

Cross Cultural Currents in Early 20th Century Chinese Architectural Practice

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This paper considers the transplantation of the Western concept of architecture to China set against the backdrop of Western colonization from the mid-19th century. With the increasing presence of foreign populations, the urgent demand for a considerable number of new building types greatly spurred the Chinese construction market. Beyond consideration of the physical artifacts, this paper focuses upon the story behind the scenes, the mode of architectural production, and particularly how the intricate relationships among different professionals helped to shape the physical world. The West China Union University, constructed from 1915 through 1940s in Chengdu, Sichuan Province, serves as an apt case study to exemplify this process. A cooperative product of five missionary organizations from the United States, Britain and Canada, this project was designed by a British architect whose practice was based in England, superintended on-site by an American architect, and constructed by local Chinese workmen. How were these professionals able to communicate and cooperate over such a long distance and across huge cultural gaps in architectural and building practice? This case study demonstrates that the relations among different actors in the field of architecture, specifically the tripartite interactions among client, architect and builder, were far more complex and nuanced than we might otherwise assume. This paper offers critical insights into the dramatic changes in the system of Chinese architectural practice under the sway of Western influence during the first half of 20th century.

CUSTOMS OF ARCHITECTURAL PRACTICE IN CHINA BEFORE THE 20TH CENTURY

Over the millennia of Chinese construction history and prior to Modern China, there was no concept of “architect” exactly analogous to the Western norm. This was partially due to the unique characteristics of Chinese wooden architecture, the forms of which were governed by principles of structure according to their elemental orders. Additionally, influenced by the philosophy of Confucianism which esteemed metaphysics over material artifacts, architecture traditionally was not encompassed within the realm of Fine Arts. Architecture was lowly ranked as a social occupation from long-standing

traditions, and architectural practitioners were more akin to the builders and primarily the carpenters who mastered the skills and methods of constructing wooden structures.

As compared to numerous small vernacular structures that did not require architects, the construction of imperial buildings was strictly governed by the official administrative system—*Gong Guan Zhi*. The earliest records about the system may be found on an oracle inscription from the Shang Dynasty (1600-1046BE) that describes “Gong” as the officials who served in the Ministry of Works responsible for administering builders and who mastered the knowledge of geometry and the skills of surveying, etc. Typically, their responsibilities, though varied through time, primarily fall into three broad categories: project administration, urban planning and architectural design, and setting up building manuals and regulations.¹ In regard to the duty of design, the essence of their work was to select the proper stylistic order of the building according to its function and grade. By comparison, their primary responsibility was administration and supervision of the project over the course of its construction. Due to this functionary’s officials’ noble status, however, they did not preside over the day-to-day operations on site thus making it difficult to distinguish their role as either architect or government official.

In fact, builders were the real designers, chief executives, and executors of the buildings. A few of them who distinguished themselves from the others with outstanding handcraft skills and management strategies were promoted to the position of chief builder in charge of day-to-day site supervision and bridging the dialog between officials and builders. Thus, the chief builder was a key intermediary in the whole process. First, the chief builder had to be an adept designer able to develop the design in detail based upon the officially mandated building order. Second, they required mastery in estimating quantities of material, labor, time, and cost based on experience gained from their predecessors as well as familiarity with current standard specifications from building manuals.² Furthermore, the chief builder also undertook the role as both coordinator and manager. Prior to construction, they coordinated preparatory work such as ground leveling, material transportation, and scheduling; and when the construction was underway, they carried substantial responsibilities for construction

supervision and superintendence over materials, structural elements, and subcontracting.³

THE TRANSITION OF ARCHITECTURAL PRACTICE AT THE TURN OF 20TH CENTURY

Since the ancient Yuan Dynasty (1271-1368AD), builders and the other artisans and craftsmen were enslaved to government service by a mandatory registration system. Once registered, they were forbidden to change their occupations during their entire lives, and their sons were mandated to inherit their occupations. In addition, as confirmation of their inferior social status, they were deprived of the right of taking imperial examination.⁴ Thus, this system placed huge restrictions on the freedom of choosing their preferred projects and the opportunities of social mobility. It was not until the mid-Ming Dynasty (1368-1644AD) that the registration system began to loosen slightly as artisans were allowed to waive their state service by surrendering an amount of money to the government. By so doing, they were allowed considerable latitude in choosing their works. Not until the mid-17th century were the shackles of these restrictions completely thrown off when the Qing government announced the abolition of the over four-century old registration system. Artisans were set free to seek and undertake projects, and as a consequence, family-based business enterprises providing construction services began to emerge.⁵

Shui Mu Zuo Fang was typical of such workshops organized by the builders, mainly carpenters, to provide the service of crafting wooden-structure buildings. Typically, the workshops were family-based, and the scale of it was small, with one master carpenter, two or three apprentices, and a couple of temporary workers when needed. Some relatively larger scaled workshops developed into modern construction companies at the turn of 20th century recruiting well-qualified carpenters from society at-large. Construction companies directly contracted for projects with clients, provided drawings of empirically-based designs, and may have hired subcontractors when projects were complex. Meanwhile, they maintained their role as the agents of clients, to be in charge of the projects during the overall process from design through construction. It is apparent from these examples that the idea of the architects who claimed themselves as both creative designer and project controller did not exist in China until the last decades of the 19th century.

Indeed, this more familiar, contemporary conception of the architect was imported from the West as a consequence of Western colonization of the East that occurred in the second half of the 19th century. With the continuous and forcible opening-up of the coastal cities by Western powers, foreign populations grew considerably. An enormous market for building construction was triggered, and a great number of new building types such as churches, schools, universities, embassies, post offices, etc., were in demand. However, as native

builders had no experience with the building tectonics of these unprecedented types of buildings, the earliest newcomers, like the missionaries, had to fill the role of architect by copying the buildings in their home countries by means of rough sketches of plans and elevations to instruct the builders. In addition, some missionary civil engineers and architects were sent by Missions to China to help with design and construction supervision. For some monumental buildings, Western owners also preferred commissioning professional architects who practiced in China or from their own countries. It is apparent that, with the penetration of the Western architects in its myriad ways, the construction companies, and even Chinese traditional architectural structure were over time disrupted and reorganized based upon the Western norm. Generally speaking, some of the professional responsibilities of the construction companies were shrunken, as architects taking place of builders directly provided the service of design to clients. More fundamentally, architects secured the position as the agent of the client as well as the mediator between client and builder when there were conflicts of interest.⁶ As a consequence, builders lost their power and authority over the whole process of the project and instead became the implementers of architects' intentions based on explicit drawings. Therefore, the emergence of amateur or professional architects from the West in the last few decades of the 19th century effected the separation of the fields of architecture and construction in China.

CASE STUDY OF THE WEST CHINA UNION UNIVERSITY

BACKGROUND

Among the flourishing edifices that were erected during the second half of 19th century to the first half of 20st century, a small number of them were particularly noteworthy considering the fact that they were designed by the Western architects who practiced based in their home countries and only visited the site for a few times, mainly due to the hardship and difficulty of intercontinental travel at that time. Questions such as how these projects were constructed on site in the absence of their architects and how different professionals communicated and cooperated over such long distance and across huge cultural gaps are of great interest. The West China Union University (WCUU) provides an informative case for understanding how the complex network of professional expertise and building knowhow was orchestrated during this transitional period in Modern China.

In the early 20th century, the missionary work of established institutions operating in China focused primarily on providing much-needed medical and educational services. These philanthropic works were more welcome by Chinese society than more overt proselytizing religious efforts.⁷ Therefore, in addition to the construction of buildings like churches, a great number of schools and hospitals were erected as well. Among them, thirteen Christian colleges were established

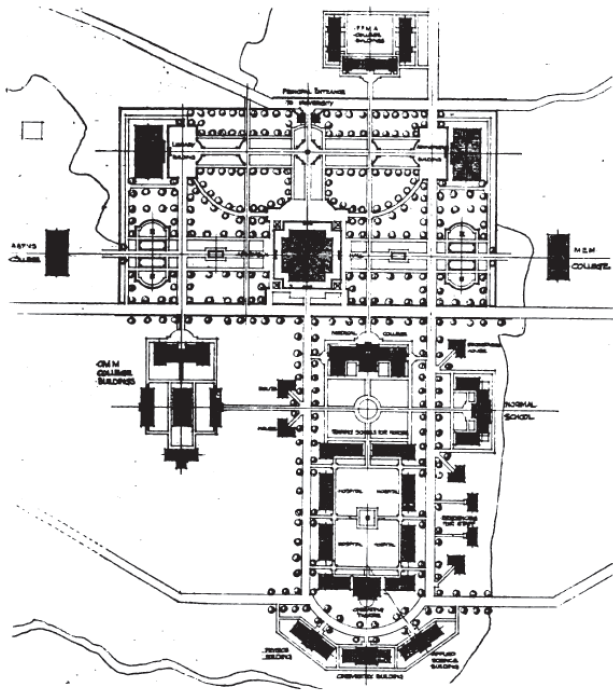


Figure 1. General Block Plan of West China Union University, Chengdu "Competitions," *The Building News* 104, no. 3027 (1913).

successively all over China during the first half of the 20th century. West China Union University (WCUU), located in West China, Chengdu, Sichuan Province, was one of these. For the sake of "the advancement of the Kingdom of God, by means of higher education in West China under Christian auspices,"⁸ WCUU was initially founded by a union of four missionary organizations: the American Baptist Foreign Mission Society, the Friends' Foreign Mission Association of Great Britain and Ireland, the General Board of Missions of the Methodist Episcopal Church of Canada, and the Board of Foreign Missions of the Methodist Episcopal Church of United States. In 1910, the Church Missionary Society of England joined the group.⁹

THE INTERNATIONAL COMPETITION AND ASSESSMENT

As early as in 1908, the WCUU Board of Governors organized an international competition for the campus design, in which four architectural firms were invited after careful consideration and selection. The firms included Gordon & Helliwell in Toronto, Fred Rowntree & Sons in London, Silcock & Reay in Bath, and Stoughton & Stoughton in New York.¹⁰ All the invited firms possessed expertise in the design of educational institutes and medical facilities, and two of them had extensive experience working in Asian counties.¹¹

The competition proposals were considered in Toronto in 1912. The required drawings consisted of a block plan with suggested layout of the central University plot in which the

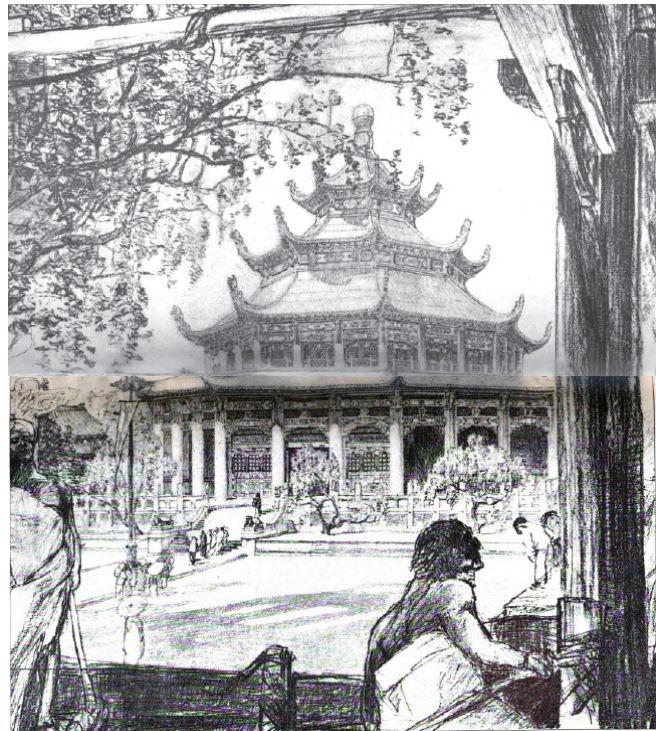


Figure 2. Sketch of Central Hall of West China Union University, "West China Union University," *The Architect* (1920).

positions of an assembly hall, a library, and an administrative building were to be indicated. Detailed plans of a medical college and a normal school building were also to be included. (Figure 1, 2)¹² In the report to the Board of Governors, the architectural advisor, Raymond C. Ricker (later to be appointed the Superintendent of Construction) compared the anonymously submitted proposals based upon three primary considerations: "Suitability of plan for the work to be done; suitability of design to Chinese environment, climate, etc.; whether the scheme submitted can be built for the amount stipulated."¹³ To be brief, function, form, and cost were the three main criteria used to assess the proposals, and among these, architectural form was given particular attention. Largely owing to the increasing tensions in the early 20th century among the local inhabitants, the missionaries, and their works, questions such as whether the exteriors were harmonious with their surroundings and exhibited indigenous Chinese characteristics were crucial considerations for the Board in selecting the winner. To make the University more acceptable to the local population, the incorporation of Chinese-style buildings into a campus plan based on Western conventions of was considered most preferable by the University authorities. Based upon these priorities, the proposal from the firm, Fred Rowntree & Sons, which showed to be "more thoroughly Chinese in feeling," and "having a more characteristic roof"¹⁴ was highly recommended by Ricker and was awarded the winner of the competition. Frederick Rowntree was thus appointed the Architect of the University.

CONFLICT BETWEEN THE ARCHITECT AND THE SUPERINTENDENT OF CONSTRUCTION

Frederick Rowntree (1860-1927) was a British architect, and his work was predominately executed domestically. In his earlier career, his projects included ecclesiastical buildings, schools, and municipal buildings. After relocating to London, the majority of his works were individual houses and country residences.¹⁵ This experience offers some clues in that many of his domestic works featuring gable-roofed and decorative styles coincided with some of the characteristics of traditional Chinese imperial buildings, typically with large roofs and sophisticated decorations. Thus, even though Rowntree did not visit China prior to winning the competition, his designs, more or less, were judged to show “*the thought and feeling of Chinese*”¹⁶ architecture. When the senior partner of the firm visited the site before the construction commenced, this design strategy was further reinforced by the positive response of the local officials who warmly praised the designs for their Chinese characteristics.¹⁷ Therefore, as Rowntree himself stated in one article published in *The Builder* in 1924, the endeavor to “*maintain the forms, texture and coloring handed down from past history, and to adapt these to modern requirements*”¹⁸ was made throughout the whole process of the project. However, these pseudo-Chinese-style buildings, in particular the structural elements such as the roof (Figure 3), met with great construction difficulties due to the distinctly different methods of Chinese and British construction which caused great pain not only for the architect but also for the operators on site, the Superintendent, and the local Chinese workmen.

Because the Architect worked from London and only visited the site for several weeks in 1913 while construction carried on by Chinese workmen at Chengdu, the selection of an able intermediary who could personally be in charge of the daily operations on site was crucial. Suggestions were given by Rowntree that “*practical experience in building operations, knowledge in the purchase of materials and ability to handle workmen*”¹⁹ should be circumspectly considered. Though a candidate was recommended by Rowntree, the Board didn't adopt it. Instead, Raymond C. Ricker, an American architect and the missionary builder from the Canadian Methodist Mission was appointed as the Superintendent of University Building on account of his architectural background and due to his knowledge of the Chinese language and local customs gained during his five-year's residency in West China.²⁰ Ricker, previously the architectural advisor in the competition who had played the key role for determining the winning proposal for the Board, thus became the “*university builder,*” the Superintendent of University Building as titled by the Board.

It is apparent that the Builder was of key importance to the project. He took the role as the mediator between the architect and local workmen to translate the architect's intentions into buildings based upon the drawings, especially considering

the need to work out many of the differences of construction methods between the two countries. Despite the fact that the Builder was painstakingly selected by the Board, he met with great difficulties nonetheless in shepherding the Architect's design into realization. In the Report of the Superintendent of Construction to the Board of Governors in 1920, he complained about the deficiency of the drawings made by the Architect. First, the drawings provided by the Architect were not adequate for laying out the buildings, thus requiring the Superintendent to spend considerable time in supplementing the missing drawings. He laid blame on the different customs of design and building practice between America and Britain, stating that: “*Some of these (drawings) would have been supplied by any first class American architect, but English practice seems to be different.*”²¹ Second, as the Architect was not familiar with the methods of construction of Chinese architecture, some of the designs could not be built. The Superintendent had to therefore spend a large amount of time on completely redrawing the drawings. Frequently, the Architect provided only the most general ideas of how to proceed. While the Superintendent “*approached as nearly to that as it is possible to do,*”²² these efforts necessitated the revision of drawings that involved both structural and artistic design changes, all well beyond the Superintendent's assumed duties. Ricker thought that he had taken on a large portion of the Architect's responsibilities because he had made a mountain of key drawings for the project. It seems reasonable that he was motivated in his Report to ask for a new title in recognition of this expanded position, as either Associate Architect or Supervising Architect. When he discussed the matter with the President of the University, however, he received quite a disappointing response in that the President thought he was merely the Architect's draftsman. Ricker bitterly commented on this situation that: “*I should not attempt to follow as closely as a builder in America is supposed to follow, the Architect's plans.*”²³

Ricker's report regarding the relation of the Architect and the Superintendent of Construction apparently drew considerable attention from the Board. In the annual meeting of the Board in 1922, this issue, as “*the first order of business,*”²⁴ was discussed at length. However, the result was merely to reaffirm the earlier decision on their relation that was established back in 1916. In it, the Architect was required to prepare only such plans and detailed drawings as the Architect deemed essential for carrying out of the work. At the same time, the Superintendent of Construction was simply charged with the responsibility to carry out those plans. The scope of the responsibilities of Architect and Superintendent was not clearly defined, however, in the one provision describing the procedure of how to make design alterations when the Superintendent deemed it necessary. It states:

“If it be found advisable to make minor alteration in the interior arrangements of any building, in order to secure the best resources as to accommodation for the purpose



Figure 3. Administration Building, West China Union University, Chengdu. “West China Union University,” *The Builder* 126, no. June 27 (1924).

to which the building is to be put, the Senate shall have power to make such alterations, should there be time to correspond with the Architect in regard to the best manner of carrying out such alterations, this shall be done, the final authority still resting with the Senate; and, in any case, the Superintendent of Construction shall report the nature of such alteration to the Architect in his fortnightly report.”²⁵

Firstly, this provision only touched upon the situation that was involved with “*minor alteration in the interior arrangement.*” Significant alterations such as the structural changes of the key components as reported by Ricker were not covered at all. Secondly, to which depth of detail the drawings for alterations should be delivered by the Architect was not established. These overly generalized and inadequate descriptions blurred the jurisdiction of their respective responsibility and inevitably increased the possibility of conflict.

Strangely enough, even though Ricker explicitly addressed the difficulties in executing the project based on the insufficient drawings, and furthermore questioned his role as a Builder, no solution to the impasse was achieved and no further clarifications to define the respective responsibilities of the parties were contrived. Ricker’s request to be retitled as Supervising Architect was rejected by the Board, and in 1923 he tendered his resignation as Superintendent of Construction.²⁶

CONCLUSION

While this research is still ongoing, it is possible to make some preliminary observations about the transformation of Chinese design and building culture based upon the incursion and assimilation of Western professional models in the

late Qing and Republic of China. These early-20th century contacts foreshadow as well certain late-century adaptations as Western architectural practices gained a foothold in the People’s Republic of China following the liberalizing market policies under leader Deng Xiaoping.

The most ancient dynastic traditions that distinguished between and among initiatory, administrative, supervisory, and executant roles within a highly conventionalized culture of wood construction subsumed the role of “architect” (in the contemporary sense) within multiple other agencies. In ancient China not unlike the “*chapters in the history of the profession*”²⁷ that we might read in accounts of Western architectural traditions, the political economy of building was a complex and changeable amalgam of governing authorities and material craft. The emergence and consolidation of the architect as intermediary actor could issue from either side of that equation; and likewise, once exposed to external influence or provocation, design and building practice could assume novel, hybrid forms.

In the one hundred years stretching between the middle of the 19th and 20th centuries, China witnessed the widespread construction of impressive examples of Christian architecture. As the case of the West China Union University demonstrates, the design and construction of Christian universities necessitated the adaptation of Anglo-American modalities of architectural practice to the particularities at hand – an extreme remoteness in both distance and culture of design conception and building construction. Western architects debuted a strategy of combining characteristic Chinese forms with Western technology adapted for contemporary use and then applied

this strategy in the design of university buildings. The upsurge in such hybridized approaches to construction preceded the renaissance of Chinese architecture in the 1930s, led by the so-called first generation of Chinese architects who had studied architecture in the US and European countries.²⁸ This topic has been constantly discussed and explored in Chinese architectural scholarship and practice until today.

Secondly, the arrival of Western architects undoubtedly precipitated significant changes in the traditional Chinese building system with immediate and fundamental effects upon established building companies. Architects, owing to their professional knowledge and capabilities of design and the means of drawing, displaced builders from their traditional design function and became project controllers, mediators between clients and builders. From those early days and until the Maoist revolution, the tripartite division of responsibility in the modern architectural system—client, architect and builder—that emerged in China largely reflected Western norms. Even then, the relationships among the three parties was far more complex and intricate than it might otherwise be assumed to be, especially when one understands that the jurisdictional responsibility of each party was not yet clear cut in the early 20th century.

As demonstrated in the case of the West China Union University, tensions and conflicts were a seemingly inevitable result of the distancing of design and execution that had already been shaping relationships between and among architect, client, and builder in the Western system, even among those within the same profession but with subtly differentiated ranks. Once introduced into China, one must wonder how deeply this transplanted idea of “architect” penetrated and transformed ancient practices. Indeed, one might also speculate about the extent to which such contact acted back upon the colonizing force. It was through these dynamic and fluid cross-cultural relationships that modern Chinese architectural practice was forged. This process yielded a relatively stable network of professional relations until the 1950s when they were again radically reformed in the aftermath of the Communist revolution.

ENDNOTES

1. Fu, Renzhang, “Building Official System and Chief Builder in Ancient China,” *Construction Economy* (1990).
2. Ying Zao Fa Shi is the oldest technical treatise on Chinese architecture. It was compiled by Li Jie, the Director of Building and Construction in 1100 during the Song Dynasty and was published in 1103.
3. Fu, “Building Official System and Chief Builder in Ancient China.” P31.
4. Imperial examination was a civil service examination system for selecting candidates for the governments for thousands years. It examined the common knowledge of writing, the classics, literature, etc. This was a quite fair way for normal people to get social promotion.
5. Ji, Qiu, “Chinese Early Modern Architects’ Group: The Appearance of Profession and the Modernity of Their Manifestation (1843-1949), Taking Nanjing as an Example” (Southeast University, 2014). P19.
6. Reference to Johnston, George Barnett, *Assembling the Architect: The History and Theory of Professional Practice* (New York: Bloomsbury Visual Arts, 2020). P1.
7. Reference to Yinrui Xie, Paul Walker, “Negotiation across Cultural Distance: The Creation and Interpretation of a “Chinese Style” Christian Campus” (paper presented at the The Society of Architectural Historians, Australia and New Zealand, 2019).
8. Constitution of the West China Union University, June, 1910, Box: 272, Folder: 4316, United Board for Christian Higher Education in Asia Records, Yale University Divinity School Library, New Haven.
9. Report of West China Union University, 1921, Box: 296, Folder: 4618, United Board for Christian Higher Education in Asia Records, Yale University Divinity School Library, New Haven.
10. “Competitions,” *The Building News* 104, no. 3027 (1913). P54.
11. The firm of Stoughton and Stoughton was the commissioned designer of another Christian college in South China, Ling Nan University in 1905. The missionary architect, Henry Bauld Gordon, the partner of Gordon and Helliwell, at the turn of the 20th century, was sent to Korea heavily involved in many hospital projects. He also visited China to either design or oversee the constructions of a number of buildings when taking time out of the schedule of Korean projects. See “Gordon, Henry Bauld,” in *Biographical Dictionary of Architects In Canada 1800-1950*. <http://dictionaryofarchitectsincanada.org/node/1592>. Kornegay, Nate, “The Architecture of Henry Bauld Gordon in Korea (1899-1905),” <https://colonialkorea.com/2020/07/09/the-architecture-of-henry-bauld-gordon-in-korea-1899-1905/>.
12. “Competitions.” P54.
13. Report of Drawings Submitted In Competitive Design For The West China Union University, Chengtu, Szechwan, Oct. 9, 1912, By Raymond C. Ricker, Box: 272, Folder: 4324, United Board for Christian Higher Education in Asia Records, Yale University Divinity School Library, New Haven.
14. *Ibid.*
15. “Rowntree Cocoa Works York Historic Building Report,” (Hall Grey Architects, 2006). P19.
16. Report of Drawings Submitted In Competitive Design For The West China Union University, Chengtu, Szechwan, Oct. 9, 1912, By Raymond C. Ricker, Box: 272, Folder: 4324, United Board for Christian Higher Education in Asia Records, Yale University Divinity School Library, New Haven.
17. Fred Rowntree & Sons, Architects, .
18. Rowntree, Fred, “West China Union University,” *The Builder* 126, no. June 27 (1924). P1025.
19. Minutes of An Informal Meeting of the British Members of the Board of Governors of the West China Union University with the Chairman of the Board, held at King’s Cross Hotel, 1913, Box: 272, Folder: 4324, United Board for Christian Higher Education in Asia Records, Yale University Divinity School Library, New Haven.
20. *Ibid.*
21. Report of the Superintendent of Construction To The Board Of Governors of the West China Union University, Chengtu, March 31, 1920, Box: 296, Folder: 4618, United Board for Christian Higher Education in Asia Records, Yale University Divinity School Library, New Haven.
22. *Ibid.*
23. *Ibid.*
24. Board of Governors, West China Union University, Minutes of Meeting held in Philadelphia, November 1st and 2nd, 1922, Box: 272, Folder: 4322, United Board for Christian Higher Education in Asia Records, Yale University Divinity School Library, New Haven.
25. *Ibid.*
26. *Ibid.*
27. The reference here is to Kostof, Spiro, ed. *The Architect: Chapters in the History of the Profession*. Berkeley: University of California Press, 2000.
28. YANG Yongsheng, former writer and the chief editor of *China Architecture and Building Press*, was the first scholar who brought up the concept of generations of Chinese architects in the 20th century. The first generation of Chinese architect was that who were born in around 1910s, studied architecture overseas and practiced since 1930s. See Yang, Yongsheng, *Four Generations of Chinese Architects* (Beijing: China Architecture and Building Press, 2002).