ARCHITECTURE, CINEMA AND SHARED HUMAN EXPERIENCE

by Svavar Magnússon

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Examiner : Christer Malmström

Supervisor : Gediminas Kirdeikis

ACKNOWLEDGMENT

I would first like to thank my supervisor, Gediminas Kirdeikis, for the insightful comments and suggestions throughout this thesis. Your invaluable feedback pushed me to sharpen my thinking and brought my work to a higher level. I would also like to express my gratitude to my family and friends for their love and guidance these past two years. I could not have done this without all of you.

ABSTRACT

This thesis aims to draw parallels between architecture and cinema. Architecture and cinema, creative disciplines which both demand thorough attention to detail in regard to space, form, light, time and texture (in order to achieve desired outcomes and emotions felt by the observer), have more in common than one might first imagine. By comparing distinguished architects and filmmakers throughout history, we begin to understand how intentionality in design and the manipulation of senses inevitably make profound impacts on our human experiences.

I will first begin highlighting the use of common architecture principals leveraged in cinema by looking at the oeuvres of revered film directors Kogonada (South Korea), Sergei Eisenstein (Russia) and Michelangelo Antonioni (Italy); pioneers of architecture referenced in this dissertation include: Auguste Choisy and Le Corbusier (France). By emphasizing how composition, montage, temporal design and architectural promenade are utilized across domains, the shared importance of creating experiences through “the eye of the beholder” emerges. When we are purposeful in changing one’s point of view, transformation occurs, shifting how we once saw things before.

These findings are given real-life application in my personal design of a summer home in Mývatn, Iceland. Staged in a volcanic lake, this home offers a multitude of different vantage points, each of which serves as an offering of unique observation and understanding. Within this home exists a shared understanding that much like in architecture and cinema, perception of reality is often merely one perspective among a kaleidoscope of different possibilities, leaving the question: ‘what will our contributions in design inspire the next generation to believe is possible?’

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01 INTRODUCTION

INTRODUCTION

By drawing parallels between two seemingly unrelated disciplines, architecture, and cinema, a unique human experience can start to develop. Both creative fields have a heightened focus on spatial arrangement, light, and time. Highlighting the use of architecture in cinema through the scope of filmmakers will introduce the idea of composition, montage, temporal design and promenade.

DEFINITIONS

- Composition is the arrangement of elements inside of a frame.
- Montage combines shots to tell a specific story in chronological order. It may juxtapose images to produce an impression or illustrate an association of ideas.
- Temporal design is the designing of an experience from the spectator's eyes in space and considering as many details about the experience as possible (Kioumarsi).
- Promenade is a circulation system broken down into individualized sections that constitute the larger whole.

RESEARCH QUESTION

How can the cinema approach benefit the architectural design process?

AIM

The aim of this thesis is intended for designers to learn from other creative disciplines and implement those findings into the architectural process. This will hopefully result in a different kind of space that is flexible and free-flowing compared to what one would traditionally find in architecture.

Therefore, the design proposal at the end of this thesis is fictional.

METHOD

To better understand how the film apprach can benefit the architectural process, this thesis research will take the following steps:

- Examine filmmakers and their approach.
- Examine architects that have applied cinema techniques in design.
- Identify several common approaches between the two disciplines.
- Apply those approaches to my own design proposal.

02 RESEARCH

RESEARCH

This thesis will begin to examine three films by three different directors. Each film has a unique technique to achieve a certain experience.

These techniques include:

- Composition.
- Framing.
- Tonal Grading.

Next, this thesis will examine how architects have previously used cinema techniques including montage and temporal design to design a promenade.

KOGONADA - COLUMBUS

Early in my research, I came across a film titled Columbus. This particular film takes place in Columbus, Indiana, an unlikely mecca for modernism. The film sheds light on its architectural gems and uses a solid narrative to question their importance today. The story follows a young architecture enthusiast and her evolving relationship with an architectural historian's son. They explore both the town and their conflicting emotions for the role of architecture in modern society. The architecture includes work by the likes of IM Pei, César Pelli, Kevin Roche, Robert Venturi, and Skidmore, Owings & Merrill. The film was shot on location, and the architecture was treated more like actors than still-life scenery (Dezeen).. In an interview, the director Kogonada said:

"During preproduction, we visited all the locations and took photographs, so we had an idea of how we were going to approach each scene and space. The buildings were never treated as just background. They were always integral to the moment we were trying to capture" (Dezeen).

On the right are shots taken from the film. The most important thing to note is the directors' use of composition.

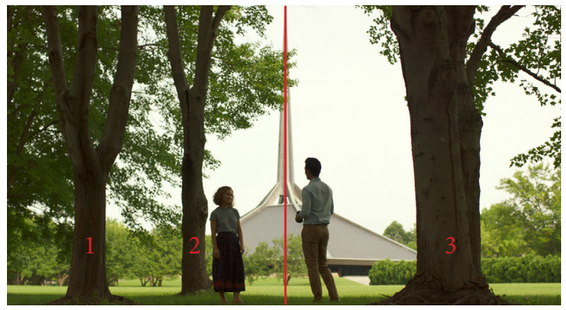
Several composition rules that the director uses in this film include:

- Rule of Thirds
- Symmetry
- Depth of Field
- Frame Within a Frame
- Leading Lines
- Diagonals and Triangles
- Rule of Odds
- Fill the Frame
- Negative Space
- Left to Right Rule
- Balance of Elements

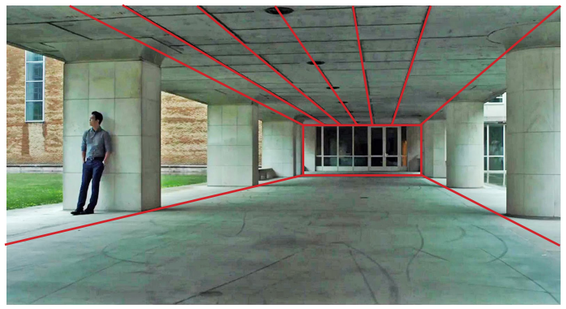
Symmetry, and Frame Within a Frame

Fill the Frame, Negative Space, Symmetry, and Rule of Odds

Diagonals and Triangles

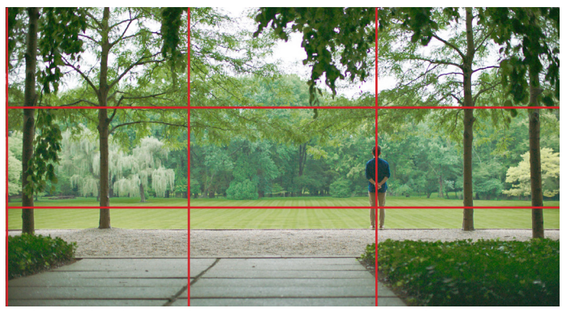


Symmetry, and Rule of Odds

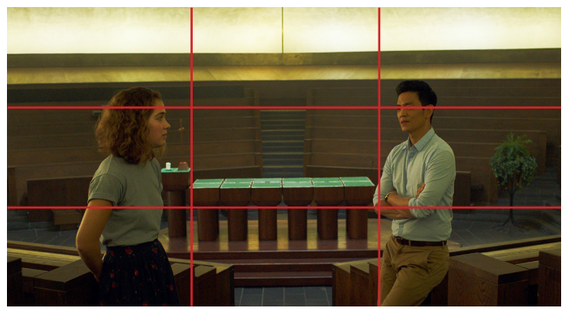


Leading Lines

Symmetry



Rule of Thirds, Leading Lines, Symmetry, and Depth of Field.



Rule of Thirds and Symmetry

MICHELANGELO ANTONIONI

Michelangelo Antonioni, an Italian director, is well known for his methods of framing a scene. L'Eclisse (1962) is an excellent example of using framing. His approach of framing a subject inside of another frame is often used in his work. Most importantly, he believed that what happens outside the frame is just as important as inside it. As I watched his earlier films, I noticed he used the camera like a spectator would use his/her eyes to look at a subject in detail. Furthermore, what happens outside of a framed shot, is not necessarily what the eye can see. Sound is also significant. Therefore, I think it is vital to design a central circulation space that includes a hot spring with an open access door to the living room area to hear the sound of the water.

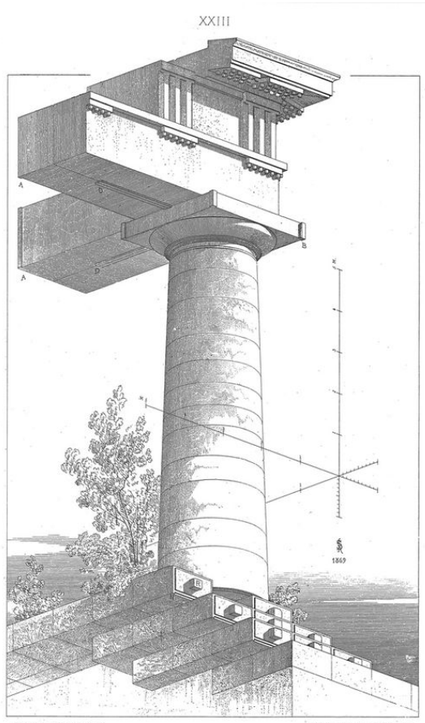
BLADE RUNNER FILM

The film, Blade Runner, is the third film of this thesis that will be studied. Although composition and framing are evident, they will not be the main focus of this film. Instead, it is known to evoke emotion and for its ability to move the spectator's eyes through the method of tonal grading. Therefore, tonal grading will be implemented in this thesis´s final renders to achieve a sense of ´look´ or ´feel´ to the compositions.

MONTAGE AND TEMPORAL DESIGN

As students, we are taught to approach design with specific attention to plan, section, and elevation. Although these elements are essential, I would advocate that thinking more deeply about temporal design and the movement of people through a physical space can help us enrich design outcomes that elevate human experiences. I believe this can be achieved by focusing on the design to amplify the experience of space from the viewpoint of a moving spectator. Designing architecture through the spectator's movement at various points in time can create an architectural experience that modern architecture drawings seldom achieve. Let me define temporal design: temporal design is the designing of an experience from the spectator's eyes in space and considering as many details about the experience as possible (Kioumarsi). The details include the spectator's movement, the narrative, its events, the change of perspective, and rhythm (Kioumarsi). The concept of time in cinema is strongly related to montage. Oxford defines montage as "the process or techniques of selecting, editing and piecing together separate sections of the film to form a continues whole." As well as "the technique of producing a new composite whole from fragments of pictures, text or music." Deleuze explains there are two imperceptible forms of how the movement-image is constituted or how movement is extracted from a person and things (Deleuze). The obvious one is through the

BATTLESHIP POTEMKIN (1925)



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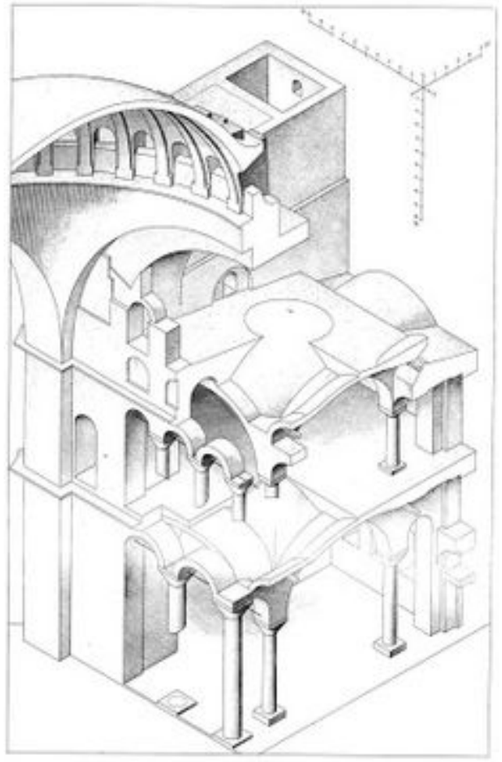
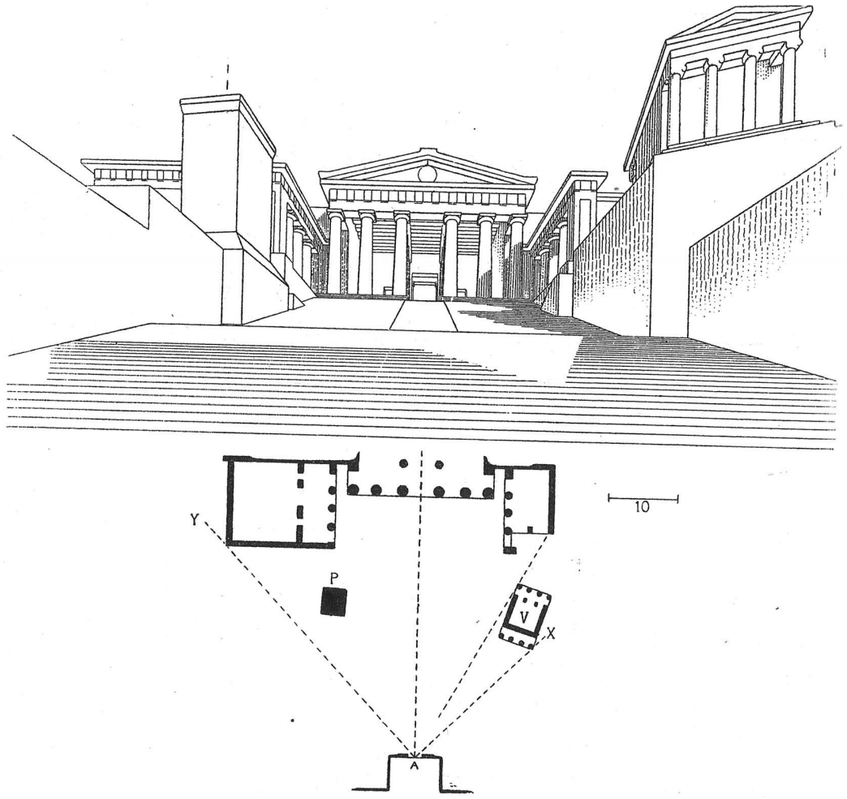
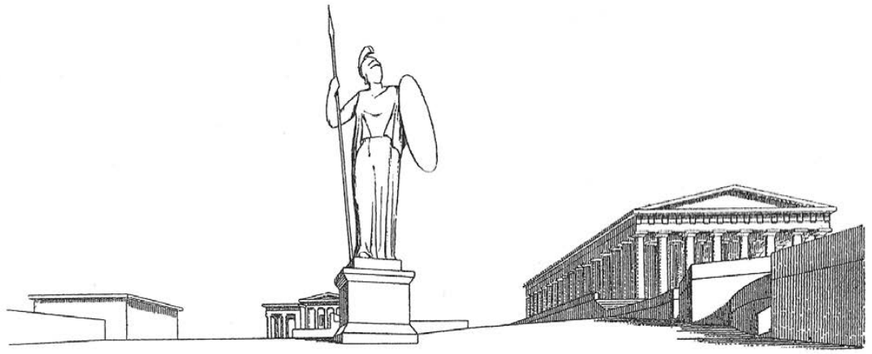
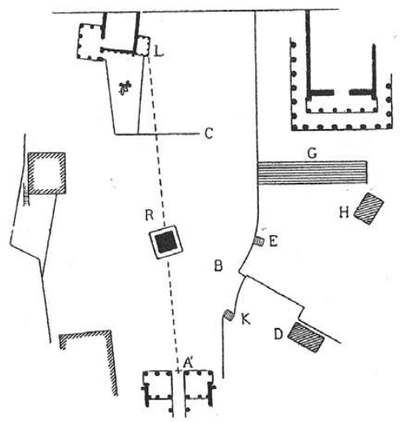




movement of the camera, the shot becoming mobile in itself; the other by montage, by continuous of connecting shots, that could perfectly well remain fixed; thus, resulting in pure mobility extracted from the movements of characters, with minimal camera movement (Deleuze). Jean Mitry defines the word 'shot' as reserved for fixed spatial determinations, slices of space, or distances in relation to the camera. He condemned the expression 'sequence shot' and believed that a tracking shot should not be viewed as a shot but rather a sequence of shots. It is then the sequence of shots that inherits the movement and the duration (Deleuze). However, Deleuze believes that the unity of movement and duration in the notion of shot is sufficient when included with a complete projective, perspectival or temporal sense. He further explains that montage is the indirect image of time, of duration. For example, the German expressionist montage emphasizes dark and light and is essentially a montage of visual contrast. This is evident in Villa Savoye, which will be discussed later in this thesis. A classic silent film and a great example of montage usage is Battleship Potemkin (1925) by Eisenstein, a Russian filmmaker. The scene – The Odessa Steps Sequence - a famous scene when talking about montage, allows Eisenstein to control the viewers' impression of time by extending individuals' movement down the steps for a much longer time than it would take in real-time (Kioumarsi). Montage is one of the essential tools in cinema to create rhythm and a sense of time. It also establishes a spatial and temporal relationship in films. This is due to the process of fragmentation and the consequent assemblages of the contradicting and unrelated shots (Kioumarsi). The study of montage brought me to the close relationship between the three pioneers: Auguste Choisy, Sergei Eisenstein, and Le Corbusier. Choisy, in particular, was concerned with the idea that architecture is a pure art of construction. His axonometric sketching would provide all the elements needed to induce a mental image of various aspects of a building: its ground plan, its section, its elevation, but also the respective positions of its parts in physical space. Furthermore, Eisenstein was influenced by Choisy, in which Eisenstein described the views of the Acropolis in his article "Montage and Architecture." What stood out most to me was Athene Promakhus, a central figure in the plan of Acropolis, and once one would move around it, new architectural elements come into view.

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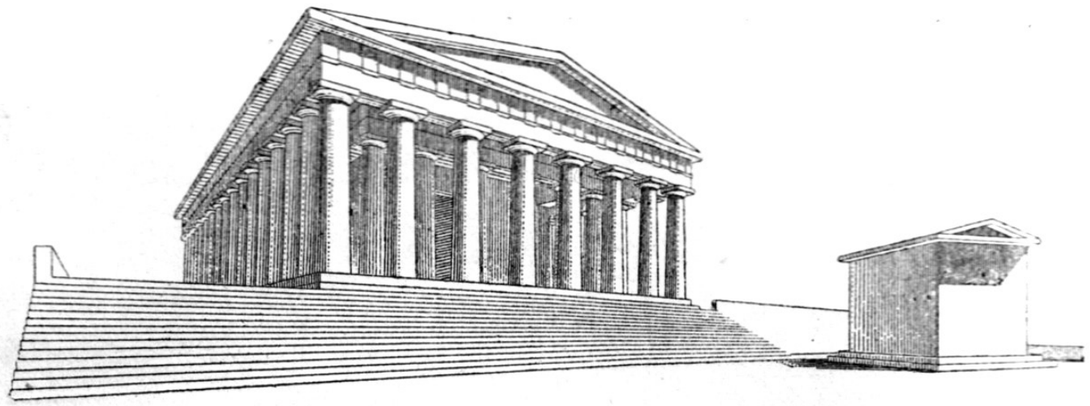

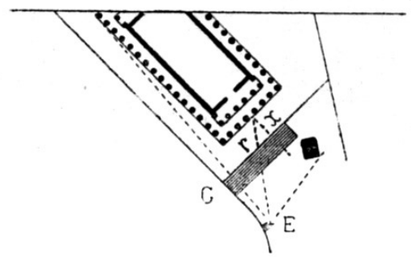
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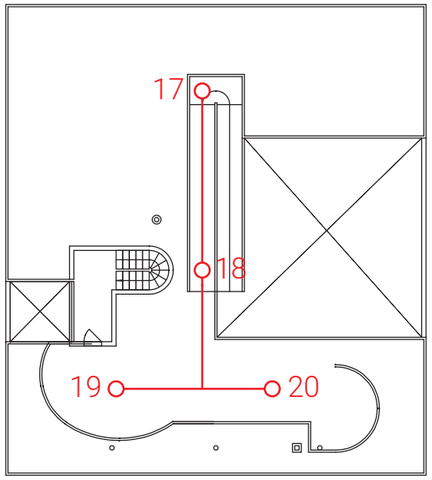
VILLA SAVOYE - LE CORBUSIER

As previously stated, the focus of this thesis is to investigate the concept of temporal design in architecture through the window of montage technique. Le Corbusier, a celebrated French architect, developed a deep enthusiasm for cinema and montage when he met Sergei Eisenstein (Russian filmmaker) in Moscow in the 1920s. Eisenstein's montage theory influenced Le Corbusier's work, and he believed that "architecture and film are the only two arts of our time" (Kioumarsi). Le Corbusier believed that although their respective disciplines were notably different, the way each academic incorporated elements of space and time in ingenious ways to achieve desired outcomes were primarily the same. In Le Corbusier's early work, arrows were used to express various paths and routes in his projects (Kioumarsi). Later, he would imagine himself in space by applying "axonometric projections" to better explain the circulations in a project. To further demonstrate the importance of experimenting with different views to design the best user experience, he would use "rough perspective sketches" (Kioumarsi). His enthusiasm for movement and circulation of space led him to promenade design.

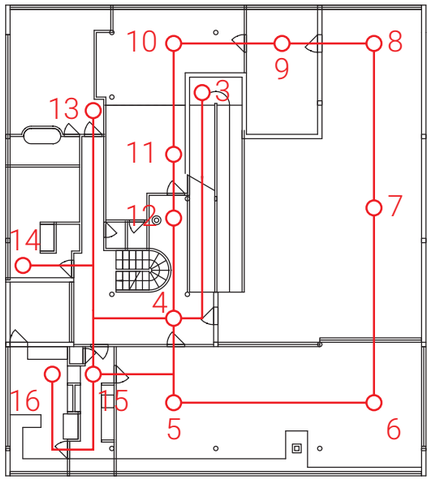
"Man walks in a straight line because he has a goal and knows where he is going; he has made up his mind to reach some particular place, and he goes straight to it. The pack-donkey meanders along, meditates a little in his scatter-brained and distracted fashion, he zigzags in order to avoid the larger stones, or to ease the climb, or to gain a little shade; he takes the line of least resistance. The Pack- Donkey's Way is responsible for the plan of every continental city" (Kioumarsi).

Le Corbusier's architectural promenade is not a path beginning from the entrance door and ending on the roof. It is also not a complex system of ramps and corridors and spirals; instead, it is a circulation system broken down into individualized sections that constitute the larger whole (Kioumarsi). Like montage, Le Corbusier was influenced by the picturesque language, the idea of unfolding "differential perspective of views" for "spectatorial pleasure" (Kioumarsi). In a picturesque garden, as the user moves through space, the rhythm of the montage sequence of space unfolds as the observer's view changes from perspective to perspective (Kioumarsi). Le Corbusier associates Villa Savoye (1931) with a moving car, conceptualized as "a machine." His thinking was not to conceptualize a house as a mere physical structure but rather as "a machine for living in" (Kioumarsi) The design for Villa Savoye sought to create an inclusive and interactive experience. The visitor engages with the building through an architectural promenade (manipulating space and the unfolding of a path). Evident from almost anywhere in the building is the ramp. From the entrance, the ramp leads to the first-floor space, where there are three possible paths. The ramp continues outside and becomes external, leading to the second-floor solarium and terrace area. The walkway transitions from dark to light; as individuals move from inside to outside, natural sunlight amplifies the changes in proportion, rhythm, and colors, leading to an elevated experience that the walker did not realize was coming (Kioumarsi). Another example of the architectural promenade evident in Le Corbusier's work is Maison Roche (1923).

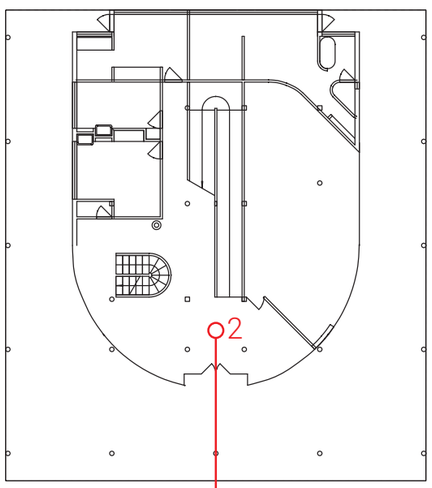
The images on the right correspond with the number on the plans.



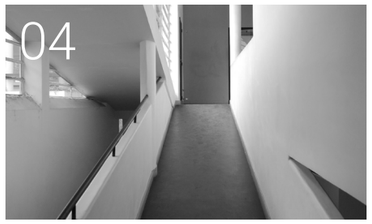
Roof Plan

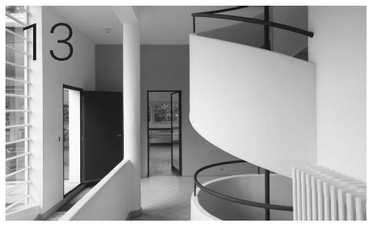


Second Floor Plan



First Floor Plan



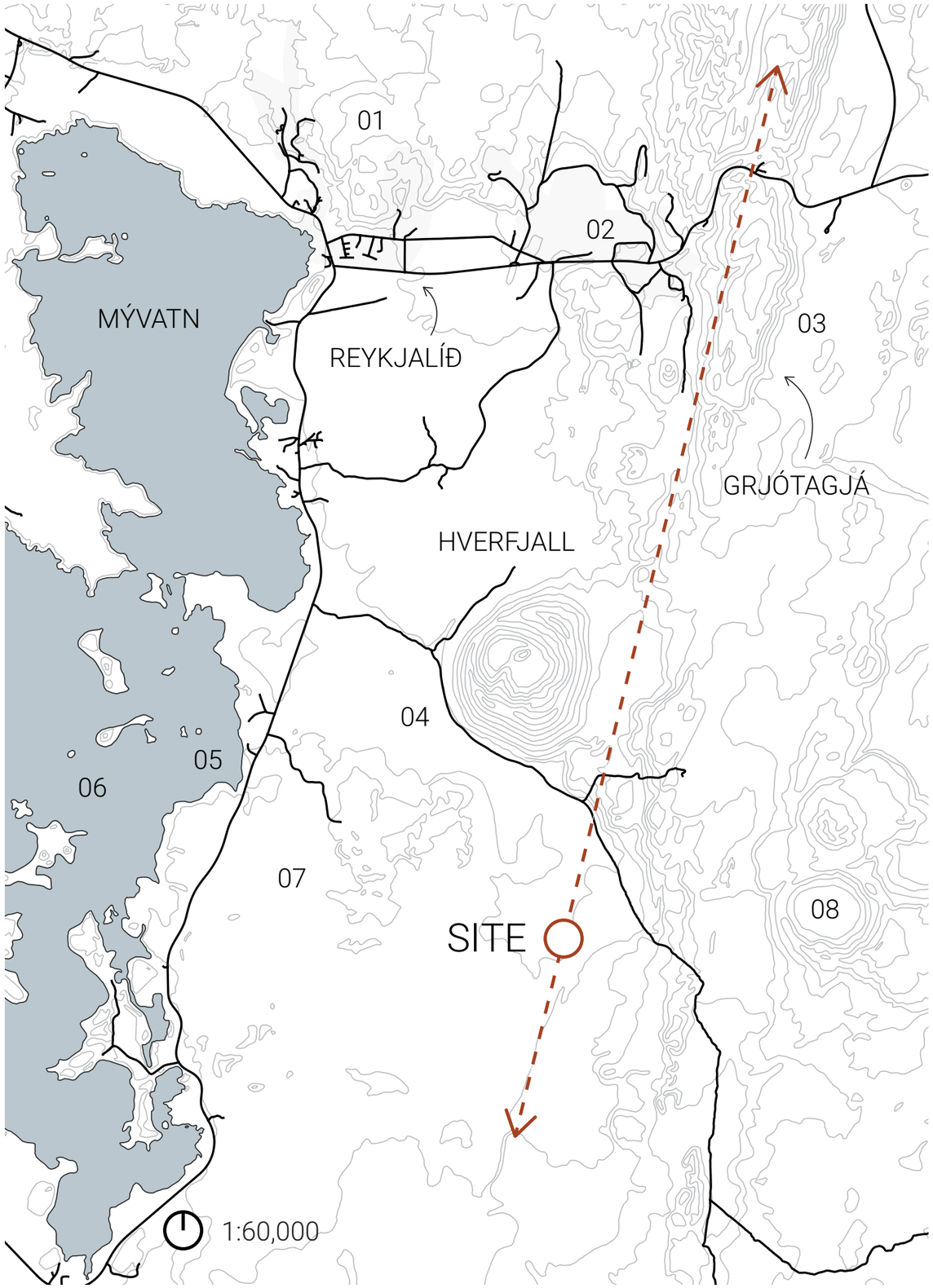


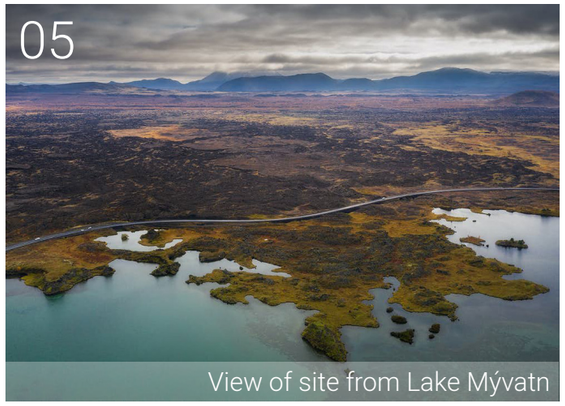
04 DESIGN

SITE

For this thesis, the site is not essential. However, I was inspired by one site's surroundings located at Lake Mývatn, Iceland, which inspired a part of this design. Although all surroundings are shown, one area, in particular, is used as a reference.

SITE MÝVATN, ICELAND





SITE GRJÓTAGJÁ

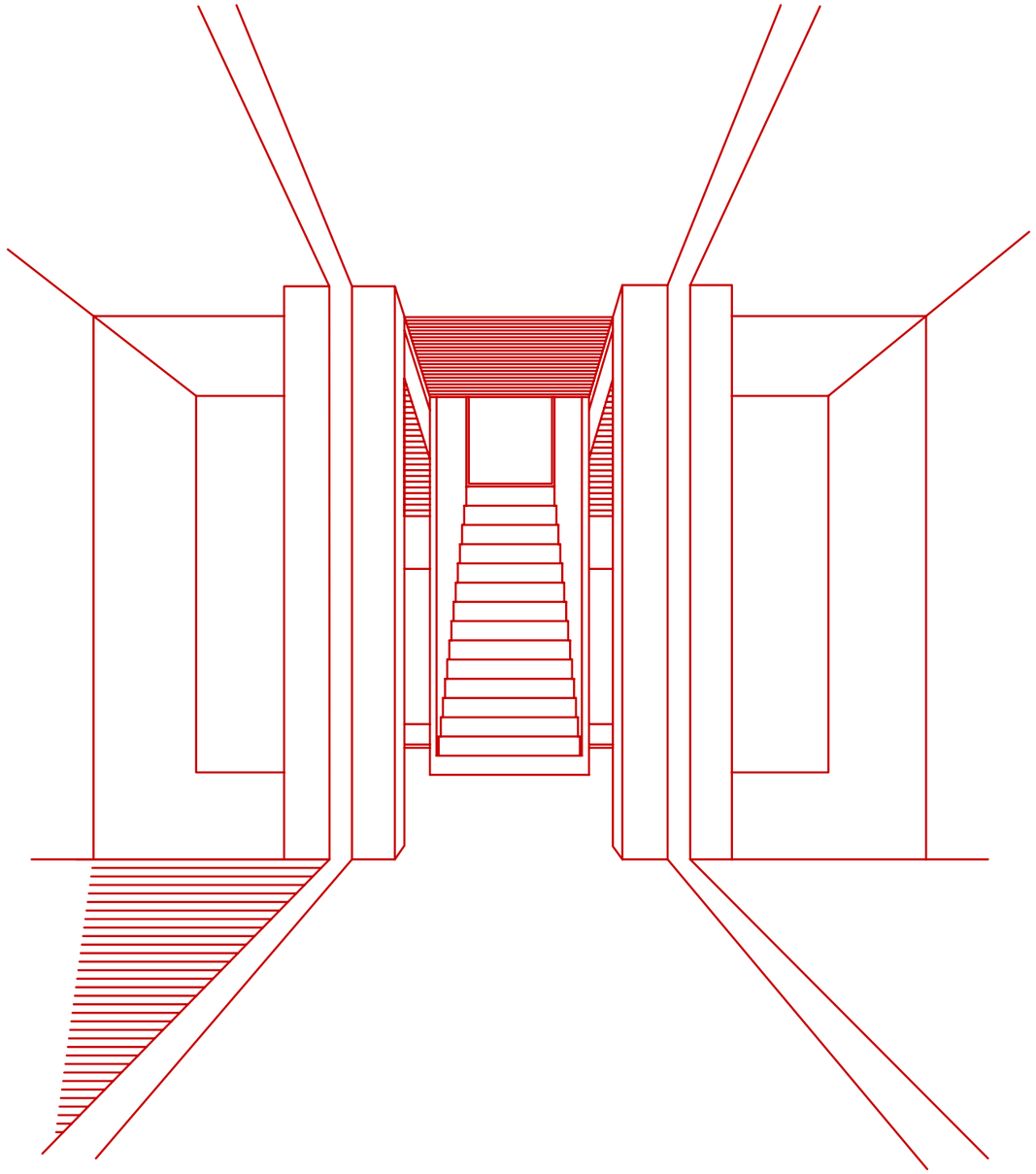
After visiting Lake Mývatn many times, I felt inspired to design a building surrounded by the region's nature. Lake Mývatn area is part of the Diamond Circle, which includes many incredible attractions and points of interest, such as Grjótagjá. Located near Lake Mývatn in the northeastern region of Iceland, Grjótagjá is a small lava cave that houses a secluded geothermal hot spring. Inside, daylight shines through the openings from above, creating blue and gold reflections on the surrounding rocks, and hot steam climbs across its surfaces. The Vogar Farm privately owns this land, like most of its surrounding area, and bathing is prohibited. Before the 1970s, this hot pool was prevalent for bathing. In 1975 and 1984, the pool fell out of use due to the volcanic eruptions at Krafla (Guide to Iceland). The eruptions caused a surge in temperatures to a degree of 60°C (140°F), and today it has dropped to a range between 43° to 46°C (109° to 114°C) (Guide to Iceland). Fans also know this location of the HBO series "Game of Thrones," where the love scene between John Snow and Ygrette was filmed. Although the public is not allowed to bath there, Stóragjá is nearby. I wanted the building location to be aligned with the axis of Grjótagjá and design around it a promenade that would mimic the cave.

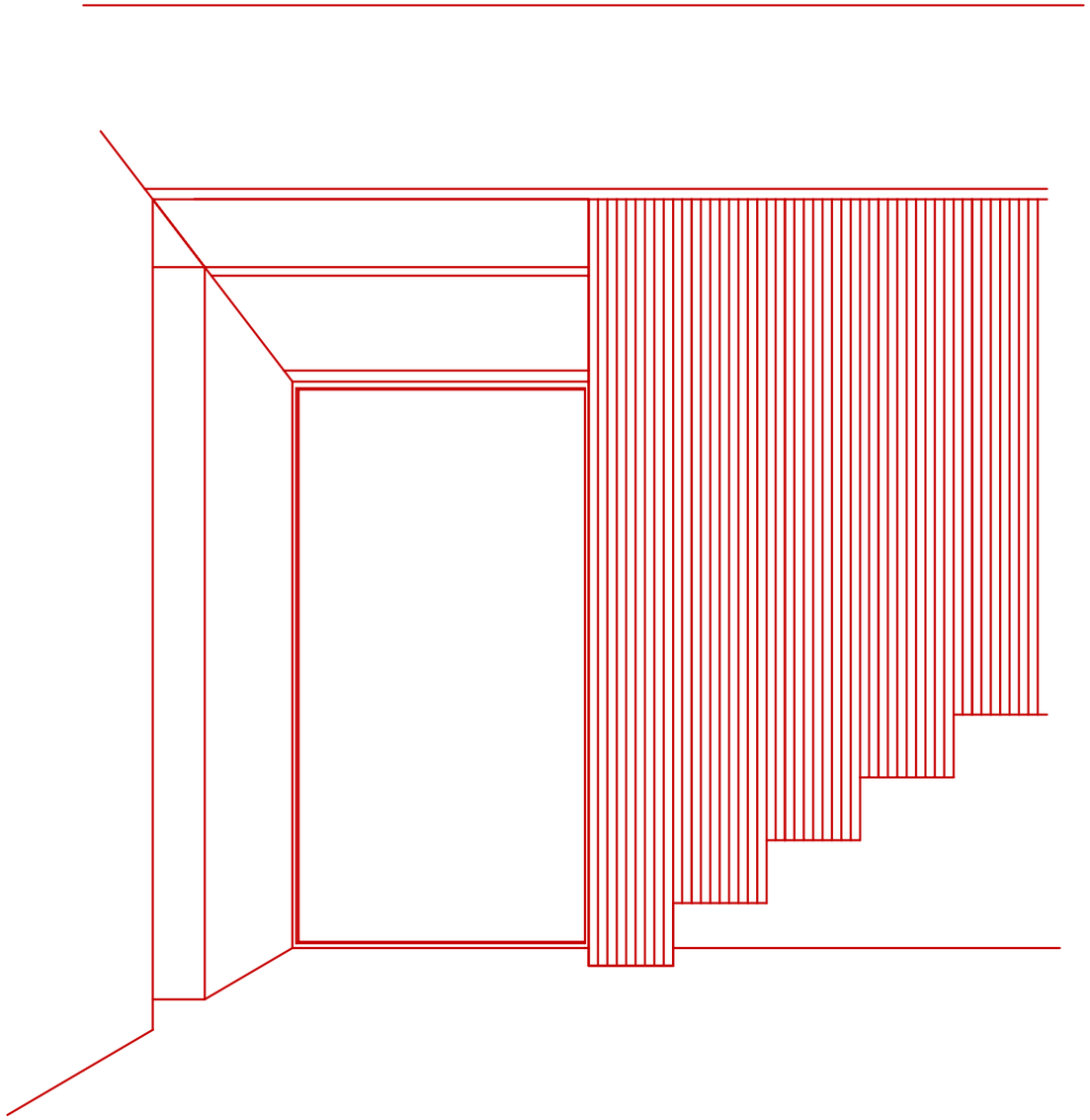
REFERENCES STOCKHOLM CENTRAL STATION

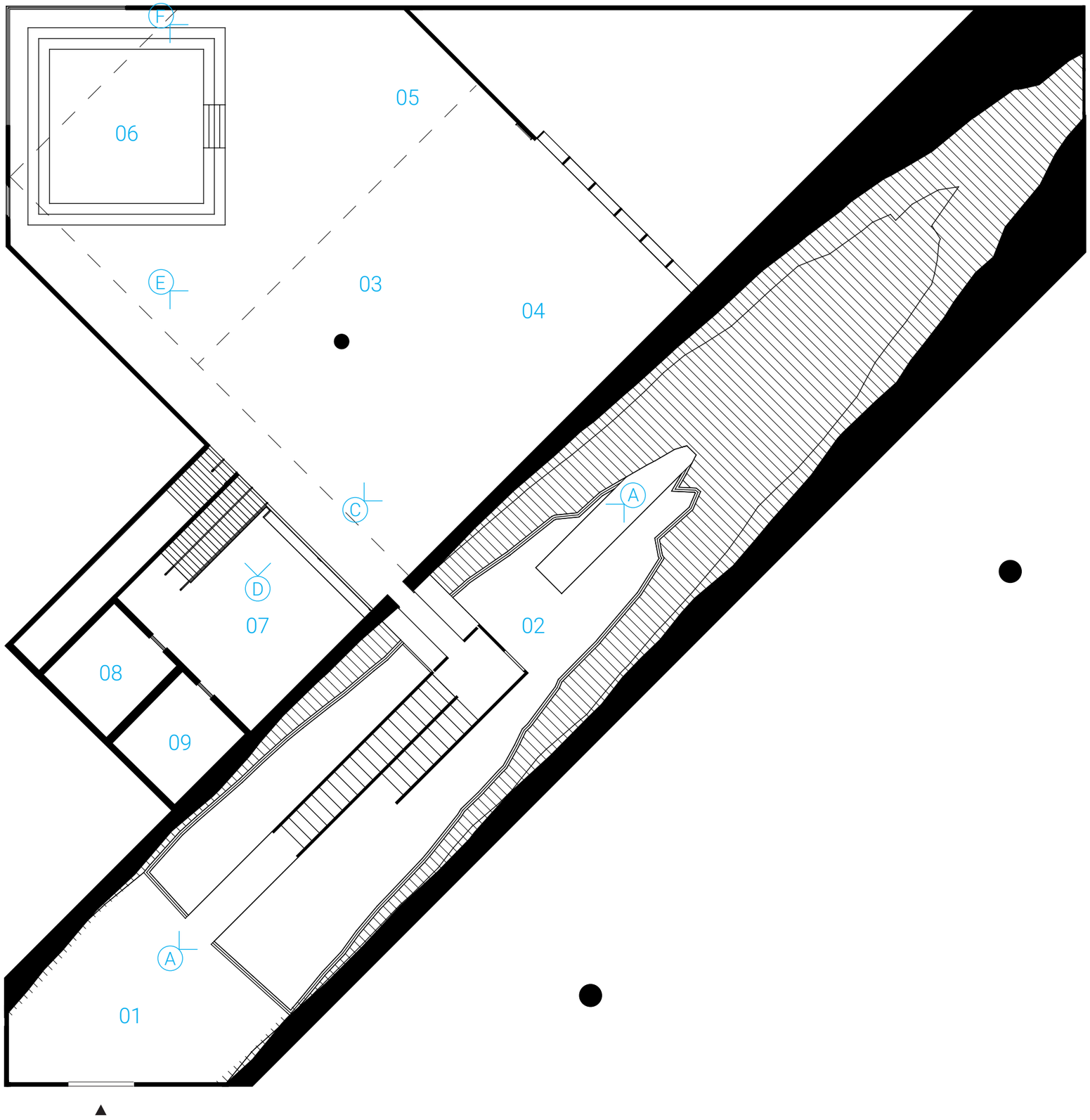
For architectural reference for the core of the design proposal, the central station's exposed bedrock and organic architecture in Stockholm, Sweden, is used.

REFERENCES SKETCHES

These initial line drawings aim to understand better the concept of composition inside a frame looking through a camera lens.







01 Entrance

02 Hot Spring

03 Living Room

04 TV Lounge

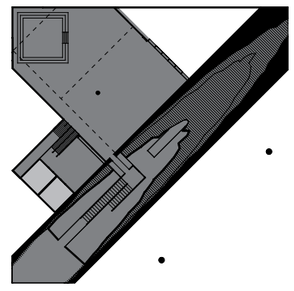
05 Wine Bar

06 Sitting Area

07 Changing Room

08 Guest Room One

09 Guest Room Two

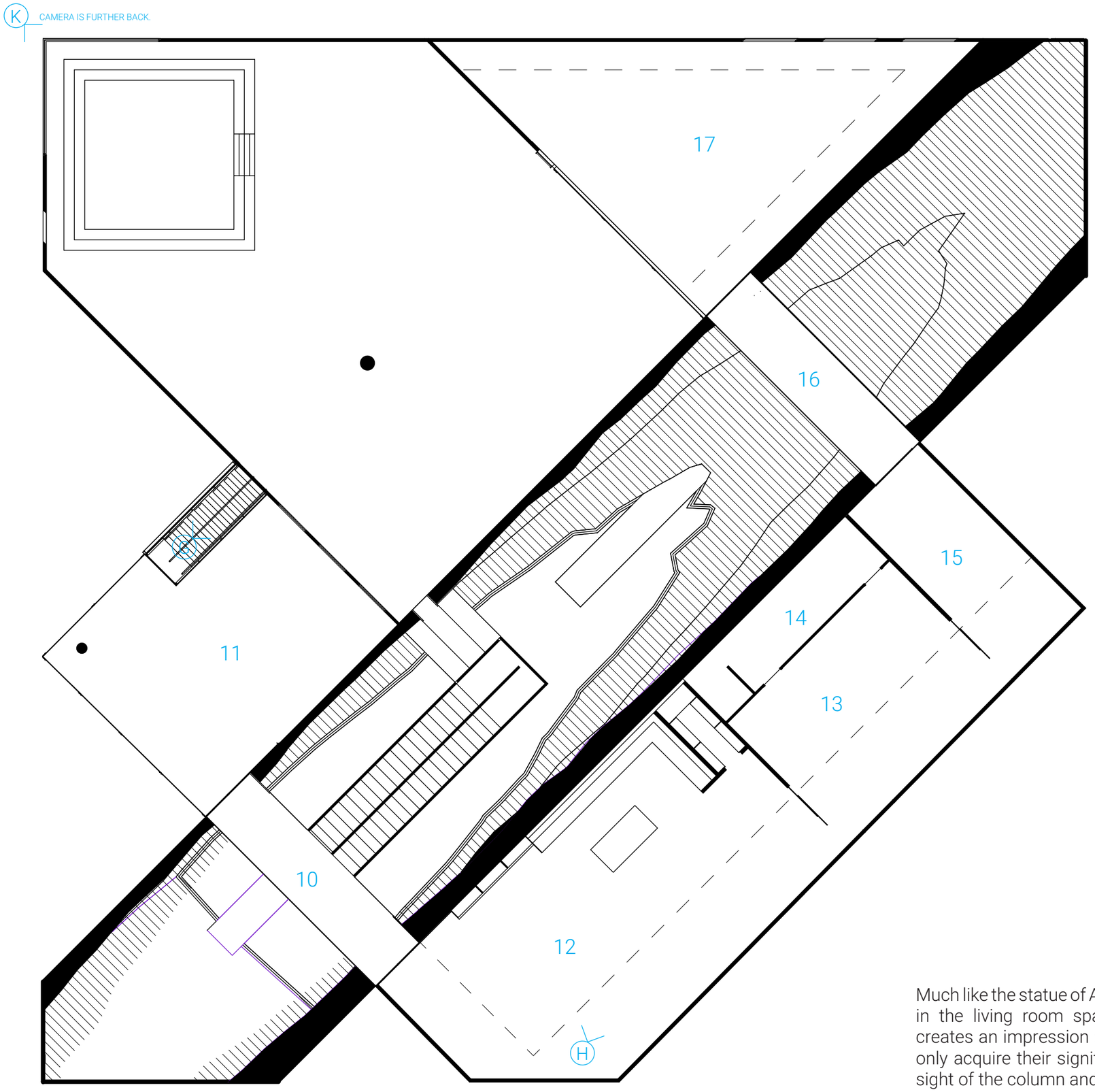


PUBLIC

PRIVATE

FIRST FLOOR PLAN

1:200



10 Bridge One

11 Terrace

12 Kitchen

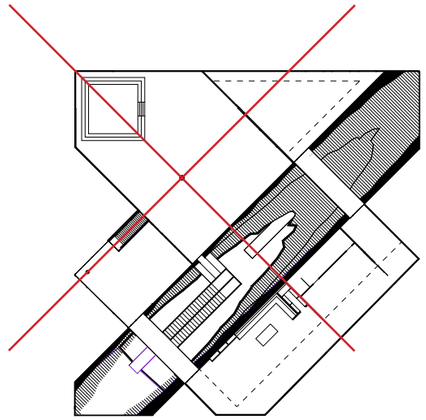
13 Master Badroom

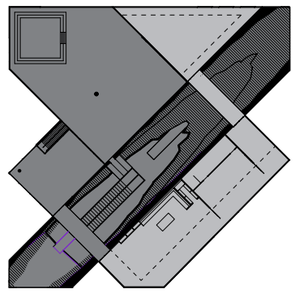
14 Master Bathroom

15 Private Balcony

16 Bridge Two

17 Den





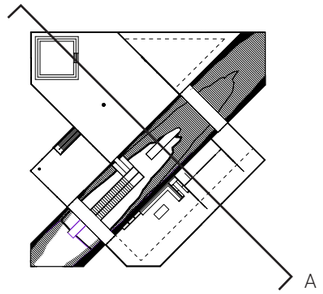
PUBLIC

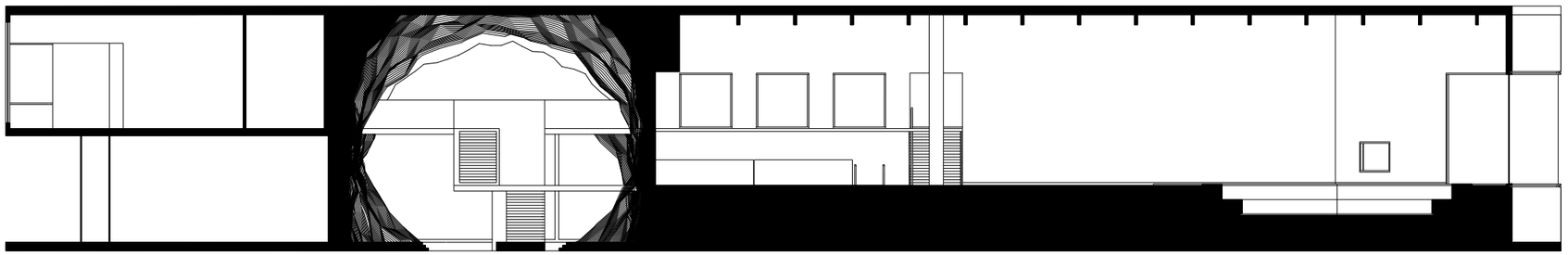
PRIVATE

Much like the statue of Athene Promakhos, the column in the living room space is a central point which creates an impression of unity. The spaces around it only acquire their significance when the visitor loses sight of the column and moves around it.

The multiple dash lines represent extra space to allow for the camera placement. For this reason, the spaces in the home are larger than standard size.

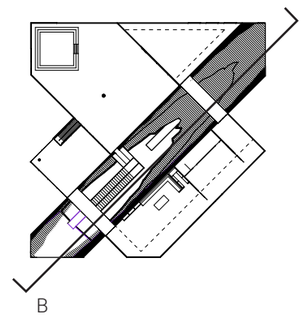
SECOND FLOOR PLAN 1:200

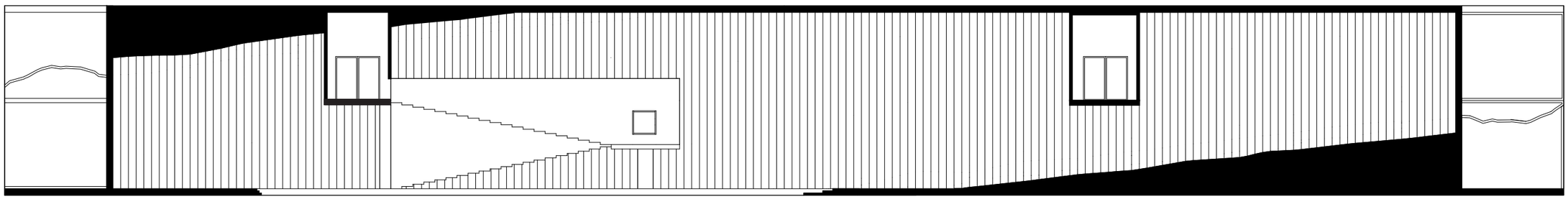




SECTION A

1:200





SECTION B

1:200

05 RENDERINGS

RENDERINGS

The renders provide a montage of an experience felt through a moving spectator. Each shot is an eye-level perspective with a camera lens of 14-35. The frame ratio of 1.85:1 for each shot is used, which is the same as a cinematic screen ratio.

The ‘look’ and ‘feel’ of the shots were created by desaturating the image and increasing the contrast to deepen blacks and elevate hotspots. In addition, texture is applied to help with the narrative of the space.

Furthermore, the blur effect adds another layer of depth of field to each shot.

INTERIOR SHOT A MORNING

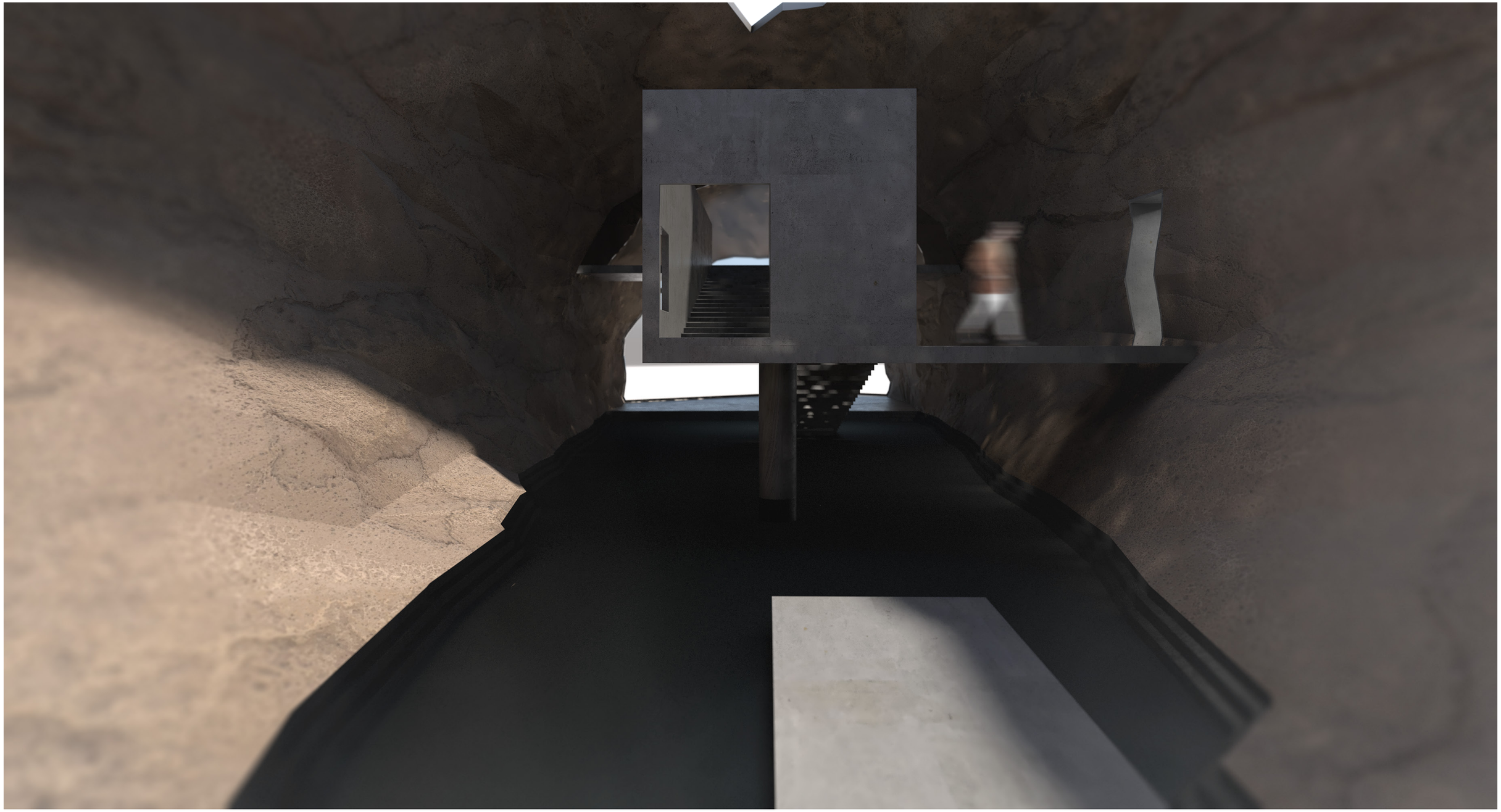
Lens length : 18

Azimuth : 135

Altitude : 34

Exposure: 13

This shot uses leading lines, symmetry and rule of thirds.



INTERIOR SHOT B MID-DAY

Lens length : 16

Azimuth : 186.2

Altitude : 70.4

Exposure: 14

This shot uses leading lines, symmetry and depth of field.

INTERIOR SHOT C MORNING

Lens length : 15

Azimuth : 134

Altitude : 20

Exposure: 13.5

This shot uses leading lines to direct your eyes to the back of the room. Blur affect is used in the foreground to provide a depth of field.

INTERIOR SHOT D MID-DAY

Lens length : 23

Azimuth : 190

Altitude : 37

Exposure: 13.5

The blur effect is used in the background to provide a depth of field. Therefore, the stair becomes the focus in the shot. Diagonals and leading lines are also evident in this shot.

INTERIOR SHOT E MORNING

Lens length : 18

Azimuth : 134

Altitude : 20

Exposure: 13.5

The roof joists create a sense of direction from left to right.

INTERIOR SHOT F MID-DAY

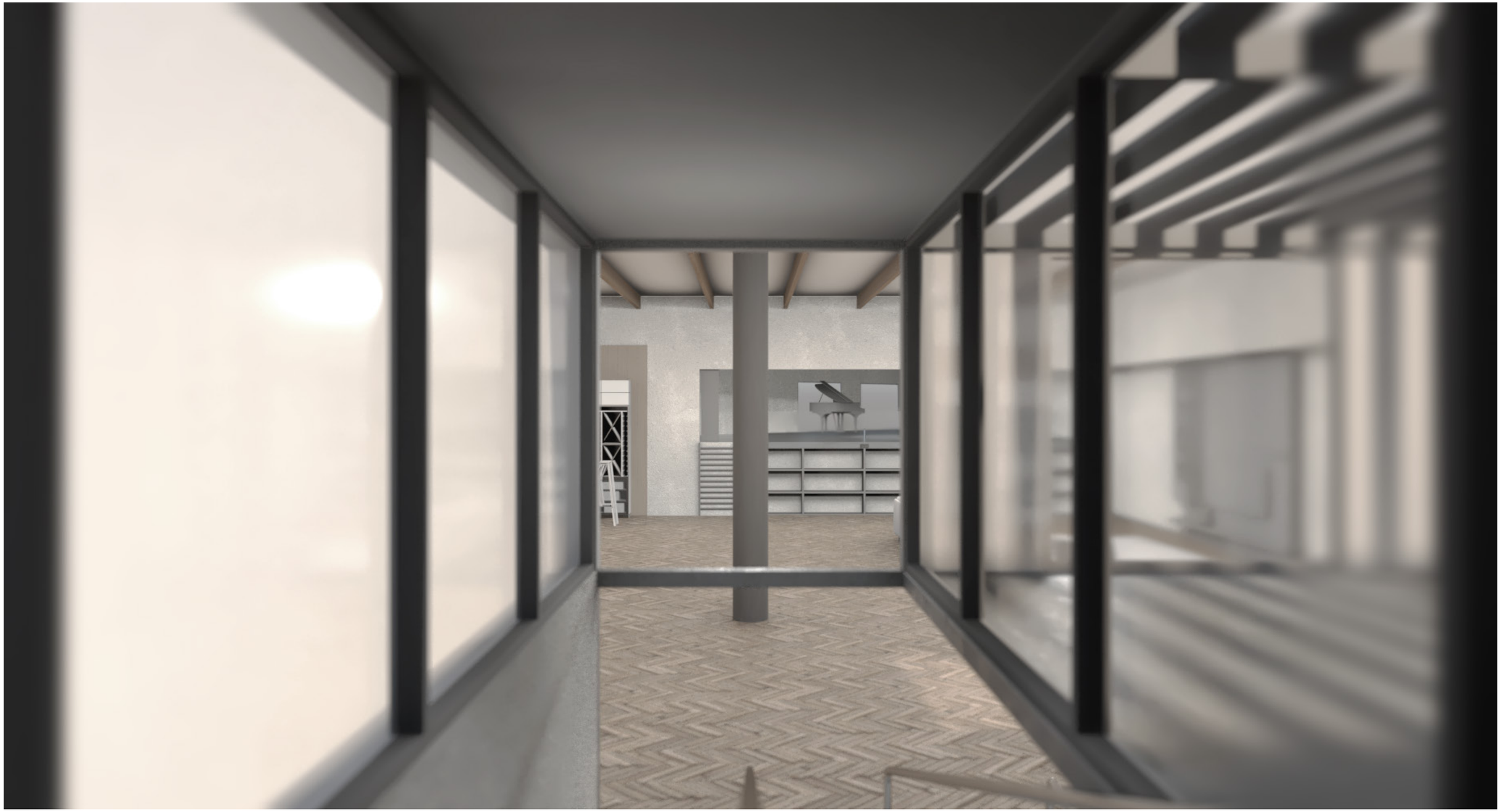
Lens length : 17

Azimuth : 205

Altitude : 37

Exposure: 13.5

This shot might not look symmetrical at first, but simply by defining the essential outlines of the structure and tonal values, it becomes clear that it is symmetrical. The roof joists and the outdoor shadows on the right also provide this shot with rhythm.



INTERIOR SHOT G MORNING

Lens length : 15.5

Azimuth : 135

Altitude : 34

Exposure: 13.5

This shot uses vertical mullions to lead the eye into the interior space. Once inside, the interior ceiling joists bring the eye to move past the central column and into the back room. The column splits this shot symmetrically; the right is directional with exterior shadows helping direct the eyes, and the left is more calm and simplified. The dark tonal values keep the viewer's eye moving, while the lighter tone values keep them stationary.

INTERIOR SHOT H MORNING

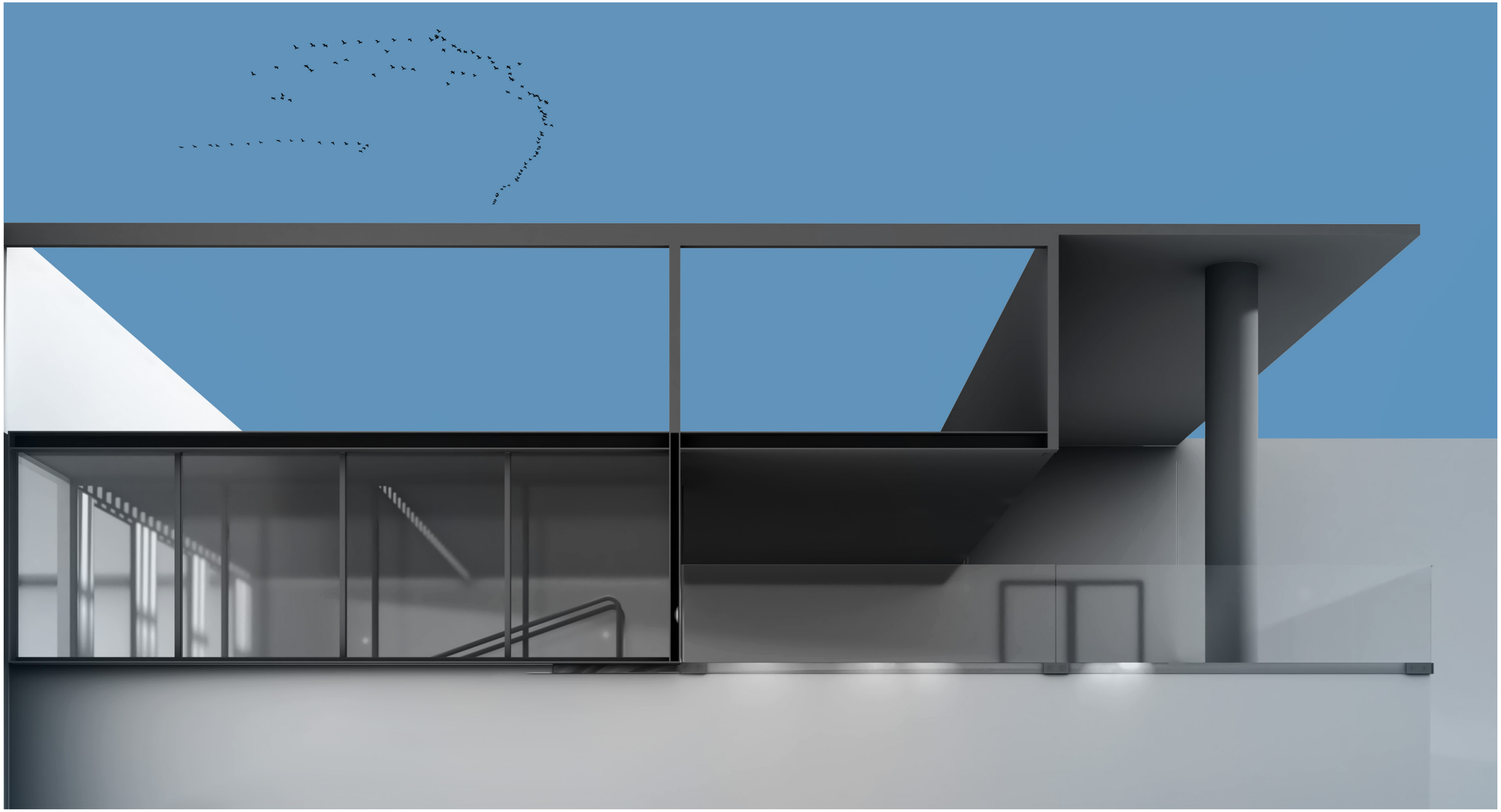
Lens length : 27

Azimuth : 109.6

Altitude : 17.5

Exposure: 14

This shot shows the open flow between the kitchen, master bedroom, and the private balcony.



EXTERIOR SHOT J MORNING

Lens length : 35

Azimuth : 134

Altitude : 20

Exposure: 13.5

This shot provides a composition that is balanced and symmetrical through the use of vertical and horizontal lines.

EXTERIOR SHOT K MORNING

Lens length : 30

Azimuth : 134

Altitude : 20

Exposure: 14

Similar to Shot J, however, zoomed out. The left side of this shot shows both the exterior and a blurred view of the interior. The contrast between dark and light helps to achieve another level of depth.

05 END NOTES

BIBLIOGRAPHY

"A Complete Guide to Lake Myvatn." Guide to Iceland, https://guidetoiceland.is/nature-info/the-ultimate-guide-to-lake-myvatn. Accessed June 2021

Aumont, Jacques, and Lee Hildreth. Montage Eisenstein I: Eisensteinian Concepts. Wayne State University Press, 1983.

"Columbus Movie Spotlights Indiana City's 'Modernism with a Soul.'" Dezeen, 1 Sept. 2017, https://www.dezeen.com/2017/09/01/columbus-movie-spotlights-indiana-city-modernism-kogonada/.

Deleuze, Gilles. The Movement-Image. 5th ed., University of Minnesota Press, 1997.

Eisenstein, Sergei, et al. Montage and Architecture. The MIT Press, 1989.

Guest, Johnathan. Architecture and the Moving Image: Cinematic Strategies in Design and Representation. University of Auckland, 2012.

Kioumarsi, Niloufar. Montage and Architecture. Pennsylvania State University, 2016.

Lai, Jimenez. Citizens of No Place. Princeton Architectural Press, 2012.

Larice, Michael, and Elizabeth Macdonald. The Urban Design Reader. Routledge, 2013.

Lindenmayer, Mike. The Cinematography of Architecture: A Narrative Perspective. Accessed 2021.
Tawa, Michael. Agencies of the Frame. Unabridged, Cambridge Scholars, 2011.

---. "Consilient Discrepancy: Porosity and Atmosphere in Cinema and Architecture." Architecture Media Politics, vol. 11, 2017.

"The Villa Savoye by Le Corbusier: A Modenist Iconic House." ArchEyes, 21 Sept. 2020, https://archeyes.com/the-villa-savoye-le-corbusier/.

Tobe, Renée. Routledge, 2017.

REFERENCE IMAGES

archeyes.com/the-villa-savoye-le-corbusier

dezeen.com/2017/09/01/columbus-movie-spotlights-indiana-city-modernism-kogonada

vfxblog.com/2018/01/31/blade-runner-2049-las-vegas-framestore

doctorbcinema.wordpress.com/2010/05/05/analysis-of-m-antonionis-leclisse-1962

guidetoiceland.is/nature-info/the-ultimate-guide-to-lake-myvatn

businessinsider.com/stockholm-metro-art-tunnelbana-2016-8?r=US&IR=T#the-blue-colors-even-stretch-up-the-stations-escalator-shaft-adding-to-the-sense-that-commuters-might-just-be-spelunking-12

straccitemporanei.tumblr.com/post/157936587135/onsomething-auguste-choisy-analysis-of-the