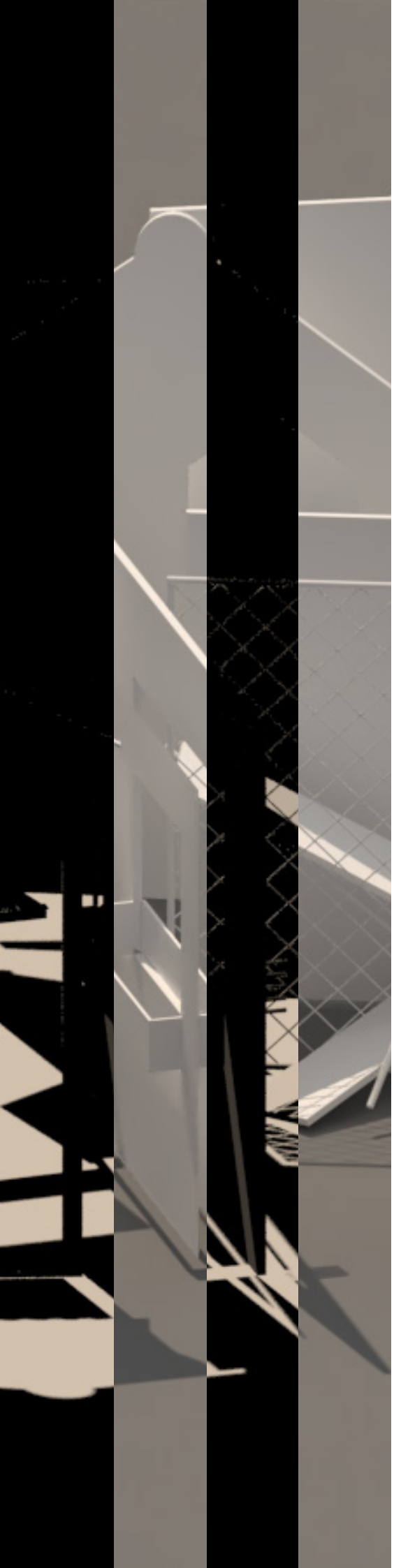

Montage and Architecture

Based on Sergei Eisenstein's 5 Montage Techniques

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Abstract

The strong relevance between movie and architecture has been recognized from the very beginning of the establishment of the montage theory. Montage works by stitching together different shots to create a third meaning that each shot would not have on its own, through which screenwriters and directors can reconstruct plots to tell the story in their own ways. Architecture works in some respects very similar to montage, in which architects create a series of spaces for people to walk in and experience the image, the atmosphere and even the theme of the architecture, the process of designing the spaces and arranging the sequences can be simply compared to the process of movie montage.

Sergei Eisenstein was the first one who used montage as a special technique in movies, and created the first movie montage theory. The five montage techniques proposed by him explained clearly how to combine shots that are depictive, single in meaning, neutral in content, into intellectual contexts and series[1], which therefore could be the starting point of exploring the specific relationship between montage and architecture.

After analyzing the principles of Eisenstein's 5 Montage Techniques by case studies, they can be translated into architectural design languages by comparing with modern architecture case studies, mainly focused on the narrativity of space. The conclusions generated from the previous research are more like a guideline on architecture montage, which will be practiced in the reinterpretation of projects done by three representative architects who have made a great effort on montage and architecture - Le Corbusier, who montages 'views and perspectives', Bernard Tschumi, who montages 'layers of the experience', Rem Koolhas, who montages 'program'.[2]

Key words

Movie, Montage, Architecture, Narrative space, Sergei Eisenstein

[1] Leo Braudy and Marshall Cohen. Film Theory and Criticism. 2004. Oxford: Oxford University Press.
[2] Niloufar Kioumarsi. Montage and Architecture:A Method for Temporal Design. 2016. The Pennsylvania State University

Content

Intorduction

1. What is montage?

The term "montage" is rooted in the French language, and used to be an architectural term referring to the assembly of buildings. In the 1920s, Soviet film masters represented by Sergei Eisenstein creatively introduced this concept into film, and it became one of the most important theories of film creation.

Lev Kuleshov, one of the foremost professors at The Moscow Film School, as well as the tutor of Sergei Eisenstein, laid the foundation for "montage" firstly. He released a short film during his professorship, and the idea was to combine a single, center-framed shot of the popular actor Ivan Mosjoukine with three other distinct shots: the first is a bowl of soup, the second is a girl in a coffin, and the third is a woman lying on a couch. The goal behind this method was to create a montage where the combination of shots would evoke something different each time, such as hunger (soup), sadness (coffin) and desire (woman). Kuleshov was credited with pioneering the evoking of emotion through contrasting images, therefore the technique became known as the Kuleshov effect[3].

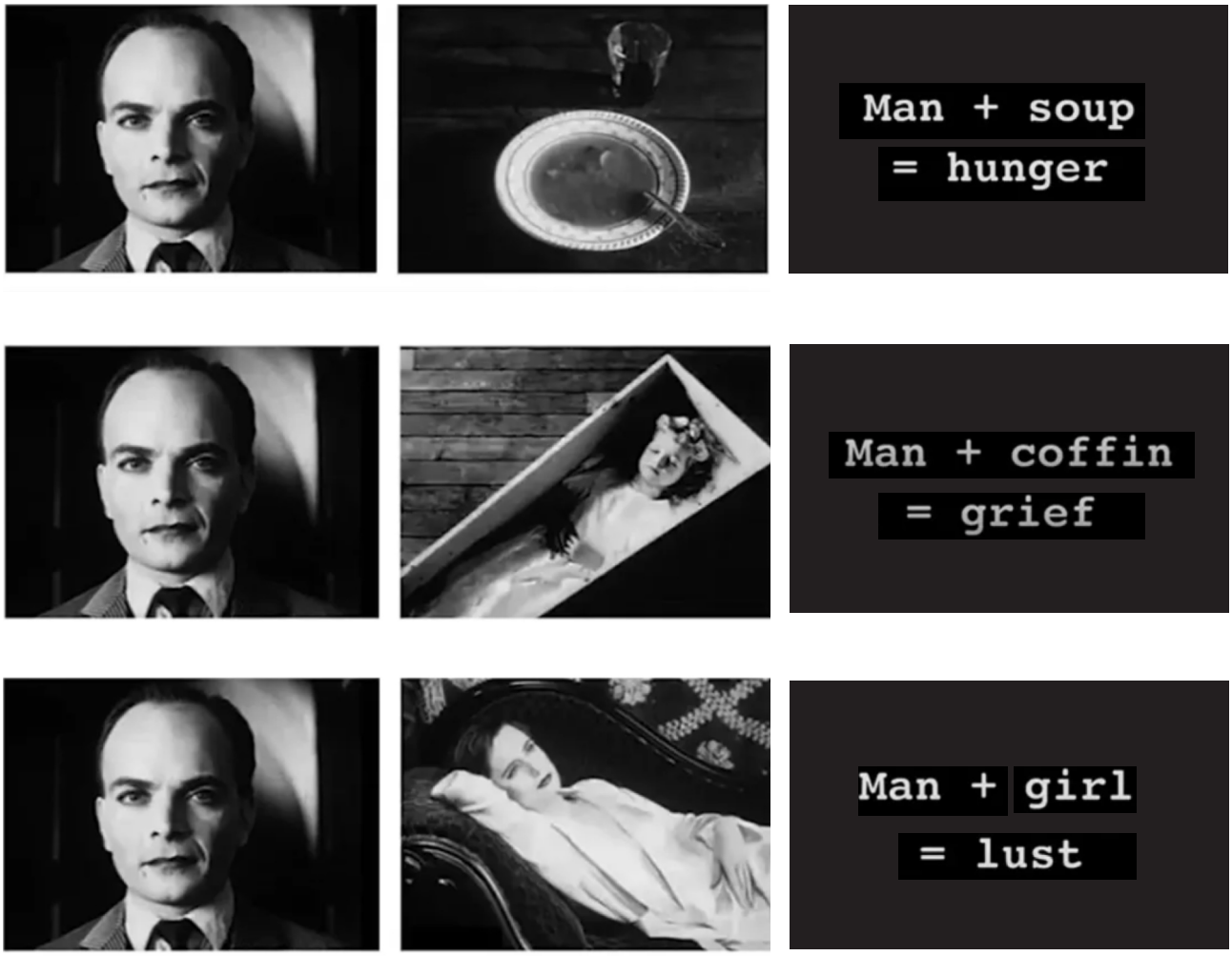

Figure 1: Kuleshov effect. Short film by Kuleshov.

[3] Chris Heckmann. Soviet Montage Theory — Definition, Examples and Types of Montage. March 8, 2020. Studio Binder.

Later in 1923, “montage“ was firstly officially proposed as a film concept in the article “The Montage of Attractions“ written by Sergei Eisenstein for art journal LEF. When producing a film, the director, according to the script, shoots independent shots firstly, and then re-construct these shots to form a film, to express certain feelings and convey certain themes. All of this kind of editing methods in film are called “montage“. However, editing equals montage, montage doesn’t equal editing, it allows a filmmaker to communicate with the audience solely through editing.

2. What is between montage and architecture?

The essential similarity between film and architecture comes from their space-time structure, that is, both integrate space and time within a limited scope. Einstein's theory of relativity introduced the concept of time into space, and architecture became a four-dimensional space-time structure, which is what movies are born to be.

Architectural space is an objective entity, which can be perceived by people walking in the building through vision, hearing, smell and touch. Movie space is a kind of three-dimensional illusion, which mainly relies on vision and hearing to produce feelings. For movies, the camera becomes the audience's eyes and moves in the virtual movie space instead of the audience. Both form people's experience of space through people's motion perception in the building and the audio-visual perception given by the movie screen.

There are two types of time in architecture :(1) one does not emphasize people's movement in architecture, but focuses on the changes of architecture over time, which will leave a mark on architecture itself and in turn affect people's cognitive experience. (2) one means that the passage of time in a series of spatial sequences when people move in the building. When we move, experience accumulates in our mind an image of the existing space, and people have control over movement and the timing of the experience. These two kinds of time can affect the plot design of architectural space from the perspective of subject experience, and become one of the important parameters of architectural design, which is recognized by more and more architects. The addition of the fourth dimension to the three-dimensional architectural space brings more changes and surprises to the architecture, resulting in a richer architectural experience. Due to the illusory characteristics of the time in the movie, the movie can fast forward, delay, stop and replay in time processing. No matter how it is handled, the purpose is to make the narrative better. By comparing the time attributes of the two, we can find that the architectural time is objective and cannot be arbitrarily changed, while the movie time is illusory and flexible. However, both of them can affect people's perceptual psychology, which is the similarity between film and architecture in time structure.

In general, “architecture exists, like cinema, in a dimension of time and movement. One thinks, conceives and reads a building in terms of sequences. To erect a building is to predict and seek effects of contrast and linkage bound up with the succession of spaces through which one passes.[4]” Both the scenes in film and the scenes in architecture need to be carefully choreographed, that is, the use of the montage.

[4] Rem Koolhas. The Pritzker Architecture Prize.

3. Who was Sergei Eisenstein?

As mentioned before, Sergei Eisenstein was the representative master in establishing the new art form of film in a theoretical way.

Eisenstein began his career as a theorist in 1923, by writing "The Montage of Attractions" for art journal LEF. His first film, Glumov's Diary, was also made in that same year. Strike released in 1925 was Eisenstein's first full-length feature film, in the same year Battleship Potemkin was critically acclaimed worldwide, in which Eisenstein used a series of attraction montage techniques to describe the image language to the best of his ability - even the sleeping, squatting and standing of the stone lion can be used as a metaphor for sleeping, waking up and even fighting.

Figure 2: Sergei Eisenstein. Battleship Potemkin.

Rational montage is Eisenstein's reflection on the middle stage of his career, which emphasizes that filmmakers derive rational and abstract concepts through the recombination of images. The film October shot in 1927 is the most representative practice of Eisenstein's rational montage theory, in which he cut Kerensky and peacock together to convey the abstract concept of showing off.

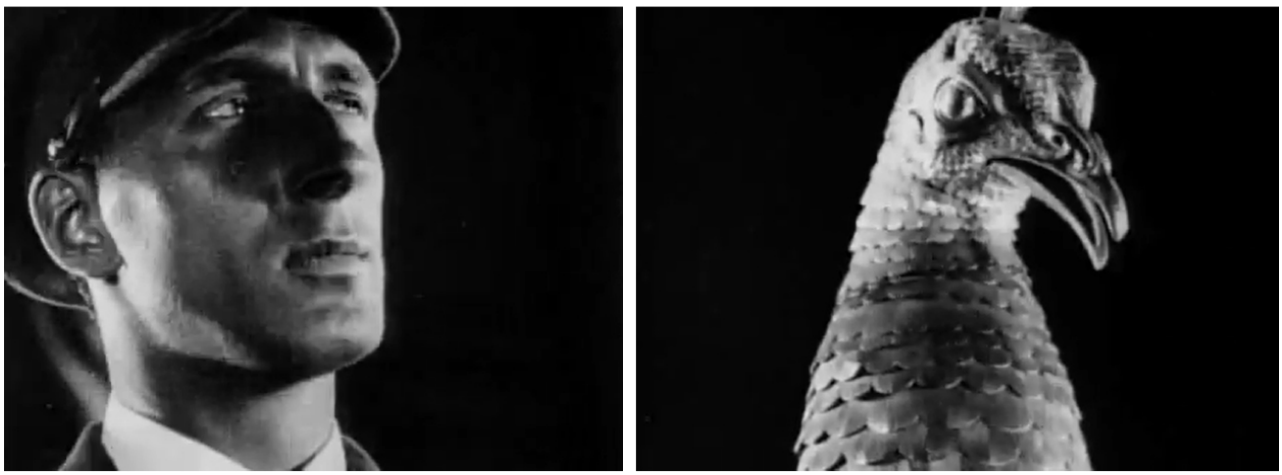

Figure 3: Sergei Eisenstein. October.

Vertical montage is Eisenstein's theoretical discussion of film as a comprehensive audio-visual art after the invention of sound film. The film Alexander Nevsky shot in 1938 is the most representative work of Eisenstein's vertical montage theory. The scene of "war on frozen lake" is the most classic paragraph, in which Eisenstein cooperated with the composer and perfectly matched the slow rhythm of the music with the size of the frame [5].

[5] Xv Hongyan. Pilot Study of Order in Architectural Composition and Design. June 2005. Southeast University.

Figure 4: Sergei Eisenstein. Alexander Nevsky.

In general, the aesthetic basis of Eisenstein's montage theory is "conflict". "Dialectical conflict" is even the guiding principle of his montage theory. As Eisenstein argued, the function of montage is to enable the audience's feeling and thinking to join in the creation of the film. Here, the film is no longer the art of the director, but the art created by the director and the audience together, because the director has delivered his passion to the audience without hiding, inspiring the audience's emotional resonance and rational thinking.

Chapter 1_ Theory of movie montage

The development of Sergei Eisenstein's montage theory

1.1 The montage of attractions

In 1923, Eisenstein published his first and most famous essays: The Montage of Attractions. In this treatise Eisenstein describes his "attempt to create a 'film language' consisting of visual figures of speech and abstract discursive arguments" [6]. He understood the term 'attractions" as images or events which easily attract the attention of the viewer, similar to circus acts. Thus, it is his purpose to not only combine concrete visual images, but to cause whole chains of associations. It is not the realistic depiction that interests Eisenstein, but the motoric and associative construct behind it and that all shots are selected with regard to an underlying concept and effect.

1.2 The intellectual montage

In the following years, Eisenstein enhanced his theory of attractions to a theory of dialectical montage, which involves the spectator and his own thoughts, conveys an ideological thought and encourages to imitate the seen events. Eisenstein used to describe this kind of montage as 'intellectual montage': "The prospect of a discursive cinema that could lay out arguments and present entire systems of thought" [7] fascinated Eisenstein, "he envisioned using montage to generate not only emotions but also abstract concepts: 'From image to emotion, from emotion to thesis.'"

In contrast to conventional editing that juxtaposes continuing shots, Eisenstein held the belief that shoots create the most powerful meaning when they clash. In this logic he refers to German philosopher Hegel and his dialectical process, in which one shot (thesis A) and the succeeding shot (antithesis B) clash and simultaneously unify to synthesis C and yield a higher, 'third meaning'. In this sense, the combination of two images of concrete objects has "to be regarded not as their sum, but as their product"[8] a depiction of an abstract concept or idea that is graphically unrepresentable, invisible and not a fixed symbol. He explains: "It is exactly what we do in cinema, combining shots that are depictive, single in meaning, neutral in content – into intellectual contexts and series." [9]

1.3 The five types of montage

In his essay "The Fourth Dimension in Cinema", Eisenstein differentiates between five types of montage, of which each has a certain effect on the viewer: metric, rhythmic, tonal, overtonal and intellectual.

Metric means that the individual consecutive shots have the same duration, regardless of their content. The metric montage is the most simple kind and translates into a "consistent beat"[10], for example the tapping of one's toe with the beat. In contrast, in the rhythmic montage the length of the shots depends on the content. Thus, for instance, long shots get a longer screening time than close-ups. This type causes a simple emotional reaction.

[6] [10] David Bordwell. The Cinema of Eisenstein (Cambridge, Massachusetts: Harvard University Press, 1993, p.13).
[7] Sergei Eisenstein. Montage der Filmattraktionen, in: Das dynamische Quadrat: Schriften zum Film (Köln: Röderberg Verlag, 1991.
[8] [9] Leo Braudy and Marshall Cohen (eds.), Film Theory and Criticism (New York and Oxford: Oxford University Press, 2009, p. 128).

Tonal montage, however, focuses on the creation of an emotional expression. The fourth type, called overtonal or associational montage, is a combination of the first three types and therefore also a mixture of motoric and emotional effect.

As the last and highest stage, Eisenstein defines the already mentioned intellectual montage. Rather than an emotional experience as in the tonal montage, here the meaning of the individual shots has to be figured out by the viewer.

Those five montage types tend to overlap in practice which can be seen in the Odessa staircase scene. The fragmentary images of Eisenstein confront the viewer – he has to think about them and draw his own conclusion, "in further consequence, the seen images merge with the associative thoughts of the viewer and a third 'higher' – in Eisenstein's case a political and ideological – meaning emerges."[11] To achieve this effect and arouse strong feelings in the viewer, Eisenstein's montage strings together a number of shocking 'attractions'.[12] The massacre on the Odessa stairs is especially outstanding. The scene shows remarkable how in a basically realistic context expressive images and movements can lift the sequence on a whole new level. In fact, the scene does not help much to carry on the plot, it rather reminds of a musical sequence, which is dominated by a strong rhythm. Eisenstein builds emotion and meaning up progressively, elaborately leading to the climactic moment.

Figure 5: Sergei Eisenstein. Battleship Potemkin.

[11] David Bordwell, 1993, p. 128.
[12] David Bordwell, 1993, p. 128.

Chapter 2_ Theory of architecture montage

Architectural montage inspired by movie montage

2.1 Le Corbusier montages 'views and perspectives'

In the 1930s, just before World War II, industrialization was in full swing in Europe and other parts of the world. Under the impact of the rapid development of science and technology, people gradually formed new ideas, including worship of rationality and machines. Naturally, the concept of architects was also deeply influenced, from the pursuit of rationality and obsession with machines, evolved into functionalism and machine aesthetics, and then gradually formed modernism. Le Corbusier played an important role in the development of modernist architecture. Villa Savoye designed by him laid the foundation for modernist architecture, and was internationally recognized.

Film was one of the typical products invented in that period, as well as the most cutting-edge means of expression at that time, which also brought many inspirations to architects: on the one hand, it could be used as a powerful tool to promote modernist architectural concepts; on the other hand, film, as a visual art, could also be widely used in the experiment of visual perception. Standing at this historical point, we can easily understand the emergency of this point of view: architecture can be perceived better through the motion of film images than by static photography.

"Promenade architecture" is a concept proposed by Le Corbusier at that time, which he experimented in architectural design as well as film conception. Le Corbusier indicated the concept of "promenade architecture" very early in his analysis of the Acropolis published in Towards A New Architecture: in the process of walking in the Acropolis, scenes appear successively and change constantly. Within a year or two, Le Corbusier used the term "promenade architecture" for the first time when designing Maison La Roche: scenes unfold one after another along a streamline, rich in variety. Then in 1929-1931, this theory was officially applied to the design of Villa Savoye: in this house, a real architecture promenade takes place, presenting scenes that are constantly and unexpectedly changing. [13]

In the film Architecture Today shot in 1930 by Le Corbusier and director Pierre Chenal, a woman looks out at Villa Savoye and then approaches, walking up the long ramp from the elevated entrance space to the roof garden. The same description of the experience can be found in the book Le Corbusier wrote before he filmed this video. It is obvious that Le Corbusier had already preset the frames he wanted before the film was shot. It is even possible that he had already preset the dynamic visual effect during project design, and then completed the narrative of the spaces by architecture montage. This reflected the conscious exploration of "promenade architecture", and promoted the freedom and flow of modernist architectural space.

[13] Wang Quelian. Le Corbusier's Cinematics: A Primary Study of Le Corbusiers Architectural Design from the Perspective of Cinematic Architecture. May 2018. Nanjing University.

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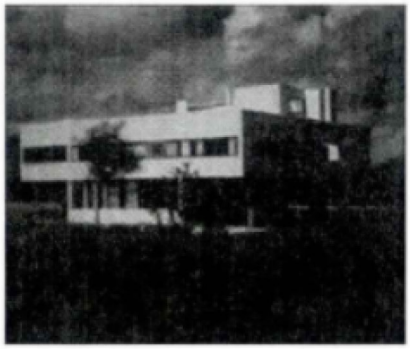

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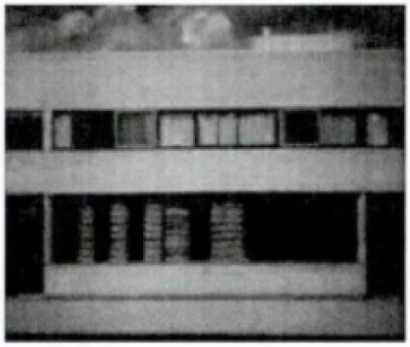

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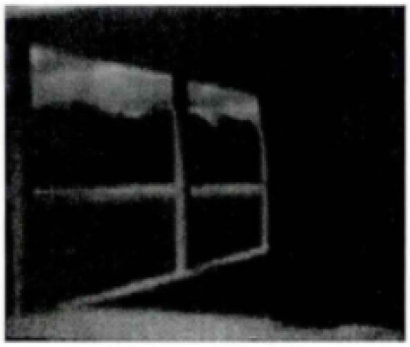

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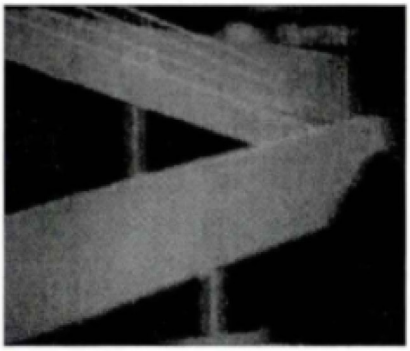


Figure 6: Le Corbusier. Architecture Today.

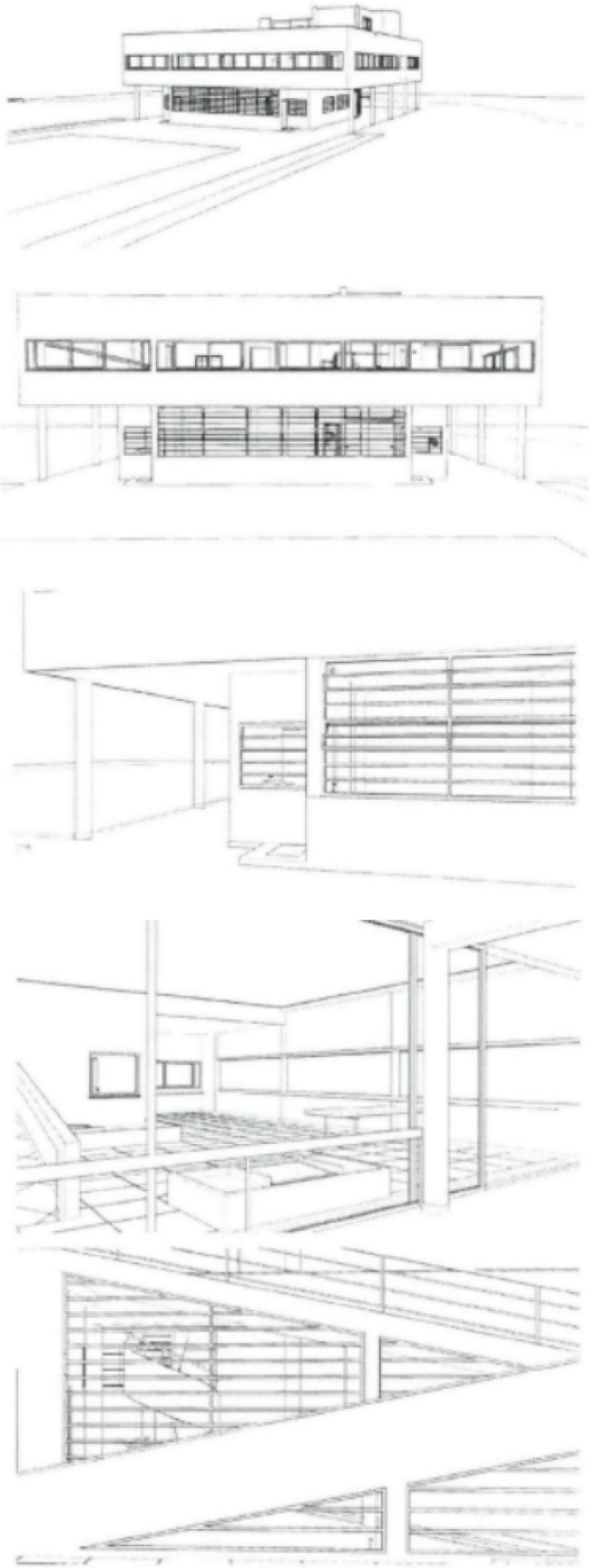


Figure 7: Wang Quelian. Le Corbusier's Cinematics: A Primary Study of Le Corbusiers Architectural Design from the Perspective of Cinematic Architecture. May 2018. Nanjing University.

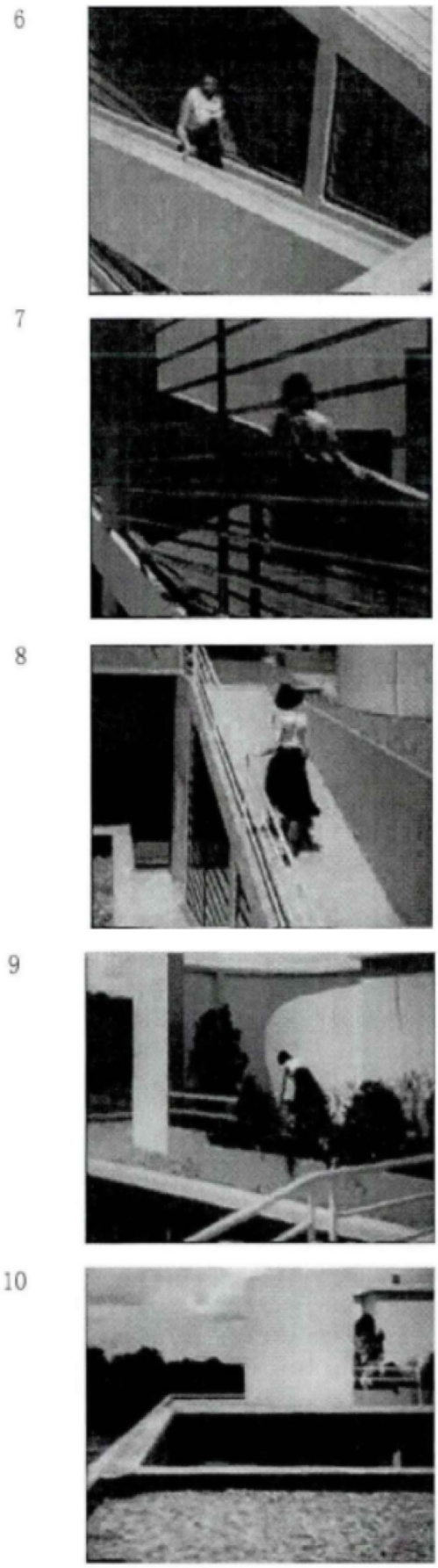


Figure 8: Le Corbusier. Architecture Today.

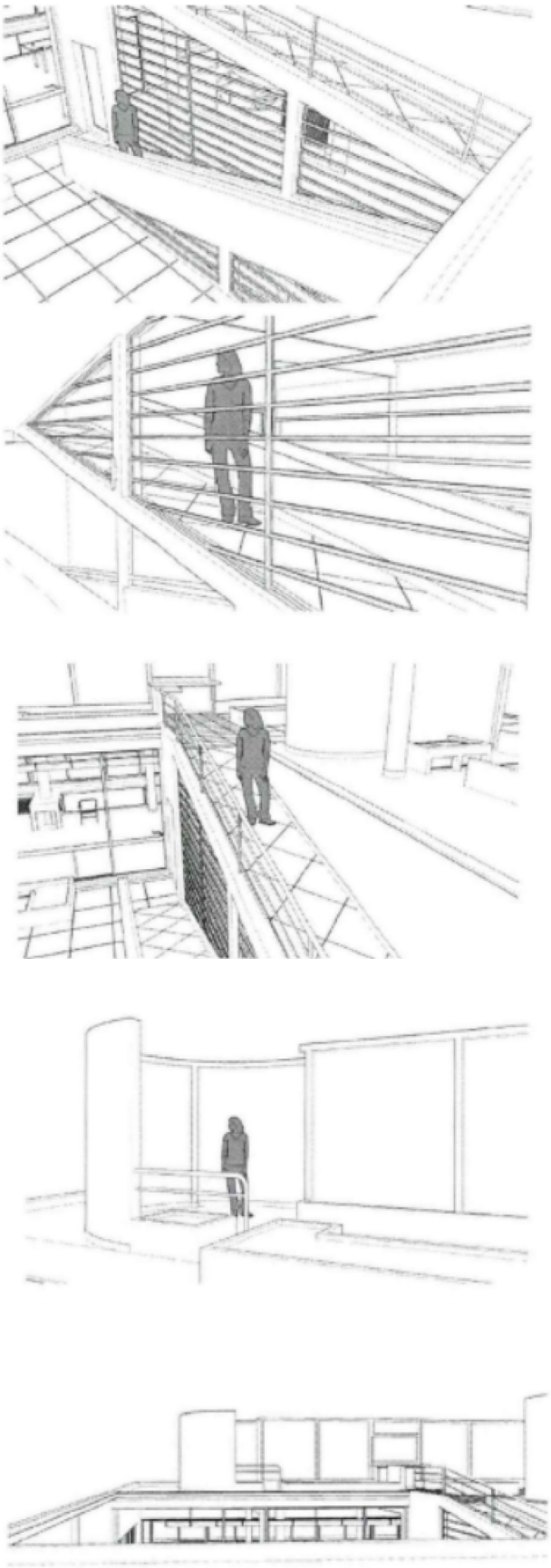


Figure 9: Wang Quelian. Le Corbusier's Cinematics: A Primary Study of Le Corbusiers Architectural Design from the Perspective of Cinematic Architecture. May 2018. Nanjing University.

2.2 Bernard Tschumi montages 'layers of the experience'

In the 1970s, at the end of the modernist movement, film again played an important role in architectural design, because of the questioning of industrial architecture, the boredom of homogenization of cities, the reflection on sociology, and the exploration of private space. At this time, film was not only used to express the architectural concept, but more importantly to inspire architects to express themselves on a spiritual level. Film teaching in the field of architecture has become a way of reviewing design projects.

Bernard Tschumi experimented with film and architecture in a series of discontinuous works from 1977 to 1981. The Manhattan Transcript is different from normal architectural atlas, in that it embodies realistic events and architectural plans. The book records four architectural episodes: a murder in NewYork Central Park, violence and murder on the 42nd Avenue, violence in the Waterfall Tower, and complementary events in the five inner courts in the city. The stories are recorded in three layers - space, event and movement - and the concept of experience is introduced in the process. [14]

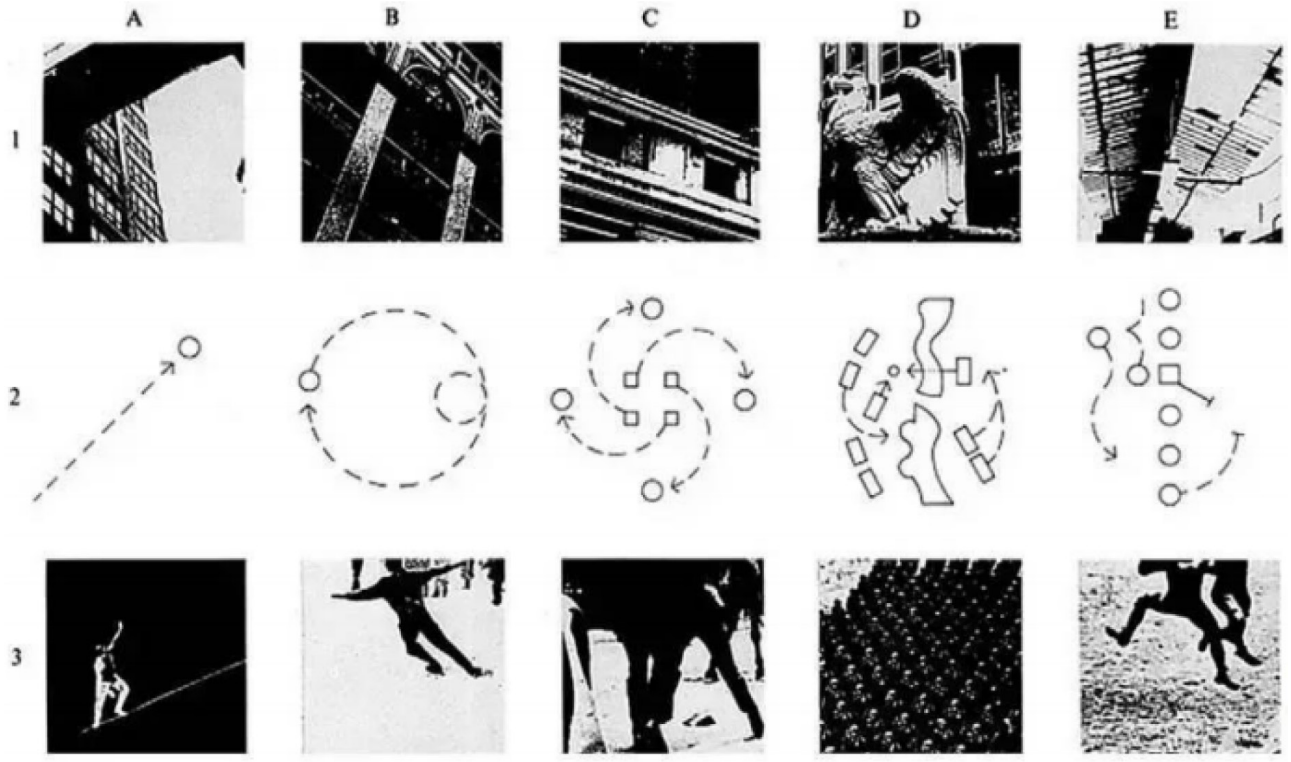


Figure 10: Bernard Tschumi. The Manhattan Transcript.

This period is different from the previous period of film architecture, which directly recorded and expressed the architectural spaces and details, but as a new way of architectural interpretation. This new way acts on the design process of architecture, becomes the communication medium between designers and users, and is the explicit expression of life plot and living space. Film architecture becomes narrative, psychological, and self-presented by personal experience, rather than abstract, perceptual, and directed.

[14] Zhou Longhua. Research on Narrative Techniques of Architectural Space Based on Cinematic Architecture. November 2019. Tianjin University

2.3 Rem Koolhas montages 'program'

Koolhas studied at the Architectural Association School (AA) in London in the 1960s and 1970s. While studying at AA, Koolhas worked as a journalist and screenwriter on two major projects: a journalistic study of the Berlin Wall, and an allegorical competition project entitled "Escape, or Voluntary Prisoner of Architecture."

In his research on the Berlin Wall, he used the techniques of journalists to reproduce the state of the Berlin Wall at that time and the lives of people on both sides of the world. This entry point completely transcended the traditional view of architecture from an aesthetic and technical point of view, and it also informed his next work.

In 1972, Koolhas joined Zoc Zenghlis in the Italian magazine Casa Bella for a design competition entitled 'Meaningful Environments.' It took them a week to complete a design called "Runaway, or Voluntary Prisoner of Architecture." [15] This allegorical scheme can in fact be seen as a continuation of Koolhas's investigation of the Berlin Wall, but moved from Berlin to a hypothetical London.

In this scheme, they assumed that London was divided into good and bad halves, as happened between East and West Berlin. Residents in the bad half began to flee to the good half. Eventually the fugitives discovered, paradoxically, that it was they themselves who had become willing prisoners of good architecture. Koolhas and Zenghlis' design consists of a continuous grid of huge blocks imposed on top of the old city. Each grid is arranged with different activities and contents, such as reception area, central area, square, park and so on. In allegorical style, they depicted different scenes in the area and the fate of the residents who came from the "bad half" to the "good half." The scheme also consists of equally important drawings (blueprints and collages) and a written narrative (like movie script).

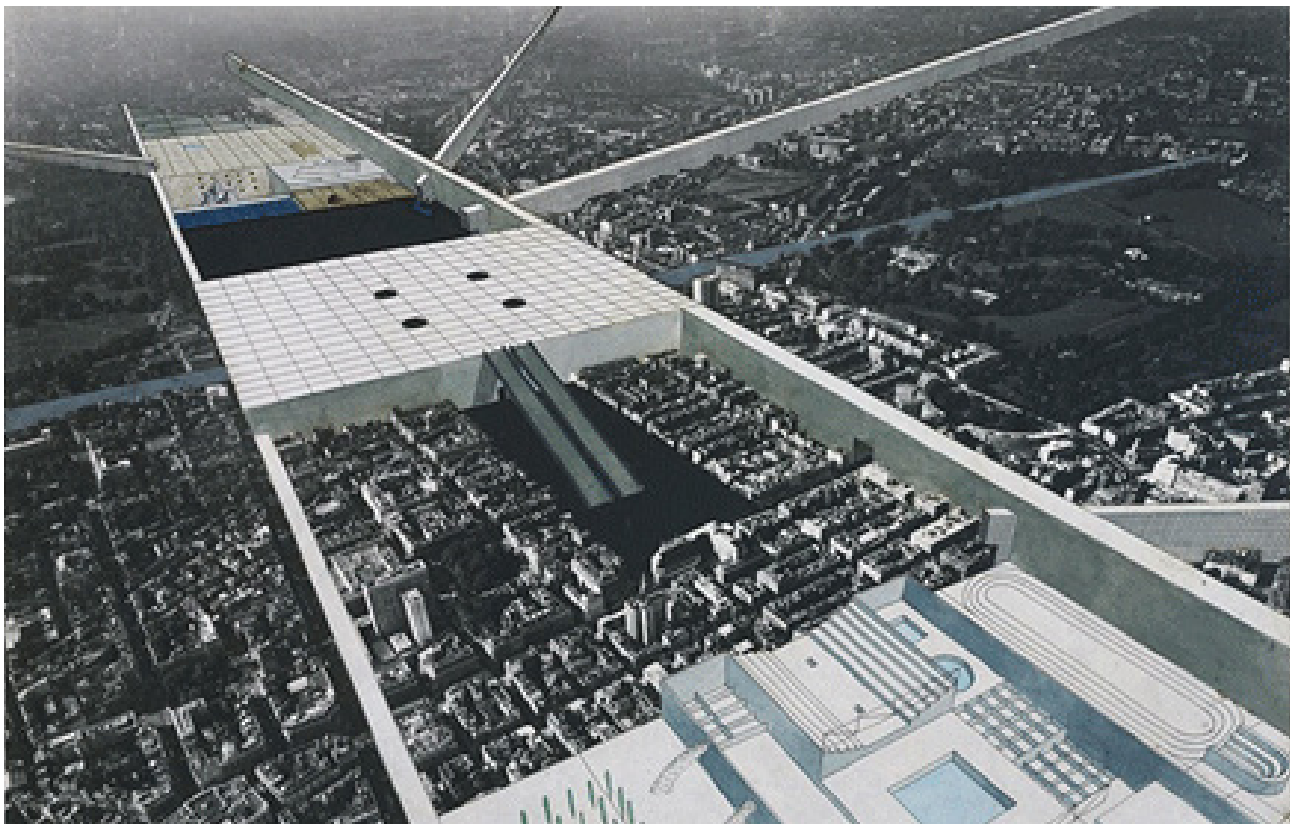


Figure 11: Rem Koolhas, Zoc Zenghlis. Runaway, or Voluntary Prisoner of Architecture.

[15] Bao Xingjian. Space Montage: Picturization of Architectural Syntax. October 2008. Chongqing University.

In this project, Koolhas and Zenghlis expressed their desperate pursuit of new forms in the avant-garde architectural experiments and their doubts about utopia. This is also a model of koolhas's image-based expression of urban and architectural space, in which the collage technique of drawing, image-based text, film clips and other elements make us see another possibility of architectural expression.

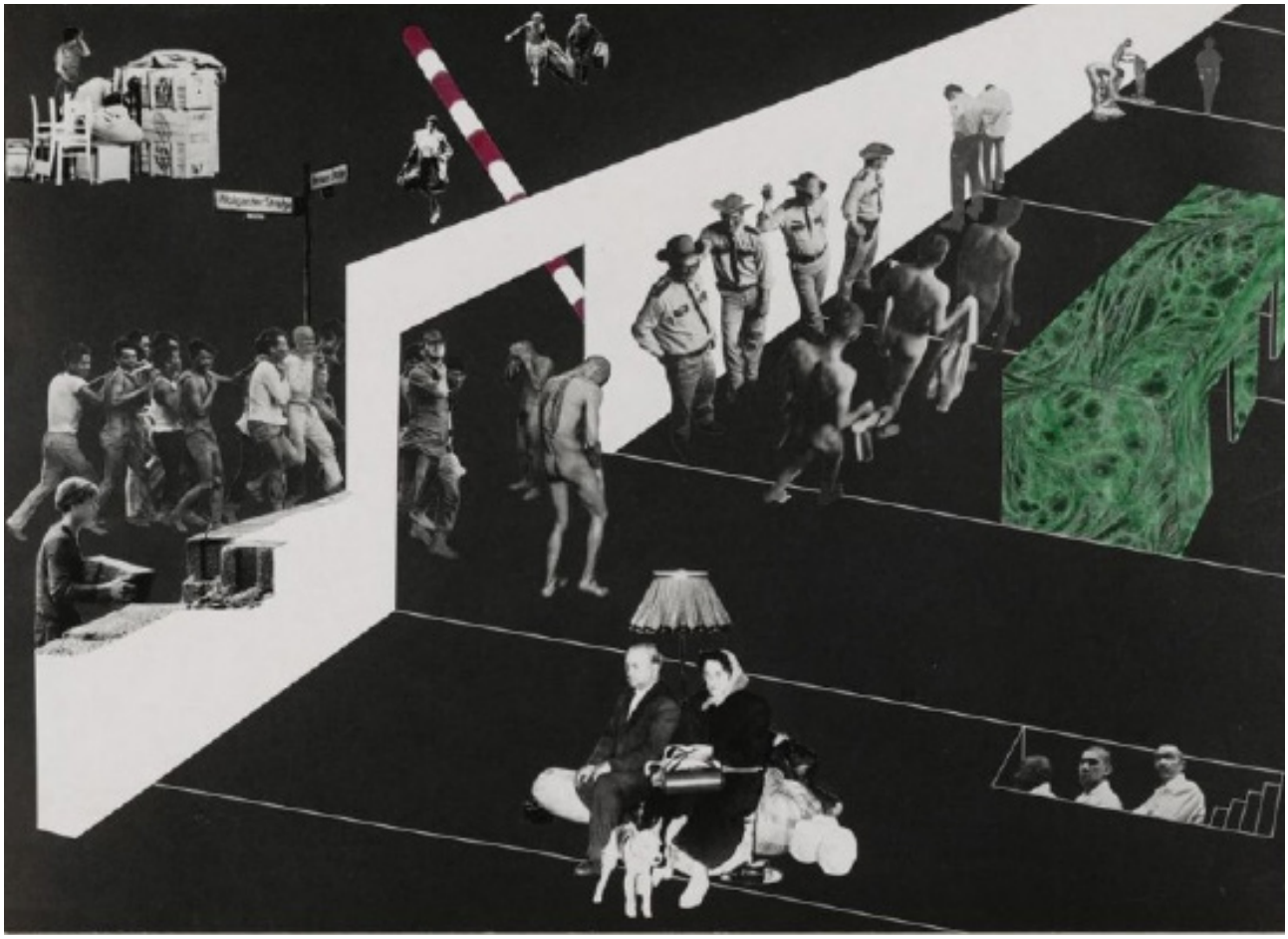


Figure 12: Rem Koolhas, Zoc Zenghlis. Runaway, or Voluntary Prisoner of Architecture.

2.4 Architecture montage

Film architecture conveys the space based on and above the physical space through extraction, editing and reconstruction, so as to enrich people's cognition and experience. In other words, with the help of the expression of film, the physical space can be reproduced after editing or translation to give people a new understanding. Of course, the expressions between arts are fused, and architectural vocabulary can also be translated into image language.[16]

Dynamic experience

Julianna Bruno once said, "The expression of film image and architectural space share the same principle, which is to construct a dynamic trajectory of life scene fragment." In fact, by contrast, the roles of architect and director are the same. Architects use architectural space to design people's way of life, while film directors choreograph the development of stories through images. Similarly, this process of perception is a dynamic presentation, a dynamic receiving experience.

[16] Zhou Longhua. Research on Narrative Techniques of Architectural Space Based on Cinematic Architecture. November 2019. Tianjin University

Dynamic experience can be understood as the experience and reverse construction of time and space, image and situation. Montage of film creation techniques is an important way for dynamic experience to obtain visual information, which is to mark the time and space nodes on the basis of the scene, or to understand the plot capture under dynamic. The design technique of "movie map" proposed in Camera Eye is to draw on montage to analyze the design purpose, mark the moving scenes, and then reverse construct the marks, as shown in Tschumi's Manhattan Transcript.

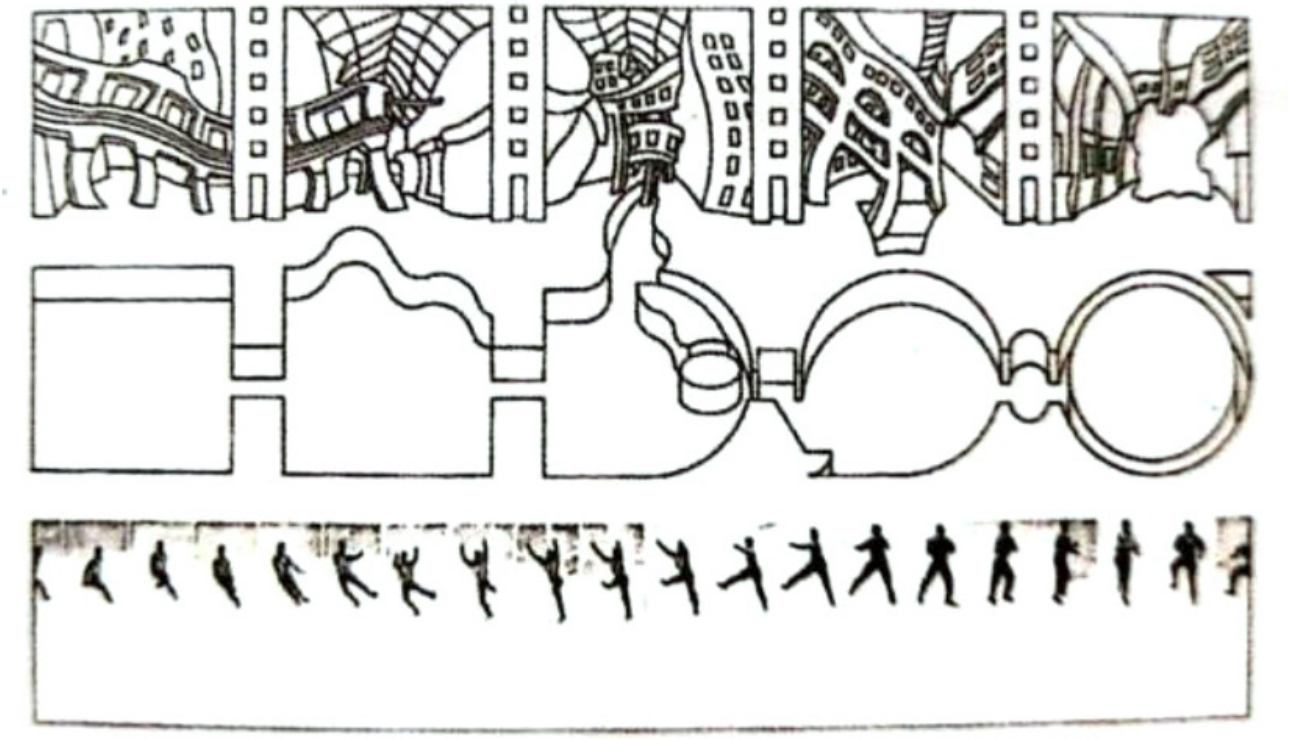


Figure 13: Bernard Tschumi. Red Is Not A Color.

Narrative space

Professor Andong Lu once pointed out the relationship between film and architectural narrative space, that is, "film is a spatial narrative, while architecture is a narrative space". Narrative space is divided into fragmentary and integral, which is often fragmentary in the process of people's dynamic experience. Just as the psychologist Tversky defined the process of recognizing space, it is faint, fragmented and noncontinuous. People complete the memory of space through the collage of fragmentary experience. For the study of dynamic experience and narrative space, Digital Studio of Cambridge University arranged the spatial construction of the film Gormengarde according to Kevin Lynch's urban form theory, which proved the application of film narration in spatial organization and expression.

Spiritual projection

Spiritual projection is an important research direction of film architecture. If the first two directions are classified as "object" research, then spiritual projection is the study of "man", which emphasizes the projection of memory, experience and imagination. As Uhani Parasma said, "The significance of architecture lies not only in its physical existence, but also in the visual memory and spiritual perception of the experiencer it inspires". [12] For this reason, space is the starting point of spiritual projection and the medium of communication at the spiritual level.

Jungian psychology divides the human spirit into three levels: the individual consciousness, the individual unconscious, and the collective unconscious. When individual and collective consciousness is stimulated to a deep level, space can burst out of appeal. When it is applied to the theory of film architecture, personal experience should be projected into spiritual understanding through space, which is often combined with universal consciousness to create more resonance and trigger the underlying memory.

Le Corbusier spent only 45 minutes sketching the plan for the only beach cabin he built for himself. Facing the boundless beauty, there is only one landscape window, instead of the long window he usually used, the scenery and light of which create the meditative and spiritual nature of the space. This is also Pasco Suning's classic case of explaining film architecture - that window is not just for scenery, but a Le Corbusier-style film of memory.

Figure 14: Zhou Longhua. Research on Narrative Techniques of Architectural Space Based on Cinematic Architecture. November 2019. Tianjin University

Chapter 3_ Project analysis based on Eisenstein's 5 montage techniques

3.1 Metric montage

Cutting according to exact measurement; irregardless of content.

"The pieces are joined together according to their lengths, in a formula-scheme corresponding to a measure of music. Realization is in the repetition of these 'measures.' Tension is obtained by the effect of mechanical acceleration by shortening the pieces while preserving the original proportions of the formula." [17]

The metric montage method edits together different shots by following an exact measurement or number of frames no matter what is happening on the screen, in order to create a visual pace within a film scene. The tempo of the montage can be heightened or lowered to create different emotional effects. For instance, an editor might decide that in order to create a sense of calm they will have few cuts with shots lasting a long time. Or they might decide to have lots of cuts in rapid succession to create a sense of urgency. Alternating between rapid cuts and slow ones might create tension. In general, metric montage is not dictated by the content of the shots but by the tempo of them.

This montage in Requiem For A Dream shows the organised yet chaotic impact of the metric montage. Each shot is given nine frames and a distinct sound effect. The montage demonstrates drug taking's disorientating effect. The shot timing is frantic yet regimented. Consequently, it gives the sequence a psychedelic style. It is effective in progressing the story and portraying the descent into addiction for each of the characters.

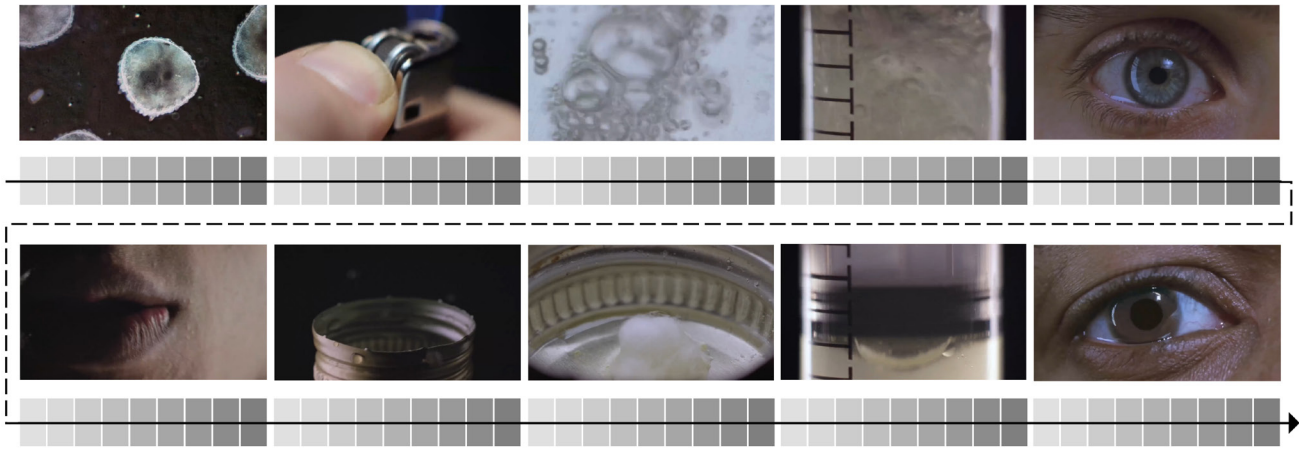


Figure 15: Drawing by author.

The Memorial to the Murdered Jews of Europe, also known as the Holocaust Memorial, is a memorial in Berlin to the Jewish victims of the Holocaust, designed by architect Peter Eisenman. It consists of a 19,000 sqm site covered with 2,711 concrete slabs or "stelae", arranged in a grid pattern on a sloping field. Vey similar to what is explained previously of the metric montage, here in the plan of the memorial, it is divided homogeneously without caring about the content or the metaphor of these concrete pillars, instead, the tempo of the whole is what really matters. As Peter Eisenman explained in the interview of this design, the original inspiration is to simulate the feeling of lost and alone in space and time of the Jewish victims, therefore he created these homogeneous as well as disorienting concrete pillars. But the key point is not about the pillars, it is about the feeling of this movement.

 [17] Sergei Eisenstein. The Fourth Dimension in Cinema. 1922–34.

Figure 16: Screenshot of Peter Eisenman Interview Field of Otherness. Louissiana Channel.

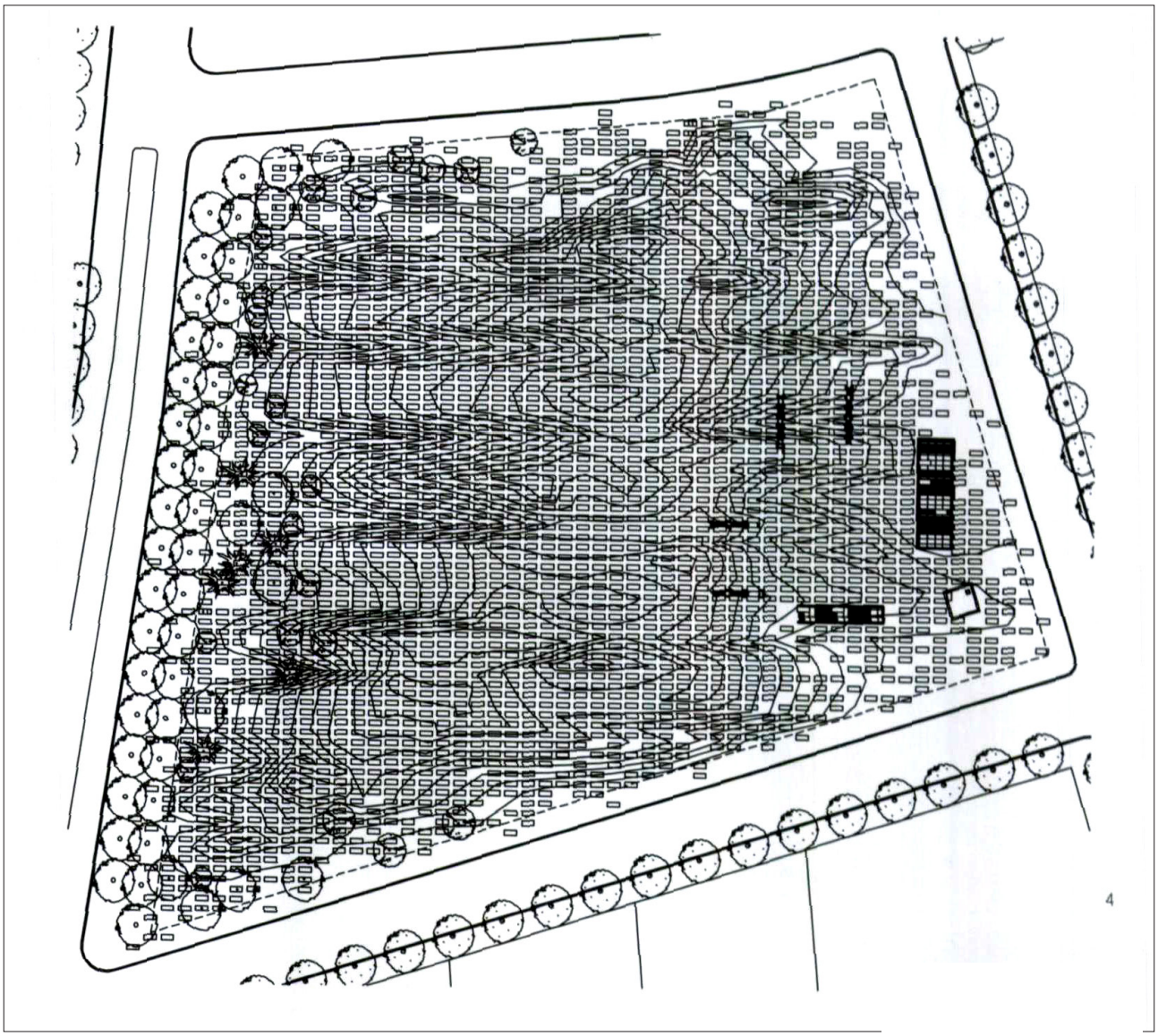


Figure 17: Peter Eisenman. Plan of The Memorial to the Murdered Jews of Europe.

When you walk into the pillars, the terrain gradually descends while the pillars become higher slightly, which makes the light dimming and the sense of pressure increasing, bring the feeling of lonliness.

Figure 18: Screenshots of Peter Eisenman Interview Field of Otherness. Louissiana Channel.

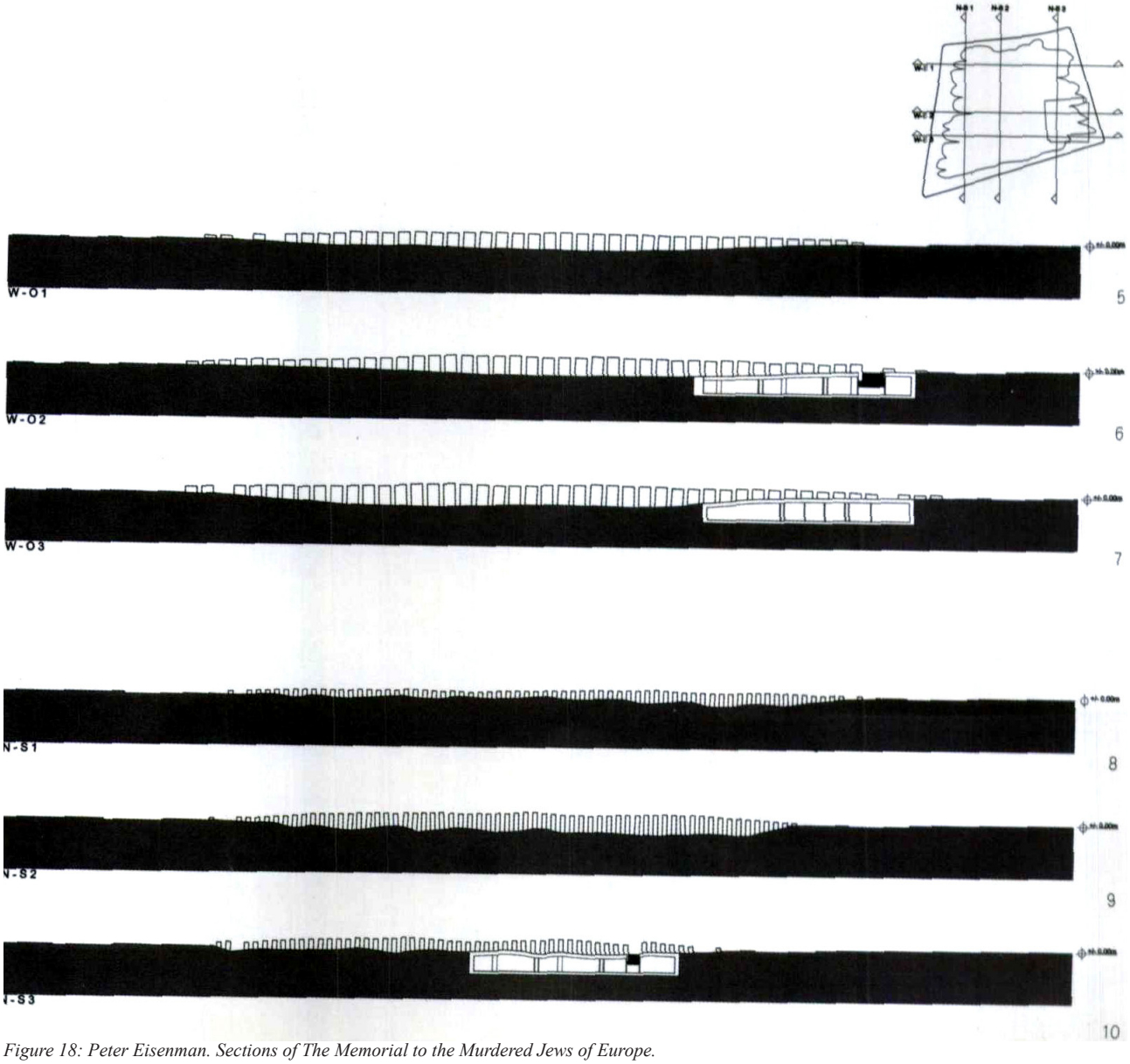


Figure 18: Peter Eisenman. Sections of The Memorial to the Murdered Jews of Europe.

3.2 Rhythmic montage

Cutting according to the content of the shots; continuity editing.

"The actual length does not coincide with the mathematically determined length of the piece according to a metric formula. Here its practical length derives from the specifics of the piece and from its planned length according to the structure of the sequence." [18]

If the Metric Montage is used to establish a visual pace, then the Rhythmic Montage is used to keep to the pace, in both a visual and auditory sense. In other words, shots, and actions are matched to continue the structural nature of the scene. This montage does not adhere to a beat and as Salvaggio contends "the content could be structured in opposition to the beat". Rhythmic montage is continuity editing, the most used type of editing. The "Odessa Steps" sequence is the ultimate example of this method.

[18] Sergei Eisenstein. The Fourth Dimension in Cinema. 1922–34.

This final performance of Whiplash Amazing is a great example of the Rhythmic Montage, because each frame perfectly follows the step of the band, and each shot keeps strictly to the pace of the music, which ultimately creates an engrossing continuity, and pushes the film ending to climax together with the ending as well as the climax of the Jazz music Caravan.

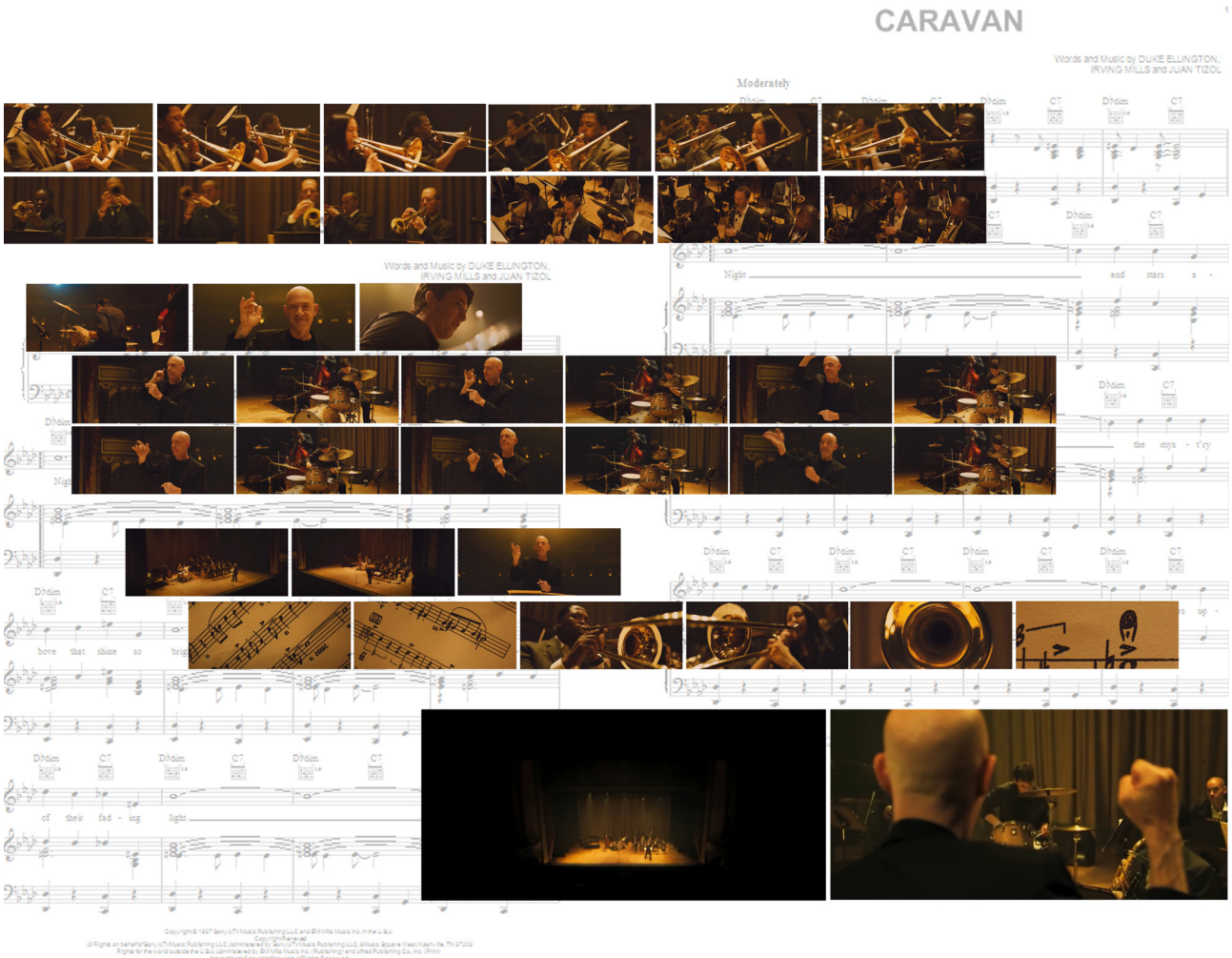


Figure 19: Drawing by author.

Rhythm in architecture could be reflected in many respects, including geometry regulation, like the repetition of the arches of the Roman Colosseum, and the graceful proportions of the colonnades of the Greek temples. Rhythm in mordern architecture turns to spaces and is more likely to be defined as the sense of order.

Salk Institute for Biological Studies designed by Louis I Kahn is like Acropolis, standing on the edge of the cliff near the sea. The most impressive space is the central square, because of its beautiful combinition of classical building and modern architecture. The square has similar three-stage spatial composition, spatial proportions and scales compared with the Basilica in Constantine. Christianity used the architectural layout of Basilica to build its churches. In order to complete the psychological foundation of the liturgy, the longitudinal space proportion of the middle hall of the church is stretched, so that there is a clear spatial direction from the entrance to the altar at the end, and the process of entering has a strong sense of ritual. The square of Salk Institute is almost a cathedral without roof because of its spatial composition and scale with the sense of ritual. The sky and the sea are out of reach at the end, and the longitudinal distance can complete the psychological foundation for the sense of church ceremony, leading to a worship of time and space, leading to the thinking of life.

The square adopts a completely central symmetric space structure, with a canal in the center of the axis, emphasizing the axis symmetry and the spatial directivity. The water starts from the source of the rectangle and points to the sea at the end. The implicit metaphor of source and return brings subconscious association to the beginning of life. The buildings on either side of the plaza are similar to the side aisles in church, enclosing the atrium space while maintaining the connection between the center and the side space. The solid walls of the buildings create two sides of the square space: one side is the daily life of scientists on one side, the other side is a solid shield facing the sky and sea. The twist of the Angle implies the direction of the eye, while forming a sense of scale and rhythm of the space.

Figure 20: Salk Institute for Biological Studies. Archdaily.

Figure 21: Salk Institute for Biological Studies. Archdaily.

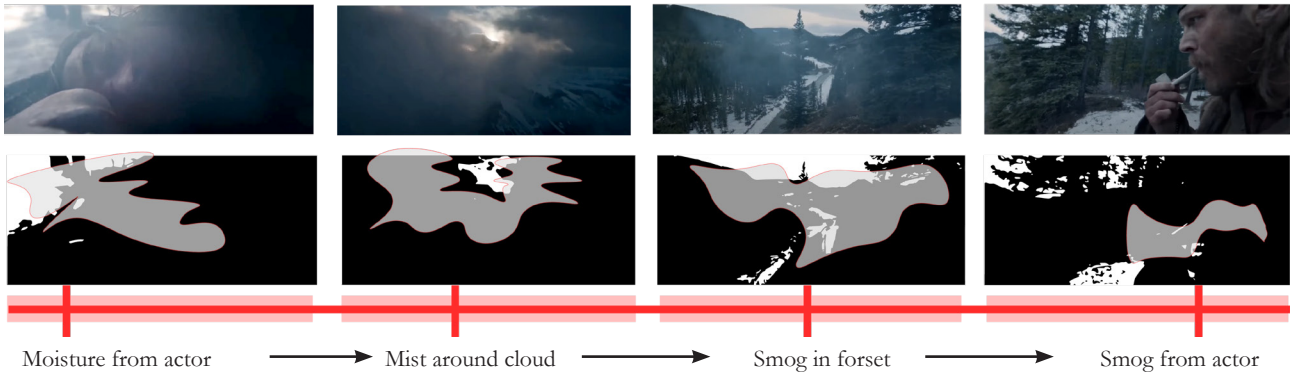
3.3 Tonal montage

Cutting according to the emotional "tone" of the piece

Tonal montage refers to editing decisions made to establish the emotional character of a scene, which may change in the course of the scene. Tone or mood is used as a guideline for interpreting tonal montage. Although, it combines different shots, background music and so on to express the same emotional theme. It will maintain the consistency of the scene sequence through using similar scenes, background music, picture composition and repeated elements, so that the audience can feel the emotional tone.

Compared with metric and rhythmic montage, this type of montage is a bit more subjective in the sense that you're not cutting towards any physical aspect of media. It is not just manipulating the temporal length of the cuts or its rhythmical characteristics—to elicit a reaction from the audience even more complex than from the metric or rhythmic montage. For example, a sleeping baby would emote calmness and relaxation. There are two montage clips to explain how the director uses different methods to achieve tonal montage in the film.

First montage in The Revenant shows the director organise the shot sequence according to a same emotional theme ------despair. The character feels desperate to survive due to the harsh environment. Director uses a repeated element, which is fog, to keep the consistency of the shots. The fog drifts from the left to the right of the screen, making the audience's view switch naturally between the actor, the environment and the supporting actor



1. Clue: Fog -------- special elements

   Moisture from actor - Mist around cloud-Smog in forset-Smog from actor

2. Emotion Theme: harsh environment and people feel desperate

Figure 22: Analysis of The Revenant shot squence

The second montage is a shot sequence of *In the Mood for Love*, in which director organises the discontinuous shots in order to show the protagonists' loneliness. The hero and heroine are in a similar crowded and dark environment and feel lonely. So they quickly develop a relationship. The director used a similar scene composition to keep consistency in visually. The protagonist sits in the room and is partially obscured by a window or door. Doors and windows limit the audience's view in order to highlight the characters, while making the space deeper in visual .

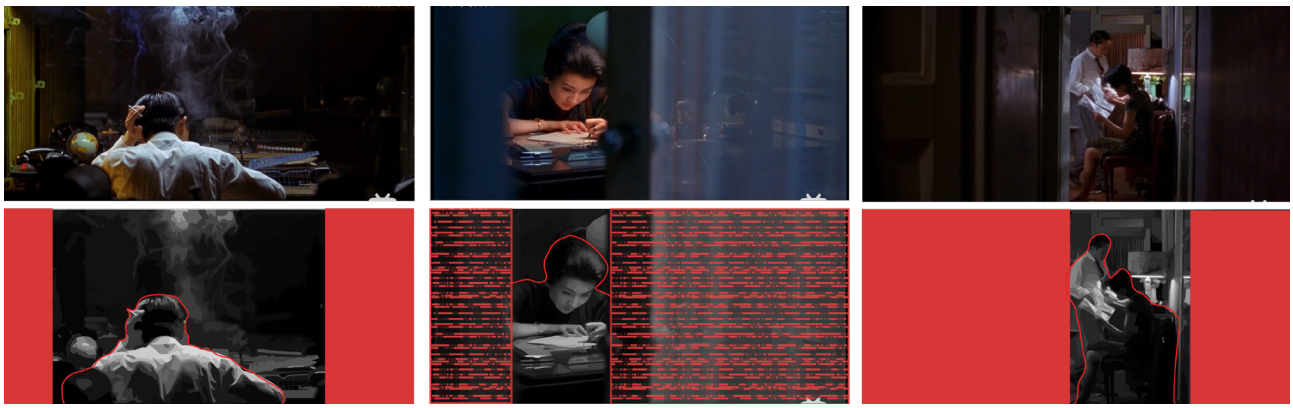


Figure 23: Scene Frame Analysis of In the Mood Love

The second montage is a shot sequence of c, in which director organises the discontinuous shots in order to show the protagonists' loneliness. The hero and heroine are in a similar crowded and dark environment and feel lonely. So they quickly develop a relationship. The director used a similar scene composition to keep consistency in visually. The protagonist sits in the room and is partially obscured by a window or door. Doors and windows limit the audience's view in order to highlight the characters, while making the space deeper in visual (Figure X).

The above two film cases clearly describe the use of tonal montage in the film in two ways. As mentioned above, when the visitors roam in the architectural space, the visual sequence is just like the sequence of shots in the movie. Is there a visual sequence similar to "Tonal Montage" in architectural space? Two architecture cases will be analyzed to try to figure out application and effect of tonal montage in architecture.

The first architecture case study is Kolumba Museum which is designed by Peter Zumthor. Zumthor's design cleverly rises from the ruins of a late Gothic church, respecting the site's history and preserving its essence. "They believe in the inner values of art, its ability to make us think and feel, its spiritual values. This project emerged from the inside out, and from the place," explained Zumthor at the museum's opening. According to the description of Zumthor, local historical feelings can be regarded as an emotional theme of this architecture. Zumthor tried to combine historical and newly-built in a appropriate way.The second architecture case study is Kolumba Museum which is designed by Peter

Figure 24: Outside of Kolumba Museum

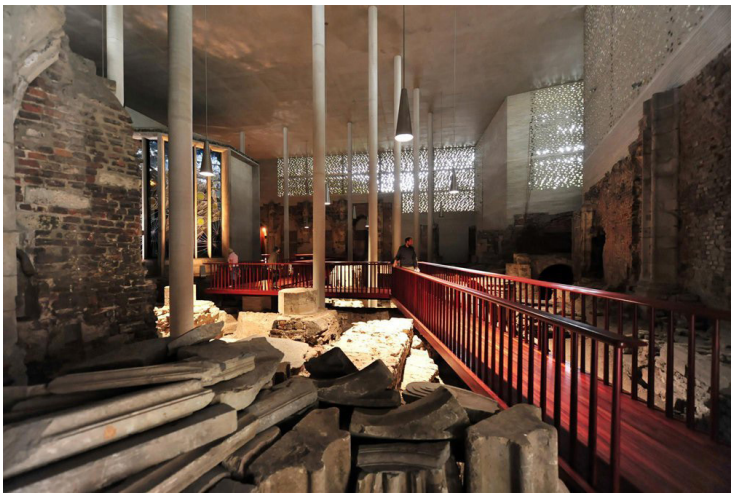


Figure 25: Inside of Kolumba Museum

Zumthor always paid attention to the use of materials, especially their architectural details, using grey bricks to combine the ruined fragments of the site. The fragments include the remains of gothic churches, Roman and medieval stone ruins, and a chapel built in 1950 by German architect Gottfried Bohm for the "Holy Mother of Ruins." The grey brick facade fuses the remnants of the church facade into a new look for the contemporary museum. The brickwork is connected to the perforations, filling the specific Spaces of the museum with diffuse light. As the seasons change, "dashes of light move and play over the ruins," creating a serene kaleidoscopic environment.

Figure 25: Plan of Kolumba Museum

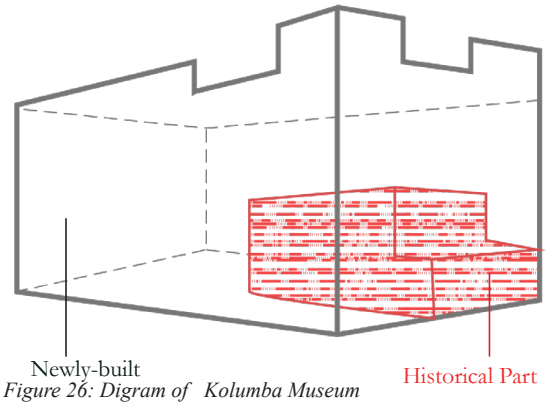
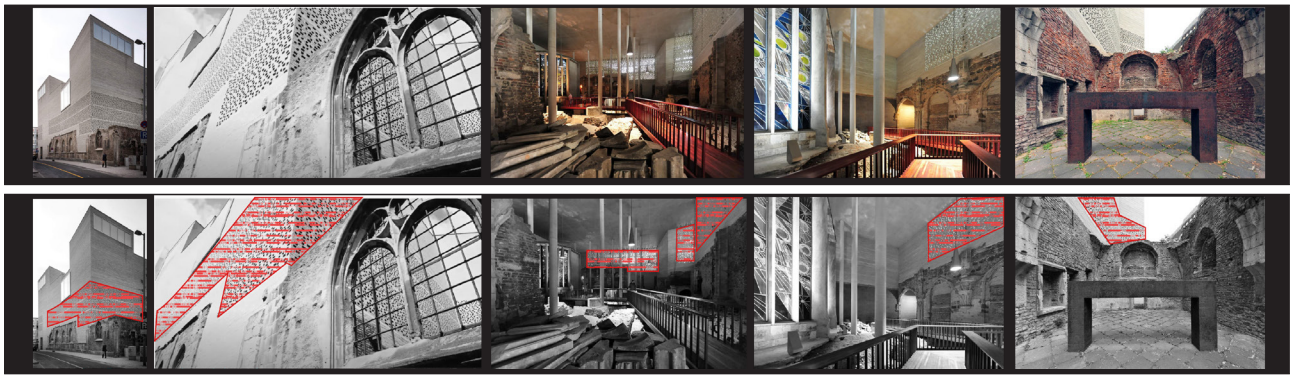


Figure 26: Digram of Kolumba Museum

We can regard gray brick as a clue, which connects the different fragments. Gray bricks can be compared to fog in the The Revenant and scene composition In the Mood for Love. Space fragments from different periods can be regarded as shots in a film.



1. Clue: Grey Bricks -------- special elements

Facade:Old wall and New wall - Connect Inside and Outside Space by light-Coutyar: New wall and Old wall

2. Emotion Theme: combination of historical and new space

Figure 27: Visiting Scene Squence of Kolumba Museum

This figure shows a visiting route from outside street to inside historic ruins, and final visitors would enter a historic courtyard. If visitors stand on the street to observe the buildings, they will find the grey bricks connect historic wall and new-built wall on the façade by the cracks between bricks. Then they enter the interior space. The skylight from outside goes into the exhibition space through these cracks. So, the outside shot and inside shot are connected by grey brick. When they go into tthe courtyard which is also outside space, visitors would see the historic wall and grey bricks again from a different perspective.

The second architecture case study is Xiangshan Campus of China Academy of Art which is designed by Wang Shu. The campus is located at the foot of Xiangshan mountain. The campus adopts a zigzag and free layout. The center of the campus is the Xiangshan Mountain, at the foot of which there are creek. Wang Shu applied his own thinking and ideas in the construction of xiangshan new campus. He tried to rebuild the context with regional roots in Chinese cities that are rapidly losing regional culture, and make the architectural paradigm of coexistence of Chinese tradition and mountains and rivers apply in today.

Figure 28: Facade of Xiang Shan Campus

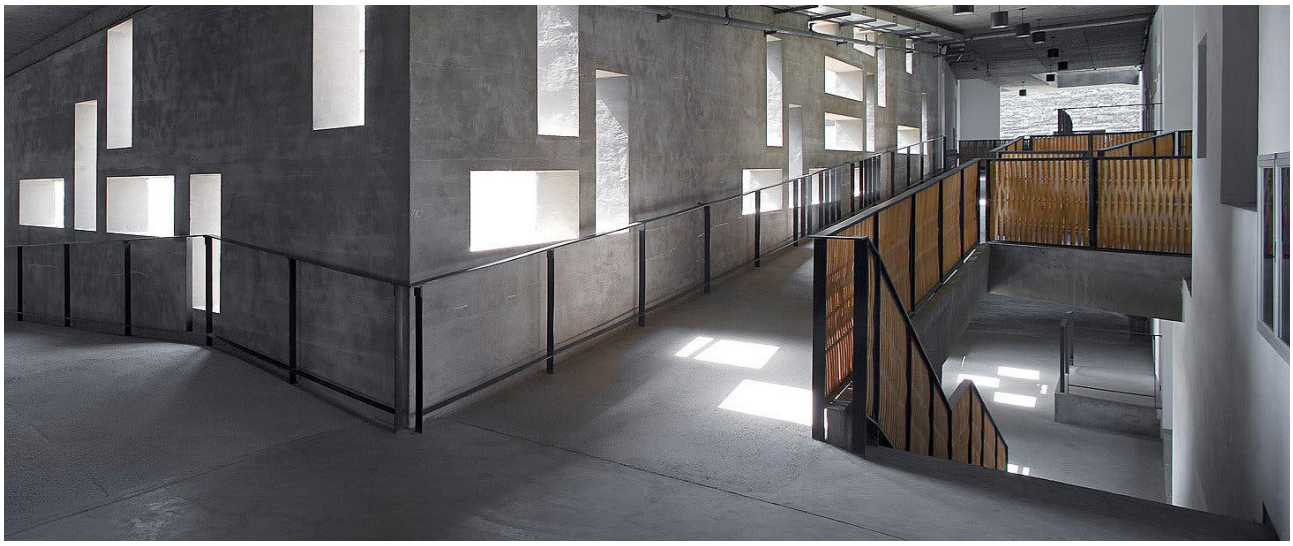
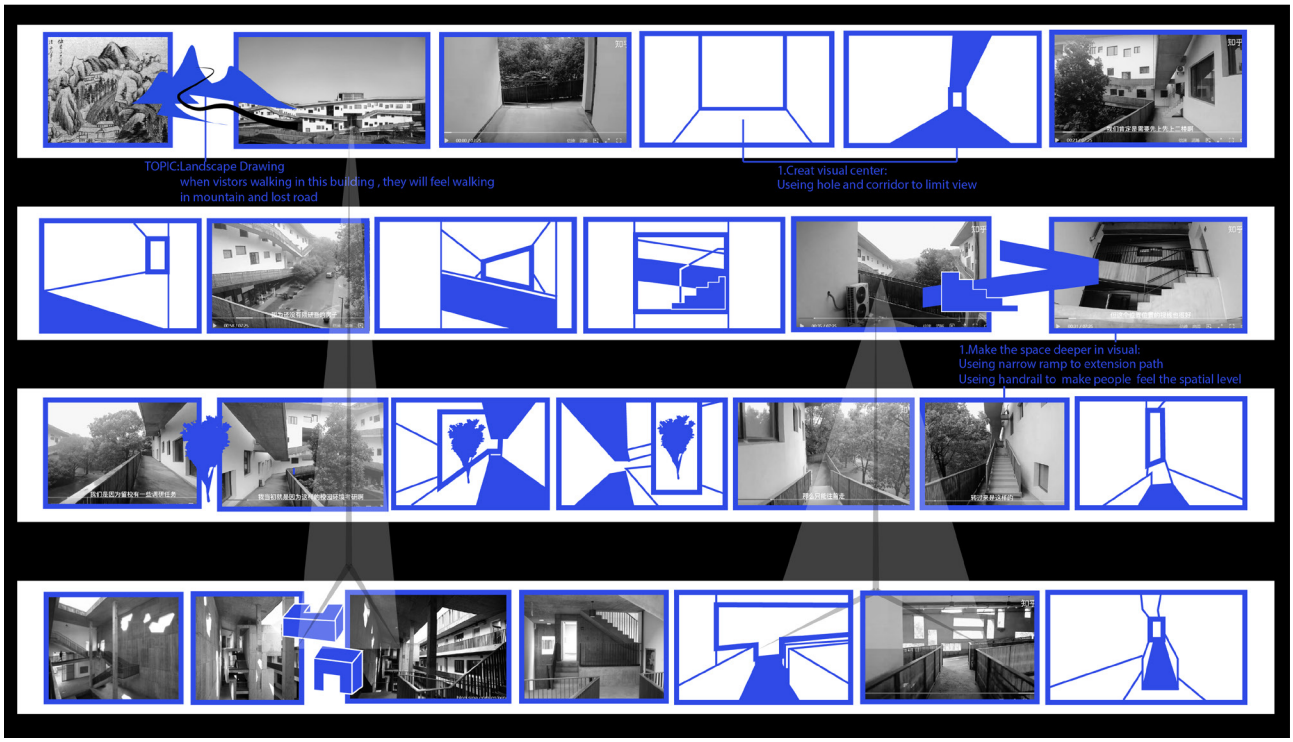


Figure 29: Interior Space of Xiang Shan Campus

We focus on the walking experience of the main teaching building of Xiangshan Campus. This building is concave. As the picture shows, a continuous corridor hangs outside the building. This corridor is not only a composition of the facade but also an important part of the building's transportation system. Because of the rugged stairs and windows of different sizes, people walking in the corridor often lose their direction. This seems to be consistent with the imagination in traditional Chinese landscape paintings that people are in the mountains and can't see the whole environment, so they tend to get lost. In addition, when people walk in the building, due to the cooperation of building shape, large-scale doors and corridors, people's sight will be limited and similar scenes composition will be formed. This undoubtedly makes visitors get lost easily.

When visitors walk in the corridor, their sight will be restricted by corridor, doorway, landscape trees and so on out of the visual center. As a result, even if the scenes viewers see in different places are different, they will lose a clear concept of their position due to the similar scene frame. In addition, the Z-shaped corridor and long and continuous verandas make the space visually deeper. It is also a way of distorting reality to give viewers an illusion.



1. Clue: Scene Frame
Maintain visual center at all times
2. Emotion Thheme: Traditional Chinese Landscape Painting and Garden

Figure 30: Scene Frame Analysis of Xiang Shan Campus

3.4 Overtonal montage

Cutting according to the various "tones" and "overtones" of the shots.

The practice of editing according to the various "tones" and "overtones" of the shot. This is more abstract than a tonal montage. According to S. Eisenstein, this montage means from the moment that overtones can be heared parallel with the basic sound, there also can be sensed virations, oscillations thta cease to impress as tones, but rather as pirely physical displacements of the perceived impression.

In general, overtonal montage is the interplay of metric, rhythmic, and tonal montages. That interplay mixes pace, ideas, and emotions to induce the desired effect from the audience. In other aspects, it always is the intermixing of larger themes (whether political or religious or philosophical) with the emotional tones of the piece through the use of metric and rhythmic montage. The rhythmic and metric montage arouses the audience's emotions, while the tonal montage expresses emotions to complete the deeper thematic narrative of the segment. For example, In the Odessa Steps sequence, the outcome of the massacre should be the outrage of the audience. Shots that emphasize the abuse of the army's overwhelming power and the exploitation of the citizens' powerlessness punctuate the message (Figure 30).

Figure 31: Potemkin, 1925. Courtesy Janus Films. Still provided by Moving Image and Sound Archives

This montage in 'Godfather' shows the director organise the a complicate shots sequence in a way which using metric montage, rhythm montage and tonal montage at same time. First of all, this shots sequence expresses a continuous emotional theme ——solemnity of "baptism". In the church, the new baby was being baptized, and Mike was going to be his godfather. At the same time, Michael arranged the killer is in different places in an orderly assassination action. It was also a baptism for Mike to become the new godfather of his family. It is metric montage that the two storylines switch back and forth at a steady rate. As for the rhythmic montage, it is reflected in the background music clips. The sound of a newborn being baptized in a church is heard throughout, in contrast to the rhythmic sound of gunfire in the stabbing sequence. With the use of these three montage, the audience's emotions are affected by the high-speed skipping, and gradually come to a climax with the protagonist's experience. The director also expresses deep implication through strong contrast. In the face of reality, Mike has decided to completely change himself for the sake of his family, including his belief, his words and deeds.

Figure 32:Analysis of Metric Montage in Godfater

The two baptismal passages are switched in the same rhythm. Each clip lasts five seconds or a multiple of five seconds. The high rhythm of the skipping aroused the audience's emotions.

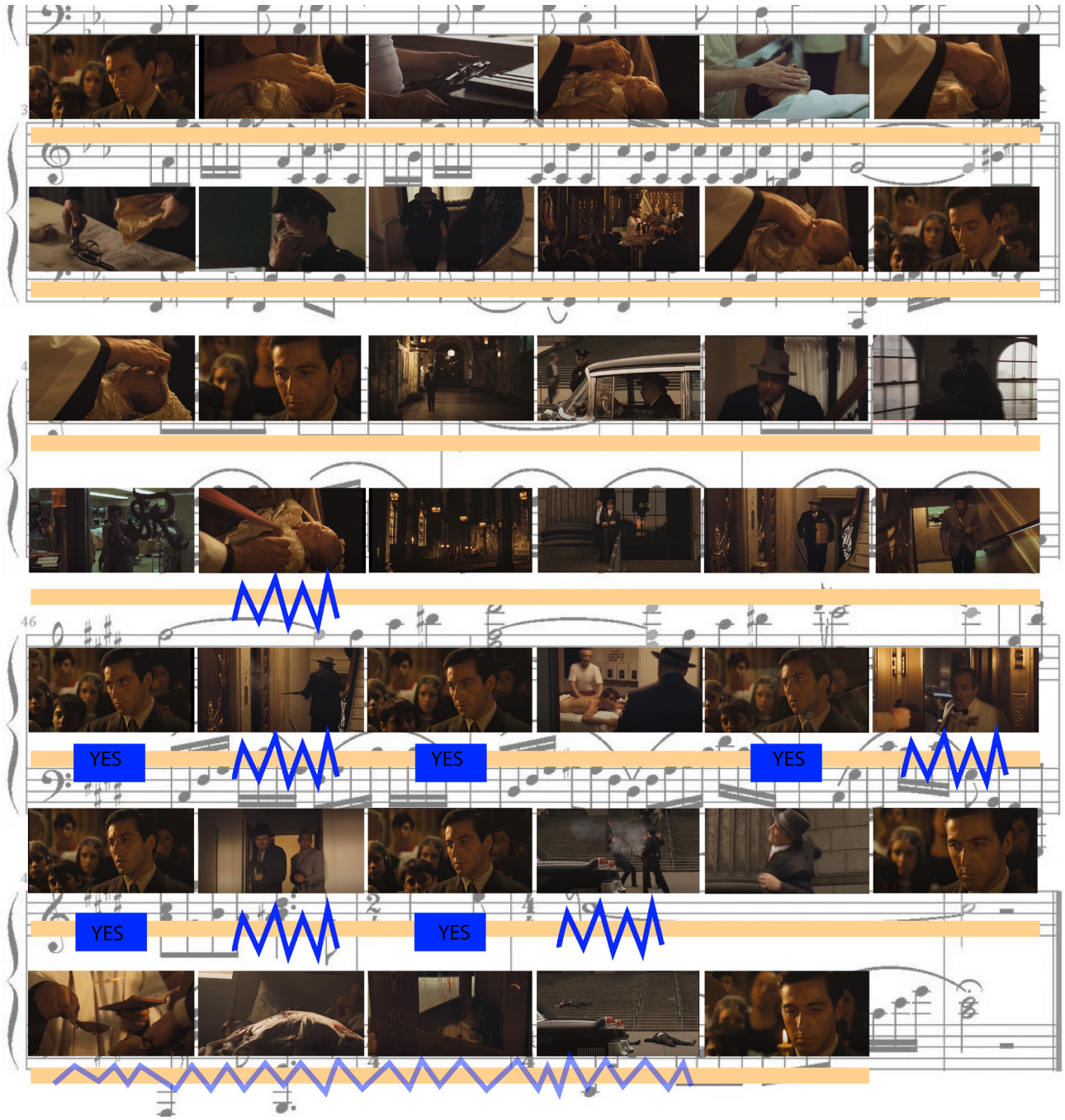


Figure 33:Analysis of Rhythm Montage in Godfater

The quick cry of a baby was the prelude to the assassination.
Heavy gunfire contrasted with the sound of a church organ.
Every time the hero promises a priest, the scene cuts to the assassination scene.

Figure 34:Analysis of Tonal Montage in Godfater

On the basis of expressing the same emotional theme, each segment uses the same elements or similar composition to maintain consistency of shots.

Jewish Museum Berlin which designed by Daniel Libeskind is a good example to show how the overtonal montage was used in architecture space. Conceptually, Libeskind wanted to express feelings of absence, emptiness, and invisibility – expressions of disappearance of the Jewish Culture. It was the act of using architecture as a means of narrative and emotion providing visitors with an experience of the effects of the Holocaust on both the Jewish culture and the city of Berlin.The project begins to take its form from an abstracted Jewish Star of David that is stretched around the site and its context. The form is established through a process of connecting lines between locations of historical events that provide structure for the building resulting in a literal extrusion of those lines into a "zig-zag" building form.

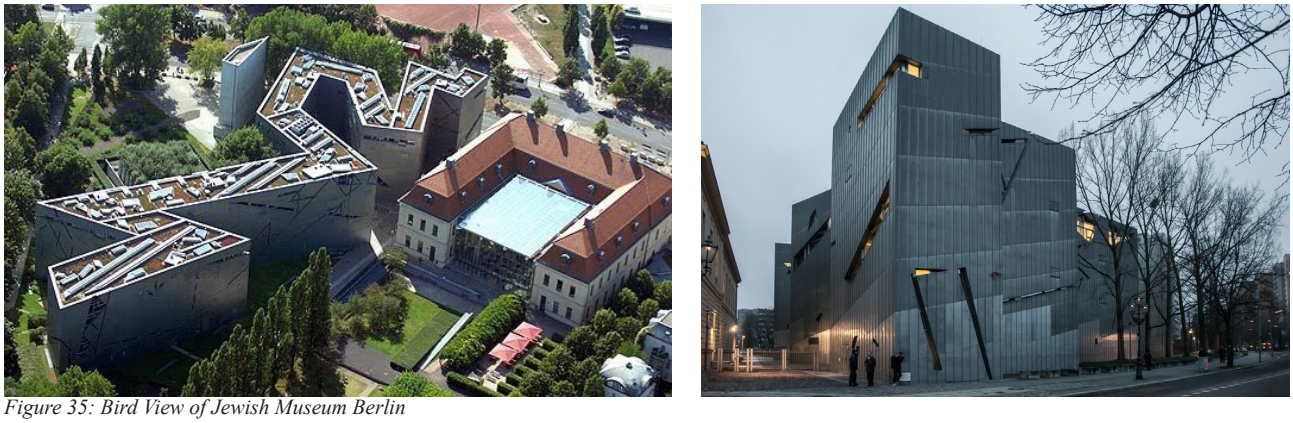


Figure 35: Bird View of Jewish Museum Berlin

As visitors traverse the axis of jewish exile, they arrive at the end of it, E.T.A Hoffmann garden. In this "garden", all the plants are planted on 49 concrete pillars, which are unreachable and can never take root in the ground, symbolizing the historical fact that the Jewish people have been displaced for thousands of years. When the plants grow up, the roots are intertwined, symbolizing the unity and growth of the Jewish people in the exile world after strong recovery (Figure 6). The floor of the garden and its 49 concrete columns are tilted so that visitors feel disoriented or even dizzy as they wander through them. Libeskind was quoted as saying that the design was in honor of the large number of Jews who were displaced and forced to leave Berlin. In this way, it is hoped that visitors can experience the confusion after the destruction of the German Jewish homeland and what it is like to be in a strange country with no roots at all. This is similar to eisenmann's Jewish Monument in Berlin. Libeskind cares more about the sensory experience of the viewer than the function. The evenly spaced columns are intended only to influence the sensory setting of the visitors

Figure 36:E.T.A Hoffmann garden

As for the rhythmic montage, it is everywhere in this building. In addition to sound, any element with a fixed frequency that can affect the viewer's senses can be regarded as a rhythmic montage factor. First of all, the zigzag shape of the building affects the pace of the visitors to some extent. Secondly, the entrance and the grand staircase in the coexistence cycle control the rhythm of visitors from top to bottom or from top to bottom. These empty Spaces, which can only be peered into but can not be entered, represent the history of the Jewish nation being plundered, and appear from time to time in front of the visitors to wake up their consciousness.

Figure 37:Void Space of Jewish Museum Berlin

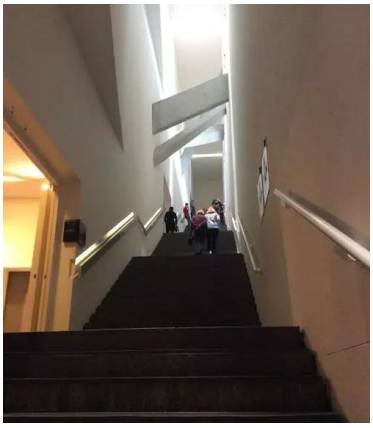


Figure 38:Stairs Space of Jewish Museum Berlin

The irregular cracks in the facade are windowed, the large beam structure traversed by the stairwell and the light belt at the top of the corridor can be seen as the use of a tonal montage. Similar in form, they all express the tortuous history of the Jewish people.

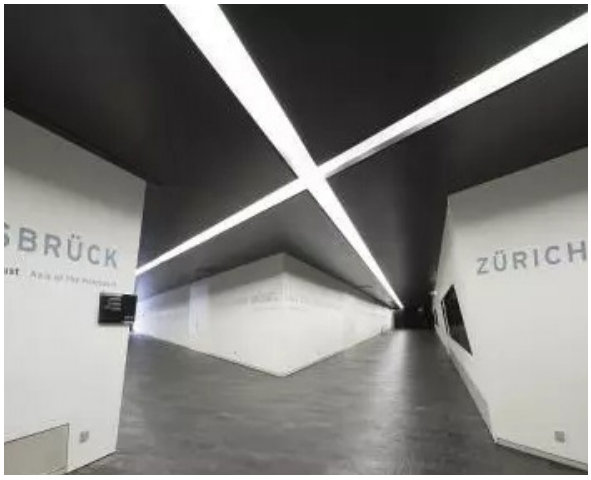


Figure 39:Cross in Entrance

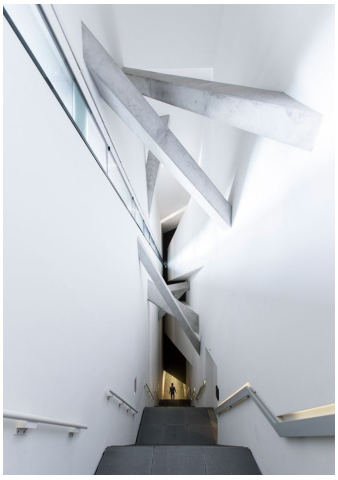


Figure 40:Stairs Space

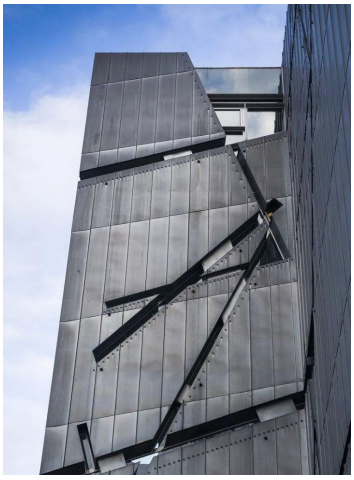


Figure 40:Windows

3.5 Intellectual montage

Cutting according to the shots' relationship to an intellectual concept.

The last level of montage, Intellectual montage, does not involve the physiological effects in general, but affects psychology of audience. Intellectual Montage requires that the shots 'collide' with – instead of reaffirming - each other. So, it would be characterized by the conflict and juxtaposition of the accompanying intellectual affects of the generally physiological overtone (Eisens film form). In this sense, an intellectual montage can be described as a mental fusion or synthesis activity through which specific details are unified at a higher level of thought. The focus is not on specific features in the film clips, but rather on the intellectual processes that take place in the viewer's mind and thought processes. Thus, the meaning of a film clip depends on the specific experience of the audience.

More than any other theory, Intellectual Montage placed the entire responsibility of meaning-creation on a single cinematic practice: editing. Theorists asserted that authorship of a film lies in montage alone. Vsevolod Pudovkin even claimed that objects residing within individual shots are 'dead' until they are placed alongside other 'dead' objects and given life through montage. In general, intellectual montage connects unrelated shots to elicit rich and reasonable associations of the audience. In this case, each shot inevitably carries a symbol and metaphor.

Based on the analysis of film intelligence montage clips, we found that different intelligence montage shots produced different associative effects according to the intention of the photographer. In the first case, the editor consciously leads the audience to think and associate the contents of the picture. In this case, viewers are more immersed in the story, and their emotions change with the actions of the characters. The second is more abstract, where the editor cuts different images together to inadvertently evoke the viewer's subconscious. This kind of shot is not necessarily about a specific event but about setting the atmosphere of the story.

This montage in the "Secret Window" clearly describes how the director uses intellectual montage to lead the audience to think. A schizophrenic man kills his wife. Subsequently, the hero recovered and lost the memory, and it became a permanent secret where his wife's body was buried. At the end of the movie, the audience is not directly told where the body is buried, but repeatedly jumps and cuts the imitation corn on the table. The corn field outside the window and the scene of the hero eating corn arouse the audience to think whether the corn field is the place where the body is buried.

Figure 41:Analysis of Secret Windows

[19] Sergei Eisenstein. Film Form, P. 74

The second Montage is from *Space Odyssey 2001*. This montage combines the scene of an ape throwing bones into the sky and the space vehicle moving forward in space to make the audience naturally realize that human beings have started to develop civilization from using tools to explore a new civilization in outer space. Without the viewer's awareness, the two episodes compress tens of thousands of years of time.

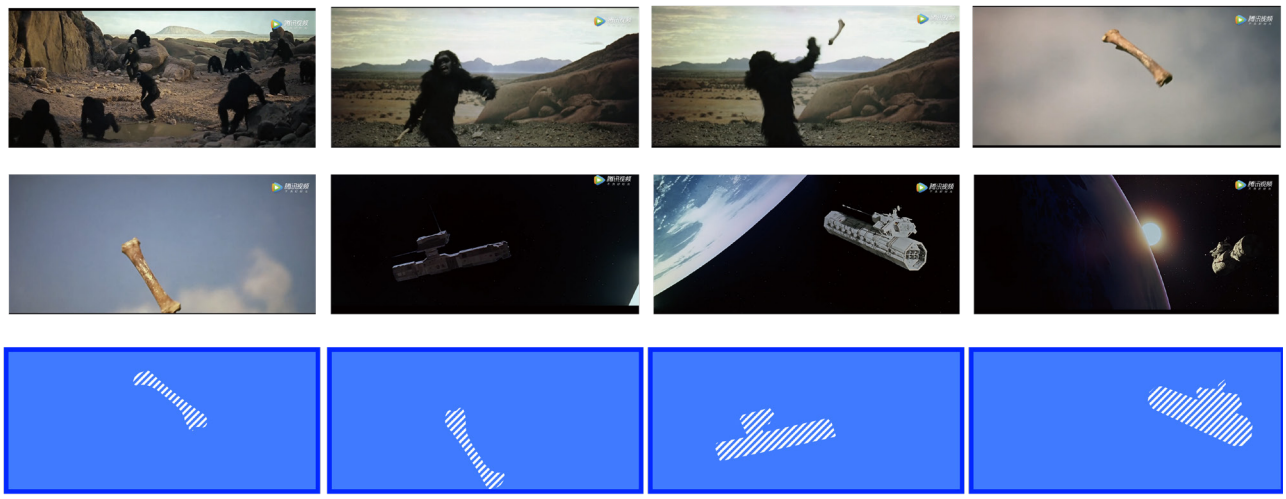


Figure 42: Analysis of Space Odyssey 2001

The first architecture case study is Plantahof Auditorium which designed by Valerio Olgiati. It will show that architectural spaces can also enhance visitors' experience by leading them to think. It can be regarded as intellectual montage in space.

Figure 43: Facades of Plantahof Auditorium

The placement of the new auditorium creates a new central square within the overall structure of the Plantahof agriculture school. The high façade holds together the new piazza. From the outside it appears to be a concrete box of load-bearing wall structure. However, as the visitor walks through each of the four facades in turn, he will find something similar to a structure. They might start to wonder if the building is really a load-bearing structure. What do these structure-like constructs look like internally?

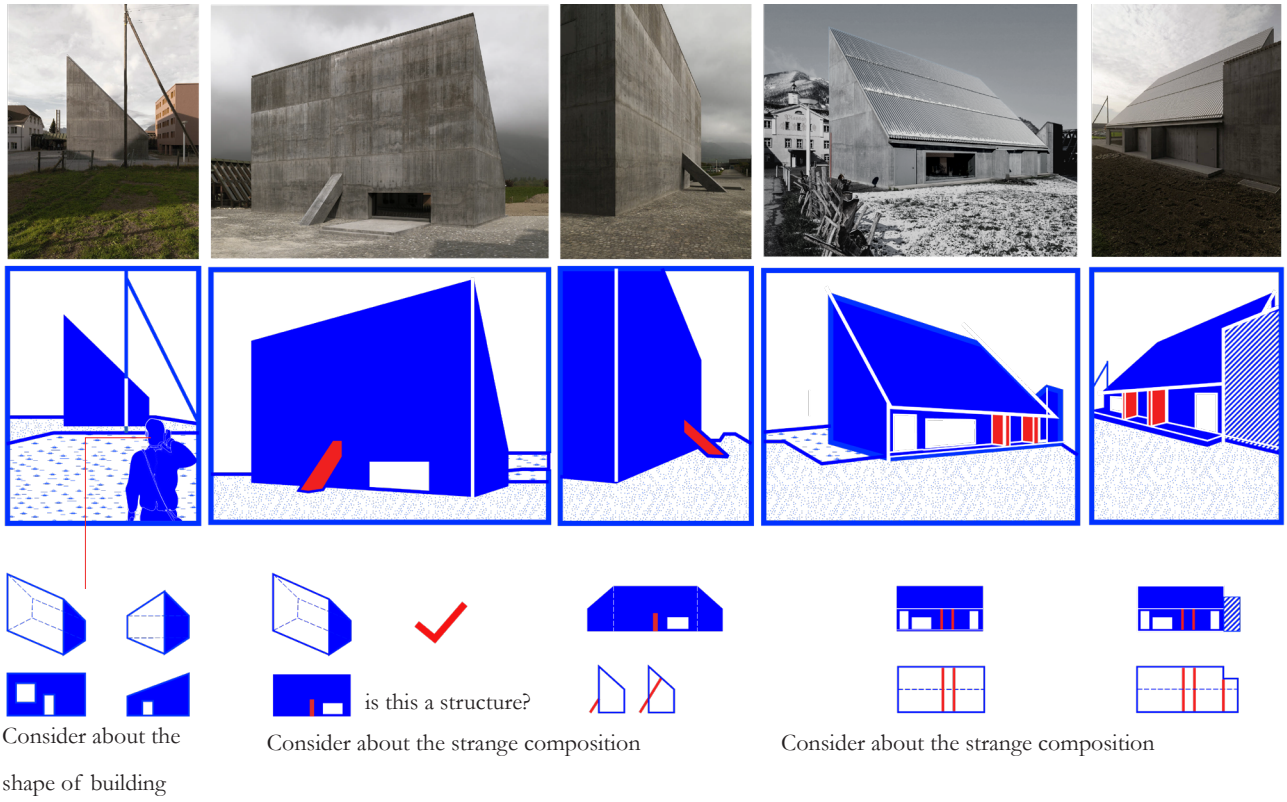


Figure 44: Visiting Squence Analysis of Plantahof Auditorium

When visitors enter the building, they will find that the interior of the space is filled with various load-bearing structures separated from the walls. This is a far cry from the concrete box I first saw outside. At the same time, visitors may raise new questions about how these complex structures work and which structures are relevant to the construction seen on the facade.

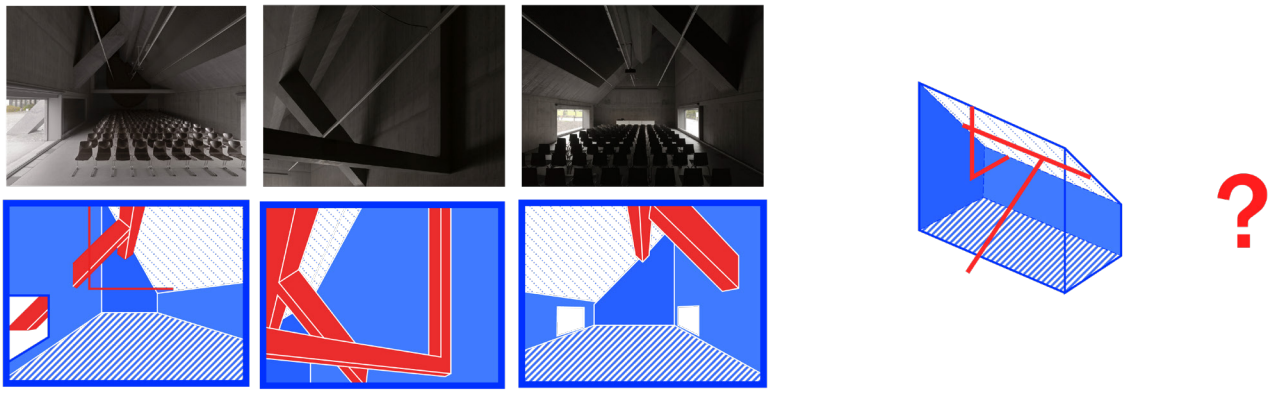
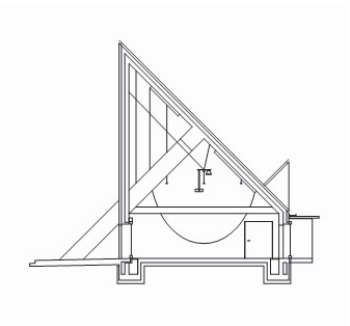
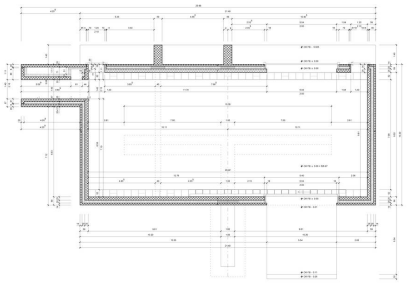


Figure 45: Interior Space Analysis of Plantahof Auditorium

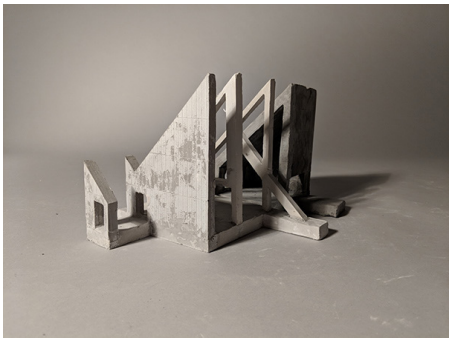
Valerio intentionally separated structure from form. The structure is intentionally placed at special nodes and all the structures of the style are used only once. In this way, visitors can have completely different experiences inside and outside the building while thinking because they cannot clearly understand the whole picture of the building. As Valerio have said:" In which people can understand the function experience of search for meaning."

This may be regarded as the application of intellectual montage in architecture. Architectural space increases the difficulty of understanding architectural space through the separation of part and whole so as to stimulate the thinking of visitors.



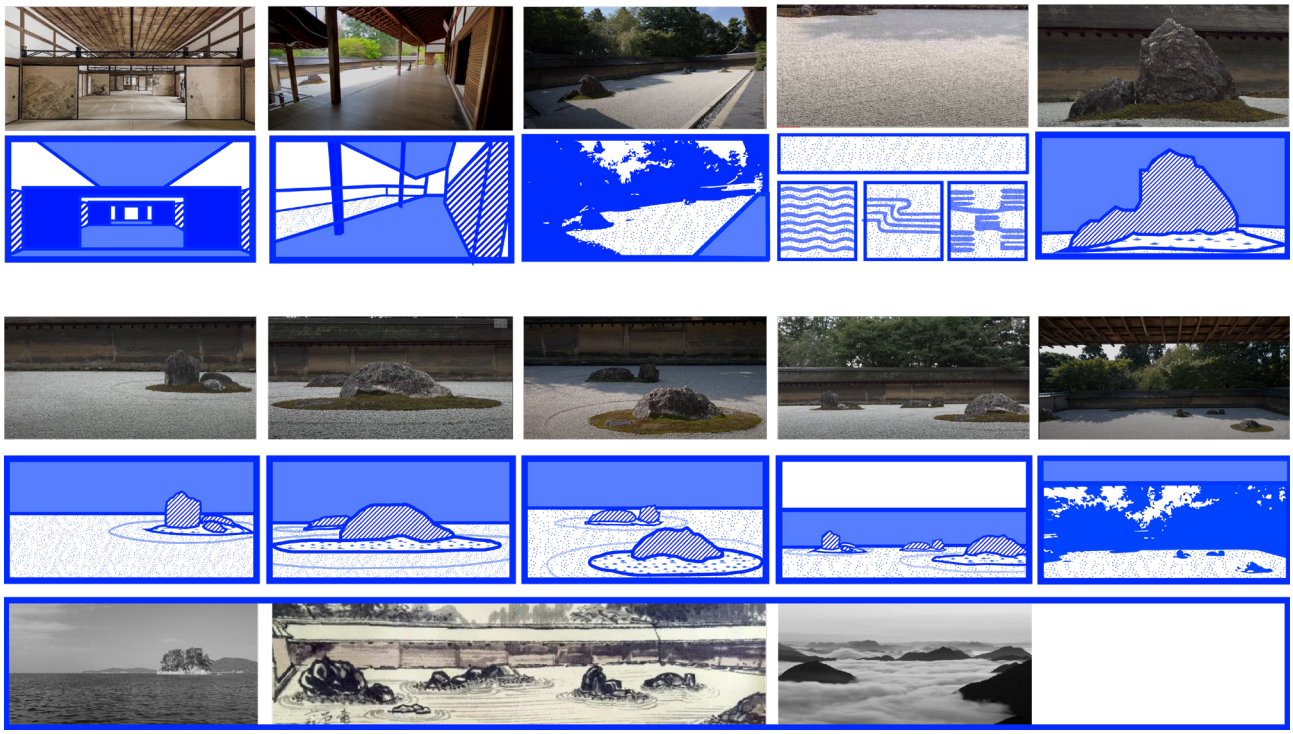


46: Section and Plan Drawing of Plantahof Auditorium



47: Model of Structure for Plantahof Auditorium

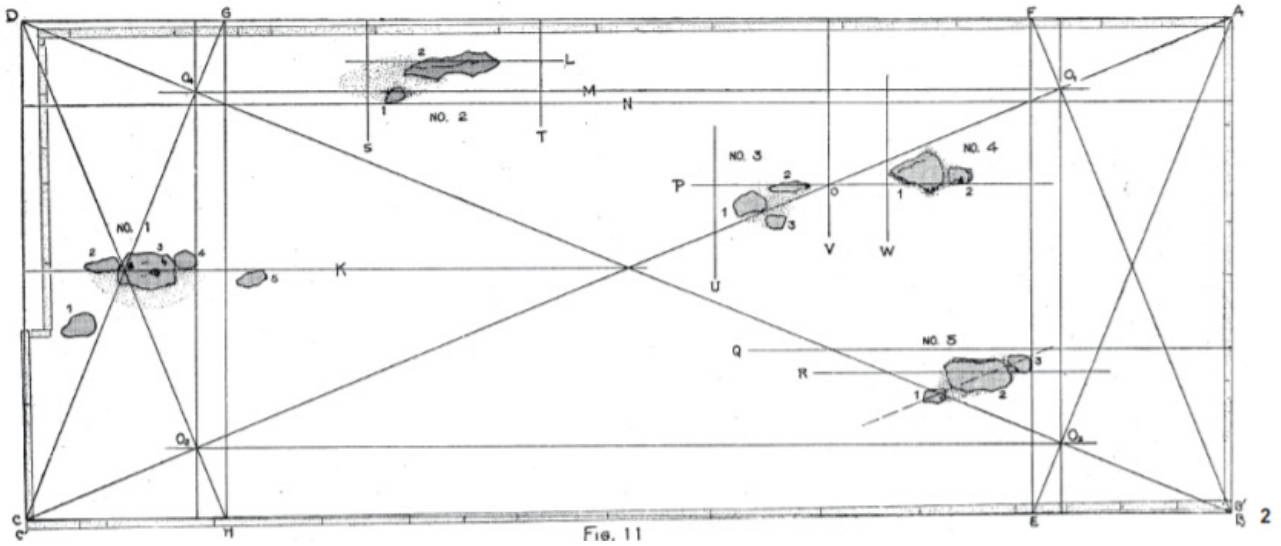
As for the use of intellectual montage in architectural space to create atmosphere, Jrock Garden is a good example. Dry landscape means "court without water". It has roots in Japanese Zen culture and, unlike most courtyards, its main function is observation. Therefore, there are generally spacious overlooking corridors next to dry landscape.



48: View Squence of Japanese rock garden

The picture shows the dry landscape of Ryoan-ji temple in Japan. The whole courtyard consists of only 15 stones and white sand on the floor. When entering the viewing corridor through the abbot's room divided by multiple screens, visitors' vision will suddenly enter the bright space and they will have a clear consciousness of stopping and watching. White sand dominates the view. However, due to the simplicity of the courtyard, viewers unconsciously focus on individual objects and stones of different shapes. White sand, stones are common things to see alone. However, when the viewer combines these things, he or she may think of white sand as water and stones as islands, or white sand as sea of clouds and stones as mountains. If space Odyssey 2001 got the intellectual montage segment compressed time in a few seconds, dry landscape "montage" compressed space in a square inch. Dry landscape brings the image of landscape changes to the viewer.

How does the dry landscape of Longan Temple make viewers think of it? In addition to the above mentioned, the spacious layout of the courtyard facilitates the viewer to focus on the single-room object. The whole courtyard is also designed as a trapezoid on the plane so that the courtyard is a space with four walls parallel to each other without distortion. Secondly, the placement of the 15 stones is carefully designed according to the person's line of sight. Visitors to any part of the courtyard can never see 15 stones at once.



49: View Analysis of Longan Si Japanese rock garden

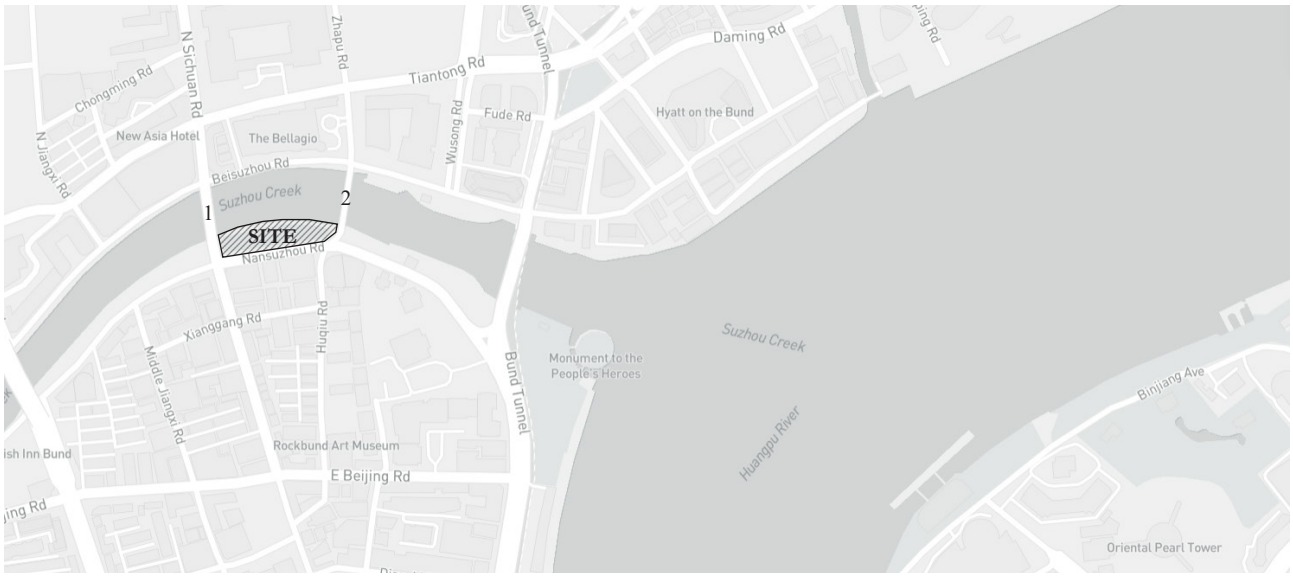
Although dry landscape is different from architectural space in terms of space energy and complexity. However, we may get inspiration from the application of "intelligence montage" planted by dry landscape. How to combine the originally meaningless scenes in a simple architectural space and create a new space atmosphere by connecting with the context of the original site.

Chapter 4_ From Theory to Practice

4.1 Location & Context

The site of practice is located in Shanghai, China, along the Suzhou Creek, near the Huangpu River and the Oriented Pearl Tower. The bank of Suzhou Creek was the center of Shanghai's initial formation and development, which gave birth to almost half of ancient Shanghai. Nowadays along Suzhou Creek, rows upon rows of old industrial and commercial buildings show the history and culture of Shanghai to the present and future generations.

Our site belongs to one part of the bank of Suzhou Creek, which is currently a simple park, with a small petrol station and a public toilet inside (to be demolished for the project). The north side of the site is facing the Suzhou Creek and has good views towards the historic buildings on the other side. The east side of the site is oriented towards the Huangpu River and the Oriented Pearl Tower.



1-1: View towards the historic buildings on the other side

2-1: View towards the historic buildings on the other side

1-2: View of the site

2-2: View of the site

4.2 Concept & Volumns

History of Suzhou Creek

Long before the establishment of Shanghai county, Suzhou River already played an important role in the economic life of Shanghai and its surrounding areas. In 219 AD, Sun Wu regime built "Meng Chong Giant Ship" (large ship) Qinglong ship on the south bank of Wusong River in Baihe Town, Qingpu District, Shanghai, which led to a developed economic center town Qinglong Town.

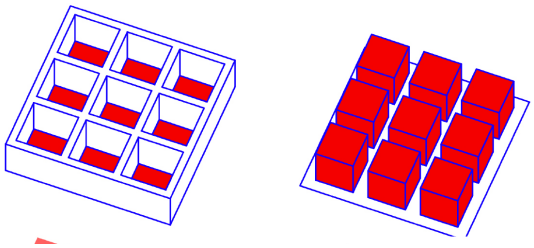
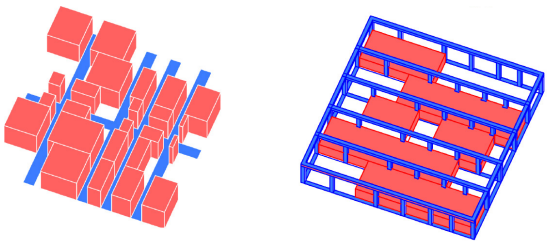
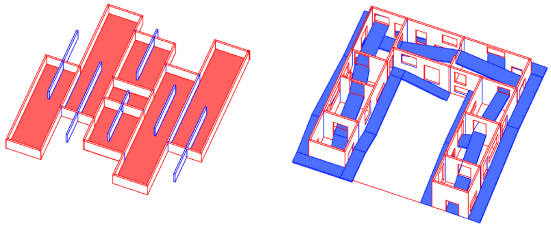
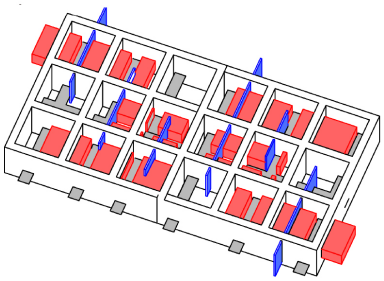
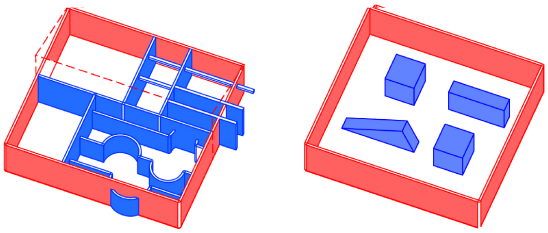
During the Reign of Tang Tianbao, Qinglong Town gradually prospered due to its superior geographical position and became an important foreign trade port. Ships from Japan, Okai (generally referred to the Arab region), Jayva, Samfuchi (Indonesia), Cochin, Silla and Koryo often sailed to Qinglong Port.

In the Northern Song Dynasty (1113 AD), Qinglong town was very prosperous, with 36 workshops, 22 Bridges, 13 temples, 7 towers, 3 pavilions, schools, warehouses, tax houses, wine shops, teahouses and so on. Dignitaries from all sides, Tibetan merchants, poets and calligraphers came to visit and live here, which was comparable to Lin 'an, the capital of the Southern Song Dynasty. Qinglong town's prosperity, to a large extent benefited from wusong River.

Looking at both sides of Suzhou River, row upon row of old industrial buildings and related commercial logistics service buildings have become the best witness of Shanghai's modern national industrial development history. In their functional arrangement, architectural form, engineering materials and detailed decoration, they all contain abundant information codes and values in economy, science and technology, society and other aspects, showing the history and culture of Shanghai to the present and future generations. Many of them were built at the beginning of the last century or even before the century of industrial buildings, is still intact. In addition to industrial and commercial buildings, there are a large number of social service comprehensive buildings. According to the information provided by relevant parties, there are more than 40 buildings along suzhou River (not including the Bund and the north Bund) listed as municipal cultural relics protection units and municipal excellent modern protection buildings, in addition, there are hundreds of buildings have been recognized as having preservation value.

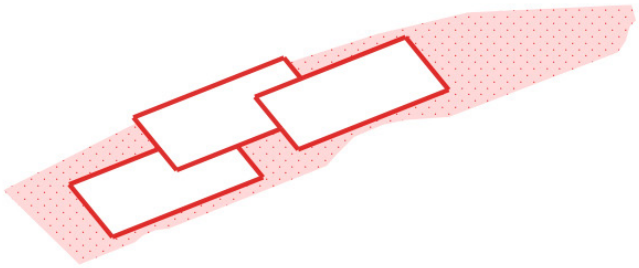
Concept of Suzhou Creek Gallery

Suzhou Creek has a long and rich history originated from ancient China to modern and future development, which is good starting point for the Suzhou Creek Gallery. We plan to divide the storyline into 3 main parts, from past to present then to future, along which Suzhou Creek flows slowly as a longitudinal and temporal element. Different scences and history of Szuhou Creek from different time and space could be edited together as comparasions or related things, which just feel like many of the bridges across and connecting the two sides of Suzhou Creek. River and bridge become themselves somehow could be the basic concepts of the gallery, as linear clue and fragemental connections of time and spaces, creating the promenade of history of Suzhou Creek.

Montage	Space diagram	Spacial characteristic
Metric montage Cutting according to exact measurement; irregardless of content.		Ignore the function of space; Focus on the experinece feeling; Events in pace are flexible.
Rhythmic montage Cutting according to the content of the shots; continuity editing.		Sequence of eventsis intervened by other rhythmed sequence, such as structure, route.
Tonal montage Cutting according to the emotional "tone" of the piece.		Repeated elements; similar experience view; keep conssitency of space.
Overtonal montage Cutting according to the various "tones" and "overtones" of the shots.		The narrative is enhanced and the space experience is more complex.
Intellectual montage Cutting according to the shots' relationship to an intellectual concept.		It can arouse visitors' thinking about space and enhance their sense of experience; spatial metaphor.

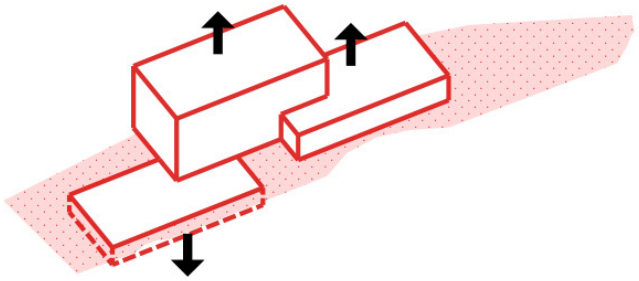
Metric montage

Metric montage means cutting shots according to exact measurement, irregardless of content, but focuses on tempo or rhythm. At the very first stage of design, we divided the site into 3 equal parts respectively for past, present and future theme of the gallery, irregardless of the function itself. Then these 3 parts are lifted for different height and in different direction to create specific atmosphere. The past gallery is lifted underground for 1 floor to strengthen the historic and mysterious atmosphere of the ancient time of Suzhou Creek. The present gallery suddenly turn into be lifted upward for 4 floors, to create a strong sense of contrast compared to the atmosphere of the past gallery, and highlight the interaction with Suzhou Creek especially in terms of landscape views. As for the future gallery, it is lifted upward for 2 floors and heading towards the Huangpu River and the Oriented Pearl Tower, symbolizing the future development of Shanghai.



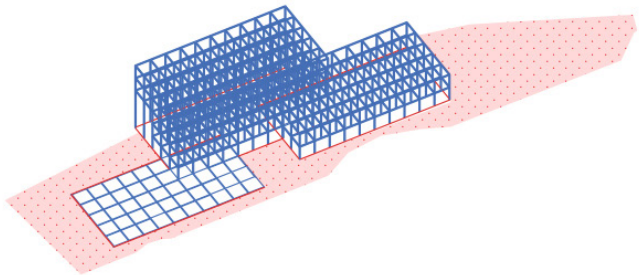
1. Divided into 3 equal plans

Firstly, the site is divided into 3 equal parts respectively for past, present and future theme of gallery of Suzhou Creek.



2. Extrude different heights

The past gallery is extruded underground for 1 floor to create the sense of mystery. The present gallery is extruded upward for 4 floors to interact with Suzhou Creek. The future gallery is extruded upward for 2 floors.

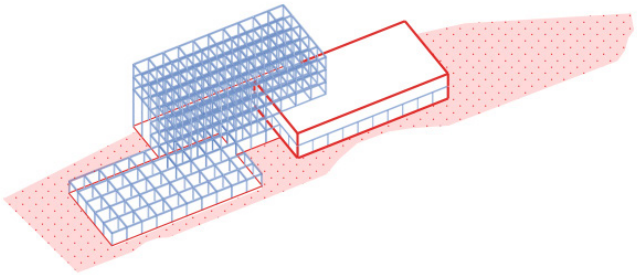


3. Add frame structure

All of the 3 volumns are applied a frame structure of 4*4m module, to spilt them into small units.

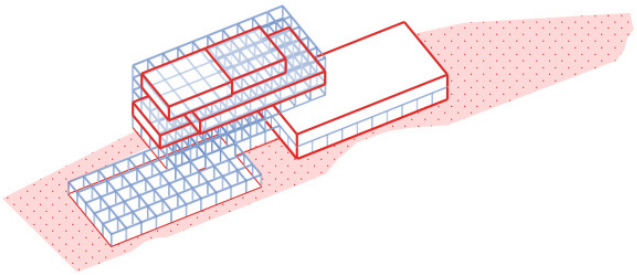
Intellectual montage

Intellectual montage means cutting according to the shots' relationship to an intellectual concept. It can arouse visitors' thinking about space and enhance their sense of experience; spatial metaphor. In the future gallery, the frame structure is enveloped inside the volumn, giving a gloss of that the architeectural language of frame structure is not used in this part, but when people go inside the building, they will find out the consistent architectural language of frame structure in the interior spaces. In the present gallery, situation is just the opposite to the future one, that the volumns are enveloped inside the frame structure. Then in the past gallery, the volumn looks like in the same direction as the other two parts, but actually is twisted underground, giving an unexpected experience for visitors.



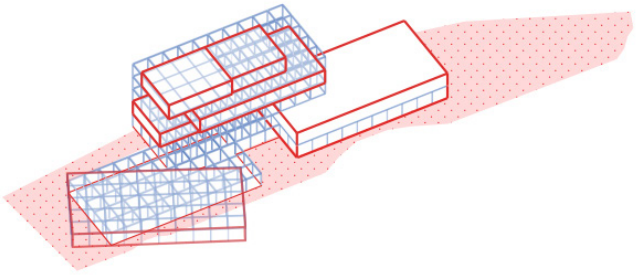
4. The volumn of Future Gallery

The volumn of the future gallery envelops the frame structure inside as interior space.



5. The volumn of Present Gallery

The volumns of the present gallery are enveloped and inserted inside the frame structure.

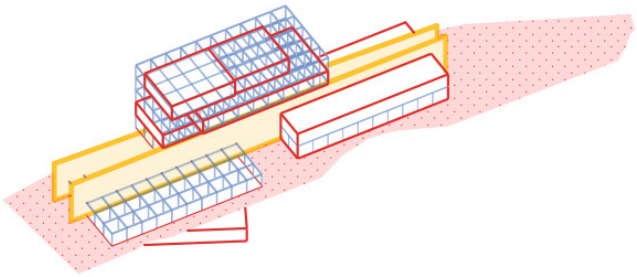


6. The volumn of Past Gallery

The volumn of the past gallery is twisted compared to the frame structure on the ground level.

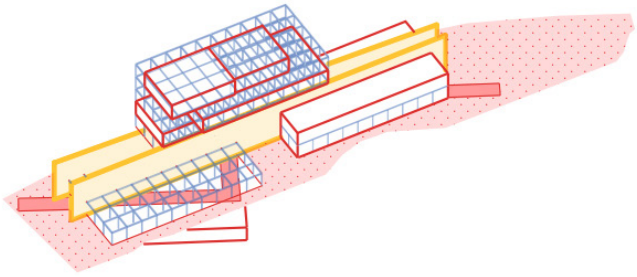
Tonal montage

Tonal montage and overtonal montage means cutting according to the emotional "tone" of the piece, which could be translated into repeated elements; similar experience view; consistence of space in arhictectural design. Here we used a symbolic element of large parallel red walls to be the "tone", connecting the three parts of the building. And connections like platforms and pathways between the two walls break/edit the different parts of the temporal and spacial narrative of Suzhou Creek. The twisted path is another "tone" or "clue" for the outside space to connect the different parts of the building. This repeated elements are important to connect and unify the whole narrative of architecture, giving a sense of consistence.



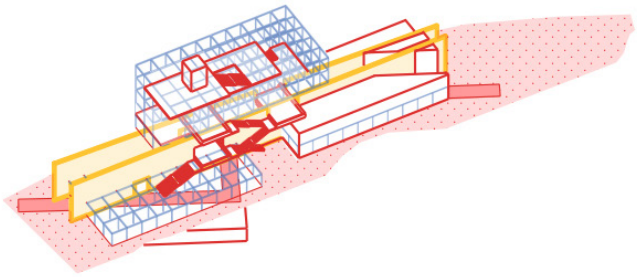
7. Add the walls

The large parallel walls are inserted in between the 3 parts and connecting them with each other.



8. Add the path

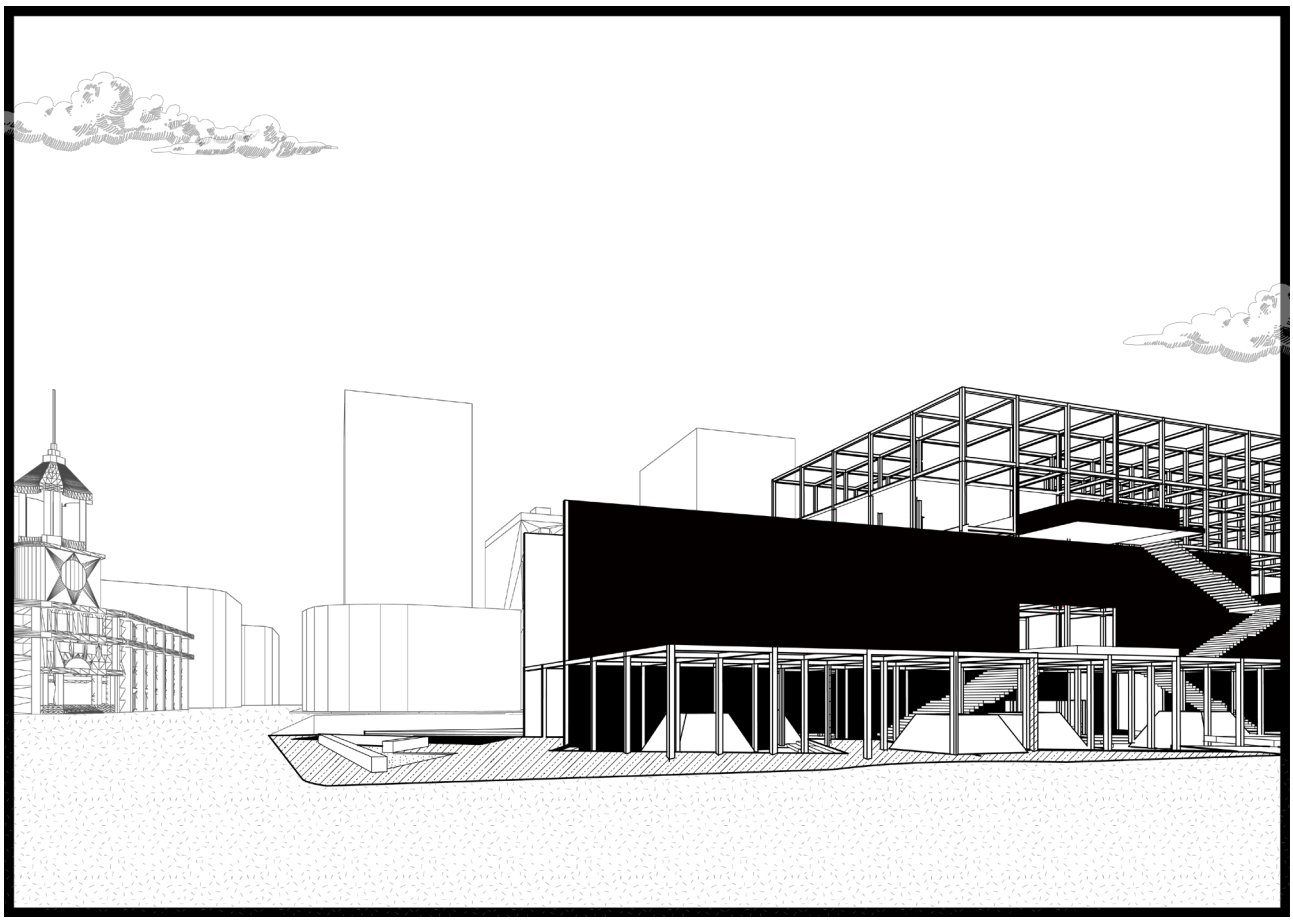
A specific and twisted path is located on the ground level, creating two main entrances at the two ends of it.

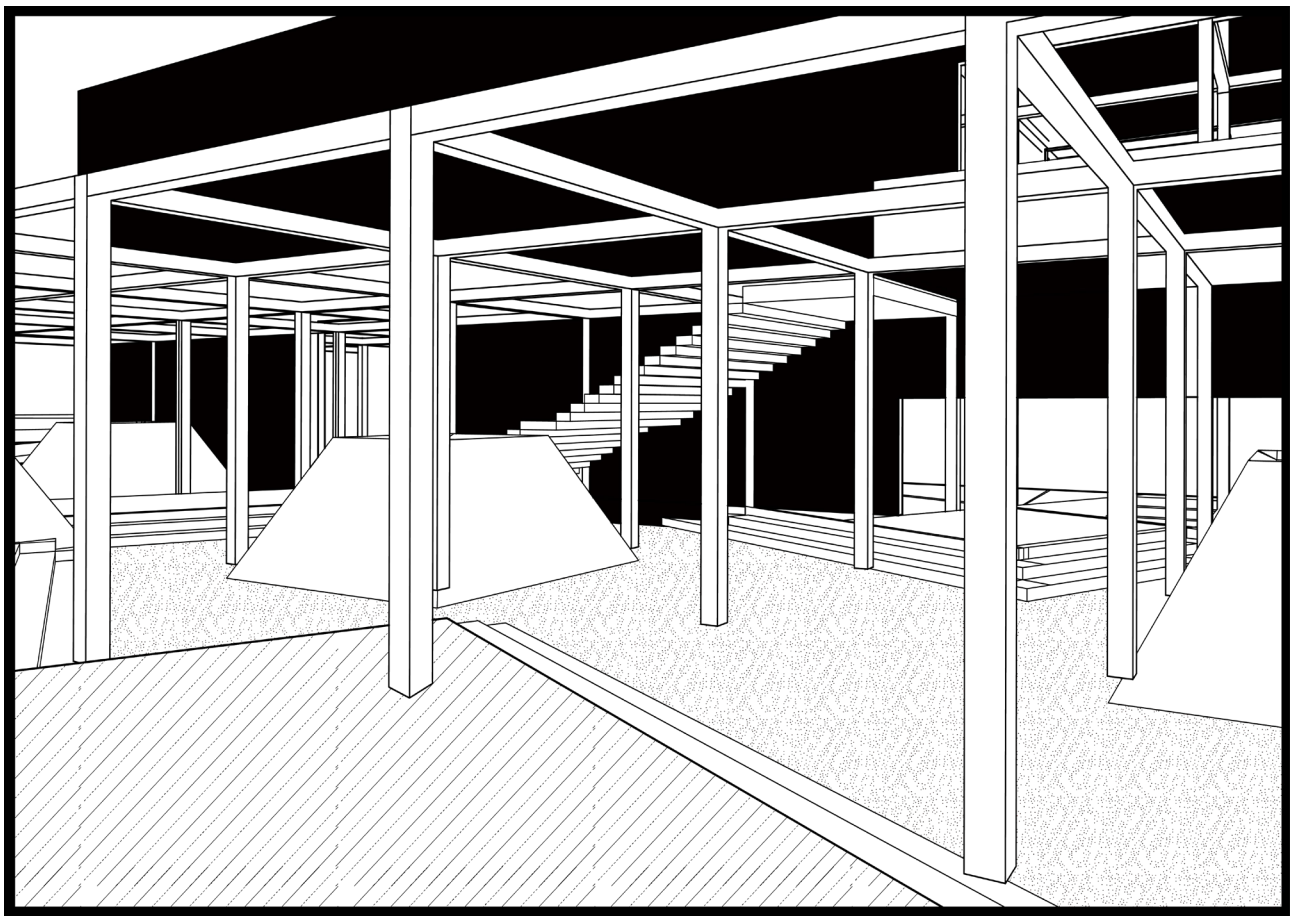


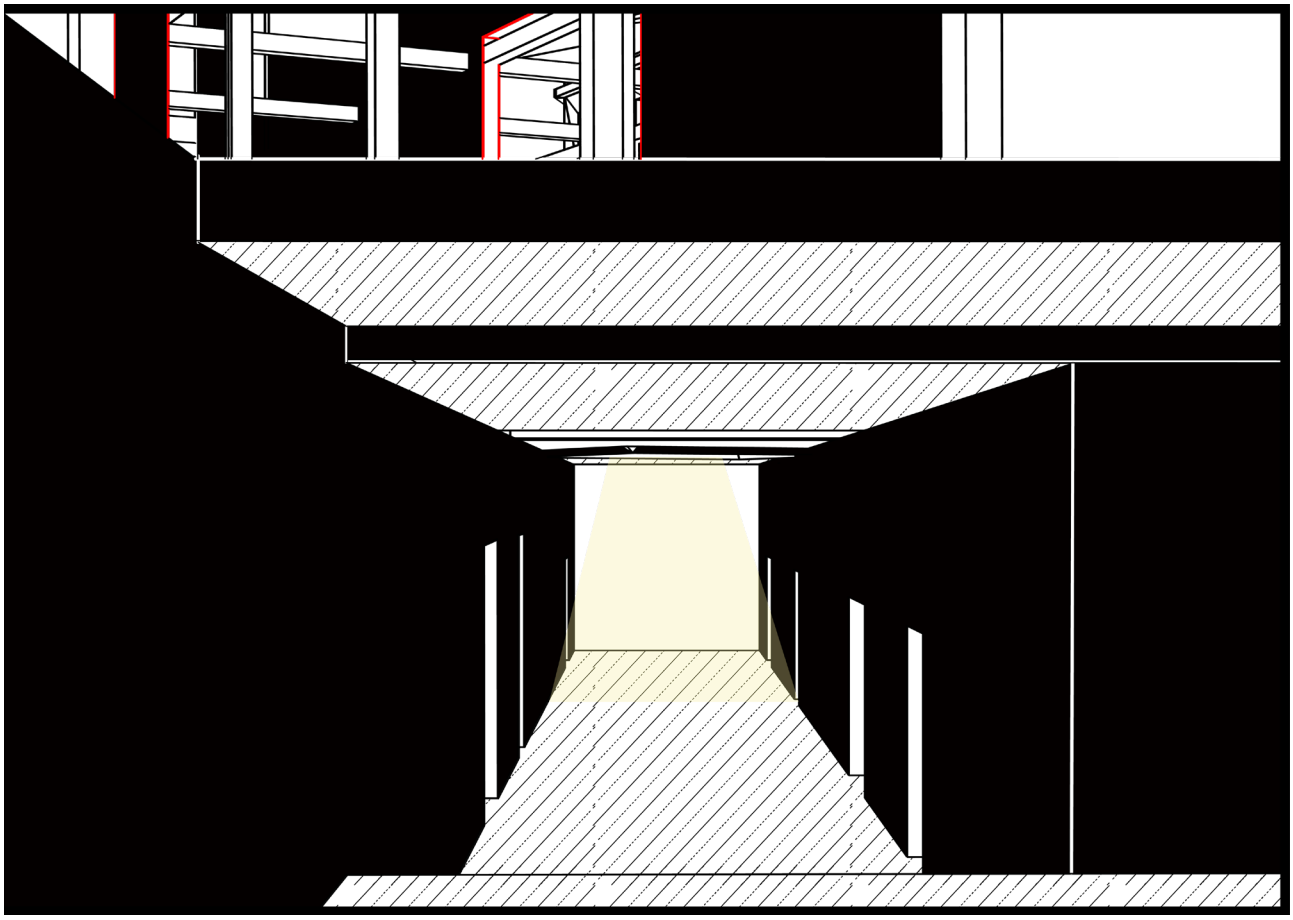
9. Detailed space

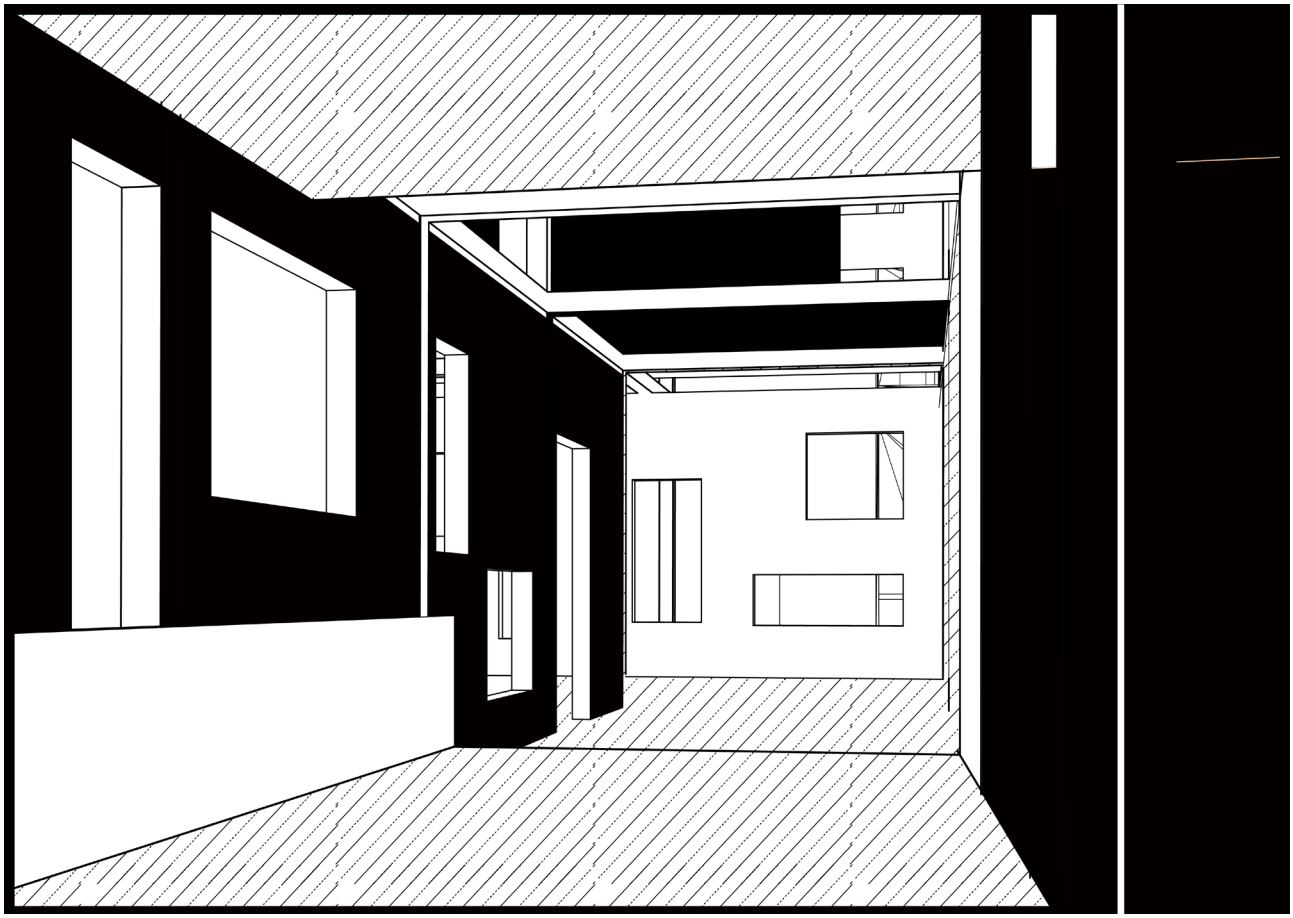
The volumns of the past and future gallery are in the style of cubes, while the volumns of the present gallery are in the style of platforms to have direct interaction with Suzhou Creek.

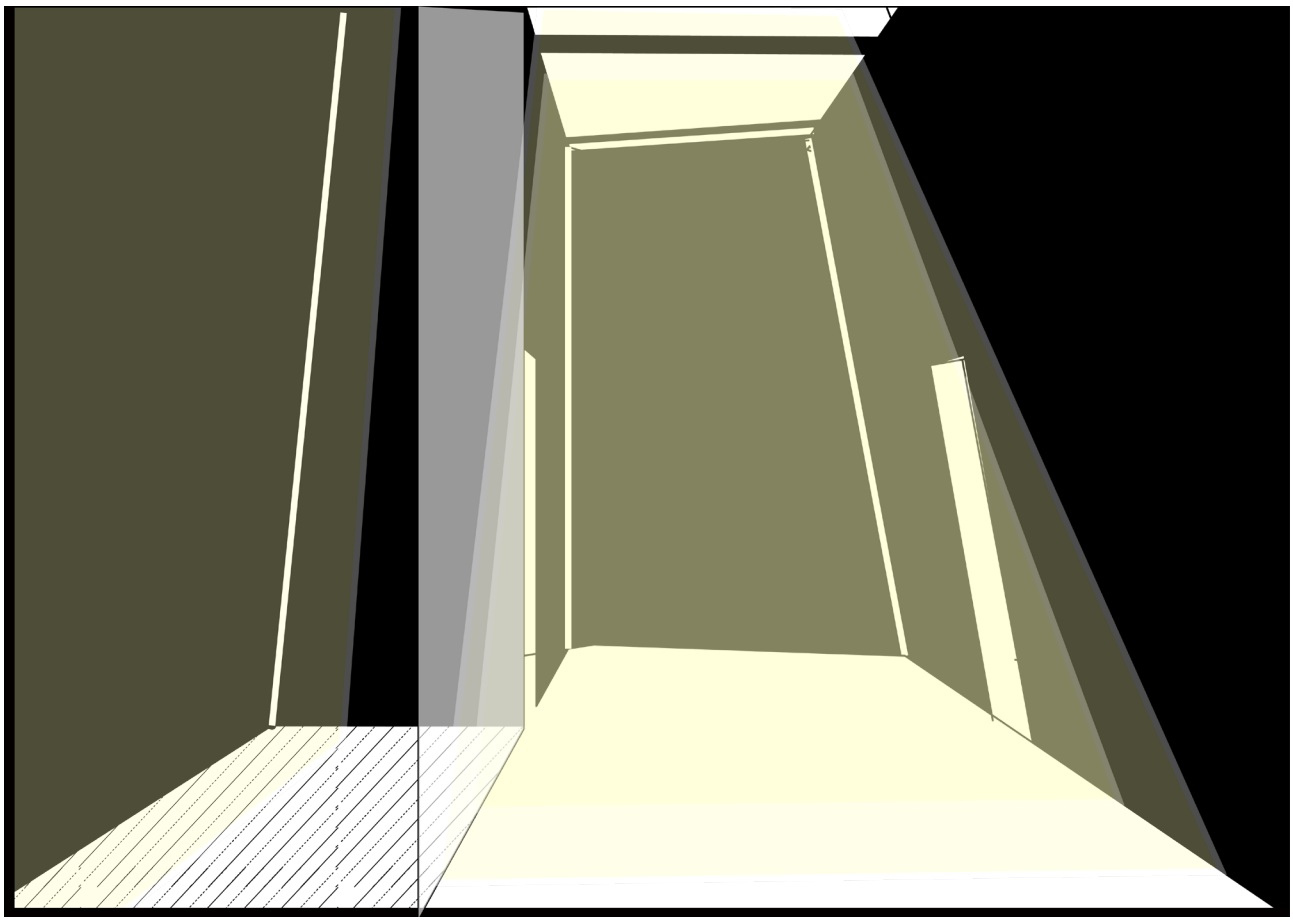
4.3 Perspectives & Promenade

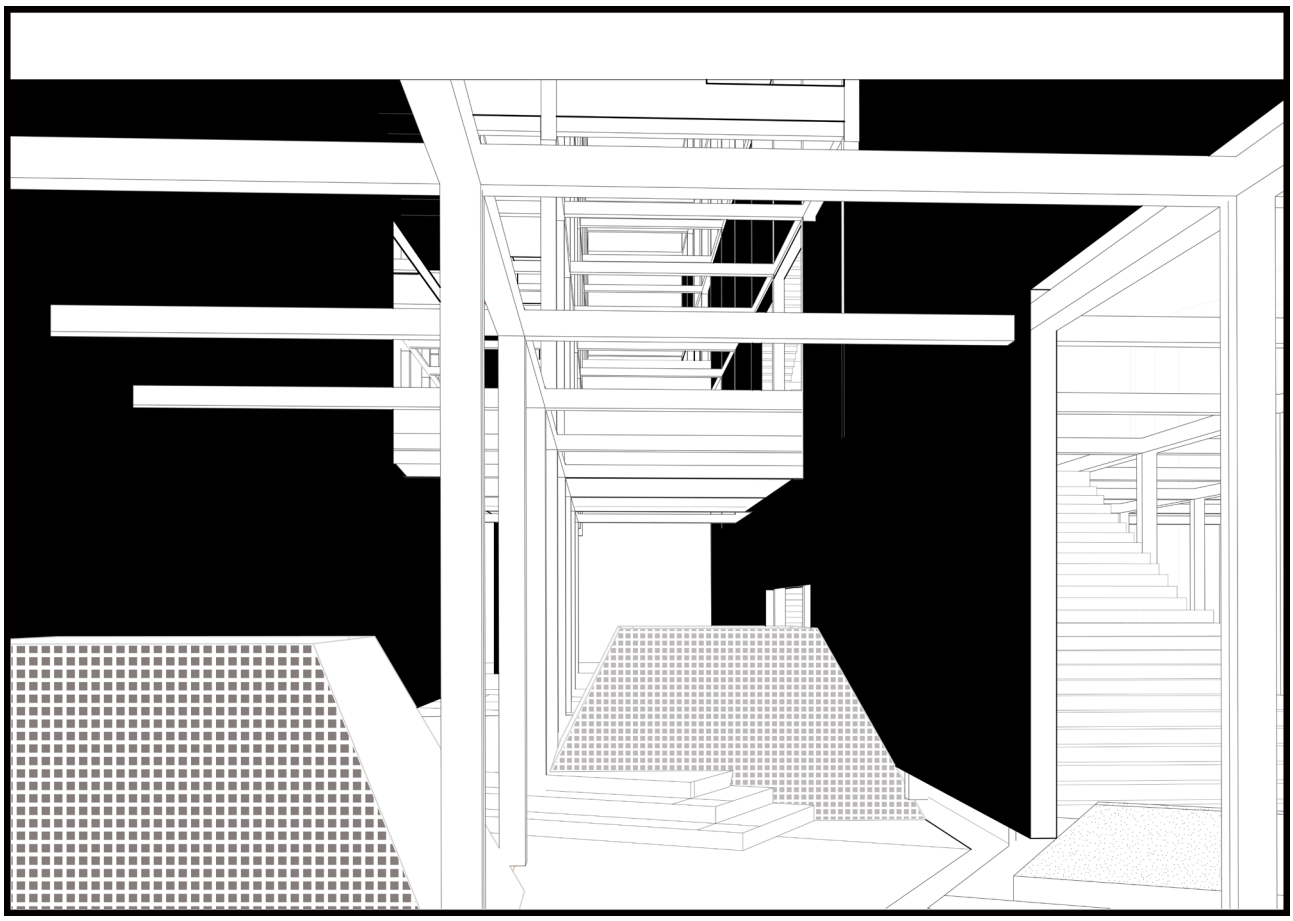












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4.4 Summary of Practice 1

Step 1: Create Space modules

Inspired by analysis of movie montage and architecture space, we create some space modules which show the characteristic of the five montage techniques. They will be the architetcure units.

Step 2: Site analysis

According site analysis, we find the problem and proposed strategy. It help us to identified basic architecture configuration, auch as the target users and function distribution. And we could design a narrative story line.

Step 3: Combination of Space Modules

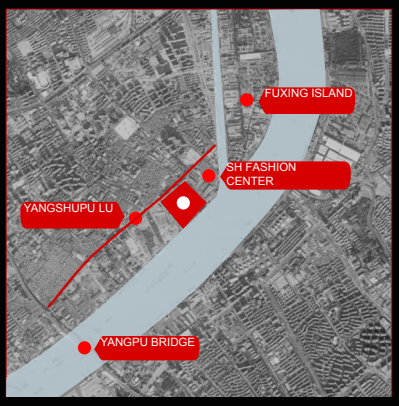
According story line, we decide how to use montage techniques to achieve narrative.

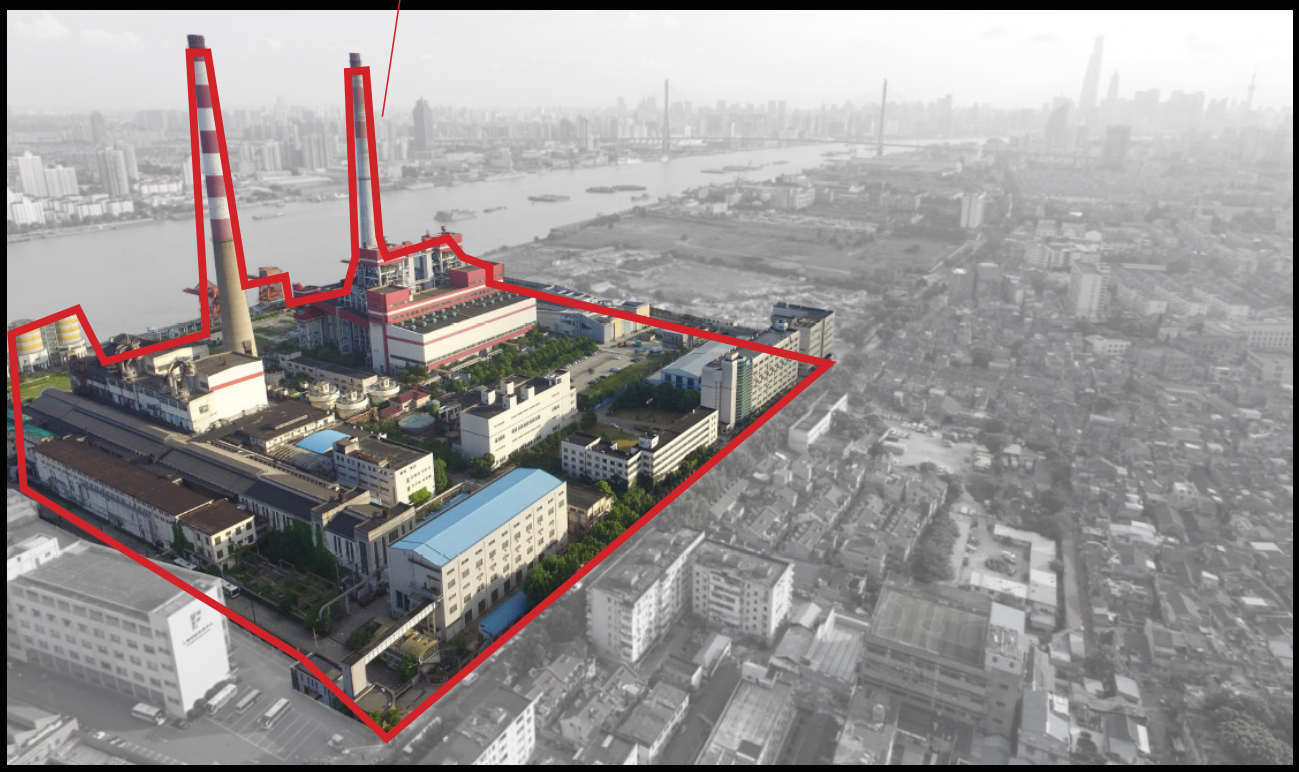
Chapter 5_ From Theory to Practice

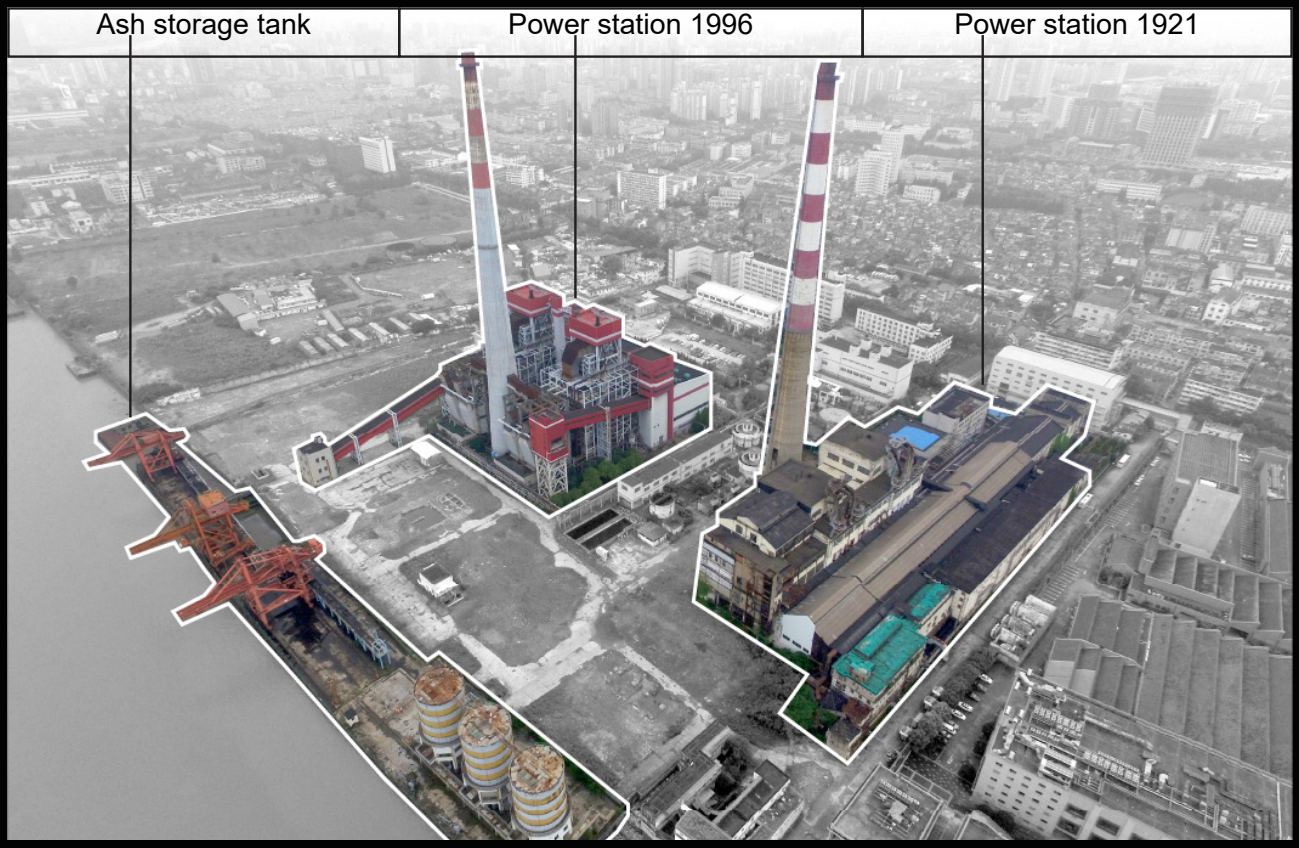
In practice 1, the montage technique is used in a single way, and the editing technique is transformed into a basic geometric form, which lacks geography and iconic as the construction of architectural space. This kind of research method may only apply the editing logic of film montage and ignore the influence of the splicing editing method on the audience's emotional interference and visual effects. So the second practice - the renovation project was carried out. This is an abandoned power plant located along the Yangpu River in Shanghai with a unique and diverse industrial architectural form. After site research, we will use a montage technique to renovate it.

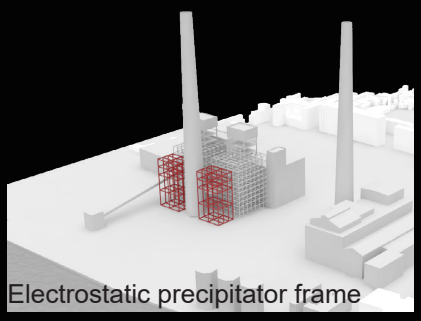
5.1 Location & Context

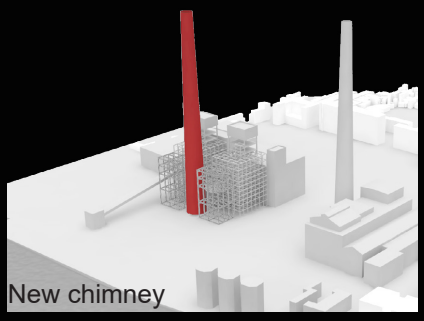
Yangpu Power Plant is located at 2800 Yangshupu Lu. It's neighbours are Huangpu River to the south, Yangshupu Lu to the north, Fuxing Island to the east, and Yangpu Bridge to the west. Adjoining Shanghai Fashion Center, development areas in the riverfronts along Huangpu River.

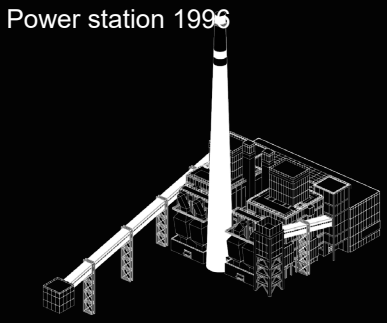


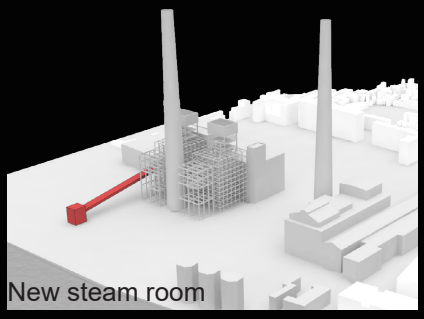


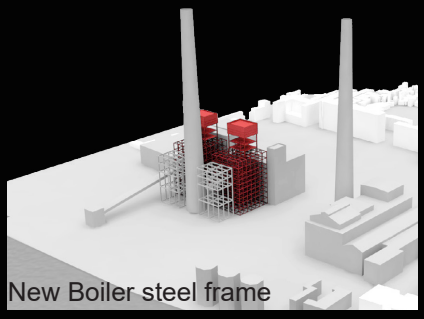


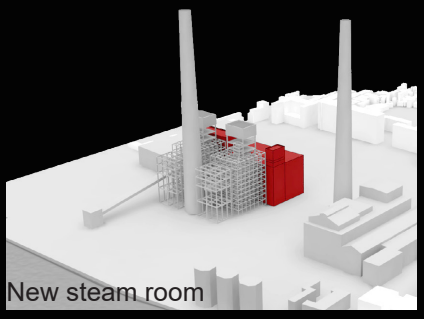












The power plant consists of two parts, the old and the new. The old power plant was built in 1921. The new power plant was built in 1996. The renovation project mainly focuses on the new part. It consists of five parts..

When I was doing site research, I was looking for videos of citizens' daily life records on the Internet. Although these small videos made by different people are not movies, they may not have used such sophisticated montage techniques, but the footage they spliced gave me Show the Yangpu district in their eyes, and I summed up the yangpu district in my impression in so many fragmented videos.

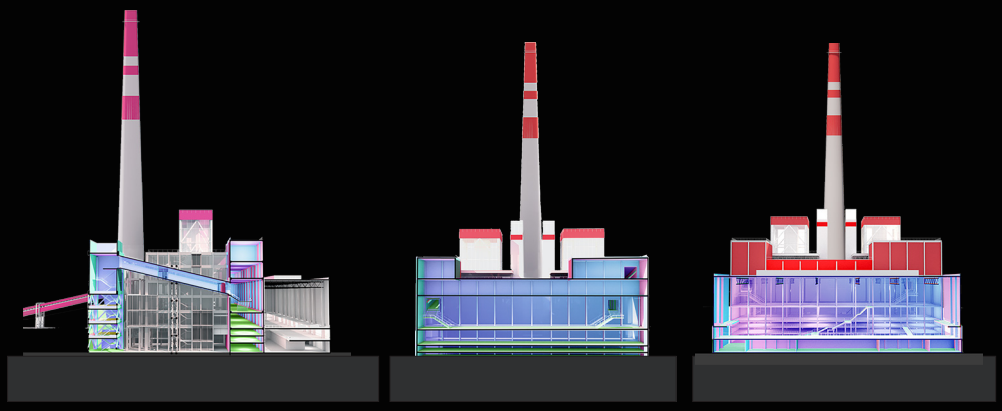
5.2 Mass Transfer Process

EISENSTEIN

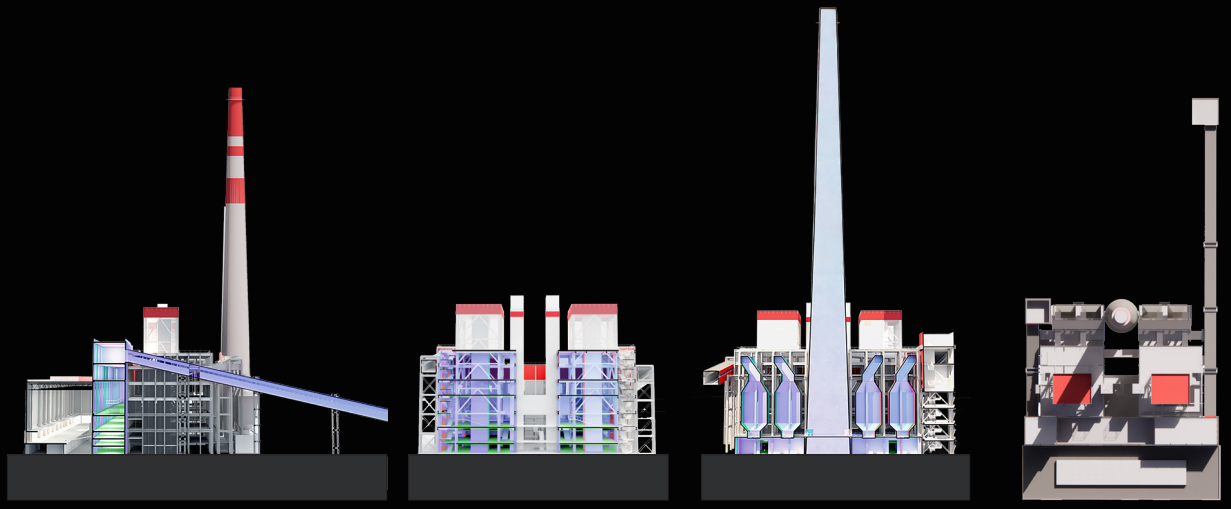
Battleship Potemki

Close-ups shotsalternate with Long-range perspective shot

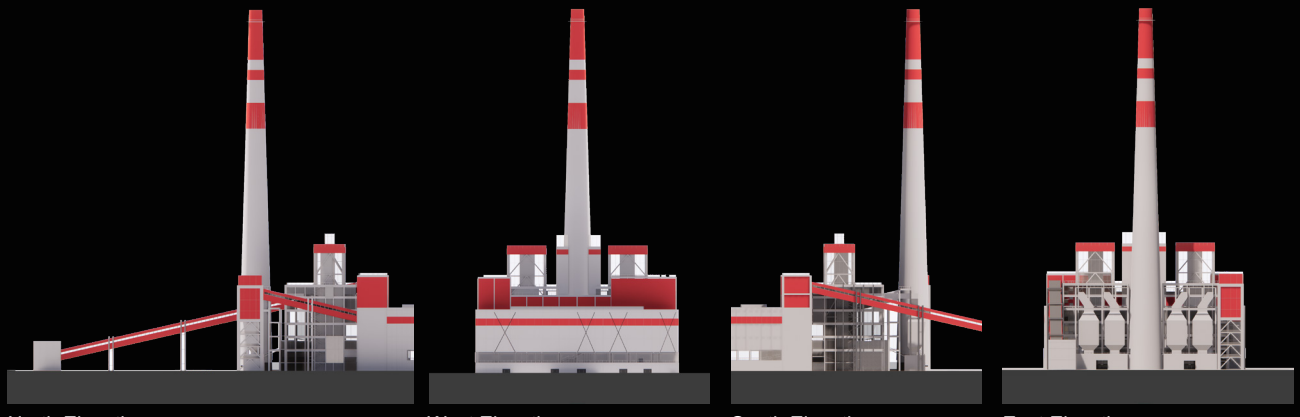
The way I observed the venue through video reminded me of Eisenstein's film Platinum Battleship. Interspersed with the distant view of the crowd fleeing on the stairs and the close-up view of the people and events on the stairs, it makes the audience feel that the masses are oppressed by those in power. For the observation of Yangpu Street, these video information is also classified into two categories, one is general street scene and the other focuses on the crowd.



Section1 Section2 Section3



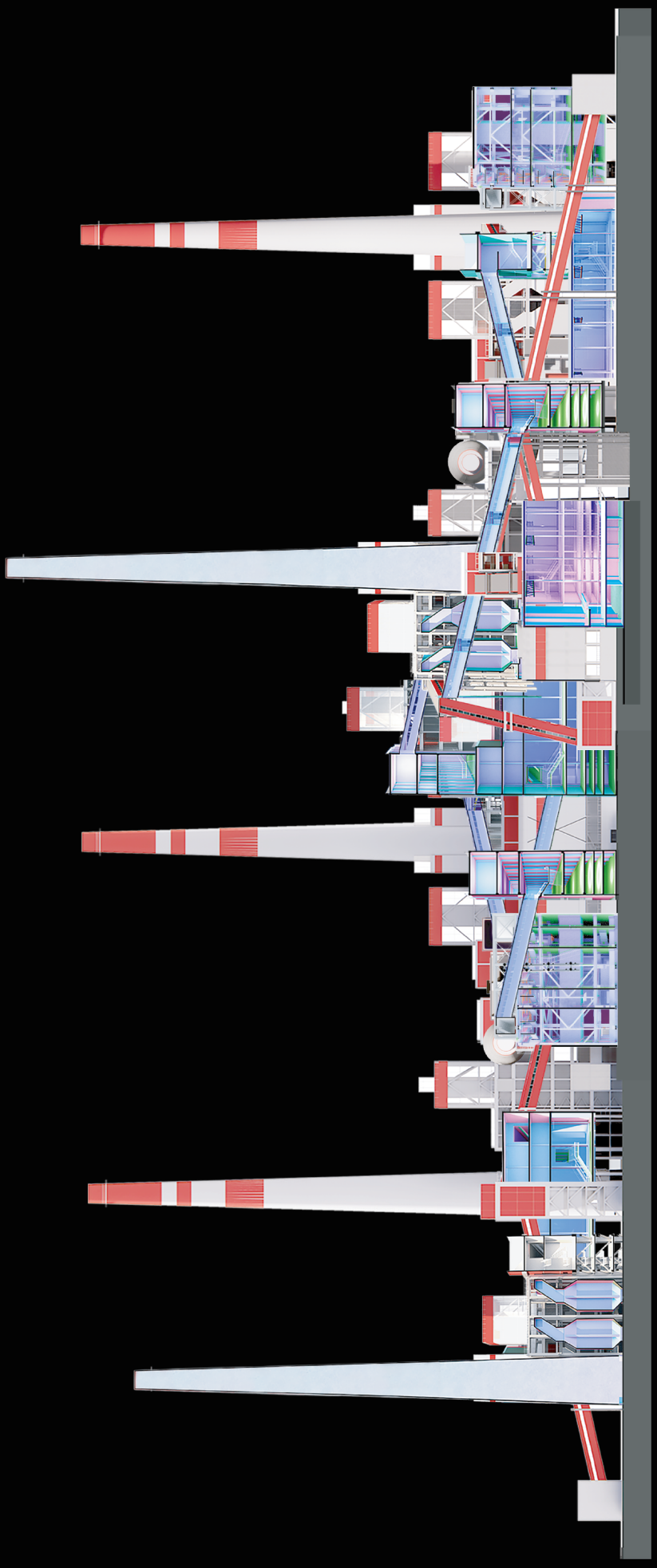
Section4 Section5 Top vies

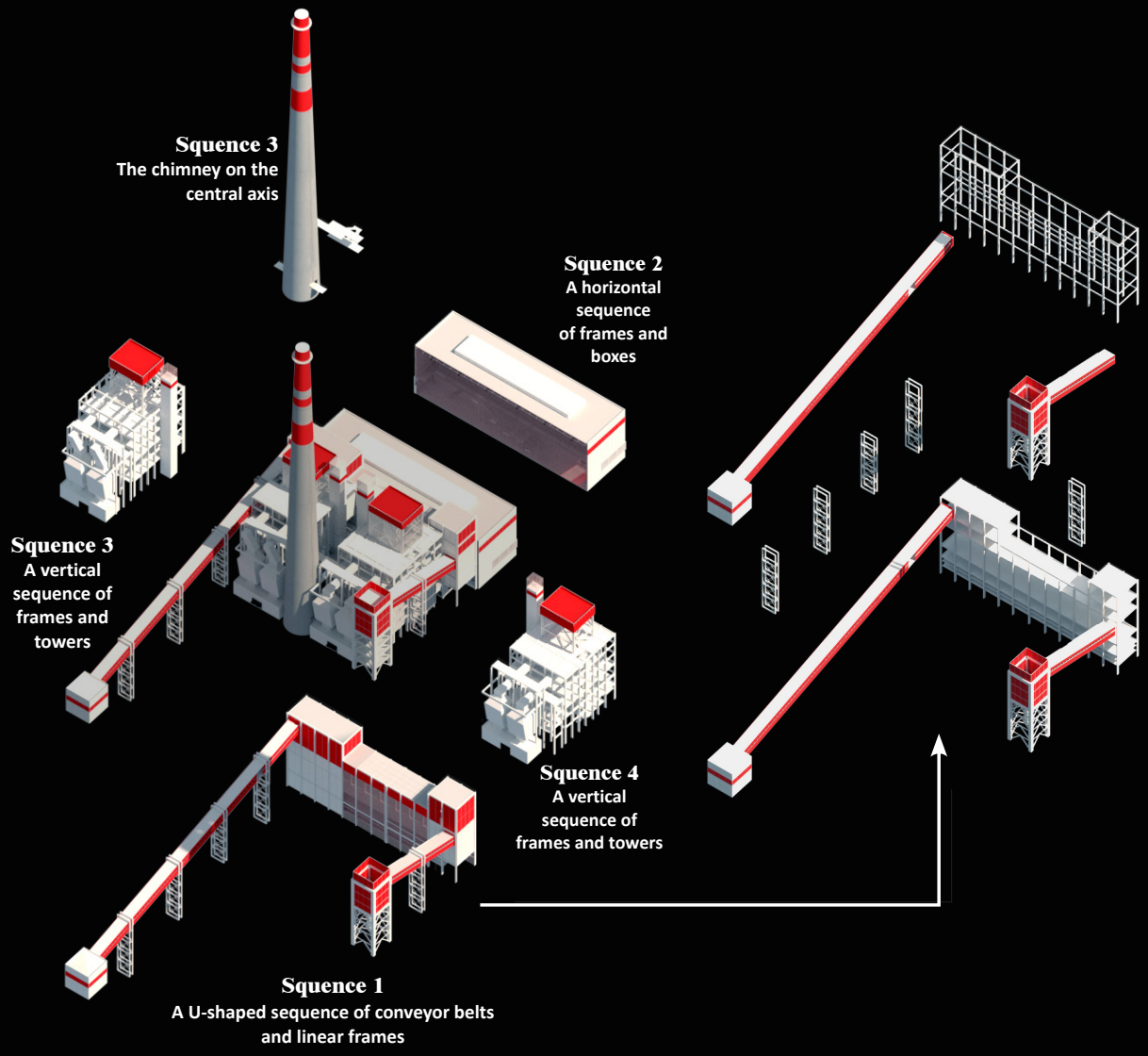


North Elevation West Elevation South Elevation East Elevation

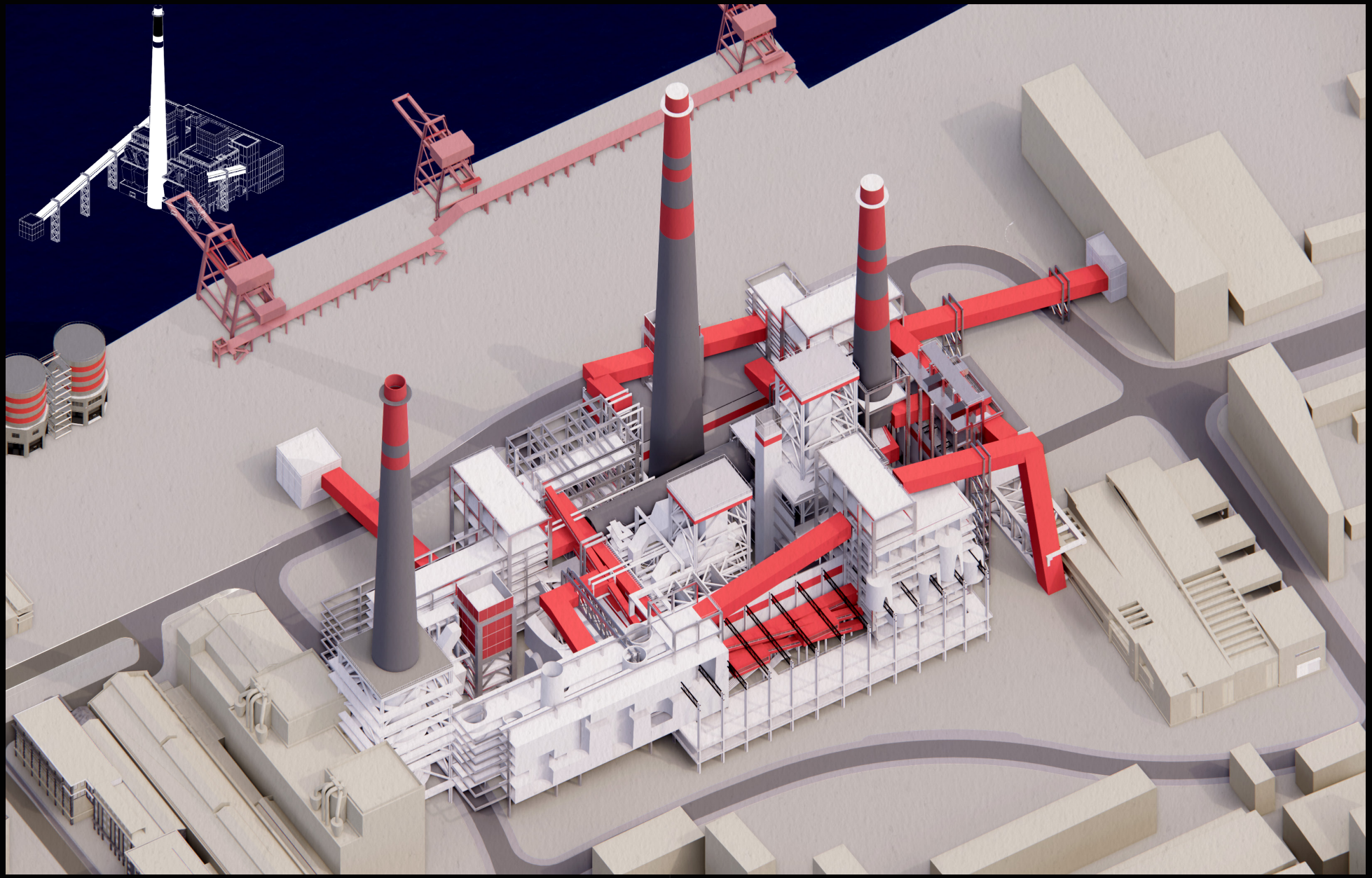
Thinking of the building of the power plant, when we observe its facade from the outside, is it equivalent to a general perspective, which will give the visitor a basic environmental impression. When visitors enter the architectural space, their eyes will focus on the details. I extracted the façade and section of the original building according to its main body parts and reorganized it according to a new understanding of the image.

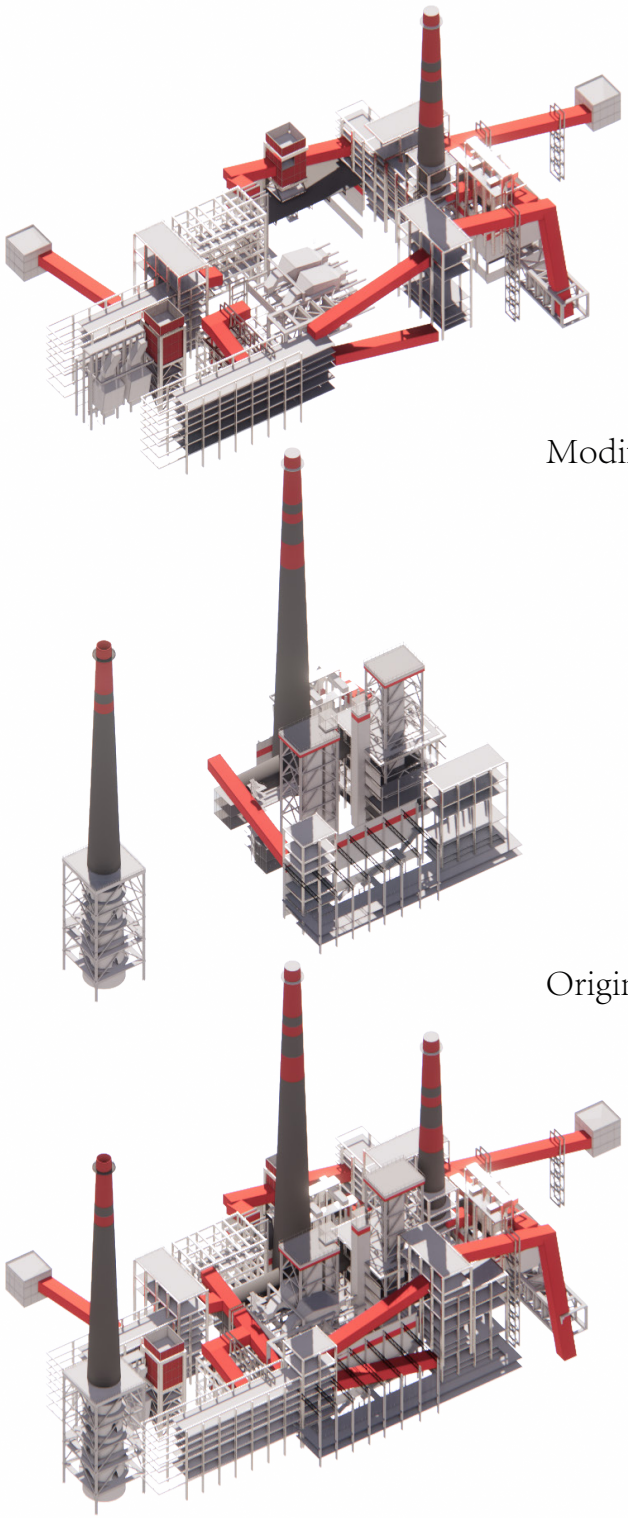
Sections and facades are reorganized into new conceptual sections. This will be one of the interception and browsing routes for the new building





Identify existing building components and move, copy, and combine them to realize conceptual sections.

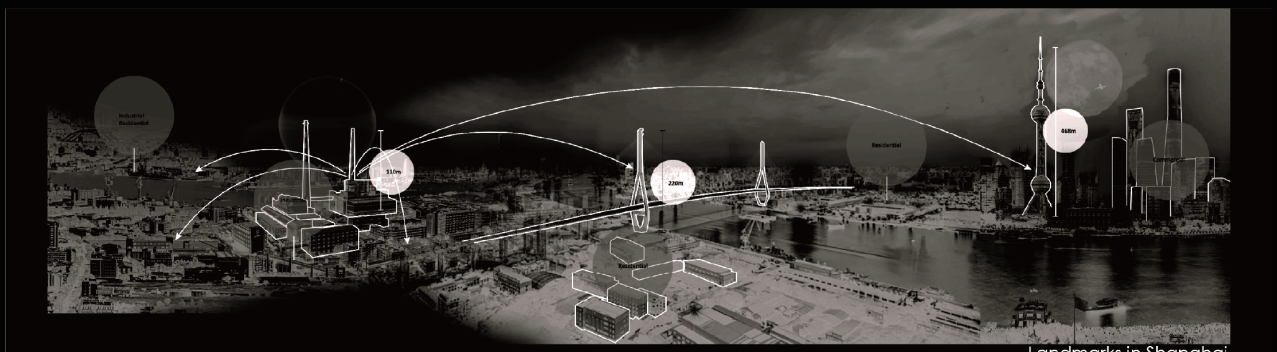




Combining sections and facades is to stitch together different pieces to construct a new architectural atmosphere. However, each part of the new building created by this method is still similar and lacks specificity because of the single steel frame structure. How to make the difference between "Elevation Fragments" and "Section Fragments"?

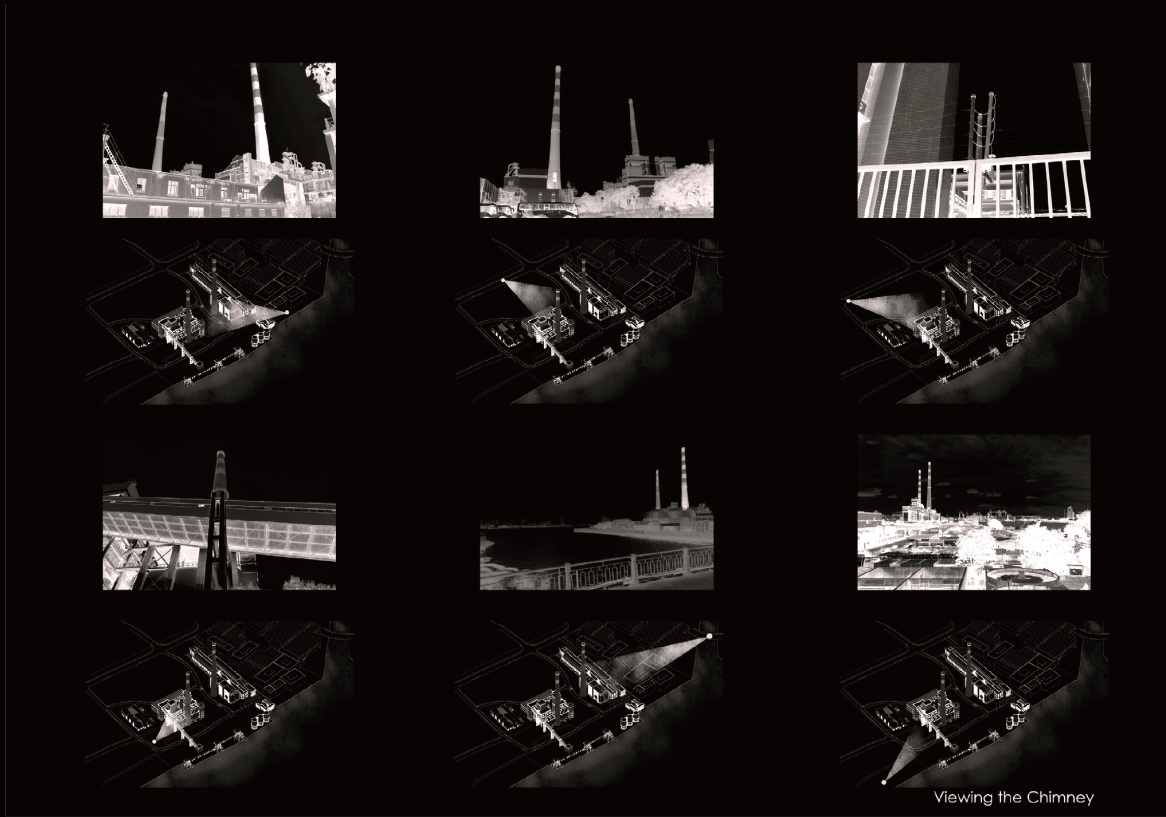
5.3 Units Transfer Process

5.3.1 Concpt from Movie to Site



Landmarks in Shanghai

Vegetation in Shanghai



Viewing the Chimney

The chimney is a striking element, its height and its conical shape, which differs from the vertically aligned steel frame structure, makes the visitor catch the eye every time he appears, whether walking around the site or inside the building. It's like a sudden close-up in a narrative shot that changes the monotonous tour scene.

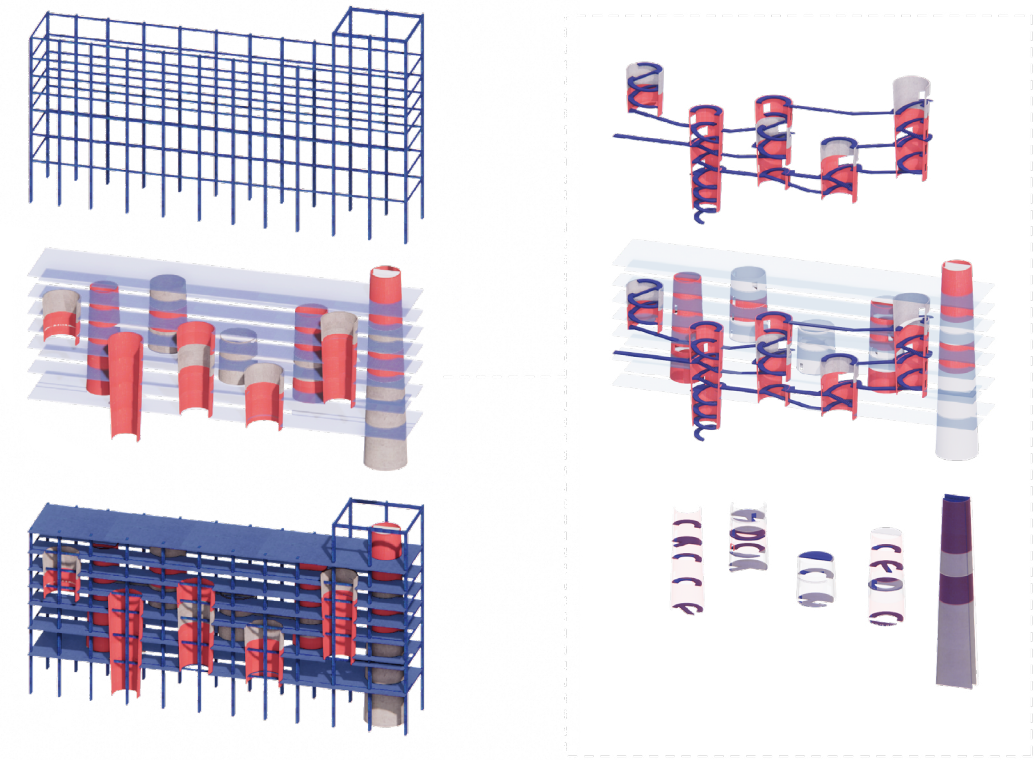
EISENSTEIN

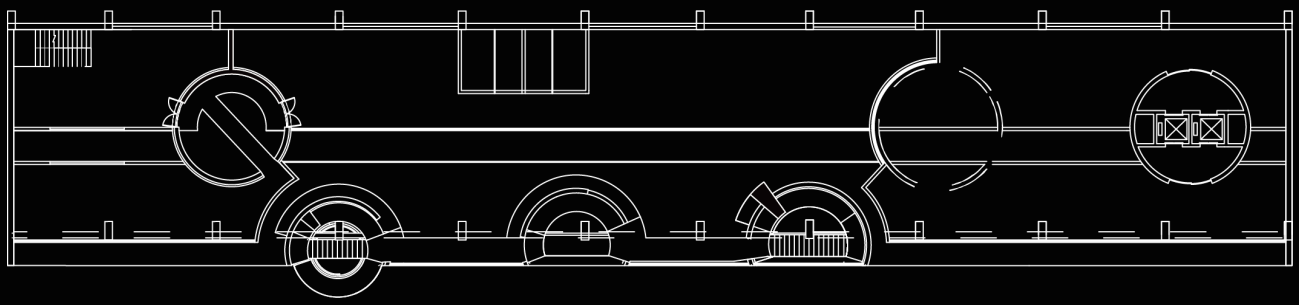
Battleship Potemkin

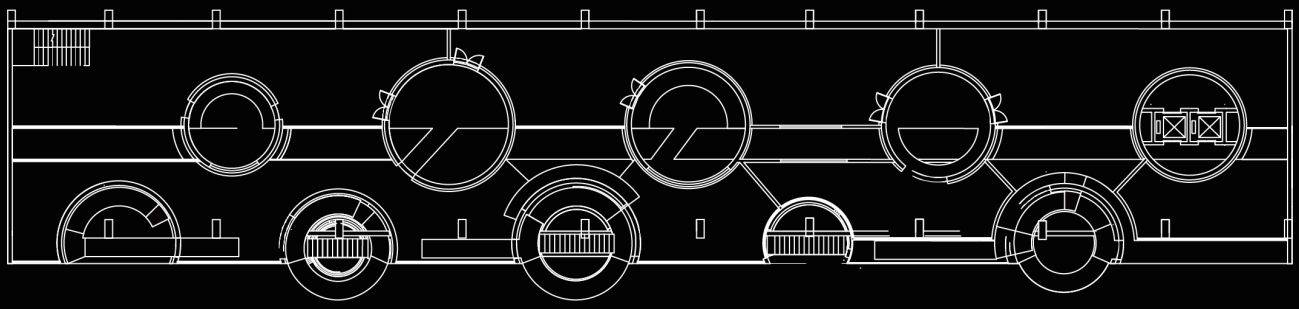
Close-ups shotsalternate with Long-range perspective shot

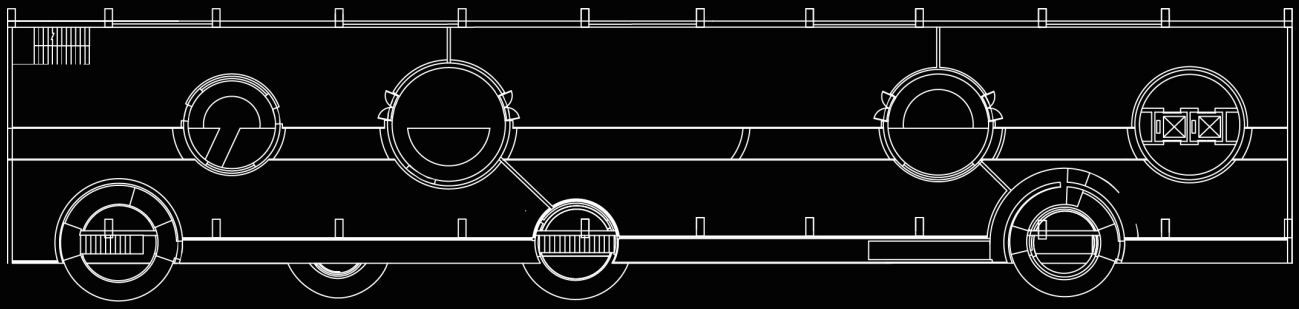
Reminiscent of the constant close-ups of terrified women in Eisenman's films interspersed with shots of the crowd fleeing down the stairs. The rhythmic combination of visually striking shots and narrative shots brings emotional tension and curiosity to the audience. Considering the situation of the site, can we use the chimney-cone as an element to break the rhythm to create a strong difference and impact in the uniform space.

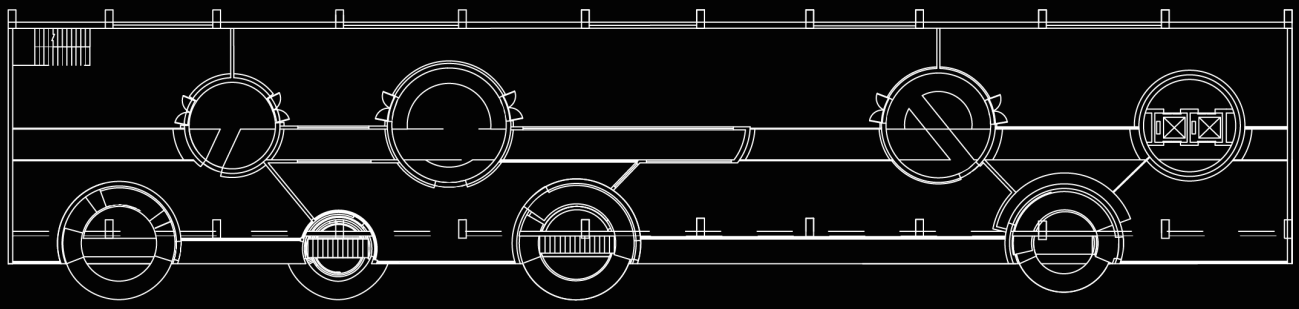
5.3.2 Transfering Part 1

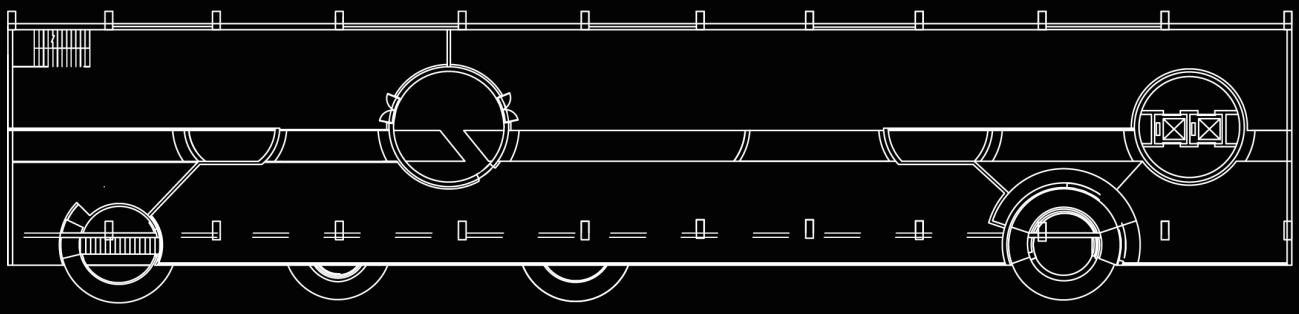


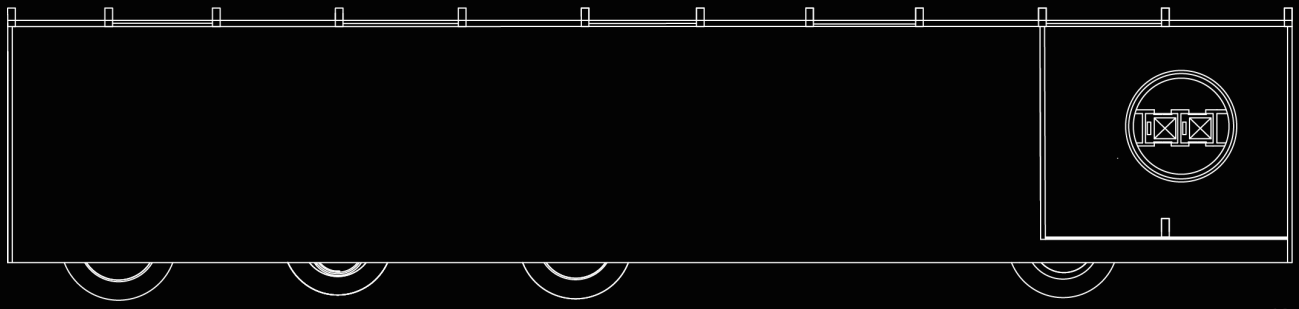




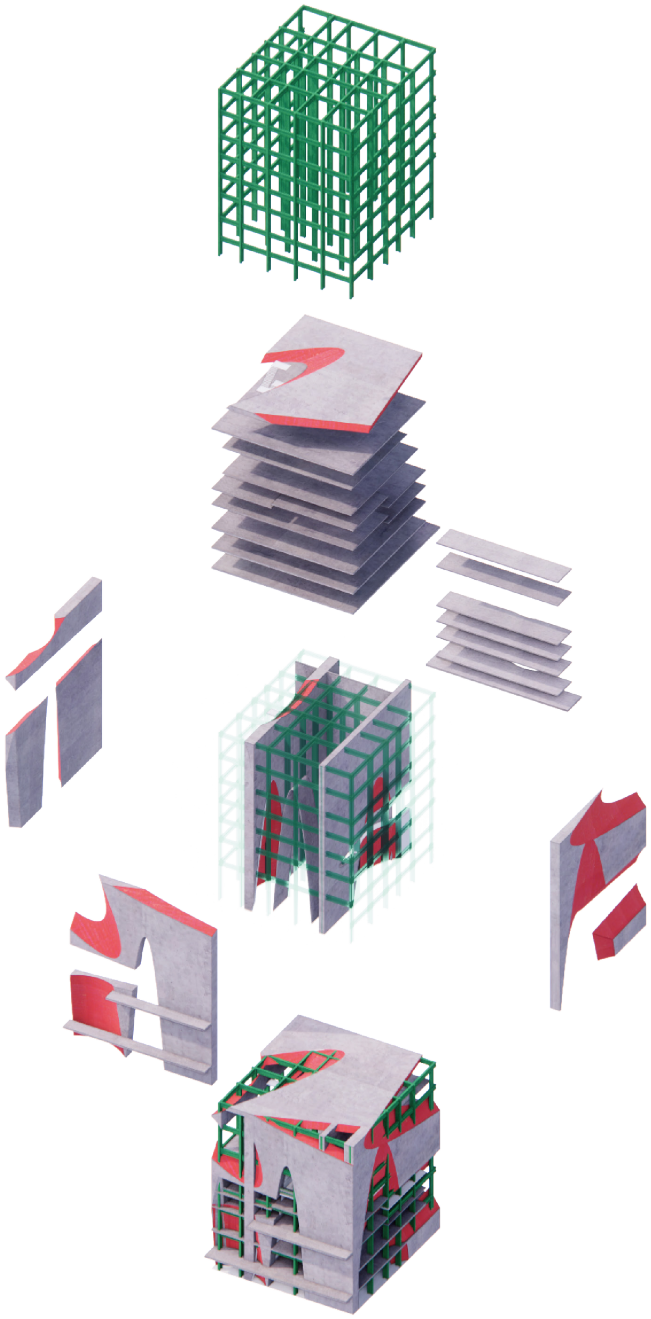




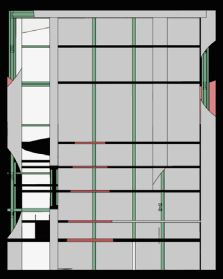


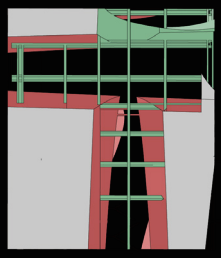


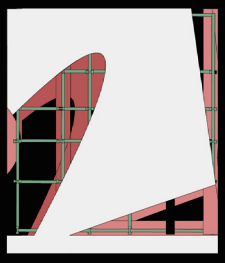
5.3.2 Transfering Part 2

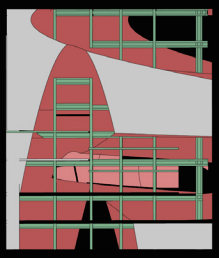


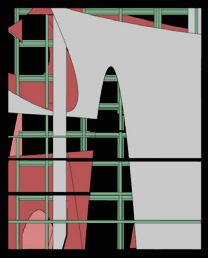
The walls are attached to the uniform grid, and the steel frame structure is hidden in the two walls. While making the viewer unable to perceive the real structure, a new and hidden corridor space is also created between the two walls. Then use the chimney to dig holes in the wall to expose part of the structure (using the previous intellectual montage technique). The holes and the contoured walls bring variation to the mean space



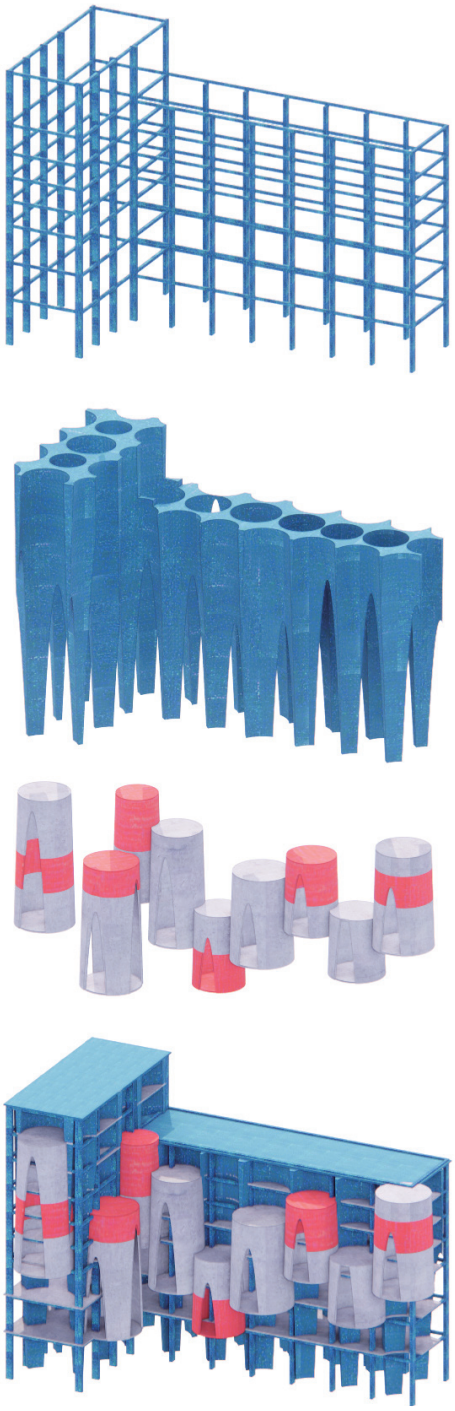




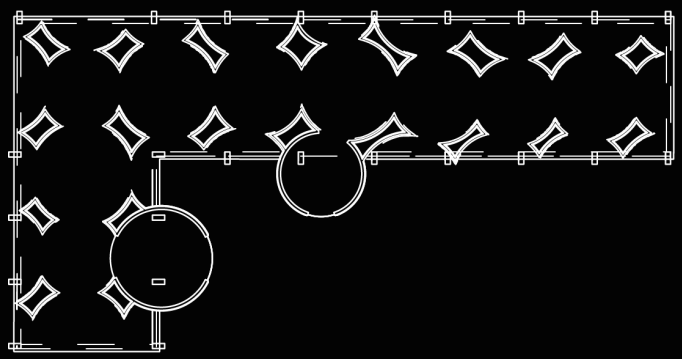


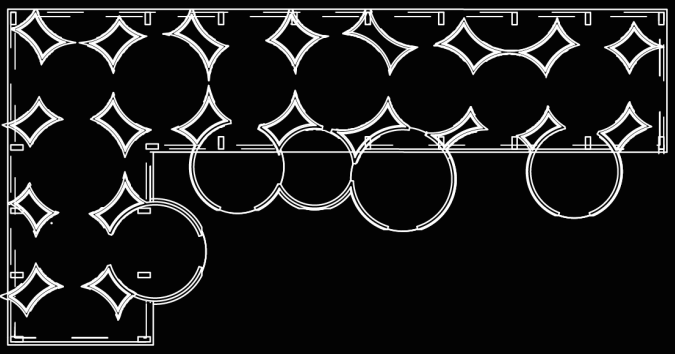


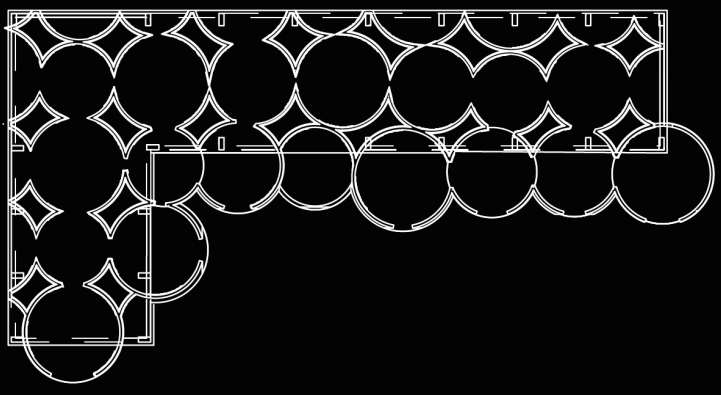
5.3.3 Transfering Part 3

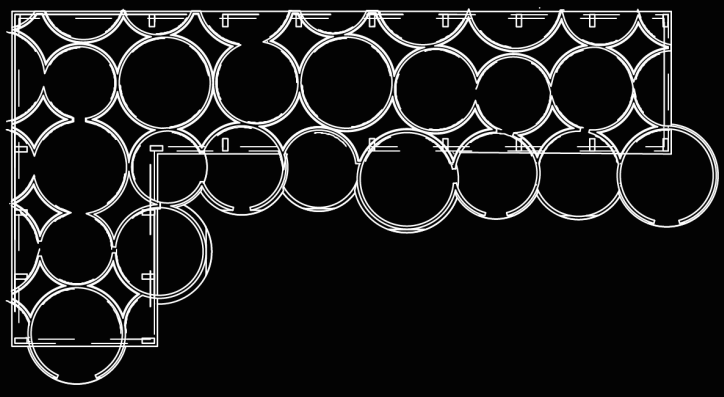


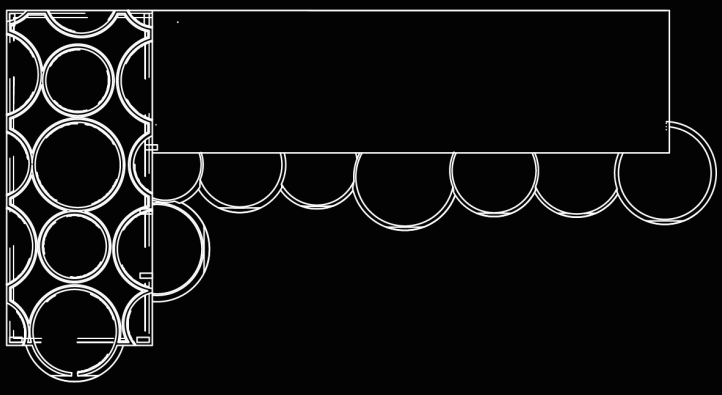
Compared with the previous two units, which use chimneys for interference based on the original space, this module is completely combined with chimneys to form a space with a strong contrast between void and soild. The original structure was only visually segmented on the façade, emphasizing the rhythm of the space (rhythm montage). Finally, part of the chimney structure is retained on the inside, which makes people think about the source of space and adds changes.





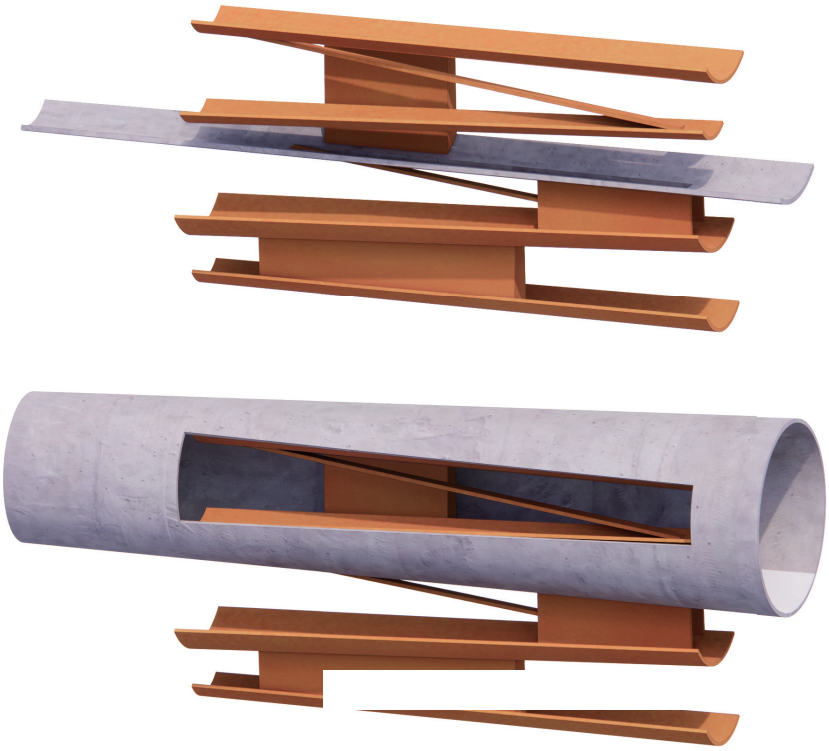




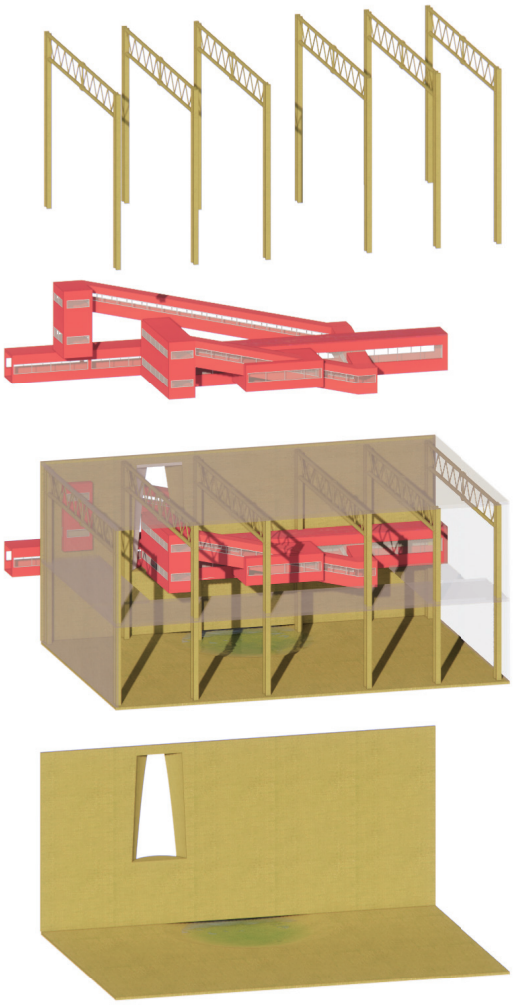


5.3.4 Transfering Part 4

5.3.5 Transfering Part 5



5.3.6 Transfering Part 6



5.3.7 Transfering Part 7