Van De Rohe.

Mairea is Mies Van De Rohe's Farnsworth House which is located in Illinois. It is a one room weekend retreat

house in a once rural setting. The house is unique mainly because how it stands out from the site itself due to the fact how simple and yet odd one out from the site. The building features the more signature style of Mies Van De Rohe steel structures which are applied throughout the house. It is the main focus which makes it very simple yet genius in a sense. There are two ways on how he approaches on being an organic building as well as incorporating nature with it. For example the spatial planning of the house is very open that it is like nature could be through it or with it. Especially how he creates a large deck that is part of the entrance where the client could enjoy an outdoor seating area enjoying the view around it similar to how Villa Mairea are with the forest surrounding it. One difference on how Mies Van De Rohe translates nature to building is by the use of large windows and the main percentage of the walls. This

gives the feeling of open not only by space but by light and also sounds of the nature. Especially during winter when the area is covered by snow, the Farnsworth house really bond together with the site making the client using the area a more cold feeling that they are not sheltered by house but by nature. In the other hand, Alvar Aalto is more complicated with how he collages different components that relates to nature into one. This not only gives the feeling or illusion but gives a lot of difference way on how the client could enjoy their time being in their villa or their natural habitat.

10.0 Summary

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