MIGRATING ARCHITECTURE

Vernacular Futurism

Thesis Book, 2021 Spring

Yichu Jiang

Migrating Architecture

Vernacular Futurism

A thesis submitted in partial fulfillment of the requirements for the degree Master of Design in Interior Studies [Adaptive Reuse] in the Department of Interior Architecture of the Rhode Island School of Design.

By Yichu Jiang
2021

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Dedicate to my family and hometown.

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Abstract

The history of mankind is migration: while large migrations describe groups and communities, each individual has a unique life history of migration. When moving to a new place, singly or in groups, migrants need self-identification support to adapt to a new environment. As the built environment continuously interacts with human's everyday life, architecture provides a stable environment, which helps to build individual perceptions in space and social relations. Therefore, architecture migrates with its population and evolves according to context.

Tulou, as a result of historical turbulence and massive migration in China, exemplifies such a phenomenon of migrating architecture. The prototypical courtyard house was brought to the southeast of China by the people of the Central Plains after two waves of migration and gradually evolved to a circular structure for defensive reasons, with an equally distributed egalitarian interior. With migration trends caused by urbanization in recent decades, the residents of Tulou are moving towards urban areas and facing new problems as the result of generations of lower access to social welfare and public services. This forces the question of how the vernacular architecture of Tulou can migrate to the urban context and address these new problems. The new site of this architectural migration is Central Island in Fuzhou, which shares several similarities with Tulou: both are sites hosting waves of migration, though separated by centuries, and both exist in an isolated state from their surroundings. The island used to be a community of British, American, and French immigrants, but is now occupied by an abandoned shopping mall in European colonial style.

Acculturation strategies including integration, assimilation, separation, and marginalization provide a framework for the transformation from Tulou to an urban structure, which considers the different degrees of preservation of one's own identity or integration into the larger society. The vision of these rural migrants trying to become urban citizens prompts Tulou to break its original boundaries and bridge the gap between its population and larger society. This requires making choices and connections between the vernacular features of Tulou, acculturation strategies, and context in the Central Island. In this way, the acculturation of architectural typology itself and individuals will be achieved.

The Migration

Identity Through Architecture

Why architecture migrates?

The term “Identity” refers to the distinguishing character or personality of an individual, and also the relation established by psychological identification.[1] The construction of identity are impacted by various internal and external aspects, including place, culture, and people.

Place has numerous definitions, from the simple “a space or location with meaning” to the more complex “an area having unique physical and human characteristics interconnected with other places.”[2] Place identity defines who people are and defends people from settings that threaten who they are or want to be.[3] Human identity presupposes the identity of place, which derived from everyday experiences and built environment. During the interaction with place, people develop the dual dependence of physicality and emotion, so as to construct and develop their own position and role in the space of social communication. The formation of identity is a dynamic structure, which regulates and assimilates self-concept based on the changing meaning of place. In addition to the subjective characteristics, the cognition of place is also influenced by the external social culture. Under the combined effect of a series of cultural symbols and metaphors, identity is also constantly reconstructed with the “social turn” of spatial nature.

Architecture, vernacular in particular, is a product of people, place, and culture; it is one facet of identity. Symbolism in architecture can be related to the realization of identity personally and socially. This accretion has reached the level where “architecture as identity” became the equivalent to “architecture as space” and “architecture as a language”.[4]

The documentary, *Cholet: The Work of Freddy Mamani*, explores the relationship between architectuer and identity. El Alto, the city Cholet is from, is a rapidly growing city overlooking Bolivia’s capital, La Paz. Over time, El Alto’s identity became one of hard-working champions of free trade.[5] Like the city itself, Freddy’s work is rebellious and individualistic, which is inspired by his own culture and iconography, along with the culture of his perceived ancestors, the Tiwanaco peoples. He desicribes his work as a restoration of their values, and a recovery of their identity.

Based on such connectinos, when people migrates, the architecture from their place of origin migrates with them conceptually, so as to support their own selves, their own identity, and adapting their behaviors to a new environment.

1. “Identity.” Merriam-Webster. https://www.merriam-webster.com/dictionary/identity.
2. “Concept of Place.” National Geographic Society. https://www.nationalgeographic.org/topics/resource-library-concept-place/?q=.
3. Kopec, David Alan. *Environmental Psychology for Design.* New York: Bloomsbury Publishing Inc, 2018.
4. Salman, Maha. “Sustainability and Vernacular Architecture: Rethinking What Identity Is.” *Urban and Architectural Heritage Conservation within Sustainability*, 2019. https://doi.org/10.5772/intechopen.82025.
5 Leardi, Lindsey. “New Documentary on Freddy Mamani Explores the Connection Between Architecture and Cultural Identity.” ArchDaily. ArchDaily, September 29, 2017. https://www.archdaily.com/880450/new-documentary-on-freddy-mamani-explores-the-connection-between-architecture-and-cultural-identity?ad_medium=gallery.

Figure 01. Cholet: The Work of Freddy Mamani, Isaac Niemand

Figure 02. Cholet: The Work of Freddy Mamani, Isaac Niemand

Acculturation

How architecture migrates?

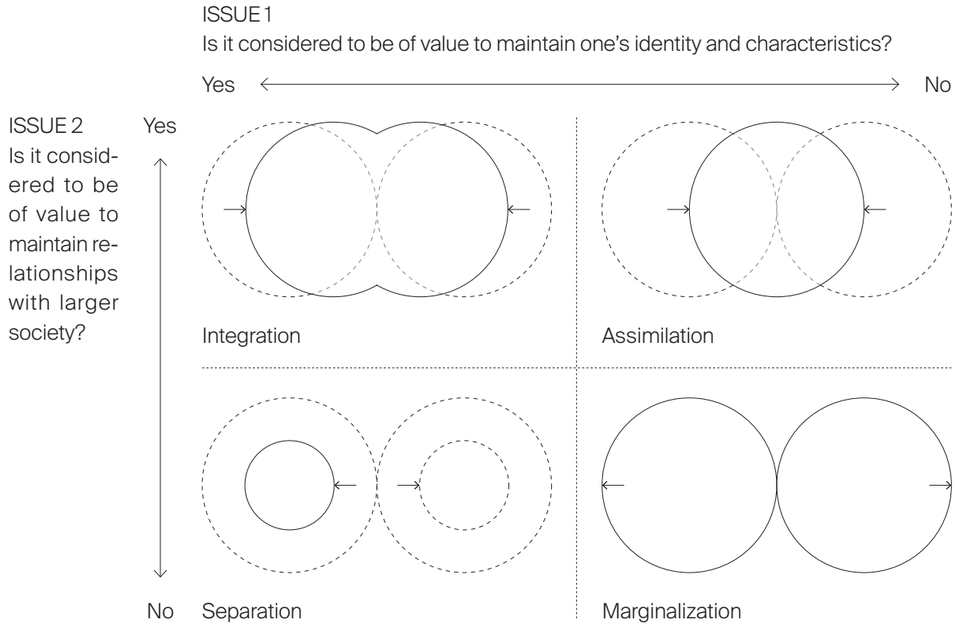
The migrating architecture refers to the architecture that fully responds to the natural and cultural conditions of the ingoing area after a series of development with the cultural characteristics in the place of origin. It usually contains both the prototype of the cultural origin and the interfering factors of the ingoing place and presents a new state.

This new state can be described as acculturation, which is the main form of a cultural shift. Acculturation comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups.[1] There are many variable factors in acculturation, including the degree of cultural differences; the environment, intensity, frequency, and friendliness of contacts; the relative status of agents in contact; and whether the nature of this process is mutual or unilateral.

A conceptual framework of acculturation strategy was proposed when two underlying issues are considered simultaneously, which are culrural maintenance (to what extent are cultural identity and characteristics considered to be important, and their maintenance strived for); and contact and participation (to what extent should they become involved in other cultural groups, or remain primarily among themselves).[2] The positive and negative responses toward these issues intersect to define four acculturation strategies, that includes assimilation, separation, integration, and marginalization.

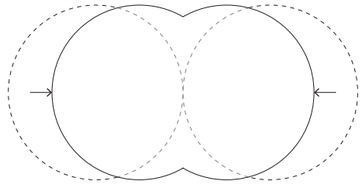
When individuals of non-dominant group do not wish to maintain their cultural identity and adopt the practices and outlook of the dominant culture, by seeking daily interaction with the dominant society and avoiding maintenance of their original identity, the assimilation strategy is defined. On the contrary, when individuals hold on to their original culture, and reject or avoid the new, dominant culture, by highly valuing their original cultural practices and avoiding contact with dominant society, then the separation alternative is defined. In integration, individuals embrace both cultures; such individuals value their original cultural identity and try to maintain it while simultaneously pursuing regular contact with the dominant society. Lastly, individuals who are categorized as marginalized are those who lose all cultural affiliation, both rejecting their culture of origin and failing to adopt the practices of the new, dominant culture.[3]

1. Redfield, Robert, Ralph Linton, and Melville J. Herskovits. “162. A Memorandum for the Study of Acculturation.” *Man* 35 (1935): 145. https://doi.org/10.2307/2791001.
2. Berry, John W. “Immigration, Acculturation, and Adaptation.” Applied Psychology 46, no. 1 (1997): 5–34. https://doi.org/10.1111/j.1464-0597.1997.tb01087.x.
3. Fox, Rina S., Erin L. Merz, Martha T. Solórzano, and Scott C. Roesch. “Further Examining Berry’s Model: The Applicability of Latent Profile Analysis to Acculturation.” Measurement and Evaluation in Counseling and Development 46, no. 4 (2013): 270–88. https://doi.org/10.1177/0748175613497036.



Adapted From Acculturation Strategies, John W. Berry

Some precedents can be enumerated to further explain this framework when it is applied on architecture. The strategy of integration shares certain similarity with eclecticism in architecture, which incorporates a mixture of elements from various culture and style. For example, the Peranakan Architecture built by an ethnic group defined by their genealogical descent from the first waves of Southern Chinese settlers to the ports in the Malay Peninsula and Indonesian Archipelago,[1] took the layout of traditional courtyard house, with the interior features a hybrid of Chinese and European furnishings. Since the Peranakan Architecture embraced both culture, it can be categorized as architectural integration.

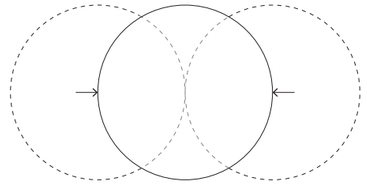


1. “Peranakans.” Wikipedia. Wikimedia Foundation, February 13, 2021.

Figure 03. Pinang Peranakan Mansion

The Great Mosque of Córdoba is an example of architectural assimilation, which had been reconstructed several times under the alternation of regime. It was originally a Christian church dedicated to Saint Vincent of Saragossa, which was divided and shared by Christians and Muslims after the Umayyad conquest of Hispania. This sharing arrangement lasted until 785, the church structure is demolished and the Great Mosque of Córdoba is built on its site followed the orders of Abd ar-Rahman I, when Córdoba was the capital of the Muselim-controlled region of Al-Andalus.[1] After multiple expansion, it was transformed into a cathedral in 1236 when Córdoba was occupied by Christian forces.

During each phase of the reconstruction, the site of the Great Mosque of Córdoba only took the practice of dominant culture without maintaining former identity, so its formation falls into the quadrant of assimilation.



1. Dodds, Jerrilynn Denise. *Al-Andalus: the Art of Islamic Spain.* New York: Metropolitan Museum of Art, 1992.

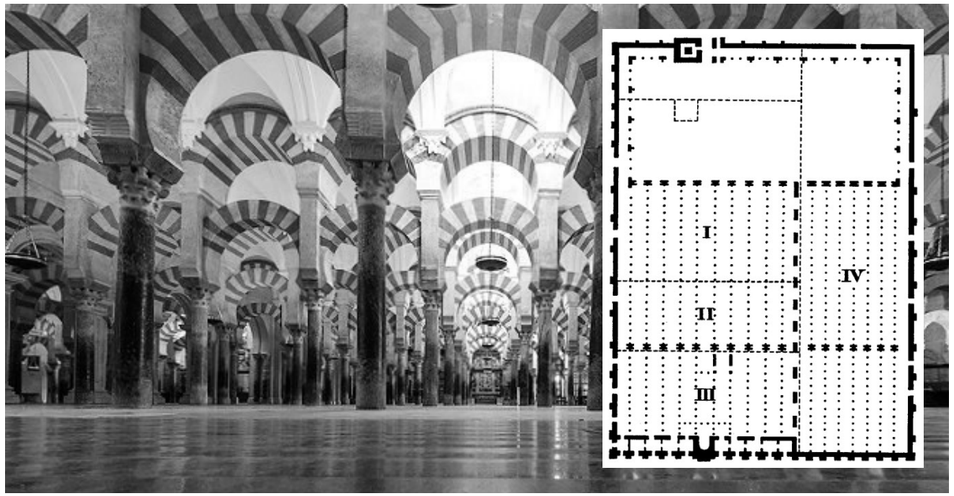
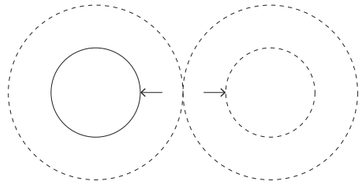


Figure 04. The Great Mosque of Córdoba

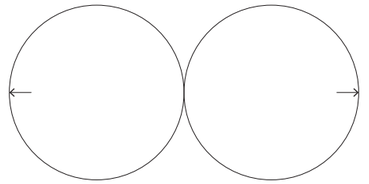
Yin Yu Tang is a late 18th-century Chinese house, which was originally located in Anhui, China. After being discovered by Nancy Berliner, an American historian in 1996, it was repackaged, disassembled , and transported to the Peabody Essex Museum (PEM) in Salem, Massachusetts for reconstruction. Then It opened in 2003 as a permanent exhibit at the PEM up to now.[1] This arrangement was regarded as a way to preserve the housing type, so its original identity and characteristics were reconstructed accurately, which matches the strategy of separation.



1. Yin Yu Tang, A Chinese Home. Accessed February 15, 2021.

Figure 05. Yin Yu Tang, PEM

When the original culture and dominant culture are both rejected, a standardized strategy can be introduced. For example, the Radiant City proposed by Le Corbusier provides an one-size-fits-all approach that encouraged the annihilation of tradition. Though radical, strict and nearly totalitarian in its order, symmetry and standardization, Le Corbusier's proposed principles had an extensive influence on modern urban planning and led to the development of new high-density housing typologies.[1] Therefore, related projects can be seen as a consequence of Maginalization.



1. Merin, Gili. Ville Radieuse / Le Corbusier. August 11, 2013.

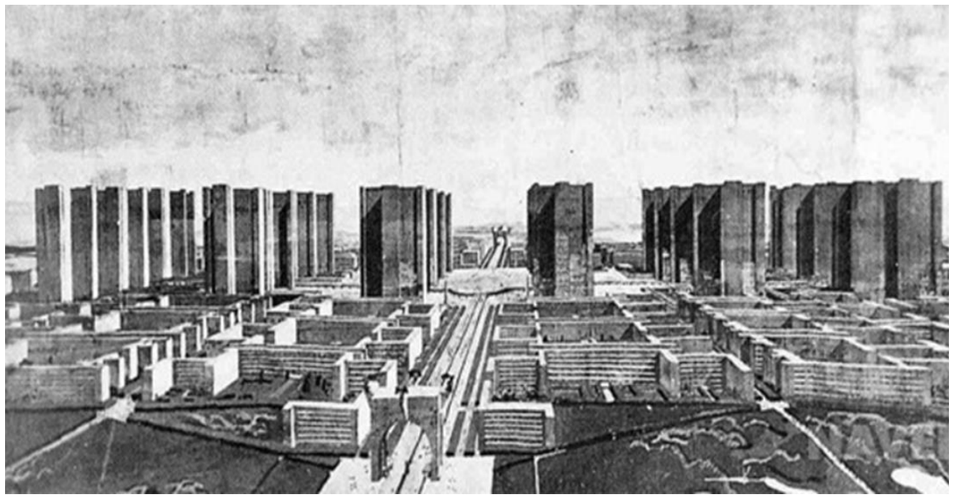


Figure 06. Le Corbusier, Radiant City

The Typology, Tulou

Background

In 291 AD, a fatuous and self-indulgent emperor sat on the throne, while a power struggle within his family had turned into the Disorder of Eight Kings, which weakened the rule of the Western Jin Dynasty. Meanwhile, five barbarians in the north took the advantage of this opportunity to invade the borders of the empire. After the fall of the Western Jin Dynasty, the Central Plain became the domain of these five barbarians, who also began to enslave Han Chinese. This chaotic situation led to a large-scale migration of Han Chinese towards south, and then settled in southern Henan, Anhui, and Jiangxi.

After an armed conflict between the Tang dynasty of China and various regional powers in 762 AD, the empire waned in influence. Natural disasters and rebellions occurred across this crumbling country, Han Chinese are forced to migrate again. This time, they descended to southern Jiangxi, southwestern Fujian, and northeastern Guangdong, where were the only promised lands.

The Central Plain immigrants entered southern Fujian from Anhui merged with original inhabitants to form a sub-nation of Fulaos. However, the ohters that moved to western Fujian through Jiangxi formed a sub-nation of Hakkas. Then in the Ming and Qing Dynasties, the population of Hakkas increased rapidly, which prompt them to expand from inland towards east. Meanwhile, Fulaos, who settled closer to South China Sea, were facing the disturbance of Japanese pirates and the consequent severe pressure of the banning maritime trade policy, and began to migrate westward. These two groups met in Boping Mountain of central Fujian. They regarded each other as bandits, the combats happened continuously, coupled with the invasion of Japanese pirates, beasts, as well as conflicts between Han Chinese and local She Nationality. Fulaos and Hakkas had to gathered as clans by blood relationship to defend theirselves.

The Courtyard House, as a typical residential unit in Central Plain where they evacuated, was used as prototype to develop new housing typology. After several stages of experiments, round communal defensive dwellings called Tulou emerged as the times required. This process of adapting courtyard house to the natural environment and cultural conditions of ingoing areas described the fact of migrating architecture.

Luo, Xianglin. *An Introduction to Hakka Studies*. Shanghai Literature and Art Press, 1992.

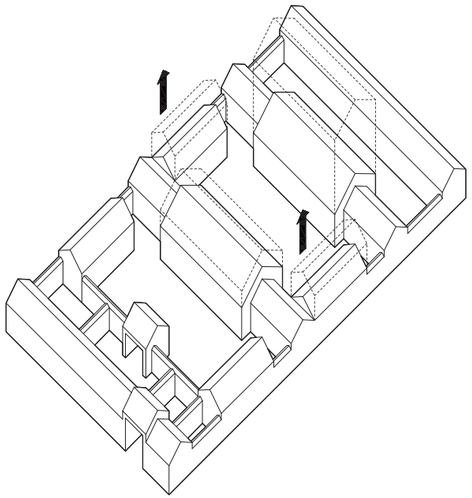
Figure 07. Migration Routes of the Hakkas

Phase I, Five-phoenix House

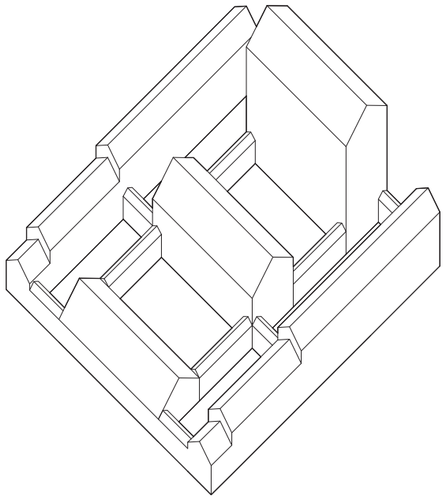
The Five-phoenix House born out of the Courtyard House directly. The wings on both sides are raised from front to back, and became the row rooms. Three halls were distributed between them, which also rose from front to back along the central axis. Among them, the back hall was raised to three to five floors. This pattern of “three halls and two row rooms” is the most standard layout of the Five-phoenix House, and other patterns include “two halls”, “three halls”, “four halls”, “three halls and four row rooms”, and “six halls and two row rooms”. The back hall and two row rooms were built out of rammed earth, with wall thickness of up to 20 inches, so the defense performance was increased sharply. Dafudi in Gaopo is a typical example of Five-phoenix House.

Compared with the courtyard house, the Five-phoenix House was larger in scale and had more layers, which can accommodate more residents. Family members were assigned to their rooms according to ages hierarchy. The elderly occupied the highest position in the back hall, while the middle hall is a place for family gatherings and receiving guests. However, the defects of five-phoenix house were obvious. Except for the high rise back hall, the overall structure was still vunerable. Front hall and middle hall were still single-story buildings, and were only connected by low corridors, which became the weakness under attack.

Wu, Qingzhou. *Architectural Culture of Hakka China.* 2008.
Huang, Hanmin. *Fujian Tulou.* 2020.



Transformation of The Courtyard House



The Five-phoenix House

Figure 08. Dafudi

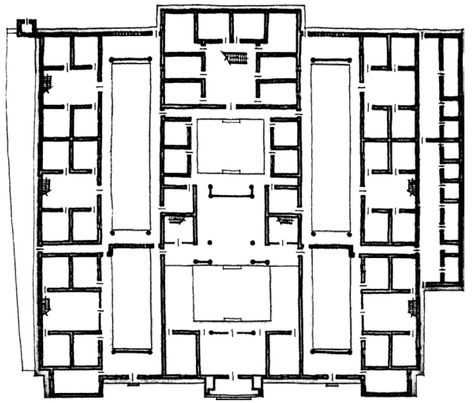


Figure 09. Dafudi, Ground Floor Plan

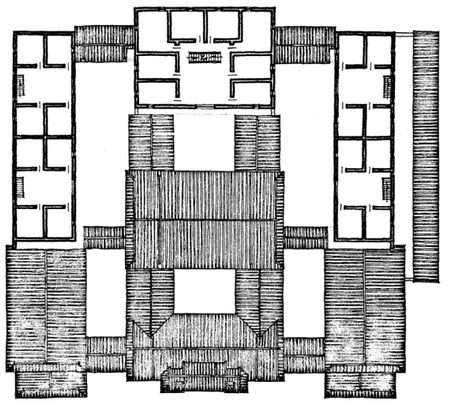
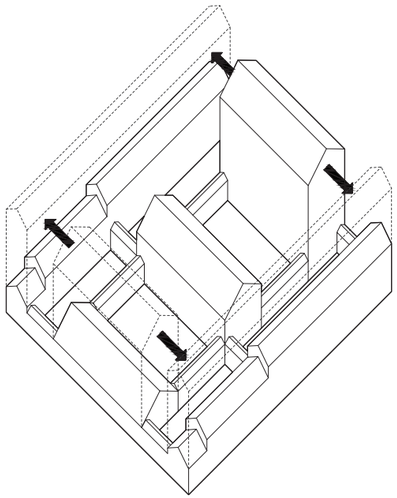


Figure 10. Dafudi, Upper Floor Plan

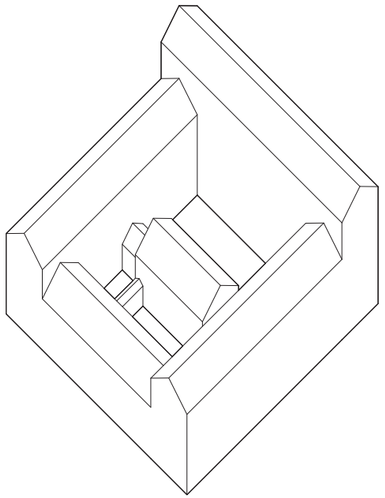
Phase II, Edifice-type Rectangular House

The Edifice-type Rectangular House is a transition between Five-phoenix House and Rectangular House. The front hall of Five-phoenix House became a two-story building, and was extended to connect to the three-story row rooms on both sides. The five-story back hall was also expanded to attach to the row rooms directly. All exterior corridors were removed, a more defensive form with surrounding high-rise buildings appeared.

Zeng, Linsong. "*An Analysis of Five-Phoenix House in Fujian*." Fujian Wenbo, 2016.
Huang, Hanmin. *Fujian Tulou.* 2020.



Transformation of The Five-phoenix House



The Edifice-type Rectangular House

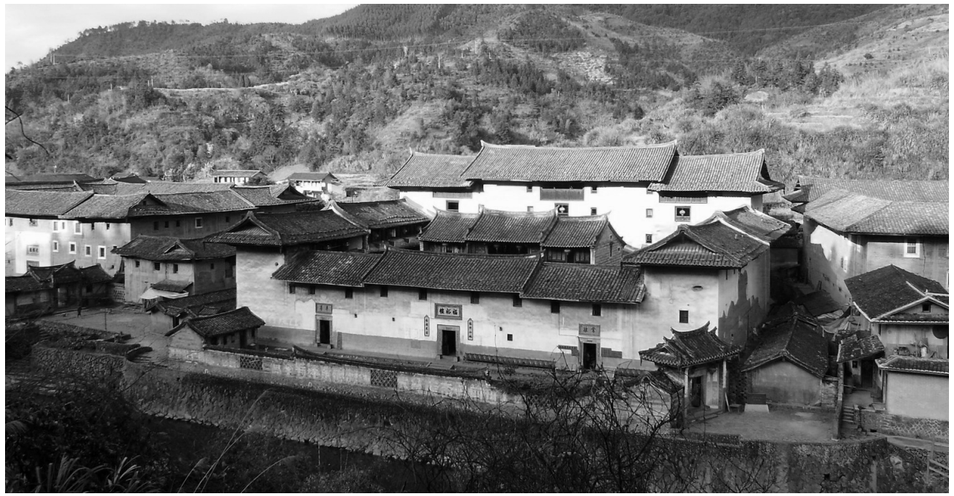


Figure 11. Fuyu Lou

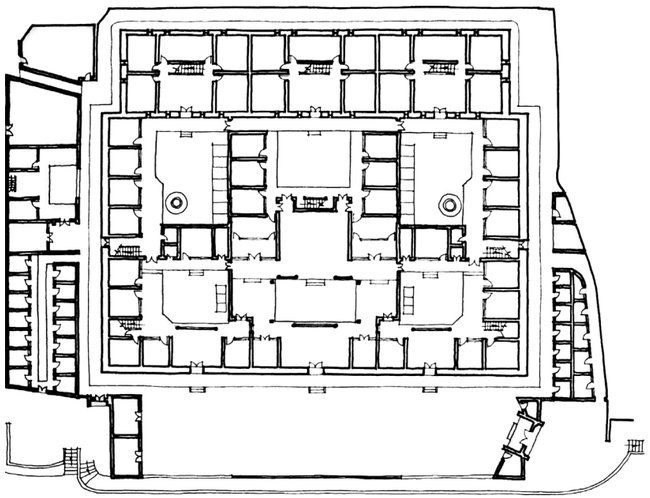


Figure 12. Fuyu Lou, Ground Floor Plan

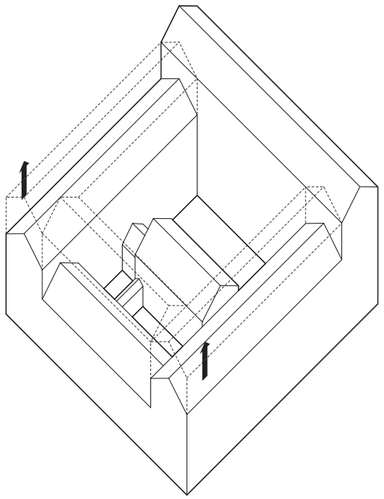
Phase III, Rectangular House

The Rectangular House further simplifies the structure, all surrounding structures are raised to the same height and connected. The asthetic perception of multi-layer strewn at random had disappeared completely, but the defensive ability reached an unprecedented level.

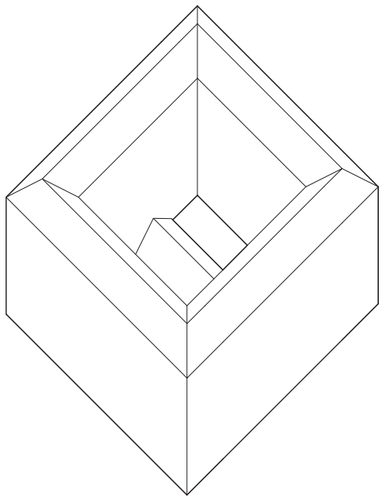
All the rooms are symmetrically arranged along the rectangular periphery and connected by inner corridors. More population can be accomodated within a smaller footprints in this form, which is more adaptable to the natural condition of mountainous region in southwest Fujian.

More importantly, rooms are no longer distributed according to individual's social class, but equally among different families, which eliminates the hierarchy and strengthen the cohesion within a clan. A superior characteristic of equality was brought to Tulou after this revolutionary change.

Wu, Qingzhou. *Architectural Culture of Hakka China.* 2008.
Huang, Hanmin. *Fujian Tulou.* 2020.



Transformation of The Edifice-type Rectangular House



The Rectangular House

Figure 13. Hegui Lou

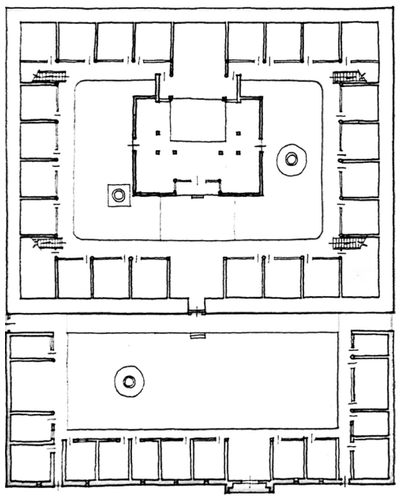


Figure 14. Hegui Lou, Ground Floor Plan

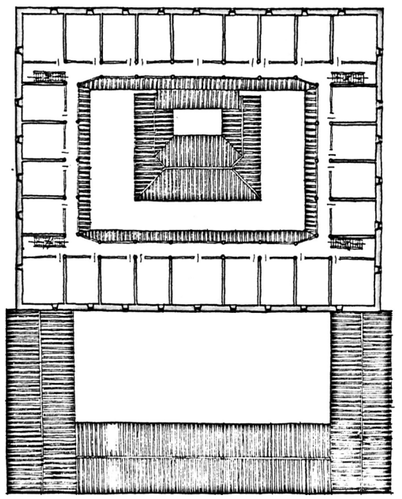


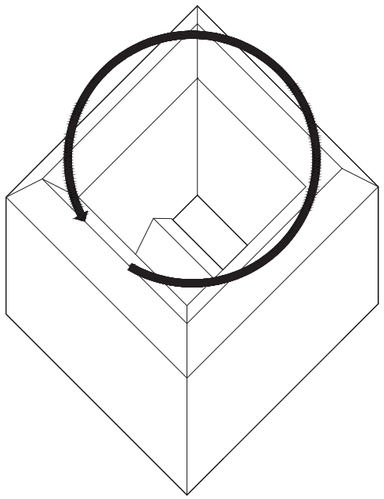
Figure 15. Hegui Lou, Upper Floor Plan

Phase IV, Circular House

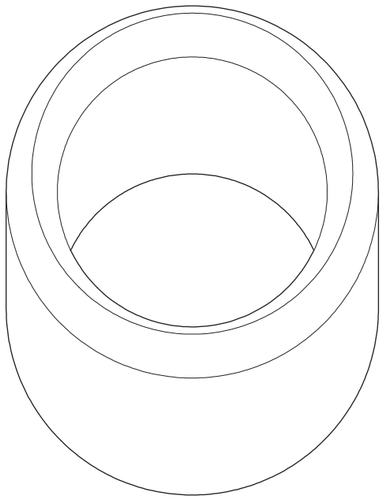
In order to make the overall structure and function more reasonable, the Circular House was proposed to optimize the former rectangular form, which brought several advantages.

First, the four rooms locates in the corner of Rectangular House had terrible conditions in daylighting, ventilation, and acoustics. However, as an entirely enclosed form without corner, the Circular House offered space in equal condition. Every family owned a vertical section of the building, which were built in the same dimensions, materials, and styles, thus fostering a class-free community. Second, with the same perimeter, the area of a circle is 1.273 times of that of a square, which means more interior space can be constructed with the same amount of building materials. Third, the circular building has unified components and simpler structure, which is conducive to construction and management. Forth, the resistance of a circular structure towards the wind is smaller, so it can avoid the negative windy impact on the living space. Lastly, it can transmit horizontal seismic force more evenly, so as to provide better earthquake resistance.

Keiichiro, Mogi. *Study of Residential Space in Southeast China.* 1996.
Wu, Qingzhou. *Architectural Culture of Hakka China.* 2008.
Huang, Hanmin. *Fujian Tulou.* 2020.



Transformation of The Rectangular House



The Circular House

Figure 16.

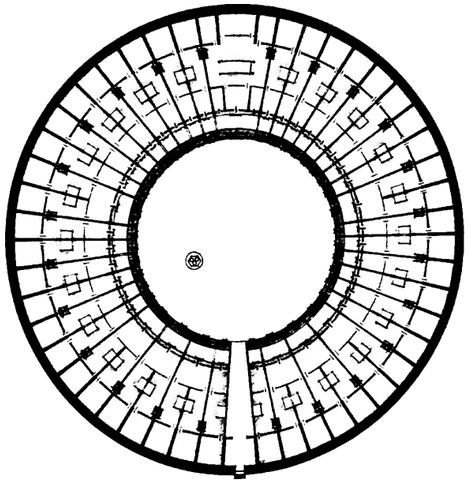


Figure 17. Longjian Lou, Ground Floor Plan

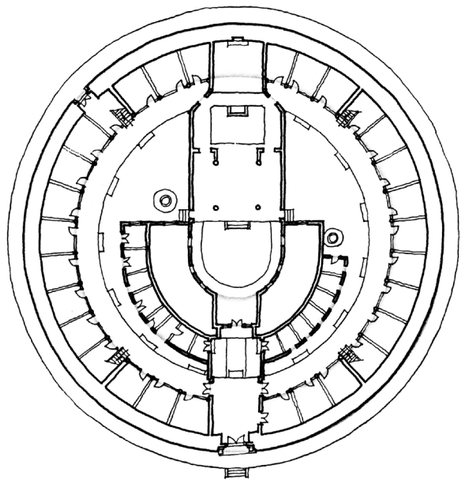


Figure 18. Zhenfu Lou, Ground Floor Plan

The Move, Urbanization

Modern History

1949
The Founding of New China

Figure 19.

When the People's Republic of China was established, China's industrial base and urbanization level were backward. It is estimated that the industrialization rate was only 12.57% and the spatial distribution of industry and cities showed an unbalanced pattern concentrated in the souteast of China.

Urbanization Rate: 10.6%

1953
First Five-year Plan

Figure 20.

The First Five-Year Plan was supported by Soviet Russia, which contributed advice, logistics and material support. It emphasized rapid industrial development, partly at the expense of other sectors of the economy. An economic growth was made in the mid-1950s centred on urban, industrial and infrastructure projects. The urban population had increased to nearly 99.5 million.

Urbanization Rate: 15.4%

1958
The Great Leap Forward

Figure 21.

During the great leap forward, 44 new cities were set up in China. However, the construction scale of most cities exceeded the level of economic development at that time. In order to meet the requirements of rapid industrialization, urban population experienced a rapid growth to more than 130 million.

Urbanization Rate: 19.7%

1961
The Economic Contraction Plan

Figure 22.

Since the rapid urbanization had caused negative effects in China, it begun to implement the Economic Contraction Plan. Both the number of urban population and cities declined.

Urbanization Rate: 17.9%

1966
The Cultural Revolution

Figure 23.

The Down to the Countryside Movement during cultural revolution lead to the fact that over 18 million urban educated youth moving towards rural area. The level of urbanization had stagnated.

Urbanization Rate: 17.9%

1978
The Reform and Opening-up

Figure 24.

After the beginning of reform and opening-up, with the continuous economic construction and the reform of economic system, urban population growth began to accelerate. Coupled with the inflow of foreign capital, a large number of employment opportunities were created, resulting in the growth of urban population.

Urbanization Rate: 28.6%

Present

Figure 25.

The urbanization of China has entered a period of accelerated development, which has formed several urban agglomerations in Pearl River Delta, Middle-lower Yangtze Plain, Bohai Rim, and other places.

Urbanization Rate: 60.6%

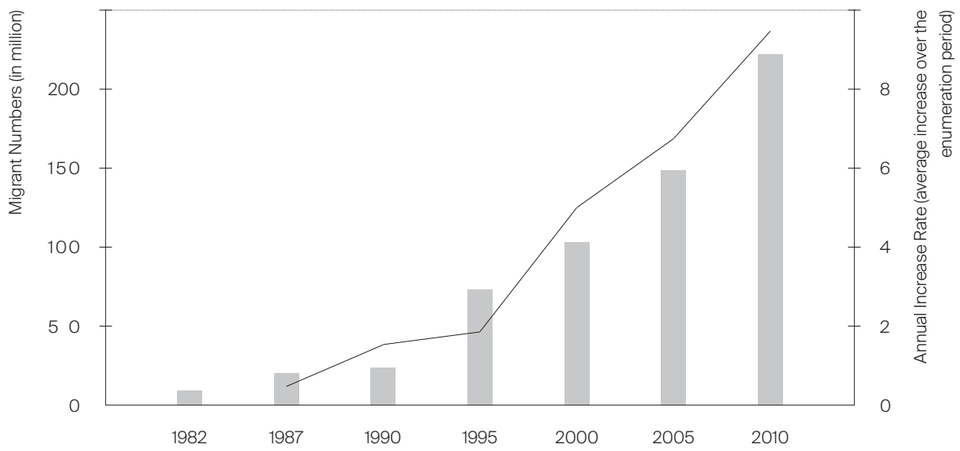
New Migration

Urbanization is a complex dynamic process, including population change, industrial structure adjustment, institutional change, social progress, regional spatial change, aggregation of essential productive factors, and other aspects of the content.[1] These contents show different forms in different stages of urbanization and different regions of the same country. A widely accepted definition of urbanization is the process of population concentration in cities. Therefore, the urbanization process since the founding of new China is also a new wave of migration.

Generally speaking, the changing curve of migration in a country is smooth. However, in China, the process of migration after 1949 fluctuates greatly. Because of the existence of a unique household registration system, whether the household registration is changed after migration or not, has become a major indicator between migration and population shift. In China, there is a large group of migrant workers who have no household registration changes. They are called mobile population (those whose current residence and registered residence are not the same place, and have left for more than half a year), which also refers to the internal migration. In 1982, the number of the mobile population in China was only 6.57 million, but by 1987 it had soared to 18.1 million. Since then, the growth of the mobile population was unstoppable, almost doubling every year. By 2014, the latest statistics show that the mobile population has reached 253 million, accounting for about one-fifth of the national population.[2] Current residents of Tulou are also part of this group.

1. Xu, Xueqiang, Yixing Zhou, and Yuemin Ning. *Urban Geography*, 1997.

2. *Report on the Development of Mobile Population in China, 2014.*



Adapted from Internal Migration in China: Changes and Trends

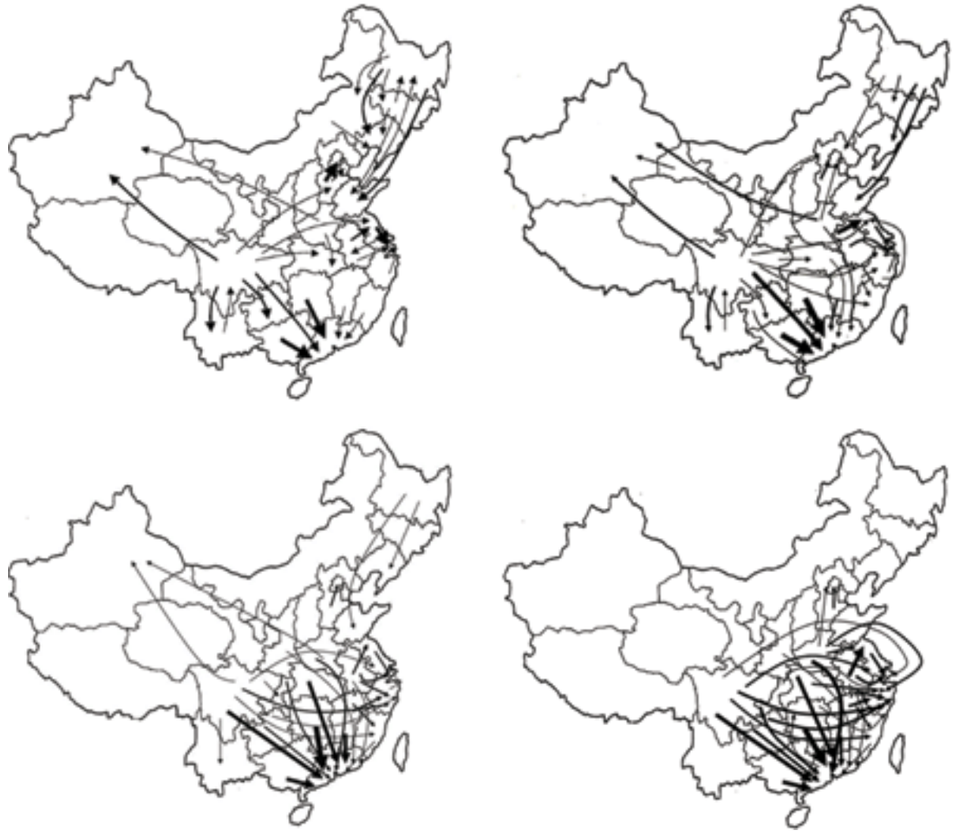


Figure 26. The Inter-provincial Flows of Migrants in China, 1985-1990, 1990-1995, 1995-2000, 2000-2005

Shifting Identity

From Migrant Workers to New Urban Citizens

Figure 27. Migrant Workers

Figure 28. Migrant Worker of Post-90s Generation

China's system of household registration lead to the shifting identity of rural-urban migrants. At the beginning of the establishment of new regime in the 1950s, the word "migrant" and "worker" were officially combined, and was given both political and identity meanings. However, at that time, the migration from rural to urban areas was not regulated, and the state had no relevant management policies, so the migration was relatively free.

In 1953, the first "Five-Year Plan" was issued, which lead to the widened gap between urban and rural life. Additionally, the plan also set off the climax of the first large-scale industrial construction, the state recruited a large number of farmers from rural areas to work in cities, factories, mines, and other large-scale projects. However, the city itself has limited capacity to absorb population, the labor market of the planned economy system lacks the ability of self-regulation, and it is difficult to solve the problem of food supply, employment, and residence of such a large number of migration, which also poses a threat to urban social security. Then, in order to alleviate this situation, the government began to introduce policies to control the flow of the rural migrants.

In 1958, the Regulations of Household Registration in The People's Republic of China was issued, which divided the whole country into "agricultural household registration" and "non-agricultural household registration". The implementation of the regulation marked that the majority of rural population were bound to their own lands. Although "private migration" was strictly prohibited, rural population still have a way to work in cities, that is, through the "temporary labor system". This policy of strictly controling rural migrants lasted until the reform and opeing-up. With the rapid development of industrialization in southeast China, the demand for labor force was increasing, which opens the prelude to the era of these migrant workers.

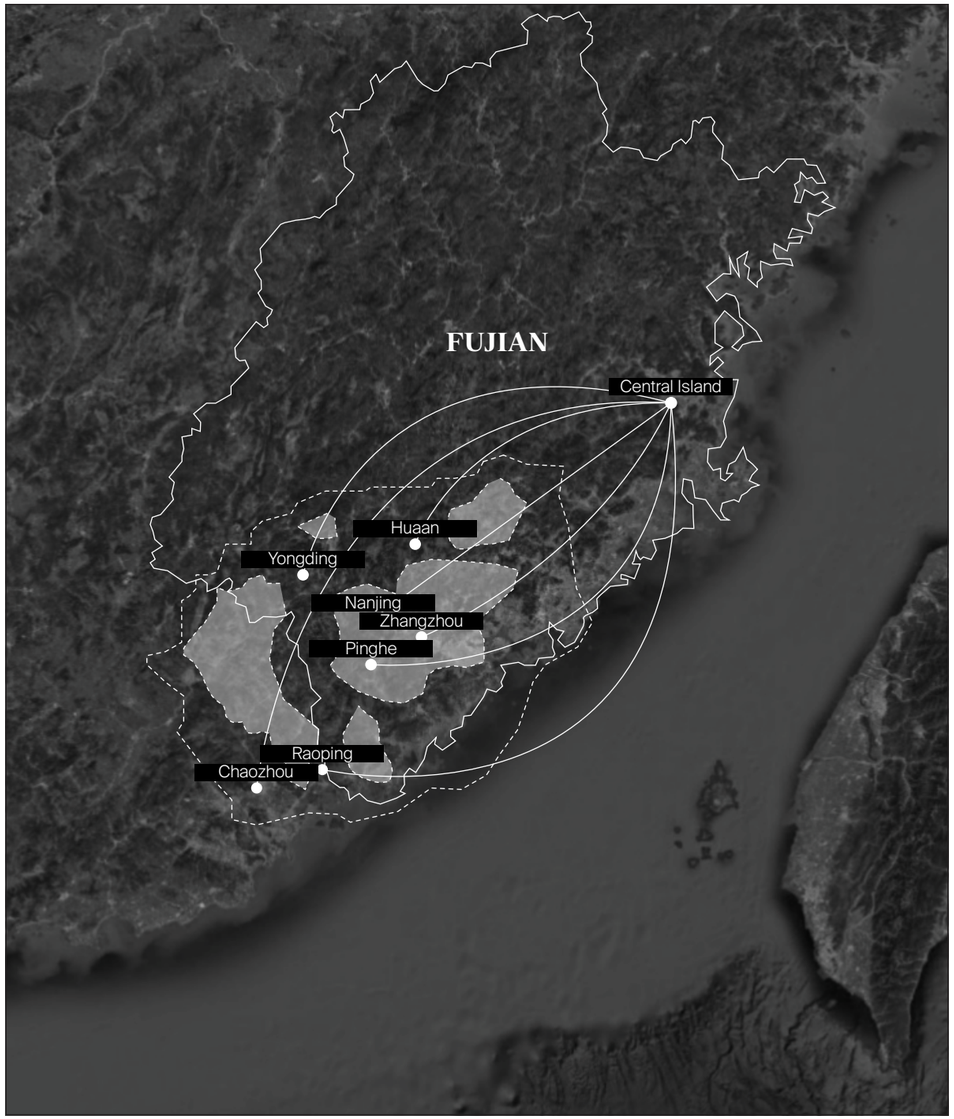
For a long time, migrant workers have been an indispensable force in economic development and urban construction. In 2000, the proportion of migrant workers in the secondary and tertiary industries was over half. In the construction industry, the proportion was even higher than 80%. However, in the sharp contrast to this number, are their poor employment environment of migrant workers, wage arrears, lack of social security, long working hours, and low wages. These situation are commonly existed, which required for the government to adjust relevant policies and protect the rights and interests of migrant workers.

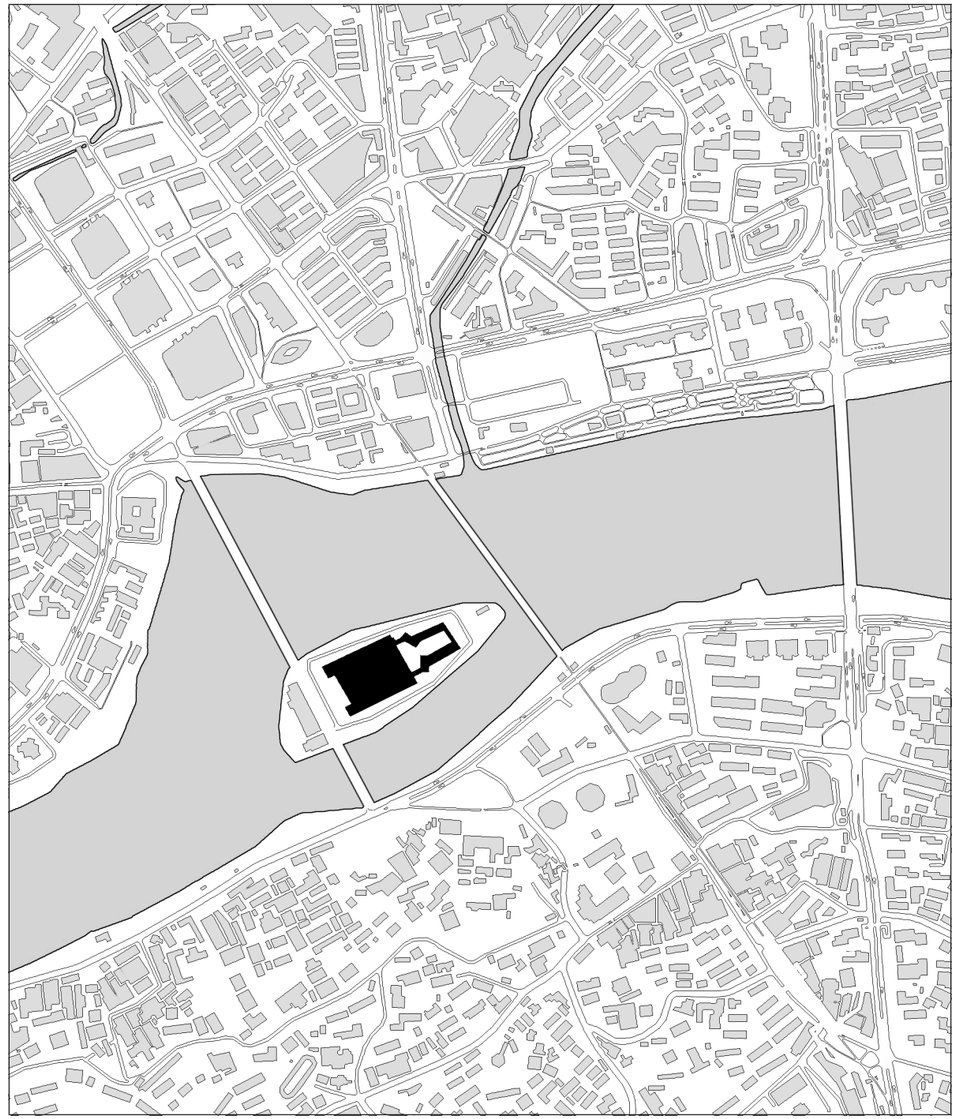
With the improvement of working conditions and welfare of migrant workers, the urgency of survival problems has declined. However, how to integrate into the city as the "new citizens", had become the main appeal of migrant workers.

In 2010, the post-80s generation accounted for 64% of migrate workers, of which the post-90s generation accounted for 17.4%. Their demands are completely different from those of their elder generation. They migrated to urban areas for seeking better opportunities and hope to settel in the city, citizenization is their irresistible fate.

Sun, Zhongwei, and Linping Liu. "Problems and Research of Migrant Workers in China for 40 Years." Academic Monthly 11 (2018).

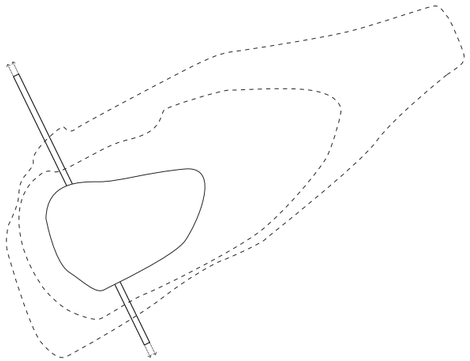
The Site, Centre Island


FUJIAN
Central Island
Huaan
Yongding
Nanjing
Zhangzhou
Pinghe
Raoping
Chaozhou



History

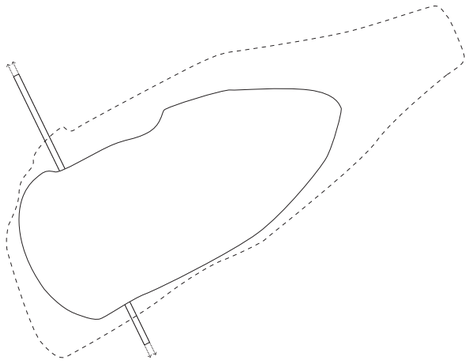
1103
Formation



A sandbank arose due to sedimentation in the middle of Min River, and the floating bridge above it was devided into two parts. Then, the name Centre Island was given to it.

"Centre Island." Fuzhou Architecture Heritage, n.d. fzcuo.com.

1303
Connection



The original floating bridge was converted into a wooden bridge, and was named Jiangnan Bridge. Then a stone bridge named Wanshou that connecting Centre Island to neighboring areas was raised for construction and became the precursor of Jiefang Bridge.

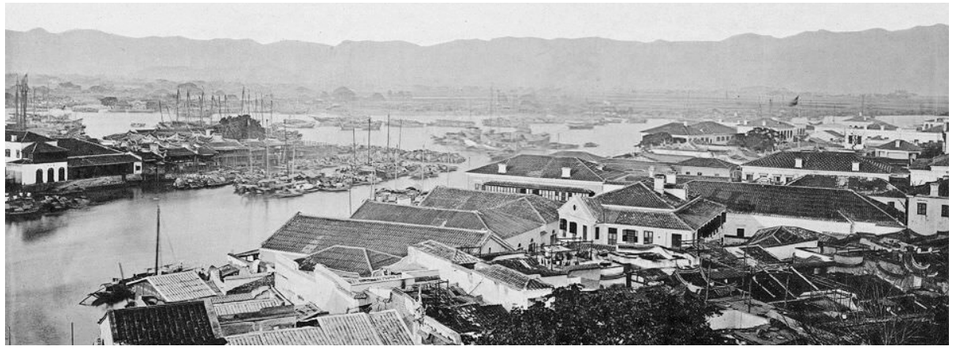
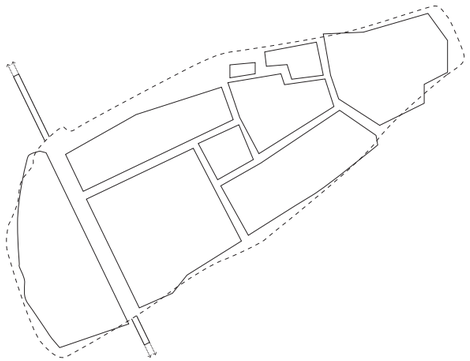


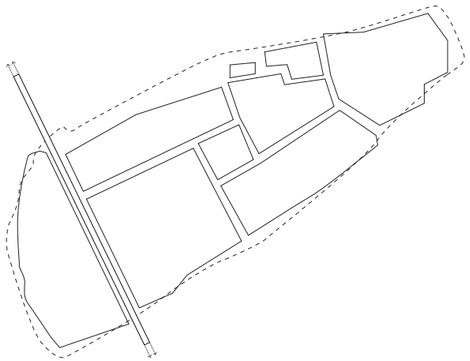
Figure 29. An Overlook of Centre Island, John Thompson, 1860

1842
Occupation



Following the signing of the Treaty of Nanjing, Fuzhou was forced to open for British consuls, merchants, and their families to trade and live. Subsequent negotiations with the Americans and the French led to further concessions for these nations on the same terms as the British. Centre Island became the first spot they landed in Fuzhou, with the establishment of church, school, hospital, and their own community.

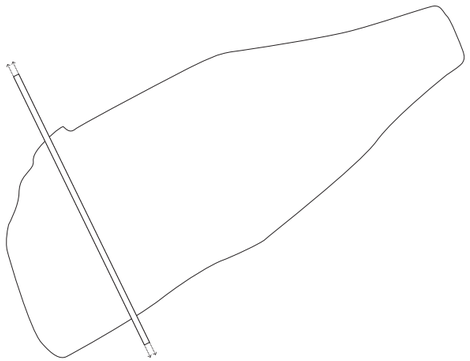
1971
Reconnection



In order to clear the water way in the upstream of Min River, the deck of Wanshou Bridge and Jiangnan Bridge were raised over the former bridge floor. After elevating, both bridges are higher than the ground of Centre Island, so a dry bridge was built to connect them, which divided the island into two parts. Meanwhile, the new bridge that merged as one was renamed Jiefang Bridge.

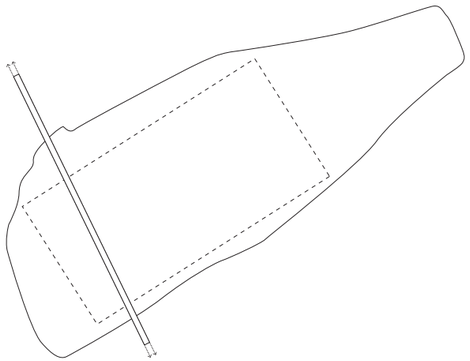
Figure 30. The Centre Island Before Demolition, 1980s

1993
Demolition



After a flash flood, the Centre Island was deluged. In the same year, the comprehensive demolition was triggered, and more than 800 households moved out. Then the land was planned to be used for investment and development of real estate.

2000
Vacancy



Because of the failure in investment, the Centre Island was not occupied until the government decided to turn it into a park.

Chronicles of Cangshan District. Fuzhou: Fujian Education Press, 1994.

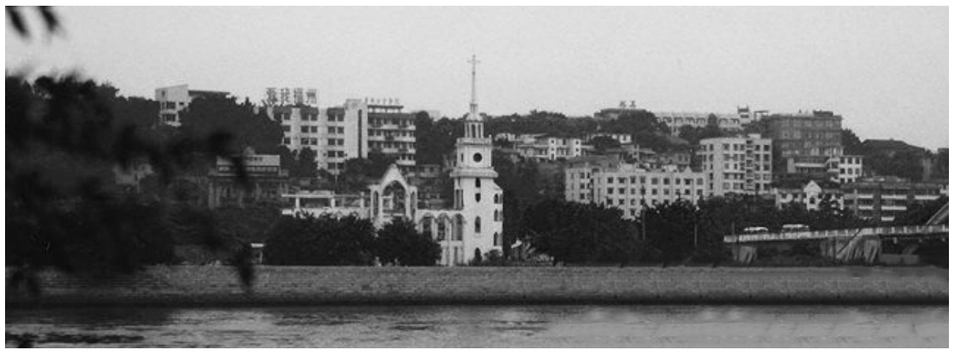
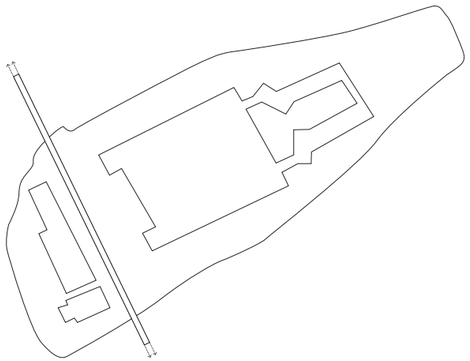


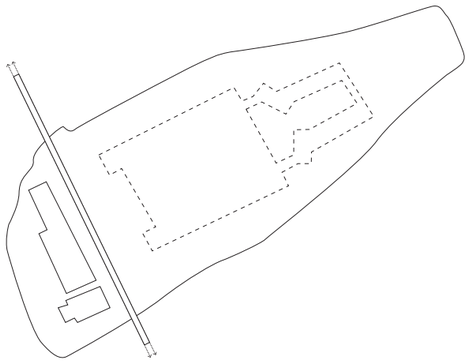
Figure 31. The Centre Island as A Public Park, 2000

2003
Reoccupation



After introducing the Lixing Zhang Industry Development Co., a European-style building was constructed for commercial programs, including entertainment and catering. However, this project had failed due to the wrong orientation.

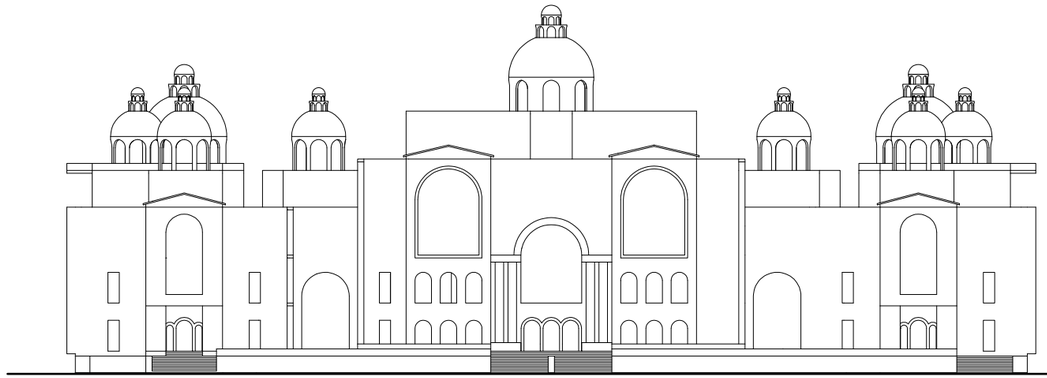
2007
Abandonment

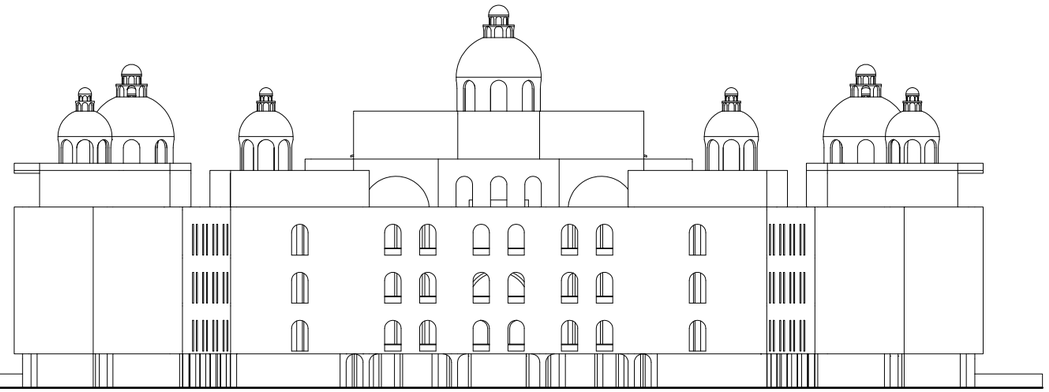


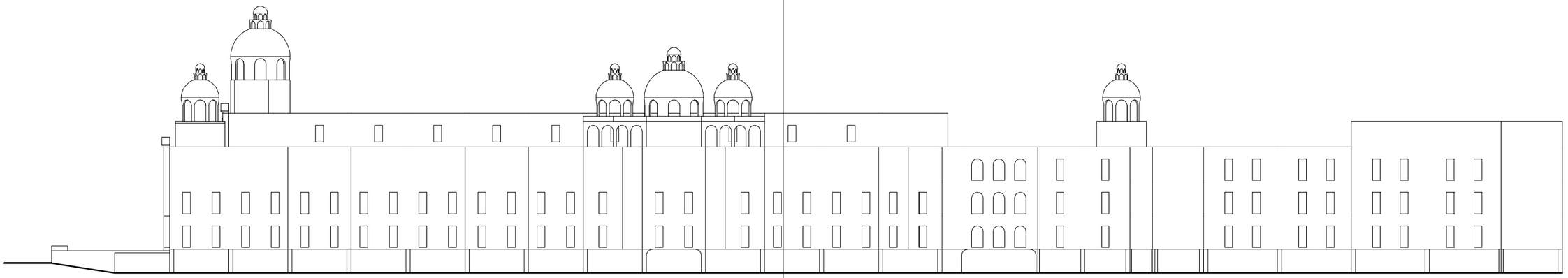
This commercial building was repositioned as a wholesale market for miscellaneous goods, clothing, and curtains. The launch of these projects and introduction of entertainment facilities only brought a short period of excitement to Centre Island, which soon fade into anonymity.

Figure 32 The Centre Island, 2019

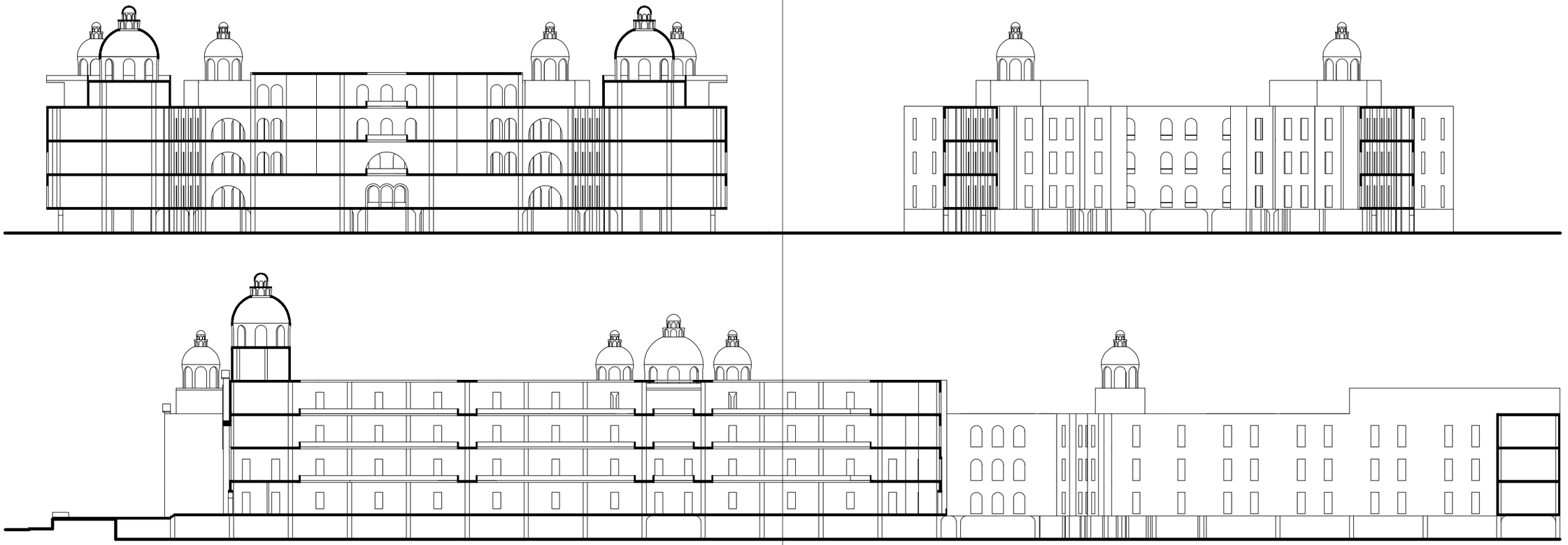
Documentation







Top Left : Southwest Elevation, Top Right: Northeast Elevation
Bottom: Southwest Elevation



Top: Cross Section
Bottom: Longitudinal Section

Existing Conditions

Market, Basement

Garage, Basement

The Centre Island is now being occupied in varying degrees, and gradually forms its own ecology. The gound floor serve as wholesale market for miscellaneous goods, clothing, and curtains as it was planed in 2007. The Basement is occupied as parking garage, then part of it were also turned into wholesale market. The majority of the upper floors are vacant, or serve as warehouses. The roof was originally occupied by several homeless groups, then it was reconstructed as youth apartment and private church in 2019.

Entrance, Ground Floor

Figure 33. Atrium

Figure 34. Warehouses, Upper Floors

Figure 35. Top Floor

Figure 36. Roof Top

Design Methodology

User Group and Program

The targeting user group of this project are those rural migrants (previous user of Tulou) aging from 16 to 40 (51% of rural migrants). They can be categorized into four patterns, career builder, emotional explorer, family helper, and lost follower. Their children will also be included. The career builder usually have achieved relatively high level of education, and operate independantly in gathering professional knowledge and skills during the migration process to promote their career development. Therefore, they tend to maintain a more stable life, which make them the core parts of the audience. The family helper also prefer stable working environment, they relocate only to earn a higher salary or to attain better opportunities. These two groups can be regarded as long term users, that is the majority of the audience. The emotional explorer migrates for entertainment, who have a relative random living pattern. The lost follower are young and have not developed into any of other three patterns, they are not well-prepared and usually migrates with families or friends. These two groups of people can be regarded as short term users, who are hard to control their future development, so their residency is uncertain and they can only stay temporarily.

The proposed use of this project will adapt collective housing of Tulou to urban context, and bring back the school, which is a pre-existing program of Tulou as educational space and library for the children of migrants. Certain existing program of centre island will be retained, which includes whosale markets and youth housing. Pre-existing public program of centre island like entertainment space and catering space will be reconstructed to build the connection between migrants as new citizens and their city.

Hu, Xiaochu. "*China's Young Rural-to-Urban Migrants*," 2012.
"*Migrant Workers and Their Children.*" China Labor Bulletin, 2020.

Precedents Study

Existing Experiment

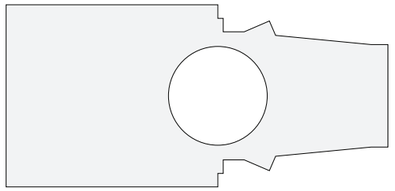
Tulou Collective Housing
Urbanus, 2008
Nanhai, Guangdong, China

Urbanus explored the size, space patterns, and functions of Tulou, and discuss the feasibilities and possibilites of contextualizing the variable metamorphoses of traditional dwelling modules with an urban reality. As a structure emphasized equality, Tulou is experimented as a solution for low-income collective housing within the expanding urban area. However, it triggered regional rejection in real life. The building itself is surrounded by warehouses and low-rise urban villages, which are the authentic typical urban landscape created by urbanization. Within this spatial structure, it is rejected by the environment and act as an appendant. Additionally, this project is not occupied by targeted audience but white collars rapidly for cheap rent. The boundary created by this form not only separate the physical environment but also informed class differentiation. Instead of replaying the characteristics of equal rights in Tulou, the borrowing form actually stimulates the contradiction of class differentiation in the process of urbanization in China.

Figure 37. Conceptual Collage

Integration of Unity

Chichu Art Museum
Tadao Ando, 2004
Naoshima, Kagawa Prefecture , Japan



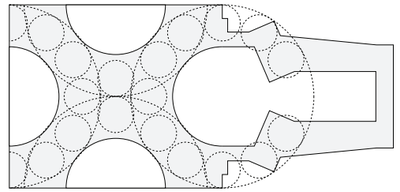
The Chichu Art Museum was constructed while rethinking the relationship between nature and people. The use of pure concrete and geometric form eliminates surface level cultural elements, but inherits values of the island region.[1] Such an organization and connection between various geometric forms in this project indicates the possibility of bringing two totally different form of Tulou and Centre Island together.

1. Karapetyan, Steven. "*A Close Read on Chichu Art Museum in Naoshima Island in Japan.*" 2019

Figure 38. Aerial View

Assimilation of Concentricity

Aranya Art Center
Neri & Hu, 2019
Qinhuangdao, China



Within the Aranya Art Center, an inverted cone space was dug out for gathering, which can be reconfigured and used in many ways, a water feature when filled with water, but also a functional performance and gathering place when the water is drained.[1] This project shows how the original wide open gathering space of Tulou can be introduced in cnetre island to accomodate growing needs of public activities.

1. "Aranya Art Center, China by Neri & Hu." 2019.

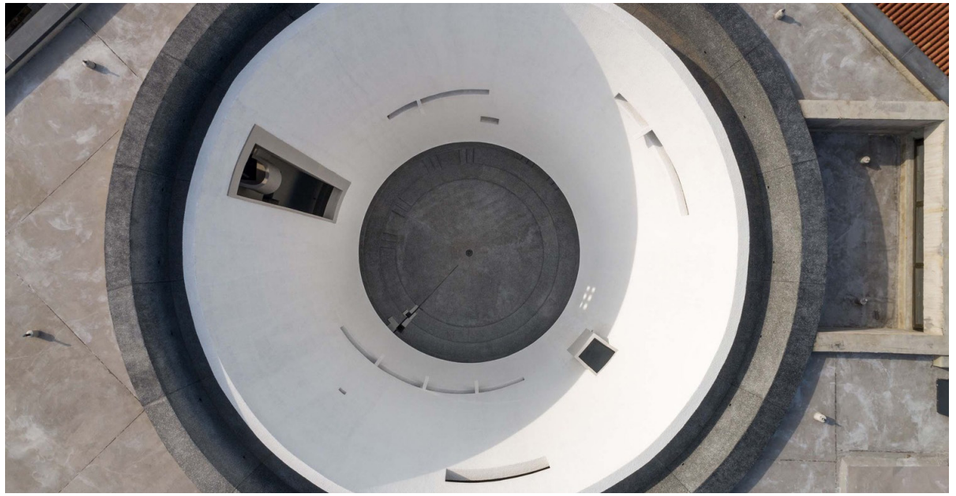
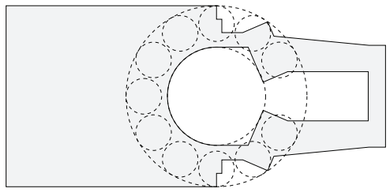


Figure 39. Atrium

Separation of Equality

Lofts Bertín
Tijeral, Taller de Arquitectura, 2016
Chonchi, Chile

Since the strategy of separation refers to defending the original feature and identity, the equality of living conditions in Tulou should be brought to Centre Island while adapting to the current layout and natural environment.



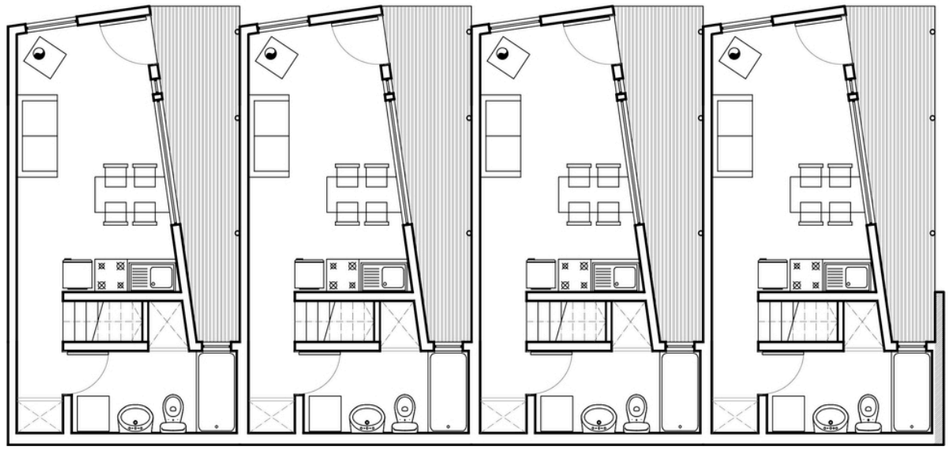
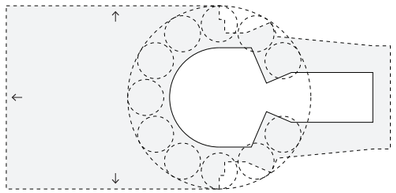


Figure 40. Plan Analysis

Marginalization of Repellency

CaixaForum Madrid
Herzog & De Meuron, 2008
Madrid, Spain

The repellency of Tulou should be marginalized for these new citizens to integrate into urban context. The way CaixaForum Madrid opened its ground floor to generate an welcoming space that connected the building itself, people, and neighboring environment can be used for reference.



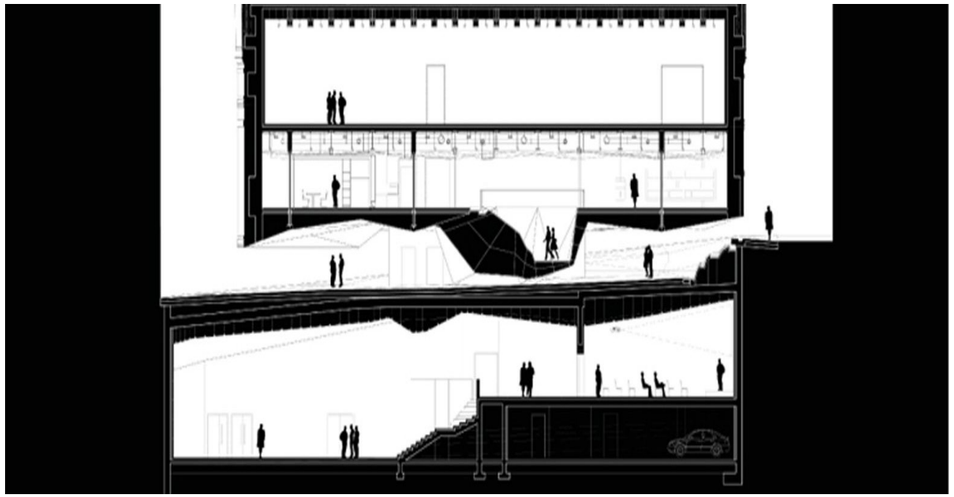
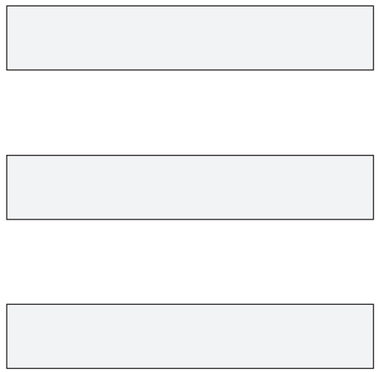


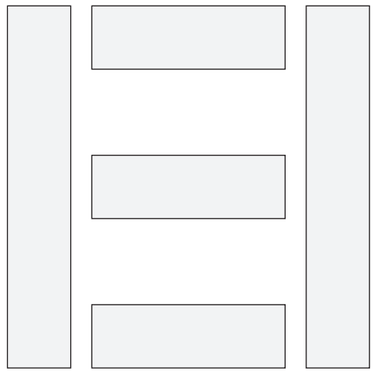
Figure 41. Section Analysis

Phase V, The Cross House

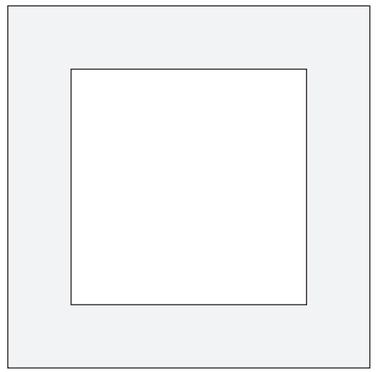
New Geometry



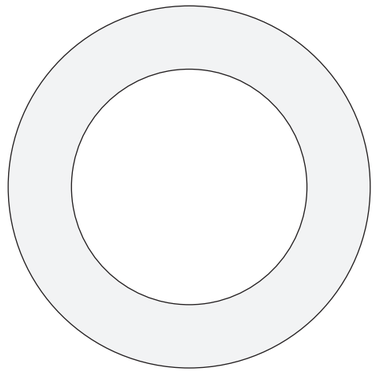
Phase I, The Courtyard House



Phase II, The Five-phoenix House



Phase III, The Rectangular House



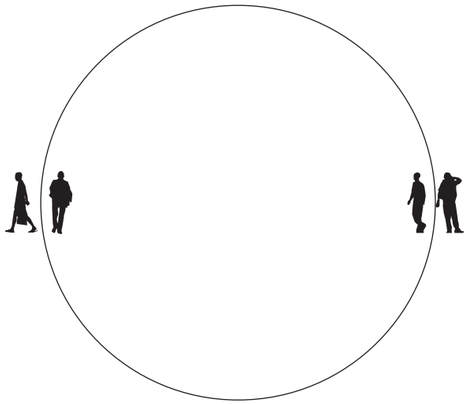
Phase VI, The Circular House

Reorganization

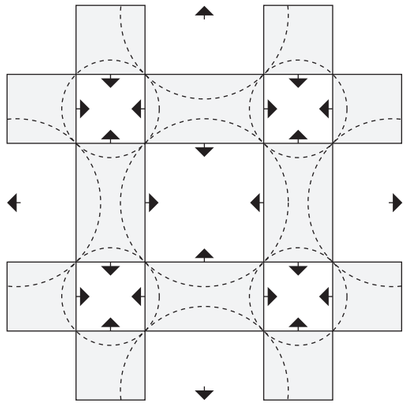
Reverse

Assimilation

Phase V, The Cross House

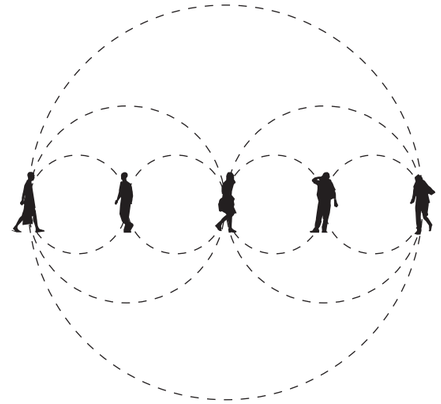


Existing Social Relations of Tulou



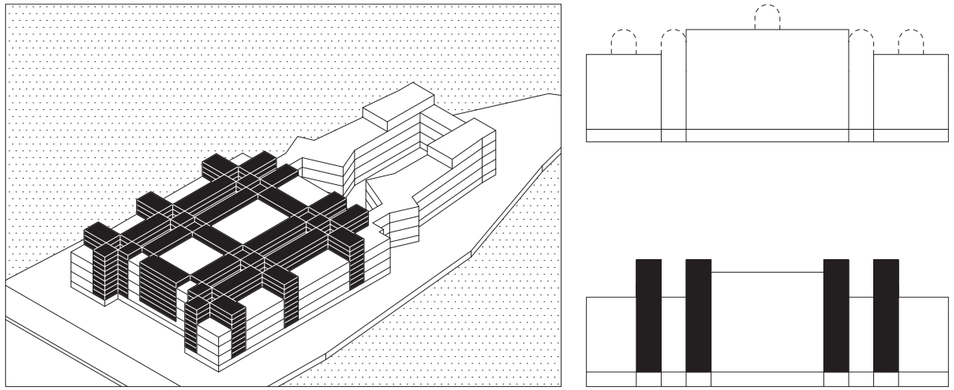
New Geometry

The former single large community and unified courtyard aer both divided into several ones,which generate layers from individuals, groups, communities, and larger society.

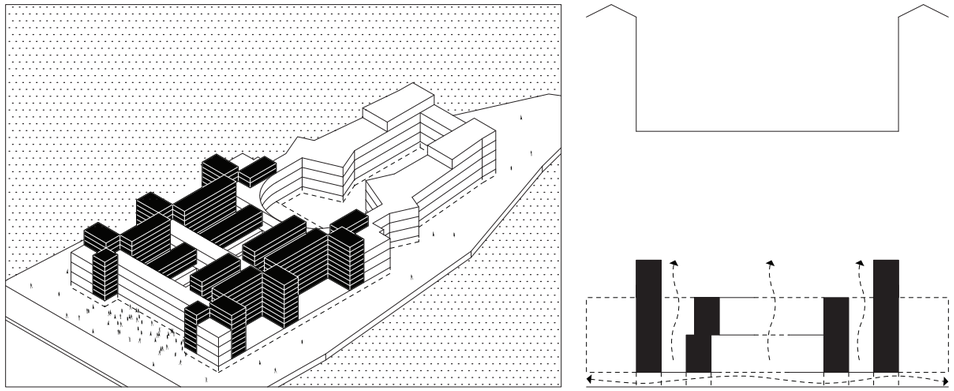


Proposed Social Relations

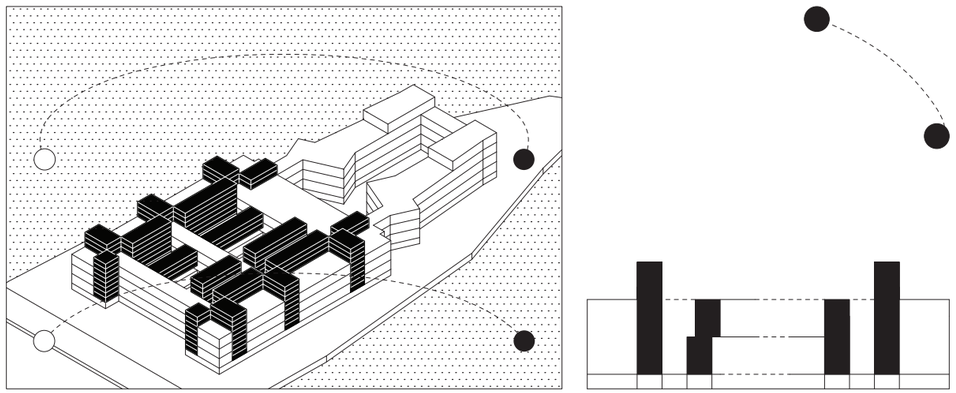
General Strategy



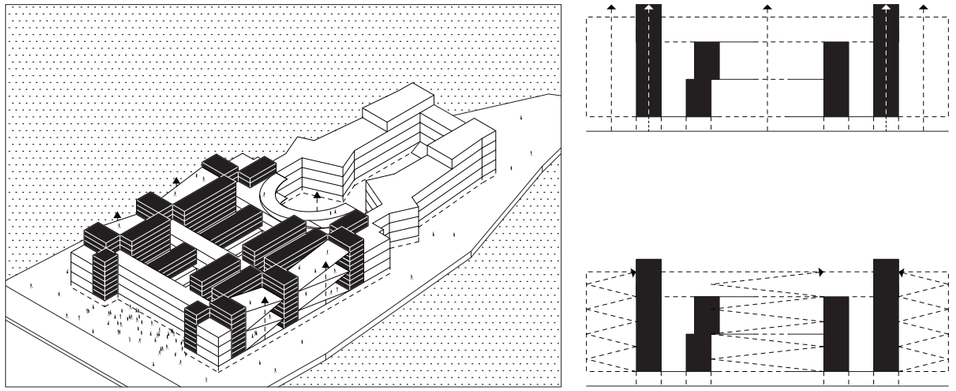
Adapting New Geometry



Retrieve Publicity



Adapting Local Environment



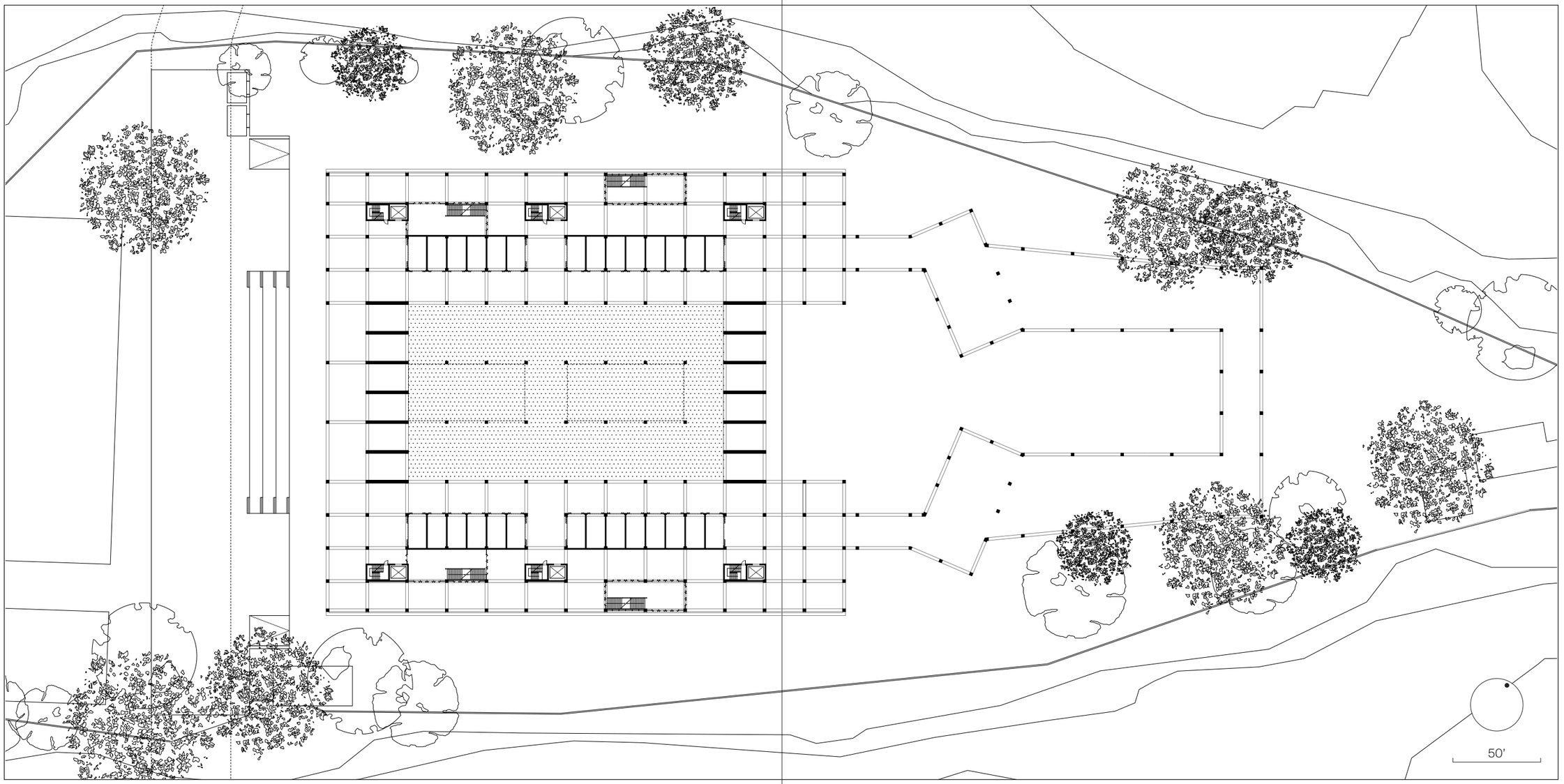
Bridging Context

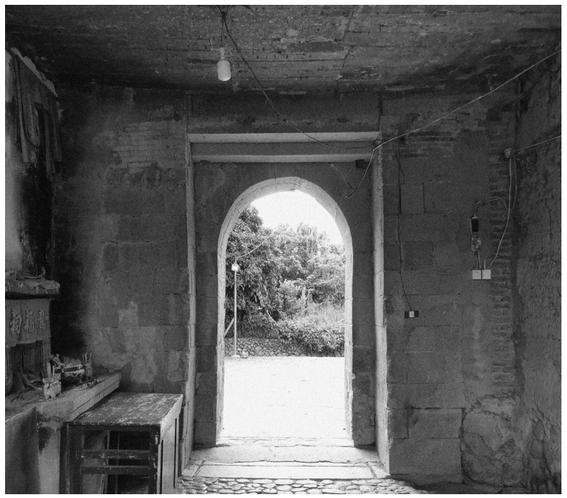
Southwest Elevation

Tulou, Facade

Figure 41. Central Island, Existing Condition

Basement Floor Plan

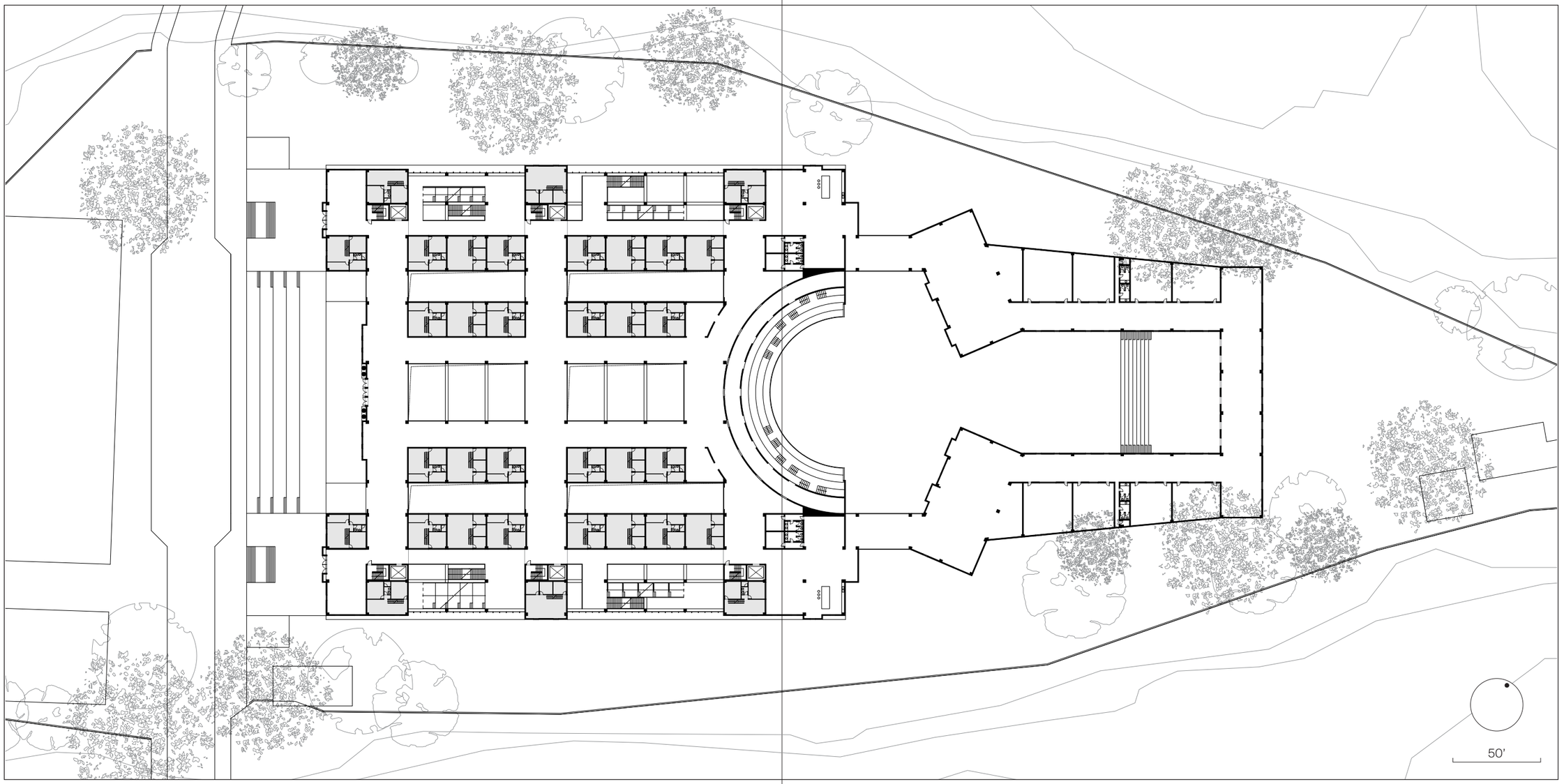




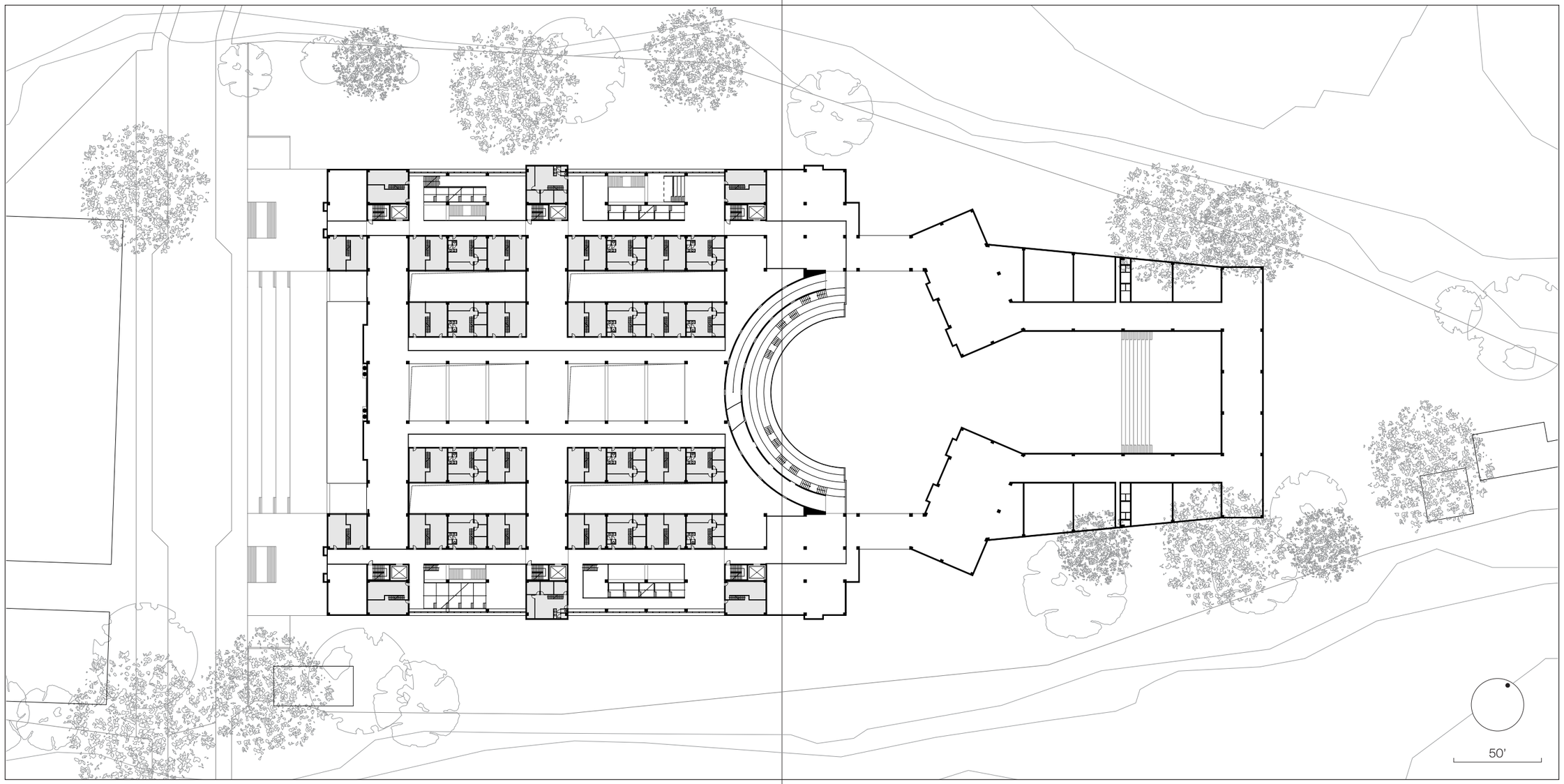
Tulou, Entrance

Central Island, Existing Condition

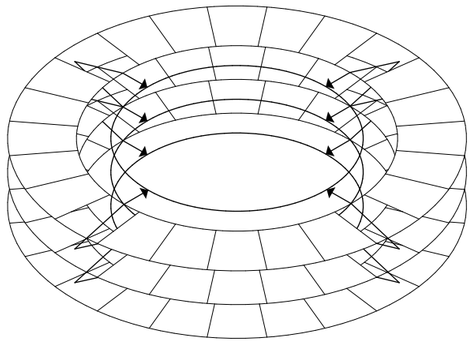
Ground Floor Plan

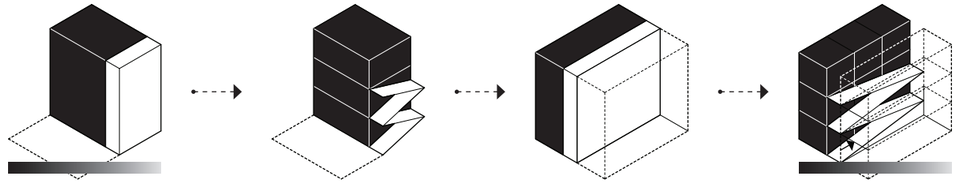


Mezzanine Floor Plan



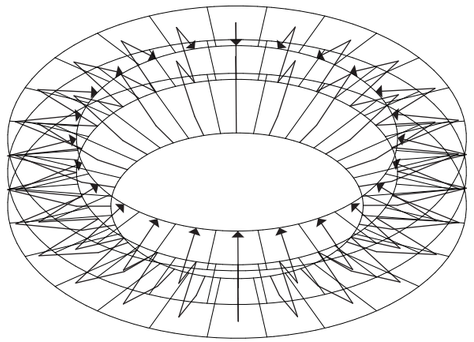
All the housing units are proposed as three-story units to continue the original vertical living experience in Tulou and minimize the public circulation in the existing structure. In the Tulou with continuous hallway, individual living spaces are divided into several stories and connected by public hallways and staircases. Therefore, the living experience within such a typology is blended between public and private. A shared living unit is derived from this, the public living space, vertical circulation, and individual bedrooms are extracted as three layers, which makes it flexible for the short-term users.

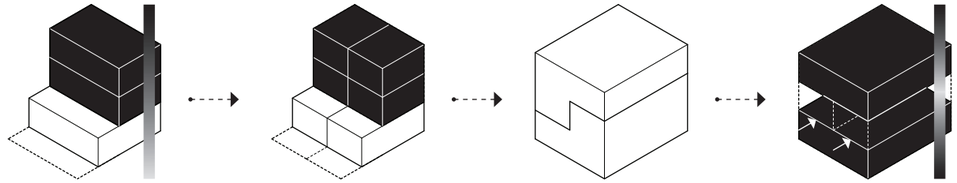




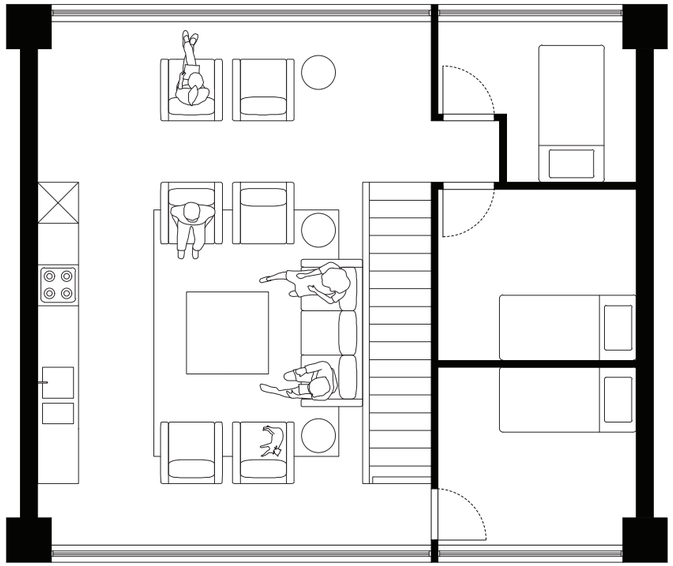
TYPE A, Shared Living, Short Term Audience

In the Unit-type Tulou, each family has an individual entrance and vertical access, with the living space on the first level, and private space on the upper levels. This L-shape housing type is transformed to maintain former privacy level and combined as three-story units, which makes it suitable for long-term users with larger family structures.

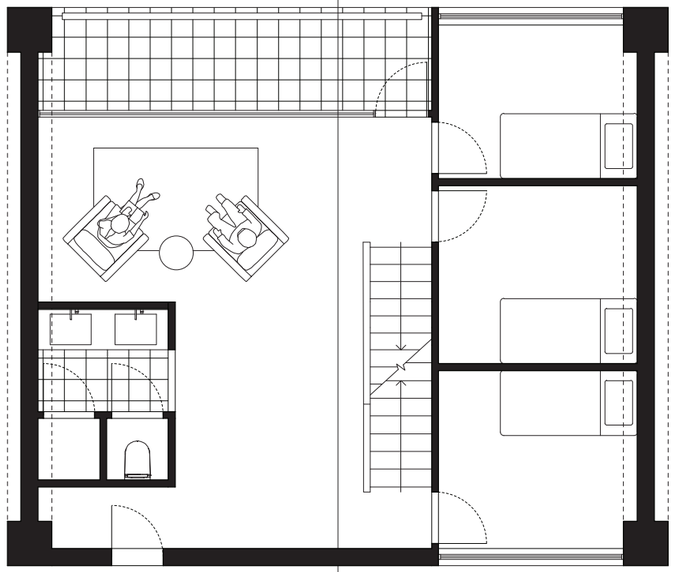




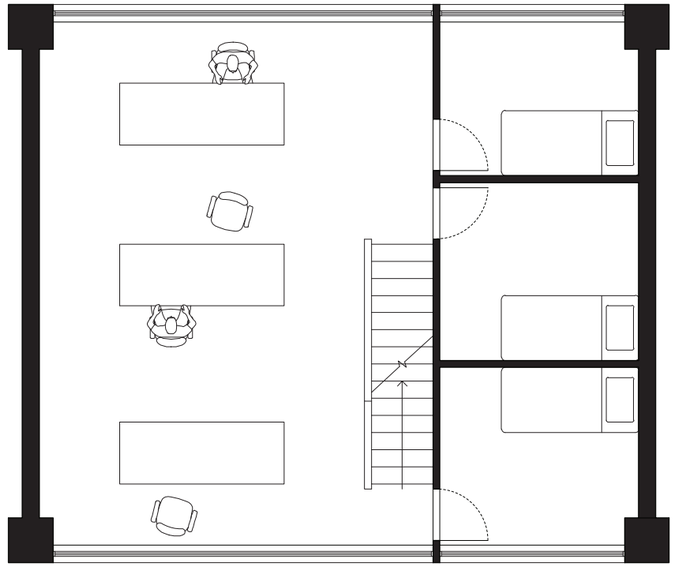
TYPE B, Family Housing, Long Term Audience



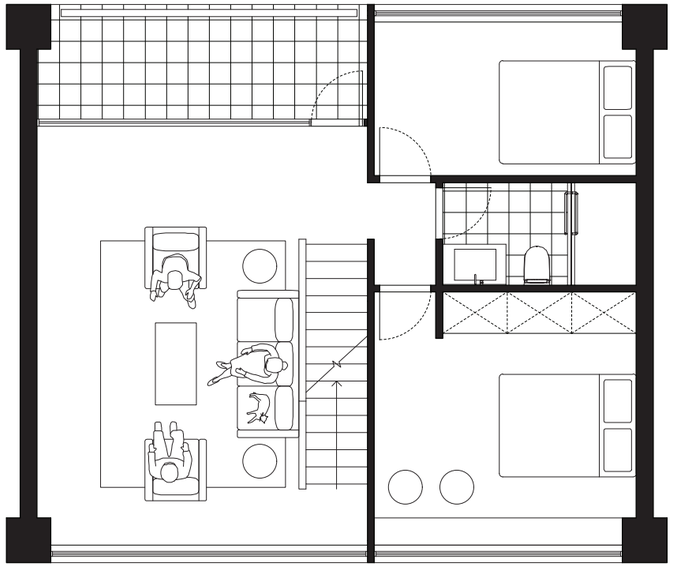
First Level, Dining Room / Gathering Space / Bed Room (3)



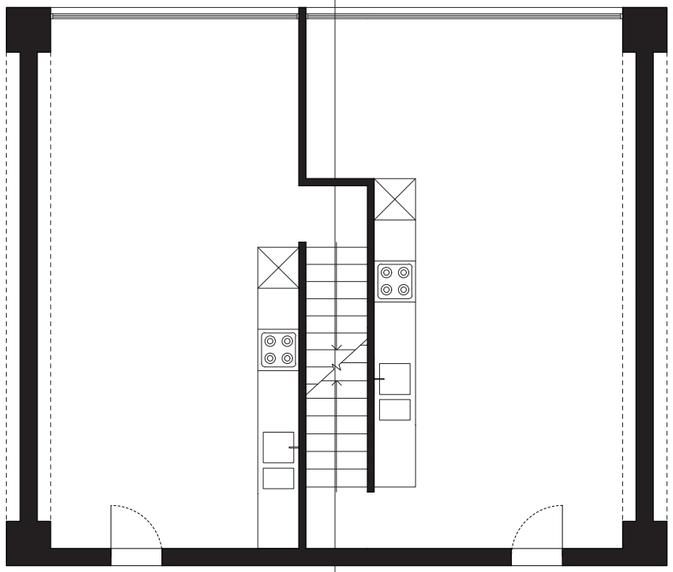
Second Level, Bathroom / Living Room / Bedroom (3)



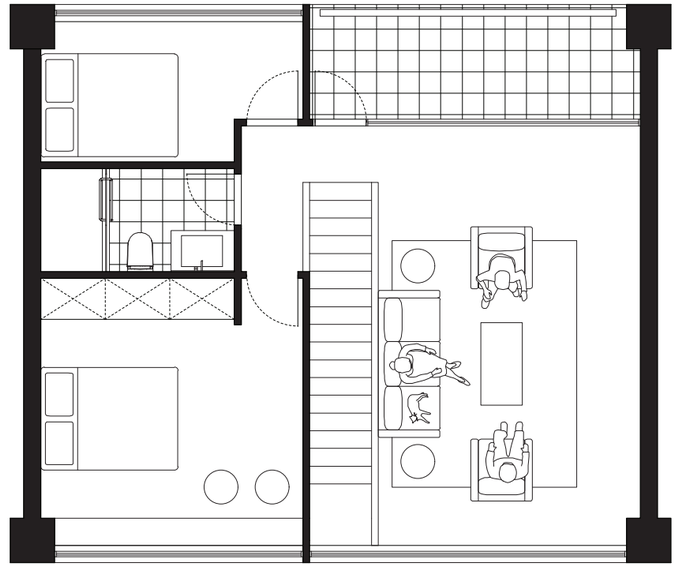
Third Level, Home Office / Study Room, Bedroom (3)



First Level, Living Room / Bedroom (2)

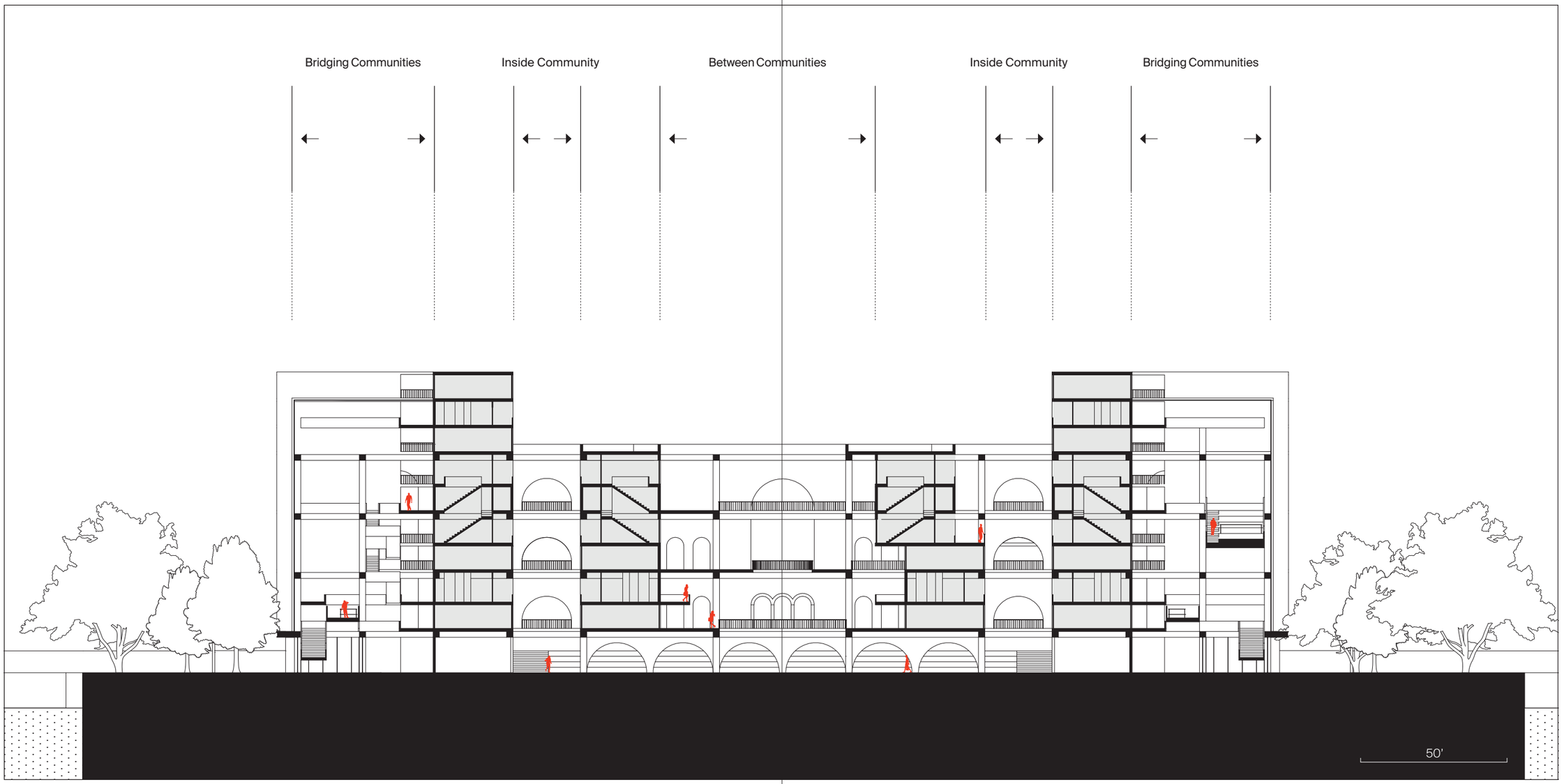


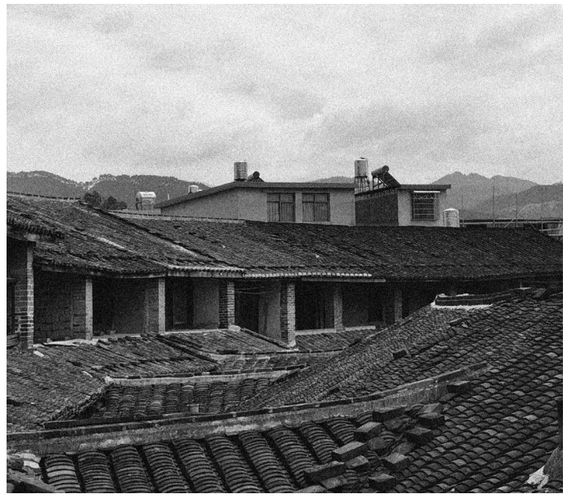
Second Level, Entrance / Dining Room



Third Level, Living Room / Bedroom (2)

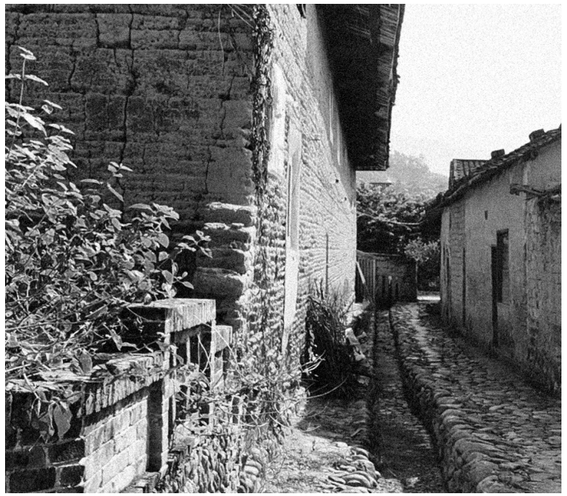
Cross Section





Tulou, Visual Connection in Balcony

Central Island, Existing Condition



Tulou, Inbetween

Figure 42. Central Island, Existing Condition

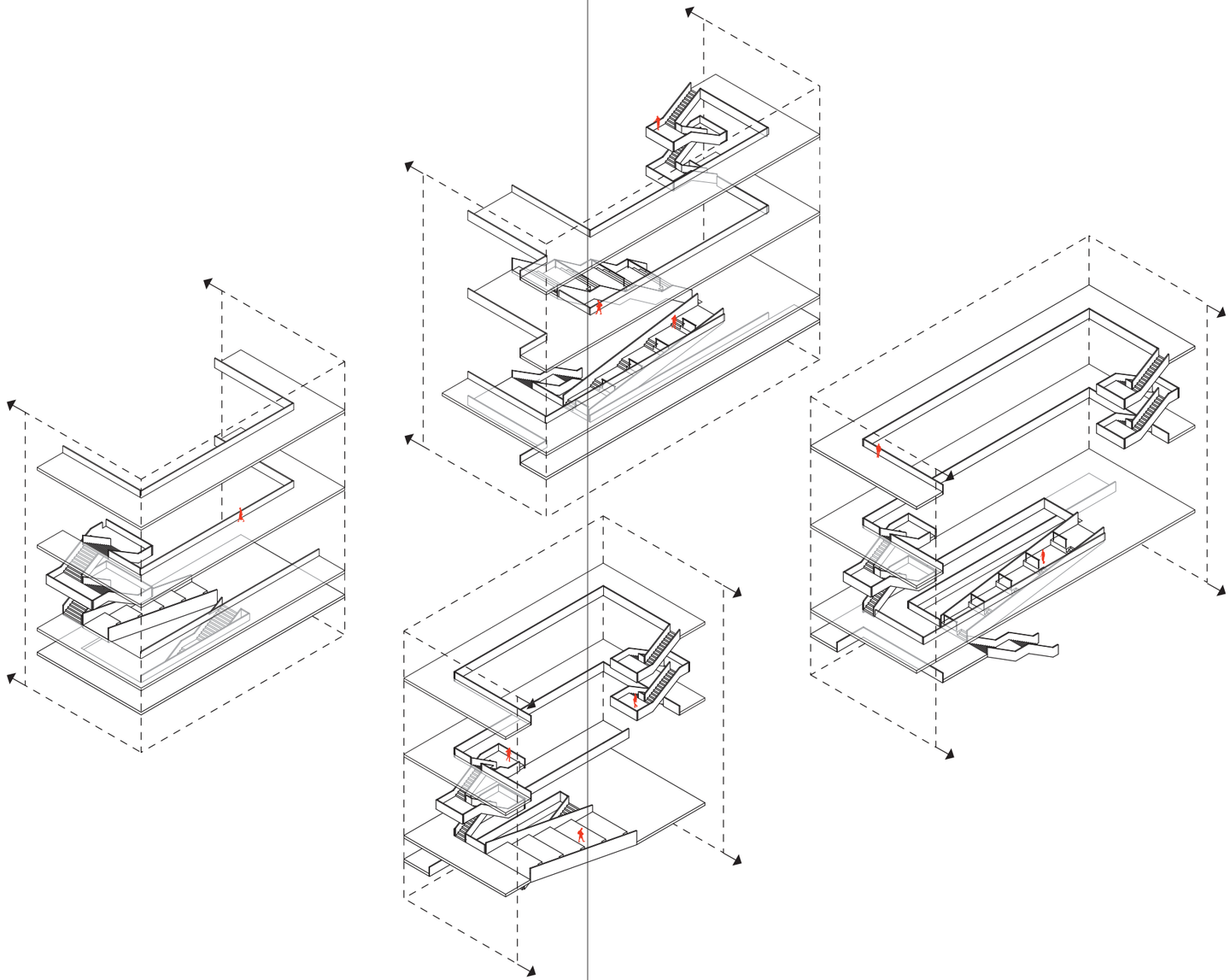
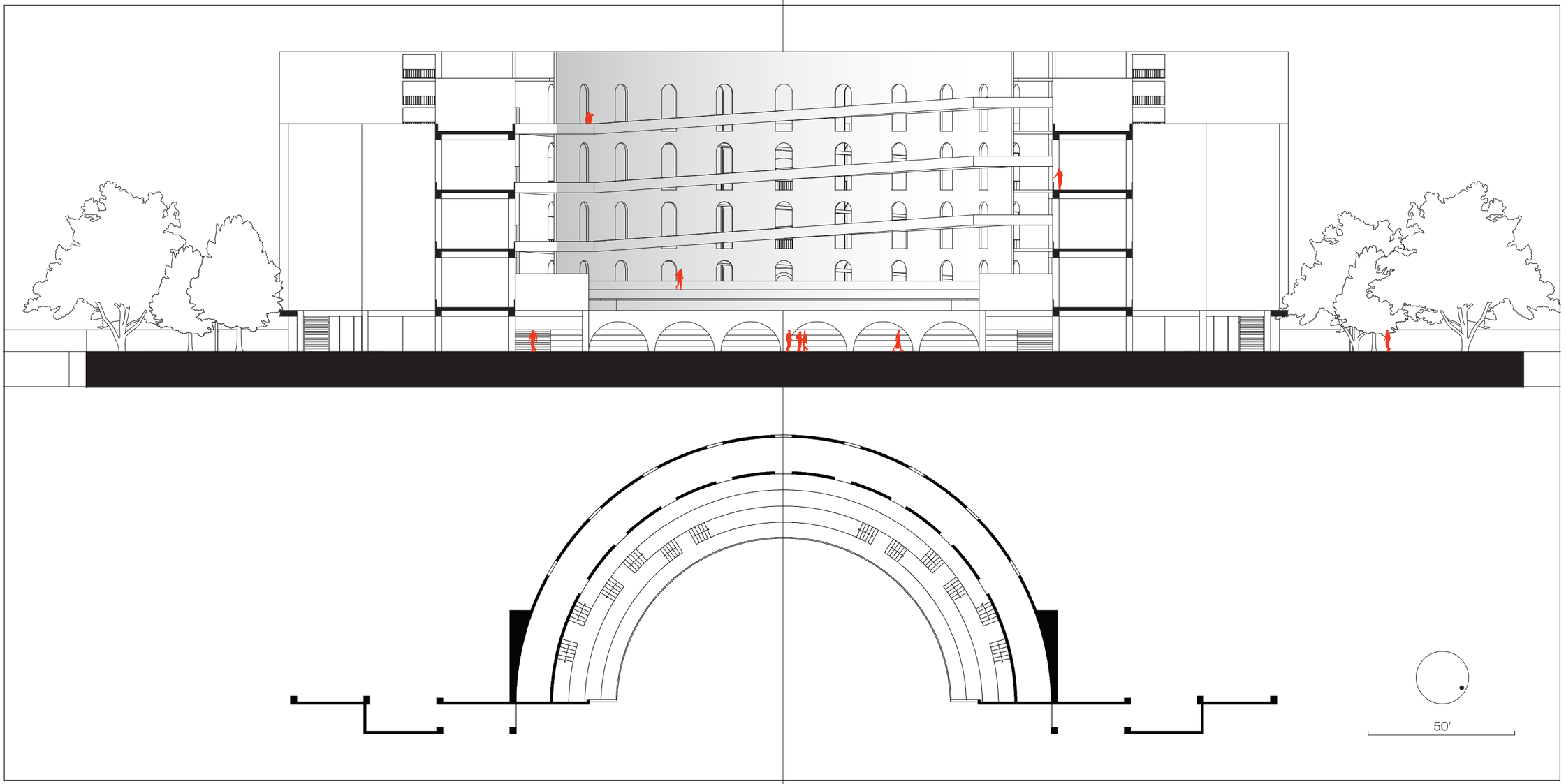


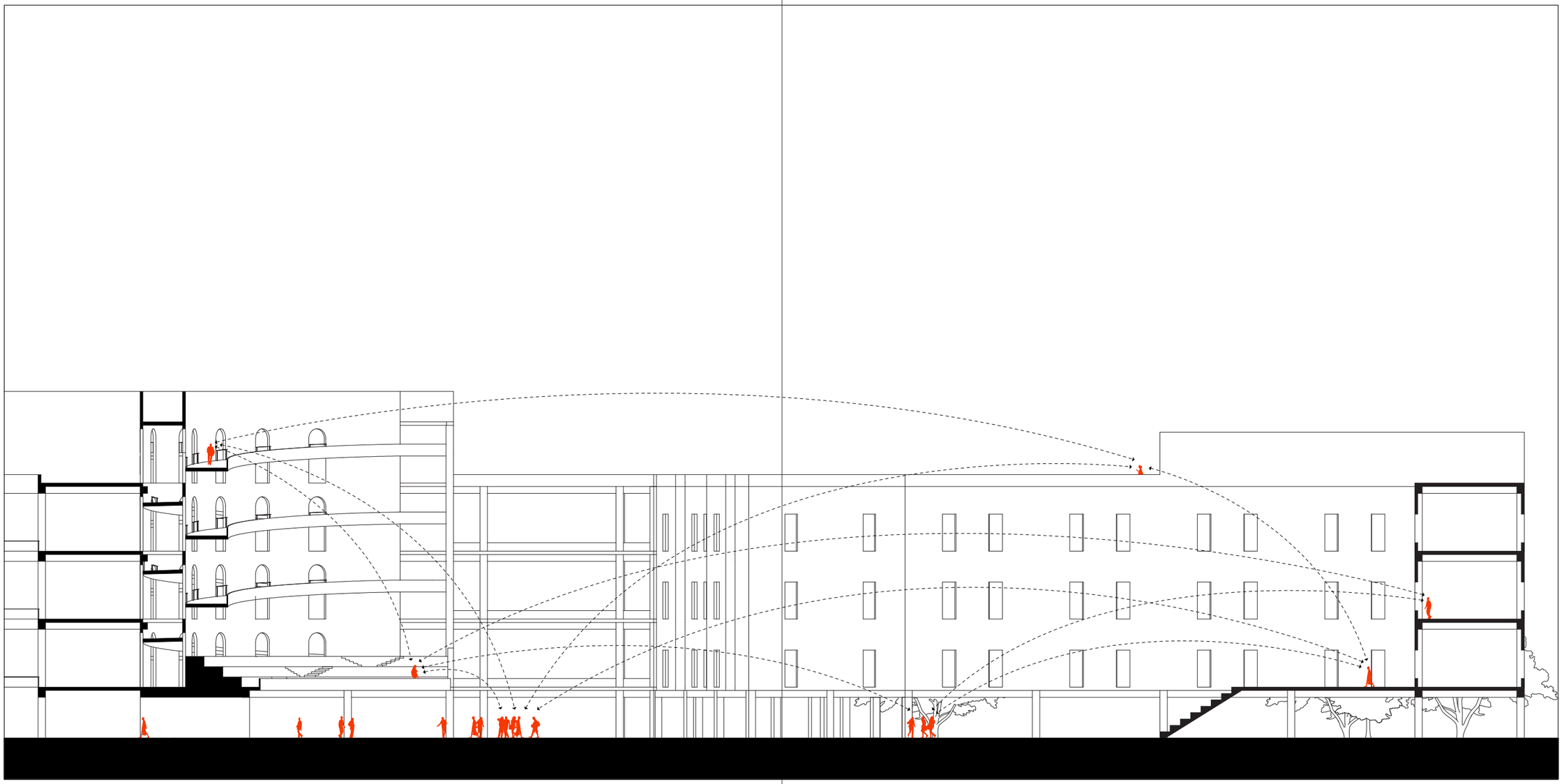
Figure 43. Tulou: Communal Life

Figure 44. Central Island: Existing Condition

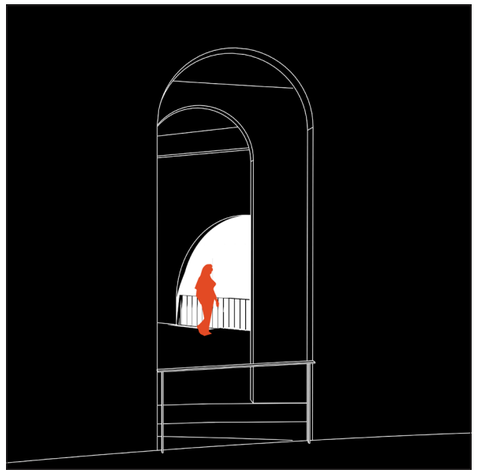
Central Courtyard Cross Section

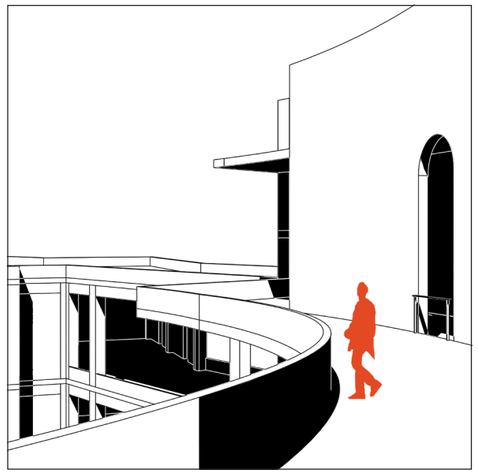


Central Courtyard Section



Journey Through Central Courtyard





Central Courtyard

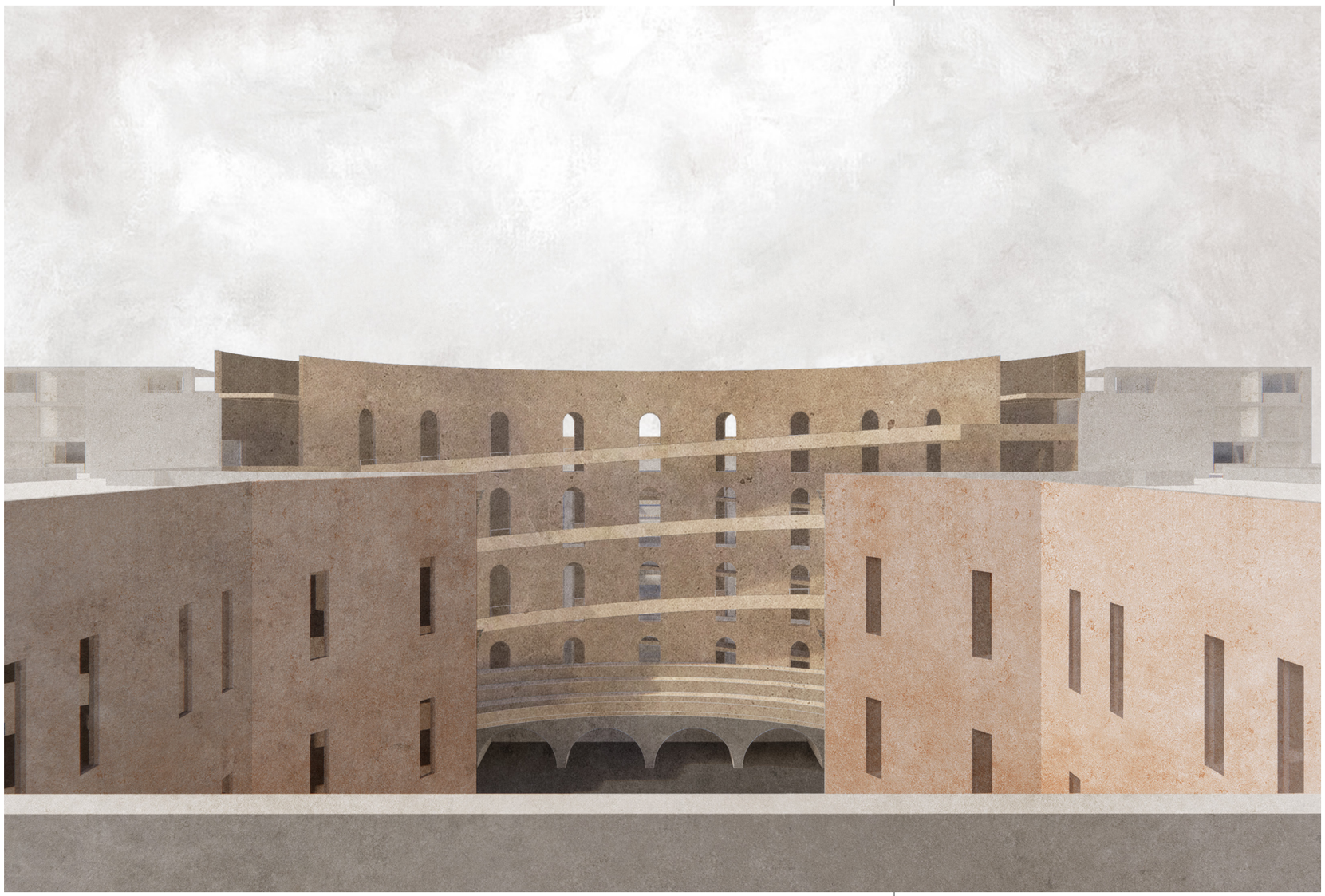
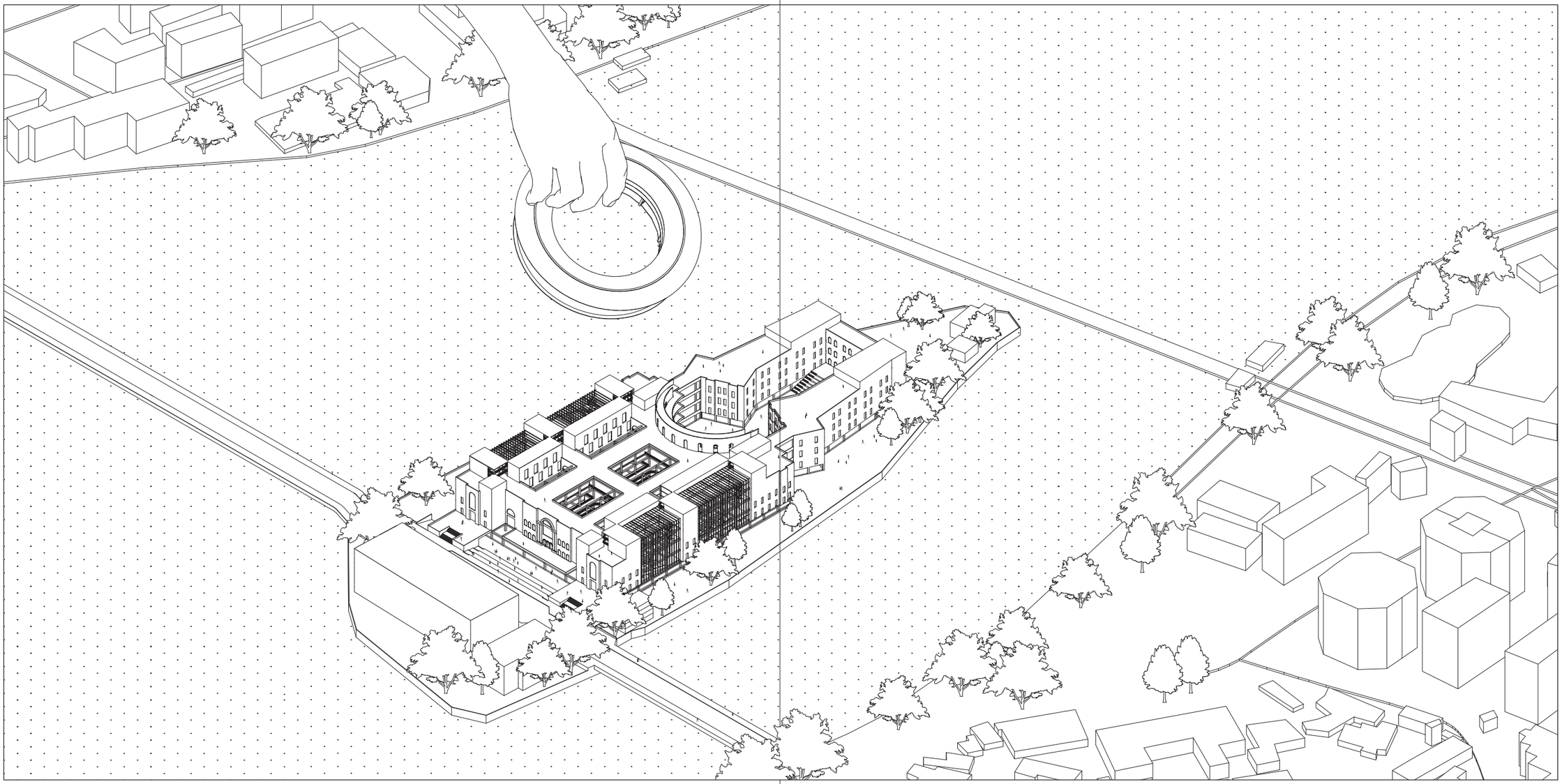


Figure 45. Tulou: Courtyard View

Central Island: Existing Condition



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By taking a large number of Tulou and settlements as examples, this book makes an in-depth discussion on the variant form, settlement mode, architectural technology, spatial characteristics, microclimate control, culture and historical causes of Fujian Tulou, which provides a systematic understanding of Tulou.

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