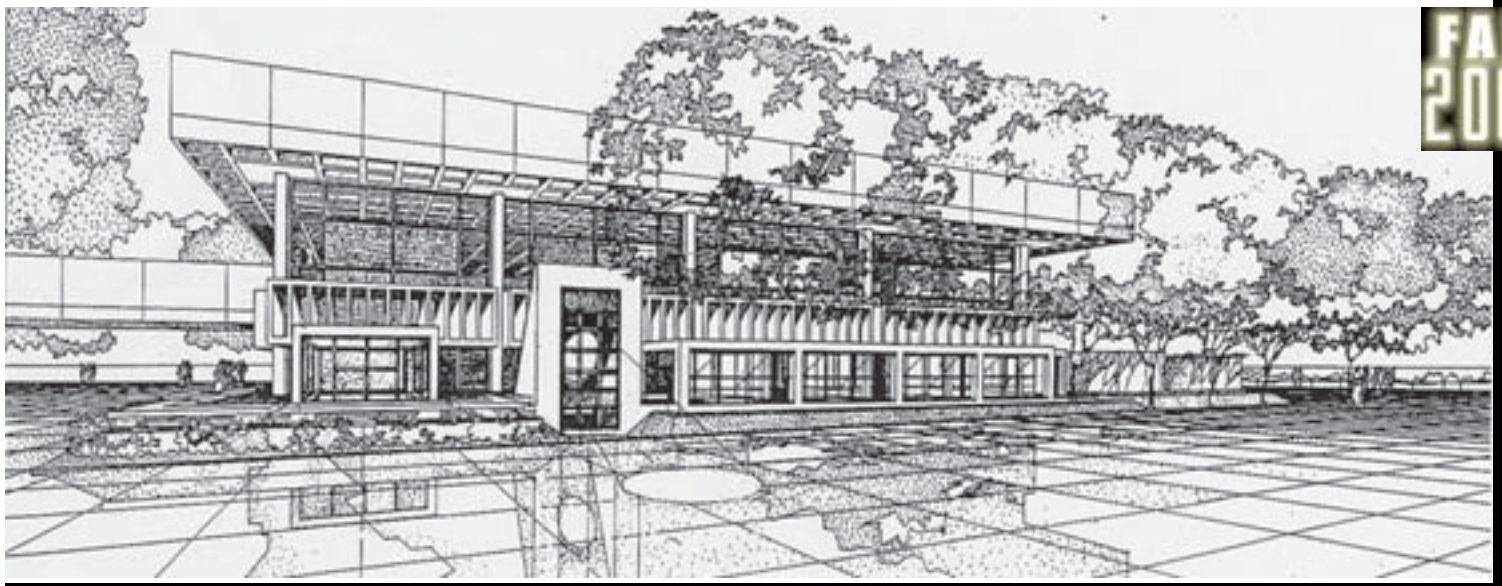
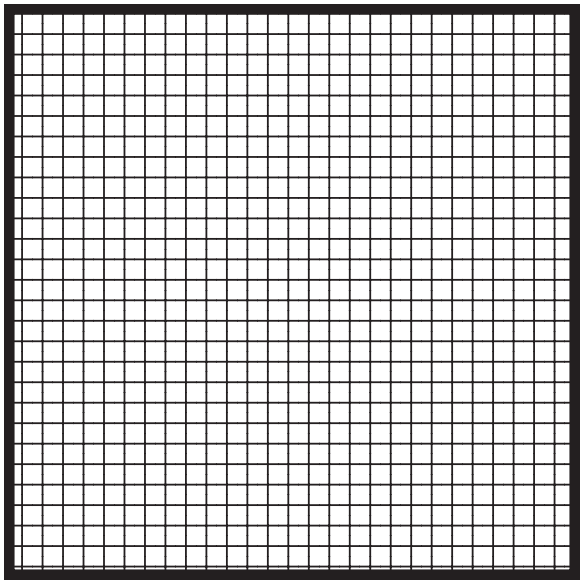


FALL
2002

PORTFOLIO



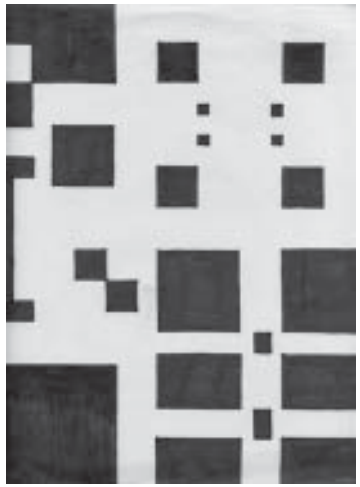
PROJECT 1

DEFINITION OF A SQUARE

Form the Reading of a
12"x12" Square with
Compositional Order

(1)

(2)



(3)

PROJECT 1

This first project introduced the basic concepts of architectural design, providing the foundation for the formal ideas that would be explored later in the semester. The problem called for the formation of the reading of a 12-inch square, which could be done in the negative, positive, or, preferably, a combination of both. At the same time, formal concepts had to be incorporated into design. Ideas like symmetry, movement, rhythm, heirarchy, layering, and datum, among many others, were to be used in working this project. All pieces had to be orthogonal, though the illusion of diagonal elements could be accomplished through clever positioning.

Shown above are first three of six preliminary design ideas that were due. These were experimental compositions that allowed for the first studies of form. This two dimensional beginning would serve as the springboard for future three dimensional projects.

(1) This was a simple exploration into the idea of datum.

(2) This was another study in datum, but also incorporated was the idea of layering, as shown by “weaving” of the striped band under the negative white square.

(3) Here, the idea of symmetry was explored within the square itself.

(4)

(5)

(6)

PROJECT 1

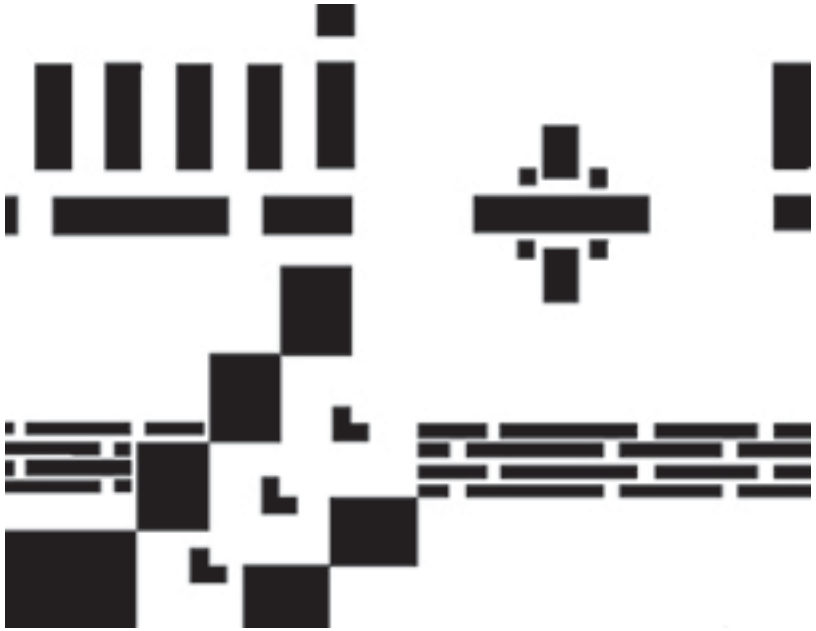
These are the second set of three out of the total six that were submitted for initial review.

(4) This was a free-for-all in terms of design. It was simply a throw-together of parts in an attempt to see what turned up and was pure play on the elements.

(5) The bathroom tile checkerboard pattern that envelopes most of the outside border of the page combined with the play on a slight shift in diagonal symmetry (creating tension) to produce an interesting design.

(6) This attempt used symmetry, placing two axes down the middle horizontally and vertically.

These first exercises were performed in order to become acquainted with the basic formal concepts. The revision and combination of some of these first drafts would be needed for the final version.



PROJECT 1

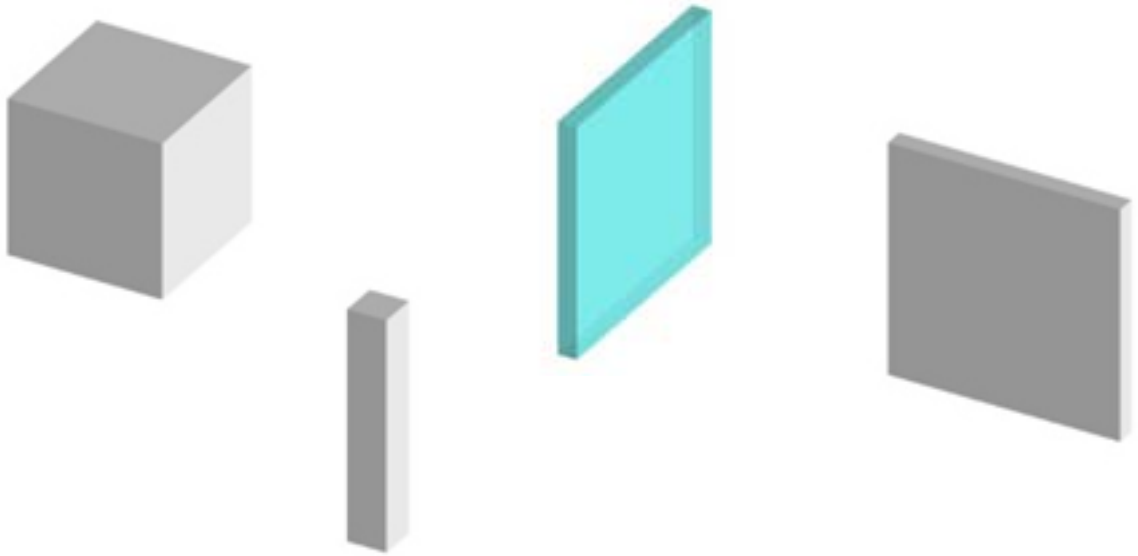
The culmination of this endeavor is presented here. The final product integrated multiple concepts, including *datum, layering, movement, rhythm, diagonal axis,* and *hierarchy.* The 12-inch square is prominently featured on the upper righth area of the field and is firmly anchored by the cross configuration with the four smaller squares ringing the sides of the vertical and horizontal bands.

The datum is presented by the three repeating bands, two of which weave with the square itself, penetrating its space.

The third band of lines, lying below the square, generates movement, as do the smaller negative squares stacked diagonally on top of each other. Interestingly, this area also forms larger squares composed of both black and white, creating a vibrating effect.

The movement displayed by the horizontal set of rectangles also creates a rhythm across the page.

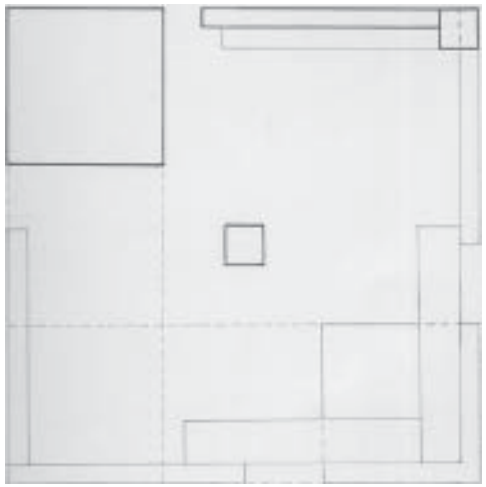
This first project provided the basic foundations of the course and proved to be a launching pad into the next project, which would transfer the ideas learned here on the two dimensional plane into 3-D.



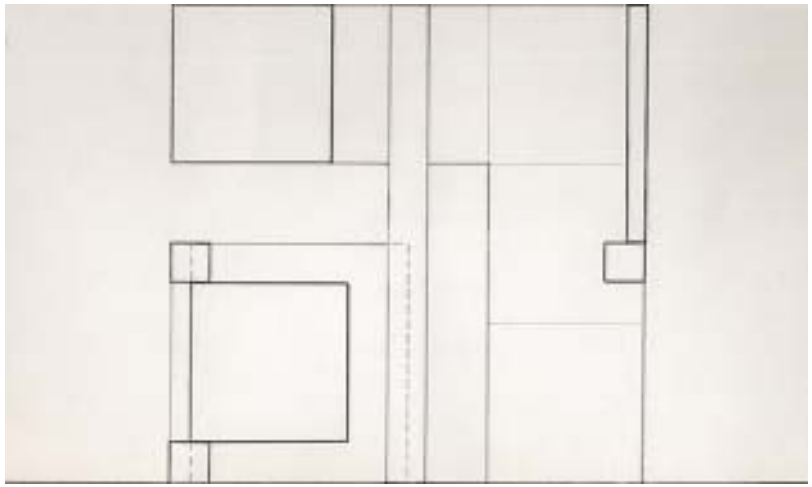
2 PROJECT

THE CUBE PROJECT

Form the Reading of a
6"x6" Cube with
Compositional Order



Plan



Section

2 PROJECT

Project two was a three dimensional extension of the first project. After learning the fundamental formal ideas in two dimensions through the reading of a 12-inch square, this project transformed it into real dimensions. The goal of the problem involved the formation of the reading of a 6-inch cube from a premade Kit of Parts. The kit of parts involved the following:

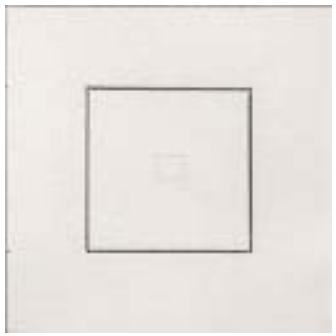
- Eight 2″x2″x2″ cubes
- Eight 3″x1/2″x1/2″ rods
- Three 3″x3″x1/4″ solid planes
- One 3″x3″x1/4″ translucent plane

Every part had to be used, with no extra pieces needed or pieces left over.

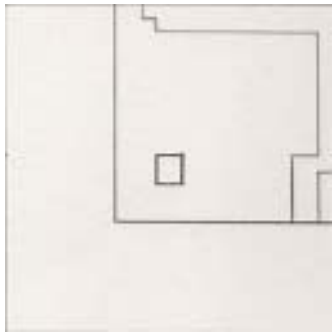
All placement of the pieces were required to be orthogonal, with no diagonal positioning.

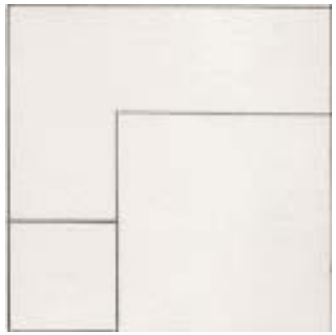
The purpose of this exercise was to explore the relationship between the solid and the void. The strategy used to define the cube could vary in different ways, with the pieces from the Kit of Parts placed inside or outside the 6-inch cube volume. Furthermore, the placement of the cube could be anywhere on a 12″x12″ plane.

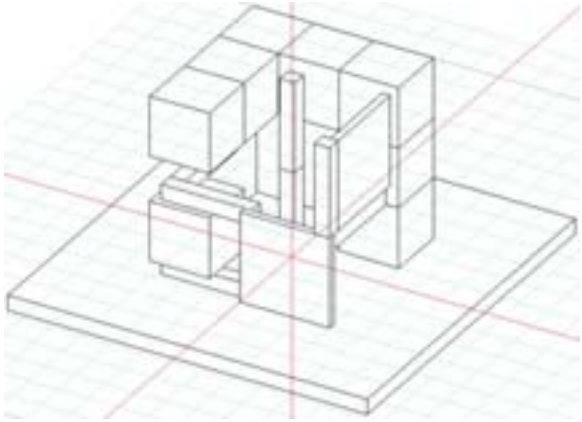
Thus, basic ideas like datum, movement, rhythm, center vs edge, balance, and hierarchy were put to use in a three dimensional environment.



DIAGRAMS







Axonometric

2 PROJECT

The main idea of this particular piece involved two snaking elements wrapping in three dimensions around each other and around a central pole formed by two rods.

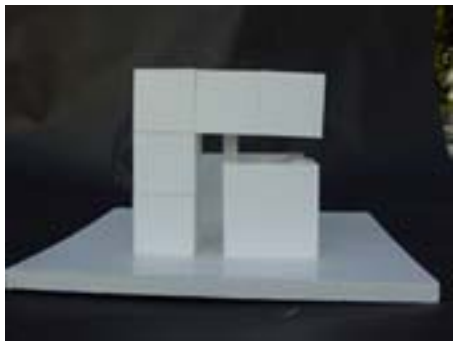
The first snaking element was composed of completely by the cubes. Seven of the eight cubes were used to construct this piece, which boldly thrusts up from the ground and curl around.

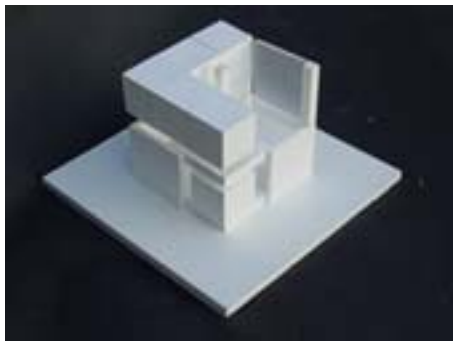
The remaining parts, barring two rods, were used to form the other snaking element.. This one skimmed the ground around two sides before finally rising up and jutting toward the first "snake."

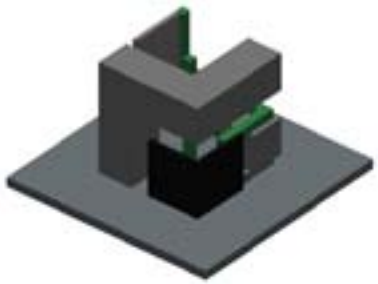
Finally, the center was firmly anchored by a two-rod pole that rose from the middle of both the cube and the plane. This provided a solid structure around which swirled the two snaking elements.

The two snaking elements created a sensation of rotational movement around the center, adding a great dynamic sense to the piece.

The snaking elements also enhanced a theme of L's that was prominent in this composition. The L's appeared from many different angles, adding to the liveliness of this project.

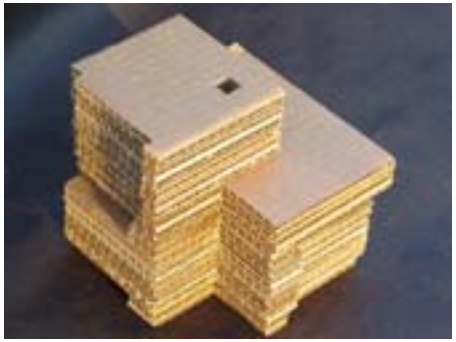


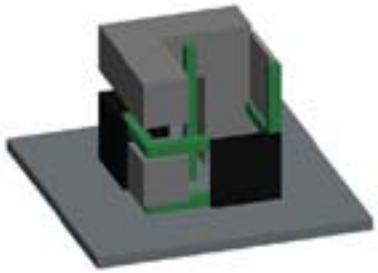




2 PROJECT

Shown above are various views of the final model.





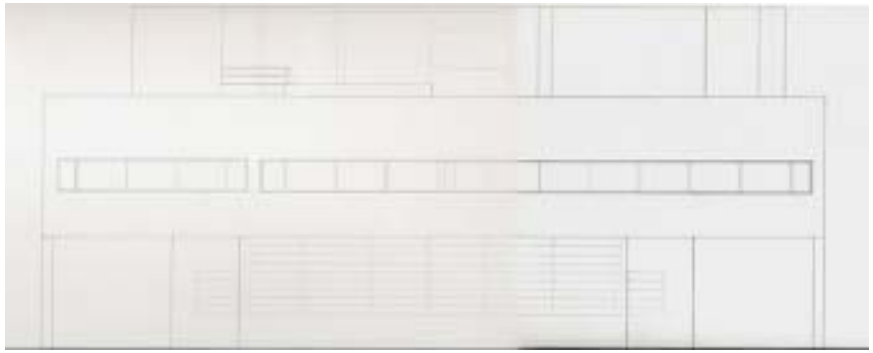
2 PROJECT

A negative model was also listed as part of the final requirements for the project. This model, showing all the negative spaces as positive, gave a unique view of the model, showing a mostly consolidated mass around a center hole.

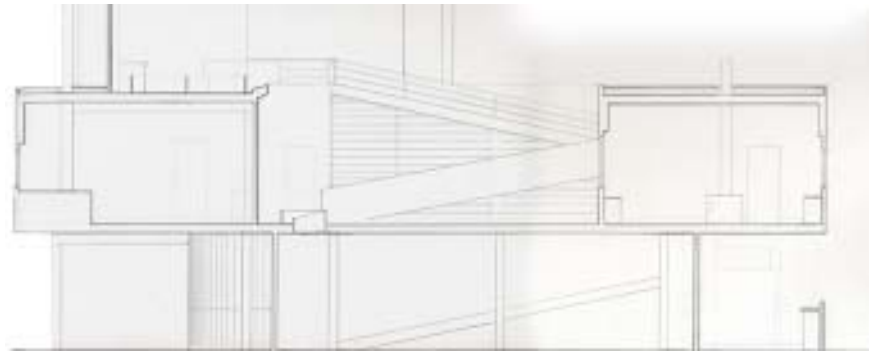
3
PROJECT

PRECEDENT STUDY

Analyze and Study a
Well-Known Building of
Architectural Significance



Elevation South



Section
North/South facing East

PROJECT 3

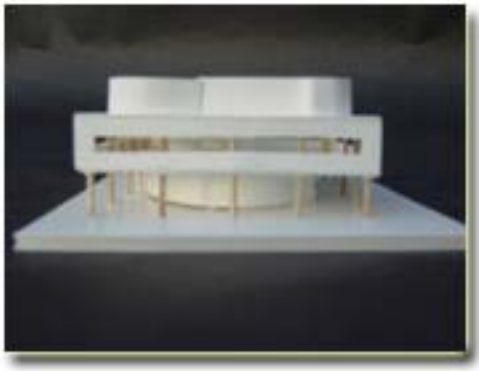
This project introduced a famous architectural building for study into its precedent-setting effects. The house in this case was the famed **Villa Savoye**, designed by Le Corbusier.

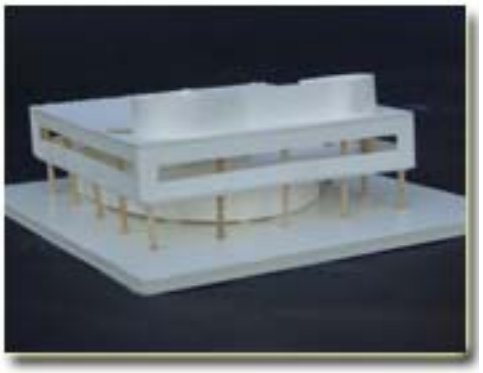
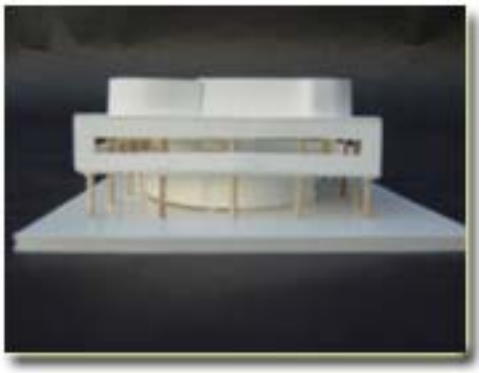
Villa Savoye embodied Corbusier's **Five Points for Modern Architecture**, a set of guidelines or features that a modern house ideally ought to have in order to make it a living machine. These included:

1. Columns (*pilotis*)
2. Free plan
3. Free facade
4. Ribbon windows
5. Roof garden

The columns, or *pilotis*, were vital to practically the whole design of the house. These load bearing elements freed the walls from the weight of bearing the load of the house, thereby enabling their free placement. Furthermore, with the exterior walls no longer needed to carry all the weight, windows could be put in long strips in their place. With that feature, the house could also have a multi-sided facade. Thus, the columns were responsible for three of the other four Points in Corbusier's idea: free plan, free facade, and ribbon windows.

The free plan was an innovation in home design. Because the walls could be placed



3 PROJECT

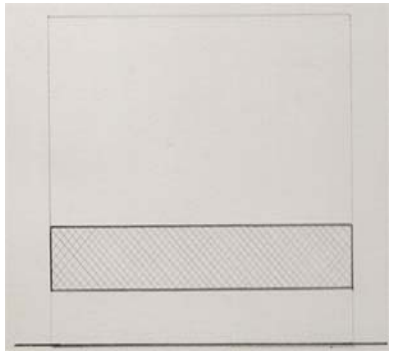
practically anywhere, the architect could now expand on a whole new set of design possibilities. The columns supported each floor, so the walls could be placed anywhere in the plan without worry of structural instability or collapse.

This allowed ribbon windows, or windows that ran along the entire side of the exterior walls, to be put in place--another innovation that had never been done before. The windows gave a new sense of openess to the house, making it light and airy as opposed to stuffy and enclosed.

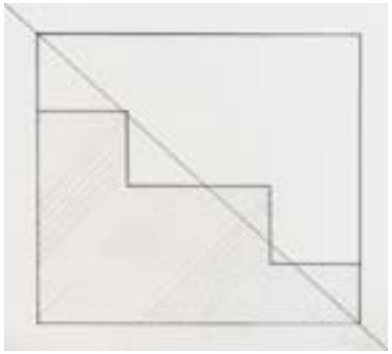
Because of this, a free facade could be constructed. Most houses before only featured a a facade at the front, but Villa Savoye could have different facades on all four sides, making it more dynamic.

Finally, the roof garden reinforced the idea of the mixing of nature and home. Everything was open to the elements. It was a revolutionary idea in design, since dwellings before had tended to be rigidly detached from their surrounding environments. Corbusier took this idea and erased it, bringing nature into the house.

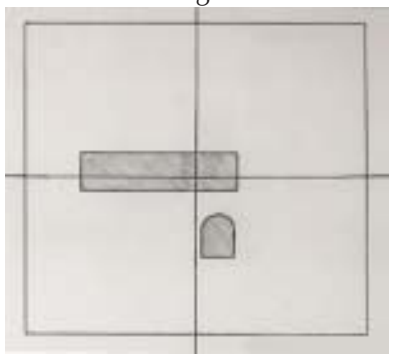
If one was to explain the parti of the house in the simplest terms, however, it would be a floating box. Because the second floor is raised



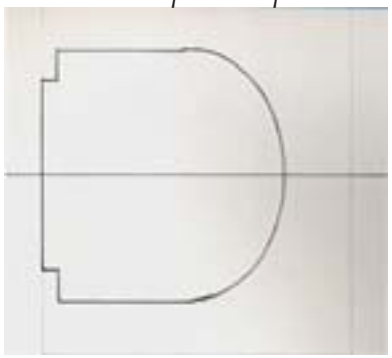
Floating box



Public vs private space



Circulation



Symmetry on first floor

3 PROJECT

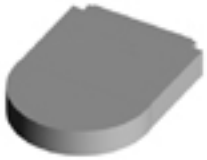
above the ground by the columns and because the first floor is pushed back, the second story becomes a box that effectively hovers above the ground.

In terms of diagraming, as shown above, the dwelling is quite complex. Besides the very obvious idea of a floating box, Villa Savoye also features two different axes. A north/south axis runs down the middle of the first floor, dividing in two and showing its symmetry. The second floor, however, features a diagonal axis that roughly separates private space, shown lined in, and public space, shown white.

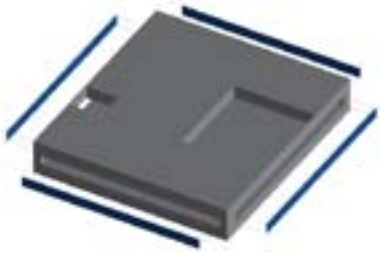
The building's circulation centers around two elements, a long ramp and a spiraling set of stairs. These two anchor the building, penetrating all three stories of the house. The ramp, a unique idea at the time for circulation, is basically public space and creates a long, gradual ascent or descent. The stairs, however, serve as private circulation for the inhabitants and servants.

The columns are also quite interesting in their layout. Basically, they are spread on a five by five grid, penetrating through each floor. Variations do occur, however, to allow for appropriate space in a certain area, such as a hallway or the garage.

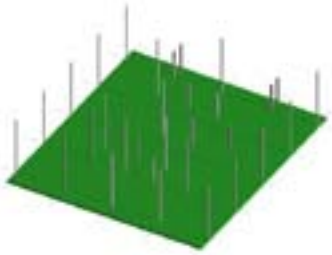
(1)



(3)



(2)



(4)

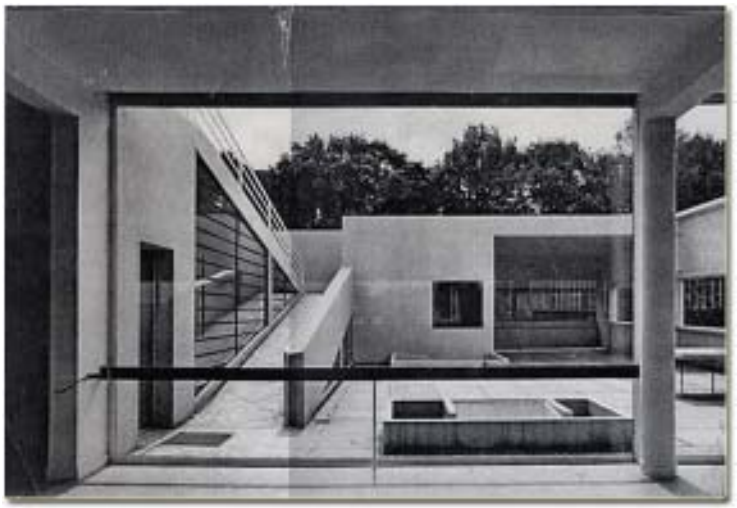
PROJECT 3

As these computer generated diagrams attest, Villa Savoye can also be thought of as many parts fitting into a whole. If diagrams 1-4 were place on top of each other in that order and then collapsed, the result would be Villa Savoye.

Furthermore, the ribbon windows can be thought of as exploded out from the second story, giving a sense of subtracted spaces. The house is like a puzzle that can be elementally taken apart and put back together.

Thus, Villa Savoye has more than meets the eye. Though it may seem simplistic at first glance, with its white, pure exterior and simple floating box appearance, there is actually quite a lot of ideas existing inside. Relationships between indoor and outdoor as well as public and private spaces about, creating unique axial developments.

This dwelling, with its Five Point Plan behind it, marked a vital development in modern architecture. Its use of columns as load bearing devices popularized their employment later on, and its pure yet complex design show the masterful work of Le Corbusier even today.



4
PROJECT

SPATIAL COLOR STUDIES

Explore the Spatial Effects
and Color Coding Possilities
of Color in Architecture

4 PROJECT

This project was done in conjunction with the previous Precedent Project. The idea was to introduce color and explore its spatial potential. Using COLORAID and prior knowledge of spatial ideas, three exhibits of color explorations were to be done.

This example shows:

SPATIAL DEPTH THROUGH MANIPULATION OF COLOR

The purpose, here, was to manipulate the feeling of depth by either emphasizing existing depth or by reversing it, making the background seem near and the foreground far.

This example enhanced existing depth, using warm, light colors in the foreground to bring it intimately close to the viewer.

The background, however, used dark, cool colors to give a receding impression.

Meanwhile, the middleground used lighter cool colors to establish a neutral mix between the foreground and background.

4 PROJECT

This project was done in conjunction with the previous Precedent Project. The idea was to introduce color and explore its spatial potential. Using COLORAID and prior knowledge of spatial ideas, three exhibits of color explorations were to be done.

This example shows:

EMPHASIS OF AN ARCHITECTURAL IDEA THROUGH THE USE OF COLOR

This, in effect, was the color coding of important parts of the building. As a result, three main attributes of Villa Savoye were highlighted in yellow, a hue that is very prominent when viewed by the human eye.

The ramp, which represented circulation, the ribbon windows, one of Courbusier's Five Points of Modern Architecture, and the columns, another Point, were painted in vibrant yellow.

The rest of the scene was swathed in cooler blues, contrasting sharply with the highlighted elements, while the trees in the background were given a similar greenish-blue hue.

4 PROJECT

This project was done in conjunction with the previous Precedent Project. The idea was to introduce color and explore its spatial potential. Using COLORAID and prior knowledge of spatial ideas, three exhibits of color explorations were to be done.

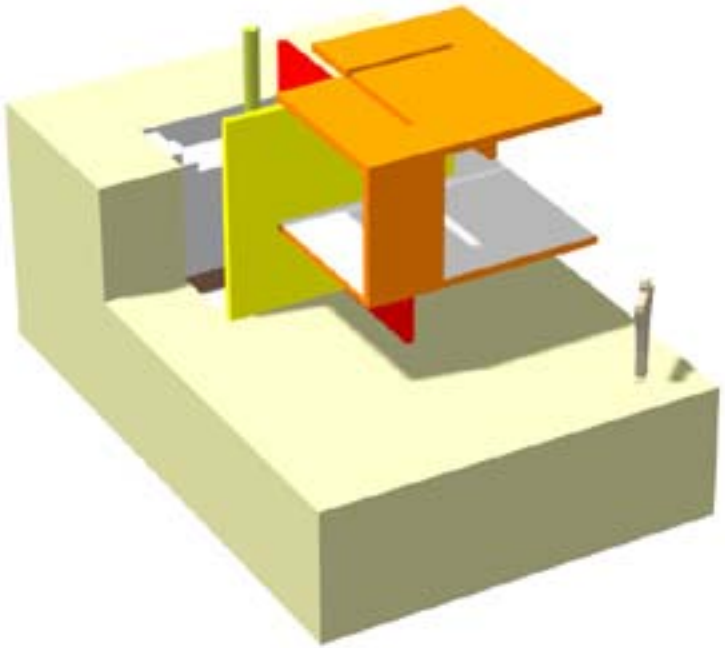
This example shows:

A BALANCED COMPOSITION THROUGH THE USE OF COLOR

The aim in this third example was to create a balanced color composition. Thus, analagous colors were used to give a sense of flow and unity.

The foreground was given dark purples and blues, effectively framing the view of the exterior.

For contrast, the middle- and background were done in lighter colors, establishing the difference between the interior and the exterior. The middleground also used blues and purples, though they were lighter, as mentioned before, while the background featured a medium blue for the sky and green for the trees.

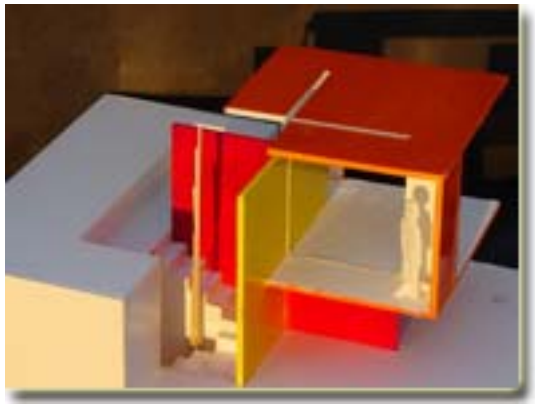


5 PROJECT

THE CARTESIAN HOUSE

Create a Dwelling within the Confines with a Place of Rest, Work, and Gathering.

View from the front, slightly east.



View the stairs from the west side.

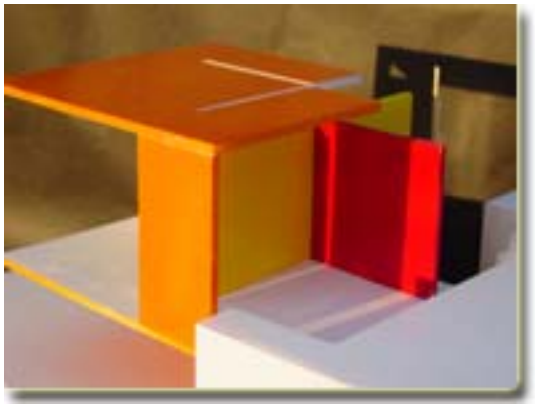
5 PROJECT

This final project was a culmination of the knowledge and skills learned throughout the course of the semester. The ideas on form and color were, for the first time, applied to the human scale, thereby bridging the gap between ideology and practicality.

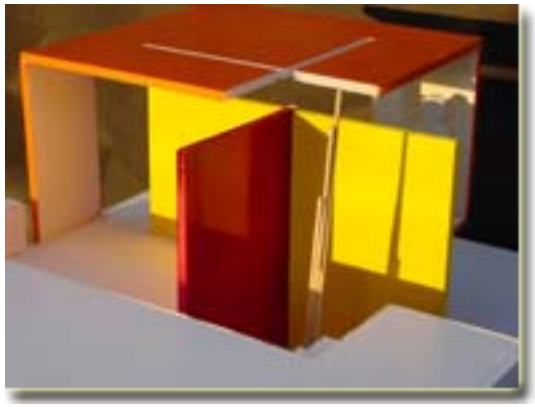
The basic problem called for the design of a dwelling that contained three programs, a place of rest, a place of work, and a place of gathering. Integrated within one of those areas was a garden, and circulation through a network of stairs also had to be configured within the layout. However, within all of this, the reading of a 14'x14'x14' cartesian plane had to be preserved as well as possible.

There were other regulations as well:

- The place of rest required a minimum area of 6x8 square feet.
- The place of work required a minmum area of 8x8 square feet.
- The place of gather required a minimum area of 10x8 square feet.
- All rooms needed to be 8' tall
- Head clearance of approximately 7' was required everywhere.
- Available building area extended only three feet on all sides of the Cartesian plane, forming a 20'x20'x20' cube of possible building space.



View of the place of work.

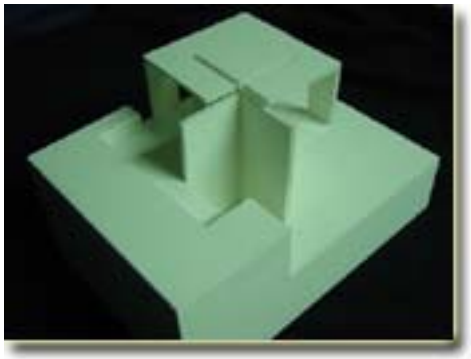


Nearing the stairs from top level.

5 PROJECT

- Only 1/3 of the available ground area could be excavated from the land.
- Only a maximum of 2/3 of the house could be enclosed.
- The network of stairs could only have a a maximum of 18 risers, with each riser mea suring 8″ at most.
- The maximum angle of the stairs was 45°
- No curves, columns, or diagonals were allowed.
- All four levels of the site--the top floor, bottom floor, top land level, and bottom land level had to be accessible from one to another.

Also required in this project was the use of color, which could either enhance spatial definition or simply highlight the important elements of the house. The color could exist in the form of direct or reflected light. However, some sort of color harmony was required, so as to demonstrate understanding of color study.



PROJECT 5

PARTI

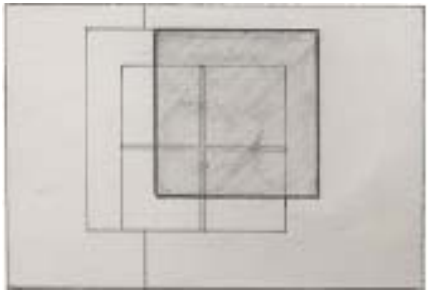
MODEL

The inspiration for this dwelling came from a combination of the ideas of Le Corbusier and Mies van der Rohe.

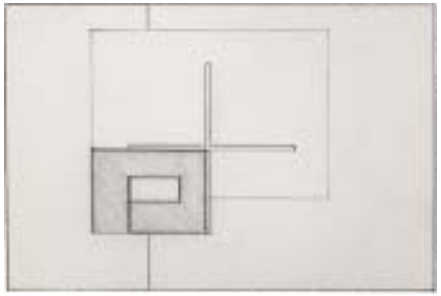
The idea of floating and openness was very appealing, and thus, the parti of this house effectively was a floating box. The walls, however, were minimal, allowing open air to pass through freely in this setting of paradise. From a distance away, the second floor might appear to be levitating in the air, but that was not the only aspect of defiance of gravity found in this building. From inside the place of gathering or the place of work, an inhabitant could glance up at the ceiling and notice that it, too, appeared to be floating. Supported near two opposite corners by two walls rising eight feet above the air, the ceiling was free to rise above the seven foot walls formed by the vertical portions of the Cartesian plane. With one foot between the ceiling and the inner walls, the ceiling, then appeared to be floating. This effect enhanced the overall idea of levitation.

Furthermore, to make the building dynamic, the 14'x14' "floating box" was shifted along a diagonal axis. Slits on the roof corresponding to the Cartesian plane were placed to emphasize this diagonal movement.

Such action created a very strong diagonal axis

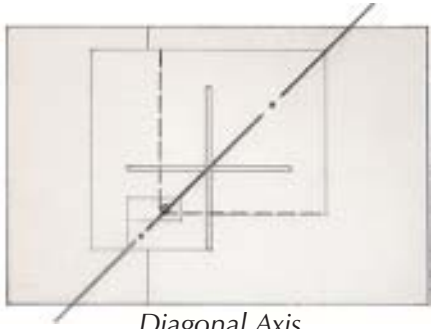


Shifted Plane along Diagonal

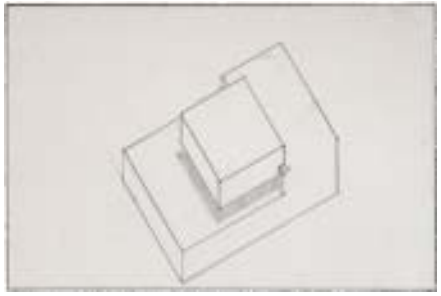


Circulation

PROJECT 5



Diagonal Axis



Floating Box

DIAGRAMS

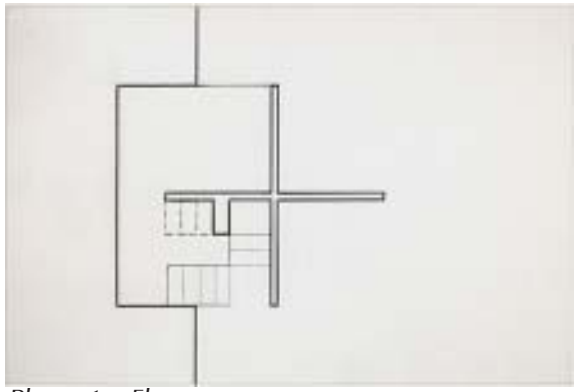
that ran from the northwest sector of the house to the southeast. This diagonal axis was further accented by the the location of the stairs and the planting of a tall, thin tree right on that axial line. This tree, originating from the place of rest and serving as the garden in the house, anchored both the axis and the stairs.

The stairs, which form the main circulation path in the dwelling, are relegated to the northwest quadrant. Winding their way in a rectangular spiral manner, the stairs touch both floors of the house as well as both ground levels.

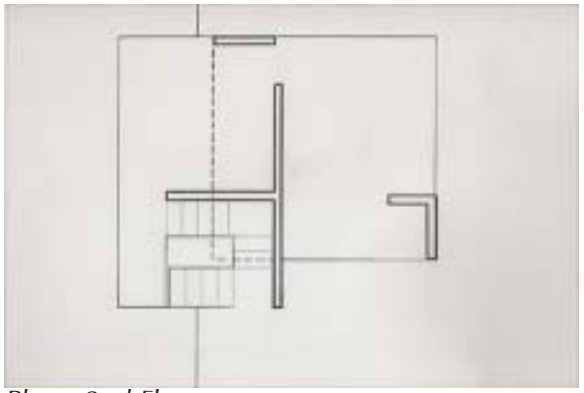
The resulting home featured a floating box shifted along a strong diagonal axis anchored by a tall, thin tree and the spiralling set of stairs.

The place of gathering occupies the southern part of the second story. The largest of the three spaces, this open, airy room maintains an inherent hierarchy over the other rooms simply due to its size. Its location, however, also provides great, unobstructed views of the outside.

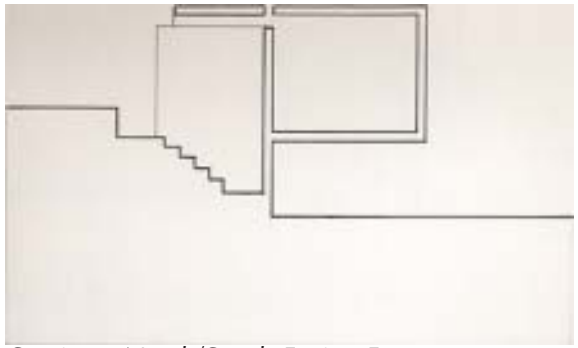
The place of work occupies an adjacent room to the place of gathering. From the stairs, visitors must pass through this space to reach the gathering area, thus making it a semi-public place. This work space is designed for the orderly worker. With northern light available, it



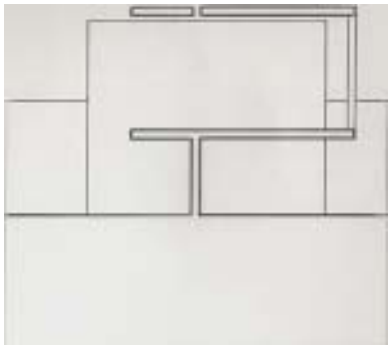
Plan - 1st Floor



Plan - 2nd Floor



Section - North/South Facing East



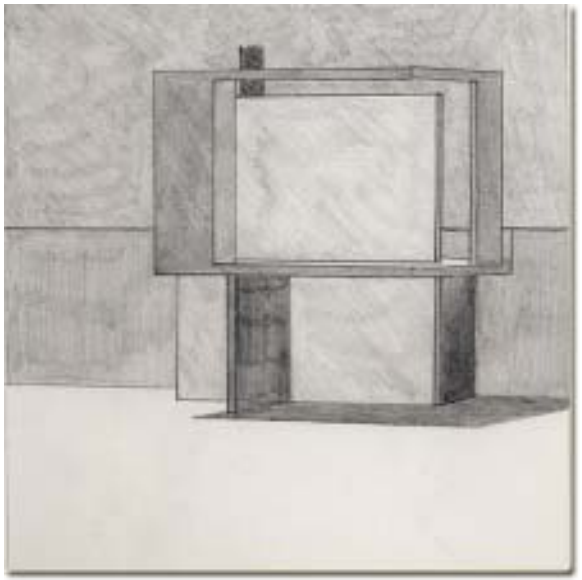
Section - East/West Facing North

makes for a nice place to display proud pieces of work.

Finally, the area of rest is the most secluded spot in the house. Located on the norhern portion of the first floor, it is quite enclosed, only allowing light from small opening on the east side of the dwellng and from space created by the structure of the stairs. It is a quiet, private area for sleep, meditation, or solitude.

Warm analogous colors were used both to highlight important aspects of the house and to generate experiential effect. The entire "floating box" was essentially painted orange on its "exterior." This gave notice to its prominence, both in appearance and in building design. The two vertical planes were then painted red and yellow. This coded the walls and, to a more subtle extent, the spaces of work and gathering. The place of gathering featured only a yellow interior wall while the place of work had both yellow and red interior walls. The effect on the place of rest, however, was more experiential. The combination of a red and yellow wall in an enclosed space bathed the resting space in an orange glow, thanks to the mixing of the primary red and yellow hues to produce the secondary orange light. This warmth enhanced the cozy atmosphere of this part of the house.

(1)



(2)

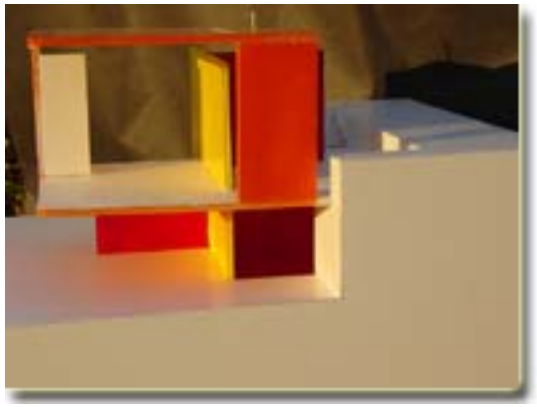
PROJECT 5

Shown above are the two hand-drawn perspective views required as part of the final presentation.

(1) This view stands from the first floor, looking northeast toward the stairs and the garden.

(2) This ground level view is from the front of the building, looking straight at the floor of the second story of the house where the place of gathering is situated.

Entering the stairs from the bottom level.



The Cartesian House from the east.

5 PROJECT

Two final photographs round out this tour of the Cartesian House, nicknamed "**CORB'S LOFT**" in honor of the man whose ideas lent so much to this project.

THE END

PORTFOLIO