Design Process Report

2117070 YANG Yuxuan

Phase 1

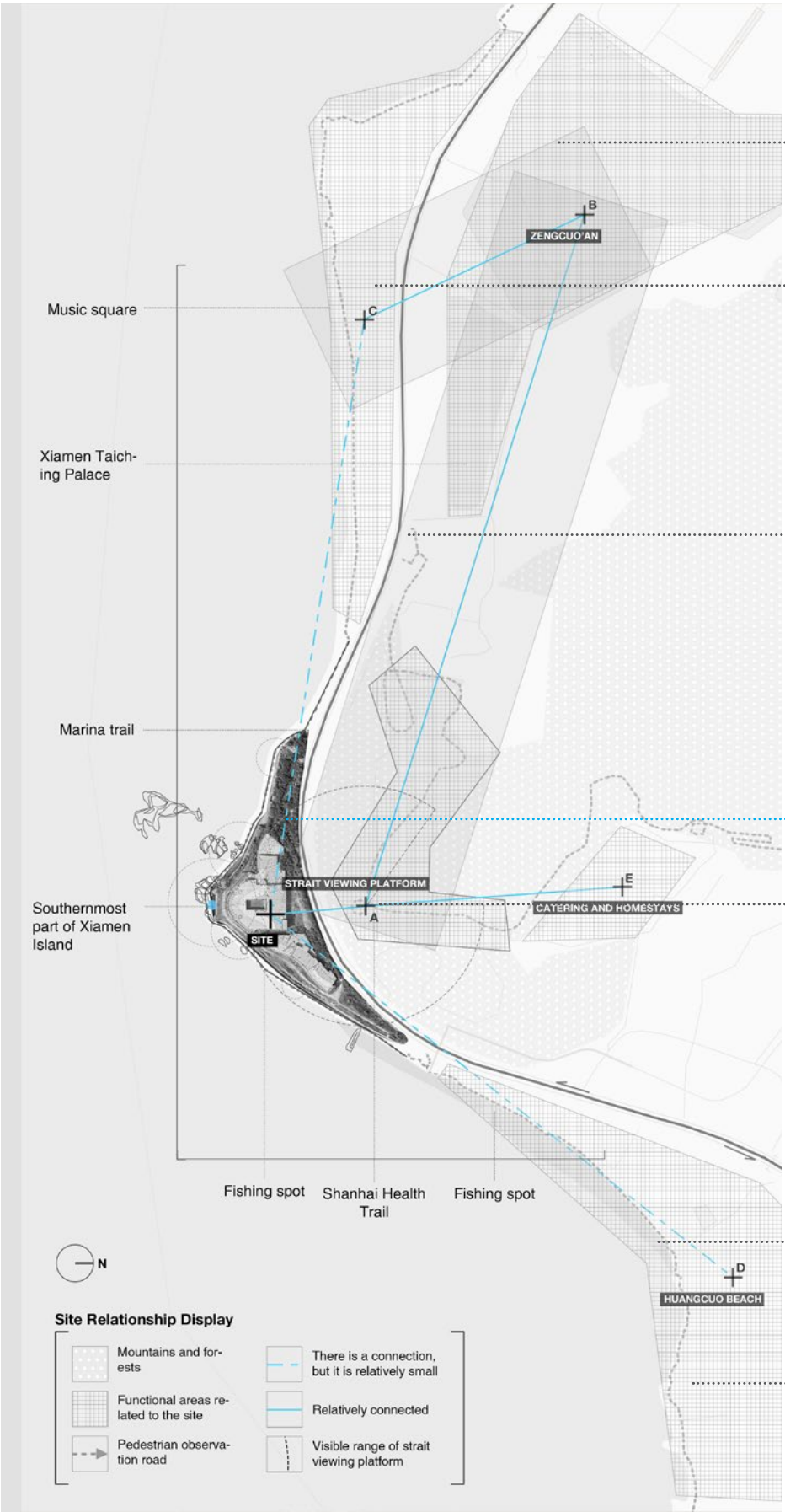## Site selection
and research analysis

Fig.1 Yang Yuxuan, 2024, Abandoned Building Photography

Keywords:
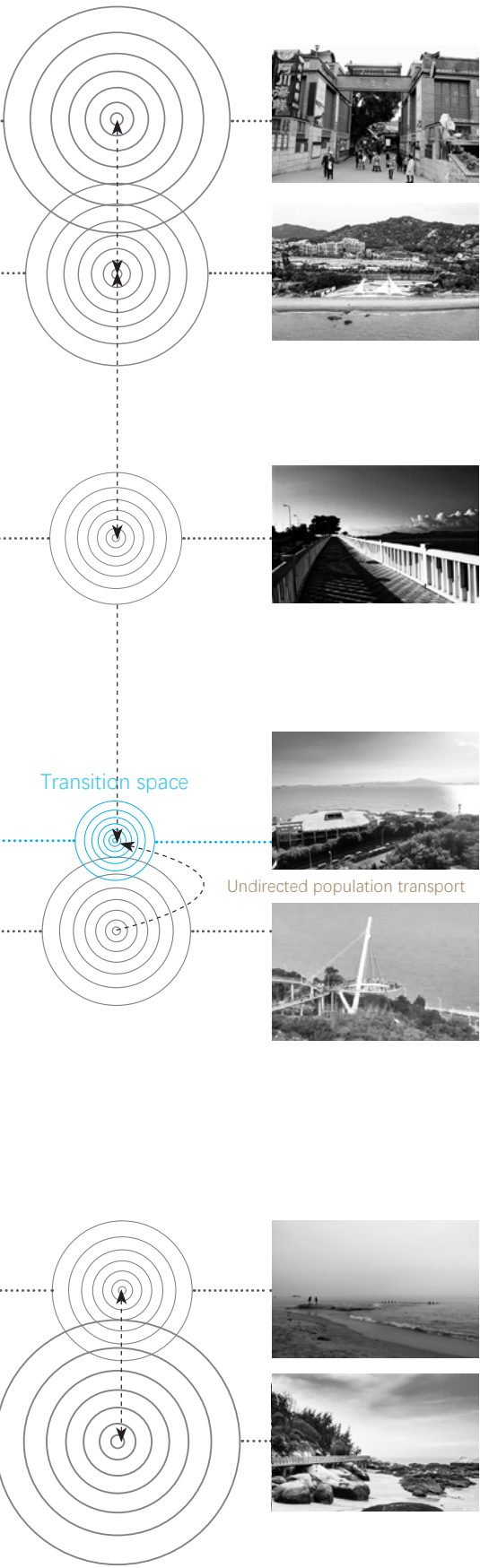Liminal Space, Build Bridge, Unfinished Building

In the macro vision of the city, the rotten building is the 'intermediate state' stagnant space spawned by the high-speed development of the society. Although they seem to be marginalised, they are actually subject to economic, policy and other factors, and are of various types, and are given new contents in the context of modernity. Looking at such 'ruins', we need to start from humanistic concern and think about their practical significance and subsequent development path. From a philosophical point of view, it involves the complex relationship between time, entropy, and human beings and architecture, challenging the notion of progress, and symbolising the 'aftermath of history and the rupture of civilisation, as Giorgio Agamben puts it in Ruins' In short, the Ruins are not an urban flaw, but a vivid reflection of urban transformation, socio-political dynamics, and artistic exploration, helping to build a multilayered narrative of the city.

Environmental Vitality
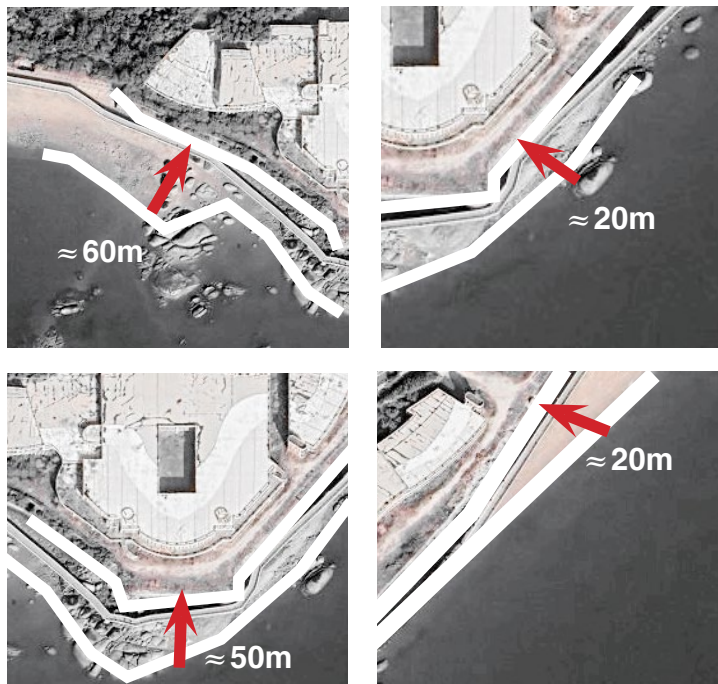
Location and Neighbourhood

Crowd Distribution

Music square

Xiamen Taiching Palace

Marina trail

Southernmost part of Xiamen Island

ZENGCUO'AN

STRAIT VIEWING PLATFORM

SITE

CATERING AND HOMESTAYS

Transition space

Undirected population transport

Fishing spot   Shanhai Health Trail   Fishing spot

HUANGCUO BEACH

N

Site Relationship Display

Mountains and forests	There is a connection, but it is relatively small
Functional areas related to the site	Relatively connected
Pedestrian observation road	Visible range of strait viewing platform

Architectural Elements Extraction

Abandoned unfinished building

Strait viewing platform

Marina Trail

≈60m

≈20m

≈50m
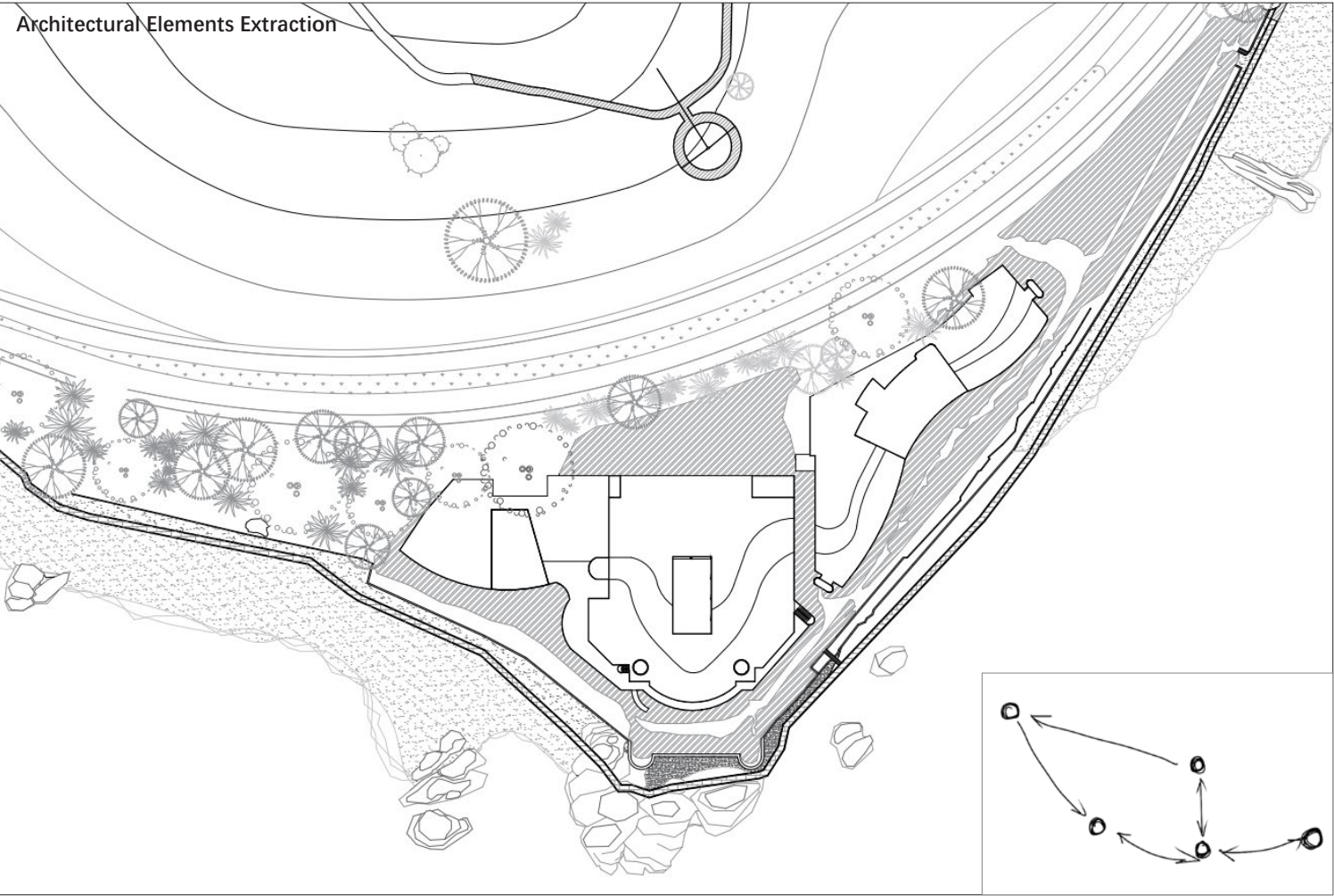
≈20m

The site is located in the **southernmost part** of Xiamen Island, facing the sea in the south and mountains in the north, with a wide view. The rotten nature of the site itself makes it difficult to establish a connection with the neighbouring areas, and the lack of shelter from the buildings and the influence of the sea breeze make it unsuitable for long stay and activities of human beings.
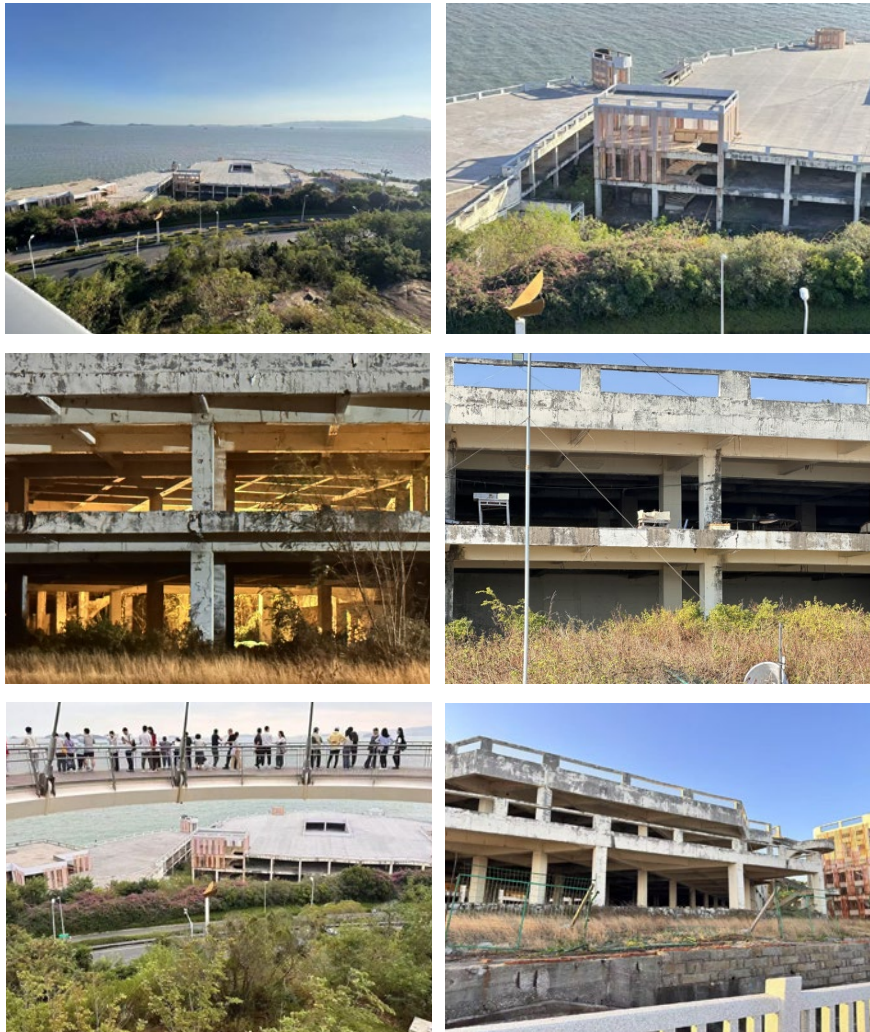
TEXT:
When there's a rich variety of surrounding customer groups, what we need to do is to build a bridge for them. While attracting people to come into the site, we also need to connect multiple areas with each other. Meanwhile, from a vertical perspective, there's a big height difference between the site and the most closely connected area, and there are no convenient bridges or passages around for people to get through. This is the main reason why the accessibility is so weak.
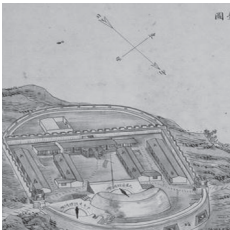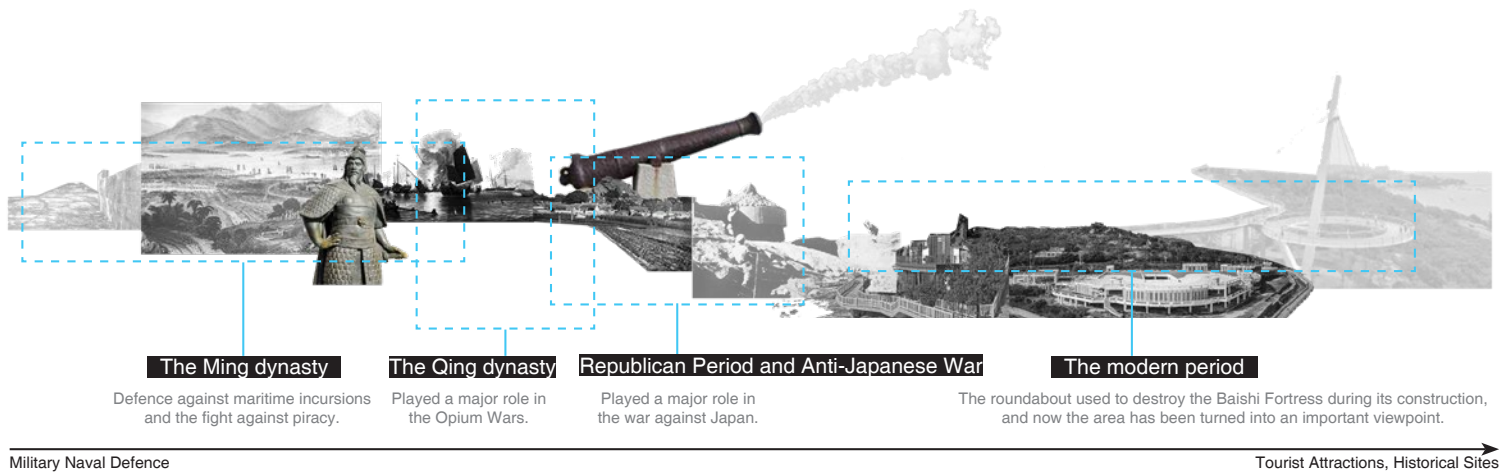
Historical Analysis

The Ming dynasty	The Qing dynasty	Republican Period and Anti-Japanese War	The modern period
Defence against maritime incursions and the fight against piracy.	Played a major role in the Opium Wars.	Played a major role in the war against Japan.	The roundabout used to destroy the Baishi Fortress during its construction, and now the area has been turned into an important viewpoint.

Military Naval Defence → Tourist Attractions, Historical Sites

The site was originally an important sea defence site during the Anti-Japanese War, and together with the Hulishan Fortress and others, it formed the sea defence border on Xiamen Island.

Fig.4 Fangpi Forum, 2022, Whitehead Fortress guarding Xiamen Bay

In 1999, an ambitious project aimed to transform this area into a high-end resort. Unfortunately, poor functional planning and the site's unique geographical constraints led to the project's indefinite suspension.


After an initial renovation, the unfinished building briefly became a popular destination for social media enthusiasts, drawing considerable crowds.
Yet, with the influx of visitors came accidents and safety incidents, prompting authorities to seal off the area entirely.

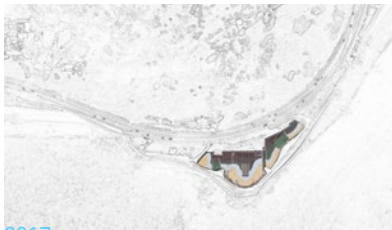Fig.5 Yang Yuxuan, 2024, Abandoned Building Photography

Site Iteration
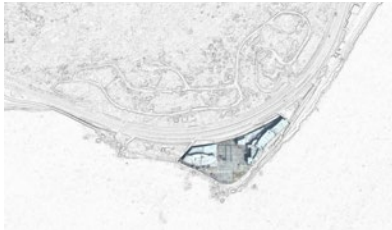
2003
The site is in a period of recent abandonment and has not changed much from when it was first built
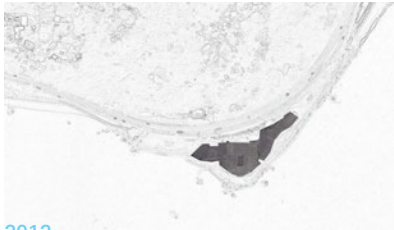
2012
Deterioration of the external walls of the building due to the coastal zone, constant exposure to sea winds and disrepair of the building

2017
Due to the large size and sensitive location of the site, it was restored and landscaped prior to the BRICS meeting.
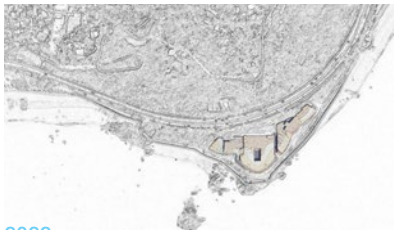
2022
Because of the opening of the Shanhai Trail, this building was renovated a second time as an important node below the viewing platform.
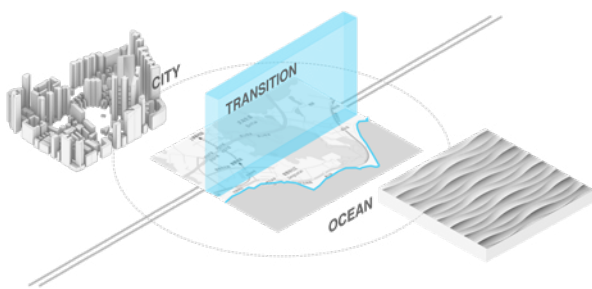
Due to the construction of the roundabout, the Whitehead Battery was demolished and today only the ruins remain.
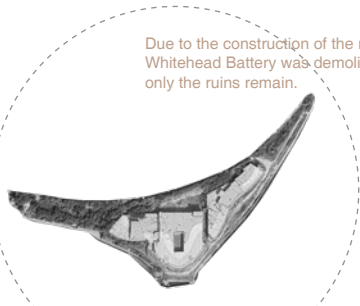
The site was originally the building of the Whitehead Seaside Resort South project developed by the Farglory Group, which has been stalled since the commencement of construction in 1999 due to planning adjustments by the municipal government and modifications to the design functions of the hotel.
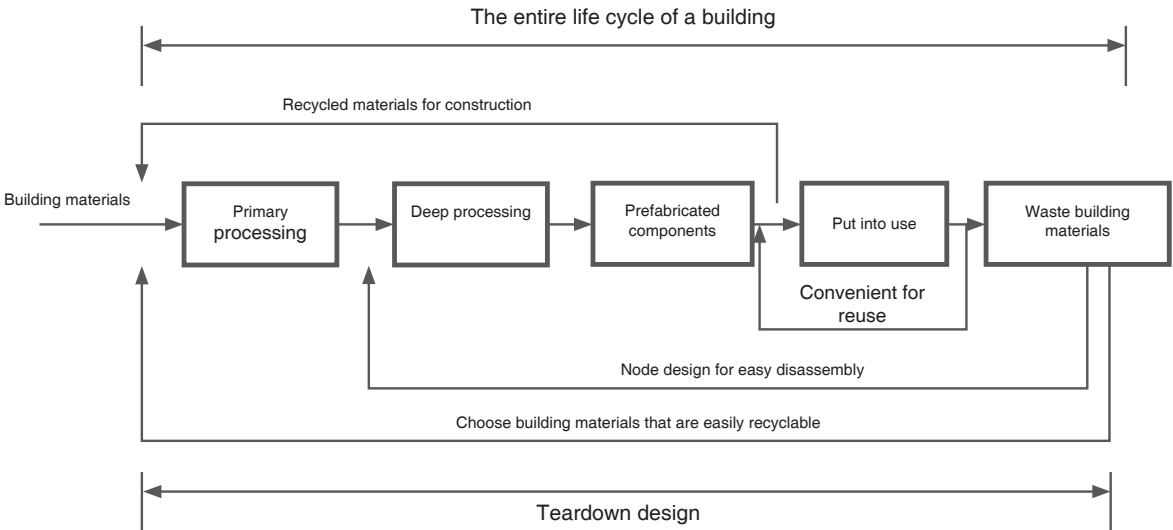
Theoretical Context

Teardown design

The concept first appeared at the **first Used Building Materials Association (UBMA)** conference in Canada in 1996.
Australian scholar Philip Crowther defines 'design for deconstruction' as the systematic demolition of buildings for the purpose of recycling building materials and looking beyond the life cycle of the building.
Professor Philip Crowther of Australia defines 'deconstruction' as 'the design of dismantling processes for material reuse systems'.
In 2000, Professor Bradley Guy of the United States interpreted the concept of 'building dismantling' as a service of resource reuse through manual + mechanical building demolition methods.
According to Professor Frank Schultman of Germany, 'deconstruction' is a form of 'selective dismantling', which differs from demolition in that a building is broken down into multiple components and building materials for recycling.

Fig.6 University Bioscience Managers Association.(1997)
1997-photo.[oil on Google]https://googleubma.org.uk/wp-content/uploads/2015/04/1997-photo.pdf(Accessed 20/11/2024)

Architectural Grafting

The entire life cycle of a building

Recycled materials for construction

Building materials → Primary processing → Deep processing → Prefabricated components → Put into use → Waste building materials

Convenient for reuse

Node design for easy disassembly

Choose building materials that are easily recyclable

Spacial narratives

Teardown design

Teardown design

Jeanne Gang proposes applying the plant cultivation technique of grafting to architecture and urban design as a way of rethinking adaptive reuse and combatting climate change.

Fig.7 Architectural Art (A-A).(2024)
Icon: Jeanne Gang.[oil on X]https://x.com/4AAAAart/status/1794973095008096352(Accessed 20/11/2024)

Architectural Grafting

Biomimicry — The core idea is that by observing and learning about organisms, behaviours and ecosystems in nature, these natural strategies are translated into practical applications in architectural and engineering design.

Biomimicry in Architecture — The biological process of grafting plants inspires this theory, especially in the context of sustainable design.

Postmodernism — The movement's embrace of eclecticism and contrast between historical and contemporary styles plays into the concept. | Deconstructionism seeks to express the logic of conflict in the environment by dismantling architectural forms, fragmentation and fault lines to achieve complexity and heterogeneity in architectural form.

Adaptive Reuse and Regeneration — The broader architectural discourse around repurposing and extending the life of existing structures forms the practical basis for grafting-like strategies.

Assessment of existing buildings

Historic significance | Structural integrity | Potential reuse

Spacial narratives

Theoretical Context

Case Studies

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Teardown design
      ↓
Architectural Grafting
      ↓
Spacial narratives
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The concept of 'spatial form' was first introduced by **Joseph Frank** in his article 'Spatial Form in the Modern Novel' published in 1945. According to him, the modern novel overcomes the limitation of time by breaking the traditional linear time narrative and adopting a spatialised narrative, so that events and plots are presented in a spatial form.

Bakhtin's theory of 'chronotope' provides important theoretical support for literary narratives, especially spatial narratives. Bakhtin put forward the concept of 'chronotope' in the 1930s, which originated from Einstein's theory of relativity and was intended to explore the interrelationship and integration of time and space in literature.

The concept was introduced in 1983 by the British design group **Narrative Architecture Today (NATO)**. The introduction of this concept signalled a shift in architectural design away from purely functional and technical aspects to a greater focus on the relationship between architecture and human experience, cultural context and storytelling.

Fig.8 wikipedia.(2024)*Joseph Frank.*[oil on wikipedia]https://en.wikipedia.org/wiki/Joseph_Frank_(writer) (Accessed 20/11/2024)

Fig.9 wikipedia.(2024)*JMikhail Bakhtin.*[oil on wikipedia]https://yo.wikipedia.org/wiki/Mikhail_Bakhtin (Accessed 20/11/2024)

Fig.10 amazon.(2012)*Narrative Architecture.*[oil on amazon]https://www.amazon.com/Books-Narrative-Architecture/s?rh=n%3A283155%2Cp_28%3ANarrative+Architecture (Accessed 20/11/2024)

Centre

'Narrative Architecture' is an emphasis on narrative and experiential dimensions in the field of architectural design, and its significance lies in the telling of stories through spatial design, emphasising the close connection between architecture and human experience and cultural context, so as to enhance the cultural value and influence of architecture.

Storytelling through spatial design

Emphasis is placed on the experiential dimension of architecture rather than on its form or technology alone.

The development of narrative architecture has also been influenced by historical and cultural traditions. From the carved frescoes of the Roman period to the decorative frescoes in Greek temples to the naming of multi-storey structures in modern architecture, the strong link between architecture and narrative has always existed. These traditional elements provide the basis for modern architecture, enabling architects to tell the story of the building through narrative, thereby enhancing the cultural value and impact of the building
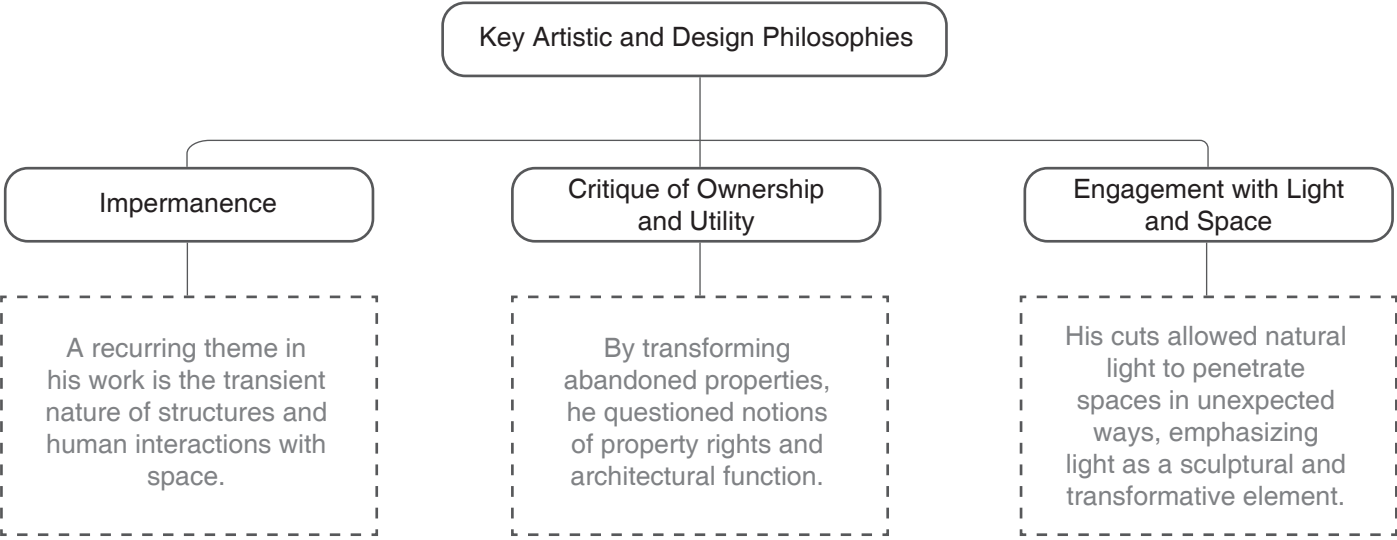
Spacism

Artist
Gordon Matta-Clark

Building Cuts and Spatial Interventions, Social and Urban Commentary, Conceptual and Ephemeral Art, Architectural Techniques, Use of Found Materials, Integration of Multiple Disciplines...

Fig.11 Gordon Matta-Clark, 1975, Conical Intersect

Clark explores the relationship between architecture and the people who inhabit it through the art form of deconstructing and reconstructing buildings. His large-scale architectural interventions, which involve physically cutting into buildings that are about to be demolished, have pioneered a unique art form that transcends performance, conceptual, process, and land art, making him one of the most innovative and influential artists of his generation.

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Key Artistic and Design Philosophies
   ┌──────────────┼──────────────┐
Impermanence   Critique of Ownership   Engagement with Light
               and Utility             and Space
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A recurring theme in his work is the transient nature of structures and human interactions with space.

By transforming abandoned properties, he questioned notions of property rights and architectural function.

His cuts allowed natural light to penetrate spaces in unexpected ways, emphasizing light as a sculptural and transformative element.

Fab Tree Lab

Artist

Mitchell Joachim, Javier Arbona, Lara Greden

Bionics, Architectural Grafting

Case is a sustainable wooden house incorporating architectural grafting, a socio-ecological architectural methodology that combines indigenous grafting techniques with computationally-designed cross-laminated timber arch supports, and ultimately serves as a people's observatory and educational centre, as well as providing a wildlife sanctuary.

Fig.12 Mitchell Joachim, Javier Arbona, Lara Greden, 2000, Fab Tree Lab

The "Old" Chaple

Artist

Source Project Architects

The original building can be regarded as a local projection of the West, and its construction began roughly fifteen years ago. How to resolve the dislocation between the history refected by the image and its construction history has become a speculative issue in the "Church" renewal project. Therefore what the church needs to construct is not space, but time.
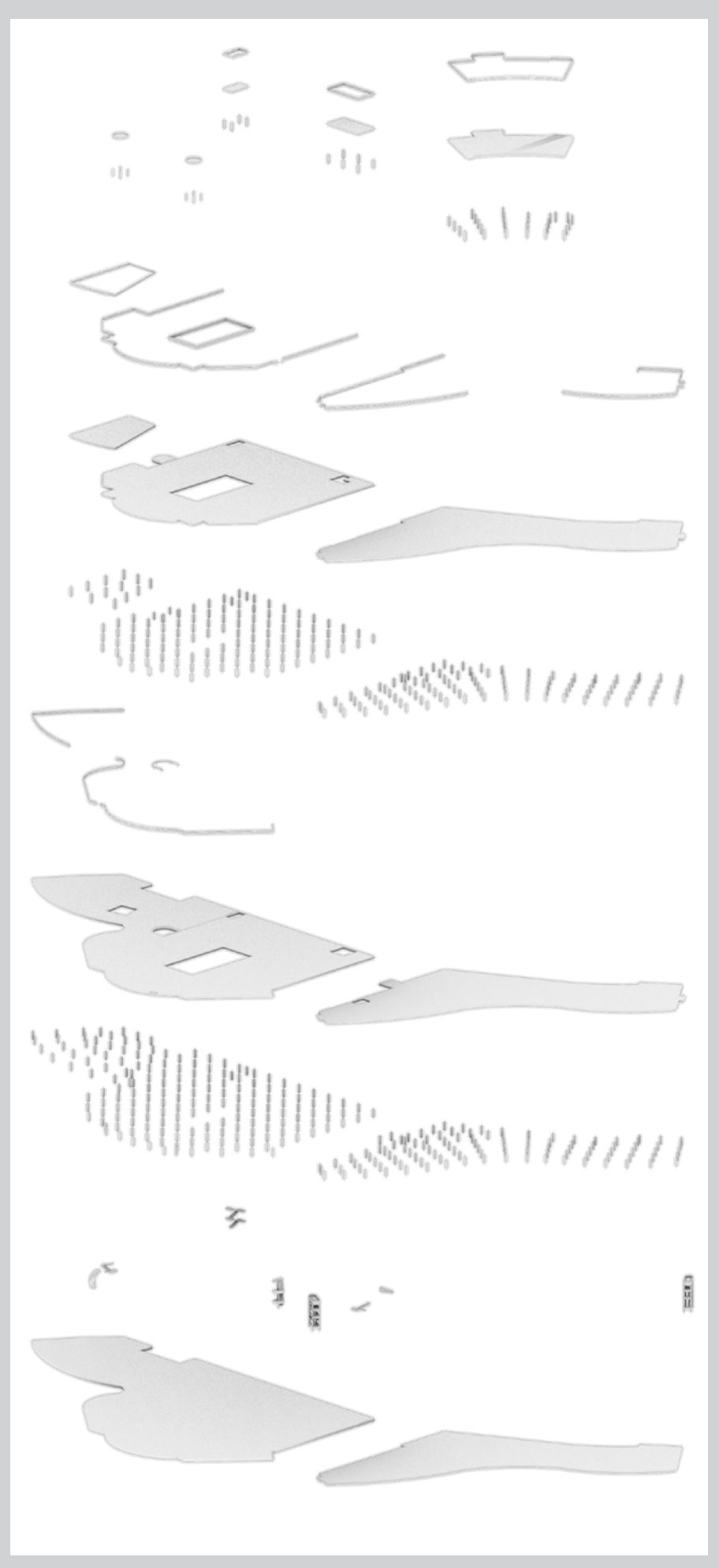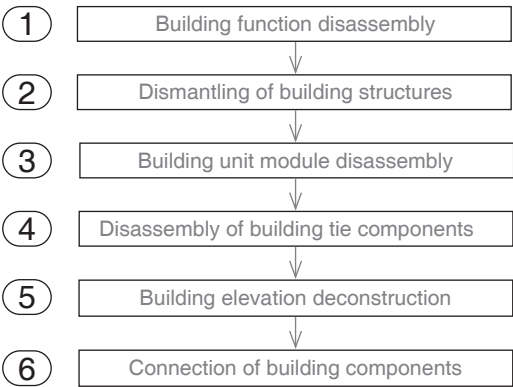
At the beginning of the design, they tried to find clues of time and past stories on the site. The falling of the tiles and the traces left by the southern climate on the building gradually opened up the opportunity for design retrospection, and gradually laid the basis for what we call "demolition art".

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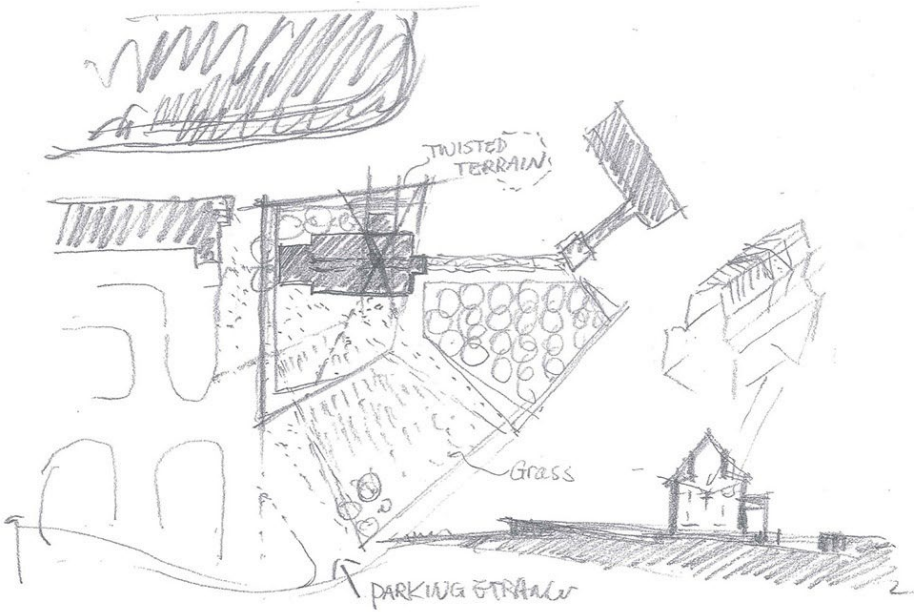
Fig.13 O-office Architects, 2022, The "Old" Chaple

Building Deconstruction Layers

1. Building function disassembly
2. Dismantling of building structures
3. Building unit module disassembly
4. Disassembly of building tie components
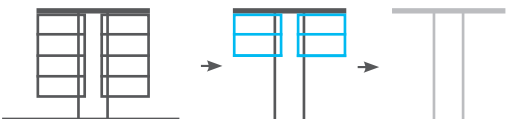5. Building elevation deconstruction
6. Connection of building components

Building Block Dismantling Method

Hand dismantling, from the roof of the unit building module, the maintenance walls, the building's internal tie and boom elements, to the floor elements.

Demolition is carried out from the bottom up, recycling building materials wherever possible. Each section is further dismantled by hand at ground level.
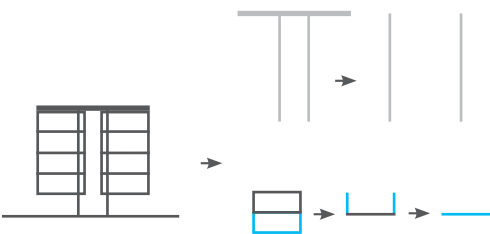
Separation of the structural body of the building from the internal space, and then further dismantling of the internal space of the building and the structural body at the same time.
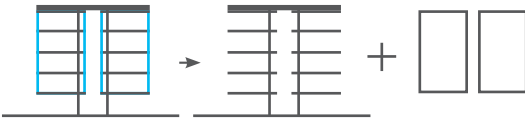
The maintenance walls of the entire unit module are disassembled as a whole, with the floor slab still acting on top of the structural body through the ties.

Aluminium panels for facade		
Staircase 1		
Staircase 2		
Crenelated parapet wall		
Rooftop pavilion		
Concrete column		
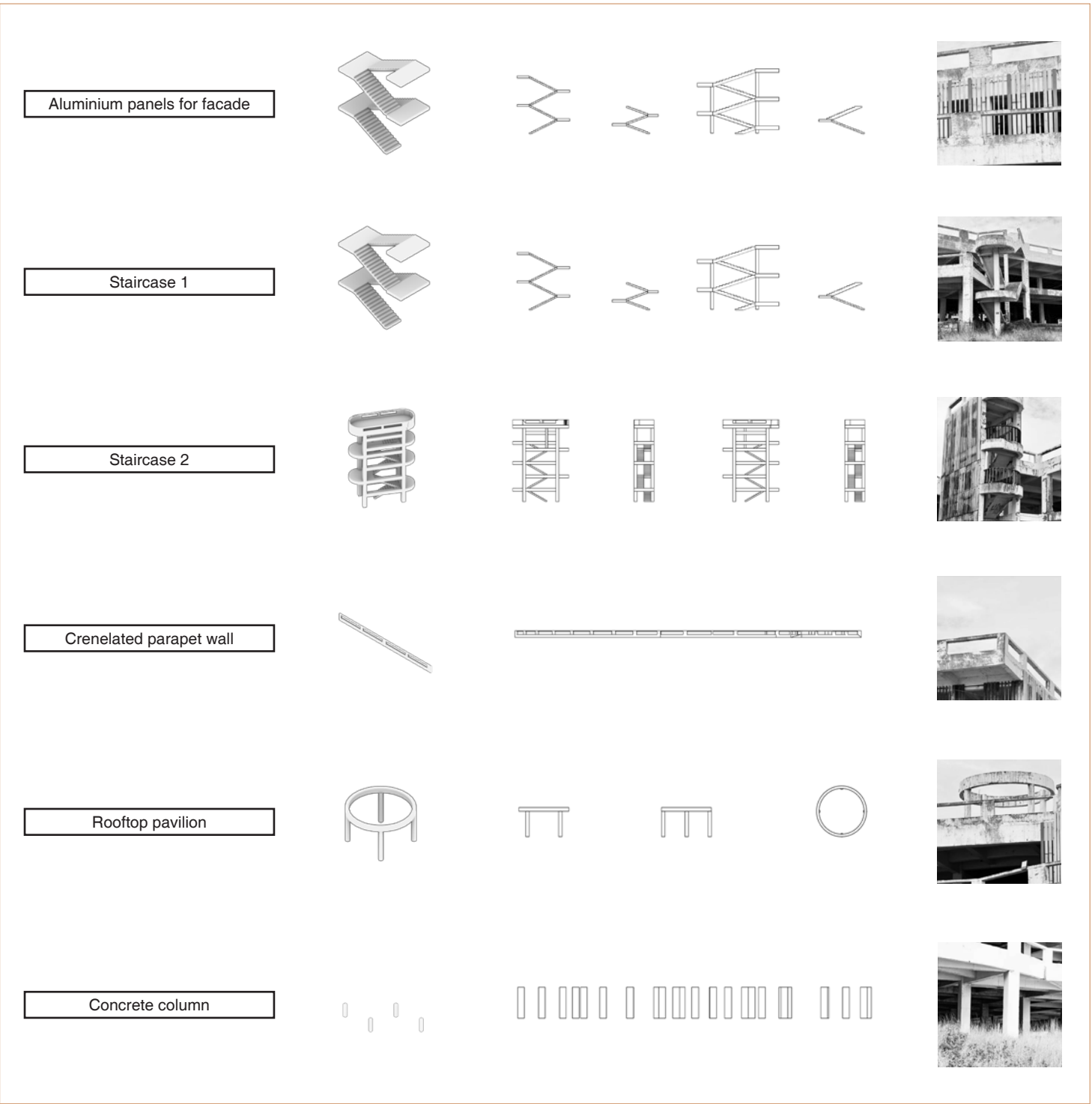
Context and Current Situation Analysis

• Existing Conditions

The project is located at the site of the Baishi Fort ruins on Huandao Road in Siming District, Xiamen. From the Ming and Qing dynasties to the Anti-Japanese War period, Baishi Fort, together with Huli Hill Fort and others, formed a critical defensive system for Xiamen Port. However, the Baishi Fort has since disappeared, leaving only a historical and cultural relic. In 1999, Yuanhua Group planned to construct a high-end tourist resort hotel on the site. However, due to the sensitivity of the location and the Xiamen municipal government's re-adjustment of planning for the area, the project has remained stalled to this day.

In response to this situation, the author proposes employing "Teardown Design" to deconstruct the existing structures and adopting "Architectural Grafting" to integrate the site into the foundational infrastructure of Huandao Road and the Shanhai Trail. The design incorporates postmodernism and deconstructivism to highlight the historical and cultural value of the site, breathing new life into the abandoned structures. By exploring the complexity and heterogeneity of architectural forms, the project aims to enrich the narrative and cultural depth of the site, achieving the regeneration and revitalization of this historical location.

• Current Problem

In terms of security risks:
From the perspective of building mechanics, as rotten buildings are exposed for a long period of time, the unfinished part of the structure may be subject to uneven forces. For example, the lack of restraint in the superstructure of a building that has not been capped may result in deformation or even cracks in vertical components such as walls and columns under the action of natural forces such as wind and rain.

Functional and space utilisation aspects:
Analysed from the perspective of functionalist architectural theory, the form of a building should follow its function. And bad buildings often do not complete the functional configuration according to the initial design intention. From the point of view of spatial syntax theory, the space of bad buildings is isolated from the urban spatial network, without good accessibility and spatial connectivity, and cannot effectively participate in the functional operation of the city.

Blurring and loss of cultural values:
Due to the rotten state of the building, the cultural value of the Baishi Fortress site has not been well explored and presented. The local cultural memory that it may have originally carried has been neglected, leading to the gradual blurring of cultural values in the process of urban development.

Needs and Requirements

• Cultural and Emotional Connection

Due to the demand for construction along the roundabout, the Whitehead Battery was demolished, and the cultural nature of the site was diminished as a result. At the same time, due to the excessive footprint of the rotten building, the surrounding grounds have become isolated spaces. Instead, the inclusion of emotion helped to incorporate historical, traditional or symbolic elements of the local culture into the design of the place. This creates a narrative that resonates with the local community and visitors, making the space relatable and attractive. Establishing a symbolic link between the venue and the wider world.

Fig.14 Lunes, 2019, Restoring an East London icon: Millennium Mills in photos

• Lost Space Reborn

Outline:
Lost spaces are under-utilised and decaying spaces that are often unpleasant, in need of redesign, and unhelpful to the environment and its users. Among other things, modernist architectural principles, urban sprawl, road-orientated design, and the dominance of private interests over the public interest have led to the physical decline and social abandonment of urban spaces, rendering spaces that had potential unloved and derelict.

Solution:
Deeply explore the potential of the lost space itself, through the comprehensive application of different materials, and evaluate the best use of each material in combination with environmental characteristics. The design not only focuses on the physical transformation of the space, but also takes into account the cultural and social background behind the space, and strives to give new life to each building block. Through close integration with the surrounding environment, the design will bring new vitality to the lost space and make it an organic part of urban and social development.

In terms of material application, the design will focus on the multiple values of materials, evaluate the functionality, sustainability and aesthetic effects of each material to ensure its best effect in different spatial environments. This is not only a rational use of material materials, but also a deep exploration and re-creation of spatial value.

At the same time, the design will also be based on the overall perspective of urban and social development, combined with the functional needs and cultural characteristics of different regions, and flexibly adjust the design strategy. By cleverly combining architecture with the natural environment, historical culture and social needs, the design gives the building the ability to coexist harmoniously with the surrounding environment. This design approach not only enhances the value of the lost space, but also injects new vitality into the entire city.

| Design Significance and Value

• Sustainable Value

By demolishing the rotten buildings of the Whitehead Battery site and repurposing their components into the infrastructure of the Shanhai Trail, a sustainable design practice is introduced that blends environmental sensitivity, cultural preservation and architectural innovation to minimise waste while fostering new functions.

• Cultural Value

Through spatial translation, the design narrates the historical and cultural essence of the site, transforming architectural fragments into storytellers that connect the past and present. This approach not only restores the site's identity, but also enriches its cultural depth, creating a layered experience for users that complements heritage and contemporary needs.
Ultimately, the project transcends traditional restoration approaches by integrating history, sustainability and placemaking into a cohesive design that enhances the physical and cultural landscape.

• Social Value

Abandoned and deteriorating buildings represent a pressing issue in urban development, often characterized by their inability to attract investment due to their specific conditions. These structures, frequently large in scale, present significant financial and logistical challenges when it comes to demolition, resulting in high costs and extensive resource wastage. Moreover, their neglected presence disrupts the urban fabric, diminishing the aesthetic, social, and economic value of surrounding areas.

This project introduces a transformative approach to addressing this pervasive problem. By repurposing and integrating these abandoned structures rather than resorting to full-scale demolition, it not only minimizes material waste but also preserves the embodied energy of the original buildings. This approach significantly reduces the environmental impact associated with conventional demolition and reconstruction processes.

Additionally, by lowering initial demolition and rebuilding costs, the project creates a more attractive proposition for stakeholders, including developers and municipal authorities, fostering greater willingness to invest in the revitalization of such sites. Beyond cost efficiency, this model emphasizes sustainability, adaptability, and resourcefulness, demonstrating how innovative design thinking can turn urban challenges into opportunities for regeneration.

Ultimately, this project serves as a blueprint for sustainable urban renewal, addressing environmental, economic, and social dimensions while reimagining the potential of neglected urban spaces.

| Feasibility and Justification

• Technical Support

Since the 1990s, foreign experts and scholars began to pay attention to the problem of building demolition, and building dismantling technology was proposed. This concept first appeared in the first conference of UBMA (Used Building Materials Association) held in Canada in 1996, and in 2000, Prof. Bradley Guy of the United States explained the term 'building dismantling' as follows: building dismantling is a method of demolition in which the materials of the structure are removed and have to be put into landfills, while building dismantling is a method of removing materials from the structure of a building and then removing them from the landfill. Building deconstruction is the process of recovering old materials from a building structure, either manually or mechanically. According to the research of scholars from various countries, building dismantling is 'the process of removing and separating different types of building components one by one for the purpose of recycling building materials'.

Material category	Every 100m2 Material consumption	Reuse of waste materials			Recycling and utilization of waste materials		
		Reuse rate/%	Reuse price	Material income/yuan	Recycling rate/%	Recycling price (yuan/ton)	Material income/yuan
steel	3.04 tons	0	unknown	0	70	1000 yuan/ton	2128 yuan
cement	13.57 tons	0	unknown	0	0	20 yuan/ton	0
Crushed stone	46 tons	0	unknown	0	0	20 yuan/ton	0
Brick and tile	14700 yuan	10	0.1 yuan/piece	147 yuan	0	20 yuan/ton	0
doors and windows	15 fans	80	50 yuan/fan	600 yuan	Not counted	Not counted	0
Heating system	25 pieces	100	18 yuan/piece	450 yuan	Not counted	Not counted	0
Slag soil	96 tons	0	0	0	100	20 yuan/ton	1 920
Total income				1 197			4 048
				5 245			
steel	3.04 tons	0	unknown	0	90	1 000	2 736
cement	13.57 tons	0	unknown	0	70	20	190
Crushed stone	46 tons	0	unknown	0	70	20	644
Brick and tile	14700 yuan	70	0.1 yuan/piece	1 029	30	20	220
doors and windows	15 fans	80	50 yuan/fan	600	Not counted	Not counted	0
Heating system	25 pieces	100	18 yuan/piece	450	Not counted	Not counted	0
Slag soil	18 tons	0	0	0	100	20	360
Total income				2079 yuan			4150 yuan
				6229 yuan			

• Technical Support

Under the influence of the sea breeze for about 20 years, the building did not show any cracks, breakage or deformation, indicating that the strength and corrosion resistance of the materials are strong, and some of the materials can be put into use again after professional assessment.

Fig.15 Yang Yuxuan, 2024, Abandoned Building Photography

Project
Brief

Project Objectives

1 Heritage Preservation:
· Retain and showcase the historical significance of the Baishi Fort Ruins, with portions of the Rotten Tail Building preserved in situ as a memorial to its past.

2 Enhanced Accessibility and Engagement:
· Improve visual and physical accessibility to the Rotten Tail Building and surrounding features, integrating the site with the existing trail infrastructure.
· Create interactive spaces that encourage visitors to explore and learn about the site's history and cultural relevance.

3 Functional Adaptation:
· Repurpose salvaged materials from the Rotten Tail Building to construct new spaces that serve contemporary needs, such as viewing platforms, rest areas, or educational installations.

4 Storytelling through Design:
· Integrate spatial narratives into the reconstructed structures, using architectural and digital elements to narrate the history of the Baishi Fortress and its role in local heritage.

5 Sustainability and Resource Efficiency:
· Emphasize sustainable practices by minimizing waste and using recycled materials. Ensure the design harmonizes with the surrounding natural environment.

Introduction:
Revitalize the unfinished building at the Baishi Fort site by dismantling the existing building

The Baishi Fortress was built during the Ming and Qing dynasties and was demolished due to the construction of the roundabout. The rotten buildings on its site were part of the Baishi Seaside Resort South (hotel and club) project in August 1999, developed by the Yuanhua Group. Due to the special nature of the project's location, the city government made adjustments to the plan, which led to the suspension of the construction of this resort.

After being abandoned, turned into a wedding photo shooting base, renovated, becoming a Netflix attraction and abandoned again, the site was completely blocked off and no one is allowed to enter anymore. Although the building has been abandoned for a long time and has been subjected to the wind and waves for many years, the main structure has not suffered too much damage and can be put back into use after repairs. However, due to the special geographical location of the site and the fact that it is mentioned in the Regulations on the Protection and Utilisation of Coastal Zones in Fujian Province (2017 edition) that the construction of buildings within 200 metres of the coastline is illegal, the renovation plan for the abandoned building proposed on 18 July 2009 has not yet been carried out.

With the opening of the Linhai Line of the Xiamen Mountain and Sea Trail in January 2023, more and more tourists are travelling to this area for walking and sightseeing. The route runs through a number of historical sites, one of which is the ruins of the Baishi Fortress, a decaying building where one can see the top of the rotten building while standing on the Pangui Pagoda. Despite its historical significance, its potential as a cultural and spatial asset remains under-utilised due to visual barriers and lack of interaction.

The project aims to address the twin challenges of preservation and activation by employing demolition design and architectural grafting as the primary design approach. At the centre of the concept is the deconstruction of decaying rotten buildings into smaller modules. It also explores how the deconstructed buildings can be re-constructed and integrated with the surrounding construction of the Linhai Line of the Shanhai Trail as a new functional use. In addition to fulfilling the normal functional needs of the building, the reconstructed building will also make up for the missing storytelling in the form of spacial narratives. In addition, a part of the building will be preserved on the original site as a reminder of a generation of history.

Project
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· Create interactive spaces that encourage visitors to explore and learn about the site's history and cultural relevance.

3 Functional Adaptation:
· Repurpose salvaged materials from the Rotten Tail Building to construct new spaces that serve contemporary needs, such as viewing platforms, rest areas, or educational installations.

4 Storytelling through Design:
· Integrate spatial narratives into the reconstructed structures, using architectural and digital elements to narrate the history of the Baishi Fortress and its role in local heritage.

5 Sustainability and Resource Efficiency:
· Emphasize sustainable practices by minimizing waste and using recycled materials. Ensure the design harmonizes with the surrounding natural environment.

Heritage Preservation

The Whitehead Battery was demolished due to the construction needs of the roundabout. In modern society, it is not difficult to see historical relics that have disappeared due to the modern development and construction of the city, and the construction of the Baishi Resort (now the ruins of the Baishi Fortress), which began in 1999, has further obscured the original historical relics. The original coherence of the sea defence site was also interrupted. At the same time, the related intangible cultural heritage such as ethnic customs and religious beliefs will also be gradually diluted due to the loss of support, thus destroying the diversity of ethnic and local cultures.

In addition to this, there is also the loss of the city's character and soul, and historical sites are an important reflection of the city's personality. Each city's historical sites have their own unique styles and stories, and they are the symbols that distinguish the city from other places. For local residents, historical sites are emotional support. They witness the growth of the residents, the rise and fall of their families and the transformation of the city.

This project is dedicated to restoring and reconnecting cultural and social heritage. Buildings do not exist in isolation - they are closely intertwined with the social and cultural fabric of the city. Unfinished buildings, due to their incomplete or abandoned nature, are often disconnected from the local community and its history. The restoration of these spaces is not just about physical revitalisation; it is about recovering their role in the cultural narrative of the city.

The project aims to reconnect these buildings with their historical and cultural heritage through careful restoration and adaptive reuse. This process involves researching the historical significance of the buildings, understanding their role in the wider urban context, and reintroducing them to the community as places of memory and cultural exchange. The building becomes a repository of collective memory, a space that embodies the evolution of the city and provides a platform for future cultural activities.

By reusing unfinished buildings and respecting their history, the project helps to preserve cultural identity and foster a deeper connection between the city and its inhabitants.

Project
Brief

Project Objectives

1   Heritage Preservation:
    · Retain and showcase the historical significance of the Baishi Fort Ruins, with portions of the Rotten Tail Building preserved in situ as a memorial to its past.

2   Enhanced Accessibility and Engagement:
    · Improve visual and physical accessibility to the Rotten Tail Building and surrounding features, integrating the site with the existing trail infrastructure.
    · Create interactive spaces that encourage visitors to explore and learn about the site's history and cultural relevance.

3   Functional Adaptation:
    · Repurpose salvaged materials from the Rotten Tail Building to construct new spaces that serve contemporary needs, such as viewing platforms, rest areas, or educational installations.

4   Storytelling through Design:
    · Integrate spatial narratives into the reconstructed structures, using architectural and digital elements to narrate the history of the Baishi Fortress and its role in local heritage.

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Enhanced Accessibility and Engagement

The Baishi Fortress was built during the Ming and Qing dynasties and was demolished due to the construction of the roundabout. The rotten buildings on its site were part of the Baishi Seaside Resort South (hotel and club) project in August 1999, developed by the Yuanhua Group. Due to the special nature of the project's location, the city government made adjustments to the plan, which led to the suspension of the construction of this resort.

After being abandoned, turned into a wedding photo shooting base, renovated, becoming a Netflix attraction and abandoned again, the site was completely blocked off and no one is allowed to enter anymore. Although the building has been abandoned for a long time and has been subjected to the wind and waves for many years, the main structure has not suffered too much damage and can be put back into use after repairs. However, due to the special geographical location of the site and the fact that it is mentioned in the Regulations on the Protection and Utilisation of Coastal Zones in Fujian Province (2017 edition) that the construction of buildings within 200 metres of the coastline is illegal, the renovation plan for the abandoned building proposed on 18 July 2009 has not yet been carried out.

With the opening of the Linhai Line of the Xiamen Mountain and Sea Trail in January 2023, more and more tourists are travelling to this area for walking and sightseeing. The route runs through a number of historical sites, one of which is the ruins of the Baishi Fortress, a decaying building where one can see the top of the rotten building while standing on the Pangui Pagoda. Despite its historical significance, its potential as a cultural and spatial asset remains under-utilised due to visual barriers and lack of interaction.

The project aims to address the twin challenges of preservation and activation by employing demolition design and architectural grafting as the primary design approach. At the centre of the concept is the deconstruction of decaying rotten buildings into smaller modules. It also explores how the deconstructed buildings can be re-constructed and integrated with the surrounding construction of the Linhai Line of the Shanhai Trail as a new functional use. In addition to fulfilling the normal functional needs of the building, the reconstructed building will also make up for the missing storytelling in the form of spacial narratives. In addition, a part of the building will be preserved on the original site as a reminder of a generation of history.

Project
Brief

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Project
Brief

Functional Adaptation

In the current process of urban development, due to the lack of precise and effective strategies in attracting investment, as well as the many loopholes and irrationalities in urban planning, the abandoned space in the city is showing an increasing trend. In the process of attracting investment, some projects are launched blindly, failing to fully consider their compatibility with the overall layout and long-term development of the city, and once the project fails to operate or the financial chain is broken, a large number of abandoned factories, commercial facilities and so on are left behind.

The idea of unfinished buildings as productive spaces is rooted in the concept of urban regeneration. Unfinished buildings often represent the stagnation or disintegration of urban development. However, from a transformational perspective, these buildings can be seen as potential nodes in urban development. By reintegrating them into the urban fabric, we recognise their latent potential and redefine them as productive spaces.

In architectural theory, this relates to the concept of adaptive reuse, which emphasises the value of reusing existing buildings to meet contemporary needs. Rather than demolishing these unfinished buildings, adaptive reuse allows for the sustainable development of spaces that are both environmentally responsible and economically viable. This vision aligns with the broader postmodern architectural movement, which values complexity, diversity, and context in design. In this sense, unfinished buildings are not burdens but opportunities for creative intervention.

By incorporating modern functionality and design strategies, the project seeks to transform and reintegrate these unfinished buildings into the evolving landscape of the city, providing opportunities for new economic and social activities. The vision emphasises the potential of architecture to act as a catalyst for urban regeneration, not only providing shelter but also stimulating economic and cultural development.

Project Brief

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Storytelling through Design

Design has the transformative power to act as a storytelling medium, enabling unfinished buildings to narrate their unique journeys. This vision places a strong emphasis on communicating the lifecycle of these spaces—from their initial conception, through periods of neglect and abandonment, to their eventual revitalization and integration into the urban fabric.

Through "architectural interventions", the thoughtful "reuse of materials", and a keen understanding of "contextual relationships", this approach seeks to weave history into the physical structure of each building. Elements that are "grafted" into the design may symbolize the transformative processes that the building has undergone, serving as bridges between its past and future. Simultaneously, practices such as "building disassembly" and the reuse of salvaged materials not only underscore the building's sustainable evolution but also provide tangible connections to its history. For instance, structural components reclaimed during disassembly could be prominently displayed within the completed design—acting as visual artifacts that evoke memories of the building's previous state.

This approach aligns with the principles of "architectural phenomenology", which focus on the experiential and emotional qualities of space. By embedding stories within the physical and symbolic aspects of design, these spaces can transcend their functional purpose, fostering deeper emotional connections with users. The result is not just a revitalized building but a space imbued with meaning—one that tells its own story while creating new opportunities for its users to connect, interpret, and contribute to its evolving narrative.

Moreover, this storytelling extends beyond the boundaries of a single site. When disassembled building elements are grafted into entirely new contexts, they carry their narratives with them, creating "new stories within new environments". This interplay of spaces and histories builds a broader "process of spatial translation", wherein fragments of the old are reimagined to serve the present and inspire the future. In this way, the design does not merely transform individual structures; it also fosters a larger urban dialogue, where spaces resonate with the collective memory and aspirations of the city.

By integrating storytelling into architecture, this vision elevates unfinished buildings from symbols of abandonment to emblems of renewal, inviting the community to engage with and reinterpret their surroundings. These spaces, shaped by their history and redefined by their future, become meaningful landmarks in the ever-changing urban narrative.

Project
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Sustainability and Resource Efficiency

In modern society, the use of sustainable building materials is becoming a key element in the development of the construction sector and society as a whole, and its importance is reflected in a number of ways, profoundly affecting our lives and the environment.

The method of building disassembly underscores the critical importance of resource efficiency in the transformation of unfinished buildings. By carefully dismantling these structures, usable materials such as steel, concrete, and wood can be salvaged and repurposed, significantly reducing construction waste while supporting sustainable development practices.

This approach aligns seamlessly with the principles of the circular economy, which emphasize minimizing waste and maximizing the lifecycle of resources. By extending the utility of materials through reuse, disassembly not only addresses environmental concerns but also reduces the demand for new raw materials, lowering the ecological footprint of urban development projects.

Beyond sustainability, building disassembly offers unique opportunities to reimagine the role of these materials in new designs. Salvaged components can be thoughtfully reintegrated into the reconfigured structure or entirely new projects, ensuring that fragments of the original building are not lost but transformed. This process preserves a tangible connection to the building's past, enabling it to carry its historical and material legacy forward even as it adapts to new purposes.

For example, structural elements such as beams or façade materials can be prominently featured in the reimagined design, serving as visual and functional reminders of the building's previous state. This not only enhances the aesthetic and narrative depth of the project but also creates a bridge between its historical context and its evolving role within the urban landscape.

By prioritizing resource efficiency and historical continuity, building disassembly fosters a dual sense of innovation and preservation. It exemplifies how sustainability and heritage can coexist in architectural practices, paving the way for urban development that is both responsible and forward-thinking. In essence, this method transforms challenges associated with unfinished buildings into opportunities for creativity, connection, and renewal—offering a blueprint for more sustainable and meaningful architectural interventions in the future.

Fig.16 Google map, 2024, From Google map

Research Route

One can only view it from the Coastal Viewing Bridge in a half circle around the building.

Due to the coastal location of the venue, the sound of the waves lapping on the reef is louder and the wind is stronger.

Clear internal structure of the building.

There was deterioration and peeling of siding in the space, but the load-bearing structure was not compromised.

Human activities in the vicinity are dominated by fishing.

At night, the grounds are lit up.

The mountain is littered with boulders that react to changes in sea level.

Stronger winds and higher wind speeds due to lack of shelter from buildings on the hill.

The roof of the building and the ruins of the Shiraishi Battery can be seen from the Pangui Tower.

Print out the isometrically reduced drawing and cut it to fit the body block.
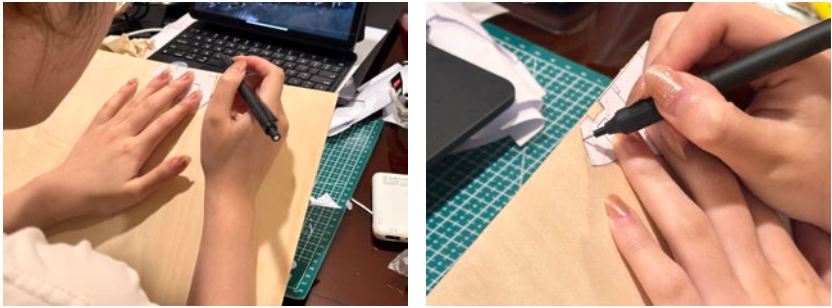
Place the cut pieces of paper on the board and trace the shape of the pieces on the board.

Use a scalpel to cut out the shapes and a hobby knife to cut the boards down.

Sand the cut modules.

Paste each module against the image.

Fig.17 Yang Yuxuan, 2024, Model making

Phase 2
Concept depth
and design iterations

Fig.18 Yang Yuxuan, 2024, Abandoned Building Photography

Keywords:
Image of the City, Genius loci, Space Syntax

The issue at hand is addressed through the use of three theories. The first is the 'city image' proposed by Kevin Lynch. This is to create a concept that allows the public to intuitively perceive and understand the city and the land, helping them to better understand the city and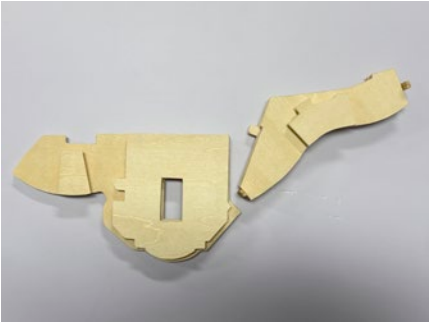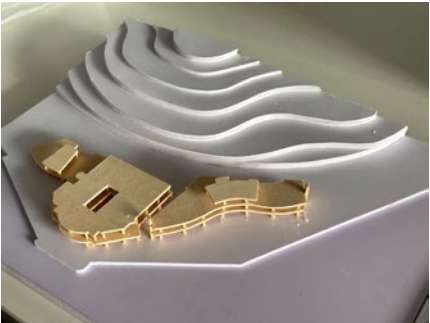 the history of the area. Secondly, there is the 'Genius loci' proposed by Christian Norberg-Schultz. Its purpose is to create a unique atmosphere at the site, restore the history and attract people. Thirdly, 'Spatial grammar' proposed by Bill Hillier and Julianne Hansen. While planning the main corridors to guide people's behaviour, it leaves free space for everyone and encourages people to work together to shape the site and achieve the folding of different time and space in the same site.

Theoretical Structure

Existing Problems

"Entropy"
'Entropy' in architectural theory is often associated with the organisation, accessibility and mobility of space, which means that as entropy increases, the more complex and chaotic the spatial organisation becomes, with the potential for more disorganised or unpredictable patterns of use. This is particularly evident in the past use of rotten buildings.

Aim

"Moderate entropy"
Creating an environment with 'moderate entropy' means that buildings and spaces meet functional needs while having a certain degree of freedom and flexibility to respond to the needs and behaviours of different users.

Kevin Lynch

Christian Norberg-Schulz

Bill Hillier & Julienne Hanson

Image of the City

This concept refers to **individual or collective mental images and cognitive maps of urban space.** This imagery is a multidimensional and dynamic concept that involves how the city is understood and experienced through the **senses, experiences and socio-cultural contexts.**

Genius loci

It mainly refers to the unique atmosphere, temperament and **spiritual connotation that a place or space** possesses. By grasping the spirit of place, designers aim to create buildings or spaces that **echo the local identity and historical context.**

Space Syntax

The spatial layout is optimised through spatial syntax, rationally arranging the **main passages**, while setting up a flexible and varied layout around the passages to ensure the **integration and accessibility** of the overall space.

Project Brief

Heritage Preservation:
- Historic significance
- Remembrance of the past

Enhanced Accessibility and Engagement:
- Enhanced accessibility to surrounding sites
- Increasing the space for interaction

Functional Adaptation:
- Recycling of waste materials
- Put back into service

Storytelling through Design:
- Spatial narrative
- Architectural and digital

Sustainability and Resource Effciency:
- Using recycled materials
- Adaptive design

TEXT：

My design mainly covers Heritage Preservation, Enhanced Accessibility and Engagement, Functional Adaptation, Storytelling through Design and Sustainability and Resource Efficiency. And it'll be made possible by hitting three main targets. First off, it turns into a sort of junction that links up the neighbourhood and gives shape to the urban look. Second, we aim to put up landmark buildings. We do this by digging into the history of the site and its nearby areas. That way, we can boost the cultural influence and even out the commercial vibe in the neighbourhood. Last but not least, by using digital heritage restoration and setting up fixed interactive spots inside the building, we can jazz up the visitor experience and make the local folks really see how crucial heritage conservation is.

Project Brief

Time stands still. Civilisation breaks down. → *convert to* → The development of the block is driven by the influence of neighbouring industries and becomes a node that connects the neighbourhood and forms urban imagery.

- Leisurely viewing + Convergence of flows + Attract attention

Lack of history and culture in the neighbourhood. → *convert to* → By capturing the history of the site and its surroundings for landmark construction, it enhances the cultural impact and balances the commercial atmosphere of the neighbourhood.

- Collective memory + Creating a regional identity + Integration of cultural commonalities

Disappearance of heritage sites. → *convert to* → Digital heritage restoration and the design of fixed interactive points within the building enhance the audience's experience and increase the importance of heritage conservation to the community.

- Digital restoration + Interactive element

Case Studies

Fig.19 Silvia Galofaro, 2023, The Mud Dredger -Muddy Waters and the Unloved Spolia

Fig.20 Carla Lauter, 2022, Before the bombs fall: The race to digitize Ukrainian cultural heritage sites

The Mud Dredger -
Muddy Waters and the Unloved Spolia

`environmental protection` `historical translation`

The work challenges the forgotten relationship between the City of London and the River Thames The Thames is seen as a metaphor for time travel, which flows continuously back and forth in a non-linear fashion. The spatial narrative reinterprets the heritage of London's docks and the history of the site. It also includes a new water filtration system that makes the most of its surroundings and separates the water from mud and pollutants and mixes it with cement to construct the building. The design aims to reconnect the city with some of its lost or neglected records, in other words its unwelcome trophies.

Before the bombs fall:
Digitisation of Ukraine's Cultural Heritage

`digital` `historical and` `construccultural preservation`

In order to preserve Ukraine's cultural heritage, a 3D mapping company called Skeiron has partnered with the Ukrainian government to document and preserve Ukraine's cultural heritage using digital technology. The following technologies were used: 3D scanning, photogrammetry and artificial intelligence classification.

TEXT:
Regarding this, I've carried out case studies. First of all, there's "The Mud Dredger". It gives a new take on the heritage of London's docks and the history of the site by telling a story through the space. It also hooks up the city again with some archives that were either lost or overlooked. Secondly, there's "Before the bombs fall". This is a project about the digital recording and restoration of buildings in Ukraine, and it mentions a whole bunch of useful methods and techniques. Finally, there's the research on "Tree support column". It mainly introduces how to cut down the deadweight of the structure while at the same time getting a bigger space without columns.
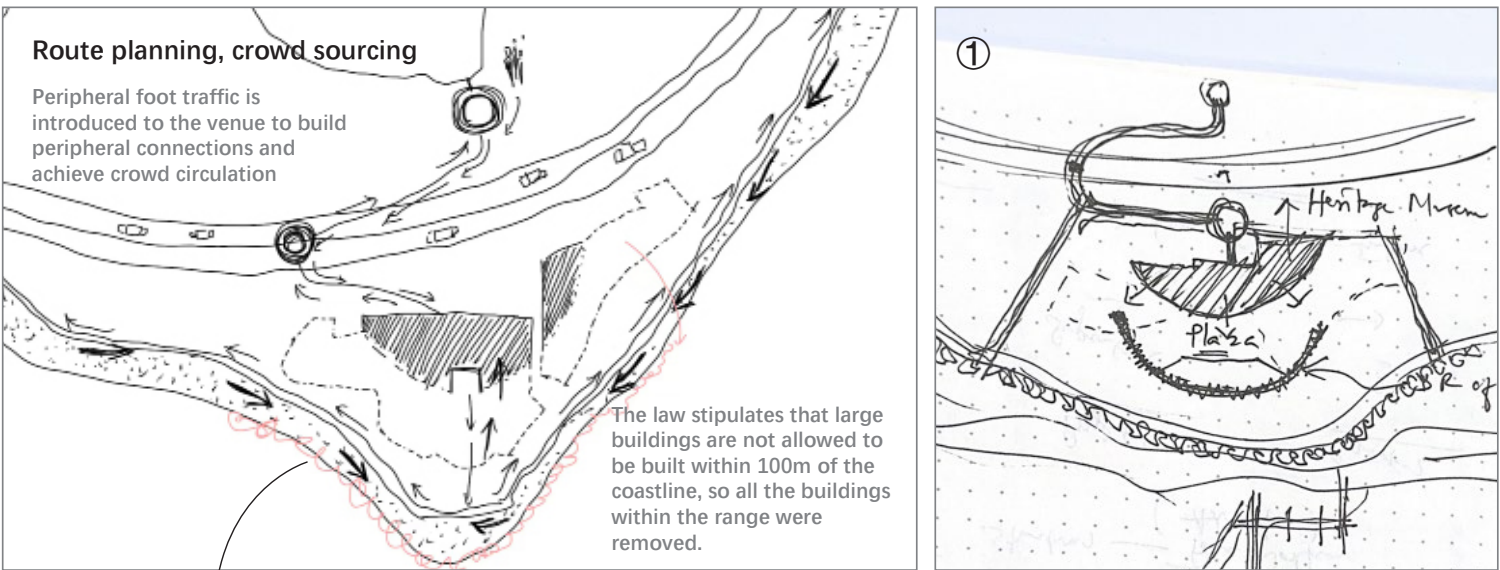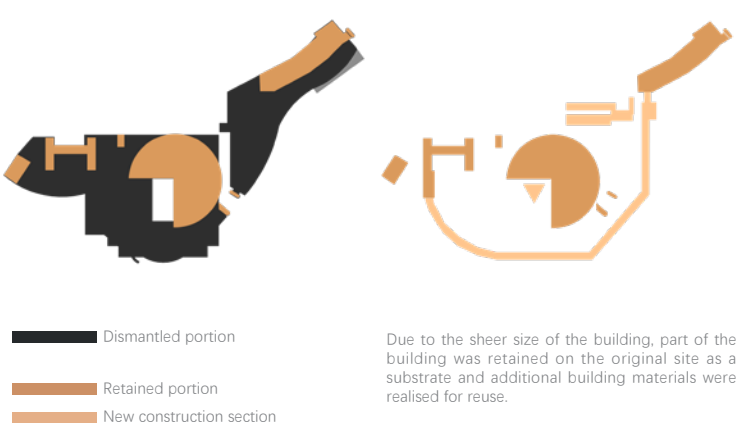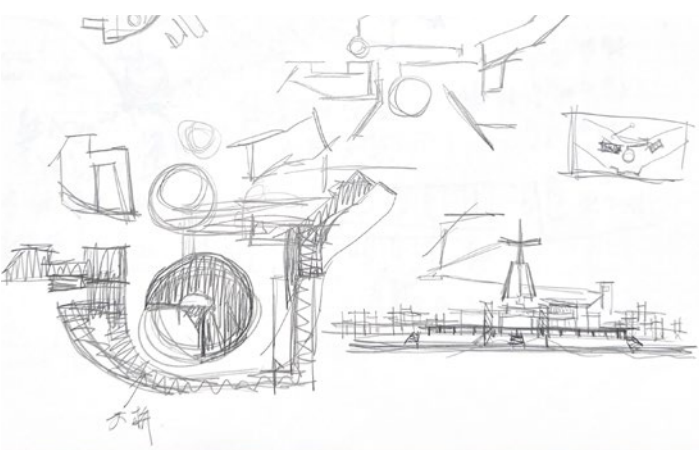
Project Iteration

Route planning, crowd sourcing

Peripheral foot traffic is introduced to the venue to build peripheral connections and achieve crowd circulation

The law stipulates that large buildings are not allowed to be built within 100m of the coastline, so all the buildings within the range were removed.

Reuse of waste construction materials into the construction of dykes

Dismantled portion
Retained portion
New construction section

Due to the sheer size of the building, part of the building was retained on the original site as a substrate and additional building materials were realised for reuse.

Demolition of buildings within restrictions and generation of primary forms.

Refine the overall navigational route, identifying several key areas of the main building.

Refine the surrounding landscape to enrich the building's function.

Dividing the main building and increasing its spatial richness.

Add lighting to enhance the narrative of the building at different times.

Phase 3
Deeper
Engagement

Fig.21 Yang Yuxuan, 2024, Abandoned Building Photography

Keywords:
Spatial Translation, Symbolisation, Immersive Experience

This phase focuses on the translation research and spatial narration of the history of the war. In addition to the use of geometric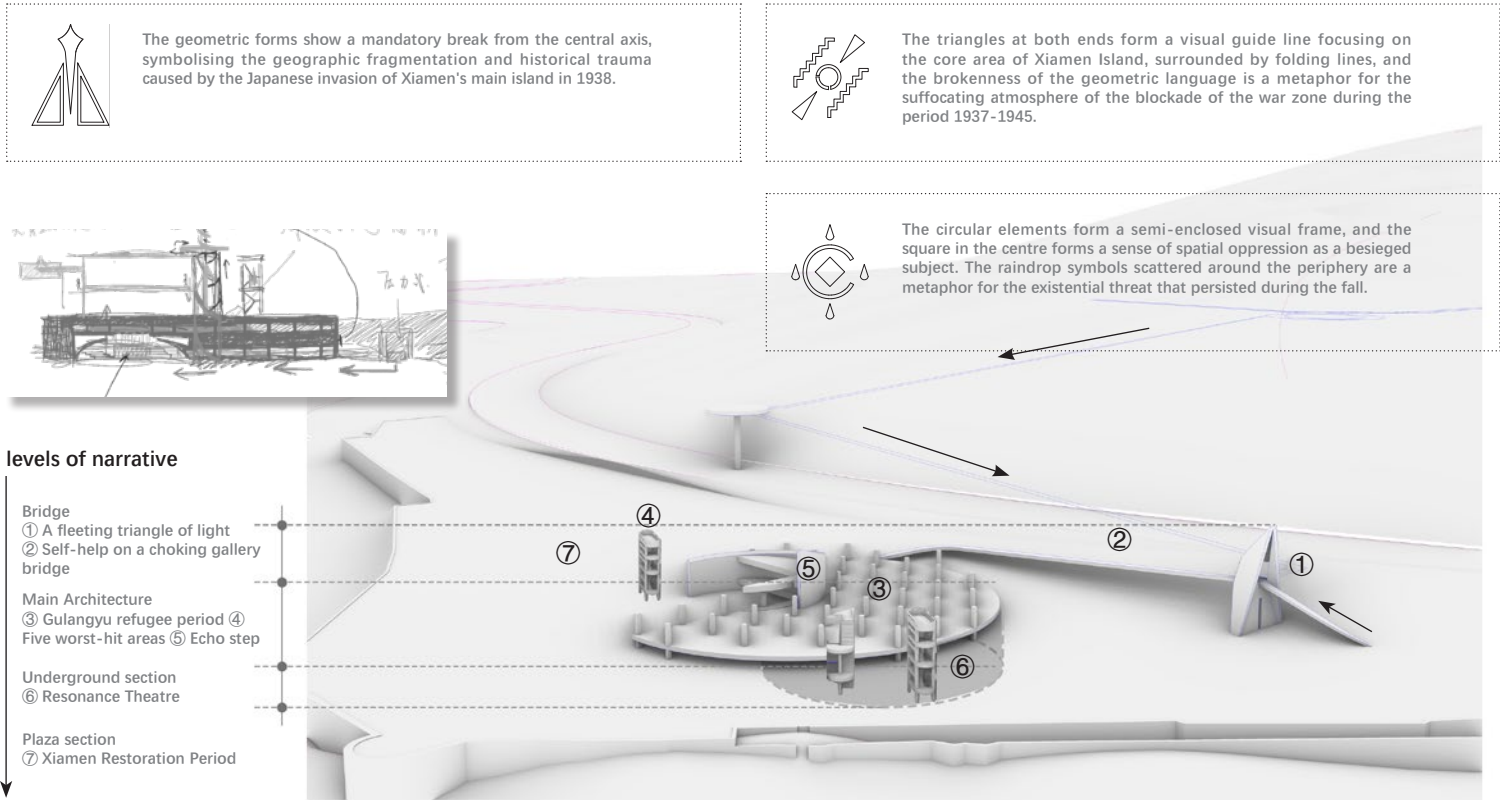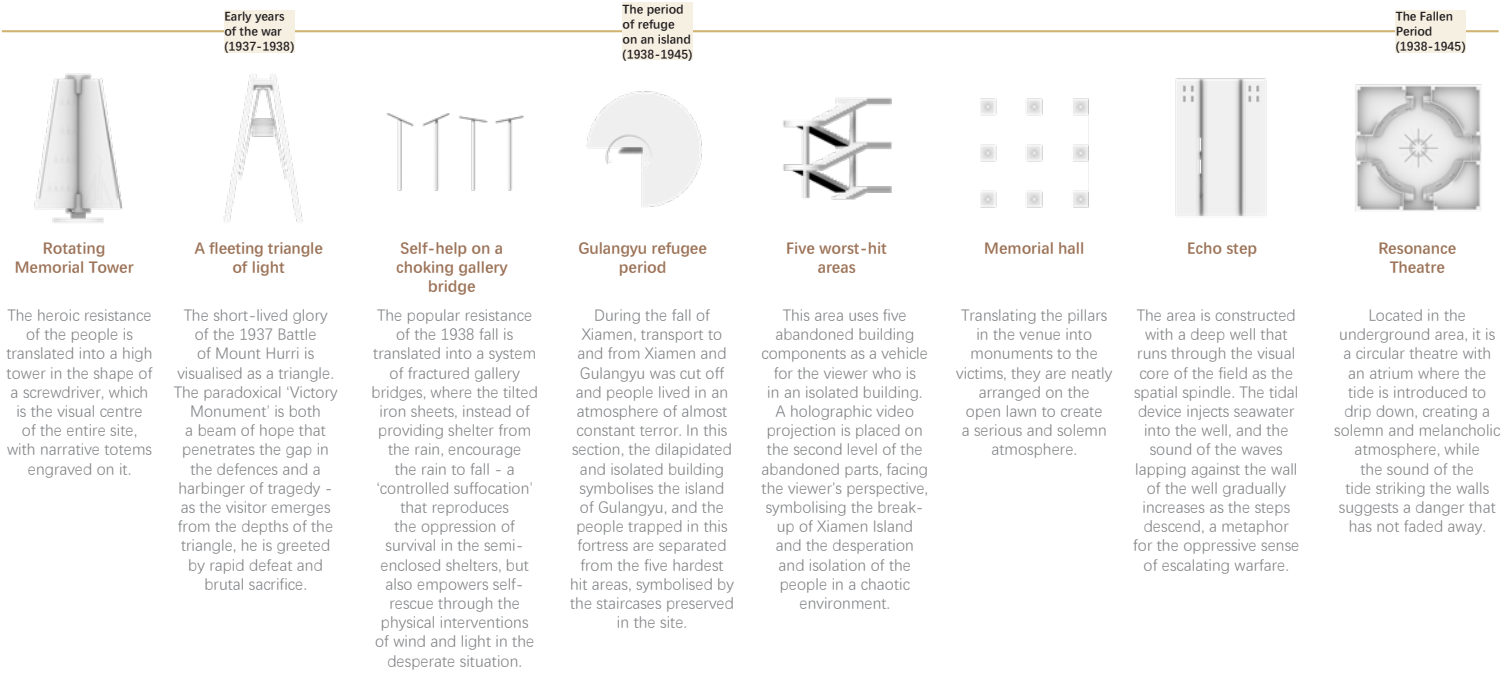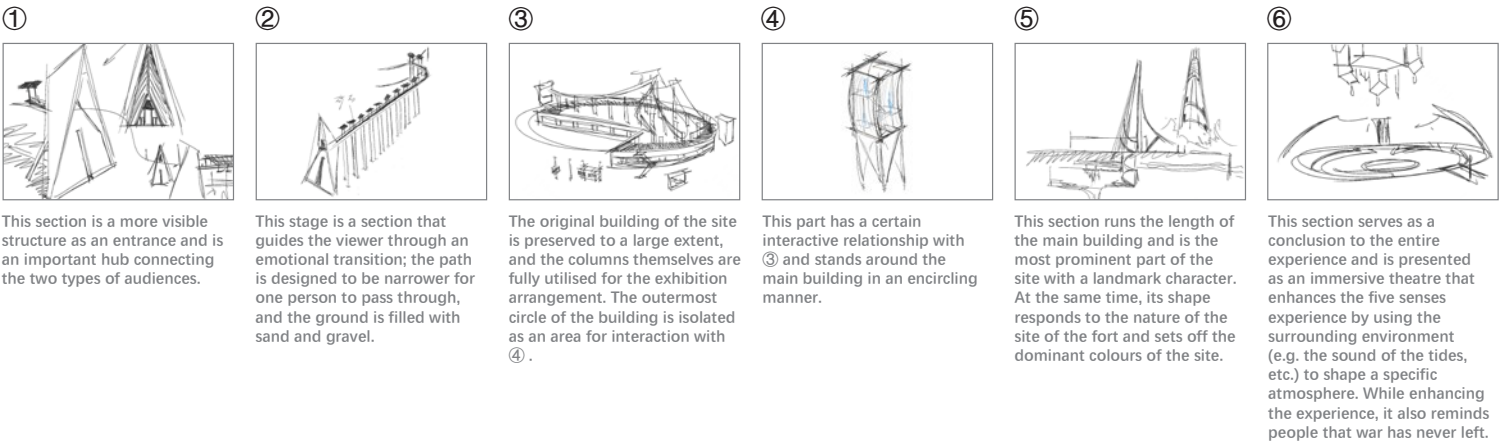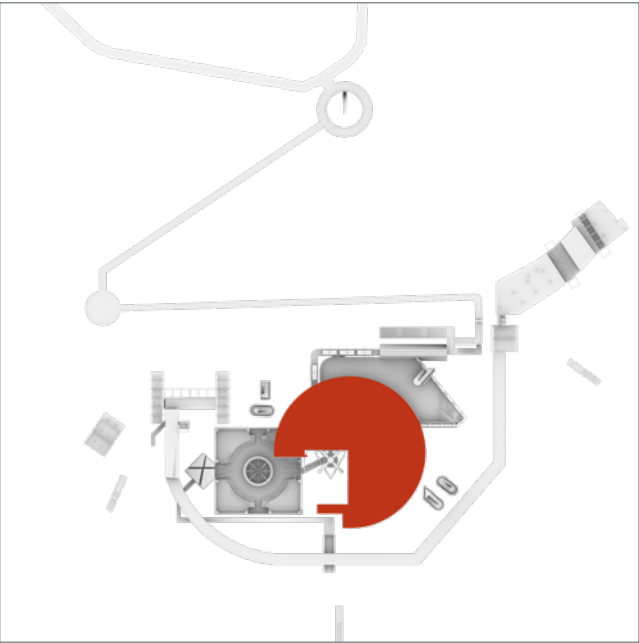 forms to construct spatial light and shadow, the strong winds and the sound of the waves, which are made possible by the geographical features of the site, are also included in the shaping of the narrative space.
The action flow of the main building is also a metaphor for the story.
In the site, the tower with totem engraved on it is the visual centre of the whole, which narrates the different stages of the story through the totem, attracts the surrounding people and makes the site more recognizable.
In addition, installations within the building, such as the Corridor Suspension System, Sunroof, Water-induction Device and Life's Repeating Shadows, connect the building to the environment and help to shape the flow of the audience's experience.
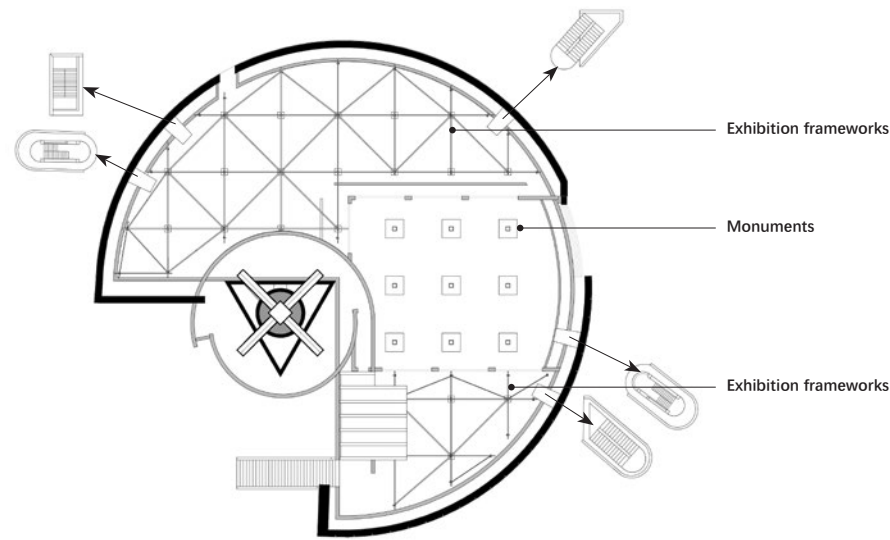
Story
Translation

①
This section is a more visible structure as an entrance and is an important hub connecting the two types of audiences.

②
This stage is a section that guides the viewer through an emotional transition; the path is designed to be narrower for one person to pass through, and the ground is filled with sand and gravel.

③
The original building of the site is preserved to a large extent, and the columns themselves are fully utilised for the exhibition arrangement. The outermost circle of the building is isolated as an area for interaction with ④.

④
This part has a certain interactive relationship with ③ and stands around the main building in an encircling manner.

⑤
This section runs the length of the main building and is the most prominent part of the site with a landmark character. At the same time, its shape responds to the nature of the site of the fort and sets off the dominant colours of the site.

⑥
This section serves as a conclusion to the entire experience and is presented as an immersive theatre that enhances the five senses experience by using the surrounding environment (e.g. the sound of the tides, etc.) to shape a specific atmosphere. While enhancing the experience, it also reminds people that war has never left.

Early years of the war (1937-1938)		The period of refuge on an island (1938-1945)					The Fallen Period (1938-1945)

Rotating Memorial Tower
The heroic resistance of the people is translated into a high tower in the shape of a screwdriver, which is the visual centre of the entire site, with narrative totems engraved on it.

A fleeting triangle of light
The short-lived glory of the 1937 Battle of Mount Hurri is visualised as a triangle. The paradoxical 'Victory Monument' is both a beam of hope that penetrates the gap in the defences and a harbinger of tragedy - as the visitor emerges from the depths of the triangle, he is greeted by rapid defeat and brutal sacrifice.

Self-help on a choking gallery bridge
The popular resistance of the 1938 fall is translated into a system of fractured gallery bridges, where the tilted iron sheets, instead of providing shelter from the rain, encourage the rain to fall - a 'controlled suffocation' that reproduces the oppression of survival in the semi-enclosed shelters, but also empowers self-rescue through the physical interventions of wind and light in the desperate situation.

Gulangyu refugee period
During the fall of Xiamen, transport to and from Xiamen and Gulangyu was cut off and people lived in an atmosphere of almost constant terror. In this section, the dilapidated and isolated building symbolises the island of Gulangyu, and the people trapped in this fortress are separated from the five hardest hit areas, symbolised by the staircases preserved in the site.

Five worst-hit areas
This area uses five abandoned building components as a vehicle for the viewer who is in an isolated building. A holographic video projection is placed on the second level of the abandoned parts, facing the viewer's perspective, symbolising the break-up of Xiamen Island and the desperation and isolation of the people in a chaotic environment.

Memorial hall
Translating the pillars in the venue into monuments to the victims, they are neatly arranged on the open lawn to create a serious and solemn atmosphere.

Echo step
The area is constructed with a deep well that runs through the visual core of the field as the spatial spindle. The tidal device injects seawater into the well, and the sound of the waves lapping against the wall of the well gradually increases as the steps descend, a metaphor for the oppressive sense of escalating warfare.

Resonance Theatre
Located in the underground area, it is a circular theatre with an atrium where the tide is introduced to drip down, creating a solemn and melancholic atmosphere, while the sound of the tide striking the walls suggests a danger that has not faded away.

The geometric forms show a mandatory break from the central axis, symbolising the geographic fragmentation and historical trauma caused by the Japanese invasion of Xiamen's main island in 1938.

The triangles at both ends form a visual guide line focusing on the core area of Xiamen Island, surrounded by folding lines, and the brokenness of the geometric language is a metaphor for the suffocating atmosphere of the blockade of the war zone during the period 1937-1945.

The circular elements form a semi-enclosed visual frame, and the square in the centre forms a sense of spatial oppression as a besieged subject. The raindrop symbols scattered around the periphery are a metaphor for the existential threat that persisted during the fall.

levels of narrative

Bridge
① A fleeting triangle of light
② Self-help on a choking gallery bridge

Main Architecture
③ Gulangyu refugee period ④
Five worst-hit areas ⑤ Echo step

Underground section
⑥ Resonance Theatre

Plaza section
⑦ Xiamen Restoration Period

Interior space planning

Main Building and Exhibition Space

Fig.22 Yang Yuxuan, 2025, Project Rendering

Fig.23 Yang Yuxuan, 2025, from framework model

Fig.24 Yang Yuxuan, 2025, from framework model

▼ 2nd floor plan

Exhibition frameworks

Monuments

Exhibition frameworks

• The space shaping and flexible display is achieved by using the openable and closeable devices mounted on the columns to clamp the display panels.
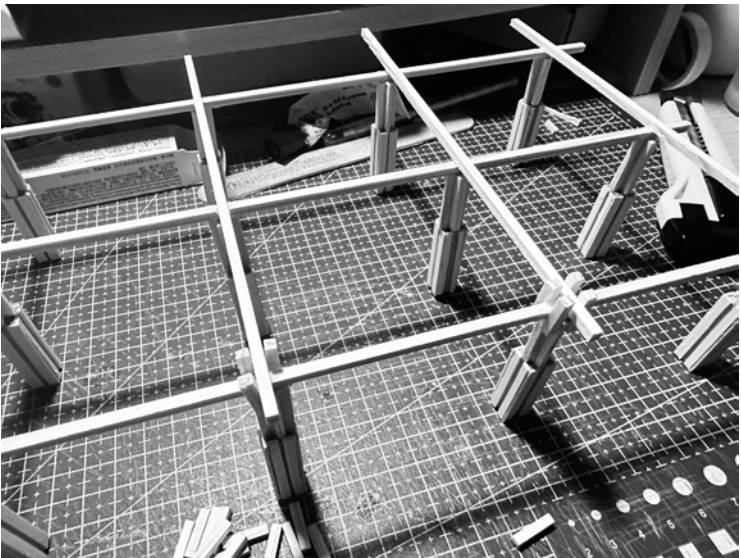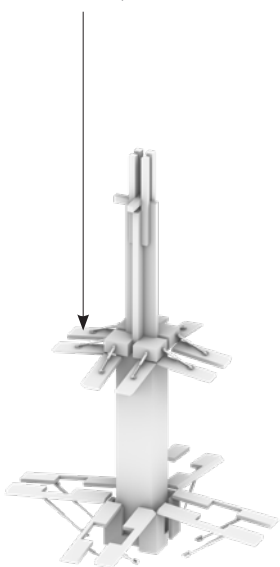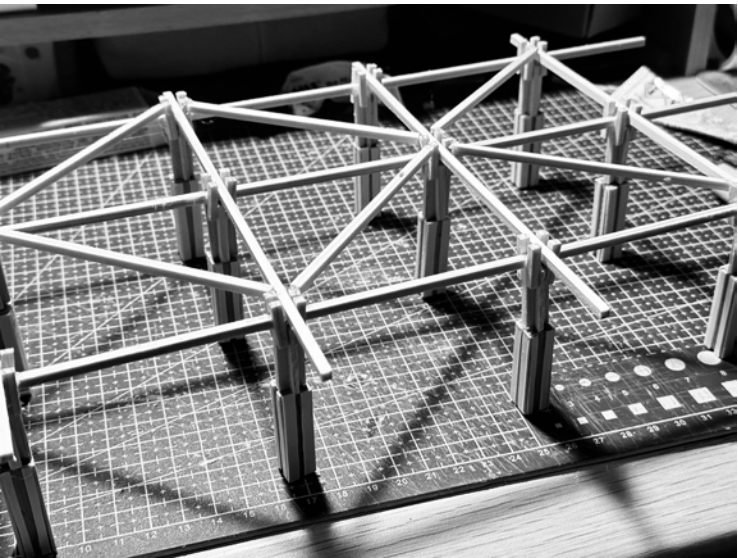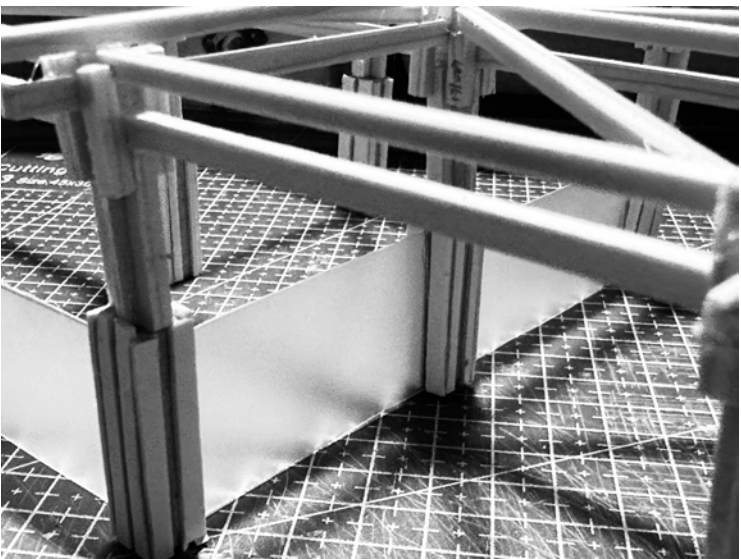

• Device open status

Fig.25 Yang Yuxuan, 2025, from framework model

This section is a flexible, public-facing exhibition space. As there are many columns in the site that cannot be easily removed, the design incorporates columns with devices for fixing panels to save space and increase the flexibility of the exhibition at the same time.

▼ 1st floor plan

Meeting

Office

Public exhibition space

Restrooms

Café

Security office

Kitchenette
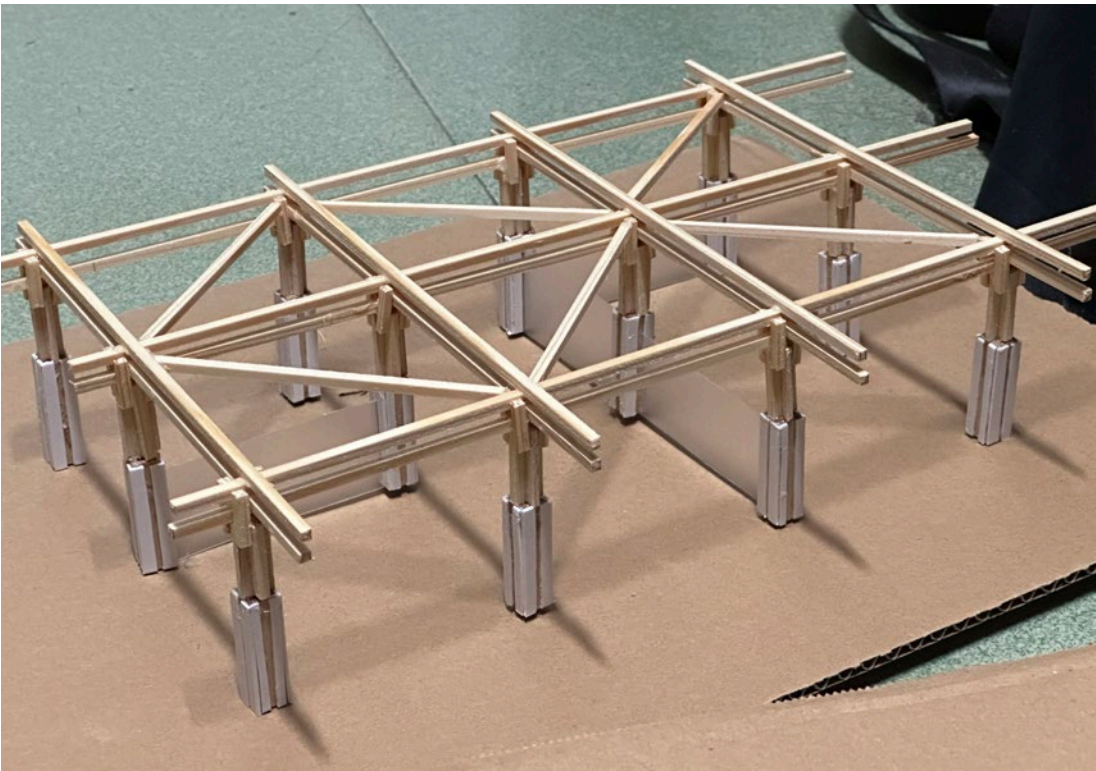
Fig.26 Yang Yuxuan, 2025, from framework model

Underground
Immersive Theater

Main Building and Exhibition Space
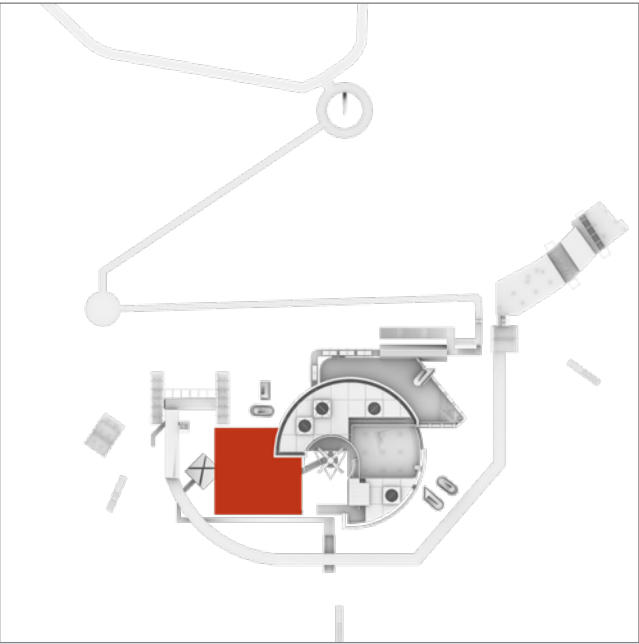
▼ Underground immersive theater plan

Atrium (including installation and video presentation)

Stair

Auditorium

▼ Section view

Entrance

Sea

Panguri tower.
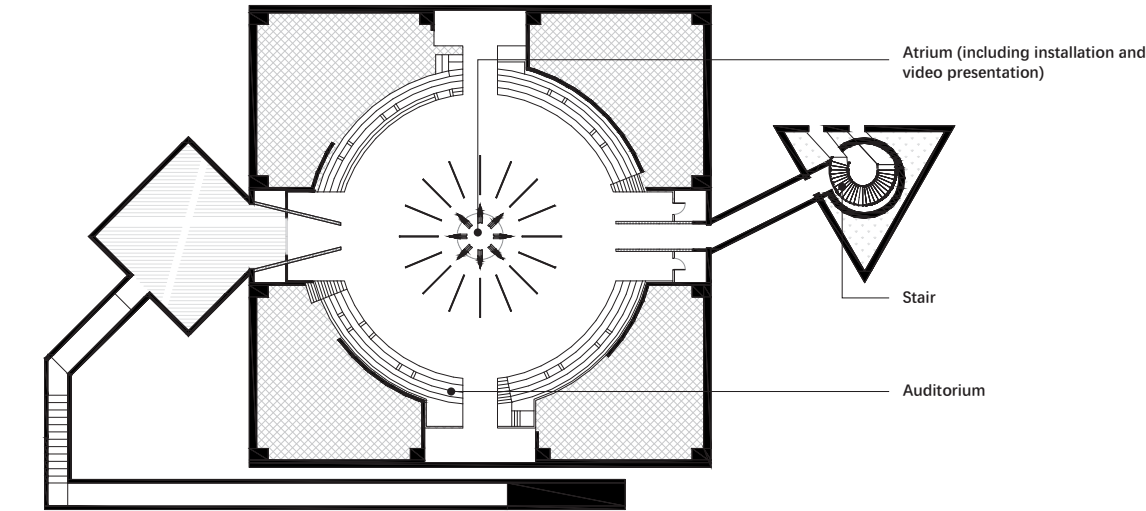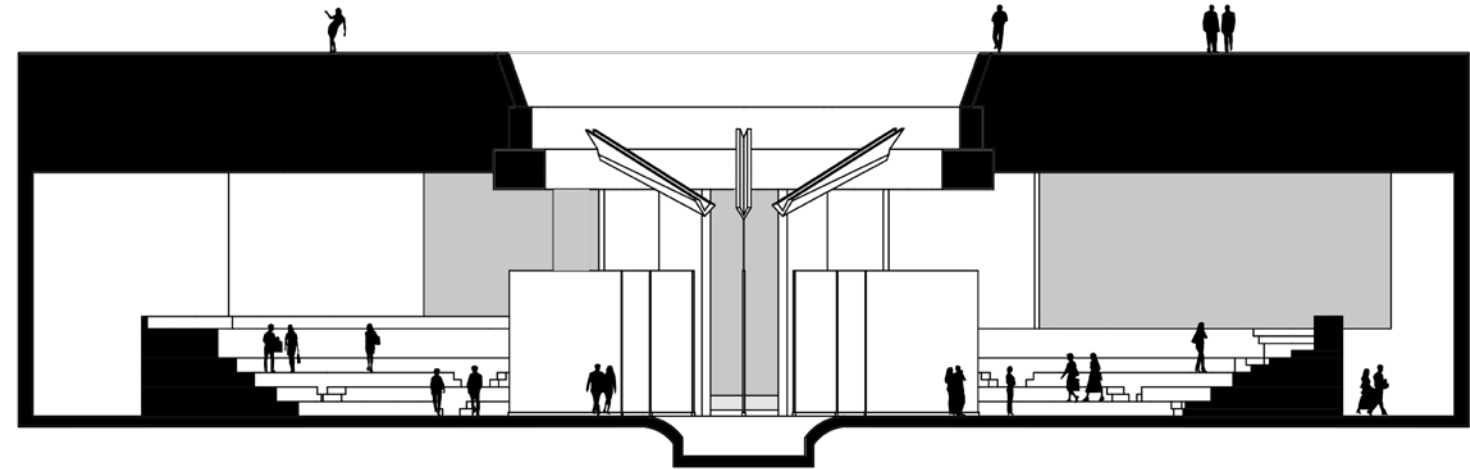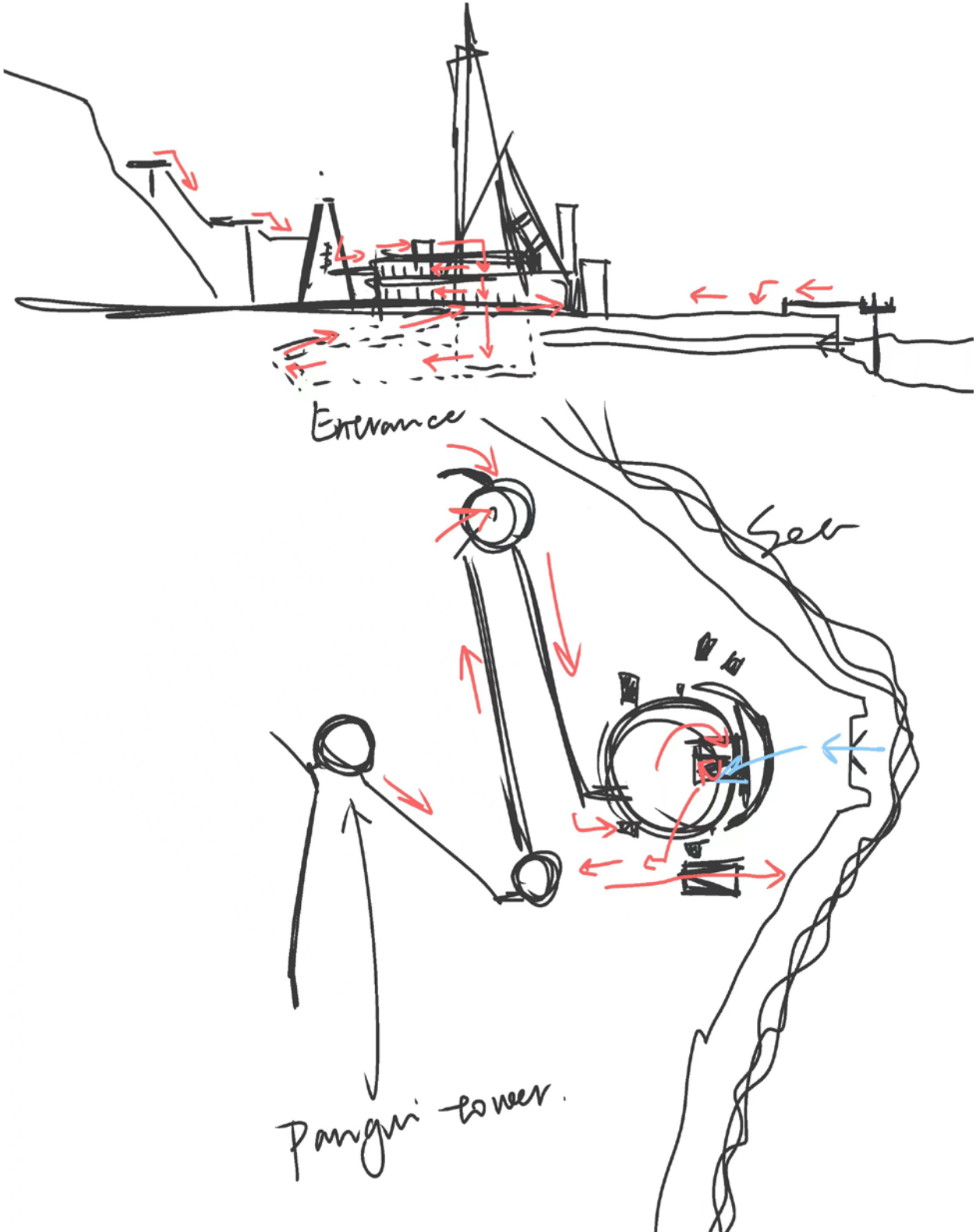
# Phase 4
Deeper
Engagement


Fig.29 Yang Yuxuan, 2024, Abandoned Building Photography

Keywords:
Linear tour, Re-use, Regenerative

The design involves diverting people, planning routes and dividing the site. Due to legal constraints, buildings within 100 metres of the shoreline were demolished and repurposed as dykes. At the same time, a number of ruins were survived as a supporting narrative of history. The area is divided into five modules, Entrance, Transitional area, Main building, Immersion theatre and Plaza, where the entrances are mainly used as nodes to transition the visitors around the site, the transitional area is responsible for introducing the audience to the main building and guiding their emotions, the main building is responsible for introducing the audience to the main building and guiding their emotions, and the main building is responsible for introducing the audience to the main building and guiding their emotions. Transitional area is responsible for introducing the audience to the main building and guiding the audience's emotion, Main building provides relevant exhibition area and interactive experience area, Immersion theatre provides performance, experience and video playback, and Plaza supports people's spontaneous activities, such as fishing, fitness and so on.

Presentation
of drawings
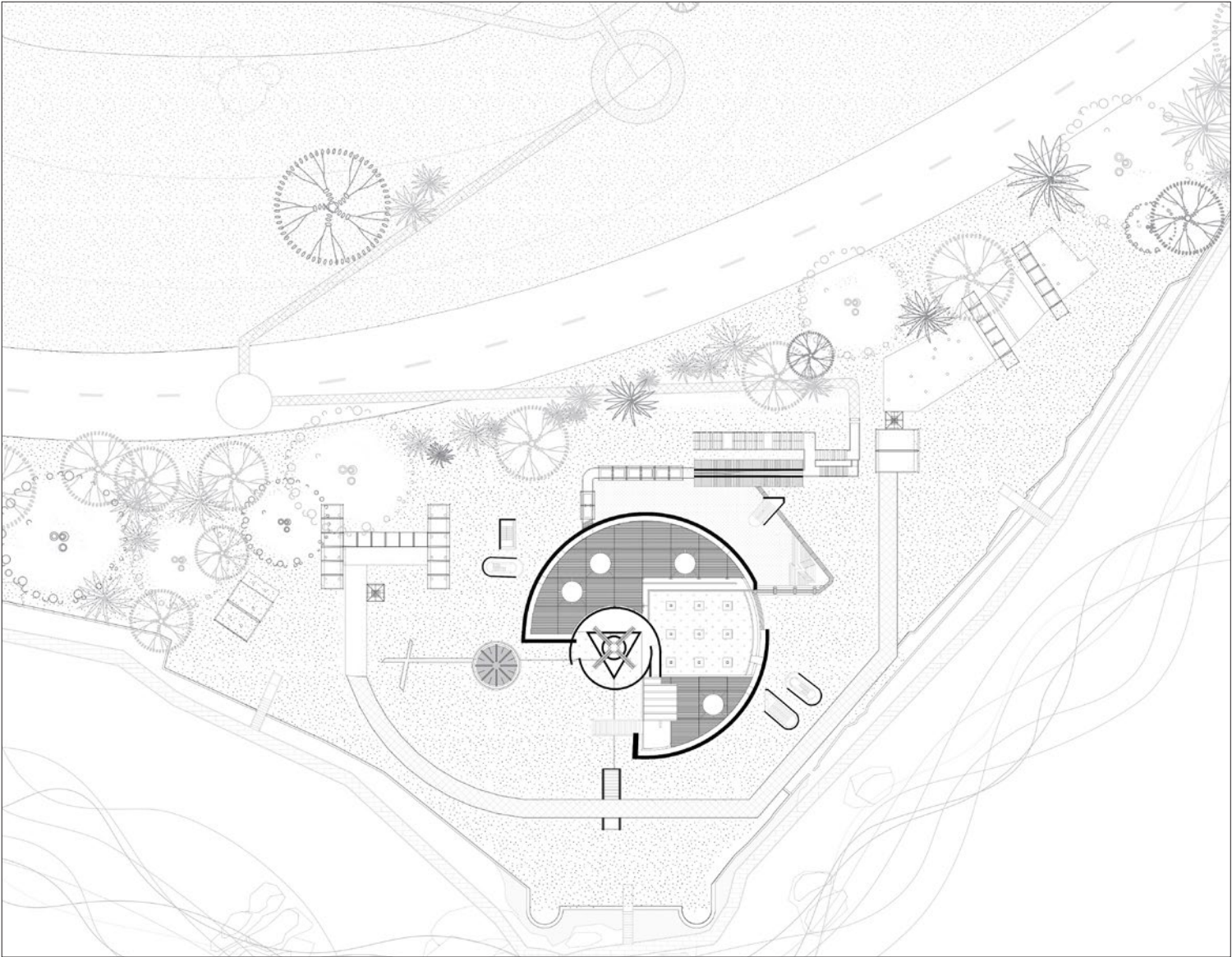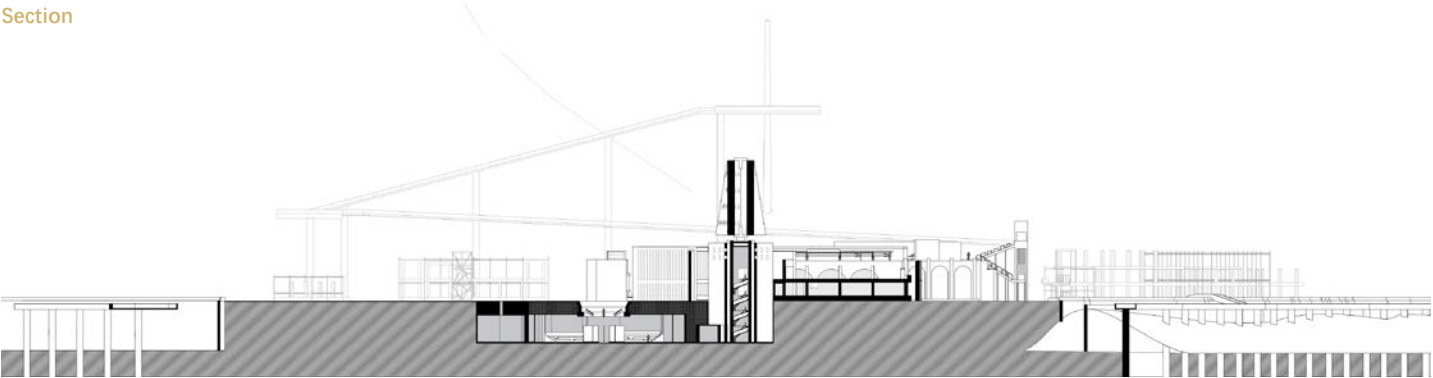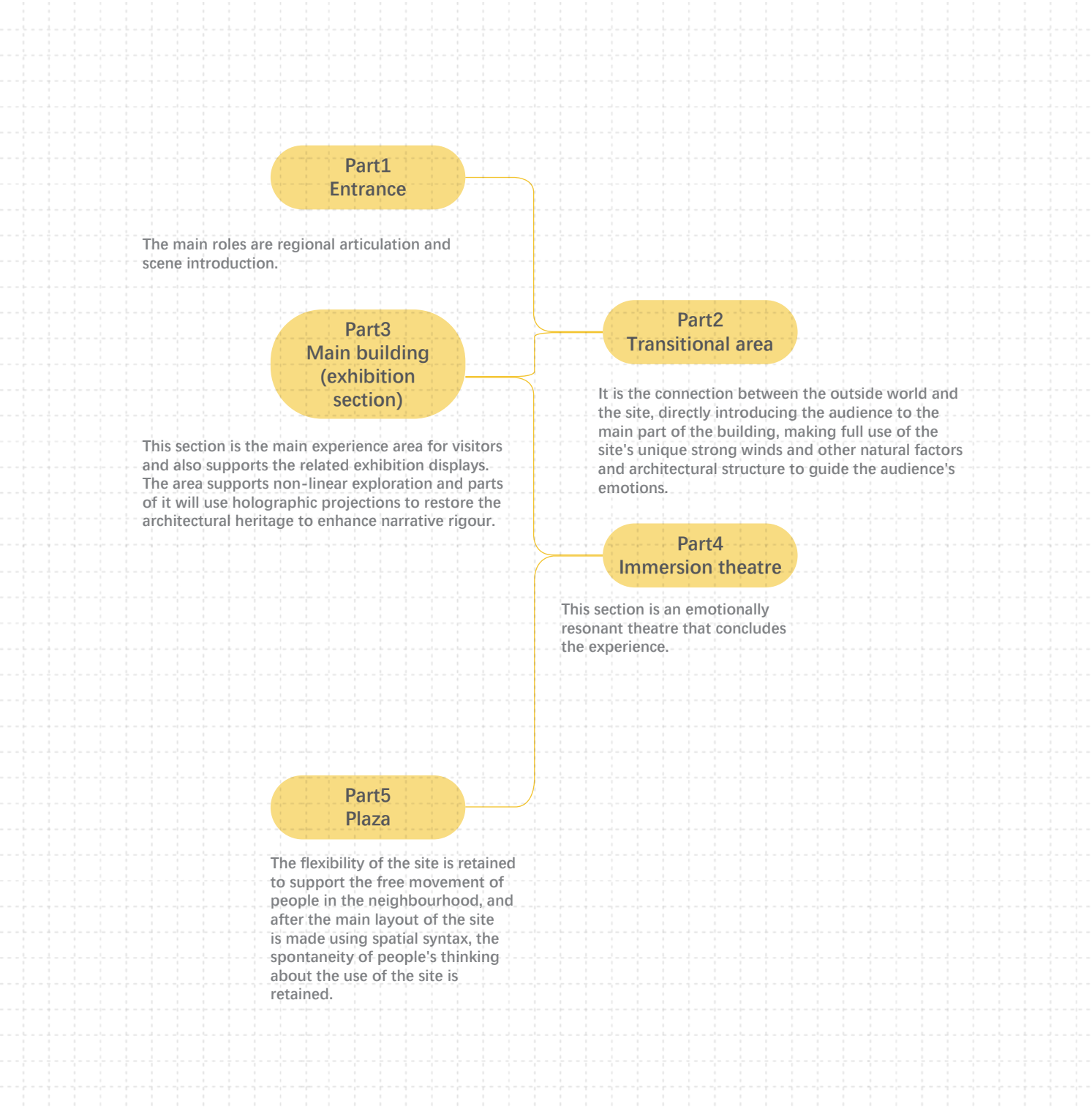

Elevation
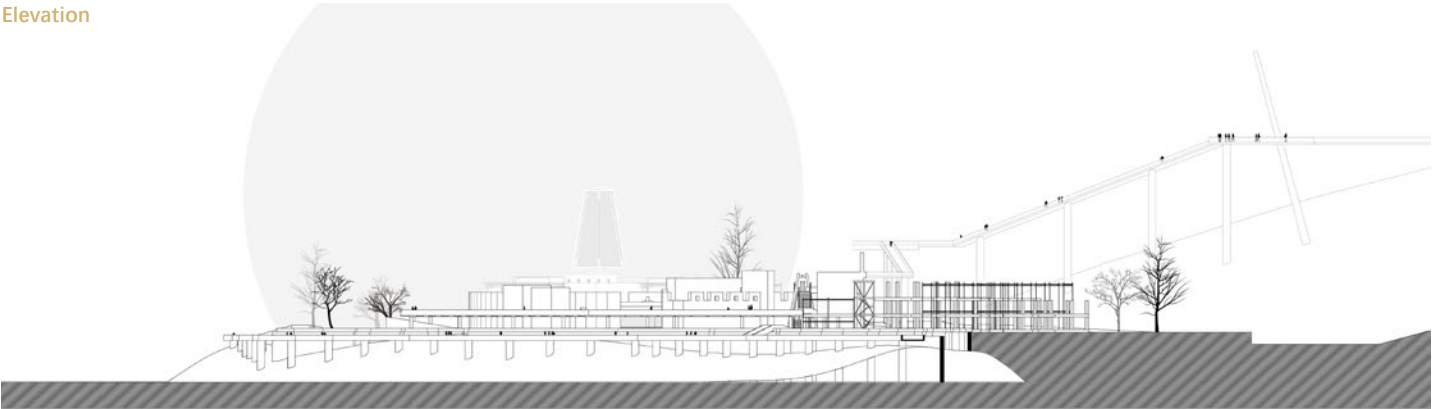
Section

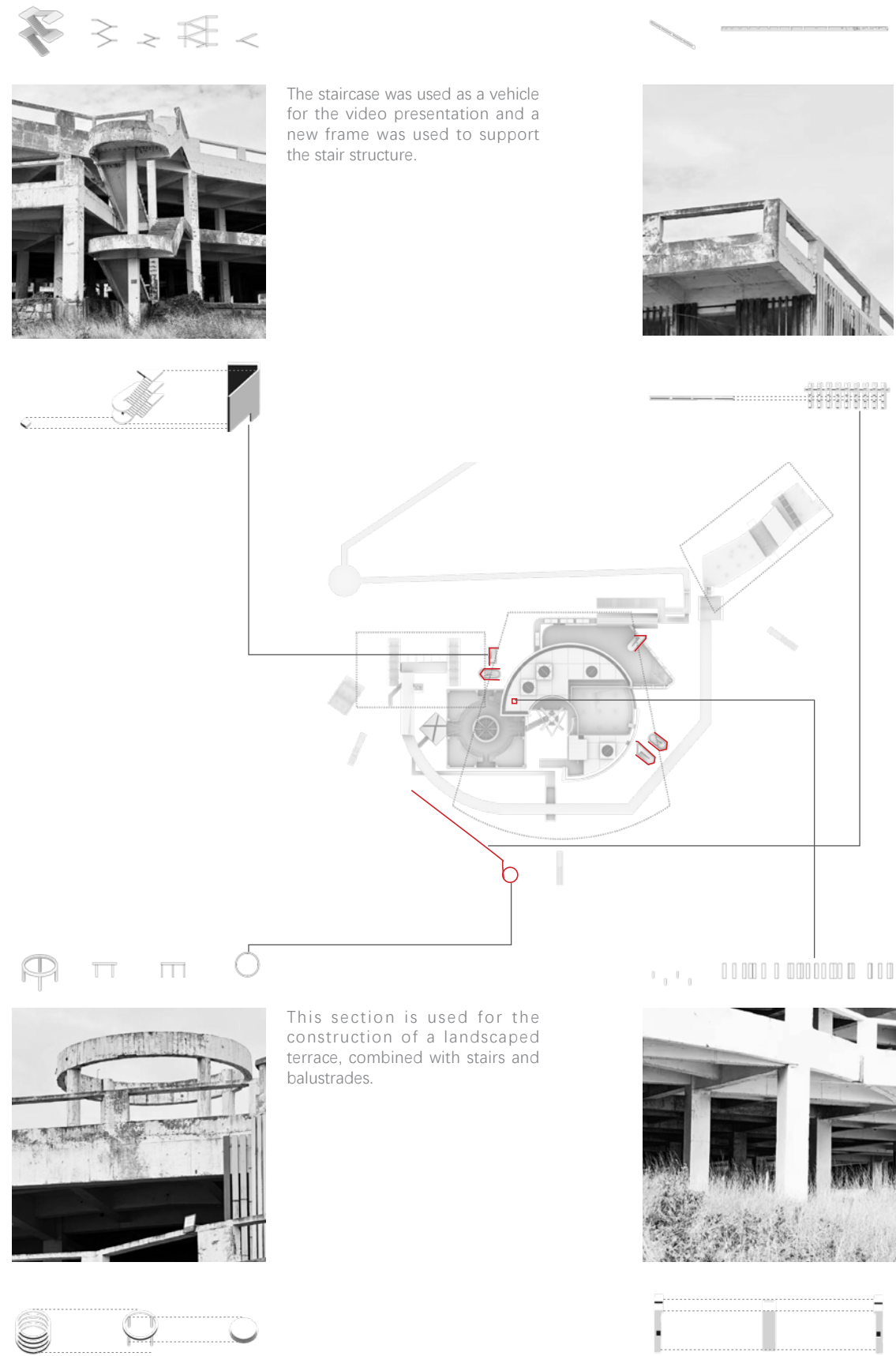Fig.30 Yang Yuxuan, 2025, Project technical drawings

Functional
Block

The site incorporates historical and cultural commemorations, recreational views and nodes to help construct a multi-layered narrative of the city.

Part1 Entrance

The main roles are regional articulation and scene introduction.

Part3 Main building (exhibition section)

This section is the main experience area for visitors and also supports the related exhibition displays. The area supports non-linear exploration and parts of it will use holographic projections to restore the architectural heritage to enhance narrative rigour.

Part2 Transitional area

It is the connection between the outside world and the site, directly introducing the audience to the main part of the building, making full use of the site's unique strong winds and other natural factors and architectural structure to guide the audience's emotions.

Part4 Immersion theatre

This section is an emotionally resonant theatre that concludes the experience.

Part5 Plaza

The flexibility of the site is retained to support the free movement of people in the neighbourhood, and after the main layout of the site is made using spatial syntax, the spontaneity of people's thinking about the use of the site is retained.

Text:
During the design process, my job was to divert foot traffic, plan routes and demarcate sites. I demolished structures that were not within the legal boundaries and repurposed them for the dyke. At the same time, I preserved some of the remains as a supporting historical narrative. In addition, I have restored the structure of some of the historic buildings using modelling software and digitised them through TouchDesigner along with some historic images that will eventually be put to use on site.

Reuse of
Building Elements

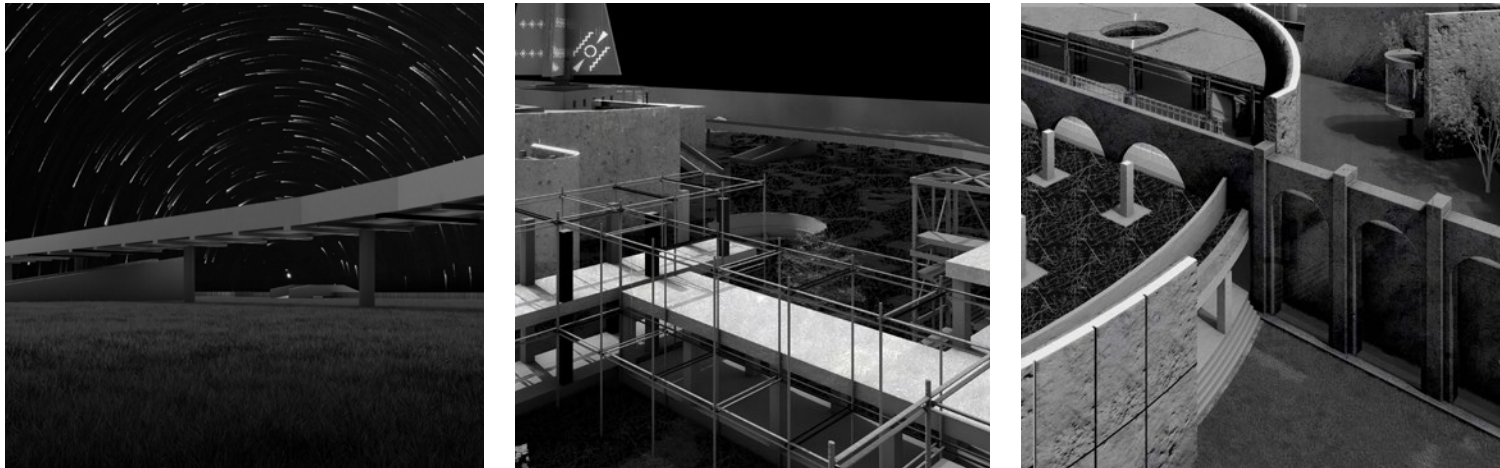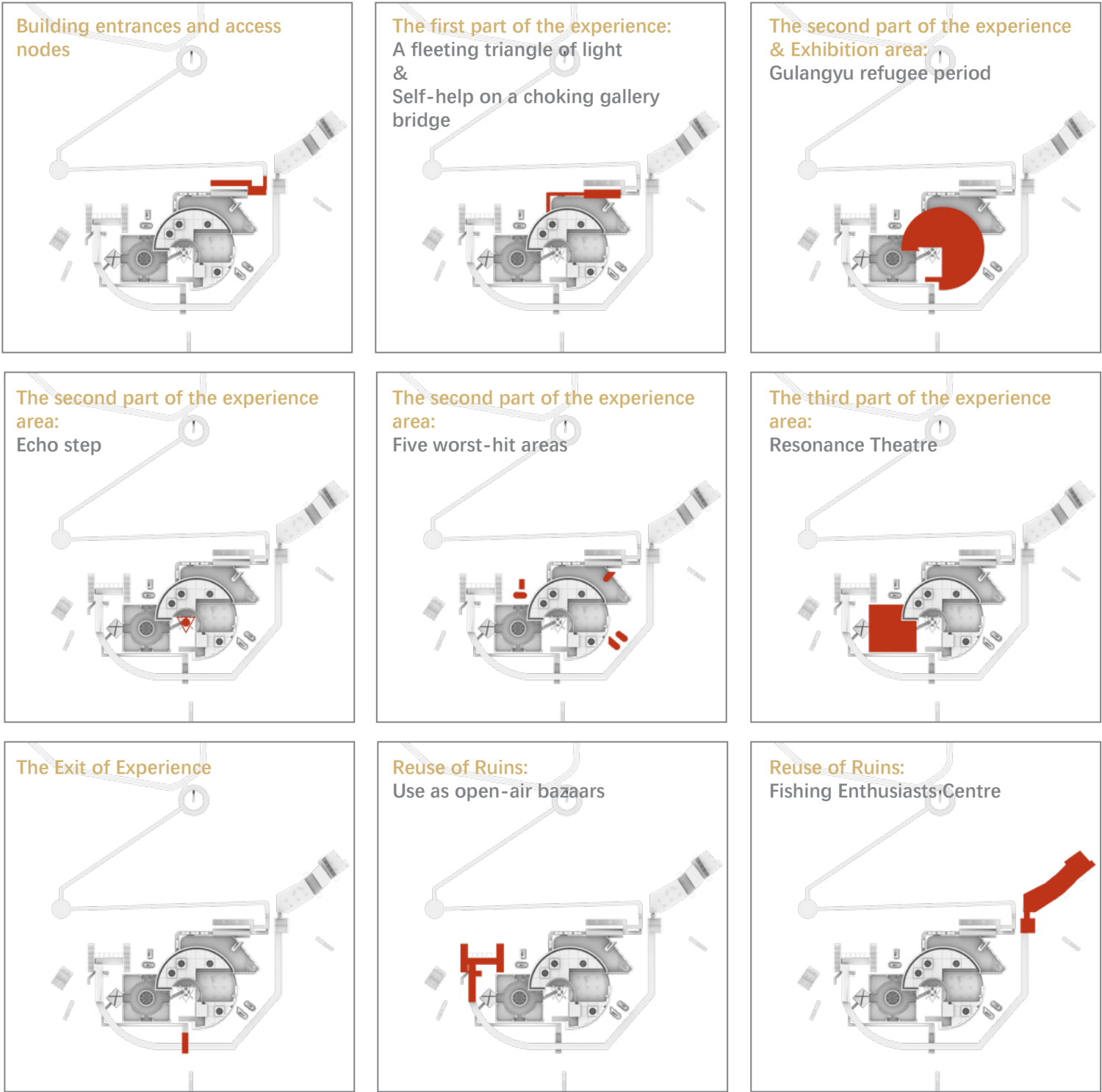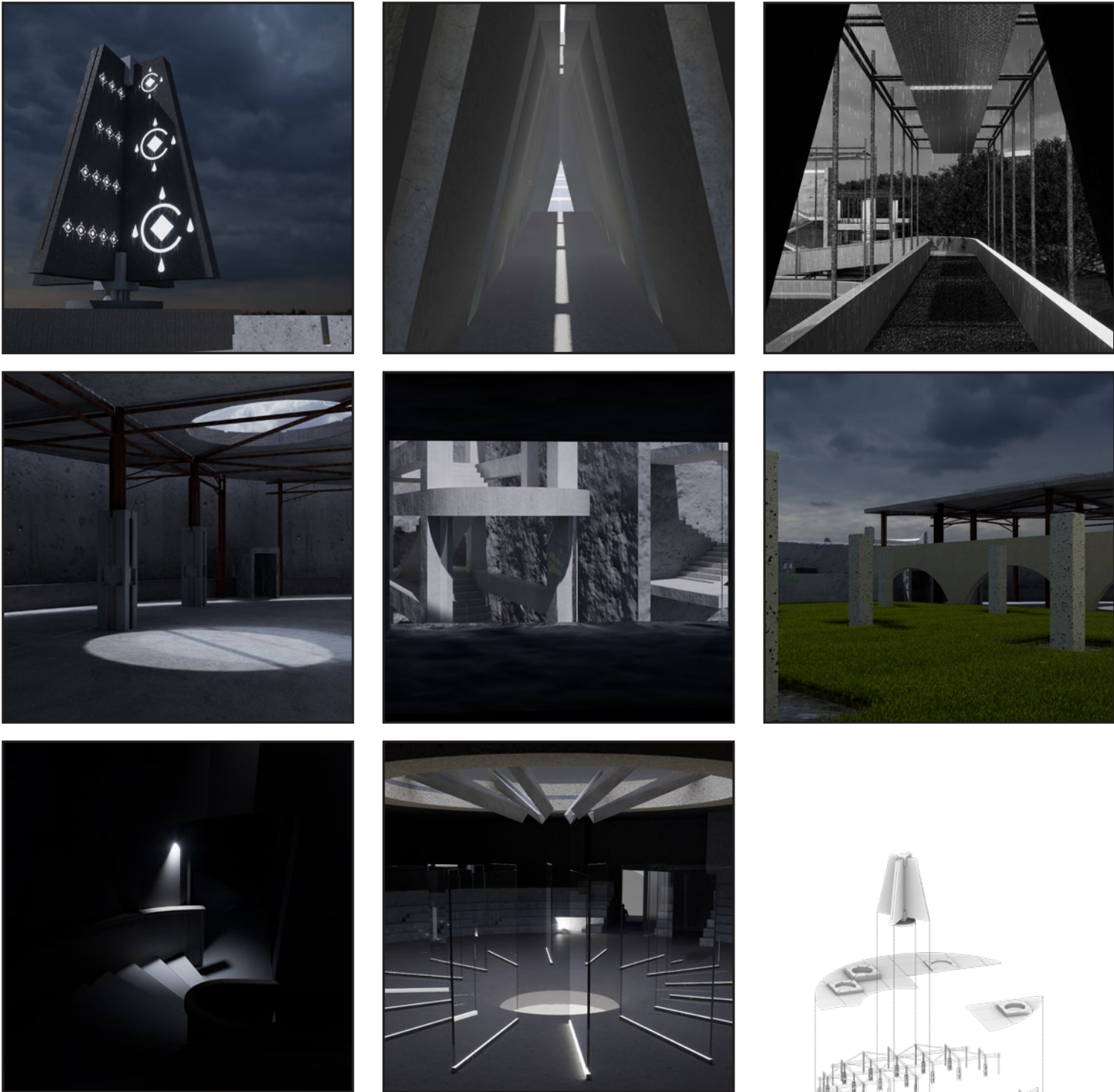The staircase was used as a vehicle for the video presentation and a new frame was used to support the stair structure.

The daughter wall was taken apart, reconstructed, and used in the construction of the dam.

This section is used for the construction of a landscaped terrace, combined with stairs and balustrades.

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Regional Functions

Building entrances and access nodes

The first part of the experience:
A fleeting triangle of light
&
Self-help on a choking gallery bridge

The second part of the experience & Exhibition area:
Gulangyu refugee period

The second part of the experience area:
Echo step

The second part of the experience area:
Five worst-hit areas

The third part of the experience area:
Resonance Theatre

The Exit of Experience

Reuse of Ruins:
Use as open-air bazaars

Reuse of Ruins:
Fishing Enthusiasts Centre

Effective Display

Story
Description


Fig.33 Yang Yuxuan, 2025, Project Rendering

After the tide is introduced into the building, it drips down the unit along with rainwater.

Tears of war fall at a constant frequency through the Water-induction Device, with each droplet falling into a puddle, hammering out the sound of lives lost. And the tidal concerto on the building's façade never stops. The salty waves etch the concrete skin with the chronology of memory, and those hollow tones echoing on the breakwater are the residual tinnitus of history.

The encircling mirrors reflect the projections of the crowd and overlap with the dripping water drops.
This spatial and temporal superimposition of shadows visualises the interface tension between collective memory and contemporary cognitive flow, constructing a link between historical trauma and the real field of experience.
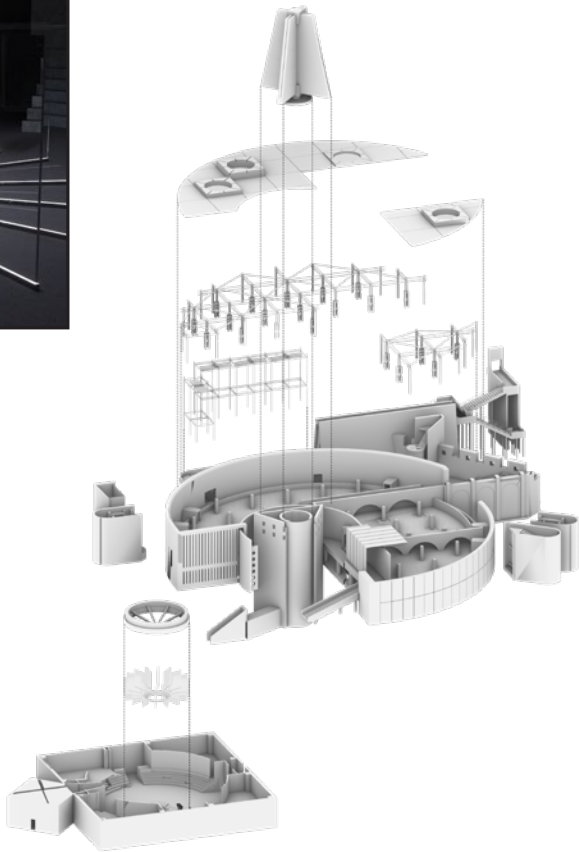
Effective
Display

In addition to the design of the building itself, the top of the building is also designed with linear lighting, which is a painting made up of light when viewed from a high position, metaphorically indicating the traces left on the land by the stories that have happened on the site.

Fig.34 Yang Yuxuan, 2025, Project Rendering

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