Analysis of new campus planning for Wuhan University in the early Republic of China (1929-1937)

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\textbf{ABSTRACT}

In this paper, the site selection as well as both the evolution process and the characteristics of on-campus planning for Wuhan University’s new campus in the early Republic of China (ROC) are defined through on-the-spot investigation and analysis on the drawings documents in archives in China and other countries. Based on the four rounds of relocation, Wuhan University’s new campus site was selected according to Eastern-Western architectural concepts. The portrait of the modern university’s campus construction reveals both the integration of various factors and the exploration of multiple cultures embedded in terms of the planning evolution. Through comparative and morphological analysis, this paper summarizes the design characteristics of Kales’s team, namely, the centrality and multicore three-dimensional spatial pattern of campus space through the both axis and the road system. This study makes up for the deficiencies in the planning ideas and the characteristics of Wuhan University (WHU) in the ROC as well as fill the gap in English literature on modern Chinese architecture and campus planning before 1949. As an exemplary model for the campus planning of Chinese universities in the modern era, WHU provides significant reference for the study of contemporary campus planning and cultural inheritance.

\section{1. Introduction}

Wuhan University (WHU), surrounded by mountains and beautiful scenery, is renowned as one of the most beautiful university campuses in China’s central, land-locked Hubei Province (Figure 1). In the early Republic of China (ROC), National Wuhan University (renamed Wuhan University in 1949) was the only modern state-owned university in central China. At present, it is an important model of architectural modernization in China. Twenty-six campus buildings, which were built by Chinese and foreign teams in the 1930s, have been named Key Units National Cultural Relics Protection Sites since 2005.

In recent decades, scholars, such as Li (1987), Huang, Zhou, and Wang (2012), and Li (2013), have paid attention to the study of campus planning in WHU. However, these studies mainly focus on the current situation of WHU campus planning. Even though the campus planning of the ROC was involved, the data on the early campus location, plan, or design team are not sufficient. Research on the early campus planning of WHU is extremely rare. On the one hand, because only two-thirds of the early campus planning scheme proposed by Kales’ team was accomplished, the planning ideas must be inferred from the drawings and may not be fully known to the majority of scholars. On the other hand, the improper preservation of the archives relevant to the early campus construction entails great difficulties for research.

Based on field surveys and 3306 volumes of drawings documents in the WHU Archives, Hubei Provincial Archives, and National Archives of the United States, the site selection, planning scheme, and design team of WHU are analyzed and sorted out. This research is useful to the study of university campuses in the ROC.

\section{2. Background}

In the modern era, the Chinese society was full of transmutation until the establishment of the Nanking National Government in 1927. The tens years of 1927–1937 was called “Nanking decade”, during which the political environment was relatively stable. To consolidate the political power, the National Government considered education as a powerful tool and the greatest foundation for the revolutionary success, and established national universities throughout the country, with the spirit of “Ancient Chinese Forms .”. In this context, National Wuhan University was set up.
In 1925, Cai Yuanpei (1868–1940), the minister of the Ministry of Education of the National Government (大学院), decided to build a national university in Wuhan, "with equal emphasis on Yenching University and Sun Yat-Sen University" (National Wuhan University Weekly, 7 June 1932). In July 1928, the National Preparatory Committee for National Wuhan University was formally established, temporarily taking the First College of Sun Yat-sen University, Dongchangkou (东厂口), as the site to conduct the establishment work, which was in downtown Wuchang. However, Dongchangkou Campus had "a vertical and horizontal area of about 50 mu" (NWHU 1930, 123) and was a rundown old campus (Figure 2). In August, the Construction Equipment Committee (CEC) of WHU1 was established and made responsible for the selection and construction of the new campus. This marks the formal beginning of the construction plan for the new campus of WHU.

3. Site selection of the new campus

The site selection of the new WHU campus was modified four times during 1925–1928. The southern region of Luojia Mountain (珞珈山) was identified as the final campus site.

![Figure 1. Location of Wuhan University.](image1)

![Figure 2. National Wuhan University Dongchangkou campus panorama (Hubei Provincial Archives).](image2)

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1 All plans for construction equipment in new school buildings were approved by the committee, and all construction equipment costs were accepted and paid by the committee, not mixed with school funds. The current members and chairmen of the committee were approved by the Ministry of Education. See National Wuhan University Catalogue (国立武汉大学一览) (1930), 123.
3.1. Site of the city academy

The first site selection for the new campus was located in downtown Wuchang. On 21 June 1928, Liu Shuqi (1890–1935), the chairman of the Preparatory Committee, held the first meeting concerning the campus site selection in Wuhan. Two members, Li Siguang, and Zhou Gengsheng, had not yet arrived in Wuhan, so they were unable to attend the meeting. Regarding the site selection of the campus, Liu Shuqi noted (23 June 1928), “the former Hubei-Hunan Academy has a large and spacious room and can be used for the establishment of Wuhan University.” In the era of frequent policy reforms, members of the Preparatory Committee predicted the orientation and vitality of the WHU as the traditional campus construction in downtown Wuchang in the early ROC. With the arrival of Li Siguang and Zhou Gengsheng, the location plan of Hubei-Hunan Academy was stopped and remained in the historical archive.

3.2. Under Hong Mountain

The second site selection for the new WHU campus was at the foot of Hong Mountain (Figure 3). On 13 July 1928, Li Siguang first proposed that the new school be located in the vicinity of Hong Mountain outside downtown Wuchang (Pingshu and Wang 2000, 880). Subsequently, the third meeting of the Preparatory Committee formally decided to build the school at the foot of Hong Mountain (Sin Wan Pao, 21 July 1928) (Figure 3). Hong Mountain was located in the eastern suburb of Wuchang, approximately 50 meters above sea level. Southwest of the mountain, the historical Baotong Temple would have provided a rich cultural and natural landscape had the school been built there. Meanwhile, the suburban location was in line with the trend for new campuses in the early ROC that advocated the principle of campus location in the United States, breaking away from the downtown and pursuing the natural landscape. However, the eastern part of Hong Mountain was found to have been used as an experimental site for Hubei provincial agriculture and forestry. Additionally, agroforestry scientist Ye Yage put forward a more suitable site selection, so the decision was soon changed.

3.3. The region of Donghuzui Village and Zhuodaoquan Temple

The third site selected for WHU was the area of southern Luojia Mountain, the region of Donghuzui Village (东湖嘴), and Zhuodaoquan Temple (卓刀泉寺) (Figure 4). In July 1928, Ye Yage, the former director of the Forestry Department of the University of Nanking, was appointed as a technician of the Hubei Provincial Construction Department and became a member of the CEC. After his comprehensive investigation, he stated that “the area around East Lake in Wuchang is the

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Figure 3. Topographic map of the vicinity of Hong Mountain (File L7-1929-524 of Wuhan University Archives).

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1. Li Siguang (1889-1971), geologists, the committee member of the Preparatory Committee and the Chairman of CEC of WHU.
2. Zhou Gengsheng (1889-1971), publicist, committee member of the Preparatory Committee and CEC for WHU, and president of WHU from 1945 to 1950.
3. The former site of Hubei-Hunan Academy of Classical Learning was on the bank of Dusi Lake in downtown Wuchang and now is in Wuhan Conservatory of Music.
4. Liu Shuqi’s letter to Li Zongren, File L5010-006-0166 of Hubei Provincial Archives.
5. The circumference of Wuchang City Wall was 20 li with 10 opened doors, and the wall was destroyed in 1927-1928.
6. Pingshu and Wang (2000).
7. 1928. “Summary of the Third Meeting of Preparatory Committee for Wuhan University”. Sin Wan Pao, July 21.
most suitable university location, and its natural scenery is rare in domestic and foreign universities³⁹ (National Wuhan University Weekly, 17 November 1929). On November 28, the CEC held its first meeting and decided to build the school near southern Luoja Mountain. Between Donghuzui and Zhuoaoquan, there was a flat lakeside area, approximately 1.5 kilometers east of Guozheng Lake (郭郑湖).⁴⁰ Zhuoaoquan was a famous ancient temple in the south, and the highway connecting Wuchang city passed through it. Compared with the proposed site at Hong Mountain (洪山), southern Luoja Mountain was more in line with the environmental view that the university was detached from the secular world. In addition, there was an extensive area, providing sufficient space for campus development. In general, it was seemed to present a rare area for campus construction in the suburbs of Wuchang city.

3.4. Northern region of Luoja Mountain

Finally, the northern area of Luoja Mountain was determined by Francis Henry Kales (1882–1957)¹¹ (Figures 5 and 6). After the first meeting of the CEC (28 November 1928), Li Siguang went to Shanghai to invite American architect, Francis Henry Kales, to be the chief designer of the campus. Shen Zhongqing.¹²

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¹¹Kales’ full name, birth and death dates and Chinese name are different in previous studies; for example, “Records of Wuhan – Records of Personages” called him as齐尔斯, born in 1869. The 20th edition of “Fletcher Architecture History” introduced the Kales as “American architect F.H Kales 1899-1979”. This article is based on the information provided by his old school, namely, the information from Technology architectural record of the MIT architectural society and St. Paul’s School Alumni Horae, and the full name Francis Henry Kales and the birth and death dates, 1882-1957, are adopted.

¹²In 1929, Shen Zhongqing joined the Engineering Agency of WHU as an assistant and drafter and participated in the surveying, mapping and architectural design of the new campus. In March 1982, he wrote the memoir “Work Report – on Participating in the Construction of the New Campus of National Wuhan University,” which provides an important reference for the study of the campus construction of WHU.
a technician of the former Engineering Agency of WHU, recalled that when the plane flew directly to Wuhan from Shanghai, Kales highly appreciated the geographical situation of Luojia Mountain and put forward a rough idea: taking Shizi Hill (狮子山) as the main building in the northern part of Luojia Mountain and building the teaching buildings of each department on each hill. The residential area was located at the southern foot of Luojia Mountain, and Yangjia Bay (杨家湾) was a commercial service area in the west. The idea was endorsed by the CEC. Afterwards, the Hubei Provincial Government delineated the scope of the new campus, which was “bounded by East Lake in the east, Tea Port in the west, Guozheng Lake in the north, from Tea Port (茶港) Bridge to East Lake (东湖) to the south, 3 li from the east to the west, 2.5 li from the north to the south, totaling 3,000 mu”. Figure 7, thus, the new site selection of WHU was completed.

Except for the larger part of southern Luojia Mountain, the hills were “barren hills and dry land with few paddy fields and ponds”. Three sides of the area were surrounded by water (Figure 4), the land price was suitable, and transportation was convenient.

Figure 5. The site selection process of the new campus.

Figure 6. Photo of Francis Henry Kales (Roll 2081-certificates: 211726–212099, National Achieves and Records Administration, D.C.).

13 The Engineering Agency was directly affiliated to the CEC and was responsible for docking design, supervision of the construction team, campus greening and installation projects, design of auxiliary teaching space and living space, and a household survey of the requisitioned land.

14 Announcement of the Hubei Provincial Government on the Collection of Land from Luojia Mountain in the New Building of Wuhan University (湖北省人民政府关于武大建筑新校舍征收落驾山土地的布告), File LF-1929-523 of Wuhan University Archives.
If the campus was built here, students would be “inspired by the culture, competing for innovation and wisdom” according to the first president of WHU, Mr. Wang Shijie (Figure 7).

4. Planning scheme analysis

The planning idea of the WHU was modified three times during 1928–1936.

4.1. Preliminary idea of the CEC

In the beginning, the construction principles and outlines discussed by the first CEC were relatively conservative. The first plan followed the old system of the Qing dynasty and the old school environment at Dongchangkou, but with a larger number of buildings and an improved teaching environment. On 28 November 1928, the CEC held the first meeting in the Provincial Construction Department. The building was determined as “grand, practical and economical in principle instead of splendid or luxurious” (National Wuhan University Weekly, June 20, 1930), and the construction content included “two educational buildings and two laboratory buildings … library, lecture hall.” While there was no clear theme for the campus planning, the architecture followed the traditional Chinese principle of “Jian” (煤), laid out in groups (Lai, Wu, and Xu 2016). However, these buildings were only modified in function to adapt to the characteristics and demands of the new era and new disciplines.

4.2. Kales’s preliminary campus plan

The first idea proposed by Kales for a new campus had strong rationalism in planning and design, which was completely different from the idea of the CEC. In the summer-autumn period of 1929, Kales drew the first scheme, “Proposed development of site selection for Wuhan University”, which is now in duplicate in the WHU Archives (Figure 8). The preliminary plan defined a complete and orderly U-shaped valley enclosed by “Shizi Hill – Bijia Hill (笔架山) – Huoshi Hill (火石山)” through a straight road. The axis of the campus was determined, and buildings were taken as the closing point. Dormitories and teaching buildings were evenly arranged in the surrounding hills from north to south to pursue the symmetry and coordination of classicism. The clear and precise axis was emphasized, and the rational and logical relationship of campus planning was highlighted to create a highly regular, artificial beauty. In addition, geographic features were neglected in this preliminary plan.

Imitating “the Beaux Arts campus” (Paul Turner, 03–77) in the late nineteenth century in the United States, the public space pursued a multilevel and memorable spatial combination through axes and patterned geometric shapes, emphasized the visual relationship of space, and formed a “classical + baroque” composition that emphasized symmetry and highlighted order at any cost. Regrettably, this design concept was divorced from the “practical and economical” principles of campus planning proposed by the CEC. With the formation of the design team, Kales’ program was pursued with greater depth. The campus planning
and design proposed by Kales demonstrated the profound impact of his Beaux Arts methodological training in Massachusetts Institute of Technology (MIT) on his architectural thinking. This discovery can enrich the research on his design thought.\(^{18}\)

### 4.3. Deepening plan of Chinese and American architects

The second edition of the campus planning came to emphasize the commemoration of campus space by adaptability and exploration of concentric circles when Poy Gum Lee (李锦沛 1900–1968)\(^{19}\) (Figure 9), a Chinese architect, joined the design team. Due to the participation of Lee, Kales also tried to explore Chinese memorial buildings in a pluralistic way. Prior to the start-up of the campus design, Kales only participated in the Schematic Scheme Competition of Sun Yat-sen Mausoleum, while Lee participated in a large number of adaptive exploration and practices in terms of Chinese and Western classical architecture. In 1923, Lee worked in Murphy & Dana Architects and participated in the campus construction project of Yenching University (missionary university). After returning to China, he engaged in the construction of large-scale government-led memorial projects, such as Sun Yat-sen Memorial Hall in Guangzhou. These rich architectural practices of several participants served as a boon for the campus planning of Wuhan University. For example, in the campus layout in the second edition of the campus-planning scheme, the layout suitable for Chinese traditional memorial architecture was adopted to highlight the etiquette of the Wuhan University's campus space.

The central zone plan was deepened, and the drawings completed in November 1929\(^{20}\) are now stored in the WHU Archives (Figure 10). Compared with the preliminary plan, the topography was concerned with the design, and the central space was extended towards the southwest. The auditorium, referred to the traditional temple in China, was placed at the intersection of the main axis of the campus. The circular square and flower bed repeatedly highlighted the "open commemoration" of the auditorium building and the control of the campus.

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18At present, the research on architect Kales' architectural thought in China and internationally concerns only his participation in the design competition of Sun Yat-sen Mausoleum and the design of the campus architecture of National Wuhan University, while the campus planning of National Wuhan University in the early ROC is seldom mentioned. The author thinks this is important for the comprehensive study of Kales' design ideas.

19Poy Gum Lee, a native of Guangdong, grew up in New York, USA. He studied at the Beaux-Arts Institute of Design, Massachusetts Institute of Technology and Columbia University. In 1923, he was employed by Murphy & Dana to participate in the design project of Yanjing University.

20In early October 1929, "Kales Construction Engineer Contract" was approved by CEC in the third regular meeting. Kales was formally appointed as chief engineer of the new campus plan of WHU (National Wuhan University Weekly. 14 October 1929).
space. This method of handling space emphasized the orthodoxy of space with the help of memorial buildings in other architectural projects, such as Murphy’s early campus planning at Yenching University and Fukien Christian University (Cody 1989, 161–211).

4.4. Final plan
The final campus plan by Kales’s team abandoned the Chinese commemorative exploration and reshaped the commemorative composition of the Beaux Arts. In 1936, The Builder, an authoritative architectural journal of modern China, published a drawing of the “Block Plan of the

Figure 9. Photo of Poy Gum Lee (Denison 2006).

Figure 10. Deepening campus plan of Kales’s team in November 1929 (File L7-1929-524 of Wuhan University Archives).

21 Chinese temple buildings are creatively used in many architectural types, such as the Sun Yat-Sen Memorial Hall in Guangzhou, the auditorium of Tsinghua University, Lou’s Library of Columbia University in New York, and the small auditorium of Fukien Christian University. The orthodoxy of space is emphasized with the help of memorial buildings.

22 Henry Killam Murphy (1877–1954), an American architect, was a representative personage of “the renaissance of the traditional Chinese art of architecture” and put forward the concept of adaptive architecture, believing that different countries and regions should have their own architectural style. He presided over the design of a series of Chinese universities in the ROC, including Ginling University, Nanking University, Tsinghua Imperial College and Yenching University, as well as many other buildings.
Central Group" (Figure 11), the last layout of the new campus planned and designed by Kales’s team (Kales 1936). The core area planned in 1936 was similar to the original area planned by Kales, but the strong sense of artificial order was changed. With the completion of land expropriation on campus, 23 the gymnasium buildings moved westward, and the layout of campus "[was] open, yet enclosed; rhythmic, yet serene" (Goldberger 1989, 128–129). On the one hand, the gradual completion of on campus land expropriation on campus created favorable conditions for campus planning; on the other hand, Kales insisted on the clear axis of the Beaux-Arts Campus and attached great importance to the topography.

5. Planning features
The morphological characteristics of three sets of planning drawings are analyzed in this paper mainly in terms of campus structure and spatial layout.

5.1. Characteristics of campus structure
Cross axis
Throughout the changes in the planning scheme, the campus axis continually remained the cross axis, controlling the growth and differentiation of campus groups (Figure 12). On the one hand, Kales’s cross-axis design imitated the Beaux-Arts memorial expression of campus

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23 According to 261 Land Contracts of Luojia Mountain Campus for WHU (From File 6-L7-1929-XZ037 to 6-L7-1929-XZ 297) collected in the WHU Archives, land expropriation on campus was completed from 1929 to 1937 in two stages. By 1937, the land expropriation work of the envisaged scope was officially completed.
space, emphasizing the memorial features and order of campus by means of the clear axis. On the other hand, considering that the core campus area was surrounded by mountains on three sides, thus the design was limited by geographical factors. This cross axis differed from that of modern missionary universities in China because the social, political, and cultural backgrounds at different stages affected a campus’s value orientation (Chen 2008). WHU was established by the Ministry of Education under the upsurge of nationalism, while the missionary universities were developed with the idea of potential colonization, namely, with the purpose of “Christianizing China”. Hence, there were essential differences between the campuses’ value orientations.

Integrated road network
In the three planning schemes, the planning of the road system demonstrated understanding of the modern road grade, which can be divided into two categories: main roads and branch roads (Figure 13).

Grid-shaped main road frame
Among the three schemes proposed by Kales’s team, the main road system remained unchanged, as Kales tried to create a clear and strong visual relationship through the road system. With the deepening of the scheme, Kales’s team paid more attention to the synthesis between the main road system and the topography. However, in the flat terrain area, the campus space was still partitioned by orthogonal grids. Even when the axis of the campus changed and additional construction projects were built, the center of the rectangular road system in the planning and design of Kales’s team maintained an orderly planning principle that controlled the basic form of the core area of the campus.

When seeking "nationalization", Kales’s team did not use the “tree-lined avenue” of a ceremonial main road to connect multiple courtyard spaces in series but took the natural environment as the core and shared the central greening by setting the building groups in nodes on both sides of the irregular main road. This spatially integrated the traditional Chinese landscape gardens and the clear planning idea of Beaux Arts to contribute to the relaxing and orderly campus paths.

Plane patterned branch frame
In the road layout in public space, Kales inherited the classical aesthetics of Western classical gardens and sought pure geometric structure through a road system with regular straight, circular and semicircular intersections (Zhang 2005). The layout presented “semicircular + radial”, “rectangular + semicircular”, and “radial + square” combinations in the design of the axle endpoints. Then, the solemnity brought by the orderly campus was harmonized, and the centripetal nature was highlighted by a square of terminal nodes.

This kind of plane form was also used in the interior and the junction areas of building groups. In the final planning scheme, Kales adopted the classical Washington urban road planning mode of the “radial + square” road system between the Engineering College and Huazhong Hydraulic Laboratory. The square and semicircular square were taken as the center of the road system. The road system radiated straight from the center to the periphery. Road intersection points were designed to be square space. In particular, the public space and the road system in front of the Engineering College were planned according to the layout of the building, demonstrating a strong baroque style in the road planning (Figure 14).

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24Western classical gardens differ from Chinese gardens in their natural outlook. In Chinese classical gardens, the road system is generally winding in pursuit of the natural interest of mountains and rivers. In contrast, Western classical gardens are designed to control nature, and the road system is straighter, aiming at pursuing an absolute monarchy in the limited space of the gardens. For example, the garden design of the Palace of Versailles, the peak of French classical design, aims to transform nature and create a definite order.

25Zhang (2005).
5.2. Characteristics of spatial layout

(1) Centripetal layout pattern

Kales’s design idea can be analyzed according to the three editions of campus planning drawings. The large, flat depression in the campus was taken as the central area, and a larger sports area was arranged in the flat spaces at higher terrain. Based on the human vision and behavioral patterns, dominant and secondary controlling lines were determined for the campus base. On the one hand, the building groups radiated to the surrounding area with the depression as the center, and the gentle slope with little change in elevation visually formed a compatible relationship with the scenery. On the other hand, taking the axis as the spatial reference, building groups in the campus were connected in an orderly manner, forming a unified, harmonious overall spatial pattern and a rich dynamic spatial level to provide a variety of visual experiences.

Finally, most of the original terrain and vegetation were retained, and a radial spatial pattern with low middle and high surroundings was formed, with “central natural artificial greening core-teaching and scientific research area/student dormitory-original terrain and vegetation” (Figure 15). This pattern closely conformed to the campus form and mountain ridge and reduced the excavation of the mountain in the campus construction. Meanwhile, the setting of the sunken stadium can reduce the interference of sporting events in the surrounding areas. This design can not only satisfy the perspective line of surrounding building groups but also provide multilevel spaces with centripetal characteristics of dual function throughout the campus. Through the axis, the direction of centripetal characteristics of dual function throughout the campus. Through the axis, the direction of expansion was controlled to ensure the integrity of the campus development.

(1) Spatial characteristics of a multicore threedimensional network

The spatial layout of the campus changed little throughout the three successive drawings of the campus planning. The sunken area was the center,
and functional groups were arranged around it. In the group planning, functional or buildings center formed the single campus center within a multicore three-dimensional gridded campus space. Various groups of teaching buildings were designed based on the division of six disciplines. However, Kales’s team mixed the division of disciplines to pursue the living atmosphere of the college system, dividing the dormitory and teaching areas into several smaller independent districts arranged in a closely overlapping and even parallel pattern to reduce the distance between them. Therefore, the multiple campus life experience was constructed, and communication among disciplines was encouraged.

The varied topography created three-dimensional characteristics of the abundant public space. The public space surrounding the library building on top of Shizi Hill was convex, consisting of three-sided open courtyards surrounded by the library, literary school and law school, and the roof platforms of a boys’ dormitory (Figure 16). Although it was “surrounded on all sides”, the organic coupling between the boys’ dormitory and Shizi Hill gave the public space as an open three-dimensional layout, which provided a rich landscape horizon for the space on top of the hill. At the same time, the library building became an important symbol of the new campus because it was located at the important terminal point of the campus axis at a commanding height.
6. Contrastive study

The campus of Wuhan University in the Republican China was within around the political framework of Chinese national cultural revival in the 1930s. Despite the same social values, it was vastly differences form those campuses of other national universities in the same period.

6.1. Commonality

The commonality was manifested in terms of social values. The campuses of Wuhan University in the early ROC and its counterparts were constructed within the similar political and cultural framework of “Ancient Chinese Forms”. Therefore, the space layout of these campuses was based on the traditional Chinese architecture-palace, and the key teaching buildings and administrative rooms were arranged on the central axis of the campus. The rest of the buildings were placed along the parallel or vertical axes. Meanwhile, the core special areas were put in place symmetrically on both sides of the main axis, with the traditional Chinese courtyard as the unit. The memorial features were strongly reflected in the planning schemes of National Northeastern University (1929) and National Sichuan University (1936–1938) designed by Yang tingbao (Figures 17–18).

6.2. Dissimilarity

The difference was manifested in the pluralism of campus form. Due to the differences in district, topography, and construction team, the social values of these campuses of national universities served as a mix of Chinese and Western cultures. With the influence of geomorphology, the campus of Wuhan University presented a composite three-dimensional spatial layout; The design teams from both China and the Western countries show respect to compromised the conservative national ideologies, while the owner team composed of enlightened intellectuals revealed the spirit of the new democracy. The on-campus layout and architectural form were characterized by the integration of rich and diversified architectural elements. The overall campus space presented a series of memorial features, which were free and stretching commemoration, which was totally different from the solemn memorial features of the straight etiquette avenues in the campuses of other national universities (Zhang 2013).

7. Conclusion

(1) The site selection of the new campus has been changed for four times. Along the main road, it moved from the downtown to the suburb and from flat land to mountainous area. The site selection of the WHU campus has not been emphasized in previous research. The site selection process of the new campus combines the mainstream Chinese and Western ideas of campus site selection and demonstrates the development and evolution of site selection in modern Chinese university campuses. It is a miniature picture of the evolution of modern education and campus planning in China.

(2) A multicore, central, and three-dimensional spatial layout model for the new campus is explored. Based on the drawings and documents available in China and in other countries, the axis, road
system, and spatial layout characteristics of the three-set drawings are analyzed in this paper. Under the background of "nationalization", the Building Equipment Committee and Kales’s team integrated the tradition of campus planning in American universities with the group layout principles of Chinese architecture and explored a unique centripetal spatial layout pattern. Therefore, the WHU campus is an important model for the studying the modern Chinese campus planning.

(3) The concept of Kales’s design team is proposed. Previous studies have concluded that the campus planning of WHU was accomplished by Kales, the main designer. The analysis of drawings and documents shows that the expression of the commemorative space of the new campus is benefited from the participation of Poy Gum Lee. This finding is interesting for the study of WHU and even for modern Chinese architectural history.

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