

a house for cheerful living

an exploration of architectural representation in
post-war housing competitions

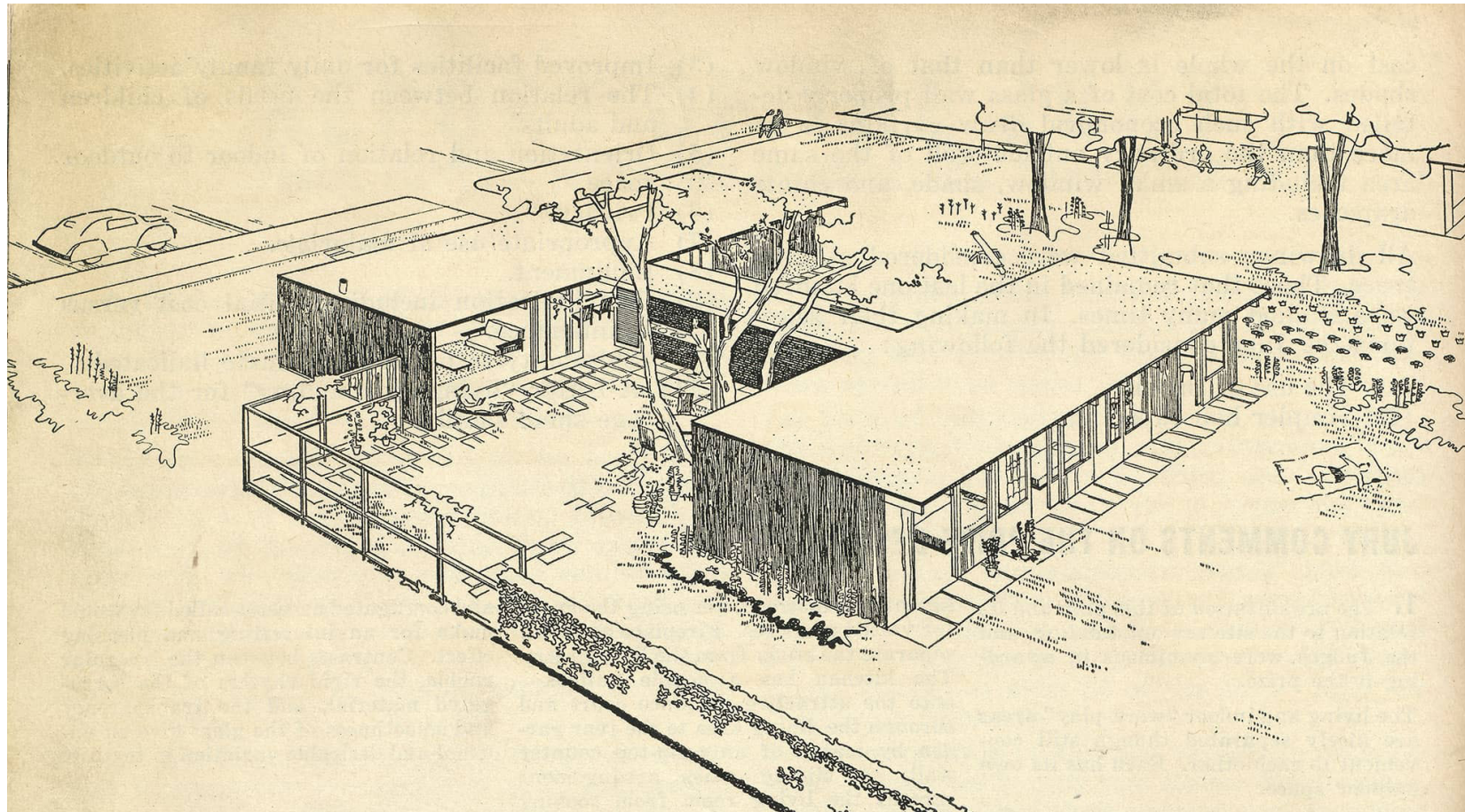
dick clijn

the architect, history and her drawing

Special thanks to the TU Delft
Library staff and Jurjen Zeinstra
for providing literature needed
for this thesis

Technical University of Delft
MSc Architecture, Urbanism and
Building Sciences

History Thesis
April, 2022



Birds-eye view of the winning project for the "A House for Cheerful Living" competition made by Jean Bodman Fletcher

Contents

Introduction	4
I. Drawing Analysis “A House for Cheerful Living”	10
I.i Drawing description	
I.ii Perspectival analysis	
I.iii Texture analysis	
I.iv Object analysis	
II. Drawing Analysis “Case Study House #19”	20
II.i Drawing description	
II.ii Perspectival analysis	
II.iii Texture analysis	
II.iv Object analysis	
III. Drawing Comparison	32
IV. Comparing Jean Bodman & Donald Knorr	34
V. Conclusion	40
References	42

Introduction

During the early days of the second World War designers in the USA were contributing their skills to the war effort, publishing their knowledge in magazines¹. Magazines would contain design studies about camouflage patterns to hide factories (figure 1), how to fortify a building in case of a bombing (figure 2) or how to build a make shift shelter in your house (figure 3).

As the war came to an end, design magazines did not feature design solutions for problems during the war any more. They rather began to look in to the future and tried to figure out solutions to reshape the country after the war. Design problems were usually addressed by magazines, so that they could ask the design society, in a competition or essay format, to come up with a solution.

¹Magazines like: Architectural Forum, Architectural Journal, Pencil Points and Arts & Architecture

During the war, competitions for post-war living were an attempt to provide solution for the housing shortage. Advertisement in architectural magazines featured soldiers dreaming of new houses (figure 4) to show the demand for new modern houses.

In 1945, the architect Jean Bodman Fletcher made a drawing for a competition together with her husband Norman Fletcher (figure 6). The Fletchers had just started their office and gained popularity by winning several design competitions. The first competition they won was the “A House for Cheerful Living” competition, a post war housing competition that was organized by the Pencil Points Magazine and published in 1945 (Galván Desvaux et al., 2015; McLeod & Rosner, n.d.) (figure 5).

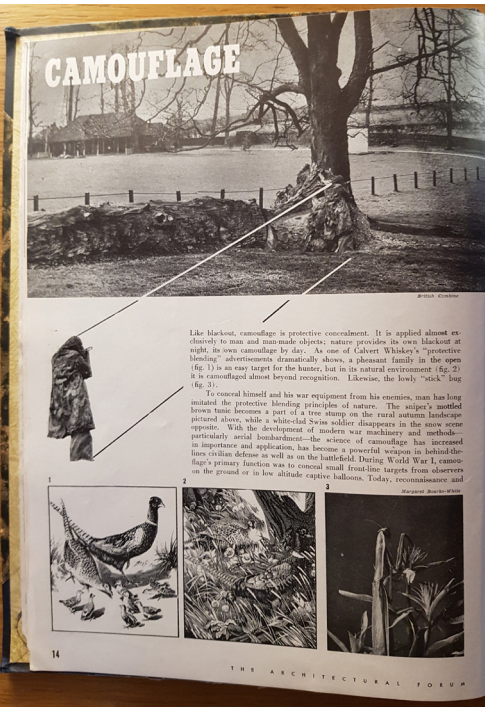


Figure 1: Architectural Forum. (1942). Camouflage. Architectural Forum, 1942(1), 14–25.

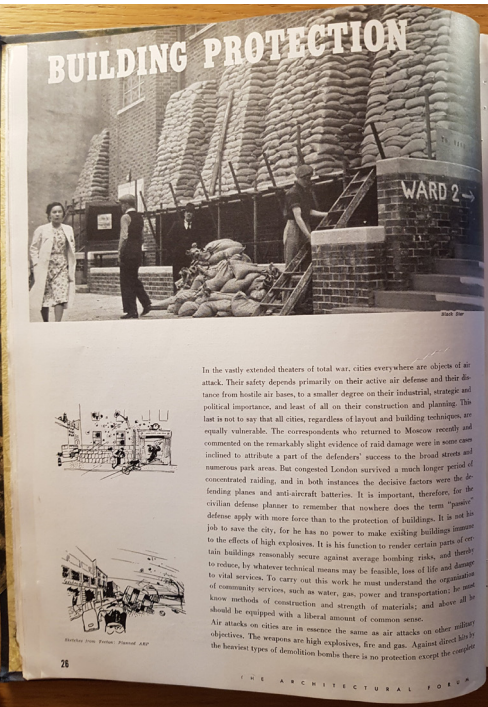


Figure 2: Architectural Forum. (1942). Building Protection. Architectural Forum, 1942(1), 26–43.

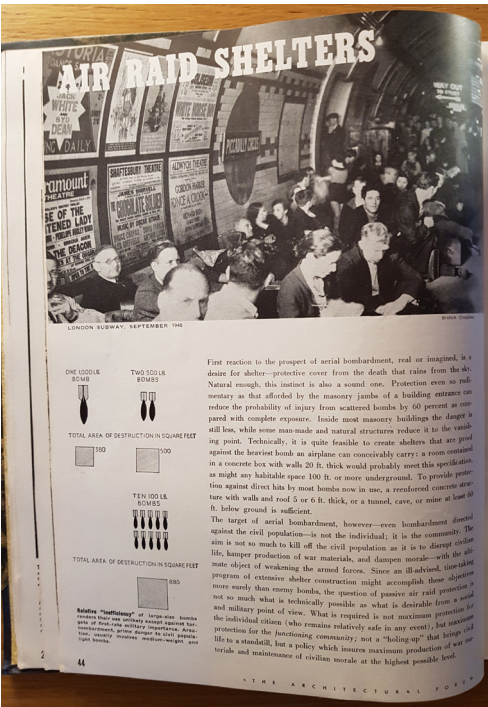


Figure 3: Architectural Forum. (1942). Air Raid Shelters. Architectural Forum, 1942(1), 44–50.



Figure 4: Ad in Architectural Forum magazine. (1942).

When comparing A House for Cheerful Living and other post-war living competitions, such as the Case Study Houses² program, we can see multiple similarities in the perspectival drawings that are used to present the designs in these magazines. Therefore, this thesis wants to investigate how the designs for post-war housing competitions were visualized by comparing “A House for Cheerful Living” with the Case Study House #19.

To research this I propose the following research question:

What influenced the drawing style of perspectival drawings by American Architects, like Jean Bodman Fletcher, during the post-war living projects?

In order to understand what influenced the drawing style of the post-war housing competitions, this thesis starts with an analysis of the perspective drawing made by Jean Bodman Fletcher for the Pencil Points competition. The analysis consists of a detailed description, a perspectival analysis, an analysis of the used textures and finally an analysis of the objects depicted in the drawing. These analyses will provide a better insight in the content of the drawing making it easier to compare the content with other drawings. After the first analysis of a House for Cheerful living another drawing of a post-war living competition is analysed; The Case Study House #19 made by Donald Knorr. After these analyses the two drawings are compared to see if there are differences in perspectives, textures and depicted objects. The last part of the thesis will focus on the life of the two architects. This will give an insight in what role drawings played in the life of the architects.

² Case Study House Program was another post-war competition held by the Arts & Architecture magazine.

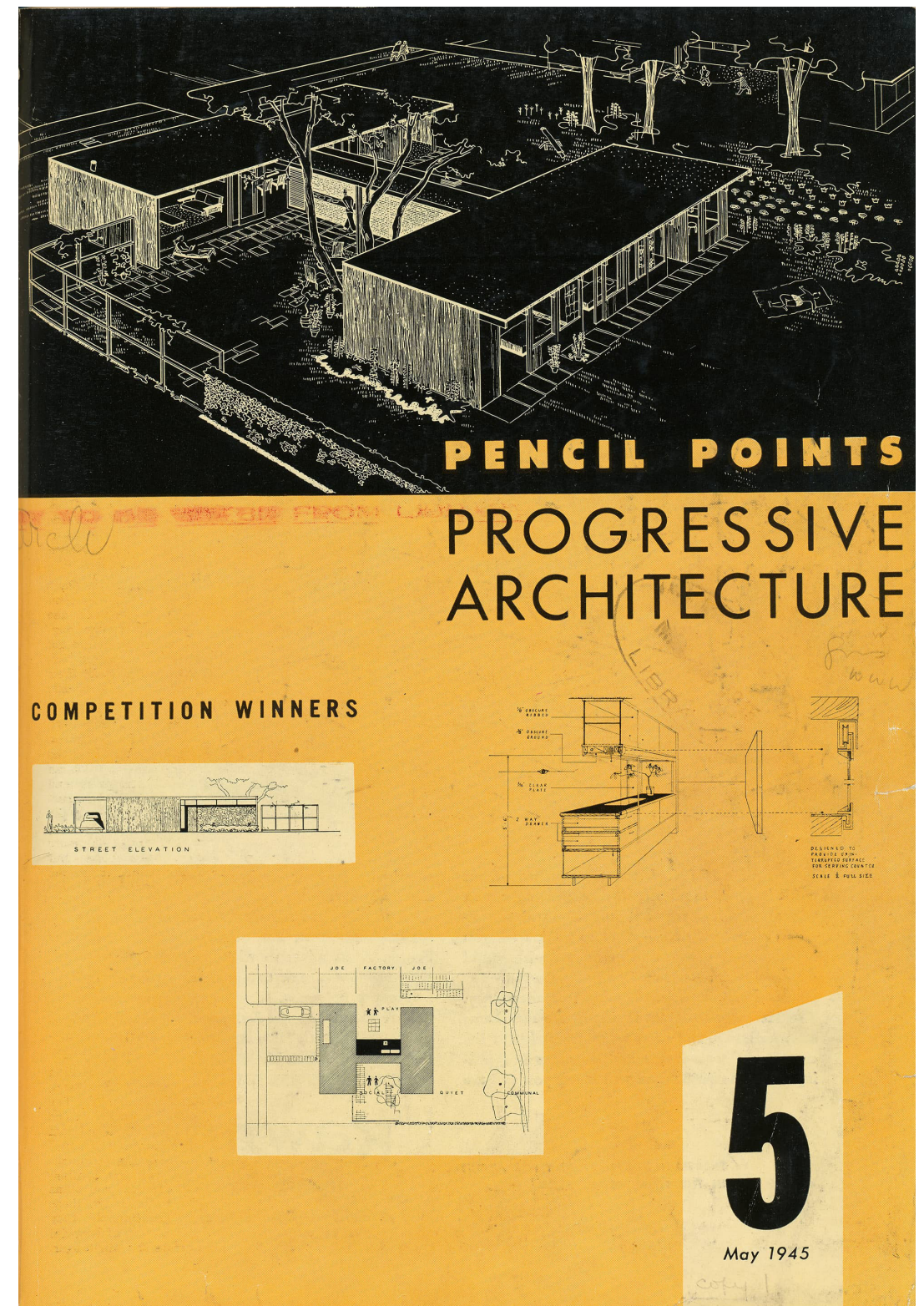


Figure 5: Cover page Pencil Points magazine. Retrieved from <https://pioneeringwomen.bwaf.org/jean-bodman-fletcher/>

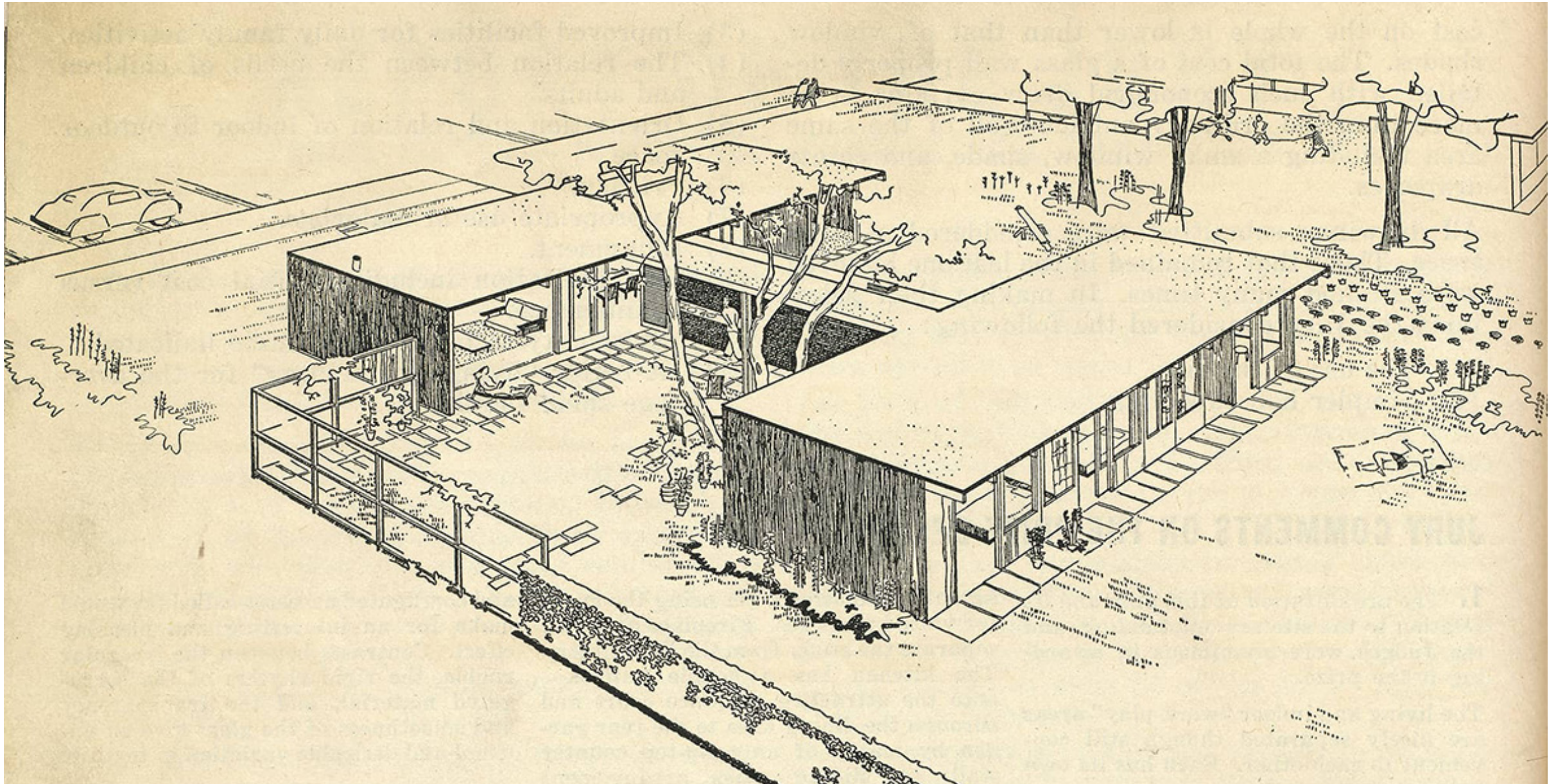


Figure 6: Perspective drawing made for the Pencil Points competition. Retrieved from: <https://pioneeringwomen.bwaf.org/jean-bodman-fletcher/>

I. Drawing analysis “House for Cheerful Living”

I.i Drawing Description

If we want to understand the influences that affected the drawing style during the post-war living projects, we first need to understand the drawing. This is done by looking carefully at some aspects of the drawing like perspective, textures and objects.

The drawing depicts a single story house set in a spacious garden (figure 6). The building is H-shaped with a lot of glass facades oriented to the garden. A similar house is drawn in the upper right corner. The neighbouring house is probably mirrored because the garage of the neighbours is next to the garage of this house. That suggest that the neighbourhood consists of a repetition of the same house design. According to Galván Desvaux et al. (2015, p. 73) the design was easy to construct by the inhabitant. Neighbours could help each other to build their houses and all together a neighbourhood. By doing this the whole neighbourhood would be built by the community.

The house emulates Modernist features characterised due to the flat roof, straight lines and the amount of glass that is used (Davies, 2017, p. 192). The modernist lifestyle also speaks from the way the car is drawn because its design was common around the early post-war years. The car and people in the drawing suggest a sense of freedom. Additionally, freedom is shown by the “American dream” of owning a free-standing home with a garden where dwellers can do whatever they want. The project is named: “a House for Cheerful Living” and cheerfulness is shown in the drawing through the children playing and the man lying on the grass.

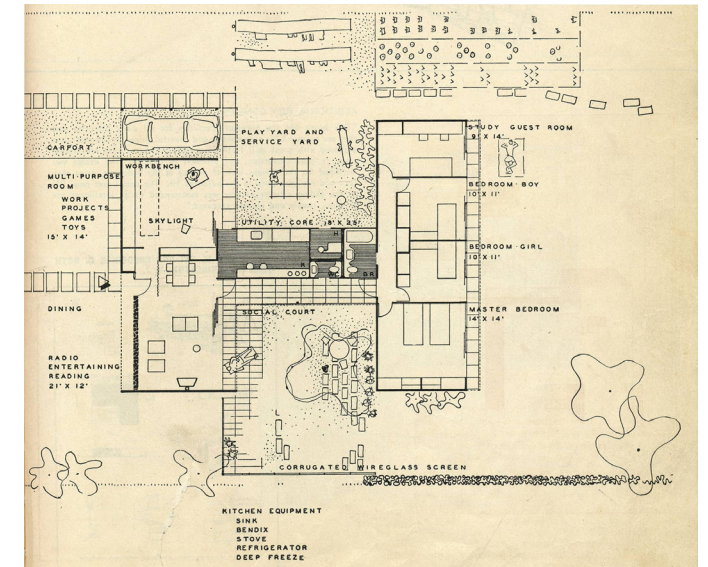


Figure 7: Floorplan House for Cheerful Living. Retrieved from: <https://pioneeringwomenbwaf.org/jean-bodman-fletcher/>

A lot of attention is given to the textures of the materials. The end face of the building walls is drawn in a similar way as the tree trunks, therefore the walls are probably made of wood. The garden looks decorated with plants and flowers. The way the flowers on the right are placed is not very organic or nature like. The flowers are situated very strict and artificial which suggest a vegetable garden. Other vegetation is illustrated in a more organic way with flowers popping up at random places on the grass. Together with the tree in the courtyard and the orientation of the glass facades to the garden makes that the house has a strong connection to nature. This really fits in the “rules” of modernism where glass was used to connect inside and outside (Davies, 2017, p. 192-194). The left courtyard is divided with a wind screen and a hedge from the neighbours. The drawing is made using a two point perspective in birds eye view with pencil on paper. Therefore we see a lot of the roof and surroundings but little of the interior details.

I.ii Perspectival Analysis

A perspectival analysis is made by extending the perspective lines of the drawing. When we follow the extended lines, we can see that they meet at two points called vantage points (figure 8). This means that the drawing is a two-point perspective, one on the right and one on the left. We can draw a line straight through the two vantage points and discover the horizon line. This line is slightly tilted. The horizon line is above the main subject of the drawing suggesting a view from above. This creates a good overview of the whole project without parts of the house being obstructed from the view as in eye-level perspectives.

We can also relate this perspective drawing to the orthogonal floorplan (figure 8). In figure 9 the same analysis is visualized in a different way. Here the relation between floorplan and perspective can be seen stronger, especially the relation of the interior and the exterior. This diagram shows that the house consists of a living wing and a sleeping wing connected via a utility core. The utility core has a kitchen, toilet and a bathroom. The connection with the living room and courtyard is also visible in this analysis. The big glass façade can be moved to enlarge the living area extending it to the outside. Enlargement of interior space to the outside is also a modernistic characteristic (Davies, 2017, p. 192-195).

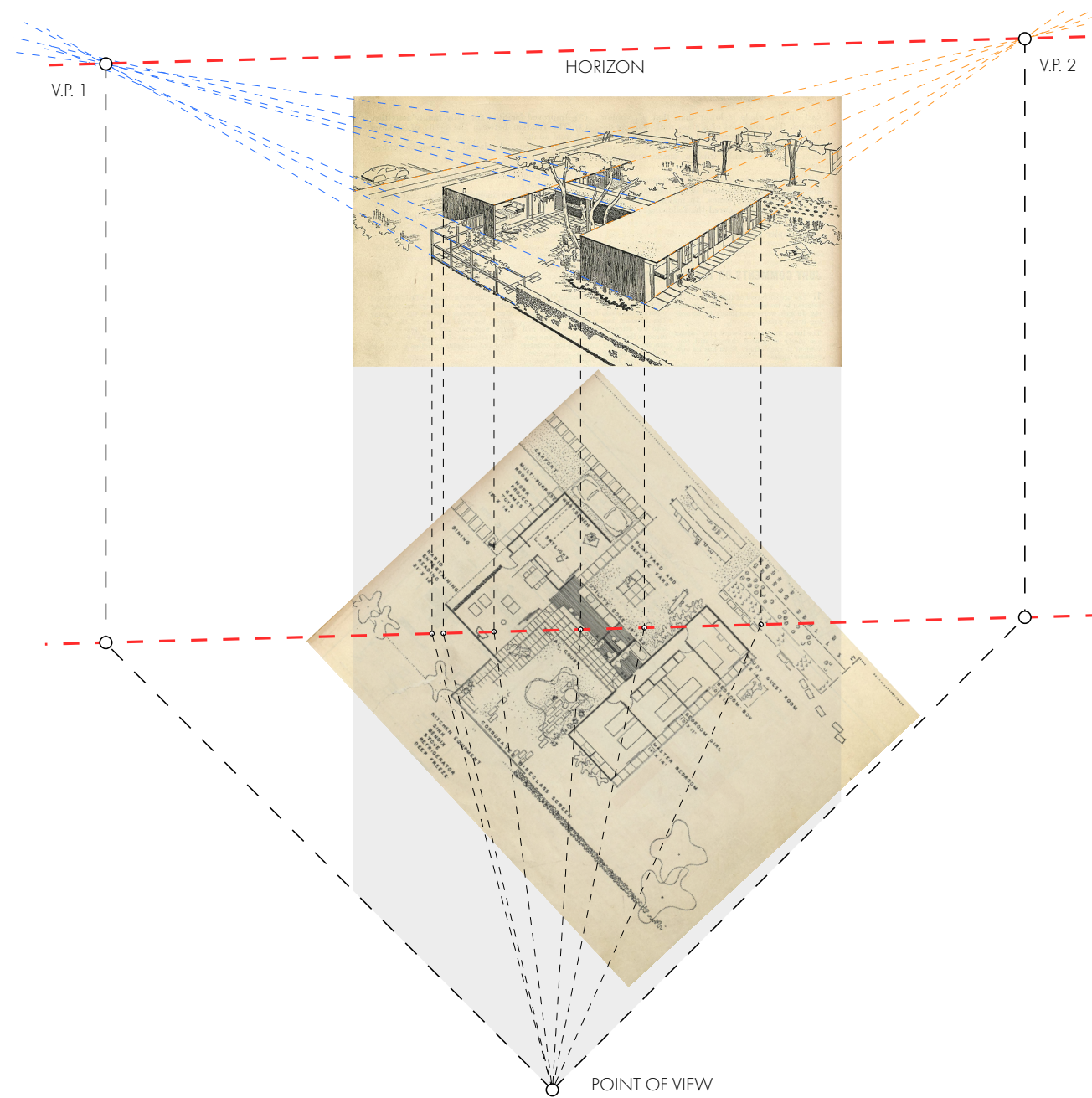


Figure 8: Perspectival analysis of the House for Cheerful Living drawing. Own image

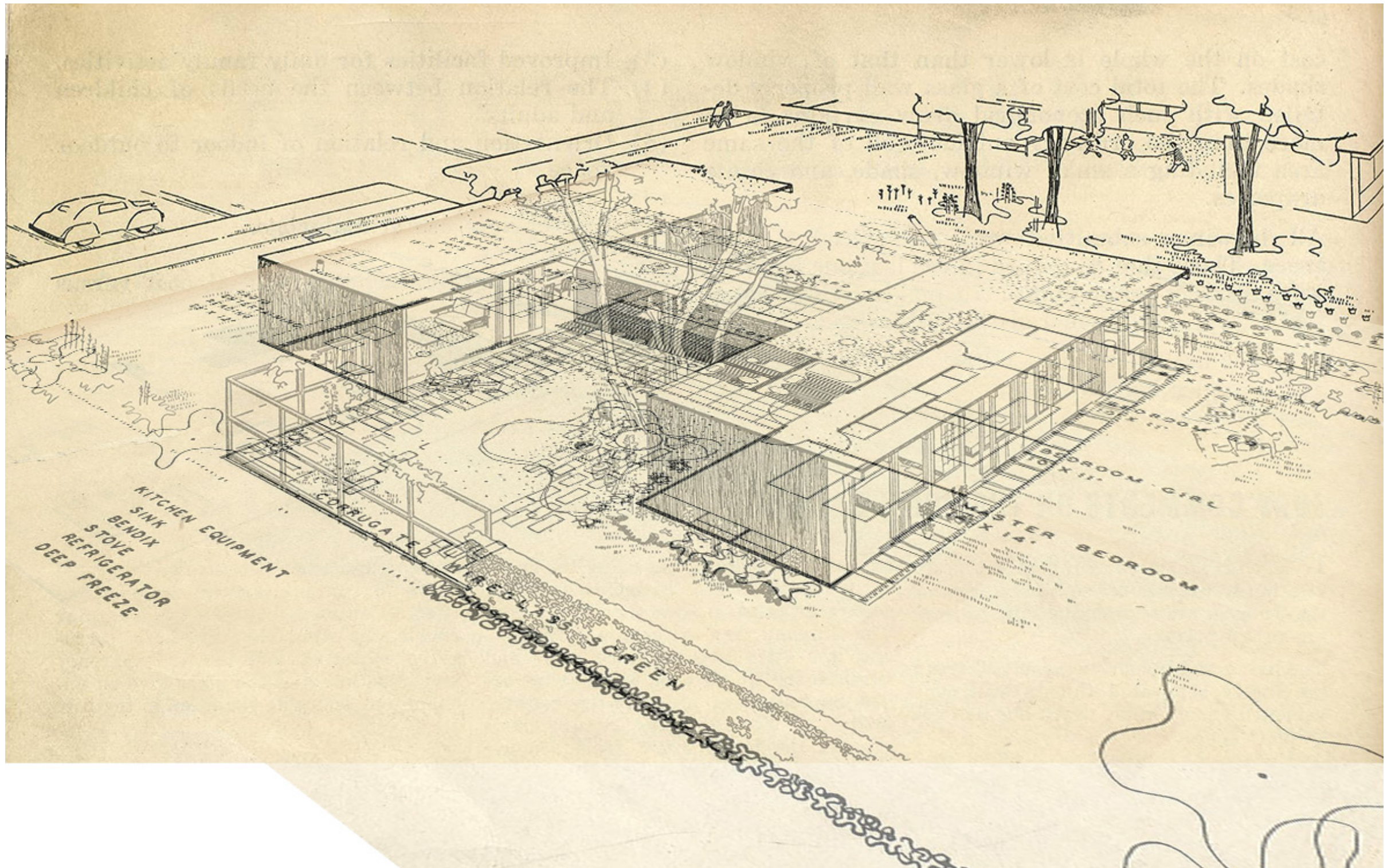


Figure 9: Manipulated floorplan in birds-eye view of House for Cheerful Living drawing. Own image

I.iii Texture Analysis

The second analysis will focus on the various textures that are depicted in the drawing. There are six hatches used in the drawing; dotted, white lines on a black background, diagonal lines, rectangular crosshatch, dotted lines and an unknown texture. All hatches suggest a specific material (figure 10).

The dotted texture looks like gravel and could therefore suggest a roofing material. The second texture is made by vertical lines close to each other and is also used for the trunks of the trees. This hatch could therefore suggest a wooden material. The rectangular cross hatch next to each other could depict some sort of stone tiling. The diagonal line hatch is comprised of lines next to the curb and could suggest the rough lines of concrete roads to give the surface more grip. The dotted lines hatch could be illustrating grass. The last one includes a black crosshatch with white dots, does not indicate a particular material. The grass texture and the roof texture take up the most space in the perspective. The textures that stand out are the wood, stone and the unknown texture, the other textures are more timid.



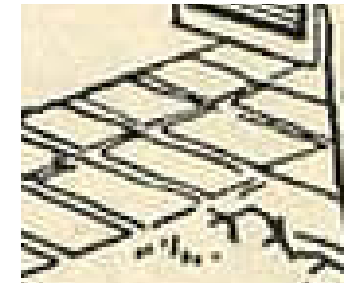
ROOFING



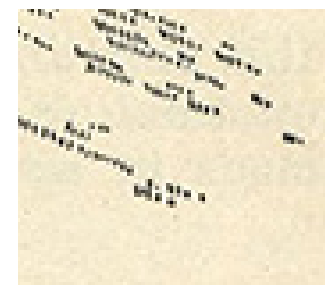
WOOD



STREET



STONE



GRASS



UNKNOWN

Figure 10: Textures used in the A House for Cheerful Living drawing. Own image

I.iv Object Analysis

The latter analysis of the drawing focusses on the objects used in the drawing. We can distinguish two categories: Floral and non-floral objects (figure 11 & 12).

The floral objects include trees, flowers, a vegetable garden, a hedge and bushes. The trees are placed in the courtyard and in between the house and its neighbour. The reason behind their placement is not that obvious but could be for separational purposes between neighbours. The vegetable garden could be a way to show the possibilities for future garden lay-outs. The hedge is used as a divider between plots and the flowers are placed randomly.

The non-floral objects consist of people, a car, flowerpots and furniture. These non-organic objects show the use and function of the house and garden. The car indicates the use of the road, the man lying in the grass the recreational use of the lawn. In the interior of the house, the bench is an indication of the living room and the beds show where the bedrooms are situated. Even the

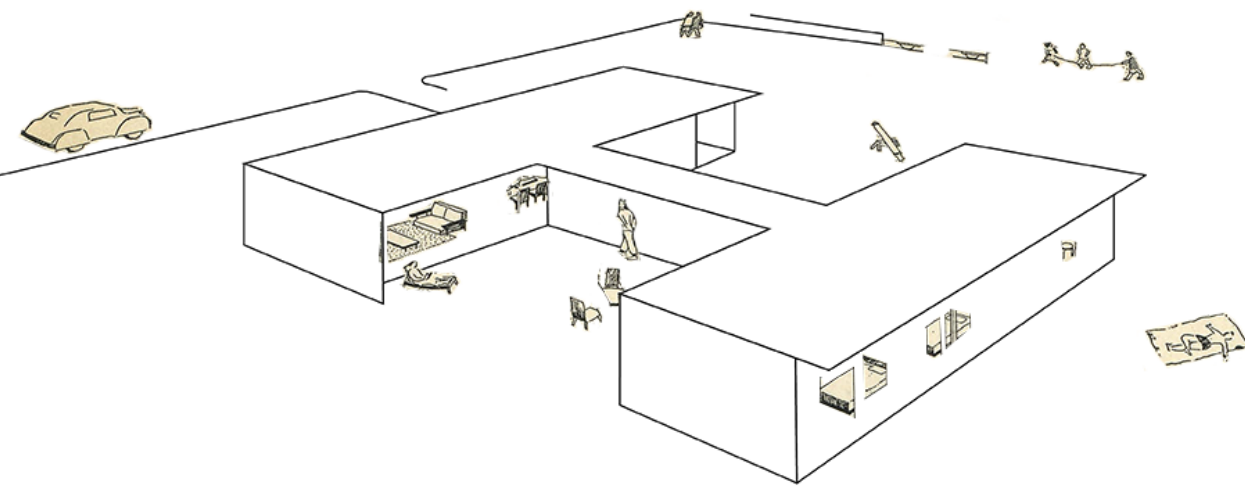


Figure 11: Non-floral objects. Own drawing

tires of the neighbouring house are showing underneath the garage in the upper right corner. The tires suggest a garage function of the space. The drawing thus shows the post war future envisioned for the American people. All these objects give a sense of freedom and modernity. The car is drawn to show the freedom of movement, the people are drawn so that they show freedom and fun. The children are playing and the others are laying in the grass or on a lounge chair.

After close examination and analysis we can conclude the following: First, the drawing is a two-point perspective from a bird's eye view to show the volumetric lay-out of the house with its flat roof and lots of glass facades. Second, hatches are used to distinguish surfaces and indicate a specific materialization. However, the texture does not obviously show what material it depicts. Third, the objects used in the drawing depict a certain freedom and happiness, showing what life in and around the house looks like.

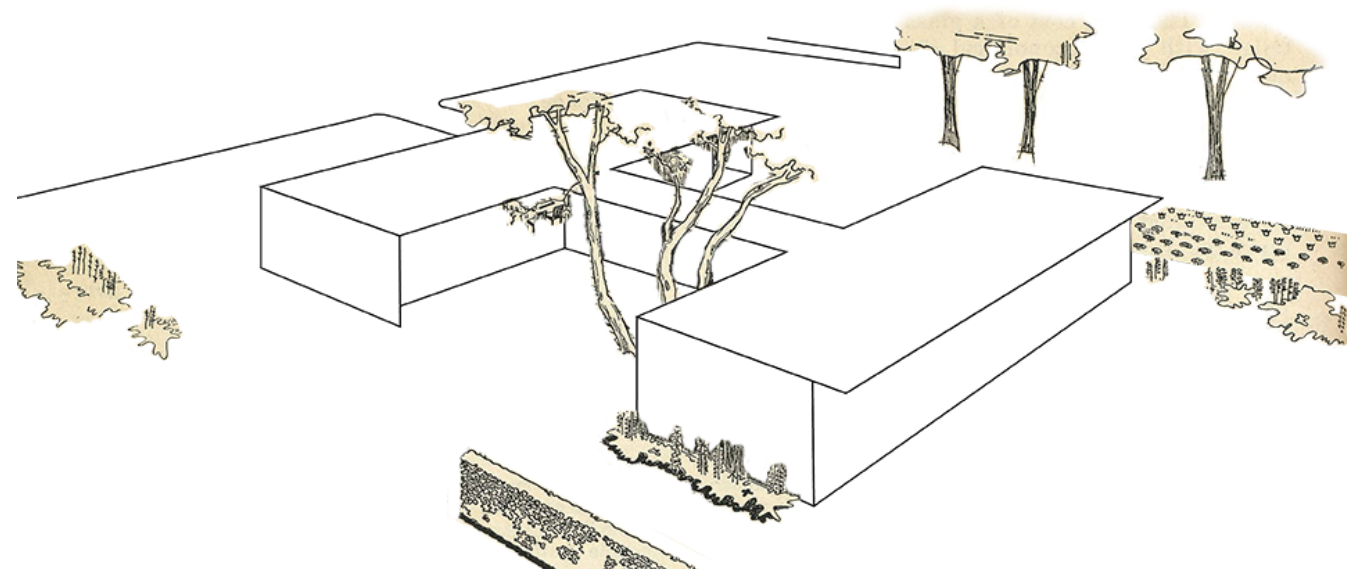


Figure 12: Floral objects. Own drawing

II. Drawing analysis Case study house #19

II.i Drawing Description

The Case Study House program was organized by the Arts & Architecture magazine (Smith, 1998, p. 18). According to Hofmann (2021) the aim of this program was to provide a solution to the housing shortage after the great depression and the building boom that would follow the war. John Entenza, owner and editor of the Arts & Architecture magazine³ said; "The best materials should be used to arrive at a good solution of each problem" (Hofmann, 2021).

The Case study House #19 was designed by Donald Knorr and was never realized. The design was published in September 1957 (Smith, 1998, p. 67). When looking at the perspective drawing of Case study house #19 (figure 13) we can see a two-story building with a single-story annex making a H-shaped main volume. Behind the main house lies a second building, reachable via a boardwalk. A car is placed in this second building suggesting the use as a garage or parking space.

The double height building has a large glass façade connected to the front left courtyard. In the interior a box is placed in the high space with a stair to connect the upper and lower level. We can also look through the large space because there is a lot of glass on both sides of the large volume.

A lot of walls and fences divide the plot in several courtyards. One in the back with a fire place and a pool, one in the front left with a sort of sculpture in it and one in the front right. The front right is probably a driveway because it connects to the garage and has a gravel like dotted texture.

³ John Entenza bought the Arts & Architecture magazine in 1938. Two years later he became chief editor and changed the magazine rigorously. Due to his vision on the renewed magazine Arts & Architecture became a financial success which was rarely the case with art magazines. (Smith, 1998, p.15-16)

The building looks modernist due to the flat roofs, use of glass and the straight lines. The garden also gives a modernist impression. The main building shows some white spaces between the wood like textures on the exterior walls suggesting some sort of grid. The grid is filled with wooden or glass panels, making the structure visible which is also a characteristic of Modernist architecture.

The designated squares and sight lines of the garden are reminiscent of the Miller house and garden designed for the Miller family by landscape architect Daniel Urban Kiley and by Finnish architect Eero Saarinen, who also participated in the case study program together with Charles Eames.

Many surfaces in this drawing are very dark. Only a few materials are illustrated in a lighter way. The drawing uses a lot of dark shadows and dark textures as well making some parts of the illustration hard to read. The dark character of the drawing does not make the visualization very attractive and does not invite the observer in the project.

Not a lot of objects are depicted in the drawing. There are a few objects that indicate the use of a space like a fire place, a car, a hearth and a diving board. The limited amount of objects and lack of people in the representation does not make the use of the building very clear. It also gives a distant emotion to the reader of the drawing.

The drawing consists of multiple layers. The vegetation is placed on the foreground, on the plot and on the background. Most of the vegetation is depicted by outline and not filled in with leaves and branches. However, this is only on the edges of the drawing. The trees on the plot are drawn in more detail. Branches and leaves are drawn but only where they do not block important parts of the building. Most of the tree trunks are not visualized with a texture. Only the tree in the foreground has a texture on a small part of the trunk.

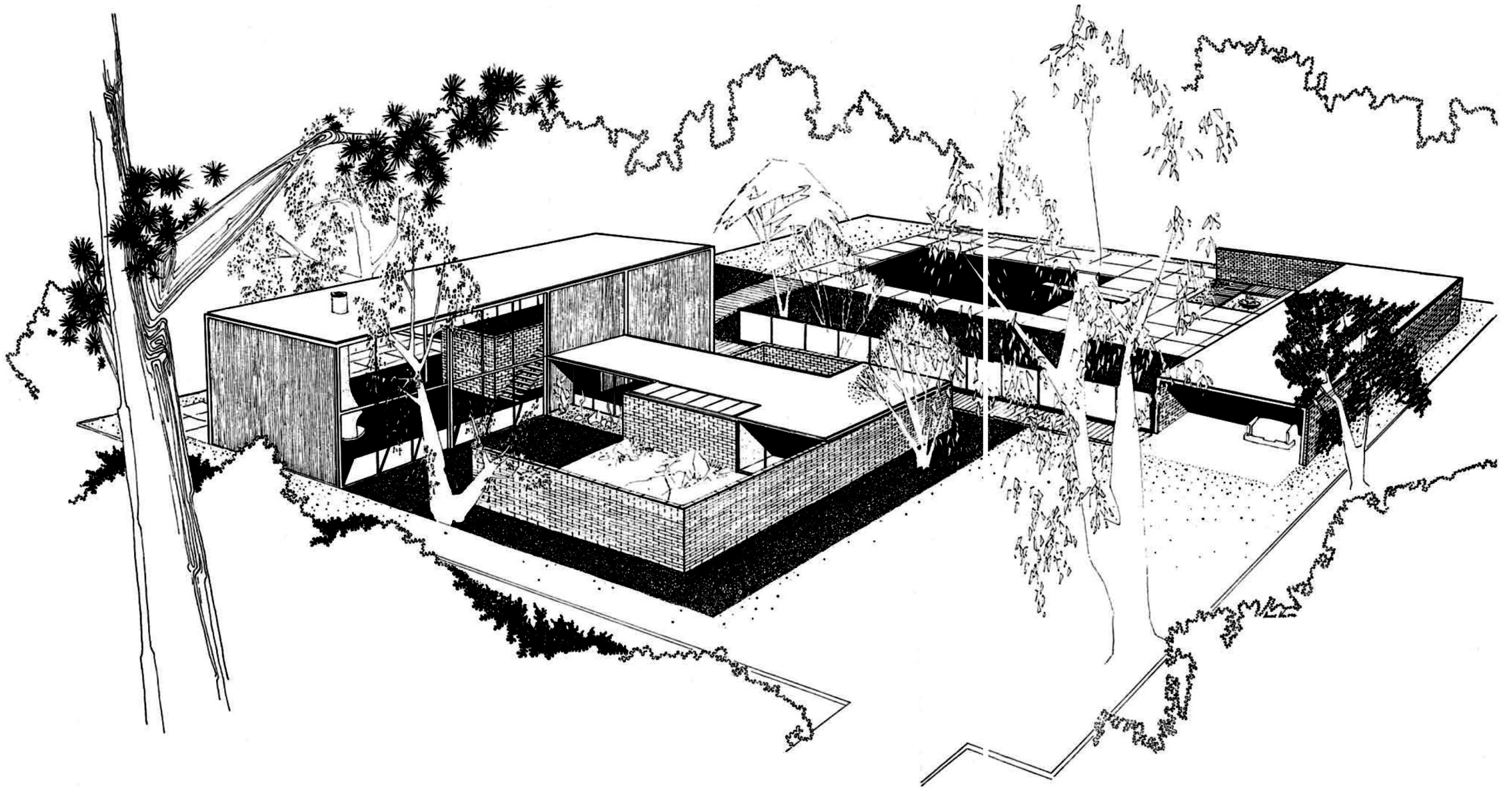


Figure 13: Perspective drawing Case Study House #19. Retrieved from: <https://mcarch.wordpress.com/2016/08/10/don-knorr-case-study-house-no-19-1957/>

II.i Perspectival Analysis

Again, a perspectival analysis is made by extending the lines of the drawing. The extended lines cross each other in one point which is the vantage point, this representation has two vantage points (figure 14).

Another analysis is made by transforming the floorplan in such a way that it fits in the perspective (figure 15). This analysis shows the relation between interior and exterior of the project giving the drawing more context. In figure 15 we can see that the H-shaped main volume consists of all the living spaces, like the master bedroom, children's bedroom, living room, kitchen, play room for children and bathrooms. The main volume is divided in two wings, one for the children and one for the parents including a kitchen and living room. The other volume is used for amusement and consists of a bar, fire pit and dressing rooms for the pool. According to Smith (1998,p. 67), this is done because the clients wanted a separate space for leisure that did not remind them of everyday life.

The entrance of the main building is also more visible in this drawing, making clear how to enter the main volume. This is done by walking from the driveway over some sort of boardwalk. The boardwalk runs from the right side of the plot to the left and connects the driveway to the entrance. Further this analysis shows that the entrance is connecting the two wings to each other. This drawing also shows the use of the courtyards because the walls are made transparent. The courtyards are filled with landscape elements like earth sculptures and some plants.

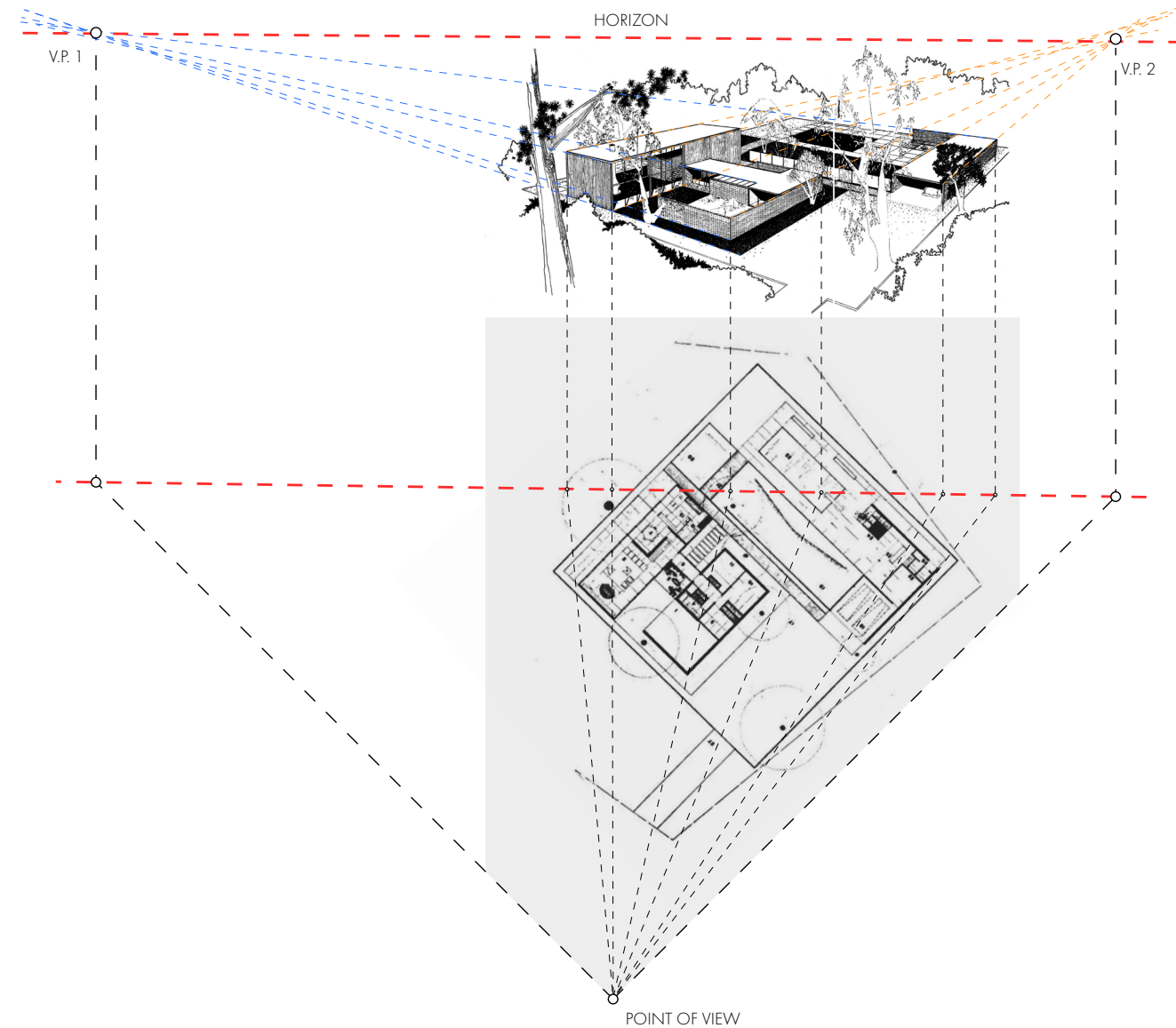


Figure 14: Perspectival analysis of Case Study House #19 drawing. Own image

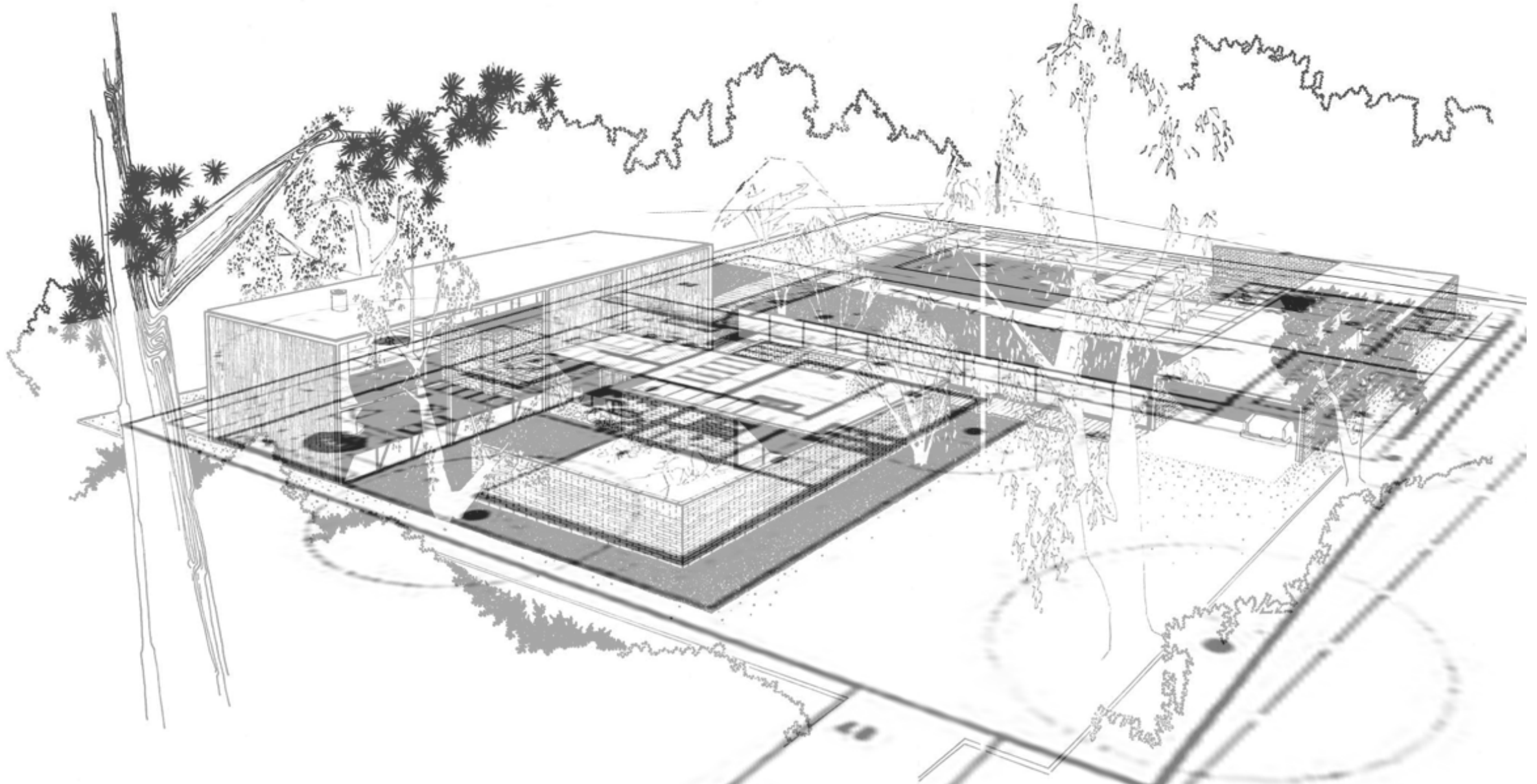
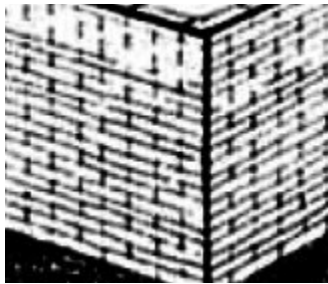


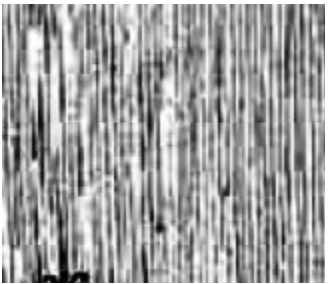
Figure 15: Floorplan perspective of Case Study House #19 drawing. Own image

II.iii Texture Analysis

The second analysis of this drawing is a texture analysis. Eight different textures are used in this drawing each with a different hatch all suggesting a material (figure 16). The first hatch is made with white vertical lines on a black background and suggests a wooden material. This hatch is used for the walls of the building is double in height and corresponds with the texture used for the tree trunk on the foreground. The second hatch shows a running bond of stacked rectangles that looks like a brick like material. This hatch is placed on multiple walls. The third hatch is white with black dots. It is placed on the driveway suggesting a gravel or asphalt material. A fourth hatch is used on the ways connecting the buildings and the pool on the plot. This consists of stacked long rectangles suggesting planks of some sort. One of the darker hatches is placed on the ground around the walls and is comprised of a black background with white dots. It does not suggest an obvious material. Another dark hatch is used within the tiles and diving board suggesting a pool so the hatch can resemble water. The hatch is completely black. The lightest hatch is placed on the roofs and is just white not depicting any particular material. The last hatch is made out of white squares with black outlines and is placed around the pool suggesting a large tiled surface.



BRICK



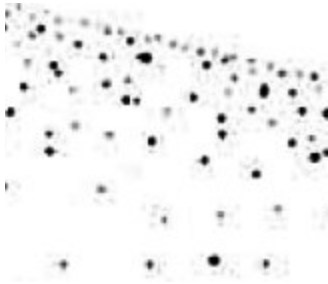
WOOD



ROOFING



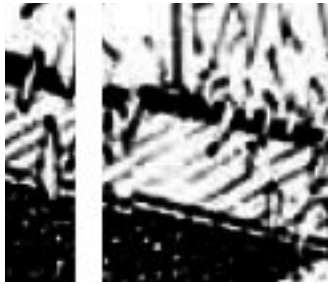
TILES



DRIVEWAY



UNKNOWN



ROOFING



WATER

Figure 16: Texture analysis of Case Study House #19 drawing. Own image

II.iv Object Analysis

Like mentioned before, not a lot of objects are depicted in this visualization. Just as in the drawing by Jean Bodman Fletcher, we can divide the objects in the drawing in two categories; Floral and non-Floral (figure 17 & 18).

The floral objects are mostly vegetation but also have some landscape elements in them (figure 17). The floral objects that stand out the most are the trees situated on the plot. There are seven trees placed on the plot and one stands promptly in the foreground. Every tree is drawn in a different way suggesting multiple types of trees. These trees show the importance of the garden in relation to the building. This relation is also reinforced by the courtyards. The courtyard next to the main building volume has some big stone like objects in it and low vegetation. The last floral objects are also trees but are placed around the plot which are made by drawing the outline of the vegetation and not the infill. The vegetation looks like it is placed around the plot almost hiding the building behind a thick layer of bushes. This adds to the closed character of the design which is also emphasized by the courtyards and walls running through the garden.

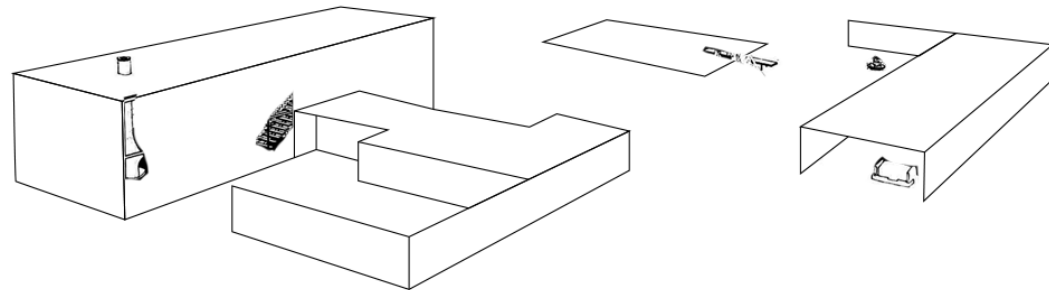


Figure 17: Non-Floral objects in Case Study House #19 drawing. Own image

According to Smith (1998, p. 67), this is done to create a surprising effect when up driving to the house because the house emerges from the vegetation. The other objects in the drawing are the non-floral objects. Only five non-organic objects are depicted in the drawing; a car, a fire pit, a diving board, a stair and a hearth inside the main building (figure 18). These objects only suggest the function of the space that they are placed in.

Thus, after analyzing the drawing for the Case Study House #19, we can conclude the following. First, the drawing is a two-point perspective from a birds eye view and gives a good overview of the house and garden. Second, hatches are used to distinguish surfaces and the hatches could refer to a specific materialization. However, the textures do not obviously show what material it suggests. Further, the hatches used in this drawing are quite dark. Third, non-floral objects are used in the drawing depict the function of the space that they are in. Floral objects are used to close the plot and hide the building from the road. Finally, we can also see a lot of elements of modernism in the drawing like the flat roof, use of glass and the design of the garden.

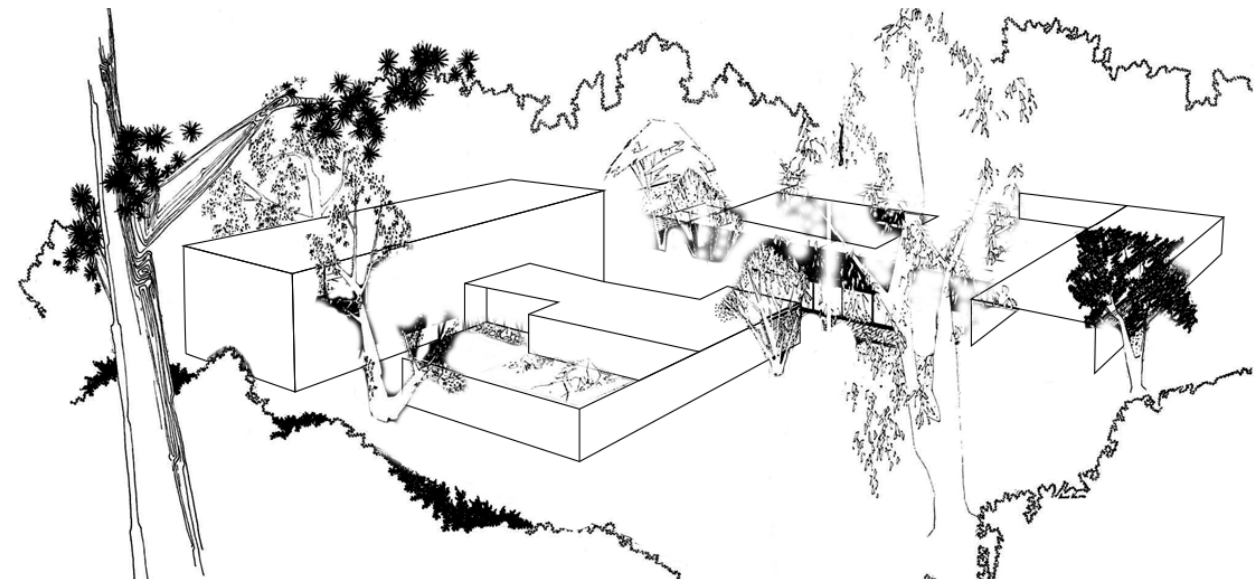


Figure 18: Floral objects in Case Study House #19 drawing. Own image

III. Drawing comparison

After the analysis of the two drawings we see some similarities between the drawing of Jean Bodman Fletcher and Donald Knorr. Both drawings are a two point perspective where the horizon is above the subject of the drawing, indicating that it is a birds-eye view. Further, the drawings are both line drawings, probably drawn with pen on paper. Moreover, the two drawings have modernist traits in their design like a flat roof, straight lines, no ornaments asymmetrical compositions and lots of glass facing the garden or a courtyard.

When we look at the hatches that are used in the drawing, we can see the use of similar hatches but they are not always used to suggest the same material. The drawing made by Jean Bodman Fletcher, a dotted hatch is used on the roof. The same hatch is used in the drawing for Case Study House #19, but here it is placed on the drive way. There is one hatch that is used in both drawings on a similar place, namely the vertical striped hatch. The hatch is used for the exterior wall cladding and on the tree trunks and suggest a wooden material in both drawings. Thus, both drawings do not have the same hatches but there are some similarities in the hatches.

The objects used in the drawings can both be categorized in the same way; Floral and Non-Floral. The objects in both drawings also suggest the use of the space that they are in. However, in the Case Study House drawing there are no people depicted. The drawing therefore has a less personal character and does not show the freedom that the drawing of Jean Bodman Fletcher does.

Both drawings also have different characters. For example, we see that A House for Cheerful Living has a more open character compared with the Case Study House. The open character of the House for Cheerful Living can be seen by a few features, like the lightness of the hatches, lightness of vegetation and the use of people. When comparing this with the Case Study House the opposite is true. The hatches are darker, shadows are used, the vegetation is drawn more detailed and there are no people depicted.

Thus, we can say that the drawings are the same but different. The differences can be justified because both projects had different clients, hence the drawings had to communicate different things. Case Study House #19 was made for a private client while the House for Cheerful Living was made for a more general client and placed in a denser suburban setting (Galván Desvaux et al., 2015, p. 67).

Another argument for the differences is that the House for Cheerful Living was made for a competition and not for a case study program for experimental purposes. However both drawings were also made to be published so they are made for similar communication goals.

IV. Comparing Jean Bodman & Don Knorr

To know more about the possible influence the education of the architects had on their drawing style a short biography of both architects is given. This could provide some evidence for differences and similarities in their drawing style.

Jean Bodman Fletcher was born on the 10th of January 1915 in Boston Massachusetts (McLeod & Rosner, n.d.). After college, Jean entered the Cambridge School of Architecture and Landscape Architecture for Women in 1941. Following this, Bodman began studying at the Harvard Graduate School of Design (GSD) during the second World War⁴.

During her study at GSD, Bodman met her future husband Norman Fletcher, who studied at Yale, and they married in 1945. Norman worked at Skidmore, Owings & Merrill (SOM) in New York, Saarinen, Swanson & Associates and later co-founded The Architects Collaborative (TAC). For a studio led by Marcel Breuer⁵ she made a redevelopment project in Boston (Alofsin, 2002 p. 188-189). Her project consisted of several housing types, a shopping centre, auditorium and other community services.



Figure 19: Jean Bodman Fletcher in a design meeting. Retrieved from <https://pioneeringwomen.bwaf.org/jean-bodman-fletcher/>

⁴ GSD admitted women due to the declining enrolment of male students and therefore made women eligible for its regular graduate program and a Harvard degree (McLeod & Rosner, n.d.).

⁵ Marcel Breuer was a Modernist figure that worked with Walter Gropius (Lawrence et al., 2017, p. 27)

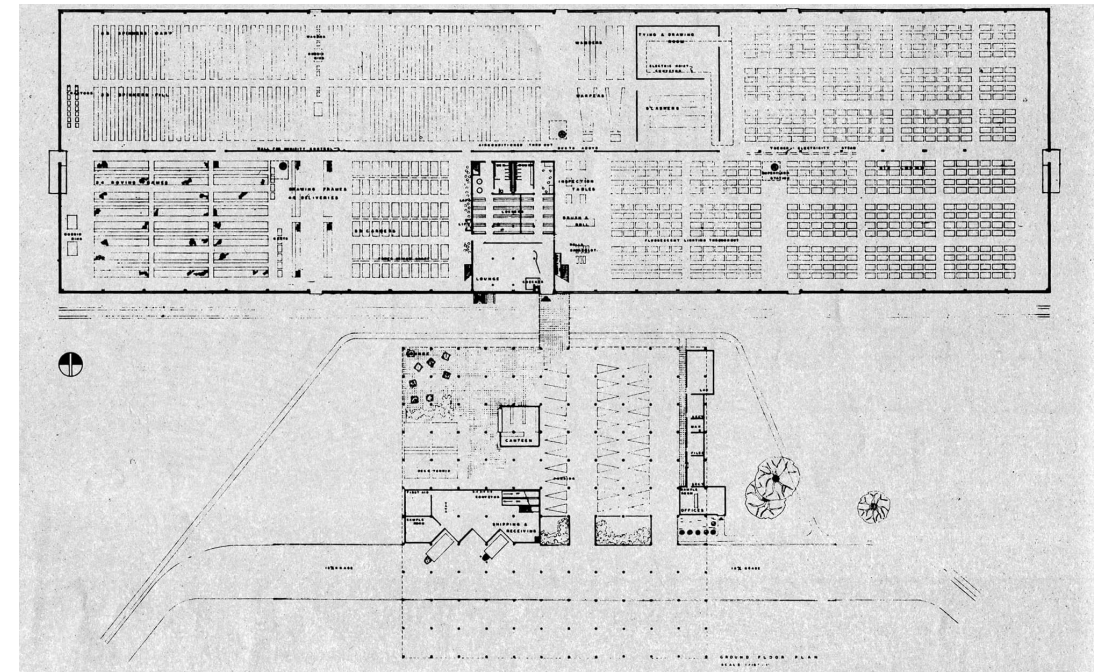


Figure 20: Graduation project of Jean Bodman. Retrieved from <https://pioneeringwomen.bwaf.org/jean-bodman-fletcher/>

Her final thesis was guided by Walter Gropius, in which she proposed a community of migrant workers integrating flood control, electric power development and water conservation and use (figure 20). Her thesis was published in the Arts & Architecture magazine, where she was also interviewed about her project.

Bodman, just like other young architects of that time, was trying to address social and environmental concerns of the post-war society by uniting the building disciplines. These projects showed similar ideas as the pre-war Bauhaus movement. Before starting TAC, she started a firm with her husband Norman after her graduation from Harvard. They gained popularity by winning different design competitions. The first one was the Pencil Points Magazine "A House for Cheerful Living" competition in 1945.

Later in 1945 Jean co-founded The Architects Collaborative (TAC) together with Walter Gropius, Louis McMillen, Benjamin Thompson, Sarah Harkness, John Harkness and her husband Norman Fletcher. This was the last firm she worked at before she died September 13th 1965 at the age of fifty due to cancer (Gropius et al., 1966; McLeod & Rosner, n.d.).

The life of Donald Robert Knorr (figure 21) had some similarities with that of Jean. He was born 1922 in Chicago and studied at the University of Illinois from 1942, where he obtained his Bachelor degree in 1947. During his Bachelors he was drafted in the Navy to serve in the second World War. Following his Bachelors, he was a post graduate at the Cranbrook Academy of art in 1948 (Michelson, 2002; Sebastian, 2003). Succeeding Knorr's graduation, Eero Saarinen⁶ (figure 24) became his mentor and pushed Knorr to submit his steel chair design to the MoMa competition (figure 22). He won the competition, winning his first international award.

In 1949 Don Knorr moved to San Francisco to work at Skidmore, Owings and Merrill (SOM). That year he also married Anne H. Hall who was an interior designer. Just two years later, in 1951, he established Don Knorr and Associates in San Francisco. Don also joined the Case Study House Program in 1951 where his design of Case Study House #19 was published in 1957 in the Arts & Architecture magazine (Sebastian, 2003). Knorr was largely active in California and mainly focused on architecture and furniture design. Don Knorr Associates got a lot of assignments designing furniture, and thus the firm did not design a lot of buildings. His work is described by Sebastian (2003) as: "radical, cutting- edge and ingenious. His work displayed a modernistic simplicity that took advantage of each project's natural environment." (p.1).



Figure 21: Donald R. Knorr. Retrieved from: <https://www.knoll.com/designer/Don-Knorr>

⁶ Eero was a Modernist who studied and worked together with Charles Eames (Knoll, n.d.)



Figure 22: Side Chair designed by Don Knorr. Retrieved from: <https://www.moma.org/collection/works/3379>

He died on the 23th of October in 2003 at the age of 80 years old, following a pneumonia infection after receiving surgery (Michelson, 2002; Sebastian, 2003).

Both architects grew up around the time Modernism emerged in Europe during the 1920s and was introduced in America by the American Institute of Architects (AIA) due to their publications about the work of Mies van der Rohe and Le Corbusier. However, the rise of modernism came to a hold in the late 1930s and 1940s due to the combined effects of the great depression (1929-1939), World War two (1940-1945) and fast evolution of technology (Alofsin, 2002, p. 10). During this period some Modernist European architects like Walter Gropius fled Europe because the rise of the national socialist regime.

The real momentum of modernism was started by the appointment of Walter Gropius (figure 23) at the Harvard University's Graduate School of Design (GSD) in 1937 (Alofsin, 2002, p. 138; Murphy, 2011, p. 309). His view on modernism inspired students that would carry his vision in their projects and education producing the modernist office buildings, housing projects and urban renewal projects after the second World War (Alofsin, 2002, p. 11-12). Therefore Gropius and the modernists had a lot of influence on the education at the GSD.

Cranbrook Academy of art was also a modernist design school. The Academy was led by Eero Saarinen father Eliel Saarinen who was the first president in 1932. Saarinen's father not only designed the campus in 1925 but also created the curriculum of the Architecture and Urban Design Department (Barrios, 2018). Further, Eliel's wife founded the textile design department. Thus, Eliel Saarinen had a lot of influence on the education at Cranbrook and probably used his European background and experience of early modernism in the curriculum.



Figure 23: TAC with Gropius in the middle.
Retrieved from: <https://elblodgeilabasmati.com/2022/01/05/walter-gropius-tac-architecture-colaborativa/>



Figure 24: Eero Saarinen. Retrieved from: <https://ciloonl/portfolios/eero-saarinen/>

Cranbrook educated several other known architects, like Florence Knoll, Charles Eames, Ray Kaiser Eames and Eero Saarinen. Eero later lectured at Cranbrook during the time Knorr studied at Cranbrook.

After diving into the lives of the architects, we can see that both were mentored by great modernists figures, like Walter Gropius and Eero Saarinen. At the end of their education these mentors helped the architects within the field of design. The influence these mentors had in the curriculum of the different universities is evidence for the modernist style of the two drawings. Moreover, the mentors were involved with the architects after their education. Gropius even started a firm with Jean Bodman Fletcher. Furthermore, Norman Fletcher and Don Knorr worked at the same firm. The similar work experience could be important for the development of their drawing style. Therefore this could be important evidence for the similarities in the two drawings. However, there are also some differences between the two architects. Jean Bodman mostly active in the east of America and Donald Knorr in the west. There is also a seven-year age difference between Jean and Donald which means they could have been influenced by different events.

Thus, we can say that the lives of the two architects intertwine and show close influences that could explain the similarities in the drawings. Nevertheless, the lives of the two architects are not identical and it is difficult to say what events influences their drawing style.

V. Conclusion

This thesis provides an extensive analysis of the drawing made by Jean Bodman Fletcher for the House for Cheerful Living competition published in the Pencil Points magazine. A comparative analysis is made of the Case Study House #19 by Donald Knorr. After these analyses a comparison between these two drawings is conducted to map the similarities and differences of the two drawings. Eventually a short biography of both architects is provided to show the possible influences on their drawing style. All these provides evidence why post-war living competitions like the Case Study program and the House for cheerful living competition are visualized in a similar way.

The analyses shows that both drawings are drawn in a similar perspective and have a lot of modernist traits in its design. Jean Bodman Fletcher depicted her drawing in a light way. She did not use heavy textures, kept vegetation simple and not too detailed. By adding people and objects she created a happy depiction of the project. Contrary to Jean Bodman, Donald Knorr depicted his drawing in a dark way. Using dark textures, dark shadows, no people and little objects that show the use of space.

The drawing style and architectural style are similar, however the emotion the drawing depicts is different. An explanation for this could be that the drawings had a different audience or client. So the drawings share some traits of drawing style but have their own way of depicting the project.

The fact that these architects were educated around the same period and were both mentored by famous modernist figures like Walter Gropius and Eero Saarinen is evidence for the similarities in drawing style. Further the fact that Norman and Donald worked both at SOM could also explain the similarities.

This because Norman also worked on the House for Cheerful Living project. However, it is difficult to say how the similarities came to be and if these arrived from related influences.

Even though the lives of the two architects are not identical we can say that both drawings show a comparable drawing style with some differences. These similarities could be explained by the corresponding modernist education, influence of their modernist mentors and their work at identical offices. The differences can be assigned due to the different clients or region where the architects operated.

This thesis adds to the body of knowledge about modernist drawings, post-war design competitions and biographical information of the two architects. Other literature did not refer to the way projects were drawn and how education affected their drawing style.

Comparing just two drawings is not enough to draw general conclusions about drawing style of that time. More drawings need to be analyzed in a comparable way to gain further insight about this subject. Perhaps other drawings from post-war competitions or drawings of the same competition drawn by different architects can be analyzed. Furthermore drawings of the mentors Gropius and Saarinen could also be analyzed to see if there are similarities between the drawings of mentor and apprentice. All these analysis can create more insight in the influences that determine the drawing style of an architect.

These results can help architects understand the visualization of projects better and present their work in a stronger way. This could end up in more assignments or more publicity.

References

Alofsin, A. (2002). *The Struggle for Modernism: Architecture, Landscape Architecture, and City Planning at Harvard* (1st ed.). W. W. Norton & Company Inc. NY.

Architectural Forum. (1942). *Air Raid Shelters*. Architectural Forum, 1942(1), 44–50.

Architectural Forum. (1942). *Building Protection*. Architectural Forum, 1942(1), 26–43.

Architectural Forum. (1942). *Camouflage*. Architectural Forum, 1942(1), 14–25.

Arts & Architecture magazine from 1956 documents the Case Study House #19 extensively.

Barrios, K. (2018, December 12). *Our History | About*. Cranbrook Academy of Art. Retrieved 30 March 2022, from <https://cranbrookart.edu/about/history/>

Bodman, J. "A Competition to Select an Architect for a Proposed Dormitory Group for Smith College," *Progressive Architecture/Pencil Points* 27 (April 1946): 52–61.

Davies, C. (2017). *A new history of modern architecture : art nouveau, the beaux-arts, expressionism, modernism, constructivism, art deco, classicism, brutalism, postmodernism, neo-rationalism, high tech, deconstructivism, digital futures*. Laurence King Publishing.

Esperdy, G. (2012). *The Incredible True Adventures of the Architectress in America*. Places Journal, 2012. <https://doi.org/10.22269/120910>

Galván Desvaux, N., Carazo Lefort, E., & Álvaro Tordesillas, A. (2015). 'Design of a House for a Cheerful Living' 1945. *Ra. Revista de Arquitectura*, 17, 65–76. <https://doi.org/10.15581/014.17.65-76>

Gropius, W., Fletcher, N. C., Harkness, J. C., Harkness, S. P., McMillen, L. A., & Thompson, B. (1966). *The Architects Collaborative, 1945–1965*. Niggli.

Hofmann, M. (2021, February 6). *The Case Study Houses Forever Changed American Architecture*. Forbes. Retrieved 15 March 2022, from <https://www.forbes.com/sites/michellehofmann/2021/02/05/the-case-study-house-program/?sh=2e12e6b25163>

Kaufman, P. (2004). *Pencil points reader: a journal for the drafting room, 1920-1943*. Library Journal, 129(9), 82–82

Knoll. (n.d.). *Eero Saarinen | Knoll*. Knoll.Com. Retrieved 11 April 2022, from <https://www.knoll.com/designer/Eero-Saarinen>

Lawrence, A. R., Miljacki, A., & Kubo, M. (2017). *Terms of Appropriation* (1st ed.). Routledge.

McLeod, M., & Rosner, V. (n.d.). *Jean Bodman Fletcher*. Pioneering Women of American Architecture. Retrieved 20 November 2021, from <https://pioneeringwomen.bwaf.org/jean-bodman-fletcher/>

Michelson, A. (2002). *PCAD - Donald Robert Knorr*. Pacific Coast Architecture Database. Retrieved 28 March 2022, from <https://pcad.lib.washington.edu/person/1465/>

Murphy, K. D. (2011). *The Vernacular Moment*. *Journal of the Society of Architectural Historians*, 70(3), 308–329. <https://doi.org/10.1525/jsah.2011.70.3.308>

Pearlman, J. E. (2007). *Inventing american modernism : joseph hudnut, walter gropius, and the bauhaus legacy at harvard*. University of Virginia Press.

Pencil Points magazine from May 1945 documents the House for Cheerful Living extensively.

Sebastian, S. (2003, November 18). *Donald Knorr -- modernist architect*. SFGATE. Retrieved 28 March 2022, from <https://www.sfgate.com/bayarea/article/Donald-Knorr-modernist-architect-2511787.php>

Smith, E. A. T., & Museum of Contemporary Art Los Angeles. (1998). *Blueprints for modern living : history and legacy of the case study houses*. MIT Press.

her drawing

'A House for Cheerful Living' project by Jean Bodman
Fletcher and Norman Fletcher

Post-war housing competitions were held during the second World War to provide solution for the housing shortage. Looking at the drawings made for these competitions we can see that a similar style is used.

Through analysis and comparison of a drawing made by Jean Bodman and one made by Don Knorr, this thesis explores the similarities in drawing style. By comparing the education of the two architects we attempt to comprehend what could influence the similarities in drawing style.

The analyses shows that the drawing style and architectural style are similar, however a different emotion is depicted in the drawings. The fact that these architects were educated around the same period and were both mentored by famous modernist figures like Walter Gropius and Eero Saarinen is evidence for the similarities in drawing style. Furthermore, Norman and Donald worked both at SOM could also explain the similarities, while Norman also worked on the House for Cheerful Living project. However, it is difficult to say how the similarities came to be and if these arrived from related influences. The differences in depicted emotion could be explained by the fact that the drawings were made for a different audience.