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INTRODUCTION

This book is the story of the convergence of two major architectural systems: Chinese traditional architecture and the French-derived methods of the École des Beaux-Arts. Unpredictably in the early twentieth century, the two systems coalesced in the United States as approximately fifty young Chinese students received scholarships to be trained as architects in U.S. universities, many of which had adopted design teaching methodologies derived from the École in Paris.[1] In the 1920s and 1930s, when the Chinese graduates of these architectural programs returned to China and began to practice architecture and to establish China's first architectural schools, they transferred a version of what they had learned in the United States to Chinese situations. This transfer, a complex series of design-related transplantations, had major implications for China, which, between 1911—the year in which the last Chinese dynasty, Qing (1644–1911), fell—and 1949—the year the People's Republic was founded—was simultaneously experiencing cataclysmic social, economic, and political changes. In the 1950s China experienced a radically different wave of influence branded with the imprint of the École when several architectural and engineering advisors from the Soviet Union, themselves distant products of Beaux-Arts methods via the Palace School of Architecture, Stalin, and Khrushchev, helped their Chinese comrades in the guise of socialist progress.[2] The architectural and other implications of these events are still felt today.

In terms of architectural theory and practice in China, these shifts of people and ideas and of assumptions about materials, structure, form, and meaning were significant. Although some authors have previously explored some aspects of the shifts, there has been no comprehensive analysis of how, why, and through whom architectural changes occurred.[3] Nor have scholars fully synthesized the nature and agents of architectural change in the post-1949 period, when Chinese architectural traditions were being grafted, albeit in a different way than in the first half of the century, upon other imported ways of designing architectural form and space. By analyzing the architectural dynamics of these crucial periods, bringing together for the first time the work of major scholars from around the world, this book provides a provocative synthesis, helping readers to better understand not only what occurred historically, but also what is happening now in China as its rapidly evolving, dramatic architectural and urban changes reverberate around the globe.[4] The assumption of the authors is a historical one: by delving more fully into the convoluted dimensions of historic architectural change in China, we can comprehend current trends related to architecture and construction in China with greater clarity.

In this book, history begins in the waning years of the Qing dynasty when the handful of Chinese students who sought to learn the craft and profession of

what is commonly called architecture—known as *jianzhu* in modern Mandarin—had the opportunity to study outside China.[5] Prior to that, for untold generations reaching back millennia, those who wished to learn how to design and construct buildings did so as apprentices to master builders, or *jiangren*; they learned about trades related to construction, such as joinery, masonry, or tile-making, by what might be called on-the-job training under masters who followed ancient treatises such as the *Yingzao fashi* (Building standards) (1103 CE), the *Lu Ban jing* (Classic of [Master] Lu Ban) (1453 CE), and others.[6] Nancy Steinhardt's chapter in this book scrutinizes what the state of Chinese architecture had been and how slowly it had changed in the centuries before the appearance of a group of foreign-trained Chinese architects, called the "First Generation" (*di yidai* [of Chinese architects]), who began to design, build, and teach with assumptions about architecture that reached beyond the Chinese tradition. As Chinese reformers in the late-nineteenth century began to consider how to preserve Chinese essence while simultaneously understanding foreign technologies, those students rode that wave, taking advantage of opportunities to study in Europe, North America, and Japan.[7]

As historian Weili Ye has explained, there were actually two waves.[8] The first, in the 1870s and 1880s, was associated with Qing-government-sponsored overseas educational missions (such as the Yung Wing mission between 1872 and 1881), which came to a crashing halt because of the U.S. government's anti-Chinese exclusionary policies. During the second wave, in the 1910s, opportunities for Chinese to study in the United States became more systematic, ironically because of the tragic Boxer Rebellion (1900–1901). This uprising had erupted in Shandong province, been encouraged by the Empress Dowager Cixi, and then spread to Beijing. There, antiforeign rioters stormed many of the embassies in the capital, south of the Forbidden City, and killed a number of foreigners. After the riots were quelled, many foreign governments demanded and received $450 million in reparations from a humiliated Qing court. But the U.S. government asked instead that Chinese authorities establish a Boxer Indemnity Fund to provide scholarships for promising Chinese students to study in U.S. universities.[9] This fund made it possible for at first only a trickle of students pursuing a variety of professional ambitions, but by the end of World War I, many had left their homeland to study abroad, including the fifty Chinese students interested in architecture. As Weili Ye has explained, a major impetus for these students was to engage in *shixue* (practical learning). "The study of *shixue* was undertaken to promote *shiye*, or practical enterprise, and *shiye jiuguo* (rescuing China through practical enterprise) became the catch phrase of the day."[10]

For those embarking on the study of architecture, the challenge of *shiye jiuguo* was even more daunting because architecture was a profession that did not formally exist in China at the turn of the twentieth century. Its emergence coincided with the fall of the Qing, a period of monumental cultural, political, and economic change: China was primed for new building types, and schools, civic centers, cinemas, hospitals, apartment buildings, and commercial structures provided incentives for architectural experimentation. The young Chinese architects returning to their homeland responded to those incentives as they simultaneously had to compete with well-entrenched foreign architects.

When they had left China to become architects, some of the students understood to some extent what an architect did. Some had seen a studio, an office, or a building site firsthand. Others had begun to study the subject in China, most notably at Tsinghua College in Beijing, one of the first higher educational institutions established after the fall of the Qing, or at St. John's University in Shanghai, or at Canton Christian College in Guangzhou.[11] However, information about the relative merits of universities outside China was hard to come by, and few of these students knew specifically where they should try to study. Regardless where they eventually enrolled, the students courageously embarked on architectural odysseys that not only changed their own lives, but the lives of millions of their Chinese compatriots.

Through the vagaries of fate and some European-sponsored work-study programs, a handful of Chinese students found their ways to Paris, London, Berlin, and other European cities where schools trained architects. A few followed an educational route to Japan, geographically closer to China.[12] Most, however, took advantage of the Boxer scholarships and ventured to the United States. It is still not clear precisely how many Chinese students of architecture studied abroad during what is commonly called the Republican period (1911–1949).[13] Most, however, took advantage of Boxer scholarships and ventured to the United States.[14] The membership list of the Society of Chinese Architects (Zhongguo Jianzhu Xuehui), established in 1932, lists fifty-five inaugural members. However, only forty-four of them listed the foreign university he or she had attended. Furthermore, some who are known to have attended foreign schools of architecture during this period were not listed among the society's members, either because they chose not to become members, were still abroad when members' lists were compiled, or simply vanished from the documentary record.

Most scholars agree, however, that the first Chinese student of architecture who went to the United States as a Boxer Indemnity scholar was Zhuang Jun (1880–1990) who attended the University of Illinois, graduated in 1914, and

returned to China soon thereafter to work with the American architect Henry K. Murphy on the campus plan of Tsinghua University.[15] In the mid-1910s other Chinese students began to appear in U.S. departments, institutes, or schools of architecture. The most notable were Lü Yanzhi at Cornell University, "William" Chaund at Chicago's Armour Institute of Technology, and Zhu Ping at the University of Pennsylvania. Although he died of cancer at the young age of 35, Lü (1894–1929) was revered for his architectural skills by many of his peers, and his brief career is discussed further in this book by Delin Lai, Rudolf Wagner, and myself. Chaund, who hailed from Guangzhou (Canton), wrote a fascinating manifesto about architecture, modernism, and nationalism in 1918, but sadly he was one of those who vanished soon thereafter. We do not even know his Chinese name. Zhu Ping, on the other hand, became important because of his ardent support of his alma mater when he returned to China and his urging many Chinese who aspired to become architects to attend the University of Pennsylvania (hereafter Penn).

Although Chinese architecture students found other U.S. universities where they could be trained—MIT, Columbia, Harvard, the University of Michigan, and the University of Minnesota among them—Penn became the favored place, in part because of the kindness of Penn's chairman of the Department of Architecture, the French architect Paul Philippe Cret (1876–1945), whom Dean Warren Laird had recruited in 1903 because of Cret's strong, Beaux-Arts-inspired pedagogical approach. David Van Zanten examines key aspects of that approach in his chapter. Another reason that Penn's reputation soared among the Chinese was because of what might be termed positive inertia. Upon their return to China, the first graduates of the Penn program, Fan Wenzhao (Robert Fan) (in 1921) and Zhu Ping (in 1922), spread the word among their compatriots that if anyone wanted to become an architect, he—only men were permitted to enroll in U.S. architecture programs at that time—would find a receptive home at Penn, in historic Philadelphia.[16] Cret welcomed the Chinese with respect, and they, in turn, revered him with the filial respect for teachers and education engrained in them since childhood. The mutual encouragement and respect also were shared with other faculty, particularly John Harbeson (1888–1986), who used Beaux-Arts methods in his studio teaching. Following Fan and Zhu to Penn were Zhao Shen (class of 1923), Yang Tingbao (1924), Liang Sicheng (1927), Chen Zhi (Benjamin Chen) (1927), Lee Yangon (1927), Tong Jun (1928), Wu Kei (Chauncy Wu) (1930), and others.[17] Although none except Liang has become famous as a major architect outside China, the influence of all of them in China became unparalleled.

Liang Sicheng, son of one of China's most eminent late-Qing reformers, Liang Qichao, gained fame as a teacher, researcher, and historic preservationist. By the 1940s Liang Sicheng was beginning to achieve fame even outside China. In 1947, for example, he was selected along with Le Corbusier, Oscar Niemeyer, and others to help design the United Nations building in New York. Liang's wife, Lin Huiyin [Whei-yin] (Phyllis Lin) (1904–1955), who would have studied architecture at Penn, but because of her gender was not permitted to do so, partnered with him in every aspect of his work in China.[18] In this book, Zhao Chen's chapter explores some of Liang's legacy, while simultaneously questioning the implications of some of Liang's assumptions about architecture. Two authors in this collection focus particularly on Penn-trained architects. Gu Daqing provides a synthesis of how those in the First Generation were called upon to help build and teach in China's most influential architectural programs, many of which are still preeminent: Tsinghua (Qinghua) University in Beijing, Tongji University in Shanghai, Southeast University in Nanjing, and a few others. Xing Ruan, employing a microlevel perspective, shares his insights about Yang Tingbao, examining not only how Yang's Penn training became a touchstone in his varied and inspiring China-based work, but also how Yang's "modern" career differed so markedly from those of his peers.

In their Penn studios, these aspiring architects worked not only with influential teachers, but also with motivating classmates, one of the most talented and amusing of whom was Louis Kahn. Chen Zhi recalled the joys he and Kahn shared in the studio where they often charretted.

> Kahn didn't seem to be as conservative as Paul Cret was, but we were all conservative at that time. But [Kahn] was a talent! He could play. . . . You could give him a melody and he could accompany on the piano. . . . So when we were doing the *charrette*, he would be playing. He would play for *us*, and our drafting room contained about 300 drafting boards, all in one big hall.[19]

Outside class, these students traveled when they could, meeting at other campuses, such as in summer 1923 when Chen Zhi and Zhao Shen visited Liang Sicheng and Lin Huiyin at Cornell, where Liang and Lin were enrolled in a watercolor painting course prior to their move to Philadelphia. Other times, the students shared experiences in the soaring new American metropolises that were commanding worldwide attention during the 1920s and 1930s: not just ambling through Philadelphia in search of Chinese food, but also New York and Washington, DC, a city with close Penn connections because Cret was becoming renowned for his design of the Pan American Union (also known as the Organization of American

States) Building (1908–1910). Penn became for the young Chinese architects of the 1920s and 1930s a haven not unlike what the Bauhaus was becoming at the same time in Germany for aspiring architects of many nations. In this regard, Penn was akin in its close association with a single group and period to what the University of Texas in Austin became the 1950s with a group of innovative teachers and their young student architects who came to be known as the Texas Rangers.[20]

In the early twenty-first century, the roles of teacher and student, as well as the poles of core and periphery, are sometimes reversed. Several dynamic Chinese architects have now become leaders of U.S. architectural schools. One of them, Yung Ho Chang, has a chapter in this book.[21] Further, as Gu Daqing explains in his chapter, the Eidgenössische Technische Hochschule (ETH) in Zurich has, in some respects, become an early twenty-first-century equivalent of Penn, and indeed of many other U.S. architectural schools of the early twentieth century. It, too, is a school with a firm pedagogical foundation (in this case, "tectonics"), renowned scholarship, a respect for Chinese students, and dynamic instructors who are also designers of iconic contemporary buildings in China. And although the École des Beaux-Arts is no longer the epitome of architectural instruction it once was, Chinese architects and planners continue to work closely with French paradigms of urban design and architecture.[22] When future scholars write about Chinese architectural history of this century, they will undoubtedly research these important global linkages. They will be "other times, with other doctrines."[23]

This book is largely about earlier, significant architectural linkages. Part I, Divergence to Convergence, begins with an exploration of two, seemingly divergent architectural systems: (1) traditional, Chinese timber-framed architecture which provided solutions based upon modularity, proportion, and prescribed principles for a range of structures from the common house to the imperial court; and (2) nineteenth-century, European neoclassical architecture, which had evolved from Greek, Roman, Gothic, and Renaissance traditions. Notably in Paris's École des Beaux-Arts—established in 1816 in evolution from the Académie Royale d'Architecture, established in 1681—architects borrowed from the past, "inculcated logical thinking, [propagated] new ideas of monumental planning and composition, . . . opened the eyes of the student to the beauty of form, and greatly stimulated the use of competition as a basis for award of many public buildings."[24] Nancy Steinhardt provides the foundation on which to examine how architecture shifted once other architectural systems and influences entered China,[25] and David Van Zanten, an authority on the École, then asks what constituted "composition" for those being schooled in École methodologies. He explains how an "emulated" model of architectural pedagogy, the École, was inevitably transmuted by Americans, who

saw the world differently than the French, and points out that "in France, the École des Beaux-Arts was a state school, whereas in the U.S., architects until the end of the nineteenth century were primarily house builders working within the American grid." He then asks, "If the foundational concept of 'emulation' worked so differently in the United States and France, how did it function further afield?" His answer to that significant question helps provide another foundational element for the book.

In Part II, Convergence to Influence, four essays from different perspectives focus on the ways in which Beaux-Arts approaches influenced Chinese architectural students in U.S. architectural programs. Tony Atkin trains his sights upon Paul Cret's impact on the Chinese students who studied at Penn, and how the rapid transformation of contemporary Philadelphia may have influenced the Chinese architects about American urbanism, particularly the City Beautiful Movement of the 1910s and 1920s. Gu Daqing examines the spectrum of architectural schools in China to clarify the genesis of architectural education in the early twentieth century, the historical changes related to that education, and how those changes related to Beaux-Arts antecedents in France. The final two papers in Part II take the issue of influence in different directions: K. Sizheng Fan examines the ways that architecture derived from Beaux-Arts methods played into Chinese socialist ideology of the 1950s; and Fu Chao-Ching examines how architectural pedagogy and practices developed in Taiwan after 1949.

The third part of the book, Influence to Paradigm, contains nine essays grouped into three sections. The first section focuses on Yang Tingbao, Dong Dayou, and Liang Sicheng, architects whose works serve as a springboard for suggesting that there was no single, predominant model or paradigm of architectural practice in either the late Republican or early Socialist period. Instead, at a time of revolutionary change, there was a localization of Beaux-Arts influences among several of the First Generation and later Chinese architects. Because each architect or architectural practice was unique in its evolution, the universe of possibilities was large, varied, and significant, from the relatively small scale of an individual building to the larger context of urban centers. At the level of individual localization, Xing Ruan probes into the "modernity" of Yang Tingbao, while Seng Kuan focuses mainly on the "modern" Shanghai work of University of Minnesota-trained Dong Dayou.[26] Zhao Chen examines some of the analyses of Liang Sicheng, the famous early-twentieth-century architectural historian who worked tirelessly to document, conserve, and publicize some of China's most illustrious, timber-framed, old architecture. Liang was also instrumental in mentoring—in Shenyang, Beijing, and the provinces—many young Chinese architects who, like Liang, became more passionate about their country's architectural history than they were about designing

"modern" structures. Zhao Chen asks how some of Liang's architectural assumptions should be reconsidered in the light of three cases: the problem of façade design in the re-creation of a Song dynasty hall and Zhao's own understanding of façades along Venice's Grand Canal and at Macao's St. Paul's Church.

The second section of Part III focuses on three themes: architecture as a barometer of racial prejudice, architecture as a perpetuator of Republican ideals, and architecture as an agent of Socialist change. Concerning the first, my own contribution suggests a spectrum of possibilities about how Chinese practicing in their own cultural milieu worked together in architectural practices with foreign interlopers, designing outside their cultural bubbles. Lü Yanzhi figures prominently in this regard. Regarding the second theme, Rudolf Wagner and Delin Lai use two of Lü's iconic buildings of twentieth-century China—Sun Yat-sen's Mausoleum in Nanjing and Memorial Hall in Guangzhou—to analyze how Beaux-Arts-derived architecture related to memory, ritual, and politics. Yung Ho Chang's chapter on "the two Zhangs" (Zhang Kaiji and Zhang Bo) explores the tension between two creative architects working for the common cause of a new Socialist China after 1949.

The final section of Part III explores politics, planning, and paradigms at the level of the city. Peter Carroll examines four historic cities (Guangzhou, Nanjing, Shanghai, and Suzhou) and frames his arguments around the creation in these places of administrative and civic centers during the Republican period, while Zhang Jie looks at contemporary Chinese urbanism since the onset of urban reforms beginning in 1979. He shows how planning and urban design legacies of the First Generation of Chinese architects are found within the context of Chinese urbanism today. Finally, in the book's Afterword—The Four and the Five—Joseph Rykwert reflects upon the tension between deep-rooted cultural traditions of China (the Five) and the West (the Four).

Notes

1. Richard Morris Hunt (1827–1895) was the first American architect to be trained at the École, between 1846 and 1854. Many scholars have studied the influence of the Paris School on American architectural assumptions, methods, and practices. See, e.g., James Noffsinger, *The Influence of the École des Beaux-Arts on the Architects of the United States* (Washington, DC: Catholic University of America Press, 1955); Peter Collins, "Architectural Criteria & French Traditions," *Journal of Architectural Education* 21, no. 1/2 (August–December 1966): 1–5; Richard Chafee, "Richardson's Record at the École des Beaux-Arts," *Journal of the Society of Architectural Historians* [hereafter *JSAH*] 36, no. 3 (October 1977): 175–188; Paul R. Baker, *Richard Morris Hunt* (Cambridge, MA: MIT Press, 1980); David Brain, "Discipline & Style: The École des Beaux-Arts and the Social Production of an American Architecture," *Theory and Society* 18, no. 6 (November 1989): 807–868; Richard Plunz, "Reflections on Ware, Hamlin, McKim and the Politics of

History on the Cusp of Historicism," in Gwendolyn Wright and Janet Parks, eds., *The History of History in American Schools of Architecture, 1865–1975* (New York: Temple Buell Center for the Study of American Architecture, 1990), 53–72; and Anthony Alofsin, "Tempering the École: Nathan Ricker at the University of Illinois, Langford Warren at Harvard, and Their Followers," in Wright and Parks, *History of History*, 73–88.

2. Dmitry Shvidkovsky and Ekaterina Chorban, "Russian Traditions in Teaching the History of Architecture," *JSAH* 62, no. 1 (March 2003): 110–120.

3. See, e.g., Zhu Jianfei, "Beyond Revolution: Notes on Contemporary Chinese Architecture," *AA* (Annals of the Architectural Association School of Architecture) *Files* 35 (Spring 1998): 3–14; Joseph W. Esherick, ed., *Remaking the Chinese City: Modernity and National Identity, 1900–1950* (Honolulu: University of Hawai'i Press, 2000); Jeffrey W. Cody, "The Woman with the Binoculars: British Architects, Chinese Builders, and Shanghai's Skyline, 1900–1937," in *Twentieth-Century Architecture and Its Histories: Millennial Volume of Architectural History* (Otley, UK: Society of Architectural Historians of Great Britain, 2000): 251–274; and Xing Ruan, "Accidental Affinities: American Beaux-Arts in Twentieth-Century Chinese Architectural Education and Practice," *JSAH* 61, no. 1 (March 2002): 30–47.

4. Recently there has been a spate of books concentrating on contemporary Chinese architecture and urbanism. Some of the most notable are: Kai Vockler and Dirk Luckow, eds., *Peking, Shanghai, Shenzhen: Stadte des 21. Jahrhunderts* (Frankfurt: Campus Verlag, 2000); Peter G. Rowe and Seng Kuan, eds. *Shanghai: Architecture & Urbanism for Modern China* (Munich: Prestel, 2004); Layla Dawson, *China's New Dawn: An Architectural Transformation* (Munich: Prestel, 2005); Bernard Chan, *New Architecture in China* (New York: Merrell, 2005); Lu Duanfang, *Remaking Chinese Urban Form: Modernity, Scarcity and Space, 1949–2005* (New York: Routledge, 2006); Wu Fulong, ed., *Globalisation and the Chinese City* (New York: Routledge Curzon, 2006); Xing Ruan, *New China Architecture* (Hong Kong: Periplus, 2006); Charlie Q. L. Xue, *Building a Revolution: Chinese Architecture Since 1980* (Hong Kong: Hong Kong University Press, 2006); Hiromasa Shirai and Andre Schmidt, *Big, Bang, Beijing* (Tokyo: Kajima Institute Publishing, 2007); John R. Logan, ed., *Urban China in Transition* (London: Blackwell, 2007); Thomas J. Campanella, *The Concrete Dragon: China's Urban Revolution and What It Means for the World* (New York: Princeton Architectural Press, 2008); Zhu Jianfei, *Modern Architecture in China: A Critical Perspective* (New York: Routledge, 2008); Neville Mars and Adrian Hornsby, *The Chinese Dream: A Society Under Construction* (Rotterdam: 010 Publishers, 2008); Xin Lu, *China, China: Western Architects and City Planners in China* (Ostfildern, Germany: Hatje Cantz Verlag, 2008); Edward Denison and Guang Yu Ren, *Modernism in China* (London: Wiley & Sons, 2008); Frédéric Edelmann, ed., *In the Chinese City: Perspectives on the Transmutations of an Empire* (Paris: Actar, 2008); and Wu Fulong and Lu Duanfang, eds., "The Transition of Chinese Cities," *Built Environment* 34, no. 4 (2008).

5. Mary N. Woods, *From Craft to Profession: The Practice of Architecture in Nineteenth Century America* (Berkeley: University of California Press, 1999).

6. See, for example, Else Glahn, "Unfolding the Chinese Building Standards: Research on the *Yingzao fashi*," in Nancy S. Steinhardt, ed., *Chinese Traditional Architecture* (New York: China Institute in America, 1984), 48–57; and Klaas Ruitenbeek, *Carpentry and Building in Late Imperial China: A Study of the Fifteenth Century Carpenter's Manual* Lu Ban Jing (Leiden: Brill, 1996).

7. Some reform came in the context of the so-called "self-strengthening movement" (*zixiang yundong*), where essence (*ti*) was coupled with form, use, or technology (*yong*). For a fuller discussion of this and other relevant trends associated with the architectural profession, see Rowe and Kuan, *Architectural Encounters*. On the self-strengthening movement, also see Ting-yee Kuo and

Kwang-Ching Liu, "Self-strengthening: The Pursuit of Western Technology," in John K. Fairbank, ed., *The Cambridge History of China*, vol. 10, part 1 (New York: Cambridge University Press, 1978), 491–542. For Zhang Zhidong, see Daniel Bays, *China Enters the Twentieth Century: Chang Chih-tung and the Issues of a New Age, 1895–1909* (Ann Arbor: University of Michigan Press, 1978).

8. Weili Ye, *Seeking Modernity in China's Name: Chinese Students in the United States, 1900–1927* (Stanford: Stanford University Press, 2001), 8.

9. The reasons behind the indemnity were not entirely compensatory. For the Boxer Rebellion, see Joseph Esherick, *The Origins of the Boxer Uprising* (Berkeley: University of California Press, 1987); and Robert Bickers and R. G. Tiedeman, eds., *The Boxers, China, and the World* (London: Rowman & Littlefield, 2007). For the Boxer Indemnity Fund, see Michael Hunt, "The American Remission of the Boxer Indemnity: A Reappraisal," *Journal of Asian Studies* 31 (May 1972): 539–559; and Richard H. Werking, "The Boxer Indemnity Remission and the Hunt Thesis," *Diplomatic History* 2, no. 1 (2007): 103–106. Hu Shih (1891–1962) was one of the most famous students who received a Boxer Indemnity Fund scholarship. Hu entered Cornell to study agriculture but switched to philosophy. On Hu, see Jerome B. Grieder, *Hu Shih and the Chinese Renaissance: Liberalism in the Chinese Revolution, 1917–1937* (Cambridge, MA: Harvard University Press, 1970); Chou Min-chih, *Hu Shih and Intellectual Choice in Modern China* (Ann Arbor: University of Michigan Press, 1984); and Weili Ye, *Seeking Modernity*, 31–32.

10. Weili Ye, *Seeking Modernity*, 56.

11. Many foreign architects had practiced in China since the 1850s, following the establishment of the treaty ports after foreign victories in the Opium Wars of 1842 and 1860. When these foreign architects set up shop in China, they almost always employed at least one young Chinese draftsman or office boy to assist with the logistics of the practice. See Jeffrey W. Cody, *Building in China: Henry K. Murphy's 'Adaptive Architecture,' 1914–1935* (Hong Kong: Chinese University of Hong Kong Press, 2001).

12. For example, Liu Jipiao and Li Zhongkan went to Paris; Lu Chienshou and Huang Xilin went to London; Bei Shoutang attended the Technische Hochschule in Berlin; Xi Fuchuen enrolled in the same Hochschule in Darmstadt, while Su Xiaxian went to Belgium and, later in the 1930s, Lin Keming and Hua Lanhong traveled to France and Chen Zhanxiang to Liverpool. See *Zhongguo jianzhu* (Chinese architect) 1, no. 1 (July 1933): 39–40. Liu Dunzhen, who became one of China's most important architectural historians, studied in Japan. For information about Chinese students who ventured to European countries, see Lin Zixun, *Zhongguo liuxue jiaoyushi* (History of the Chinese foreign-study movement) (Taipei: Huangan chuban youxian gongsi, 1976), 86–106 and 381–392.

13. In *Seeking Modernity*, Ye explains (p. 70) that engineering was the most popular subject for Chinese students; between 30–44 percent of them studied engineering between 1905 and 1924, and already by 1917 some of these students had organized a China's Engineering Society in New York. Ye does not explore how Chinese architecture students in the United States interacted, or did not interact, with their engineering cohorts, nor does she provide any data about Chinese architecture students in the United States during the early twentieth century.

14. Ibid., 9–10.

15. For more details about Zhuang Jun, see my *Building in China*, 61–67.

16. Tape-recorded interview by the author with Chen Zhi, 16 April 1988.

17. *Zhongguo jianzhu*, vol. 1, no. 1, also lists these lesser-known architects as Penn alumni: Lu Susen, Tan Hen, Huang Yaowei, Wang Huabing, and Ha Shongwen. William Whitaker,

the Collections Manager of Penn's Architectural Archives, compiled a "Partial List of Chinese Nationals Who Attended the University of Pennsylvania's Department of Architecture, 1919–1941" and mounted the exhibition "The Beaux-Arts at Penn: Selected Works of Paul Philippe Cret and His Students" in the Kroiz Gallery at Penn in fall 2003 in conjunction with the conference on which this book is based. Whitaker's unpublished list provides data about twenty-three students.

18. For a perceptive book about Liang in English, see Wilma Fairbank, *Liang and Lin: Partners in Exploring China's Architectural Past* (Philadelphia: University of Pennsylvania Press, 1994). For Liang and Lin's conservation-related legacy, see Guolong Lai, Martha Demas, and Neville Agnew, "Valuing the Past in China: The Seminal Influence of Liang Sicheng on Heritage Conservation," *Orientations* 35, no. 2 (March 2004): 82–89.

19. Tape-recorded interview by the author with Chen Zhi, 16 April 1988.

20. Alexander Caragonne, *The Texas Rangers: Notes from the Architectural Underground* (Cambridge, MA: MIT Press, 1995). In the case of the Texas Rangers, the name came later, after the professors were fired.

21. Yung Ho Chang, a pioneering contemporary Chinese architect (and founder of the firm Atelier Feichang Jianzhu), is currently dean of MIT's School of Architecture. He writes in this book about his architect father, Zhang Kaiji, and one of his father's peers, Zhang Bo. Ma Qingyun, a Shanghai-based architect, founder of the practice MADA s.p.a.m., and a Penn Architecture alumnus, is currently dean of the Architecture School at the University of Southern California.

22. For significant French involvement, see Kris Olds, "Globalizing Shanghai: The 'Global Intelligence Corps' and the Building of Pudong," *Cities* 14, no. 2 (1997): 109–123; the design work of the French firm Arte-Charpentier (see Pierre Clément, *Arte Charpentier* [Paris: Editions du Regard, 2003], 125–206); and the exchanges of architects coordinated by the Observatoire sur l'architecture chinoise contemporaine at the Institut Français d'Architecture. For issues related to these exchanges, see Edelmann, *In the Chinese City*.

23. I take the expression "other times, other doctrines" from a quotation by the French architect César-Denis Daly who, in 1847, accused the newly appointed professor of architectural theory at the École des Beaux-Arts, Guillaume-Abel Blouet, of placing too much emphasis on the theories of the eminent, but ailing, Quatremère de Quincy (1755–1849). Daly asserted that Quatremère's "philosophical doctrines . . . cannot respond to the needs of these times. We are now deep in the middle of the nineteenth century and Quatremère's works have their roots for the most part in the eighteenth century. Other times, other doctrines." Daly is quoted by Sylvia Lavin, *Quatremère de Quincy and the Invention of a Modern Language of Architecture* (Cambridge, MA: MIT Press, 1992), 182. Daly's remarks are from the *Révue Générale d'Architecture* 7 (1847–1848): 435–436.

24. Joseph Harbeson, quoted from his review of Joseph Noffsinger's "The Influence of the École des Beaux-Arts on the Architecture of the United States," *JSAH* 17, no. 2 (1958), 29.

25. The new systems initially were grafted onto Chinese roots because of how European commercial interests became entrenched in Chinese port cities, especially after Britain's victories in the Opium Wars of the 1840s and 1860s. For an insightful examination of commercial designs by Europeans in Guangzhou, see Johnathan A. Farris, "Thirteen Factories of Canton: An Architecture of Sino-Western Collaboration and Confrontation," *Buildings & Landscapes* 14 (2007): 66–83.

26. I place the word "modernity" in quotes because of the intricate complexities associated with the word's multiple meanings. Ye, *Seeking Modernity*, 6–7, confronts this challenge in significant ways.