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DESIGN AND TRADITION

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2022 Volume 322

Series Editors: Mark Gillam Hesham Issa Adnya Sarasmita



TRADITIONAL DWELLINGS AND SETTLEMENTS WORKING PAPER SERIES

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Traditional Dwellings and Settlements

Working Paper Series

TEMPLE SCHOOL IN LOCALITIES: A STUDY ON THE SPATIAL LAYOUT OF LIBO CONFUCIAN TEMPLES IN THE LATE QING DYNASTY

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Volume 322

Pages 1-24

2022

TEMPLE SCHOOL IN LOCALITIES: A STUDY ON THE SPATIAL LAYOUT OF LIBO CONFUCIAN TEMPLES IN THE LATE QING DYNASTY

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The Confucian Temples is generally built by the government to offer sacrifices to Confucius and his disciples, famous Confu. After the pacification of Yunnan in the 14th year of Hongwu of the Ming Dynasty (1381), Zhu Yuanzhang stationed 300000 soldiers in Yunnan and Guizhou, firmly guarding the southwest. After that, a large number of Jianghuai immigrants moved to Guizhou, which is known as "transferring the north to fill the South" (週北填南) (diao bei tian nan). During the Yongzheng period of the Qing Dynasty, the forcible "bureaucratization of native officers" (皮土均流) (gai tu gui liu) made the power of the central dynasty further penetrate into Guizhou. The rule of the central ruler over the locality played an important role in the spread of Confucianism, and the Confucian Temple architecture gradually takes root in the place in this process.

Libo is located in ethnic minority areas in Guizhou, China. and has been on the edge of Chinese culture for a long time. The construction of the Libo Confucian Temple in the Qing Dynasty witnessed the fusion of the local and the Chinese culture. Libo Confucian Temple is located in the center of the Libo old city. It was once an important official building and affected the formation of the urban layout. However, the Confucian Temple had been damaged and only a few historical remains. In the rupture of history, how should the old city excavate history and shape characteristic cultural symbols in the process of modernization? At present, Libo old city is facing the dilemma of rejuvenation. As an important historical remains of the old city, the restoration of Libo Confucian Temples is an important problem facing the revival of the old city.

Libo Confucian Temple was built in the second year of Qianlong (1738) and has been repair for many times. The existing historical remains are built in the ninth year of Tongzhi (1870). There are Pan-chi (洋池), Pan Bridge (洋桥), Yuetai (月台), Lingxing Gate (禄星门) and Sumitomo base (须弥座) (xu mi zuo). Based on the analysis of literature, historical satellite images and relic information, this paper sorted out the development process of Confucian Temple architecture in Guizhou, clarifies the construction process of Libo Confucian Temple. Then studies the restoration of the architectural plane and spatial form of Libo Confucian Temple with reference to the architectural historical remains of Qing Dynasty Confucian Temple in other cities of Guizhou at the same time. Finally, the spatial form and plane layout of Libo Confucian Temple were basically restored.



Fig 1: Layout of Guizhou Confucian Temple. (Source: Self drawn by the author).

1. INTRODUCTION

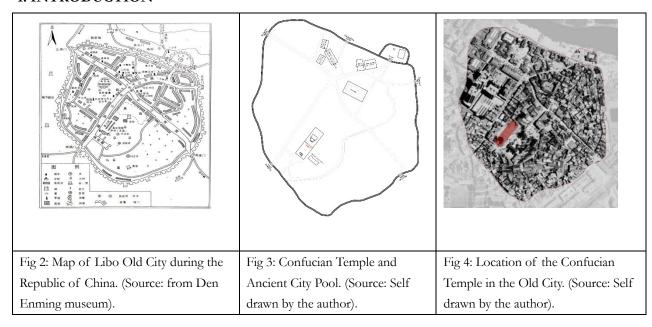




Fig 7: Location of Remains. (Source: Self drawn by the author).

Fig 8: Current photos. (Source: Self drawn by the author).

Libo Confucian temple is located on the east of Jianshe road in the old city (Fig2, 3, 4). After the Confucian temple was damaged, the site has been preserved. The existing ruins were built in the Nine years of Tongzhi (1870). There are Pan-chi, Pan Bridge, Yuetai, Lingxing-door and Sumitomo base. The Yuetai where the Lingxing gate is located is 10.5 meters long, 11.8 meters wide and 1.4 meters high. The surrounding is leveled with square stones. Pan Chi is half moon shaped with a bottom diameter of 12.8 meters. There is a three hole bridge on panchi, with a length of 6.5m and a width of 2.6m. It is built by stone and hemp strips.

Libo Confucian temple lacks completely preserved ancient buildings and old photos, and only architectural components remain. However, the scattered components provide a certain positioning, style and scale reference for the Confucian temple architecture.

Confucian Temple is the core carrier of the regionalization of Confucianism in Guizhou. The textual research of Libo Confucian temple is not only of significance to the study of Libo's historical features and culture, but also reflects the historical events of Qiandongnan region's integration into Chinese culture in the Ming and Qing Dynasties. It has certain research value.

The textual research of historical buildings is generally based on the analysis of current information and historical information. Current information mainly refers to existing relics. The carriers related to historical information are more diverse, mainly divided into documentary records, historical images, etc. Then, it will also study cases of the same type in the same period for reference. The process of textual research first summarizes

the layout and form laws of the same type of buildings. Secondly, according to the literature records, the existing remains and the area of the foundation site, the depth of the overall courtyard bay and the size of the main buildings are analyzed. If there is no dimension record, refer to the contemporaneous architectural remains. For buildings with incomplete image information or rare images, refer to relevant images in paintings of the same period. The textual research focuses on the layout and proportion of buildings.

The relevant current situation information of Libo Confucian temple includes a small number of current situation remains. Historical information includes literature records and historical satellite images. Libo Confucian Temple also has related cadastral map information. As relatively stable objective information, the cadastral map connects the current information and historical information. The textual research method of the layout of Libo Confucian Temple in this paper is mainly divided into three steps. First, analyze the layout characteristics of official conventional Confucian temple buildings. The second step is to select relevant cases, conduct case analysis on other Confucian temples in Guizhou during the same period, and summarize their layout rules. And analyze whether there is a localized change in the layout after the Confucian Temple building was introduced into the local area, and analyze the similarities and differences between the conventional official Confucian Temple building and the local Guizhou Confucian Temple building layout. Third, sort out the historical information of the construction process of Libo Confucian Temple. Combined with the cadastral map (地籍图) (di ji tu) of the Confucian Temple plot to analyze the boundary of the Confucian Temple complex and the location and size of each individual building. In the end, it is roughly restored to its original layout.

2. THE ARCHITECTURAL CONFIGURATION OF THE CONFUCIAN TEMPLE

In the early days, the Confucian temple implemented the form of "integration of temple and learning"(庙学合一)(*miao xue he yi*). It was not only an official school designated by the imperial court, but also a place to worship Confucius. It was an ancient ritual temple. In ancient times, the official had strict requirements on the architectural form and sacrificial ceremony of Confucian temples, which were advocated and implemented by the state. In the Song Dynasty and later, with the development of urban economy, urban land was tight, and the Confucian temple separated "Temple" from "school".

2.1. The main architectural layout of the central axis of the Confucian Temple

In terms of architectural layout, the Confucian Temple is influenced by the traditional Chinese concept of

hierarchy, emphasizing its sense of solemnity and authority in the architectural composition, and generally adopts the layout method of central axis symmetry. According to different grades, Confucian temples in various places are classified according to the number of courtyards distributed along the central axis, which can be divided into nine-entry courtyards, five-entry courtyards, three-entry courtyards, and two-entry courtyards. In the Song Dynasty, the Confucian Temple has evolved into an interdependent and independent system of buildings and courtyards. The positioning of the main hall determines the basic layout of the Confucian Temple, and the order and hierarchy of other functions are built around such controlling buildings or spaces1. The Qufu Confucian Temple has the highest specification and is modeled on the specifications of the royal court, with a total of nine courtyards. It has the supreme status in the national Confucian temples. In other places, Confucian temples are mostly in the form of three- or five-entry courtyards. The central axis of the Confucian Temple consists of six main parts: Wanren Palace Wall (万仞宫墙) (nan ren gong qiang) , Pan-chi, Lingxing Gate, Dacheng Gate (大成门) , Dacheng Hall (大成殿) , and Chongsheng Temple (崇圣祠) (chong sheng ci) , which are unfolded in turn. Some temples add a few auxiliary buildings on both sides of the axis courtyards.

In the space sequence, it is mainly divided into leading space, main space and auxiliary space. The leading space includes Wanren Palace Wall, Pan-chi and Lingxing Gate. The main space is the courtyard with the Dacheng Hall as the core, which is an important place for various ceremonies. The auxiliary space is built after the Dacheng Hall, which is usually the last one to enter the courtyard. There is a Chongsheng Temple(Fig7).

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¹ Shen Yang Oriental Confucian Light: Research on Confucian Temples in Ancient Chinese Cities, Nanjing: Southeast University Press, 2016

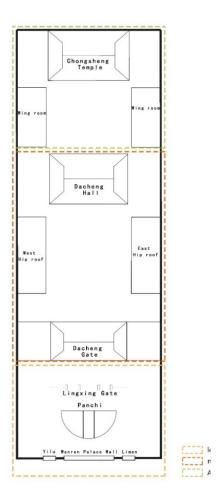


Fig 7: The central axis layout of the Confucian Temple. (Source: Self drawn by the author).

2.2. East and west corridors and ancillary buildings

The building layout on both sides of the axis of the Confucian Temple is relatively fixed, but different Confucian Temples will be slightly different due to differences in scale and function. The basically determined layout is that the east and west wings in front of Dacheng Hall in the main space. The two sides of the leading space are also generally equipped with wing rooms (厢房) (xiang fang), which are used as ancestral halls (祠堂) (ci tang), usually "Shenxian Temple" (圣贤祠) (sheng xian ci) and "Mingguan Hall" (明伦堂) (ming luan tang) or "Guan Hall" (官厅) (guan ting) and "Minglun Hall". The larger-scale Confucian temples have all four types of ancestral halls, while the smaller-scale ones only have the main buildings on the central axis. Auxiliary space is small, generally not equipped with wing room. Occasionally large-scale, there are wing rooms on both sides of the auxiliary space, which are used as "Zunjing Pavilion" (尊经阁) (zuan jing ge) or other ancestral halls. In addition, some large-scale Confucian temples have courtyards at the rear.

3. THE ARCHITECTURAL LAYOUT OF CONFUCIAN TEMPLE IN GUIZHOU DURING THE MING AND QING DYNASTIES

After the Yuan Dynasty, Chinese cities experienced a construction climax in the Ming Dynasty. Libo Confucian Temple was built in the second year of Qianlong's reign in the Qing Dynasty (1737), The existing ruins were built in the ninth year of tongzhi (1839). Cities and official buildings in the Qing Dynasty still follow the previous dynasties. At the same time, most of the administrative districts and cities in Guizhou began in the Ming Dynasty. Therefore, the study of Libo Confucian temple was extended to the Ming Dynasty. The analysis of the architectural layout of Guizhou Confucian temple is mainly from the two directions of architectural layout and scale, so as to form a more complete and measurable layout.

3.1. Main building layout

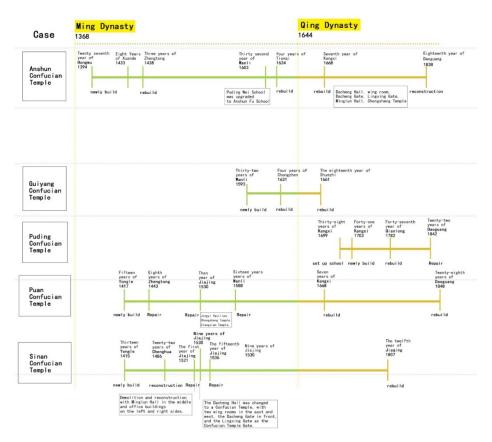
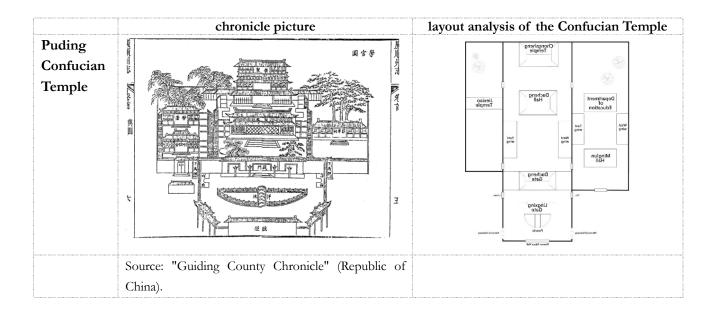
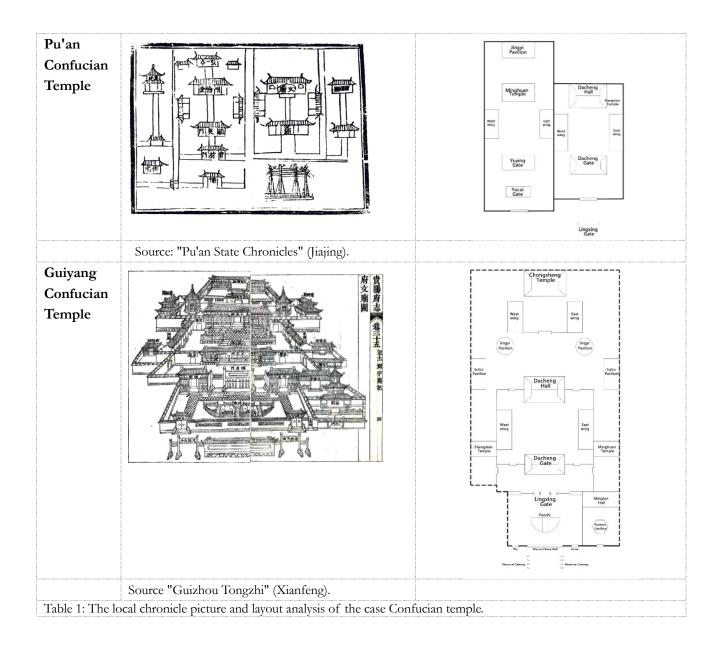


Fig 8: The history of the construction of the case Confucian Temple. (Source: Self drawn by the author).

The analysis of Confucian Temple in Guizhou of layout; selects Anshun Confucian Temple (安顺文庙) (an shun wen miao), Guiyang Confucian Temple (贵阳文庙) (gui yang wen miao), Puding Confucian Temple (普定

文庙) (pu ding wen miao), Pu'an Confucian Temple (普安文庙) (pu an wen miao), and Sinan Confucian Temple (思南府文庙) (si nan fu wen miao), as the case study (fig 8). The principle of case selection first follows the principle of geographical proximity. Anshun, Guiyang, Puding and Pu'an are geographically close, located along the main ancient post road and connecting Libo to the East. Secondly, follow the relevance of the cultural transmission path. During the Ming and Qing Dynasties, Anshun became an important cultural center as an official designated trading place in the "Tea-Horse Market". As an administrative center, Guiyang is also an important way of the Guangxi-Guizhou Post Road, and it is also a culturally important place. Therefore, Anshun and Guiyang, as cultural centers and located in the central area of Guizhou, have an important influence on the construction of local Confucian temples in Guizhou in terms of shape and style, confucian temples in the two places should be taken as typical cases. Secondly, in the relatively close area, the Confucian Temple in Pu'an is better preserved, and the Puding Confucian Temple is rich in records, which can be used as supplementary cases. Then, Sinan is far away from central Guizhou, located in northern Guizhou. Its culture is more influenced by Hunan. There are many remains and recorded information, which can be used as a case analysis to analyze whether the layout of Guizhou Confucian Temple has a regional phenomenon.





Sinan 思南府文廟圖 Dacheng Hall Confucian Temple Xiangxian Temple East wing Minghuan Temple Dacheng Gate Source "Sinan Chronicles" (Daoguang). Anshun Chongsheng Temple Confucian Temple West wing Dacheng Hall Xiangxian Temple Dacheng Gate Minghuan Temple Zunjing Court Minglun Hall Guanting Aerial View of Anshun Confucian Temple. (Source:

painted by Guo Binghong).

Source of layout analysis of the Confucian Temple: self drawn by the author.

The five Confucian temples in the case were built in the Ming Dynasty after many ups and downs, They were all built earlier than Libo Confucian Temple, which may have some influence on Libo Confucian Temple. The remaining remains are all Confucian temples built in the Qing Dynasty, but most of them are based on the Confucian temples built in the Ming Dynasty. From the Ming Dynasty to the Qing Dynasty, it was gradually clear that Dacheng Hall was the core building on the central axis of the Confucian Temple. Anshun, Pu'an and Sinan Confucian Temples have the longest dynamic duration. The old photos preserved in Guiyang Confucian Temple are highly similar to Anshun Confucian Temple in architectural art and stone carving art. Therefore, it can be speculated that the Anshun Confucian Temple has a deep influence on the construction of Confucian temples in the geographical area, and even the construction craftsmen may use the same set of construction techniques.

The pictures of the Confucian Temple in the case are all taken from the local chronicles of the Qing Dynasty except Pu'an. The pictures of Pu'an Confucian Temple are recorded in the local chronicles of the Ming Dynasty. In addition, Anshun Confucian Temple lacks image records, but has layout drawings drawn by objects and later generations as a supplement to layout data (Table 1).

Based on the translation of historical image information, this paper draws the layout plan of each Confucian Temple for comparison. In terms of layout, the same thing is the central axis of the five Confucian temples has the same architectural layout. Along the axis, there are Wanren Palace Wall, Panchi, Lingxing Gate, Dacheng Gate, Dacheng Hall and Chongsheng Temple. There are two wing rooms on both sides of the axis. However, due to different conditions, the two side of each temple are increased or decreased some rooms. Then, there are two main differences. First, there are three types of entrances: the gate at the front axis of Panchi, the gate at both sides of Wanren Palace Wall, and gate at the side. Second, the level of the city where the Confucian Temple is located affects the number of ancillary buildings of the Confucian Temple. In the Ming and Qing Dynasties, Anshun had a higher administrative level, so more ancestral halls were added to the Anshun Confucian Temple.

In conclusion, the layout characteristics of the Confucian Temple can be summarized as three points. Above all, the layout of Confucian Temple in Guizhou during the Ming Dynasty was mainly along the central axis, and the Qing Dynasty gradually enriched the ancillary buildings on both sides of the central axis. Furthermore, the layout of Confucian temples in Guizhou basically follows the conventional Confucian temple shape, and there

is no regional layout feature in the spatial layout of Confucian temples. Last but not the least, Anshun and Guiyang are economic and cultural centers and transportation arteries, and their urban administrative levels are higher than those of other cities where Confucian temples are located. The affiliated buildings of Confucian temples in the two cities are more abundant.

3.2 Main building dimensions

This paper mainly compares the dimensions and roof forms of Dacheng Hall and Dacheng Gate in the main space of five Confucian temples (Table 2). First of all, because Dacheng Hall and Dacheng Gate, the main buildings on the central axis of the Confucian Temple, are the core and necessary configuration, while the buildings on the east and west sides of the Confucian Temples are not exactly the same, which is not conducive to universal analysis. In addition, because the roof form of traditional Chinese buildings also reflects the building grade and scale to a certain extent. Among the five Confucian temples in the case, Anshun Confucian Temple, Pu'an Confucian Temple and Sinan Confucian Temple are completely preserved, while Guiyang Confucian Temple is preserved only at Lingxing Gate. It is relatively certain that Dacheng Hall has the highest specification, the roof form is gable and wing (歐山顶) (xie shan ding), the scale is five bays, and the rest of the central axis has both gable and wing and Yingshan roof (硬山顶) (ying shan ding). The traditional official buildings are mainly of post and lintel construction, and the spacing between wooden frames is generally based on three modules, mainly including 3.3m, 3.6m, 3.9m and 4.2m, It can be seen from the main bay and depth data of the case Confucian Temple that the scale of the case Confucian Temple fluctuates within the basic regulations.

In conclusion, the comparative analysis can be summarized into two points: first of all, the layout and shape of prefecture's (府) (fu) Confucian temples in the Ming Dynasty were basically stable, and the scale of Confucian temples was slightly larger, but there was little difference in the scale of prefecture (府) (fu), department (州) (zhou) and country (৪) (xian). In addition, the main hall of Dacheng Hall is built with five bays, and other buildings of the Confucian Temple are built according to the scale and layout.

Confucian	Anshun Confucian	Puding County	Pu'an Confucian	Sinan Confucian	
Temple	Temple	Confucian Temple	Temple	Temple	
Current Layout	Dacheng Hall 21-9m Dacheng Gate 18.7m 18 8	Dacheng Hall 5.6. S.	Chongsheng Temple Dacheng Hall 20.3m Dacheng Gate EX 0 18.9m 0 0 0 0 0 0 0 0 0 0 0 0 0	Dacheng Hall 25m Dacheng Gate 23.9m 00 01 01	
roof form	Dacheng gate:	Dacheng Hall:	Dacheng gate:	Dacheng Hall:Five	
	Five rooms wide,	Five rooms wide,	Five rooms wide,	rooms wide, five	
	flush gable roof	gable and wing	flush gable roof	deep,gable and wing	
	Dacheng Hall:	Two wing-rooms:	Dacheng Hall:	Chongsheng	
	Five rooms wide,	flush gable roof	Five rooms wide,	Temple: Three	
	gable and wing		gable and wing	rooms wide, flush	
	Two wing-rooms:		Two wing-rooms:	gable roof	
	flush gable roof		flush gable roof		
Table 2: Layout and scale comparison of the case Confucian temple					

(Source: Self drawn by the author)

4. TEXTUAL RESEARCH ON THE LAYOUT OF LIBO CONFUCIAN TEMPLE

4.1. The history of the establishment

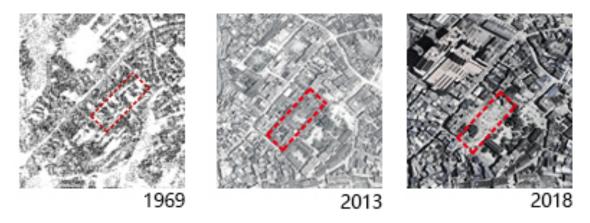


Fig 9: Spatial Evolution of Libo Confucian Temple. (Source: Self drawn by the author).

In the fourth year of Yongzheng in the Qing Dynasty (1726), Ertai, the governor of Yunnan and Guizhou, gave the approval of Emperor Yongzheng for his book "bureaucratization of native officers" (改土归流) (gai tu gui liu). He took "opening up the Miao area" (开辟苗疆) (kai pi miao jiang) as the prelude to its implementation of "bureaucratization of native officers", In addition, heavy troops were used to carry out large-scale "suppression" against the "Miao frontier" in southeastern Guizhou, which had neither the rule of the chieftain nor the government's control, and was still in the late stage of primitive society. Under the pressure of the Qing government, the Baoli and Hongyin Miaomin uprisings broke out in the spring of the thirteen year of Yongzheng (1735)2.

After the suppression of the Miao people's uprising, cities were restored in various parts of Guizhou. The Qing Dynasty "Libo County Chronicle Manuscript Point School" edited by Pan Yizhi records: Libo County was a wasteland in ancient times. There was no record of it before the Sui Dynasty. It was occupied by the three chieftains of Pi, Meng and Lei in the Yuan season and early Ming Dynasty. During the Zhengtong years, bureaucratization of native officers and the county was set up in Jiajing, which belongs to Qingyuan Prefecture in Guangxi. In the tenth year of Yongzheng (1732), it was changed to Guizhou and under the jurisdiction of Duyun Prefecture. In the second year of Qianlong's reign (1738), Zhang Guangsi, the Constitution of the Ministry of Justice of Guizhou Province, asked to move the county government to the present city.... In the fifteenth year of the Republic of China (1927), the Governor's Office was changed to the provincial government, which was directly under the Guizhou Provincial Government3. Through the division of administrative power, Confucian temples were built all over Guizhou while the central government strengthened its control over the localities. Then, along with the Hongmiao Uprising, the Confucian Temple buildings in Libo City, which symbolized Confucian culture, were also destroyed. In the course of the renewal and development of the old city, the Confucian Temple and the surrounding plots were uniformly demolished in 2018, and the Confucian Temple plot is waiting for reconstruction and revival.

² Chen Shunxiang, Luo Luoqi, Li Duofu, etc, Guizhou Ancient Architecture, Beijing: China Architecture Press, 2015

³ Pan Yizhi, He Xiankun, Pan Maojin, and Tan Baogang, *Libo County Chronicle* 《荔波县志稿点校本》Shanghai: Shanghai Ancient Books Publishing House, 2019

Rise and fall	Dynasty	Construction description	Type of rise and fall
newly build	The second year of Qianlong (1737)	"In the second year of Qianlong's reign, Libo City was moved to the current old city. Later, Lu Ying, Jin Mingji and Zhao Shilun, the county magistrate, built Confucian Temple in the west of the city. Dacheng Hall, east and west wing rooms, Lingxing Gate, Chongsheng Temple, Panchi, square wall and memorial gateway are all in accordance with the regulations. Libo County Chronicle ⁴ 《荔波县志稿》(li bo xian zhi gao)	Rise
rebuild	Forty-five years of Qianlong (1780)	In the 45th year of Qianlong's reign, Li Huaizong, the magistrate, raised funds to rebuild the temple because of its rudimentary system. Libo County Chronicle《荔波县志稿》(li bo xian zhi gao)	Rise
Renewal	Forty-sixth year of Qianlong (1781)	In the forty-sixth year of Qianlong's reign, Wu Yishan (named Jilong), the magistrate of the county, continued to be built. Libo County Chronicle 《荔波县志稿》(li bo xian zhi gao)	Rise
Repair	The nineteenth year of Jiaqing (1814) twenty-three years of Jiaqing (1818) twenty-four years of Jiaqing (1819)	In the 19th year of Jiaqing, the magistrate Cai Yuanxi, the 23rd magistrate Chen Xi, and the 24th magistrate Wu Xianggan (named Zhanxiong) all repaired. Libo County Chronicle 《荔波县志稿》(li bo xian zhi gao)	Rise
rebuild	The 22nd year of Daoguang (1842)	In the 22nd year of Daoguang, the county magistrate Jiang Shichun earnestly persuaded him to donate and rebuild it, and the magistrate Xie Renlong followed it up to the 26th spring. Outside the right wall and the newly built Wenchang Palace and Kuixing Pavilion, a total of 8,000 taels of silver were donated and lost. Libo County Chronicle 《荔波县志稿》(li bo xian zhi gao) Daoguang was destroyed again, and Jiang Shichun, the magistrate, rebuilt it Construction began in the 22nd year of Daoguang and was completed in the first year of Xianfeng. Libo County Chronicle's 《荔波县志稿点校本》(li bo xian zhi gao diao jiao ben)	Rise

.

⁴ Zheng Zhen, *Libo County Chronicle* 《荔波县志稿, Guiyang: Guizhou People's Publishing House, 2007

⁵ Pan Yizhi, He Xiankun, Pan Maojin, and Tan Baogang, *Libo County Chronicle* 《荔波县志稿点校本, Shanghai: Shanghai Ancient Books Publishing House, 2019

destroy	The fifth year of Tongzhi (1866)	In the fifth year of Tongzhi, the city fell and was half destroyed by war. Libo County Chronicle(Pan Yizhi point school version)	fall				
rebuild	The ninth year of Tongzhi (1870) The tenth year of Tongzhi (1871) (Yuping chronicle)	In the ninth year of Tongzhi, the county magistrate Qian Xun repaired it. Libo County Chronicle(Pan Yizhi point school version) Tongzhi Ten Years Fundraising for Reconstruction. In the Qing Dynasty, a Confucian Temple was set up to own land and raise funds to worship Confucius. Libo County Chronicle 6《荔波县志稿点校本》(li bo xian zhi gao diao jiao ben)	Rise				
repurpos e	Twenty-seventh year of the Republic of China (1938) Thirtieth years of the Republic of China (1941)	Until the twenty-seventh year of the Republic of China (1938), began to use the Confucian Temple as a primary school, Thirty Years of the Republic of China (1941), a junior high school was established. The main hall of the temple is used as the auditorium, and the two wing rooms are used as classrooms. The buildings on both sides of the side door are the school office and the dormitory for teachers and students. In front of the temple gate, there are Wanren Palace walls carved with hollow floating stones, with side doors on both sides. Inside the gate, there is a half circle called Zhuangyuan Pool, and the stone bridge over the pool is called Zhuangyuan Bridge. According to the regulations, someone in the county has passed the examination for the first prize. That is to repair the semicircular pool into a circle, add a bridge into three holes, open the Wanren Palace wall, and build the main gate. The Zhuangyuan Bridge leads to Lingxing Gate, and the main hall is paved with flagstones through Dacheng Gate. The architecture in the temple is exquisite, with dragons and phoenixes carved and lifelike reliefs. It was indeed the first class grand building in Libo at that time. Yuping Town Chronicle ⁷ 《玉屏 镇志》 (yu pin zhen zhi)	Rise				
tear down	1960s and 1970s	The existing temple has been demolished, the front hall has been built with the office building of the epidemic prevention station, and the back hall and the main hall have been transformed into the county government guesthouse. The Confucion Temple no longer exists, only the sacrificial Yuetai, half moon pool, stone arch bridge, stone arch foundation and some column piers are preserved as cultural relics. <i>Yuping Town Chronicle</i>	fall				
Table 3: The	Table 3: The construction process of Libo Confucian Temple.						

⁶ Same as 5

⁷ Compilation Committee of Yuping Town Annals of Libo County, Yuping Town Annals of Libo County, Kunming: Yunnan Ethnic Publishing House, 2015

4.2. Document Analysis

According to the existing literature, the records related to the shape of the Confucian Temple are mainly as follows (Table3):

Records of Libo County Chronicle 8《荔波县志稿》(*li bo xian zhi gao*): In the second year of Qianlong's reign, Libo City was moved to the current old city. Later, Lu Ying, Jin Mingji and Zhao Shilun, the county magistrate, built Confucian Temple in the west of the city. Dacheng Hall, east and west wing rooms, Lingxing Gate, Chongsheng Temple, Panchi, square wall and memorial gateway are all in accordance with the regulations. Recorded in Yuping Town Chronicle 9《玉屏镇志》(*yu pin zhen zhi*): Tongzhi Ten Years Fundraising for Reconstruction. In the Qing Dynasty, a Confucian Temple was set up to own land and raise funds to worship Confucius.

Recorded in Yuping Town Chronicle 《玉屏镇志》(yu pin zhen zhi): Until the twenty-seventh year of the Republic of China (1938), began to use the Confucian Temple as a primary school, Thirty Years of the Republic of China (1941), a junior high school was established. The main hall of the temple is used as the auditorium, and the two wing rooms are used as classrooms. The buildings on both sides of the side door are the school office and the dormitory for teachers and students. In front of the temple gate, there are Wanren Palace walls carved with hollow floating stones, with side doors on both sides. Inside the gate, there is a half circle called Zhuangyuan Pool (状元池), and the stone bridge over the pool is called Zhuangyuan Bridge. According to the regulations, someone in the county has passed the examination for the first prize. That is to repair the semicircular pool into a circle, add a bridge into three holes, open the Wanren Palace wall, and build the main gate. The Zhuangyuan Bridge (状元桥) leads to Lingxing Gate, and the main hall is paved with flagstones through Dacheng Gate. The architecture in the temple is exquisite, with dragons and phoenixes carved and lifelike reliefs. It was indeed the first class grand building in Libo at that time.... he existing temple has been demolished, the front hall has been built with the office building of the epidemic prevention station, and the back hall and the main hall have been transformed into the county government guesthouse. The Confucion Temple no longer exists, only the sacrificial Yuetai, half moon pool, stone arch bridge, stone arch foundation and some column piers are preserved as cultural relics.10. "

⁸Zheng Zhen, Libo County Chronicle《荔波县志稿》 [M] Guiyang: Guizhou People's Publishing House, 2007

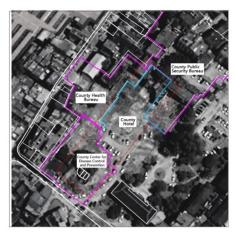
⁹ Compilation Committee of Yuping Town Annals of Libo County, *Libo County Yupin Chronicle* 《荔波县玉屏镇》, Kunming: Yunnan Ethnic Publishing House, 2015

¹⁰ Same as 9

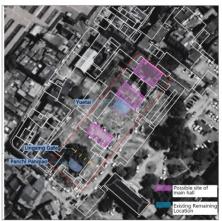
In this paper, we can get the information about the Libo Confucian Temple in three aspects: the architectural content, the entrance form, and the decorative style by combing the local records of the past dynasties. First, when it was first built in the second year of Qianlong's reign (1737), the architecture and shape layout of the Confucian Temple were all in the official style. Second, the Confucian Temple was destroyed in the fifth year of Tongzhi (1876), but after the reconstruction, the detailed records of the use of specific buildings of the later Confucian Temple in the literature basically reflected the contents of the rebuilt Confucian Temple. According to the textual information about the demolition of the Confucian Temple in Yuping Town Chronicle 11《玉屏镇志》(yu pin zhen zhi): It can be seen that the Libo Confucian Temple contains the "Temple Hall" (Dacheng Hall) and the "two wing-rooms" (the East and West Wing). "On both sides of the side door are the school office and the dormitory for teachers and students (the hatchback of the front space). "Zhuangyuan Pool" (Panchi), "Zhuangyuan Bridge" (Panqiao). The text information about the demolition of the Confucian Temple in the town chronicles "front hall, rear hall, main hall" corresponds to "Dacheng Gate, Dacheng Hall, Chongsheng Temple", There is also textual information about the demolition of the Confucian Temple in the town annals: "Front Hall, Back Hall, Main Hall" corresponds to "Dacheng Gate, Dacheng Hall, Chongsheng Temple", which supplements the inadequacy of the previous text. It can be seen from this that the Libo Confucian Temple is basically the same as the conventional Confucian Temple. The buildings from the leading space to the auxiliary space are: Wanren Palace Wall, Panchi, Panqiao, Lingxing Gate, Xiangxian Temple (乡 贤祠), Mingguan Temple (名宦祠), Dacheng Gate, East and West Wing (东西庑), Dacheng Hall, Chongsheng Temple.

¹¹Same as 9

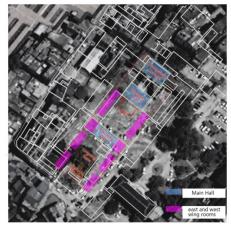
4.3. Spatial layout restoration speculation



a. Property right information of Confucian Temple Plot



b. Analysis on Property Right Information and Building Orientation of Confucian Temple Plot



c. Property Right Information of Confucian Temple Plot and Analysis of Building Layout

Fig 10: Overlay Analysis of Property Right Information, Historical Information and Current Information of the Confucian Temple Plot. (Source: Self drawn by the author).

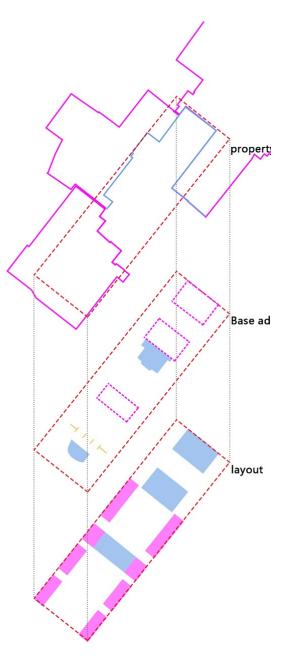


Fig 14: Confucian Temple Information Overlay Analysis Level. (Source: Self drawn by the author).

The restoration of the Confucian Temple layout is based on the existing relics as the coordinate positioning, the Confucian Temple plot cadastral map and the case as the scale reference, and finally it is speculated that the original layout of the Libo Confucian Temple in the late Qing Dynasty was restored (Fig11).

The restoration of the Confucian Temple layout first needs to determine the scope and building location of the Confucian Temple. The existing cadastral map provides information on the title division of the parcel. According to the information recorded in the local chronicles, "the office building of the epidemic prevention station will be built in the front hall, and the back hall and main hall will be transformed into the county government guesthouse", The property right boundary of "epidemic prevention station" and "county hotel" can be defined in the cadastral map of the Confucian Temple plot, and the scope of the Confucian Temple can be basically defined (Fig10 a).

Secondly, the cadastral map contains the building outline information before demolition within the scope of the Confucian Temple plot. Along the central axis of the plot, there are three building contour lines that correspond to each other in the front and back and are basically equal in width. There are two relatively symmetrical architectural outlines on both sides of the front of Lingxing Gate and Yuetai(Fig 10 b). From the cadastral map, there are two buildings behind the existing Yuetai, and the first building is in front of the Yuetai. The local chronicles record that the space sequence of the Confucian Temple is the front hall, the middle hall, and the back hall. The Yuetai in the official Confucian Temple regulations is located on the central axis of the Confucian Temple, with Dacheng Gate in the front, Dacheng Hall in the rear, and Chongsheng Temple behind Dacheng Hall. Therefore, it can be basically determined that the building in front of the Yuetai is Dacheng Gate, and behind the Yuetai are Dacheng Hall and Chongsheng Temple. According to the cadastral map, the architectural layout on both sides of the central axis is analyzed. The buildings symmetrically arranged on both sides in front of the Yuetai correspond to the East and West Wing in the Confucian Temple. The buildings on both sides in front of Lingxing Gate correspond to two wing-rooms in the leading space of the Confucian Temple. According to the records, the entrance of the Confucian Temple is opened the door on the left and right sides of the Wanren Palace Wall, and the middle of the wall is an empty stone sculpture. It can be determined that the entrance space is the form of side doors on both sides of the Wanren Palace Wall (Fig 10 c).

As for the scale of the Confucian Temple, the cadastral map provides the specific scale of the boundary of the single building. Based on the analysis of the basic scale and proportion of the breadth and depth of existing cases in Guizhou, The building dimensions in the cadastral map are within a reasonable scale, which conforms to the general dimensions of the Confucian Temple. The Dacheng Gate, Dacheng Hall and Chongsheng

Temple on the central axis of the case Confucian Temple are all five rooms wide, and the gable and wing. It can be inferred that the Dacheng Gate (front hall), Dacheng Hall (main hall) and Chongsheng Temple (back hall) of Libo Confucian Temple are all five bays wide, gable and wing.

As for the decoration of the Confucian Temple, Yuping Town Chronicle"《玉屏镇志》(yu pin zhen zhi) recorded "In front of the temple gate, there is a wall of Wanren Palace made of empty relief stone carvings... The temple's architectural craftsmanship is exquisite, dragons and phoenixes are carved, and the relief statues are lifelike." The decoration style presented in this record is similar to that of Anshun Confucian Temple and Guiyang Confucian Temple. The traffic arteries from Libo to the west need to pass through Anshun and Guiyang. It is speculated that the decoration of the Libo Confucian Temple was influenced by these two Confucian temples, and at the same time, it may be the same construction technique inherited by the craftsmen.

The spatial layout restoration research has completed the rough estimation and restoration of the layout of the Libo Confucian Temple by combing the history of the Confucian Temple, graphicizing the existing relic information, and analyzing the correspondence between the document information and the cadastral map (Fig 12).

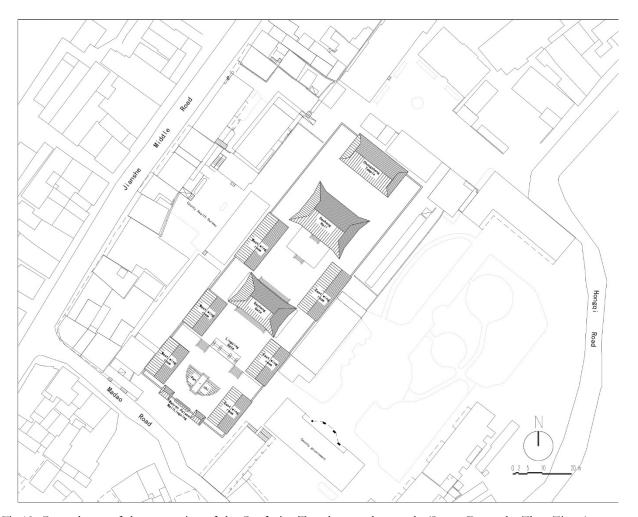


Fig 12: General map of the restoration of the Confucian Temple textual research. (Soure: Drawn by Zhao Ziwen).

5. IN CONCLUSION

Libo Confucian Temple remains less and lacks image information. According to the existing literature records, historical maps and cadastral maps, the textual research (考证) (kao zheng) on the layout of Libo Confucian Temple clarifies the principle of textual research case selection, and explores a textual research method based on cases and cadastral maps. This study provides a certain research support for the reconstruction of the Confucian Temple in Libo, and forms a set of textual research methods for the architectural layout of the Confucian Temple in small towns with few remains. At the same time, the analysis of the historical evolution of the construction of Guizhou Confucian Temple in the process of textual research also more completely presents the process of Libo's integration into the central government during the Ming and Qing Dynasties and the inheritance of Confucian culture.

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Traditional Dwellings and Settlements

Working Paper Series

WHAT DOES IT MEAN TO BELONG IN A
WORLD HERITAGE EDUCATIONAL
BUILDING? ANALYSING A STUDENT-LED
INITIATIVE AT UNIVERSITY CITY CENTRAL
CAMPUS IN MEXICO

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Volume 322

Pages 25-43

2022

WHAT DOES IT MEAN TO BELONG IN A WORLD HERITAGE EDUCATIONAL BUILDING? ANALYSING A STUDENT-LED INITIATIVE AT UNIVERSITY CITY CENTRAL CAMPUS IN MEXICO

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Higher education institution buildings are living-breathing witnesses of change through generations of students. The International Committee for Universal Museums and Collections (UMAC) mentions that Universities can become part of UNESCO's World Heritage List in two ways. a) whether part of the university is listed or, b) that the location of the institution is within a listed space. The case study for this research is the student-led initiative "Central Campus: Lectures of a Living Heritage". This initiative occurred at Universidad Nacional Autonoma de Mexico (UNAM) located in Mexico City, which is part of UNESCO's list due to the "Central University City Campus". UNAM is one of the most important educational institutions of the country and Latin America because of its political, social, historical, architectural, and artistic commitment towards society. Belonging to this institution is of great value to their community, and heritage has a big part on this. The crux for this work will be using first-hand experience of the researcher in the initiative, the analysis of the student-led project, and a semi-structure interview to the project leader. The aim is to answer the following question: What does it mean to belong to a World Heritage Educational Building? This research highlights the importance for the community within this particular case study to understand that the place in which they are learning is not only an architectural gem that marked the beginning of a new Mexican culture. But a building that speaks history through its walls and open spaces, a building that has survived earthquakes, political movements, olympic games, and a world-wide pandemic.

1. INTRODUCTION

The concept of belonging has been related to the feeling of connectedness that people develop to feel as part of a community. While belonging may be understood as the connection between individuals, there are different authors that explain that feeling connected to a place or a physical setting is as important as the connections we develop with other human beings. Additionally, within the context of Higher Education Institutions (HEIs), the concept of belonging has been associated to students success. The literature has described that for undergraduate students, belonging to an educational community is good for their academic, and social growth.

Belonging has not been explored deeply within the Mexican context. Therefore, this article aims to explore a young architect's initiative on boosting sense of belonging with a project where students and recent graduates could take part as researchers and work within a documentation process of the Central Campus toward the 10-year celebration of being listed as World Heritage. This research process was developed by 27 students, where they had to develop a study that shows the spatial modifications that had happened to the 19 most important buildings of UNAM. The students were supported by experienced researchers but with complete autonomy upon their research work.

2. LITERATURE REVIEW

2.1. Belonging: a global overview

Several aspects are associated with belonging. Overall, a sense of belonging refers to the need for acceptance, connectedness, and respect from others in various social contexts 1. It has been explained that there are three components that help us towards belongingness, which are: self, social, and space 2 and these components provide a theoretical framework to understand the concept of belonging. Following this statement, the next factors (self, social, and space) 3 will be explained.

2.2. Self

Regarding the first component, the human memory is one of the most important components of the self 4. It has been studied that memories may be modified to encourage certain aspects of it 5-11. Moreover, there is a relationship between emotions and memories, it is relevant to understand that a memory should be seen as the combination of thoughts into the whole personality and their revival regarding the demands and beliefs of the whole person 12. Accordingly, the concept of memory should align to the one of experience 13. Therefore, explaining the concept of experience becomes important when it has been highlighted that experience speaks about the interaction of things, stating that our relationship to things is what is experienced 14. Associating this to the concept of belonging, it should be understood as a concept that includes ontological, epistemological, spatial, material, social, and cultural aspects of what we call the human experience 15. Likewise, it has been stated that affection can be understood as experiences connected to emotional attachment, and how this is related to people "feeling at home" 16. Adding to this, there is also the argument that explains that the need to belong is considered a human right 17.

2.3. Social

First, regarding the social aspect, the concept of belongingness will be defined as the natural desire of wanting to be a part of a group 18. Accordingly, the concept of belongingness is related to social interaction, emotional connection, and identification with the community, and how this improves well-being 19. Second, connections between people and places are important for a sense of belonging. The number of connections we have influences our sense of belonging, as well as the connection between physical and relational factors which help students achieve safety 20. In these present 'uncertain' times of change, belonging interrogates issues of trust and confidence concerning societies and communities 21. Additionally, it has been suggested that such connectedness and attachments are the essence of belonging and intrinsic to the everyday constitution of human lives 22.

Third, the concept of inclusion, where being included partly depends on the match between ourselves and other group members, and it is more easily secured when others are more similar to us 23. On the other hand,

it has been described that belonging is related to concepts such as acceptance, respect, and being valued by others, which is also associated with inclusion 24. Where inclusion has at least two components, belongingness which has been explained before, and uniqueness. To be included indicates that one's needs are satisfied within a group that connects with the individual 25.

2.4. Space

Regarding spatial factors, the concept of environment is important. It has been explained that, the concept of belonging can be defined as physical, in that the environment can provide safe places for engaging with people 26. While there is a statement that points out the connection between physical and relational factors and how they help students to achieve safety 27. These aspects of belonging urge us to uncover how people develop different kinds and scales of emotional attachments to individuals, spaces, and material things temporally and spatially 28-29. The current complex scenario has centralized belonging as a key research theme and led to its theorizing concerning concepts like citizenship, identity, space, and place within multiple disciplines 30.

It is relevant to understand how different people have different lives, different faiths, different socioeconomic backgrounds, different hobbies, different occupations, etc.; therefore, it is wise not to assume that everyone has the same perception of belonging 31. As it is relevant to consider how people from different cultural backgrounds and perceptions toward life can either succeed or fail in coexisting with others 32. The author explains how we are living today in a world surrounded by violence that is closely associated with ethnicity and racism, and how these different ideologies rather than boosting belonging, support exclusionary practices.

2.5. Belonging in educational contexts

Within the context of HEIs, and as explained previously, the categories to describe belonging are self, social, and space but different categories may apply within the academic sphere 33. It has been described that a sense of belonging may be associated with positive outcomes at university, and it is known to be an intrinsic predictor of university students' success 34-35. While it has been documented that belonging is fundamental within Higher Education practice and research 36, several pedagogical models have been including belonging as a key toward student success 37-40. It is relevant to consider the need of students to belong to an educational community, and four dimensions toward belonging within higher education have been identified 41.

Preliminary research of undergraduate student descriptions of belonging identifies four domains of belonging: academic (e.g. curriculum, lecturer); social (e.g participation in communities, societies, friendships); surroundings (living space, geographical and cultural location); and personal space (life satisfaction, life attitudes, identity, and personal interests 42.

Until now, we have two different approaches toward belonging. The first one explains that for us to improve our sense of belonging, we need to work within the aspect of the self, the social, and space 43. Meanwhile, there are four different domains of belonging: a) academic, b) social, c) surroundings and d) personal space 44. These categories are alike and overlap with each other. As both consider the social aspect, the self or personal space, and space on its own. Whereas there may be a fourth domain the academic, which is important for this study since we are looking for belonging within HEIs 45.

HEIs are developing strategies to foster a sense of belonging to support students to feel like members of the community. For example, University College London (UCL), was the first university in the English context to admit students from different religious backgrounds, and the first institution to acknowledge women in university education 46. Most of the students from different ethnical backgrounds have felt underrepresented but UCL is working on strategies towards finding a sense of belonging such as The Race Equality Charter (REC) where BAME (black, Asian, and minority ethnic) students agreed on how ethnicity has an impact on belongingness. Also, the BAME Awarding Gap Project, in which students were interviewed to answer the significance of a sense of belonging 47.

Moreover, Kings College has more than 29, 000 students from over 150 countries around the world, however, there is a lack of belongingness which was found in "Fostering Belongingness at King's report" 48. The report explains how students from different ethnicities or female gender are less likely to find a sense of belonging. In response to this report, Kings is making their students answer certain questionnaires to improve services that support students' well-being. Imperial College London also provides and recommends scales to measure students' sense of belonging, even though there is no universal instrument to measure it 49. Meanwhile, the University of Leeds is working on a strategy in which Belonging is important through the student experience, Leeds is engaging with helping each individual feel valued in every university space, respect individual identities, work in partnership, and highlighting belonging as the heart of the University 50.

It is also important to inquire into who can belong, how, and to where they should belong 51. This is related into how the concept of belonging could be seen as privileged through the "typical" student perspectives 52. It is important to understand that belonging could mean losing individuality to be a part of something 53, and that not all students want to belong or become members of a community 54.

Belonging according to different authors is associated with people, but also with physical environments. Connections with others are related not only to relationships with other individuals but to spaces as well 55. The authors used a definition of "perceived social integration" which describes belonging on campus and environmental perceptions 56. Moreover, the definition of social integration associates with the psychological

aspect that can influence students' interactions within the campus environment. Additionally, this is based on Tinto's model of students' persistence which is related to engagement within an educational community. Hurtado & Carter's research aimed to understand how history and ethnicity are related to exclusion and how this affects student success. The concept of belonging has to do with people but also with physical spaces, and these places (buildings), refer us toward new experiences 57. He has presented a clear argument for there being three recognizable realms of architectural discourse that each reflect different aspects of what he calls 'primary experiences of buildings. 'He referred to these as:

- a) The function, which is the experience of the explicit or implicit activities which a building houses,
- b) The form, which is 'the geometric properties, the proportions, articulation, color, ornamentation, and surface treatment summarized under the term 'style', and
- c) The space, which embraces 'the number and location ... sequence and linkage of spaces'.

Markus' model is especially relevant for the integration of environment and behavior research because he has argued that each of these architectural discourses, which are primary for the experience of a building, enshrine ways of classifying human action and experience 58.

2.6. Belonging in the Mexican context

There is a significant gap between what has already been studied regarding belonging considering different perspectives and cultures, and what it means to belong in a Latin-American third-world country such as Mexico. There is a big amount of international literature that explains how belonging is deeply related to school dropout or well-being 59. However, the subject of belonging has not yet been explored in the Mexican context to understand its implications specifically in Higher Education Institutions. Furthermore, the focus of belonging research more globally is always on minority groups 60-61, but there is still not enough research about how to understand belonging among students with families that have a low income 62. Therefore, belonging also implies a political dimension which is relevant for the study of an institutional setting where different power relations exist and interact with each other 63. Belonging is not only an individual feeling, and it is associated with who is being excluded in certain processes 64. Moreover, there should be a better understanding of disadvantaged students in the context of Latin America where precisely the concept of belonging is underdeveloped 65.

In the Mexican context, there is a big stigma surrounding certain educational institutions, students' identity is built considering the reputation of the institutions they are attending 66. Regarding this matter, we all live in a world that is currently polarized, and the Mexican context is not exempted from that phenomenon 67. The Mexican education system consists of three main levels: Basic education which is formed by preschool,

primary and secondary ₆₈. Followed by upper secondary education and Higher Education, which is comprised of undergraduate, graduate, and postgraduate levels. The national education system is mainly public ₆₉, and students from a lower socioeconomic background apply to institutions that are not as selective, which in the Mexican context are mainly public institutions as well ₇₀.

This process derives from social fragmentation 71 and it is relevant to comprehend that this fragmentation has historical roots 72. In Mexico, Spanish is one of the official languages 73 but the Mexican context has 68 ethnolinguistic groups, and this has a derivation of 364 dialects 74. It is important to mention and remember that the Mexican culture today is a mixture of Spanish and Indigenous people 75. Today, whiteness is an issue for belonging or not in certain contexts, even educational ones. An individual's skin tone is strictly associated with origin (Spanish or Indigenous) and it is well known that race is one of the main factors of social privilege in Mexico 76. Associated with this, darker skin tones are related to a lower income background and lighter or "whiter" skin is related to the wealthier groups 77. This is an event that is occurring as well at Higher Education Institutions. There are a lot of discriminatory practices happening not only in the labor market but also in the public services 78. This is related to the educational sector in which the phenomenon of segregation in the Latin-American context where the lower-income families are the ones attending public educational systems 79. The event of attending private educational systems is a path in which social relationships of "the privileged" go on to maintain certain status 80.

3. RESEARCH DESIGN

This research is based on a single case study, which is the initiative called: "Central Campus: Lectures of a Living Heritage", where this student-led project was done to promote sense of belonging within undergraduate students and young architects at the National Autonomous University in Mexico (UNAM). This is the first initiative within UNAM, to develop and strengthen belongingness, since the concept hasn't been deeply explored according to the literature. The initiative started in the Faculty of Architecture when it gathered a group of 27 students and young architects to develop research about the 19 buildings that form the Central Campus of UNAM. These students and young architects took the role of editors, authors, photographers, and designers to reflect upon the history of the buildings on the original plan from 1952 81. These selected group of students had to do research through primary sources (semi-structured interviews) and secondary sources (news-papers, magazines and journals) to develop a study where each of them would explain the modifications that had happened to the most important buildings in campus. This project was developed because of the 10-year celebration of the Central Campus being listed as World Heritage.

4. DATA COLLECTION

The data collection process had three different stages, the first one is a 1) first-hand experience within the researchers' participation on the development of an analysis of certain space of the Central Campus, 2) then the revision of the recruitment process of each of the authors and their process to build their own research, and 3) a semi-structure interview with the project leader.

- 1) The researcher's role on the initiative started by receiving an email from the project leader (recent graduate), to participate as an author in the development of a research related to the sporting facilities of the Central Campus. The invitation stated that the researcher was being selected by the project leader to write this specific topic because of her personal relation and association with the sporting facilities, since her first approach toward University City was to the sporting area of the Campus. What the researcher was looking for was a) the experience of the football players within the sporting facilities, b) how they lived the different spatial arrangements through time. This information was gathered with semi-structured interviews while verifying the information with secondary sources.
- 2) The recruitment process for each author followed the same procedure of receiving a personal invitation from the project leader. While revising each of the 19 drafts, what was analyzed was a) the structure of the documents, b) how was the author describing the building, c) how were they related to the architecture, d) were they just stating facts or telling a story, e) how are the political, historical, architectural, and social factors changing the buildings, and f) have all the buildings changed?
- 3) While developing the project, there were conversations within authors and with the project leader regarding the experience of the initiative. A semi-structured interview was developed with the project leader, where the main questions were: a) how he perceived the changes the authors had regarding their relationship to the Central Campus?, b) was there a "before" and an "after" regarding belonging while developing the project?, and c) was sense of belonging being strengthen with the initiative of allowing young architects and students have the main role in this type of research?

5. DATA ANALYSIS

Regarding the researcher's first-hand experience, after accepting the invitation to participate as an author, the process to develop the study started with the use of primary sources, hence, conducting semi-structured interviews with the football team. The focus of the university when it was conceived, was the attention into sports culture and well-being. Therefore, the American Football team and the sporting facilities were designed originally for them with a high level of hierarchy, and they were important in the design scheme of UNAM.

There was a number of 16 interviews that were held within University's facilities, they were all recorded and the process started with the generation of older players (1970's), until the process ended with the former players of 2017. Moreover, what the researcher experienced was a stronger attachment into a space that was already familiar to her. The process that happened during the interviews was that different football players decided to visit each of the sporting facilities to remember, and then proceed on telling a story. This process led the researcher into identifying with the interviewees and understanding better the spaces, and emotions that were being felt in a certain time and place. The process of doing research associated to a place of the University, strengthen the researcher's feeling of identifying herself as a former student of UNAM. Sense of belonging was indeed promoted while developing the study.

After the data collection a first draft was developed and submitted to the project leader; this was followed by the revision with two experienced researchers of the University. When the process of revision was over, the young researcher met at the University facilities to receive feedback and work in the proposal once again. These meetings were formal, but they were conducted in a way that the young researcher felt part of the researcher's community of University City, which was one of the main purposes of the initiative. One of the most important aspects of this student-led project according to the researcher, was that this study became their first formal research, and that it could possibly develop on their first publication for most of them. During the process of data collection, the authors had the opportunity to access every facility within the Campus that could provide them with information for the study. This was essential to boost belongingness among the young researchers since most of the areas are restricted most of the times.

Regarding the procedure for the selection of the participants, the author for each study was selected because they had a close relationship with the specific space or building. After being chosen, each of the students was assigned one of the buildings and had to inquire into its origins and transformations. In total, there were 5 architects, 8 last year students, and 6 students in the middle of the 5 years of studies. The existing documentation about University City Central Campus is wide, however, what makes this project different from others is the young perspective of it.

To develop the research, the process started with the assigned building, students and young architects had a period of two months to gather the information and then a month to present the first draft. What each of the documents covered was the location of the building within the Central Campus, a narrative of their approach to the building, the history of the construction of the building, if possible the history of the architects who designed the building, the influence of the political, and social aspects of the country reflecting in the architecture, a formal analysis, the characteristics of the building today, and peoples 'experiences related to the building. This was supported with visual material such as photographs, diagrams, architectural plans, and 3D

models. The process of developing the research lasted for 8 months, gathering data, writing the drafts, doing the revision of each document, and the compilation and edition. During these 8 months, the 27 students that participated in the initiative develop a sense of community were most of them decided by themselves to work together while developing their drafts according to the project leader.

6. RESULTS

6.1. Background: University City Central Campus

The University City Central Campus of UNAM is in the area known as *Pedregal* (stony soil), in the South of Mexico City. The campus is traversed by Insurgentes Avenue, the main North-South circulation axis of the town. The campus is in an area where rocky platforms define different spaces, which suggested the general concept of the master plan, designed by architects Mario Pani and Enrique del Moral 82. The infrastructure that University City has is something that links us to the past, this place was conceived thinking on the needs of today 83. During the first time in the 20th century, Mexican society faced an issue with an identity that has always been linked to pre-Hispanic architecture. Therefore, the materials we observe and the forms that University City has, such as platforms, open spaces, and stairs, are related to the principles of ancient Mexican architecture 84.

The central campus of the University City testifies the modernization of the post-revolutionary Mexico in the frame of the ideals and values related to access to education, the improvement of the quality of life, intellectual and physical education, and the integration of urbanism, architecture, and fine arts. These speaks as a collective work, where more than 60 architects, engineers, and artists worked together to create the physical spaces that will contribute to the progress of humanity through education.

Declaration of the universal value of the central campus of University City Unesco, 2007. 85

Central University City Campus is recognized by UNESCO as an institution that has an outstanding value to humanity. According to the International Council of Museums and the International Committee for university museums and collections, there are two ways in which a university can be listed:

- a) Directly, when the university (or part) is listed; (University City).
- b) Indirectly, when the city center or site where the university is located, is listed.

According to the International Council on Monuments and Sites (ICOMOS), the property was nominated based on criteria ii, iv, and vi.

Criterion ii: The most important lines of architectural thinking from the 20th century converge in the Central University City Campus of UNAM: Modern Architecture, Historicist Regionalism, and Plastic Integration; the last two of Mexican Origin.

ICOMOS considers that this criterion is justified.

Criterion iv: The Central University City Campus of UNAM is one of the few models around the world where the principles proposed by Modern Architecture and Urbanism have been applied; the ultimate purpose of which was to offer man a notable improvement in quality of life.

ICOMOS considers that this criterion is justified.

Criterion vi: The Central University City Campus is directly associated with the history of the Universidad Nacional Autónoma de México, the first university of the Americas and the main pillar of Mexican culture, with direct influence on a great part of the continental universities.

6.2. Outcome: The booklets

The initiative "Central Campus: Lectures of a Living Heritage" ended up as the result of 19 booklets, each one explains one of the buildings or spaces that form the University City Central Campus. The editorial concept of the booklets was precisely the one of a small "notebook", a familiar object to the students. We all have carried in our backpacks a notebook, either for drawings or notes. In this case, the 19 booklets come in a box, they are 19 because of the number of the original buildings that held activities since 1954 86.

The description of the booklets comes as follows:

Booklet number	Space or building	Author	Author status
01	Central Campus	GMM	Architect
02	Rectory Tower	JCMF	Final year student
03	Central Library	AMC	Final year student
04	Humanities	AAN	Final year student
05	Science	ESA	Student
06	School of Chemistry	AAM	Final year student
07	School of Engineering	XIG	Student
08	Nuclear physics	RMA	Architect
09	School of Architecture	JCGC	Architect
10	Central Club	TSO	Student
11	School of Medicine	MVDD	Final year student

12	School of Odontology	MFCS	Final year Student
13	School of Veterinary	EBN	Final year student
14	Sporting areas	KAQ	Architect
15	Pool and dressing rooms	XUM	Final year student
16	Frontones	DGA	Architect
17	Student Accommodation	JAHA	Student
18	Olympic Stadium	GJI	Student
19	Teacher accommodation	MAG	Student

Table 1: The 19 booklets and the category of each author.

According to the project leader, this first student-led initiative was one of a kind since it brought together a group of students from different generations. At the same time, these young researchers managed to connect with older generations of people that were students, staff, teachers, and athletes as well. The study made them remember and reconnect with their Alma Mater. Not only their sense of belonging to the university was strengthen because of their involvement toward a university initiative, but because for the first time they understood from a first-hand experience what it meant to be a student of a University that is listed in the World Heritage of UNESCO. Their connection to the Campus is tangible in the 19 booklets that describe the history of the Central Campus.



Fig. 1: The 19 booklets of Central Campus lectures of a Living Heritage. (Source: Muñiz Leyte, Behance)

7. DISCUSSION AND CONCLUSION

The project has been described as an approach to the recovery of memories from the past, were young architects and students got into the research to find original documentation about the Central Campus to develop a sense of belonging in the University. This study let the Mexican society understand the magnificence of the architectural and educational project of the University 87. This student-led initiative is one of a kind in the Campus since most of the publications are always led by experienced researchers. The main purpose of the publication was to develop sense of belonging within the community of young authors, and to make students and recent generations think about their institution, and about the capacity of its buildings to adapt and respond to the current needs of the University 88. The editorial team was formed mainly by students and recent graduates as well, the project leader was a recent graduate, the deputy editor and the historiographical compilation were developed by former students.

Within University City, there are no existing strategies that support or boost belongingness. As mentioned before, it is a topic that has not been studied by scholars in the Mexican context. However, considering a student-led project is a great opportunity toward developing belonging since it shows the students are the ones concerned regarding their connectedness and influence with the institution. Different universities around the world are working upon strategies for belonging within their students, however most of them are developed by teachers and staff to provide their students with connectedness with teachers, peers, and spaces.

The exercise of doing research within architectural students and associating them with the material, historical, social, and political aspects of the buildings they are inhabiting, created a bond between students and the physical aspect of the Central Campus. Perhaps, the connection was stronger because as students of architecture they can perceive different spatial factors that other undergraduate students from different disciplines may not notice. This opens the possibility for other students from different backgrounds to develop different types of studies, where they involve their current discoveries to co-create and collaborate with university's initiatives.

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Traditional Dwellings and Settlements

Working Paper Series

GARDENS AND LANDSCAPE OF UTTARAYAN, SHANTINIKETAN, INDIA

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Volume 322

Pages 44-55

Gardens and Landscape of Uttarayan, Shantiniketan, India

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Uttarayan is a unique landscape of houses and gardens situated amidst tree groves, built in early twentieth century for the poet-laureate Rabindranath Tagore, just north of Visva-bharati University campus in West Bengal, India. Uttarayan gardens exemplify indigenous modernism in India, rooted in history and vernacular traditions, yet a clear departure from historic precedents in bringing about a creative synthesis of the old and the new. The landscape represents no clear rupture from the past, but a selective continuity with the ancient ideal of living in a forest, blended with a cosmopolitan outlook that was open to inventing new forms to accommodate modern sensibilities. Hybridity is a key feature of Uttarayan gardens, evident in eclectic borrowing of motifs and a playful use of nature tropes from many garden traditions across the globe. The long-established traditions of garden making in the Indian subcontinent were transformed in favor of an eclectic mix of styles drawing upon both Western and Eastern idioms. The paper will trace the many design vocabularies—Indo-Islamic, colonial, and East-Asian—and ways in which they were transformed and amalgamated in creating a new garden aesthetic in Shantiniketan, representing early stirrings of landscape modernism in India.

1. INTRODUCTION

Shantiniketan's origins go back to 1863 when Debendranath Tagore, Rabindranath's father, had a revelation when he was sitting under a tree in the desolate landscape of the Birbhum district, 160 km north of Calcutta. Slowly the area known as Bhubandanga (meaning inhabited by dacoits) was transformed from a denuded landscape of ravines and gullies by replenishing its soils and planting trees to create an *ashram* (hermitage). The young Rabindranath who had many enthralling experiences in this landscape opened a school for young boys in 1901 that grew into a college by 1921, and a central university by1951, a decade after his death (Pal 2011). The transformation of wilderness into a garden was guided by the archetypal Indic image of *taporan* where nature is purified of its demonic attributes by the penance of wise sages who meditate, write treatises, and educate the young. The campus landscape known as *ashram* evolved in the image of the sacred grove and became the twentieth century manifestation of the ancient Indic ideal of retreat to nature for cultivating knowledge and wisdom. The sylvan landscape of shady tree-groves with outdoor classroom spaces where no building is taller than a tree reflected Tagore's belief that rhythms of nature inspire music, arts, dance, and creative writing.

The five houses in the Uttarayan (denoting the time period during which sun moves into the northern hemisphere) enclave which Tagore built north of Ashram and in which he lived in the last two decades of his life were settings for his many creative pursuits—writing, painting, composing and performing dance dramas. The poetic names of the houses—Konarak (sun angle) built in 1919-22, Udayan (garden) in 1922-25, Shyamali (dark woman) in 1935, Punascha (postscript) in 1936, and Udichi (north) in 1938— reflect Tagore's aesthetic sensibilities and artistic creations. The houses were named Udayan meaning dawn, Udichi to rise, Konarak or sun's rays and were a play upon Tagore's name Rabindranath with its etymology in the Sanskrit

word Ravi (Rabi in Bengali) meaning sun (Sanyal 2015). The architecture of gardens and houses in Uttarayan mirrored Tagore's growth of self towards individuation and are key to understanding why he called Shantiniketan 'abode of peace' and Visva-Bharati as the place where the 'world finds a nest'. Tagore wrote in 1895 (Chinna Patrabali, reprinted by Visva-Bharati 1992 as quoted in Das 2012, 143):

If I have a garden on the banks of the Ganga and a cool, spotlessly clean, marbled room in one corner on the bank only, a couch to lean against, a desk for writing, and just the garden and the water and the sky for the rest—the fragrance of blossoming flowers and the chirping of birds—then I can silently discharge my duties as a poet.

2. INDIGENOUS MODERNISM

Uttarayan gardens exemplify indigenous modernism in India, rooted in history and vernacular traditions, yet a clear departure from historic precedents in bringing about a creative synthesis of the old and the new. The art of Shantiniketan has been labelled 'contextual modernism' with its origins in the local craft aesthetic and historic art motifs, reinterpreted in a new stylistic grammar (Kumar 1997). This movement impacted architecture and landscape design as well, thereby uniting aesthetic production of the place. The gardens are a unique statement of indigenous modernism, defined not as a rupture from the past, but a selective continuity with the ancient ideal of living in a forest. They are a result of innovative experiments to meet functional requirements, and creative blend of motifs drawn from diverse garden traditions. As such they define a new aesthetic. It can be argued that they represent early stirrings of landscape modernism in India similar to proto modernism of early 20th century gardens in North America that predated the post war modern suburban garden (Treib 1990). Like their Western counterparts, they complemented the house and established continuity between architecture and landscape. Unlike international modern landscape design of a later period, they had room for creative interplay between historical precedents and contemporary design. Hybridity is a key feature of Uttarayan gardens, evident in eclectic borrowing of motifs and a playful use of nature tropes from many garden traditions across the globe. Homi Bhabha (1994) describes hybridity as the site of cultural productivity between cultures that challenges the notions of originality and purity. The art of garden making in Shantiniketan in colonial India was transformed by cultural encounters with both the West and the far East. The gardens subverted established canons by collaging many design vocabularies and using irony as a design tactic.

Uttarayan landscape has not been studied and therefore has not received its due place in garden scholarship in India. With the aim of rectifying this omission, fieldwork was done in fall and spring of 2018-19. It consisted of visual documentation, site mapping, interviews with the garden superintendent, and archival research in Rabindra Bhavan museum. Uttarayan is spread over 12 acres of a wooded site. The gardens were made

between 1919-1938 in tandem with the construction of houses, of which Udayan is the largest and most imposing. They are likely the product of collaboration between several people, among whom Rathidranath, eldest son of Rabindranath, took the lead. With a baccalaureate degree in agricultural sciences from University of Illinois at Urbana Champaign, and research experience in agricultural crops and pesticides at Sriniketan, he combined scientific innovation with artistic creativity in designing Uttarayan. He collaborated with the architect Surendranth Kar and the Japanese artisan Kimtaro Kasahara who also helped him in designing furniture and interior woodwork of Udayan. The gardener Ram Dass, earlier employed by Raja Ram Mohan Roy and Maharaja of Burdwan, assisted them in garden-making. Rabindranath's letters indicate that he took a personal interest in plantings at Uttarayan, not surprising for one whose poems and essays reveal a great love for nature.



Figure 1: Uttarayan Layout

3. GARDENS IN THE GROVE

The *taporan* trope was taken further in making Panchbati in Uttarayan grove by planting five trees (Ashok, Pipal, Amalaki, Bat, and Bael) on Rabindranath's 65th birthday. The trees, now fully grown, describe a circle with a clearing in the center with the view to a pond. The kidney shaped pond is named Pampa Sarovar, after the lake in Ramayan where Ram and Lakshman stop in their search for abducted Sita and wait out the monsoons in a cave. It has two islands—one larger than the other—made of boulders with shrubs and trees growing out of them, recalling the isles of eight immortals of Daoism. It also has a sculpture by Ramkinkar Baij of a large fish eating a small fish, a popular image in Indic thought, representing the law of the jungle-- of the mighty devouring the weak.



Figure 2 a: Panchbati

Figure 2 b: Pampa Sarovar







Figure 3 b: Guha Ghar

Guhaghar, literally cave-house, the lower part of a two storied small building to the east of Pampa Sarovar has a façade of cement concrete stones, resembling a mountain in built form. It was Ratindranth's studio while the upper floor called Chitrabhanu, directly accessed by a flight of steps from Japani Bagaan, was where his wife, Pratima Devi, made ceramic pottery and batik paintings. Both floors are large live-work spaces, lined with wood paneling and shelves, and have elegantly designed wood furniture. The large circular window set in a wooden frame with a cross is an arresting feature of the building façade facing the pond. This whimsically designed quaint building functions as a folly, overlooking both Japani Bagh and *tapovan*, juxtaposed yet separated by a wall

Japani Bagaan (Japanese garden), south of Udayan, does not subscribe to the tea or zen garden model, but uses tropes employed in Sino-Japanese gardens such as island, hermit on the mountain, winding paths, urns, and rookeries. Instead of borrowing scenery in distant vistas, a popular design feature of East Asian gardens, Japani Bagaan is enclosed by high walls. Although named Japani and designed with input from Kasahara, it is far from being a faithful copy of any Japanese precedent. There are only subtle hints of East Asian garden traditions mixed with allusions to Rajput and southeast Asian architectural detailing. The focus of the garden is a lily pond abutting a raised plaza with curving low planter walls and pedestals for vases. A free standing one-pointed conical archway dominates the plaza, on one side of which is a bust of Rabindranath by a Polish sculptor. The ensemble evokes a hermit and his hut on the mountain, a common trope in Chinese and Japanese gardens. It is surrounded by curvilinear raised flower beds, edged by clay tiles, on all sides. Clumps of rocks are found in the middle of flower beds, one of which has a stone carved with human faces in four directions, similar to *Shiva linga*. The Udayan garden façade has two decorative panels on either side of the entry door (now closed) reminiscent of Javanese wooden detailing in which two blind windows with cusped arched frames have been inserted. Ceramic urns, one placed within a columnar structure, and on raised circular planter beds add visual foci to the garden.



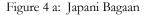




Figure 4 b: Udayan viewed from Japani Bagaan

Doors on the western façade of Udayan open into a garden split into two levels—Unchu and Neechu Bagaans—laid out in geometric patterns similar to the Indo-Islamic garden, but the simplex four square layout has evolved into more complex patterns of parterres. The axis rather than being defined by water channels and pathways is implied. The lower-level garden adjacent to the house has seven parterres outlined by clay tiles in indented quadrangular shapes. In the center of four parterres is a Crepe Myrtle tree growing in a cruciform shaped planting bed. In axis with the tree is an ornate water tank like a *mandala* (sacred diagram) with a shrub growing out of an island. These are symbols of the tree of life rising out of the earth and the waters. Other quadrangles also have trellis or bushes in the center. The upper-level garden—Unchu Bagaan—is accessed by a low flight of steps in two different risers and enclosed by a low wall with openings in different shapes, a few inset with terracotta panels carved with foliage. This garden too has a central feature—a fountain in three tiers rising out of a tank faced with terracotta panels showing a *makar* (crocodile). The fountain is placed in a triple-foliated parterre with flowerbeds on all sides.





Figure 5 a: Neechu Bagaan

Figure 5 b: Unchu Bagaan

The colonial bungalow garden is subverted in Gulab Bari. The rose garden is placed in the front entry area along with the tennis court, similar to the location of the colonial garden in front of the bungalow. It lacks, however, its most important feature, the ubiquitous lawn edged by herbaceous borders. Instead, an intricate geometrical pattern is set up by wide concrete paths separating the flower beds—square with a cross in the center surrounded by L-shaped beds forming rectangles. The densely planted gardens become a riot of colors when the roses are in bloom during the cool winters. The carpet of roses can be viewed in all its glory from the balcony and windows of the upper floor of Udichi and Udayan.



Figure 6: Gulab Bari

Ratindranath's horticultural experiments resulted in his designing vertical gardens or lata bagaans (vine gardens) that are cool shaded spaces for walking and sitting. Yet another variant is Malathibithan, a threshold to the open court around which the four cottages are located, similar to a Japanese style Torri Gate. It is an extended gateway designed as two sets of four twin columns supporting beams covered with Malati creeper. Seat walls in *jaali* (lattice) patterns provide ample seating for visitors today. The arbor taking several turns from the gardens behind Udayan to the front entry court was made by converting fruit trees-mango, mulberry, jamun and guava---into vines by tying their soft branches with metallic clips to the arching frame. Another example of lata bagaan can be seen in the free-standing curving walls with windows but no roof and covered with vines on the east and west of the verandah of Punascha. These shaded spaces were used by Rabindranath for reading and painting. Chatal bagaans are quaint patio gardens, representing a picturesque aesthetic of ruins with overgrown vegetation. The garden between Konarak and Shyamali was indeed built upon the plinth of a demolished house--Mrinmoyee. The patio supports pergolas with seat walls on all four corners, and the one on the northwest corner is similar to a mandap with a roof on four columns. Gacch Ghar (tree house), with a pillar in the center supporting the vines growing into the lattice roof overlooks the grove and the garden west of Udayan. It is an elevated structure meant for viewing the landscape with steps leading down to both the garden and grove, thus linking them.





Figure 7: Chatal Bagaan

Figure 8: Lata Bagaan

4. ART IN THE LANDSCAPE, WALLS, FRAMES

Modern art dots the landscape and creates its own rooms with green walls in small gardens of water or pebbled courts. Iconic pieces in cement concrete by Ramkinkar Baij (in addition to 'Fish' in Pampa Lake)— 'Santhal Family', 'Thresher', and 'Sujata'--are situated at the periphery of the open entry court, set against the backdrop of green foliage. 'Matsyavatara' by A. Ramachandran rises out of a lotus pond within a planting bed edged by the emblematic clay tiles, with a backdrop of a banana tree, next to the well (now closed) and its washing platform, north of Udayan. 'Maiya' by K.S. Radhakrishnan, on a high square pedestal, is visually prominent as one enters the forecourt. The sculptures are modernist interpretations of the local Santhals and mythic figures and add a quixotic touch to the landscape.







Figure 9 b: Maiya

Near Pampa Lake is an octagonal Phanki Ghar (bird house), elegantly designed with openings mimicking cusped arch doorways, and an ornate disc shaped crest. This is evocative of the Ramayan landscape, a natural garden around a water body teeming with birds. Another pankhi ghar with alcoves of different sizes and forms is built within Japaani bagaan wall. Near the entry to the pragan, the main courtyard towards which the houses face, is the round saras ghar for housing cranes with a conical straw roof and a low brick wall. Walls demarcate gardens enclosing them as outdoor rooms mediating between interior spaces and surrounding groves. Japani Bagaan is enclosed by high walls and has a watch tower with alcove like openings that are repeated throughout in the garden wall. The tapering door opening on the west is set within a portal. The walls around Unchu and Neechu Bagaans are lower with wide views to the grove beyond and have openings of different shapes, some decorated with terracotta tiles. The doorway to Pampa Lake with a rounded cusped arch is set within a portal. The landscape is framed in openings—windows, balconies, and colonnades. In viewing the gardens from upper floors of houses, their layout is revealed as a unified composition. Japani Bagaan and Nichhu and Unchu Bagaans, south and west of Udayan respectively are viewed from its windows and terraces. Gulab Bari can be viewed from the balconies of Udayan and Udichi.



Figure 10: Tagore framed in the verandah of Punascha (photograph by Sambhu Saha; source: Rabindra Bhavan archives)

5. CONCLUSION

Uttarayan is a popular heritage site in Shantiniketan, and was visited by 162, 300 tourists in 2016-17. They are restricted to the entry court from where they can view the landscape but not enter the gardens or walk amidst the groves. They cannot view the gardens from the balconies and terraces of Udayan and Udichi as was originally intended. Their experience remains incomplete without a full understanding of how nature was improved and perfected in the grove and the garden. Garden tours can be planned so that the ever-increasing volume of visitors can experience the place in small batches at a time thereby causing minimal damage to the fragile landscape. Uttarayan's garden and landscape heritage can be communicated to the public in poetry readings and dramaturgical performances as well. Uttarayan is a unique blend of the local and the global in its building and garden architecture. Its gardens are examples of early modernism in India when historicism was challenged in all creative pursuits including garden-making. They represent an era when botanical knowledge and horticultural experiments began to aid the quest for perfecting nature. The long-established traditions of garden making in the Indian subcontinent were subverted in favor of an eclectic mix of styles drawing upon both Western and Eastern idioms. New forms were invented to accommodate new and modern sensibilities. The gardens are a product of innovative experimentation in forms, materials, and technologies, ushering in a new aesthetic in landscape design. They mediate between the built and the natural in connecting the houses with the surrounding tree groves and as outdoor rooms, thresholds, and connectors, expand the landscape design language. The design experiment at Uttarayan succeeded in not only creating a harmonious blend between disparate vocabularies but also synthesized something unprecedented in garden design.

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Acknowledgements

I gratefully acknowledge the support of Fulbright-Nehru Academic and Professional Excellence Award in researching Uttarayan landscape and thank Chandana Hussain, garden superintendent of Uttarayan for her generous help in documenting the gardens.

Traditional Dwellings and Settlements

Working Paper Series

THE MEANING OF HOME IN THE MULTI-ETHNIC MALAYSIAN CONTEXT

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Volume 322

Pages 56-80 2022

THE MEANING OF HOME IN THE MULTI-ETHNIC MALAYSIAN CONTEXT

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The phenomenon of mass row housing is a strategy imposed by the ruling parties to accommodate the rapid growth in the multiethnic urban populations. There is a lack of understanding about home dwellers' spatial practices in modern row housing schemes, produced by developers and governments leading to excessive home modification by dwellers. This paper argues that the creation of a 'home' is a process of appropriation. It builds on the theory of practice by Certeau and the production of space by Lefebvre to better understand how a modern society of multi-ethnic backgrounds perceived space through their dynamic practices of home.

1. INTRODUCTION

Scholars emphasized the work of architecture as a cultural product, a representation of national identity unifying the built environment and urban design¹. It is critical for national growth, particularly in domestic architecture. Modern housing projects' mass production strategy has caused a deflection in the quality of living for dwellers, resulting in a series of home transformations within neighborhood housing specifically in the suburban and urban areas². The formation of domestic architecture is perceived as a symbol of identity and cultural expression. However, the work of architecture is more inclined to be a portrayal and manifestation of political power and ruling³.

Numerous case studies worldwide have proven that this mass housing phenomenon is shaped into a generalized standard of living spaces, gradually diminishing the social-cultural practice of the natives, particularly in the urban area where religion and tradition are the focal points of their daily practice, mostly in the Middle East, such as the UAE⁴, Egypt⁵, Iraq⁶ Jordan⁷, and Libya⁸. Globally, these issues acquired adaptation and appropriation of the physical housing unit for the sustainable living of dwellers⁹. In Chile, the way people domesticated their homes is through adaptation and appropriation. 'The way that these families' domestication of their homes is a process to balance their identity and self-expression with their growing integration into Chilean society always in relation to ideas of policymakers and developers, expressed in the architecture of the estates²¹⁰. A similar challenge for Muslim dwellers is how they are required to adapt to the extroversion design of Modern Australian homes, even though the Islamic practice encourages gender segregation¹¹. This can be a challenge in the realm of housing when a population is diverse, where migrants are housed in social housing, such as in Birmingham. '170 countries of origin are represented among the population, many of whom have temporarily or permanently made the UK their home for a range of reasons including refuge, the hope of employment and family reunion'¹².

The role of housing providers is as 'the producer', whose involvement is significant. Regardless of whether a home is for a shorter or a longer occupancy, a comfortable living space should be fully addressed by the housing

providers¹³. Vale identified continued evidence for this practice in politicized urbanism in developing countries such as Malaysia. Since the early development of modern homes in the 1970s, Malaysian scholars have criticized the design of modern homes, calling it a 'forced architectural identity'¹⁴. According to a recent report, modern row houses are among the most in-demand homes in Malaysia. In 2019, almost 70% of the population in the Selangor state of Malaysia owned modern row houses as property¹⁵.

Numerous research on socio-cultural problems in modern home design led to excessive home modifications by dwellers, describing issues concerning privacy tensions and unfit to their practice of a home, home experience, and home contentment ¹⁶. The modern row house typology allows them to appropriate and eventually claim the space as their own. This also implies that the home is a significant asset to people, ensuring their needs and lifestyle are well catered to from the aspect of affordability, security, suitability, accessibility, and comfortability¹⁷.

Similarly to Birmingham's super-diversity case, Malaysians are a multi-ethnic society. For decades, the people in Malaysia experienced turbulent phases of life through wars, decolonization, migrations, and occupation before reaching independence in 1957. It led to a diversity of religions, ethnicities, languages, cultures, and traditions¹⁸. The majority population are the Malay ethnic group, who mostly embrace the religion of Islam. The second major group of China are Buddhists, Taoism, or Christians, with the third group being Indians, who embrace Hinduism and a minority of Christians, with 2% other traditions and no religion indicated¹⁹. This cultural diversity has manifested eclectic architectural styles in Malaysian monuments and public buildings. However, no cultural influences of multi-ethnic are signified in Malaysian modern housing²⁰.

This paper aims to investigate the process of 'home-making' within a modern housing unit and to understand the nature of practices undertaken by respective multi-ethnic dwellers towards spatial appropriation and attachment of their homes. In addition, we will investigate the interpretation of 'home as a gendered term,' hence it is identified as the independent variable. Mediating variables are identified as the reasons for how independent variables affect spatial appropriation and attachment in a home. While the rest of the concepts are the constants of this research, this constant is identified as the criteria of a home setting - modern row housing, in which it is owned, secured, and dwelled by the homeowner and, living as a family unit within a family-friendly housing neighborhood.

This paper is built from an understanding each home unit has its stories, and believes that the concept and the use of a home is multifaceted. It derives from a philosophical stance that knowledge must be interpreted to discover its underlying meaning of spaces is appropriated by the household members. This can be done through investigations and face-to-face interaction with the home dwellers to generate more meaningful data

about the morphology of their spatial functions. Thus, a conceptual framework is developed, describing the main idea of this research towards data collection and as a guide to analyzing the multi-ethnic homes in Malaysia.

The paper develops the main question of 'How is the space (the house) transformed and become a meaningful place (home) to the dwellers?' To explain the actions and practices undertaken by dwellers, and their practice towards home appropriation, we engage with multiple key theories on the production of space by Henri Lefebvre²¹ (1991), the theory of practice by Michel De Certeau²² (1984), the theory of personality, the theory of communication, and the theory of function. The theory of personality by Maslow²³ (1943), the theory of communication by Luhmann²⁴ (1992) and the theory of function by Sullivan²⁵ (1996) are identified as supportive theories explaining the actions and practices undertaken by dwellers, as well as the use and feel of a space towards home appropriation. We argue that the creation and construction of home is a process of appropriation. The process of development and subsequent transformations is part of the daily process of self-creation, with everyday practices giving meaning to those who inhabit them. The built form of a house may be interrelated or interpreted by architects' notions, design thinking, and practice, but the meaning of a home can only be justified by a strong connection to the practices of the people who inhabit it.

5. THE PHENOMENON OF MASS ROW HOUSING IN MODERN MULTI-ETHNIC HOMES IN MALAYSIA

Within South East Asia, Malaysia is not only a region where monsoons meet, but it is also a transit center hub for major civilizations. With Western colonialism in the 16th century, and especially since the invasion of British colonialism in the second half of the 19th century, the Malay Peninsula was drastically transformed from a homogeneous society to a heterogeneous one²⁶.

During the post-war British Malaya, the capital city of Malaysia, Kuala Lumpur, experienced overpopulation with immigrants, as well as migration of people from rural areas (*kampung* or village), who flocked to the capital city, the center of business and commerce, to earn jobs and a better standard of living²⁷. Overpopulation caused an enormous spread of slums and squatters throughout Kuala Lumpur, particularly during the Japanese occupation from 1945 to 1947, in which temporary houses were built with no form of control. From this period up to the late 1960s, home constructions were outsourced by the government to developers who built brick dwelling units for squatter typology. The birth of Petaling Jaya introduced the early development of modern houses²⁸.

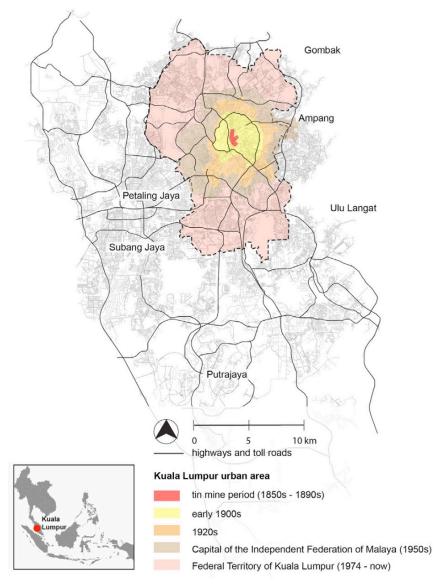


Fig. 1: Location map of Kuala Lumpur city and the overview of Kuala Lumpur's urban development. (Source: Hidayati et al., 2021).

In the early 1970s, the 'modern urban home typology' of row housing dominated the housing scene, accounting for 45% of the housing stock in Petaling Jaya, while detached houses accounted for only 30%. The remaining 25% of land use were factories, facilities, modern shop houses, newer development of roads, and drainage. The rapid development of newer roads and highways connecting more land areas for newer housing development continued in the district of Hulu Langat, Gombak, and Klang in the early 1990s. Within three decades, row houses changed the entire housing scene near Selangor state. However, the homogeneous design of a home unit from mass housing provides inadequate rooms for a growing family and creates privacy tension within the housing unit and wider neighborhood²⁹.

There are several problems identified within the realm of the modern housing scheme in Malaysia. First, the home design of terraced houses and semi-detached houses mainly evolved around a standard regulation and guideline imposed by the government authority³⁰. To cater to the high density of urban living, a mass housing development project is commonly perceived as 'duplicate homes.' A home is a set of 'social spaces' that must distinguish private and public, social, and personal spaces, which is equally important for the members of household, especially the Malaysians who value 'growing family' within the same home unit³¹. The choices they have when purchasing a home are to find the most appropriate typology, a suitable number of rooms and the rationality of the overall spatial design, all within affordable options.

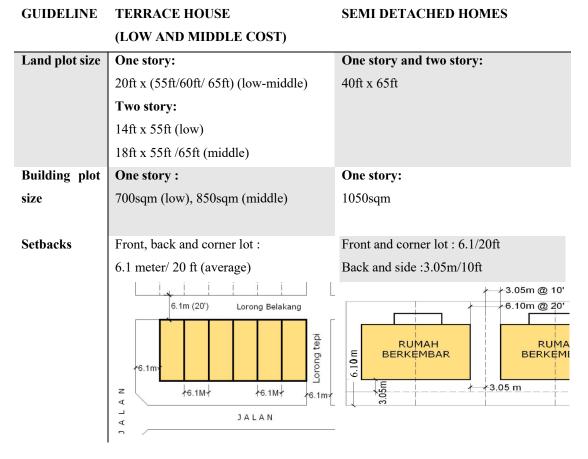


Table 1: The guidelines for the planning of modern row houses, namely terraced housing, and semi-detached housing. (Source: JPBD and KPPT, 2016).

This leads to the second problem, in which most modern row housing has resulted in modern extroverted and standardized designs, as well as combined living spaces that meet minimal privacy and cultural considerations³². In a survey study by Chia et al. (2016), house features, such as the number of stories and the number of bathrooms, were not necessarily the primary concern in forming home purchasing decisions, as

respondents expected that most units on the market are 'ready-made' with standardized sizes following the authority's guidelines and regulations. For a landed property of modern row homes, the size of a land plot, building plot, and building setbacks are pre-determined for both terraced homes and semi-detached homes³³. Today, the row housing units within Selangor experience home modifications and renovations adapting to the needs of their users – either for commercialized purposes or to suit expansion in the household structure. Landed homes are preferable since they allow them to transform spaces, by expanding vertically and horizontally³⁴.

Lastly, this guideline approach demands more effort from the people to appropriate the space in their respective homes. A lack of knowledge of spatial practice from different cultural groups results in monotonous designs, even though most architects and designers are aware that multi-ethnic households works dynamically³⁵. Henceforth, modern housing was deemed by scholars as a 'forced national identity,' as investors and developers are more focused on quantity rather than quality³⁶. 'Forced identity' is perceived as users having no say in the design, only fulfilling the political desires of the ruling government and developers.

This paper ponders on the typology of modern row houses in a multi-ethnic setting. Typically, a modern row housing scheme is designed in an orderly manner, using a grid system, national policy, and regulations providing a strategic spatial living to address the efficiency of housing cost and construction constraints³⁷. A home and its use are not merely descriptive and should not be defined by tangible conditions. In most cases, a house is described as a physical structure providing shelter to a family unit, while the concept of a home holds various meanings and interpretations³⁸. Figure 2 below illustrates the home modifications occurring in a housing neighborhood of Petaling Jaya, Malaysia.



Fig. 1: The modern row houses occupied by Malaysian families demonstrate various architectural styles of modified homes, expansion vertically and horizontally. (Source: authors).

2. WHAT IS HOME?

The definition of a house and a home are varied according to the disciplines of history, architecture, geography, social science, and psychology. From a sociologist's viewpoint, Lefebvre refers to a house as a 'human habitat'³⁹. Whereas, from an architectural historian's perspective, a house or a home is an architectural typology providing shelter and protection for the members of households to perform their daily domestic activities⁴⁰. A house could be described as a home, but the definition of a home is beyond a house's physical structure, as it holds many interpretations. According to Saunders, multiple elements can form a home; physical elements, social elements, and personal elements⁴¹. Saunders and Williams comment, 'home is where the heart is'⁴², it is more than just bricks and mortar. The home is a reflection of culture, social convention, and values, manifested in people's habits, practices, and predispositions towards their homes, which Bourdieu (1991) refers to as 'habitus'.⁴³ Therefore, it is critical to grasp the relationship between the meaning of 'home' and social relations among members of a household, particularly how domestic roles can influences household structure.

As an architect and social scientist, Lawrence elaborated that a house is 'a physical unit that defines and delimits spaces for the members of a household'44. One primary objective of house design is to distinguish between public and private spaces. Often, when a person signifies the word 'home,' 'a wide range of places appeared to one's mind such as a house, a neighborhood or perhaps a country'45

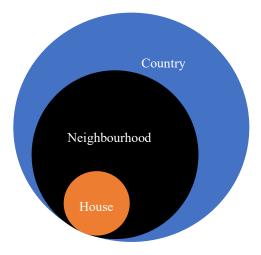


Fig. 2: Illustration of the concept of a home in a person's mind. (Source: Sixsmith, 1986, p.281).

Petridou (2001) stated that 'home' connotes a 'place' more than a 'space.' The home is rather 'a kind of place', which acquires its meaning through practice; and as such, it forms part of the everyday process of the

creation of the self.⁴⁶ Home is an 'important setting to maintain and development of an interpersonal relationship between family members nurtured in a home, friendship with neighbors, and other visitors are fostered in a home'⁴⁷. Lam and Yeoh had the same opinion when they studied the Chinese-Malaysian transmigrants in Singapore, in which their respondents were younger generations (mostly in their twenties to thirties), and defined the home as 'home is where my family is' – embodying the idea that a home is a place for family relationships⁴⁸.

Despres (1991) notes various semantic concepts of a home and he outlined that the meaning of a home can be interpreted and developed in four behavioral or human theoretical studies: territorial, psychological, socio-psychological, and phenomenal of interpretation. These categories provide classifications of how people interpret their idea of a home based on behavioral factors and are discoursed using four theoretical studies⁴⁹.

The territorial interpretation is understood as a self or other boundary mechanism involving personalization or marking a place or object, as a medium of communication that is 'by a person or a group'50. Dwellers in the territory of the home may exert control over the space and the behaviors occurring within it⁵¹. The territorial marking defines a space for home dwellers as a 'safe' place that supports their daily activities and practices⁵². A survey study in Abu Naseir, Jordan described this marking and personalization of spaces involves several factors; user-generated features which signifies against intrusion (fencing), reflecting possession and security as well as privacy, signs of care, providing the notion of 'affordance' and social communication structure. This behavioral factor is mainly perceived as starting point of the 'process of belonging' or 'process of home'⁵³.

This behavioral action expressed the dwellers' needs for psychological comfort, social interactions, spatial attachment, and recognition. In psychological interpretation, the meaning of home expands as a relationship place for family and friends, signifies personal status, as a center of activities and home as a reflection of one's ideas and values⁵⁴. Therefore the home can be divided into personal home, social home and physical home.⁵⁵ In socio-psychology perspective, the home acts as a symbol that represents an individual's social identity. It can be decoded, especially on the exterior appearance of a home, as it has been discovered to indicate the owner's profession, personality, lifestyle, and family status⁵⁶.

The material character of a home, mostly the exterior, more than its interior, communicate information about home dwellers, regarding its visibility, style, landscaping and maintenance, as well as the characteristic of the neighborhood context in which it is located, such as lower- or middle-class⁵⁷. In this perspective, home is focused on 'material structure.' Homes and settlements are expressions of the various aspects of life and the variety of ways of experiencing reality⁵⁸ (Muhammad Koderi et al., 2020).

The phenomenal and the development of interpretation suggest a home is a process and can only be experienced through time and that people's particular life events influence their experience of a home. The establishment of a home involves its history and memories which connect an individual's past and future, with everyday routines evoking a sense of familiarity, seasonal, and cyclical events⁵⁹, and have more to do with everyday living and doing (lived experience) rather than thinking⁶⁰. This notion described the home as 'permanence and continuity' within a housing unit.

"The home becomes a familiar environment, a place that provides its occupants with a sense of belonging somewhere, of having roots. Home can also be memories (childhood home, home where one's children raised, home before spouse died, etc.) indicating a connection with past experiences. This dimension of a home is also function of how much the dwelling unit fits one's changing life objectives, aspiration and future goals."

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The meaning of a home is developed from the dynamic processes and transactions that transformed the housing unit – a neutral environment – into a home in everyday life. Therefore, other temporal processes by which a home is experienced are through appropriation⁶². The processes through which individuals claim ownership of, actively use, and eventually create meaning in and become attached to the physical environment have been explained by appropriation. Whether space refers to the outdoors, urban neighborhoods, a home, or a variety of other settings, appropriation is considered to be one mechanism by which individuals transform 'space' to facilitate a practice⁶³. Hence, there is a distinctive meaning between 'house' and a 'home.' In figure 3 below, Despres's study found that 'the act upon and modifying dwellings' is how people 'make a home,' indicating that home must be appropriated. People modify the home unit to define their territorial, fulfilling their psychological and socio-psychological needs, as well as appropriate the use of home to suit their daily practice or familiar environment within the household (phenomenology and development). This study supported by a recent study for in Chile, the way people domesticated their homes is through adaptation and appropriation. Numerous studies in Malaysia identified that home modification is a way people personalizing their living spaces to achieve sustainable living.⁶⁴

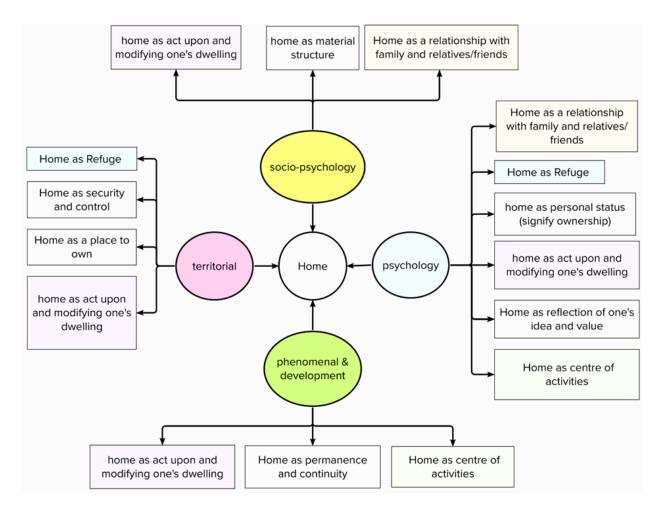


Fig. 3: 'The act upon and modifying dwellings' is how people 'make a home,' indicating that home must be appropriated. (Source: Després, 1991, pp.99–102).

From the above literature, it is understood that a home is an act of people's responses to a space that is transformable over time. Anyone can build a house, but inhabitants create a home. The 'act of appropriation of space' is understood as 'making a home'65. In addition, the home is a place that facilitates the practices of its users and the home becomes meaningful to them through appropriation, helping them to re-create places, meanings, and memories⁶⁶. It is the key that helps understand how people appropriate their concept of a home within a house unit scale. In figure 4 reflects on how spatial appropriation explains the practice of home within a household and spatial attachment explains the home experience within households that relates to the behavioral factors that influence 'the process of homemaking'.

Summary of behavioral factors that influence 'the process of homemaking' (1980-2000)

Territorial

Marking & Position

- the neighborhood territory, house boundary, family territory, individual territories.

Psychological

-Spatial Quality

Quietness, light, cleanliness, thermal conditions, and easy movement

-Social Relationships

Experience, memories, feelings & interaction

-Self & Identity (spatial attachment) Mood & taste, idea & values

Socio-Psychological

-Social status

Professions, personality, lifestyle, and family status.

-Façade alteration

Stylish portrayal

Phenomenology & Development

Time and process (Home experiences & memories)

History, family background, time and life events, daily routines and

Spatial appropriation

-alteration and extension

The act to appropriation of space (the home) within a house unit scale

Spatial Appropriation (practice)

Process of modification/ enhancement of space to make its own.

- -The act of transforming a physical environment into a meaningful place.
- -Connotes and denotes spatial functions and layers of meanings.

• Spatial Attachments (experience)

Social relationships & placing belonging in the space

- Bonding time while using spaces
- Multiple uses and upkeep of space, people appropriated the space creating memories, meanings, and places.
- The amount of possessiveness over space will induce attachment.

Dependable Variables

Theory of Production of Space
Theory of Practice
Theory of Function
Theory of Personality
Theory of Communication

Fig. 4: A summary of theoretical studies and how dependable variables are generated as an input to a conceptual framework. (Source: Sixsmith, 1986; Després, 1991; Ureta, 2007; Rioux et al., 2017).

3. THE MEANING OF HOME IN MALAYSIAN CONTEXT

In Malaysia, the words 'Kampong' or 'Kampung' are referred to as 'Homeland' or 'Hometown.' It can be a common linguistic practice in Malaysia to refer to the word 'Kampung' as a 'place of origin,' a country, a town, or a village, even though a direct translation of 'Kampung' means 'village'. Meanwhile, the word house and home translated into Malay, the national official language, can be found in a single term, which is known as 'Rumah'. The meaning of a home is primarily referred to as 'a family gathered place'. 67 The term 'family' may include the close connections among neighbors and friends that share the same ideas and values in daily

practices, such as speaking the same language and performing everyday lifestyle and activities adhering to regional culture, traditions and morals, regardless of ethnics⁶⁸. 'Family' or 'berkeluarga' in Malay word, signified as domesticity, commonly associated with 'gendered term,' a married couple living and raising their children in a home together.⁶⁹

From religion and general perspective, home is perceived as a gendered term – the home is a woman's domain while engaging with the role of nurturing and caregiving, embodying, and protecting womanly virtue⁷⁰. Home is portrayed as the 'locus, love and empathy,' as well as 'a status symbol of a man's worth'⁷¹. Based on a detailed home study by Mohamad in 1992, it is evident to find gender-spatial practice in the Malay and Indian traditional and squatter homes. Even though it is not highlighted in Chinese traditional homes, which mainly refer to the home as an entirely 'family zone,' yet there is a partition dividing welcoming guest areas and the rest of the spaces of traditional Chinese homes to protect the woman's domain. In contrast to Chinese communities, which mostly adopted the practice of ancestral worship, the Malay and Indian cultures adhere to the rules and restrictions of their respective religions regarding ways of living. The Malay, Chinese, and Indian flat dwelling units have completely different configurations due to the practice of religion⁷².

Most literature studies on Malaysian homes emphasized the importance of privacy and the meaning of a home is more appropriate as 'protection and refuge,' both spiritual and physical⁷³. In the beginning, western scholars described the home as 'a center of activities' as well as 'a place to interact and connect'. However, adding the meaning of a home as 'a center of activities and a place to interact with the optimum level of comfort and control,' is the best to define home within a Malaysian context⁷⁴. When the values of gender spatial practices is recognized, a home is a place providing sustainable family living.

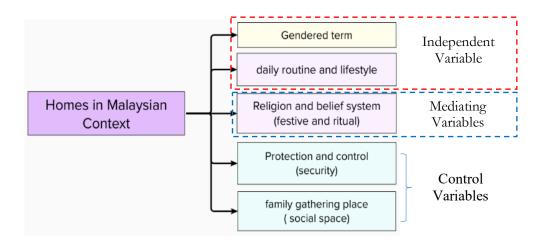


Fig. 5: The independent and mediating variables of this research are identified from the summary of 'meaning of home in Malaysian context.' (Source: authors).

4. THEORY OF SPACE AND PRACTICE: TOWARDS CONCEPTUAL FRAMEWORK

To understand the home modification phenomenon, an initial question was developed: 'Why do spatial appropriation is significant in the home-making and how does it relate to spatial practice?' De Certeau's theory not only concerns daily routines and movements. It is a belief in how ordinary people perceive the modern world and how they act upon a structured and strategized environment defined by an organizing body that has access to power and wealth to shape this environment⁷⁵. 'Strategies' employed by institutions and structures of power (corporations, governments or organizing bodies) who are 'the producers,' while individuals (ordinary people) who are 'consumers' or 'poachers' acting in accordance with or against environments defined by 'strategies,' by using 'tactics'. 'Tactics' is the 'art of doing,' is guided by his belief that, despite the repressive aspect of modern society, there are elements of creative resistance to this structure, enacted by ordinary people.

In the 'process of homemaking,' this theory guides this research to understand the actions and practices the home dwellers undertook once they secured a home. For instance, the mass development of modern row houses, such as terraced, semi-detached, and multi-story houses, are produced, planned, and strategized by the government or developers along with the professionals by employing strategies: housing policy, rules and regulations, grid system, and housing design scheme. With the power and wealth they hold, the space is produced in a short time. People respond by remaking spaces through appropriation and acting upon existing spaces to support their practices when they move into a newer area after purchasing newer homes. These actions are referred to as 'tactics.' With less power and investments, they acquired the appropriation of spaces that occurred through time as they work around the 'strategies' defined by the 'producer.'

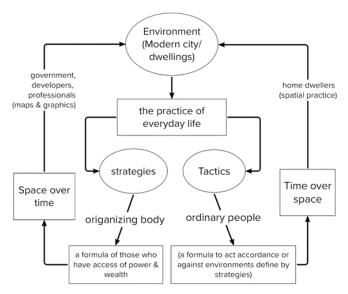


Fig. 6: A diagram highlighted the concept of 'tactics' employed by ordinary people as the mean of 'appropriation of space' in a home, within a modern housing scheme. (Source: De Certeau, 1984).

This theory led to another question in which, 'How does a house is transformed and become an appropriate place of social space (home) in a modern society?' This is where Lefebvre's theory of spatial triad linked with De Certeau's concept of spatial practice helps to understand the relationship of ordinary people and the influences of their dynamic spatial practices within a structured modern housing scheme imposed by the government or developer. Lefebvre (1991), a French philosopher and sociologist, introduced the concept of social space through a spatial triad.

The spatial triad has three elements. The first element, spatial practice, is 'perceived space,' described as a physical space that seems about negotiation between the user's daily routine and activities and house reality. Second, representations of space are 'conceived space' (mental projection) – space that is conceived through codes, and signs, in which communication and information systems are 'conveyed by images and signs,' such as maps and any other type of 'graphic representation or projection.' Lastly, representational spaces are 'lived experience spaces,' which refer to layers of meanings demonstrating sensory projection and mental appropriateness, engaging social relations within conceived space (mental) and perceived space(physical).

The three spatial triads are interconnected or engaging with one another. By taking the context of a home, the act of purchasing a modern house is observed as an initial stage for homeowners conceptualizing spaces to form a decision for a place where they can call 'home.' The 'producer' of space (the home) are people who have access through power and money shaping the home environment (representation of space), such as the government and developers. Homeowners' circumstances are the primary consideration while forming their home purchasing decision, whether the (produced) home is appropriate to live in for a long-term settlement by mentally projecting their daily activities and practices, using visualization on maps or floor plans.

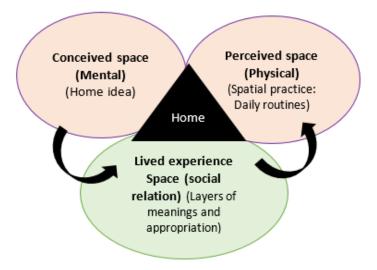


Fig. 7: A diagram explains the 'appropriation of space' using the concept of 'spatial triad,' the home (space) that must be recreated. (Source: Lefebvre, 1991).

Home buyers (ordinary people) embrace the conceptualized spaces through spatial adaptation as they dwell inside their newer houses. For instance, the living room is a place for resting or entertaining guests and the kitchen is a place to cook. However, the representations of space produced by the government and developers contradict the home-lived experience of common people, which involves social relations and interactions within a home. From time to time, homeowners' responses and investments through spatial alteration or modification spaces within the home cater to their dynamic spatial needs and daily routines (spatial practice). This act is the appropriation of space Lefebvre refers to as the 'production and reproduction of space'⁷⁶. Figure 7 above shows that 'appropriation of space' is the act of reproduction of a home, in which the meanings and functions of space (the home) means to be altered depending on the routines or practices within the home.

De Certeau claimed that 'space is a practiced place' and 'every travel story is a spatial story – spatial practice'. One method of analysis is referred from the work of Scheflen and Ashcraft explained: 'a phenomenology of the behavior that organizes territories.'⁷⁷ Homeowners described each space of their home based on their daily activities and found the use of each space through practice, which allows them to control, such as a place to eat, cook, rest, connect, and henceforth. The more a person engages (frequently) in the practices, the more attached they are to that space⁷⁸. For example, 'I used to walk down this crooked path to my school,' as De Certeau defined the spatial practice as people's everyday tactics and these actions (practices) can exert into a narration that often-transformed spaces into practiced places (appropriation process). The example De Certeau used is how the streets are transformed into a space by walkers, whether functional or transitional space. To observe the practices of multi-ethnic groups towards modern homes, the way a particular activity is practiced in a space shall be observed, as well as how the material belonging and furniture are positioned in a space. The home reflects culture, social convention, and values, manifested in people's habits, practices, and predispositions towards their homes, which Bourdieu (1991) referred to as 'habitus'⁷⁹. This research is built from an understanding each home unit has its stories, experiences, and meanings.

This work also engages with the theory of personality and communication believing space contains information, and the information is provided with meaning using Husserl's theory⁸⁰. The subconscious mind, lived experience, and the home dwellers practice in a home varies between households and how they perceived spaces. Appropriation of each space includes modification of spatial functions, furniture arrangement, positioning of material belongings, mood, and decorations. Home, as a container for the material possessions meaningful to each household member, providing information required for the development of their self-identity, these objects being concrete embodiments of different aspects of their personality⁸¹.

For instance, a kitchen is always perceived as a place to prepare and cook food. However, it is also evident in the literature that in a traditional Malay home, the kitchen (*Rumah dapur*) is not just a place to cook but it is also a place where the woman of the house entertains female visitors; this action denotes the homeowner values social interactions and socializing. Also, a study on an Indian squatter home found there is a bed between the dining and the kitchen space. This bed caters for elderly people or those with illnesses as a station for emergency treatment and is a closer approximate to the living area where the visiting relatives come to meet them. This denotes that homeowners are 'attentive towards elderly needs.' Luhmann (1975), a theorist in communication, defines communication as the unity of information, message, and understanding⁸². The homes contain spatial information layers which can be interpreted and perceive as meaningful dwelling places⁸³.

The theory of function, by Sullivan, is a theory that holds a principle. The purpose of buildings is the starting point of design principles rather than aesthetics. This theory introduced the concept of denotation and connotation, revealing layers of spatial functions. A home is a place facilitating the spatial practices of its owners. The theory of function not only addresses the changes in spatial functions of a home unit across time, but also the placement of furniture, material belonging, and decorations in a home, mostly towards practicality and functionality with minimal emphasis on aesthetic purpose⁸⁴.

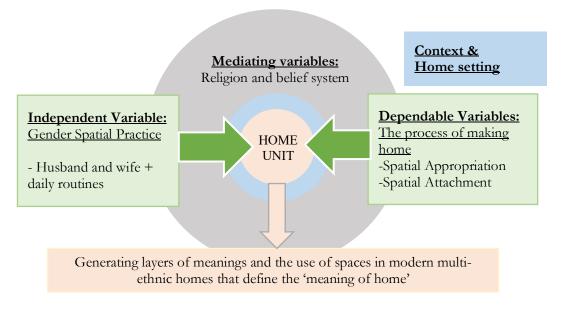


Fig. 8: Conceptual Framework (Source: authors)

The conceptual framework of this paper focuses on the relationship between households' spatial practices, spatial appropriation and attachment in a modern home unit. This research establishes a hypothesis that

gender spatial practice influences the 'appropriation of spaces' in Malaysian modern multi-ethnic homes. Hence, this research investigates the three major groups in Malaysia: the Malay, Chinese, and Indian communities, to understand how their respective pattern of practices generate layers of meanings and the use of each space defining their current 'meaning of a home.'

The home setting is identified as a control variable and landed home typology is the first criterion, in which it is a modern row house within a gated and protected neighborhood with security controls. Second, the house comprises a family unit, a married couple with children who have been staying in the same house for more than a decade, in which they have control, secured protection, ownership, and appropriated the home unit. Third, the neighborhood is family-friendly, providing pre-schools, elementary and secondary schools, green parks, health care centers, and religious centers.

From the literature study, the Malaysian housing neighborhood, particularly in modern urban society, comprises multi-ethnic dwellings. However, it is understood they are not evenly distributed and the dominance of ethnic groups may be apparent within a home setting. Therefore, it is crucial to obtain information through observations and listening to participants concerning the process of home-making based on their experiences and behaviors. This can be achieved by entering the details of the p, thus a qualitative case study seems an appropriate approach for this situation.

This research is not focused on how the neighborhood defines the meaning of a home but instead concentrated on gender spatial practices by the home dwellers that influence making a home through spatial appropriation and attachment. In conclusion, the concept of a home derives many interpretations in Malaysia and the global context, and the study of a home for social relations must be understood from the subjectivist perspective to discover the multi-layered home realities.

6. CONCLUSION: THE MEANING OF HOME IN MODERN MULTI-ETHNIC HOMES

Religion and belief systems are valuable to better understand the dynamic practices as they relate to domestic roles and structure within multi-ethnic households. This "practiced place" has an impact on how a space is used and feels. The adoption of Islamic practice in the Muslim home environment and the idea of male and female spatial segregation has significant relations to 'home as a sense of security' and 'home as territorial.' However, the appropriate terminology in the Islamic context is providing 'protection' to home dwellers. The term 'protection' refers to the best possible shielding of sound and vision between neighbors, both inside and outdoors. Multiple studies described the influence of how gender spatial practice formed the space configuration of Muslim homes. Rahim and Hassan (2011) investigate the characteristic of traditional homes in Malaysia and Iran. Malaysian – Muslims utilized the behavioral mechanism and spatial hierarchy to

differentiate public and private spaces for women and men. This concept provides more flexibility with fewer physical partitions to create multi-functioning spaces. While, the traditional home in Iran has a huge courtyard as the house's main feature to control the level of privacy with partitions and more identifiable space functions⁸⁵.

This is noteworthy because although the courtyard is a prominent component of Chinese shophouses in Malaysia, it hasn't traditionally served as a place for gender segregation. Instead, it has served as a gathering place for families and climatic reasons⁸⁶. In a traditional Indian residence, the female guests are entertained in the courtyard space. A 1992 piece by Mohammad looks at how people use their homes to support their diverse religions and practices in traditional homes, squatters, and modern flat units. Interestingly, this research discovered that Malay and Indian households continue to preserve the notion of gender segregation inside the home unit and use the furniture to specify this purpose, but the Chinese household does not perceive this as their primary priority. Due to the limited space in a flat unit, it is recognized that this finding has various data limitations. Therefore, this research can be examined using a landed property, where space expansion can elaborate the practice.

In summary, earlier researches conducted were related to the ethnography approach which focuses on a single ethnic group, e.g., the Malay, Chinese, or Indian culture. Similarly, within a global context, the focuses are more on a specific religion or belief system within the home. Also, some studies focused on multi-ethnic homes, however, the scope's emphasis was on multi-story buildings, such as in Chile's and Kuala Lumpur's urban areas. These earlier studies examine the existing use of space and behavioral factors that changed home furniture and decoration. Whereas, this research adopts a theory of practice and of the production of space in the context of Malaysian homes, to guide and elucidate the investigation of multi-ethnic homes and transformed spaces facilitating their respective practices in a long period of occupancy.

The aim of this research is to fill the gap in knowledge, to investigate the multi-perspective of the use of space and the 'appropriation of space' in modern multi-ethnic row housing, focuses on the urban and suburban housing area in the Selangor state of Malaysia. The role of conceptual framework in figure 8, will be utilized further for the selection criteria of the case study and research methods.

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