



INTERNATIONAL ASSOCIATION FOR THE STUDY OF TRADITIONAL ENVIRONMENTS

WORKING PAPER SERIES

TRANSLATING MODERNITY AND URBAN TRADITION ACROSS SPACE AND TIME

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2026

Volume 356

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TRANSLATING MODERNITY AND URBAN TRADITION ACROSS SPACE AND TIME

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Traditional Dwellings and Settlements

Working Paper Series

TRADITION AS METHOD: HUANG ZUOSHEN AND THE PEDAGOGICAL CONSTRUCTION OF MODERN ARCHITECTURE IN CHINA

Yulun Zheng

TRADITION AS METHOD: HUANG ZUOSHEN AND THE PEDAGOGICAL CONSTRUCTION OF MODERN ARCHITECTURE IN CHINA



This paper revisits Huang Zuoshen's (1915–1975) architectural education and early teaching to foreground the overlooked influence of his British training on his conceptualization and translation of “tradition” in Republican China. While previous scholarship has emphasized Huang’s affiliation with Bauhaus modernism via Harvard, this study shifts the analytical lens to his earlier formation at the Architectural Association (AA) in London (1933–1938), during a moment of pedagogical transition shaped by the Modern Architectural Research (MARS) Group and the Unit System. It argues that this British phase, often marginalized, was pivotal in equipping Huang with tools to reframe architectural tradition as a dynamic, methodological question rather than a fixed stylistic reference.

Drawing on archival records, student exercises, and curricular documents from Huang’s later work at St. John’s University (Shanghai), the paper shows how his British education informed his teaching strategies: the privileging of diagrammatic logic over Beaux-Arts formalism, the integration of collective studio critique, and the reframing of “Chinese” architectural forms as problems of spatial adaptation rather than nostalgic replication. These methods exemplified an effort not to negate tradition, but to translate it—across contexts, scales, and institutional languages.

The paper situates Huang’s trajectory within broader mid-century debates on architectural pedagogy in China, especially the contestation over how to modernize without erasing cultural specificity. It argues that Huang’s response—rooted in a British educational logic but refracted through a cosmopolitan Shanghai—offers a case of “tradition in translation” that complicates linear accounts of Western influence. Rather than a conduit of foreign styles, Huang emerges as a translator of architectural epistemologies, negotiating between colonial legacies, missionary institutions, and emerging national modernities.

In doing so, this paper contributes to the IASTE 2026 theme by theorizing “tradition” as a pedagogical and cultural construction shaped through transnational circulation. It proposes that tradition is not merely inherited or invented but continuously redefined through educational formats and institutional contexts. Huang Zuoshen’s case invites us to rethink how architectural tradition is constructed not only through what is taught, but through how and where it is taught—and how such translations reshape the intellectual foundations of architecture across space and time.

1. INTRODUCTION: BEYOND INFLUENCE—REFRAMING TRADITION

The question of “tradition” has long occupied a central yet unstable position in the historiography of modern Chinese architecture. Frequently framed in opposition to modernity, tradition has been understood either as a repository of formal precedents or as a cultural residue to be overcome.¹ Within this interpretative structure, modern architectural development in China is often narrated through paradigms of stylistic transformation or Western influence.²

Such approaches, however, risk reducing architectural modernity to a matter of formal transmission. They obscure the processes through which architectural knowledge was produced, negotiated, and institutionalized. In particular, they overlook the role of architectural education as a key site where the meaning of tradition was actively redefined.

This article proposes a shift in perspective. Rather than treating tradition as an inherited stylistic language, it argues that, in modern China, tradition was constructed as a pedagogical problem. It was not transmitted through form but produced through teaching—through curricula, studio practices, and institutional frameworks.

This argument is developed through a focused study of Huang Zuoshen (1915–1975), an architect-teacher whose career spanned Britain, the United States, and China. Existing scholarship has tended to situate Huang within a narrative centered on Harvard Graduate School of Design and Walter Gropius, thereby framing his work primarily through Bauhaus-derived modernism.³ This article contends instead that Huang's intellectual formation cannot be understood without considering his earlier training at the Architectural Association (AA) in London, where he encountered a different strand of modernist pedagogy shaped by the Modern Architectural Research (MARS) Group.

By tracing Huang's trajectory from London to Shanghai—culminating in his establishment of an architectural program at St. John's University (SJU) in 1942—this article demonstrates that architectural tradition was not passively inherited but actively reconfigured. It emerged through processes of translation that unfolded within pedagogical settings.

2. TRADITION RECONSIDERED: PEDAGOGY, MODERNITY, AND TRANSLATION

Modern Chinese architectural historiography has often been structured through binary oppositions: tradition versus modernity, China versus the West, or art versus engineering.⁴ These frameworks tend to assume that tradition is a stable entity against which modern architecture is defined.

However, such assumptions obscure the extent to which tradition itself was contested. Rather than existing as a coherent body of knowledge, tradition in early twentieth-century China was fragmented, reinterpreted, and strategically mobilized.⁵ This article approaches tradition through three interrelated conceptual shifts.

First, it foregrounds the role of the architect-teacher. Architectural education in Republican China was not merely a vehicle for professional training; it was a site of intellectual production. Architect-teachers were uniquely positioned to articulate new definitions of architecture, unconstrained by the immediate demands of practice.⁶

Second, the notion of makeshift modernity highlights the provisional nature of architectural development. Modernism in China did not emerge as a coherent import but as a series of partial and adaptive processes.⁷ Educational institutions became spaces where these processes were negotiated.

Third, the field was characterized by contested discourses. Competing interpretations of tradition, modernity, and national identity coexisted within architectural education.⁸

Taken together, these perspectives suggest that tradition should not be understood as inheritance but as translation. It was continuously redefined through pedagogical practices, rather than transmitted intact across cultural boundaries.

3. LONDON: THE ARCHITECTURAL ASSOCIATION AND THE REFRAMING OF TRADITION

Huang Zuoshen's formative years at the Architectural Association between 1933 and 1938 coincided with a period of significant transformation in British architectural education. The AA, influenced by the MARS Group, sought to move beyond Beaux-Arts formalism toward a more experimental and socially responsive pedagogy.⁹

A central innovation was the introduction of the Unit System, which reorganized architectural education around thematic and research-based studios.¹⁰ This system replaced the hierarchical progression of the Beaux-Arts model with a structure that encouraged analytical thinking and independent inquiry.

Within this framework, tradition was no longer treated as a set of canonical forms to be reproduced. Instead, it became an object of investigation. Students were encouraged to analyze historical precedents in relation to contemporary conditions, thereby transforming tradition into a methodological resource.¹¹

Key figures associated with the MARS Group, such as Maxwell Fry and F. R. S. Yorke, played an important role in shaping this pedagogical environment. Their emphasis on functionalism, social responsibility, and technological innovation reinforced a design culture oriented toward process rather than form.¹²

For Huang, this experience marked a decisive shift. Rather than internalizing modernism as a stylistic language, he adopted a mode of thinking that prioritized systems, relationships, and processes. Tradition, in this context, was no longer tied to formal continuity but to analytical engagement. This reframing would later underpin his pedagogical experiments in China.

4. SHANGHAI: ST. JOHN'S UNIVERSITY AND THE TRANSLATION OF PEDAGOGY

Huang's return to China and his establishment of the architectural program at St. John's University in 1942 marked a critical moment in the translation of these pedagogical ideas.¹³ Operating within a missionary university in Shanghai, Huang confronted a complex set of conditions: limited resources, wartime disruption, and the need to position architecture within a rapidly changing society.

In response, he developed a curriculum structured around three interrelated dimensions: the scientific, the popular, and the Chinese.¹⁴ These categories did not correspond to stylistic classifications but functioned as pedagogical frameworks through which architectural knowledge could be organized.

- The scientific dimension emphasized rational analysis and technical competence.
- The popular dimension addressed social engagement and accessibility.
- The Chinese dimension redefined tradition as a field of inquiry rather than a fixed canon.

Studio teaching at SJU reflected these principles. Students were encouraged to engage in experimentation, collective critique, and analytical exploration.¹⁵ The pedagogical emphasis shifted from formal composition to problem-solving, echoing the methodological orientation Huang had encountered at the AA.

Importantly, this translation was not a straightforward transplantation of British models. It involved selective adaptation and reinterpretation. The institutional context of SJU—its missionary origins, its position within a treaty-port city, and its wartime constraints—shaped the form that architectural education ultimately took.

In this setting, tradition was not preserved but reconstructed. It was actively redefined through the practices of teaching and learning.

5. TRADITION IN A TRANSNATIONAL NETWORK: THE PMPE CONFERENCE

Huang's participation in the 1947 Princeton Conference on Planning Man's Physical Environment provides further insight into the transnational networks within which his ideas circulated.¹⁶ The conference, held as part of Princeton University's bicentennial celebrations, brought together architects, planners, and intellectuals from various countries. Huang's presence, alongside figures such as Walter Gropius, illustrates his position within an emerging global discourse on architecture and planning.

Yet this network did not operate through direct transmission. It functioned as a space of exchange in which ideas were reinterpreted and transformed. Huang's engagement with this network did not result in the replication of Western models. Instead, it reinforced his commitment to a pedagogical approach that

treated architecture as a context-specific and socially embedded practice. The photograph of the conference group outside the Princeton Inn, where Huang appears alongside Gropius, captures this moment of encounter. It visualizes not a hierarchy of influence, but a constellation of actors engaged in a shared yet contested field of knowledge.

6. Conclusion: Tradition as Pedagogical Construction

The case of Huang Zuoshen challenges conventional narratives of modern Chinese architecture. Rather than viewing tradition as a static inheritance or modernism as a process of Westernization, it reveals a more complex dynamic of translation.

Architectural tradition in China was not transmitted through form alone. It was constructed through pedagogy; through the organization of knowledge, the structure of curricula, and teaching practices.

By shifting attention from buildings to educational processes, this article contributes to broader debates on global modernism. It suggests that modern architecture should be understood not as the diffusion of forms but as the translation of epistemologies across institutional and cultural contexts. In this sense, tradition does not precede modernity. It is something that is continuously produced within it.

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Traditional Dwellings and Settlements

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THE MODERNIZATION PROCESS OF SHANGHAI LILONG HOUSING: REGULATION, MATERIALITY, AND THE LIMITS OF TYPOLOGICAL DISCOURSE

Chaoxin Yan, Hao Wang

THE MODERNIZATION PROCESS OF SHANGHAI LILONG HOUSING: REGULATION, MATERIALITY, AND THE LIMITS OF TYPOLOGICAL DISCOURSE



Lilong housing was the dominant urban residential type in Shanghai from the 1840s to the 1940s. Its evolution, from plank row houses to shikumen lilong and then to new-style lilong, has been extensively documented through typological surveys and socioeconomic analysis. Population pressure and real-estate capital are widely recognized as the primary drivers of this transformation, yet one institutional thread has remained confined to the role of background narrative: fire prevention regulations. This paper argues that the fire codes enforced across the foreign concessions over more than half a century—through material bans, construction mandates, and an increasingly rigorous building-permit regime—directly drove the phased transformation of lilong's structural systems and generated the most recognizable formal feature of the shikumen dwelling: the tall enclosing wall.

To substantiate this argument, the paper first disaggregates lilong's evolution along three analytical dimensions—bay width, façade, and structure—and demonstrates that their respective break points are mutually misaligned and none coincides neatly with the boundaries presupposed by the prevailing style-and-lineage classification. It then traces how specific regulatory nodes, interacting with shifting material-supply conditions, produced each structural phase transition. The paper concludes that the style-and-lineage framework inherited from Zhou Haoquan, while effective for description, does not automatically serve explanation; when classificatory and mechanistic discourses operate independently, the break points presupposed by classification may obscure those marked by institutional change. More broadly, the lilong case suggests that what we recognize as "tradition" in the built environment is rarely an intact heritage transported wholesale, but a spatial practice continually rewritten under the sustained tension between institutional constraint and residential need.

1. INTRODUCTION

Lilong housing was the most widely built urban residential type in Shanghai from the opening of the treaty port in 1843 through the 1940s (Figure 1). Driven by the expansion of the foreign concessions and successive waves of population influx, the type evolved from rudimentary plank-built row houses into *shikumen lilong*, and from *shikumen* into new-style *lilong*, undergoing multiple transformations in material, structure, and form within less than a century. Existing scholarship has produced a rich typological and socioeconomic account of this evolution, yet among the many forces identified as drivers of change, one thread has long remained confined to the role of background narrative rather than being developed as a full causal argument: fire prevention regulations. This paper argues that the fire codes enforced across the concessions over more than half a century—through material bans, construction requirements, and an increasingly rigorous building-permit regime—directly drove the phased transformation of the structural systems of *lilong* housing and, in that process, generated the most recognizable formal feature of the *shikumen* dwelling: the tall enclosing wall.



Figure 1: Aerial view of *shikumen lilong* houses (Source: Xiaowei Luo and Jiang Wu, *Shanghai Longtang* [Shanghai Alleyways] (Shanghai: Shanghai People's Fine Arts Publishing House, 1997), 105).

2. LITERATURE REVIEW

Lilong housing has been the subject of scholarly attention for nearly eighty years. An important divide runs through this literature. Writings from before 1949—the wartime surveys by Satō Takeo and Takegi Takeo, observations published in the *Shenbao*, and Zhou Haoquan’s retrospective account of *shikumen* development—were not historical research in the strict sense, but contemporaneous observations of a still-evolving urban housing type. Zhou Haoquan himself was a real-estate developer and construction-firm owner active in Shanghai during the 1930s and 1940s,¹ and his manuscript accordingly carries the character of an industry insider’s testimony. Research conducted from the 1980s onward entered the phase of formal historical retrospection, developing three parallel methodological traditions over the following four decades: an architectural-typological approach organized around measured drawings, plans, structural analysis, and ornament (Wang Shaozhou and Chen Zhimin; Shen Hua; Ruan Yisan; the Shanghai Bureau of Culture); an architectural-urban history approach anchored in historical narrative and urban context (Chen Congzhou and Zhang Ming; Wu Jiang; Luo Xiaowei and Wu Jiang; Zheng Shilong; Lu, Rowe, and Zhang); and a social-cultural history approach centering on everyday life, socioeconomic conditions, and cultural meaning (Lu Hanchao; Arkaraprasertkul; Ruan Xing).

Author(s) & Year	Coverage															Typological Criteria				Drivers of Transformation		
	Form	Function	Structure	Plan	Storeys	Materials	Facilities	Decoration	Group Form	Urban Context	Demographics	Daily Life	Culture	Economy	History	Style	Big Module	Storeys	Material & Structure	Demographic Pressure	Real Estate Capital	Regulation & Technology
SATO Takeo & TAKE Motoo (1943)	●	○	○	●	●	○	○		●	●	●	●	○	●		●		●		○		
Shenbao [申報] (1946)	○			○	○		○	○		○	○			○	●	○						
ZHOU Haoqun (n.d.)	○	○		○	○	○	○	○		○	○		○	●	●	○	○			○	○	○
WANG Shaozhou & CHEN Zhimin (1987)	●	○	●	●	○	●	○	●	●	○	○		○	●	●	●	●	○	○	○	○	○
CHEN Congzhou & ZHANG Ming (1988)	●	○	○	○	○	○	○	●	○		●		○		●	●	○			○	○	
SHEN Hua (1993)	●	●	●	●	○	●	●	●	●	○	○	○		○	●	●	●	○	○	●	●	○
WU Jiang (1996)	●	○	○	○		○		○	○	○			●	●	●	○	○	○			○	
LUO Xiaowei & WU Jiang (1997)	●	●	●	●	○	●	○	●	●	○	○	●	●	●	●	●		○	○	●	●	○
ZHENG Shiling (1999)	●		○	●	○	●		●	●	○		○	●	○		●	○	○	○	○	○	
ZHOU Wu & WU Guilong (1999)	●	●	○	●	○	○	○	○	○	○	●		○	●	●				○	●	●	●
LU Hanchao (1999)	●	●	○	●	○	○	●	○	●	●	●	●	●	●	●	●	○	○	○	●	●	○
LU Junhua, ROWE Peter & ZHANG Jie (2001)	●	●	●	●	●	●	●	●	●	○	●	○	○	●	○	●	○		○	○	●	○
ZHAO Chunlan (2004)	●	●	●	●	○	○	○	○	●	●	●	●	●	●	●	●	●	○	○	○	●	○
LOU Chenghao & XUE Shunsheng (2004)	●	●	●	○	○	○	○	○	○	○	●	●	●	●	●	●			○	○	●	○
ARKARAPRASERTKUL Non (2009)	○	○	○	○	○	○	○	○	○	●	○	○	○	○	○	●				○	○	○
Shanghai Administration of Culture, Radio, Film and Television (2014)	●	●	●	●	●	●	●	●	●	○	●	●	●	●	●	●	○	○	○	○	●	●
RUAN Yisan, ZHANG Chenjie & ZHANG Jie (2014)	●	●	○	●	○	○	○	○	●	○	○	●	●	○	○	●	○			○	●	○
RUAN Xing (2021)	○	●	○	●	○	○	○	○	○	●	●	●	●	●	●	●	○	○		○	●	○

Notes: • Substantive treatment; ◦ cursory treatment; blank cell = not addressed.

Table 1: Comparative review of *lilong* housing scholarship: Coverage, typology, and drivers (Source: Author).

2.1. Coverage: The Asymmetry between Architectural and Social Dimensions

Across the fifteen analytical dimensions surveyed in Table 1, the literature displays a pronounced split between architectural and social concerns. Form, plan, group layout, and ornament are the core components of virtually every major work and receive systematic treatment in all typologically oriented studies. Yet four categories—building services, living conditions, everyday life, and culture—constitute a collective weak point. Building services are discussed in depth only in the two works with an explicitly engineering-oriented perspective (Shen Hua; Shanghai Bureau of Culture). The representation of everyday life depends on a handful of studies that integrate residential practice into their main narrative (Lu Hanchao; Luo Xiaowei and Wu Jiang; Lou Chenghao and Xue Shunsheng; Ruan Yisan). Culture as a systematic proposition, rather than a rhetorical invocation of “East-meets-West,” is carried principally by Zheng Shilong’s thesis on *lilong* as the largest material vehicle of Sino-Western cultural exchange,² Luo Xiaowei and Wu Jiang,³ and Ruan Xing’s argument for the courtyard as the spatial carrier of a Confucian worldview.⁴ The only work that fundamentally transcends the disciplinary boundaries of architectural history is that of Lu Hanchao, who,

writing from a social-history perspective, repositions the *shikumen* within the everyday world of “little urbanites” and the urban economic ecology of subletting and key-money transactions,⁵ a unique vantage point that makes his work a powerful complement to, rather than a competitor with, the architectural literature.

2.2. Drivers of Change: The Consensus on Population and Capital, the Blind Spot on Regulation and Technology

Of the three categories of causation examined in Table 1, population pressure and real-estate capital have long constituted a scholarly consensus: the vast majority of works demonstrate how population influx, rising land prices, shrinking household size, and land speculation drove the evolution from early *shikumen* through new-style *shikumen* to new-style *lilong* and apartment *lilong*. It is worth returning to the exceptional case of Zhou Haoquan: writing from his position as developer and builder, he was the first to integrate all three causal drivers into a single chain of reasoning: from the Opium War and the establishment of the concessions, through population surges and the proliferation of plank houses, to fire-related prohibitions that gave rise to *shikumen*, and then to rising land prices that reduced unit size and lenient French Concession regulations that encouraged vertical expansion.⁶ This tight coupling of driver and form has rarely been matched in subsequent scholarship, precisely because Zhou was writing from the production side of the phenomenon.

The weakest of the three categories is regulation and technology. Apart from the Shanghai Bureau of Culture’s volume, which engages systematically with the Shanghai Municipal Council’s (SMC) building rules owing to its focus on construction craft,⁷ most works dispatch the SMC’s 1870 timber prohibition in a few passing lines and devote little sustained argument to how concession building codes, fire and sanitation regulations, or the diffusion of reinforced-concrete technology concretely shaped *lilong* spatial form. This blind spot has not gone entirely unnoticed. Outside the architectural literature, Xiong Yuezhi’s general history of Shanghai, in a volume authored by Zhou Wu and Wu Guilong, places regulations alongside population pressure and consumer differentiation as systemic causes of *shikumen*’s emergence, citing specific provisions on site restrictions and material bans.⁸ But that judgment was delivered from within a social-historical narrative concerned with the role of regulation in urban governance, not with how regulations concretely shaped the material composition, structural system, and spatial form of buildings. Within the architectural literature itself, fire codes remain at the level of “background information”; mentioned but never analyzed as a generative mechanism of building form.

2.3. Classification: The Zhou Haoquan Framework and Its Enduring Single-Axis Legacy

The classificatory tradition for *lilong* housing was effectively founded by a text that was not a formal academic publication: Zhou Haoquan's manuscript held at the Shanghai Municipal Archives. In just a few thousand characters, Zhou outlined a five-stage classification organized along a style-and-lineage axis—old-style *shikumen*, new-style *shikumen*, new-style *lilong*, garden *lilong*, and apartment *lilong*—and embedded it within a causal chain of historical, economic, and regulatory factors. Over the following eight decades, virtually every major study has inherited this framework; Chen Congzhou and Zhang Ming's five-stage narrative, Wang Shaozhou and Chen Zhimin's expanded seven-part classification,⁹ Shen Hua's five-part scheme, and Zheng Shilong's five-stage framework all differ only in granularity and nomenclature, not in their core organizing axis. As Table 1 shows, this classificatory tradition remains strikingly single-dimensional: the number of bays is used as a classification criterion only in a few reference-oriented works; the number of stories, though frequently described as an accompanying feature, rarely serves as an independent classification axis; and material and structure are similarly underutilized as classificatory variables.

This framework is undeniably effective at the level of description, but a notable irony attends its reception: Zhou Haoquan himself, who first established the classificatory prototype, was precisely the author who unfolded typological evolution in tandem with the changing dynamics of population, land prices, and building codes. Subsequent academic works inherited his typological framework but gradually stripped away the mechanistic narrative that originally accompanied it. The result is a long-standing divorce between classificatory discourse and causal discourse. Population and capital have been repeatedly demonstrated as drivers of evolution, yet they remain appended to pre-established type descriptions rather than feeding back into the definition or explanation of types; the regulatory-technological thread has never been developed into a full causal narrative. This paper takes fire prevention regulations as its point of entry, tracing this underdeveloped institutional-morphological causal chain and examining how it concretely drove the material, structural, and formal evolution of *lilong* housing from plank row houses to *shikumen* and from *shikumen* to new-style *lilong*.

3. DISAGGREGATING THE EVOLUTION: MULTIPLE TIMELINES OF LILONG TRANSFORMATION

3.1. Surface Consensus and Underlying Divergence in Classification

Cihuinali on Yan'an Middle Road, Lane 930, completed in 1934, is classified differently in two authoritative works. Shen Hua presents its plan as an exemplar of “late-period *shikumen lilong* housing,” while Lou Chenghao and Xue Shunsheng place it under “new-style *shikumen lilong*.”¹⁰ This is not an oversight on either

author's part as each classification is internally consistent, but rather a consequence of the different criteria by which each author segments the same physical object. Similar conflicts appear in other widely cited cases: Lou and Xue classify Shangxianfang (1924) and Bugao Li (1930) as “new-style *shikumen*,” whereas Ma Xueqiang assigns both to the category of “old-style *shikumen*” (Figure 2); Fumingyuan (1931) belongs to “new-style *lilong*” in Shen Hua's taxonomy but is described by Lou and Xue as “a transitional example from the late phase of new-style *shikumen* to new-style *lilong*.”¹¹ Table 2 juxtaposes the multiple classifications applied to these four representative cases.

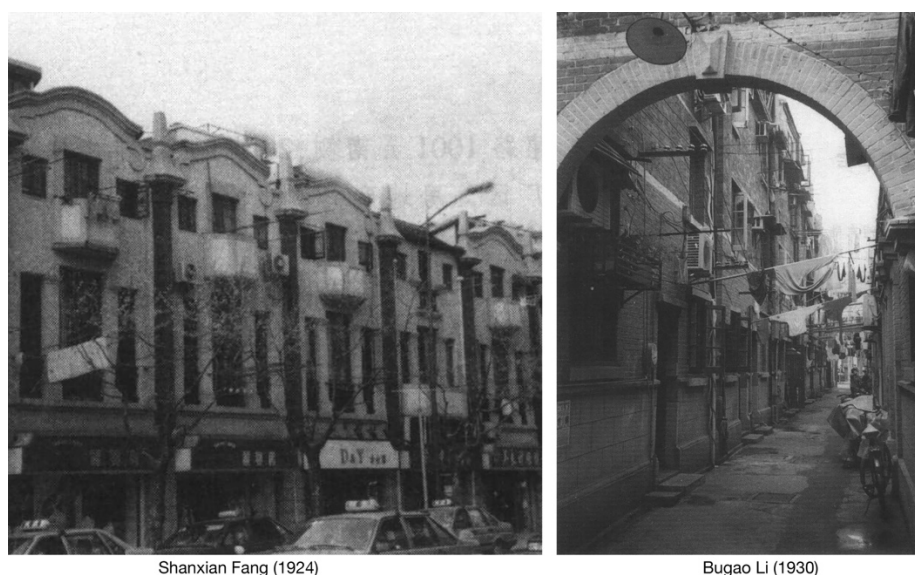


Figure 2: Shangxian Fang (1924) and Cité Bourgogne [Bugao Li] (1930) (Source: Chenghao Lou and Shunsheng Xue, *Lao Shanghai Shikumen* [Old Shanghai *Shikumen*] (Shanghai: Tongji University Press, 2004), 28, 39).

Case (Address, Year)	Shen Hua & Shanghai Housing Administration Bureau	LOU Chenghao & XUE Shunsheng	Ma Xueqiang
Cihuinan Li 慈惠南里 (930 Yan'an Middle Rd., 1934)	New-style lilong	New-style shikumen lilong	—
Fuming Cun 福明村 (424 Yan'an Middle Rd., 1931)	New-style lilong	New-style shikumen lilong (note: "a typical example of the late new-style shikumen transitioning toward new-style lilong")	—
Shangxian Fang 尚贤坊 (358 Huaihai Middle Rd., 1924)	—	New-style shikumen lilong	Old-style shikumen lilong
Bugao Li 步高里 (287 Shaanxi South Rd., 1930)	—	New-style shikumen lilong	Old-style shikumen lilong

Note: "—" indicates the case is not discussed or classified by that author. The parenthetical in the Fuming Village row reproduces the authors' own characterization as stated in Lou and Xue. Transliterations follow pinyin romanization; lilong and shikumen are retained as technical terms.

Table 2: Divergent typological classifications of selected *lilong* cases in the scholarly literature (Source: Author).

These discrepancies are not merely terminological. Different authors employ different binary or ternary divisions—“early/late *shikumen*” versus “old-style/new-style *shikumen*” versus a tripartite “early old-style/late old-style/new-style” scheme—reflecting divergent judgments about where the qualitative break falls.¹² As discussed above, the classificatory tradition inherited from Zhou Haoquan uses “style and lineage” as its single organizing axis. However, “style and lineage” is itself an ambiguous composite label, simultaneously conflating date of construction, façade form, load-bearing structure, and cultural provenance. When these four criteria fall out of alignment in a given building, different authors implicitly privilege different dimensions, producing classifications that share similar nomenclature but draw their boundaries in different places. The tension inherent in the classification is not an artifact of scholarly carelessness but a projection, onto classificatory discourse, of the multidimensional asynchrony of the physical object itself.

This observation reframes the question. Rather than asking “whose classification is more accurate,” we should ask: did the various physical dimensions of *lilong* housing evolve in a single rhythm? If not, which dimension exhibits the clearest phased signal, and what force was marking those phases? For analytical convenience, the following sections adopt the “old-style *shikumen*—new-style *shikumen*—new-style *lilong*” tripartite framework¹³ not as an objective segmentation of material evolution but as a set of analytical coordinates against which to examine the actual tempo of change across three dimensions: bay width, façade, and structure.¹⁴

3.2. Bay Width: Continuous Overlap, No Clear Break

The evolution of bay count is the most commonly invoked auxiliary criterion in *lilong* typology. As Figure 3 shows, when the bay-count ranges of the three *lilong* types are juxtaposed, the three temporal bands overlap extensively between three bays and one bay. Old-style *shikumen* displays the widest range, with examples spanning from five bays down to a single bay. Yet, “late old-style *shikumen*” had already contracted rapidly toward single-bay units; Siwenli (1914) employed single-bay units as its basic module, while Baokang Lane in the French Concession delivered 120 single-bay houses the same year. New-style *shikumen* concentrated in the range of two bays to one bay; new-style *lilong* further narrowed to one-and-a-half bays or single bays.

Viewed together, “late old-style *shikumen*,” “new-style *shikumen*,” and “new-style *lilong*” overlap almost completely in the single-to-two-bay range. Bay count possesses no discriminating power among these three categories; it segments a before-and-after around 1910: the early three-to-five-bay pattern versus the subsequent small-bay pattern. But this line of division neither coincides with the nominal “old-style/new-style” boundary nor marks the emergence of new-style *lilong*. Bay reduction was a continuous process driven by population influx, household fragmentation, and rising land prices; it requires no additional explanatory mechanism.

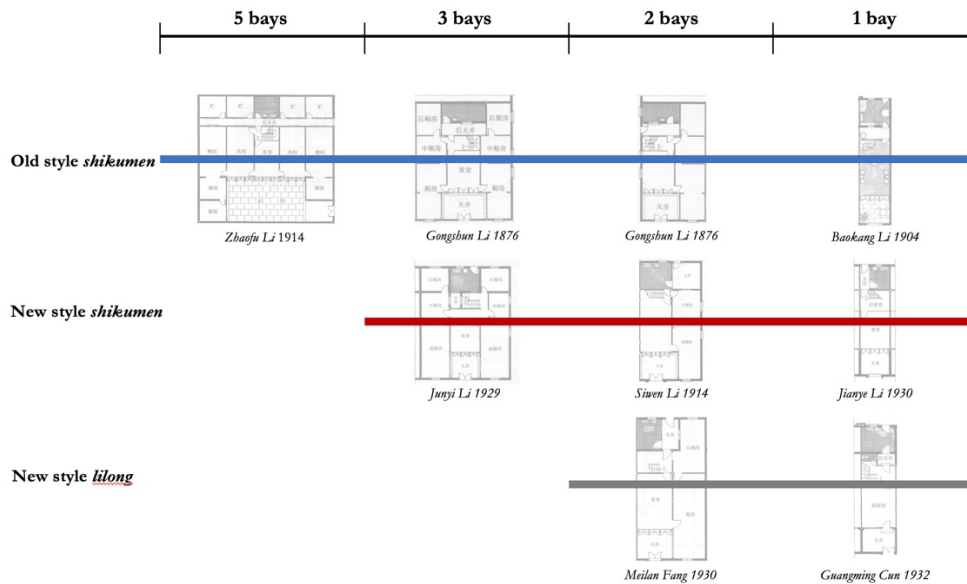


Figure 3: Bay-module distribution across the three *lilong* types (Source: Author).

3.3. Façade: Gradual Decorative Shifts, the Shikumen Gate Enduring Throughout

The façade dimension presents a different picture. As Figure 4 illustrates, when the temporal spans of four major façade elements are juxtaposed—the *shikumen* stone-framed gate (c. 1870–1930s), the horse-head gable wall (c. 1880–1910s), the Baroque pediment (c. 1910–1940s), and Art Deco ornament (from the 1920s onward)—the essential character of façade evolution becomes apparent: decorative elements accumulated in overlapping layers rather than replacing one another wholesale.

More significant still is the cross-type persistence of the *shikumen* gate itself. While its specific detailing changed—early examples featured monumental horse-head gable walls, while later examples adopted Western-style pediments—the basic compositional pair of stone gate plus gable wall never disappeared within the old-style phase. It persisted into the new-style *shikumen* phase as well: Bugaoli (1930) retained the stone gate, courtyard, and full-length casement windows; Shenyuli (1931) adopted continuous window frames and cement-capped gable walls approaching new-style *lilong* practice, yet kept the *shikumen* gate; Cihuinali (1934) used cement cornice lines and continuous cement window frames, but its stone gate remained; Fumingyuan (1931) likewise preserved the gate, courtyard, reception hall, and wing rooms.

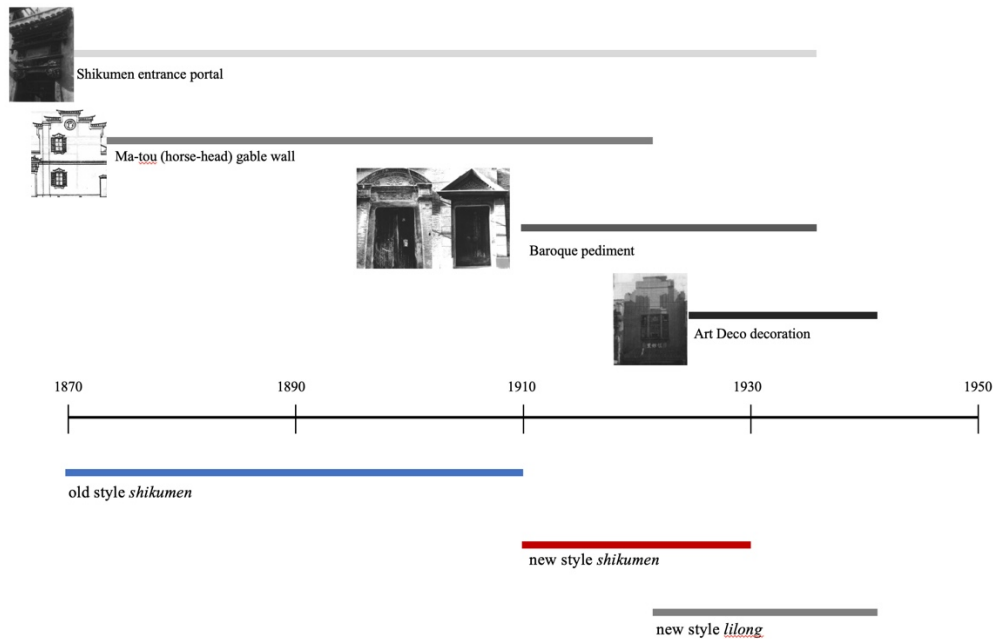


Figure 4: Façade-element timeline across the three *lilong* types (Source: Author).

The real formal rupture in the façade dimension occurs between new-style *shikumen* and new-style *lilong*. In new-style *lilong*, a low wall or open railing, rather than a monumental stone gate, separates the front courtyard from the alley. At the new-style *lilong* stage, low gates and iron railings finally replaced the *shikumen* gate, which had persisted throughout both old-style and new-style *shikumen* phases. This means the façade break falls not between “old-style” and “new-style” *shikumen* but between “*shikumen*” and “non-*shikumen*”—a line entirely out of phase with the bay-width break of c. 1910.

3.4. Structure: The Clearest Phased Signal, Yet Misaligned with Nominal Boundaries

The structural dimension presents yet another pattern. As Figure 5 shows, the load-bearing system of *lilong* housing passed through roughly four phases: pure timber-frame plank houses (c. 1850–1870); a “brick-timber hybrid” combining a post-and-tie timber frame with masonry perimeter walls in the old-style *shikumen* (c. 1870–1910s); a “brick-timber hybrid” in which masonry walls assumed the primary load-bearing role in the late old-style and new-style *shikumen* (from the 1910s); and a “brick-timber-concrete hybrid” incorporating reinforced-concrete beams and slabs (from the 1920s). Unlike the continuous overlap of bay widths or the layered accumulation of façade ornament, the transitions between structural phases are relatively clear-cut substitutions: load-bearing masonry walls replaced the post-and-tie timber frame, and concrete walls replaced the timber floor slabs. At each transition, the fundamental load-bearing logic of the building changed, rather than new practices merely layering atop old ones.

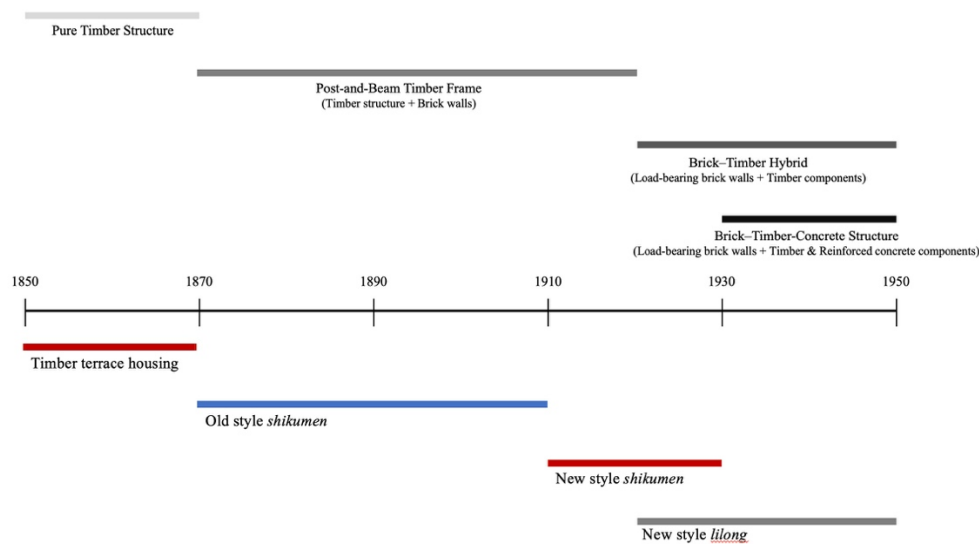


Figure 5: Structural-system timeline across the three *lilong* types (Source: Author).

Yet these clear phase transitions do not align with the nominal “old-style/new-style *shikumen*” boundary. The first structural phase transition, from post-and-tie timber frame to load-bearing masonry, occurred *within* the so-called “late old-style *shikumen*.” As Lou and Xue explicitly note, a key improvement of this period was precisely “the replacement of the post-and-tie timber frame by a load-bearing masonry wall system, with reinforced-concrete beams and slabs introduced for overstreet rooms, garret rooms, and drying terraces.”¹⁵ The second structural phase transition, from brick-timber hybrid to brick-concrete, occurred in the late new-style *shikumen* phase. Case-by-case verification confirms that the majority of new-style *shikumen* remained brick-and-timber: Bugaoli (1930) was a three-story brick-and-timber structure; Shenyuli (1931) was a two-story brick-timber-concrete hybrid; and Cihuinali (1934) was a two-story brick-and-timber *shikumen*. Only a few late cases such as Fumingyuan (1931) and Meilanfang (1930) had fully entered a brick-and-concrete system. The widespread adoption of reinforced concrete in *lilong* structural systems did not occur until the mid-to-late 1930s.

The structural dimension thus exhibits the clearest phased evolution of the three dimensions examined, yet its break points, approximately in the 1910s and the 1930s, neither coincided with the nominal “old-style/new-style *shikumen*” division nor marked the moment of new-style *lilong*’s emergence. This “clear but misaligned” phase pattern implies the existence of an independent temporal driver operating outside the classificatory discourse. This driver cannot be explained by population pressure and land-price logic alone; bay reduction can be deduced directly from household fragmentation and rising land values, but the transformation of the load-bearing system from post-and-tie timber frame to masonry walls to reinforced

concrete involves the coordinated change of material supply, construction craft, and engineering regulation. Why were these turning points so temporally concentrated? Answering this question requires the introduction of another causal thread: the fire prevention regulations that were enforced across the concessions for more than half a century.

4. FIRE, REGULATION, AND THE MAKING OF THE SHIKUMEN WALL

4.1. Fire as a Chronic Urban Crisis in the Concessions

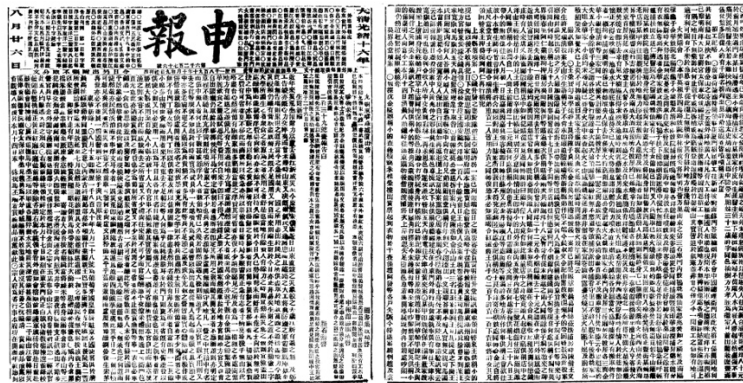


Figure 6: *Huo Shao Yao She* [Fire in a Brothel] (Source: *Shenbao*, October 9, 1890, 3).

On October 9, 1890, the *Shenbao* ran a report on a fire the previous night in Huifangli on Fourth Avenue (Fuzhou Road) in the International Settlement (Figure 6). The fire originated in a courtesan house and rapidly spread to adjacent establishments. At two critical points the report inserted a telling detail: a tall wall had stopped the fire's advance.¹⁶ The wall in question was the traditional fire gable wall (*feng huó shān qiáng*) of Jiangnan vernacular architecture, and the *Shenbao* account constitutes an empirical demonstration of its fire-prevention function within the concession's *lilong* fabric. The fire ultimately consumed over twenty rooms across four properties in a matter of hours, a direct consequence of the material constitution of early *shikumen*: timber-framed, row-house units sharing party walls and lean-to boundaries, forming continuous paths of combustible material.

Period	Reported via Alarm Telegraph	No Alarm Telegraph	Unknown	Total Fires
Jan.–Mar. 1874	6	2	3	11
Jan.–Dec. 1877	3	13	2	18
Jan.–Dec. 1879	19	8	—	27
Jan.–Dec. 1880	14	13	—	27

Note: "—" indicates data not recorded.

Table 3: Fire incident statistics in the International Settlement (1874–1880) (Source: Suwen Luo and Zuanyou Song,

Shanghai Tongshi, Vol. 9: Minguo Shehui [General History of Shanghai, Vol. 9: Republican Society], ed. Yuezhi Xiong (Shanghai: Shanghai People's Publishing House, 1999), 21).

No.	Date	Headline	Location	Shikumen Units Damaged	Reported Cause
1	1884.6.2	Arson by Criminals	Baofen Li, north of Dama Road, International Settlement	5 lofted buildings (樓)	Suspected arson
2	1886.11.10	On Arson Prevention	Third alley, Xinbaohu Li	3 courtyard compounds (座), Nos. 1–3	Arson
3	1889.3.31	Fire Alarm in Hubei District	Third alley, Taoyuanfang, north of the Railway Bridge	6 courtyard compounds (座), comprising 12 buildings (樓)	Kitchen fire / unoccupied room fire
4	1889.7.18	Fire in the British Settlement	First alley, Jiujiang Road, newly built by Sassoon & Co.	5 buildings (樓)	Unknown
5	1890.10.9	Brothel Fire	Caifang Li, west of Sima Road, International Settlement	4 brothel establishments (家), 20 upper-floor rooms (樓房)	Brothel madam burning ritual paper offerings
6	1894.12.30	Fire in the American Settlement	Qingyun Li, Tiantong Road, American Settlement	8 buildings (樓)	Unknown
7	1896.12.3	Investigation into Fire Origin	Hengsheng Inn, Pingkang Li, British Settlement	Unspecified	Unknown
8	1903.8.17	Fire Alarm in the American Settlement	Tijian Bridge, Xihua De Road, American Settlement	4 buildings (樓)	Bakery fire
9	1907.1.20	Small Fire in the French Concession	Rear alley, Fushou Li, French Concession	2 upper-floor bays (間樓面)	Accidental fire by tenant Dai while tending stove
10	1910.10.15	Insurance Fire	Xiangfen Alley, north of the International Settlement	1 property (所), 3 bays and 2 courtyards	Unknown
11	1930.4.16	Tragic Fire Claims Three Lives in Nanshi	Ankang Li, Cao Family Street, inside the West Gate	1 property (所), including 3 fatalities	Stove negligence
12	1946.2.21	Major Midnight Fire on Fangbang Road	South Lion Alley, Fangbang Road, Nanshi	6 buildings (樓), double shikumen gate frontage	Unextinguished candle
13	1947.9.17	Negligence at Tongmao Warehouse	Zhongshan East Second Road	1 property (所), triple-story with triple-courtyard depth	Cigarette / electrical fault
14	1948.3.10	Hat Factory Fire Spreads to Neighbors	Jungai Li, Anyuan Road, western Shanghai	4 buildings (樓), fire spread to adjacent structures	Combustion of chemical raw materials

Note: "Unspecified" indicates the source report does not provide a precise figure. Date format follows the original source (year.month.day). Bracketed Chinese characters indicate the original unit terms: 樓 (single building or structure), 座 (full courtyard compound), 所 (complete property building), 間 (structural bay), 家 (establishment).

Table 4: Fire incidents involving *shikumen lilong* reported in the *Shenbao* (1884–1948) (Source: Author).

Such events were by no means exceptional. Table 3 compiles annual fire statistics for the International Settlement from 1874 to 1880: 11 fires were recorded in the first three months of 1874 alone, rising to 27 in each of 1879 and 1880. Table 4 lists fourteen fires involving *shikumen lilong* reported in the *Shenbao* between 1884 and 1948, spanning the International Settlement, the American Settlement, the French Concession, and the Chinese-administered Nanshi district. The two tables serve distinct argumentative purposes: Table 3 demonstrates that fire was already a routine governance challenge in the early years of concession development; Table 4 extends the temporal frame to the end of the concession era, showing that *shikumen* fires continued to make headlines even in the 1940s when new-style *lilong* was already widespread. “Modernization” did not automatically resolve the fire problem.



Figure 7: Map of the International Settlement of Shanghai, 1866 (Source: Virtual Shanghai).



Figure 8: Map of the International Settlement of Shanghai, 1890 (Source: Virtual Shanghai).



Figure 9: Block plan of Fuzhou Road, Shanghai, 1939 (Source: *Shanghai Shi Hangbao Lu Tulu* [Shanghai Commercial Directory and Street Map], 1939).

Juxtaposing this event with three maps of the International Settlement dated 1866, 1890, and 1939 (Figures 7–9) reveals a remarkable continuity in the urban fabric of the Fuzhou Road area: the street network and plot subdivision pattern remained largely intact, while *lilong* housing was repeatedly built and rebuilt on the same plots across successive cycles. It was within this continuity that fires recurred.

A third category of evidence shows how the market identified and priced fire risks. On June 2, 1892, the *Shenbao* published a joint premium schedule issued by ten fire-insurance companies in Shanghai.¹⁷ The key provision: “first-class *shikumen* houses enclosed on all four sides by tall walls” were placed in the lowest premium bracket—the same rate as “foreign-style buildings.” A *shikumen* with four enclosing walls cost one-third less to insure than a timber-frame dwelling. The qualifier “on all four sides” is particularly telling: it divided the *shikumen* stock into two categories based on the completeness of wall enclosure, indicating that even in 1892 the fire-prevention performance of *shikumen* varied with the degree of masonry enclosure. The tall wall was not an ornamental appendage but the core carrier of fire-prevention function.

4.2. From Prohibition to Building Code: The Institutional-Morphological Interaction

In the decade after Shanghai’s opening as a treaty port in 1843, the British settlement maintained a regime of Sino-foreign residential segregation, and building controls applied almost exclusively to foreign warehouses and wharves. This arrangement was shattered in 1853 when the Small Swords Society uprising drove Chinese residents into the British settlement for refuge; foreign merchants, seizing the opportunity, built plank houses on a massive scale for rental income. Two subsequent waves, the Taiping armies’ assaults on Shanghai in 1860 and 1862, brought further floods of refugees from the Yangtze Delta provinces.¹⁸ Within three decades the Chinese population of the concessions grew from roughly 70,000 to 500,000; by 1877 the International

Settlement contained 15,537 Chinese-style dwellings against only 565 Western-style buildings, a ratio of 27.5 to 1.¹⁹ The urban fabric that this demographic transformation produced—overwhelmingly Chinese timber-frame construction organized as high-density row houses—was inherently fire-prone.

Edwin Smith described the earliest plank houses built for rental as row-type, party-walled, internally connected, and gated at the main alley;²⁰ a spatial logic driven entirely by rental efficiency, yet constructed almost wholly in timber without any fire-prevention measures. By 1860, some 8,740 such houses had been built; that same year, a major fire on Nanjing Road destroyed over 150 rooms and leveled half of a prime commercial district.²¹

The first Land Regulations of 1845 already contained a fire-prevention clause: Article 18 prohibited the construction within the settlement of “easily combustible structures such as thatched shelters, bamboo huts, and wooden houses,” along with the storage of gunpowder, saltpeter, and sulfur.²² At this stage, however, fire provisions remained confined to hazardous materials and did not impose specific restrictions on the building materials of ordinary dwellings.

The second Land Regulations of 1854, drafted in the aftermath of the Small Swords uprising, introduced the first direct linkage between building materials and fire prevention. Article 8 prohibited the construction of “Chinese dwellings, thatched huts” in proximity to foreign buildings “for fear of fire”; Article 9 went further, banning “Chinese construction using matting, bamboo, timber, and all other combustible materials,” with a fine of twenty-five dollars for violations.²³

The decisive turning point came with the third Land Regulations of 1869 and their bylaws, which vastly expanded the powers of the Shanghai Municipal Council (SMC)—including the authority to enact bylaws, levy taxes, and approve building permits—thereby providing the institutional foundation for enforceable building regulations. Over the following years, the SMC’s stance toward Chinese timber-frame construction escalated from discouragement to outright prohibition. In 1870, the chief engineer of the Fire Brigade proposed “a brick partition wall every five or seven Chinese houses.”²⁴ By 1874, the SMC’s Watch Committee explicitly called for “preventing, as far as possible, the present irregular mode of building Chinese houses from being carried on.”²⁵ That same year, the SMC Board resolved that Chinese building projects would require a certificate from the SMC’s engineer before a construction permit would be issued,²⁶ the embryonic form of the building-permit system. In 1877, the SMC drafted formal Chinese Building Rules, whose first substantive clause specified that “fire walls shall be placed at intervals not exceeding 80 feet.”²⁷ Although these rules failed to pass owing to insufficient attendance at the ratepayers’ meeting, provisions such as firewall spacing and building permits were already being enforced in the SMC’s day-to-day administration.

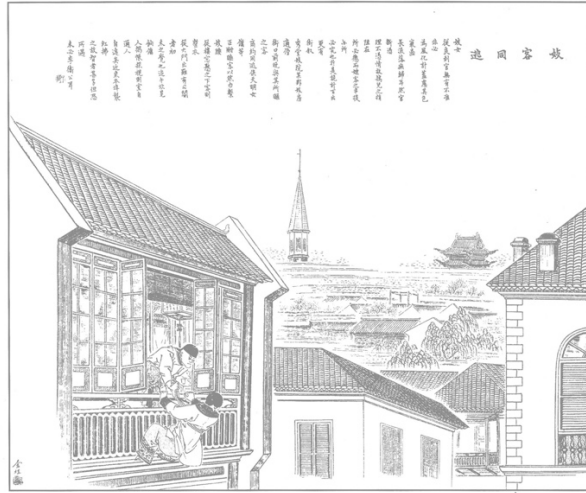


Figure 10: *Ji Ke Tong Tao* [Prostitutes and Clients Fleeing Together] (Source: Illustrated by Gui Jin, *Dianshizhai Huabao* [Dianshizhai Pictorial], 1885–1886).



Figure 11: *Liu Ji La Ke* [Street Prostitutes Soliciting Customers] (Source: Illustrated by Zhiying Zhang, *Dianshizhai Huabao* [Dianshizhai Pictorial], 1886–1887).

Two illustrations from the *Dianshizhai Pictorial*²⁸ (c. 1885–1887) provide rare visual evidence of the transitional building form during this period of institutional tightening (Figures 10–11). Both depict two-story timber houses flanked by brick fire gable walls rising above the roofline, with Western-style masonry buildings in the background. The structures shown are not yet *shikumen* as we understand them today, as there are no stone gate frames and courtyard walls, but rather a possible intermediate state between plank row houses and old-style *shikumen*: the fire gable wall had been introduced to satisfy fire-prevention requirements, while the body of the structure remained timber. This “fire gable wall plus timber house” combination corresponds to the SMC’s pragmatic strategy: first compartmentalize the continuous run of timber row houses with masonry fire walls, thereby reducing the risk of conflagration.

After the new Land Regulations of 1899 granted the SMC full building-approval authority, the International Settlement's first comprehensive Chinese Building Rules were promulgated in 1901. The Rules defined "Chinese-style buildings" as "structures in which the weight is borne by timber beams and columns",²⁹ a definition that itself acknowledged the structural essence of the *shikumen* of the time as fundamentally timber-frame. Simultaneously, however, the Rules systematically mandated the use of "non-combustible materials": fire walls were to be built of brick, stone, or other non-combustible material, with exterior fire walls at least 12 inches thick; roofing was to be of tile, metal, or other non-combustible material; and minimum wall thicknesses and mortar specifications were codified for the first time, while explicitly stating that "columns, main beams, roof framing, and floor joists shall be of good-quality timber."³⁰ The core logic of the 1901 Rules can be summarized as: timber remains the load-bearing skeleton, but the building envelope and fire-prevention components are mandatorily rendered in masonry—precisely the statutory form of the "brick exterior, timber interior" *shikumen*.

Evasion soon exposed the rules' inadequacy. A 1913 report by the SMC's Public Works Department documented a Chinese-style hotel that had substituted cheap timber-lath-and-plaster walls for the mandated masonry; the Department warned that no operating license would be issued unless the infraction was rectified, and the owner eventually filled the lath cavities with cinder concrete.³¹ That same year's report concluded that "Chinese buildings show a tendency toward 'Western' design ... in living quarters with flues, the old timber-frame method is unsuitable."³²

Driven by such violations, the SMC in 1917 revised and reissued the Chinese Building Rules at the request of the Shanghai Fire Insurance Association. The revisions concentrated on densifying fire-prevention provisions, requiring overstreet rooms to "be enclosed on all four sides by eight-and-a-half-inch solid masonry walls containing no timber, with floors of fireproof material" (the first appearance of the explicit ban "containing no timber"); partition walls to be solid masonry to the roof, prohibiting lath-and-plaster partitions; fire-wall spacing to be reduced to 60 feet maximum, with a minimum thickness of 8.5 inches and a requirement to project at least 2 feet above the roofline.³³ A 1926 article in *Millard's Review* supplied corroboration from the supply side: before 1915 Shanghai possessed no modern commercial-scale drying kilns, and *shikumen* timber was generally untreated; the same article noted that from 1915 onward the International Settlement's rules against non-fireproof construction had grown "increasingly stringent."³⁴

In 1923, the International Settlement promulgated a new comprehensive Building Rules, marking the full modernization of its building-code regime. Reinforced concrete was for the first time listed as a permissible structural component in Chinese-style buildings; reinforced-concrete partition walls were to be a minimum of 8 inches thick, and concrete floor slabs without timber lining a minimum of 5 inches. The Rules also

introduced prohibitions governing the contact between timber and masonry: timber members were not to be built into walls, and timber joists seated in walls were to have the surrounding cavity filled with fireproof material. Mortar standards were upgraded from the 1901 lime-sand mix to cement-based mortar.³⁵

How did regulatory provisions translate into actual construction practice? The minutes of the French Concession's Municipal Council (*Conseil municipal*) Works Committee in 1925 provide explicit evidence of enforcement. In reviewing several *shikumen* construction applications, the Committee annotated each case with material requirements: one case required “brick walls, improved façade treatment, and installation of a septic tank before permit issuance”; another group of six Chinese-style houses required “brick walls and improved façade treatment”; a batch of twenty houses was told “brick walls must be used before the permit will be granted.”³⁶ By 1925 at the latest, the French Concession was mandating the upgrade of *shikumen* walls to masonry through the building-permit process.

This upgrading process reached its endpoint in the 1930s. The 1933 Chinese Building Rules for the International Settlement directly prohibited “hollow brick walls or lath-and-plaster cavity walls in dwellings, shops, or *shikumen*.”³⁷ In October 1933, the SMC Secretary-General warned that “rows of *lilong* houses are being converted into small factories ... posing a serious fire hazard to themselves and adjacent properties.”³⁸ In January 1934, the French Concession's permit records contain a landmark annotation: a case on Route Fergus required that “all timber columns within the walls be removed before the permit will be issued.”³⁹ It explicitly ordered the removal of timber column—the core structural element of the post-and-tie frame. This marks the definitive statutory elimination of the timber frame from the *shikumen* structural system.

In parallel, the French Concession developed its own regulatory framework between 1910 and 1930. A 1910 Municipal Regulations chapter on “roads and buildings” was revised in 1928 with penalties “more stringent than those of the SMC.”⁴⁰ Between 1931 and 1934, the French Municipal Council's *Bulletin* published sequential lists of *shikumen* construction permits: the 1931 lists show three-story *shikumen* as the dominant form, with single projects routinely encompassing dozens of units and overstreet rooms as standard; by 1934, permits had visibly declined and material requirements had been significantly tightened.⁴¹

4.3. An Overlooked Generative Thread: The Interaction of Regulation, Material, and Structural Form

Figure 12 condenses the foregoing argument into a single diagram. The upper register marks the five structural phases of *lilong* housing; the lower register marks the key regulatory nodes that drove each phase transition. This figure corresponds to Figure 5 in Part 3 but serves a different function: Figure 5 displayed *the phenomenon* of structural evolution—where the structural system broke; Figure 12 displays *the causation*—which regulation, at which moment, drove which structural transformation.

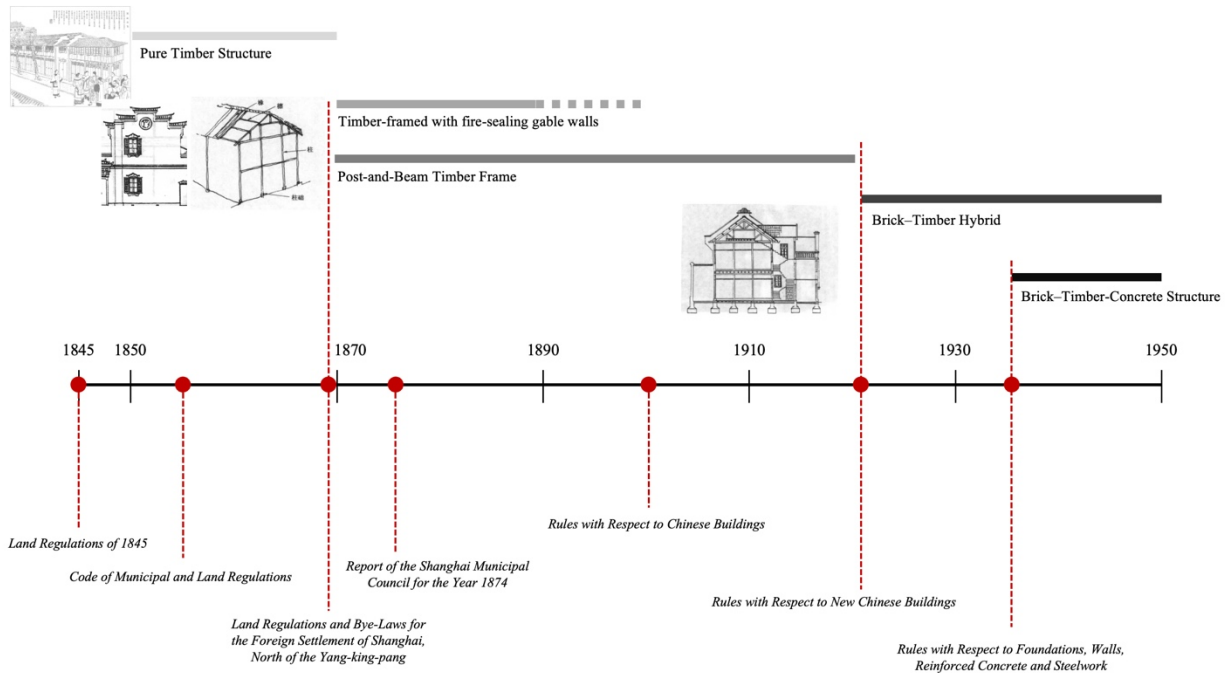


Figure 12: Interaction diagram of institutional frameworks and structural morphology (Source: Author).

This diagram suggests three critical institutional-morphological interactions. The first occurred in the 1870s: the 1869 Land Regulations bylaws and subsequent timber prohibitions put an end to pure plank row houses, but Shanghai at the time possessed neither a large-scale brick supply nor a workforce skilled in masonry. The tension between regulatory pressure and supply constraint produced a transitional solution: the post-and-tie timber frame carried the load, while masonry was confined to fire gable walls and the outer envelope. The *shikumen*'s tall wall was first and foremost a fire wall; it became an enclosure surface only secondarily.

The second interaction occurred in the 1900s–1910s: the 1901 Rules codified fire-wall thickness and spacing; the 1917 revision further banned the use of timber in overstreet rooms. Concurrently, mechanized brick production matured, and the post–World War I period saw cement and reinforcing steel dumped onto the Chinese market in large quantities from Western suppliers. The timber column was eliminated; the masonry wall was promoted from envelope to load-bearing wall; the fire wall and the structural wall merged into one.

The third interaction occurred in the 1920s–1930s: the 1923 Rules formally admitted reinforced concrete as a legitimate material; the 1933 Rules definitively banned timber-lath cavity walls; the 1934 French Concession permit explicitly required the removal of all embedded timber columns. The introduction of concrete floor slabs and beams raised the proportion of non-combustible material throughout the building, rendering the freestanding fire wall no longer the sole effective fire-prevention device. The tall wall could therefore be lowered, thinned, and ultimately replaced by the low walls and iron railings of new-style *lilong*.

The birth and demise of *shikumen* are two ends of the same fire-prevention logic. When fire regulations tightened but masonry was scarce, the “brick exterior, timber interior” *shikumen* was born. When masonry became abundant and regulations demanded structural transformation, the masonry load-bearing *shikumen* emerged. When concrete rendered the entire building increasingly non-combustible, the tall wall lost its structural *raison d'être*, and the signature form of *shikumen* exited the stage. The tall wall was not a stylistic choice, not a deliberate cultural symbol, but an architectural product of fire legislation under specific material-supply conditions; its form was generated by fire-prevention function and dissolved by the transfer of that function to the building as a whole.

5. CONCLUSION

Fire prevention regulation was, of course, not the sole driver of *lilong*'s formal evolution. Population pressure drove bay reduction; real-estate capital set the ceiling of construction scale and quality; and the diffusion of modern building technology, particularly through networks of Chuansha-based contractors who absorbed and disseminated knowledge of new materials, was the technical precondition for regulatory compliance. However, among these parallel forces, fire regulation possessed a distinctive institutional rigidity: it set minimum material and construction standards through written codes, enforced them on a case-by-case basis through the building-permit system, and translated fire-prevention performance into calculable economic signals through the insurance premium structure. It is precisely this rigidity that explains why the break points in the structural dimension coincide so closely with the tightening nodes of the regulatory regime. This paper's contribution lies in uncovering this previously undeveloped institutional-morphological causal chain, not in substituting a single-cause explanation for the existing multi-causal account.

This argument carries a modest implication for existing classificatory discourse. The style-and-lineage framework inherited from Zhou Haoquan to the present day draws its break points from façade form and construction date, not from structural systems or their institutional drivers. If the latter are taken into account, the qualitative turning points of *lilong* housing (approximately in the 1910s and the 1930s) may require recalibration from the style axis toward an institutional-technological axis. A framework effective for description does not automatically serve explanation; when classificatory discourse and mechanistic discourse have long operated independently, the break points presupposed by classification may obscure an alternative set of break points marked by institutional change.

The evolution of *lilong* housing was neither a natural continuation of Chinese vernacular tradition nor a direct transplant of Western residential types. It took place in a colonial concession governed by Western municipal authority yet overwhelmingly populated by Chinese residents. The *shikumen*'s tall wall derived from fire

prohibitions; its masonry from material regulations; its concrete from code updates. Yet the courtyard, the reception hall, and the wing rooms derived from the persistent need of Chinese families for an inward-looking domestic layout. The “tradition” embodied by *lilong* housing was never an intact cultural heritage transported wholesale, but a spatial practice continually rewritten under the sustained tension between institutional constraint and residential need: a tradition selectively preserved, adapted, or eliminated as it passed through the regulatory framework, ultimately sedimenting into the *lilong* form we recognize today.

NOTES AND REFERENCES

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Traditional Dwellings and Settlements

Working Paper Series

MIDDLE GROUND: TRANSCULTURAL SPATIAL FORM AND MODERN LIFE IN SHANGHAI'S BROOKSIDE APARTMENTS

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MIDDLE GROUND: TRANSCULTURAL SPATIAL FORM AND MODERN LIFE IN SHANGHAI'S BROOKSIDE APARTMENTS



Embodying Shanghai's modernity, the Brookside Apartments functioned as a "middle ground" for East-West cultural translation. Combining architectural morphological analysis with socio-historical reconstruction, this paper examines the convergence of Li Ching-mei's gentry ideals, Elliott Hazzard's spatial logic, and residents' everyday agency. Through micro-historical studies of the Raven family and Zhou Xuan, it reveals the tension between projected "modernity" and localized domestic practices. The study argues that Brookside Apartments materially enabled transcultural coexistence while reshaping Shanghai's apartment lifestyle and everyday spatial production.

1. INTRODUCTION

In the historiography of Shanghai architecture, existing studies of architectural modernity in Shanghai have focused primarily on treaty-port urbanization, *lilong* housing, and public buildings.¹⁻² These studies have revealed how Western architectural forms were introduced, adapted, and consumed in semi-colonial Shanghai. However, limited scholarly attention has been paid to the specific micro-processes through which owners, architects, contractors, and residents jointly shaped apartment buildings, or to how everyday domestic practices reinterpret their spatial forms. Accordingly, this study shifts the focus from architectural form as a finished product to architecture itself as a process of negotiation and a practice of habitation.

The development of Shanghai's urban apartments yielded three primary organizational modes: the corridor-pattern, the unit-pattern, and the composite-pattern. The composite apartment, in particular, stands as a distinct paradigm of transcultural collaboration. Rather than being the isolated creation of an architect, this hybrid spatial configuration emerged from a complex process of negotiation and accommodation among proprietors, architects, contractors, and residents. To interpret such heterogeneous cultural interactions, historian Richard White proposed the concept of the "Middle Ground": a space and process where cultures in relative parity create a mutually comprehensible social network through constant adjustment.³

Furthermore, anthropologist Claude Lévi-Strauss characterized the artistic creator as both a scientist and a "bricoleur" (tinkerer); while the scientist creates events through structures, the bricoleur utilizes events to construct structures⁴. Through refined craftsmanship, the bricoleur assembles a material object that serves simultaneously as a legible body of knowledge. Located in the former French Concession, the Brookside Apartments (1930)⁵ represents one of the earliest instances of Sino-Western collaboration and the pioneering adoption of the composite layout in Shanghai. Methodologically, this study combines architectural morphological analysis with socio-historical reconstruction. By linking spatial form to residents' everyday

practices, it shifts the focus from design intention to lived experience, thereby clarifying the tension between envisioned modernity and localized domestic life. Accordingly, the central question is not merely how Western apartment housing was introduced into Shanghai, but how this architectural form was negotiated, localized, and put into practice by different social actors.

2. TRANSCULTURAL COLLABORATION

2.1. The Reclusive Dwelling Ideal

Li Ching-mei (1876–1938), the developer of the Brookside Apartments, was a prominent Chinese gentry-merchant. As the son of the late-Qing statesman Li Hung-chang and Mo Shunxi, Li served as an envoy to Austria and held various judicial posts in Jiangsu, Henan, and Zhejiang. Fluent in English and possessing an agile, hospitable nature, he retreated to the French Concession in Shanghai after the 1911 Revolution and constructed his private residence, “Brookside Lodge.” Li was an avid collector whose home featured a fusion of Eastern and Western aesthetics, housing vast collections of Chinese antiques alongside Western paintings. As a proprietor, his dual capacity for traditional literati sensibilities and Western artistic appreciation elevated him beyond the status of a mere speculative land developer.

Following Li Hung-chang’s death, the inheritance was divided among three branches. Li Ching-mei, the son of the third branch, was initially allocated the least valuable stocks and properties in marginalized locations. However, as a polymath well-versed in both Chinese and Western business practices, he strategically acquired vast tracts of land around Dingxiang Garden and Haig Road, which appreciated significantly and secured his immense fortune. By the 1920s, he had consolidated multiple parcels along Avenue Haig (now Huashan Road). This unusually spacious and level site (comprising lots 12152 through 12158; see Figs. 1 and 2) had previously served as a dairy farm and pasture. This topographical advantage liberated the architect from the constricted spatial limitations typical of Shanghai’s *lilong* plots, allowing for a holistic conception of architecture and environment—the material prerequisite for realizing the “Brookside” (Zhenliu) aesthetic.

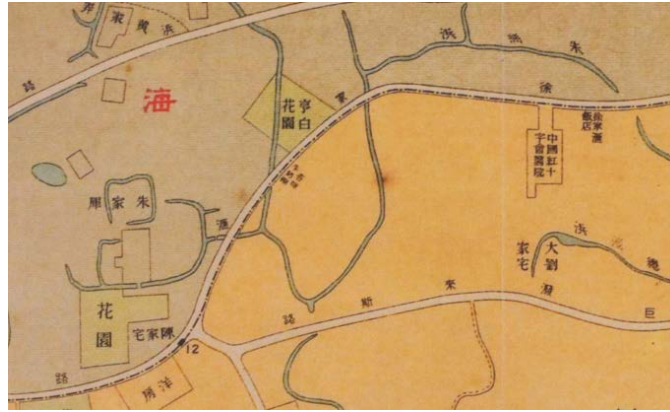


Figure 1: Site location of the Brookside Apartments (Source: New and Old Sectional Maps of the Shanghai French Concession, 1918).



Figure 2: Cadastral map of the Brookside Apartments site (Source: Cadastral Records of the French Municipal Council, U38-1-1076).

Li Ching-mei named his private residence “Brookside Lodge”, a Western-style villa integrated with a Shanghai-style (*Haipai*) garden (Figure 3), reflecting his desire for a life of reclusive refinement. His decision to extend this name to the adjacent apartment building was far from accidental; it represented a deliberate attempt to graft an Oriental, inward-looking dwelling ideal of “harmony with nature” onto a Western, collective modern pattern (Figure 4). Originally dubbed the “Haig Road Apartments”—after Avenue Haig, which honored the British Field Marshal Douglas Haig (1861–1928)⁶—the site boasted a prime location, adjacent to the American School and the German Garden Club. Zhenliu (“pillowing on the stream”) derives from Liu Yiqing’s *A New Account of the Tales of the World* (Shishuo Xinyu), compiled during the Liu Song dynasty. In the anecdote, Sun Zijing, expressing his wish for seclusion, mistakenly reverses the phrase “pillow on stones and rinse in the stream.” When Wang Wuzi questions the error, Sun replies that “pillow on the stream” serves to cleanse the ears, while “rinsing with stones” sharpens the teeth. The expression *zhenshi*

shulin thereafter came to symbolize a lofty life of withdrawal from worldly affairs, contemplative self-cultivation, and moral discipline.⁷



Figure 3: Brookside Lodge (Source: The Illustrated Daily, 1929).



Figure 4: Brookside Apartments (Source: The China Times (Shanghai), December 5, 1930).

2.2. Introverted Layout

Li Ching-mei's decision to commission Elliott Hazzard (1879–1943),⁸ an American architect with decades of professional experience, reflected an open and cosmopolitan stance toward collaboration. A graduate of the Georgia Institute of Technology, Hazzard arrived in Shanghai with his wife in 1921, bringing with him twenty years of architectural practice from New York. Two years later, he established Elliott Hazzard & Co., serving as the principal architect. His portfolio includes landmark projects such as the Golden Gate Hotel (Pacific Hotel), the Shanghai Power Company Building, the American Country Club, the Foreign YMCA, and the Grand Theatre. As a designer, Hazzard introduced the latest international concepts and technologies in

apartment design: efficient functional programming, advanced utilities, and a focus on natural lighting and vistas. In addition, his additional role as an agent for the apartments afforded him a profound understanding of the project's market positioning and the nuances of the residential experience.⁹

Simultaneously, the construction of the Brookside Apartments was undertaken by Voh Kee Construction, led by Tao Guilin (1891–1992).¹⁰ Arriving in Shanghai in 1904, Tao began his career as an apprentice at the Fusheng Woodworking Factory and later operated a furniture-making and home-repair business on North Sichuan Road. Over eight years, he progressed from a furniture carpenter to a chief construction foreman. To communicate effectively with foreign clients, he attended four years of night school, becoming proficient in English.¹¹ By 1926–1927, Tao's reputation soared following his successful construction of the Sun Yat-sen Memorial Hall in Guangzhou and the third phase of the Sun Yat-sen Mausoleum in Nanjing. By the time he was commissioned for the Brookside Apartments, he had overcome both technical challenges and language barriers. Rising from a carpenter's apprentice to an elite builder capable of executing world-class projects like the Park Hotel, Tao mastered the exquisite skill of translating modern Western architectural blueprints into high-quality local construction. In essence, the synergy between Chinese owners/contractors and an American architect established the prerequisite conditions for the realization of the Brookside Apartments, from design through to execution.

The dwelling ideal of *Zhenlin* (pillowing on the stream) finds its architectural manifestation in the master plan: an introverted layout that cultivates an atmosphere of profound tranquility. Occupying approximately 4,000 m², the primary building mass adopts an open U-shaped footprint that embraces a 2,500 m² central garden (Figs. 5–6). All primary rooms, including living areas and bedrooms, are oriented toward this sequestered inner world rather than the clamor of the urban street. Consequently, residents enjoy optimal solar orientation and unobstructed vistas of the meticulously landscaped grounds. This spatial logic reverberates with the “spirit of enclosure” found in traditional Chinese courtyards and gardens, creating a self-sufficient sanctuary insulated from the external environment.



Figure 5: Historical aerial map of the Brookside Apartments in 1948 (Source: Tianditu Shanghai).



Figure 6: Business and street directory map (Hanghao Map) of the Brookside Apartments in 1947 (Source: Compilation of Historical Materials of Modern Chinese Architecture, Series 3: Shanghai Street Directory, Vol. 4, p. 112).

The homecoming journey is choreographed as a ritualistic sequence. Entering from Avenue Haig, one traverses a path alongside a boundary wall, proceeds through a “*Haipai*” (Shanghai-style) garden that blends Eastern and Western elements, and ascends a short flight of steps before reaching the vestibule. This transitional sequence effectively filters the urban noise, allowing the resident’s state of mind to settle before entering the private realm, a spatial strategy that reinforces the serene residential atmosphere (Figs. 7–8).



Figure 7: Architectural design sketch of the Brookside Apartments (Source: The China Press, January 30, 1930).



Figure 8: Interior view of the Brookside Apartments circa 1931–1937 (Source: Cities in Old Days).

The garden design follows a symmetrical axis aligned with the main entrance, featuring Western elements such as a circular fountain and benches, juxtaposed with Chinese-style latticed walls (*huachuang*) and specific plantings, thus giving rise to a hybrid *Haipai* garden. Hazzard extended this vernacular motif to the building's facade, where latticed apertures, balconies, and projecting volumes create a rhythmic composition. Inside the three-bedroom units, he employed a unique architectural detail: on the first and seventh floors, the living rooms are separated by a curved portal wall supported by Ionic columns, while in other units, this is replaced by simpler openings and carved openwork balconies to maximize natural light.

Additionally, Hazzard designed a distinctive roofscape featuring perforated arched screens and red-tiled eaves, with the rooftop terrace accessible to all residents. The architecture integrates twenty-five garages, six

of which face Avenue Haig. Notably, some residents parked their vehicles at the rear of the building, while their chauffeurs resided off-site.

3. COMPOSITE LAYOUT

3.1. Unit-pattern and Corridor-pattern

In terms of architectural form, Hazzard juxtaposed unit-pattern (staircase-access) and corridor-pattern models, creating a “composite layout” unique to Shanghai. This hybrid configuration was designed to accommodate the diverging family structures of the East and West, thereby fostering a transcultural lifestyle. The completed Brookside Apartments features two elevators and five staircases, with floors one through seven designated for residential use. These living units are interconnected through the composite layout: floors one to five comprise apartments ranging from two to seven rooms, while floors six and seven include several duplex units (three and five-room). Each typical floor consists of seven suites.

On the ground floor, Hazzard utilized varied floor levels to organize spatial circulation, effectively segregating the building into distinct front and rear access points. The residents enter from the tranquil inner courtyard, ascending a flight of steps into a vestibule marked by an Ionic-columned portal. Conversely, service staff utilize three separate entrances on the Avenue Haig side. The ground floor accommodates both three-room and seven-room apartments, with the remaining area dedicated to garages (Figure 9).

On a typical floor, the composite layout utilizes public corridors to connect the two-and four-bedroom units, while the unit-pattern staircase cores provide access to pairs of three-bedroom suites. Within these units, the living and dining areas are interconnected, whereas service stairs provide dedicated access to servant quarters, kitchens, and bathrooms. The two-bedroom units linked to the corridors consist primarily of living rooms and bedrooms equipped with independent kitchens.

In the four-bedroom units, Hazzard designed two circulation zones of corridor-like proportions, a foyer and an internal corridor, to segregate the movements of residents and domestic staff. The living room is flanked symmetrically by two bedrooms, while the dining room and additional bedrooms occupy the opposite side. The internal corridor serves as a spine connecting the pantry, kitchen, bathroom, and servant quarters. These service areas, along with the dining room and bedrooms facing Avenue Haig, feature smaller apertures. The introduction of this “internal corridor” reinforces the demarcation between “servant spaces” and “served spaces.” This is not merely a functional partition but a sophisticated spatial organization of social order; it

ensured that the occupants of the four-bedroom suites could maintain a “respectable” lifestyle, one supported by domestic labor without compromising familial privacy.



Figure 9: Ground floor plan of the Brookside Apartments (Source: Drawn by the author).



Figure 10: Typical floor plan of the Brookside Apartments (Source: Drawn by the author).

The distinctiveness of the “composite layout” in the Brookside Apartments lies in the fact that it transcends mere spatial juxtaposition to become a spatial projection of social structures. By synthesizing unit-pattern and corridor-pattern models with diverse unit configurations, the design not only resolved the complexities of household demographics but also formalized contemporary social hierarchies through a rigorous dual-circulation logic. Consequently, it birthed the embryonic paradigm for the modern composite apartment in Shanghai.

3.2. Dwelling Layout and Configuration

In terms of unit composition, the Brookside Apartments integrated both “corridor-pattern” layouts, where diverse rooms are linked by public hallways, and “staircase-access” (unit-pattern) layouts, where a single

staircase serves three-bedroom suites. The top floor further featured expansive seven-room duplexes. This typological elasticity allowed the building to offer a wide range of configurations, from two- to seven-room units. Such a flexible design served the needs of Western nuclear families and single expatriates while simultaneously accommodating the traditional Chinese collective dwelling habit of “four generations under one roof,” thereby responding to diverse family structures and diverse modes of living.

The apartment once hosted a cosmopolitan confluence of residents. Owing to Li Ching-mei’s affinity for international social circles, the initial occupants were predominantly his foreign associates. Upon completion in 1930, the majority of the units had been reserved in advance,¹² with most layouts tailored to nuclear families, married couples, and single individuals. Most foreign families were accompanied by their own domestic staff. In September 1931, Mrs. E. J. Lloyd returned from Weihaiwei and took up residence at the Brookside Apartments.¹³ Her husband, E. J. Lloyd, was the Land Commissioner of the French Concession.¹⁴ By 1932, the resident demographic was dominated by British and American expatriates, alongside Northern Europeans and Russian/Ukrainian émigrés. Their occupations ranged from business magnates and corporate executives to senior professionals and cultural elites. The vast majority of tenants were presidents, chairmen, or partners of major trading firms and corporations. For instance, Robert Bailey, who resided in a seventh-floor penthouse, served as chairman or president of over a dozen companies within the British-American Tobacco system, earning him the title of “Tobacco Tycoon.”

The introduction of the elevator revolutionized the value logic of verticality. The top floor was no longer a marginalized, difficult-to-reach zone; instead, it ascended to become a symbol of power and wealth. Beyond business leaders, the community included esteemed professionals such as physicians (Dr. Maxwell, dentist Dr. Hudson), engineers (consultant Hollis H. Arnold), and high-ranking government employees (assistants at Jiangnan Customs, auditors at the Salt Administration). These financial and professional elites formed a critical component of the city’s high society. The building also attracted socialites and celebrities, including the renowned British philanthropist Lady Pearce, actor Henry Kendall, and L. Saphiere, the general manager of the Grand Theatre.

The units were categorized by specifications from A to G, with room numbers following a “Floor + Letter” convention. For example, the Hungarian architect Charles Henry Gonda (1889–1969),¹⁵ a pioneering practitioner of modernism in Shanghai, resided in Unit 2C. Unit G represented the three-bedroom unit; in 1932, the W. F. Raven family moved into Unit 5G. By 1937, Unit 6G was occupied by W. Sommer, manager of Deutsche Farben-Handelsgesellschaft (Defu Hong). In 1946, the legendary “Golden Voice” actress Zhou Xuan and her foster mother moved into Unit 6G. The presence of such prominent figures significantly bolstered the building’s prestige and social capital.

PERIOD	RESIDENT	NATIONALITY	OCCUPATION / IDENTITY	UNIT
1932	The W. F. Raven Family	British	Manager, American-Oriental Banking Corporation	5G
1937	W. Sommer	German/Swiss	Manager, Deutsche Farben-Handelsgesellschaft (Defu Hong)	6G
1939	C. H. Gonda	Hungarian	Architect	2C
1946–1957	The Zhou Xuan Family	Chinese	Iconic Singer and Actress	6G

Table 1: Overview of Resident Transitions in the Brookside Apartments (Source: Compiled by the author).

Architect Elliott Hazzard facilitated a novel modern lifestyle by integrating comprehensive public amenities and state-of-the-art domestic equipment into the Brookside Apartments. A report titled “Brookside Apartments Now Under Construction” in *The Shanghai Sunday Times* (January 12, 1930) noted that upon its completion that September, the seven-story structure (excluding the ground floor) would house forty-one suites featuring two to five master bedrooms. Key architectural highlights included south-facing orientations with private balconies, alongside “every modern convenience,” such as refrigeration, spacious grounds, and a large outdoor swimming pool.¹⁶ Following its completion, the swimming pool was located on the ground level, and the entire building was equipped with centralized heating and cooling systems that was technologically cutting-edge infrastructure for the period. By extension, the provision of comprehensive sanitary facilities consolidated modern hygiene paradigms, reimagining bathing as a private luxury rather than arduous labor.

On January 22, 1930, *The North-China Daily News* further detailed that the building would be furnished with “electric refrigerators, laundries,” and a “well-equipped children’s playground.”¹⁷ The inclusion of refrigerators and laundry facilities fundamentally altered the frequency and methods of food preservation and garment care. Serving as “technological mediators” of domestic life, these artifacts significantly liberated the time of residents—particularly women—thereby enabling new forms of leisure and social engagement. On December 5, 1930, *The China Times* (Shanghai) published a photographic feature on the “Avenue Haig Apartments,” stating: “Located within the Li family garden, the building stands eight stories high (including the basement) ... all equipped with the latest modern fixtures ... constructed by the local Voh Kee Construction Co. at a cost of 350,000 yuan, it has already been fully leased.”¹⁸ This immediate and total market uptake serves as empirical evidence of the profound success of this innovative, convenient, and comfortable modern apartment model during that era.

4. LIVING IN THE APARTMENT

4.1. The Nuclear Family

In 1932, the fifth floor of the Brookside Apartments was notably occupied by the Raven family. According to records from *The North-China Daily News*, the floor's inhabitants were exclusively British. These included Mr. and Mrs. E. G. Whittaker (the former being the Far Eastern representative for Universal Winding Co.), Mr. and Mrs. F. B. Hudson (Dr. Hudson, a dentist), and Mr. and Mrs. A. J. Clements (the former a co-auditor for the Salt Revenue Department in Hankow). This demographic concentration suggests that the fifth floor functioned as a “miniature British society” within the apartment complex.

While the 1932 directory typically registered only the names of the male heads of households, they resided with their spouses, and the use of independent units on the same floor revealed a specific mode of intergenerational living. C. H. Raven, the patriarch, was the president of the Raven Trust Co. and chairman of the Sullivan's restaurant chain. His wife, Mrs. C. H. Raven, served as the first vice-president of the American Women's Club of Shanghai and edited the *A.W.C. Bulletin*.¹⁹ Their son, W. F. Raven, an assistant at the American-Oriental Banking Corporation, married Isabelle Breen in 1932 and resided in a three-bedroom unit at the Brookside. Their daughter, Helen Raven, a graduate of the University of California and a former student at the Shanghai American School, was a renowned performer of dramatic recitals who had studied music and dance in New York and Europe.²⁰ Helen frequently visited her brother's residence (Figure 11). Although the Ravens were an extended family, the parents and the married son chose to live in separate apartments on the same floor. This spatial arrangement of “separated suites” allowed the family to maintain emotional proximity while adhering to modern Western nuclear family values of independence and privacy.

The three-bedroom unit of W. F. Raven and his wife serves as a compelling spatial sample of “Sino-British social hybridity.” To maintain their lifestyle, W. F. Raven employed a Chinese butler and housemaids to manage domestic affairs, as well as a dedicated Chinese chauffeur. The chauffeur facilitated Raven's daily commute to the American-Oriental Banking Corporation, located at 29 Nanking Road,²¹ a journey typically made by car.

Hazzard devised a spatial organizational system for the three-bedroom units that maintained an apparent segregation while facilitating functional integration between the residents and the domestic staff. Initially, the layout was delineated into distinct “living” and “service” zones. The residents' realm was centered on the balcony, living room, dining room, and bedrooms—spaces optimized for sunlight, vistas, and familial interaction. The master bedroom served as a sanctuary of privacy, securing the intimacy of the couple's life. Conversely, domestic staff utilized independent service stairs to enter the Raven residence, with dedicated

quarters provided for the housemaids. In the living room, where the mistress of the house often rested, a fireplace adorned with Ionic columns served as a sophisticated focal point (Figure 12).



Figure 11: The Raven family on the steps of the main entrance, Brookside Apartments (Source: Raven Shanghai Album).



Figure 12: Mrs. W. F. Raven in the living room, 1933 (Source: Raven Shanghai Album).



Figure 13: The Raven family's butler and housemaid (Source: Raven Shanghai Album).



Figure 14: Helen Raven in the apartment garden, circa 1931–1934 (Source: Raven Shanghai Album).

The butler acted as the primary mediator of household affairs, managing mail, newspapers, and telephone calls while interpreting the employer's intentions. His spatial agency was largely unconstrained by the architect; except for the private bedrooms, the butler could traverse the interior freely to manage duties—such as answering the telephone—without disrupting the residents (Figure 13). Meanwhile, the housemaids

were primarily localized in the pantry and kitchen for meal preparation and laundry, often accessing the rooftop for drying clothes. Notably, the maid's route to the dining room passed through the living room. This suggests that Hazzard intentionally designed an overlapping circulation system rather than a strictly partitioned one, reflecting a nuanced negotiation between service and living practices.

Domestic life extended seamlessly into the building's exterior. The Brookside Apartments featured expansive private lawns and gardens, designed as a hybrid synthesis of Eastern and Western landscaping. The enclosure featured traditional Chinese perforated window-walls (*huachuang*), while the stone-paved approach to the apartment followed a rigorous axial symmetry. A circular fountain was integrated into the path to choreograph the flow of movement, and the greenery was meticulously manicured. A photograph of Helen M. Raven captures this serene environment: she stands in the garden in a full-length gown and mink shawl, while in the background, an amah tends to children, a striking visual representation of the social strata coexisting within this elegant landscape (Figure 14).

4.2. Single-Occupant

In the 1940s, the iconic film star and singer Zhou Xuan (1920–1957)²² opted to lease a three-bedroom apartment on the sixth floor, a unit (6G) identical in layout to that of W. F. Raven. Initially, Zhou resided with her foster mother, Ye Fengzhu, and a maid. In 1951, while filming *The Peace Dove* in Hong Kong, she met the set designer Tang Di, with whom she later cohabited in an unmarried partnership at the Brookside. Following the birth of their son, Zhou Wei, in 1952, she briefly employed an additional maid named A-Jin. However, that same year, Tang Di was imprisoned on charges of fraud and sexual assault. The resulting psychological trauma led to Zhou's institutionalization at the Hongqiao Sanatorium; subsequently, the apartment was primarily occupied by Ye Fengzhu and Zhou Wei until 1957.

For a public figure like Zhou Xuan, "privacy" was a relative concept. Her home functioned as a "magnifying glass" through which the public and the industry scrutinized her life, constantly hosting directors, journalists, and film professionals. Domestic management served as a buffer: visitors were required to have their credentials vetted or present calling cards to the maid before being granted entry. The entrance facing Avenue Haig, emphasized by a functional canopy, funneled visitors and domestic staff through a shared circulation route (Figure 15). Renowned directors such as Bu Wancang and producers like Lu Yuanliang frequently visited her residence to negotiate film contracts.²³

Notably, due to Zhou Xuan's demanding professional schedule, her telephone was strategically installed in the kitchen within the service wing. Positioned adjacent to the servant quarters, this arrangement allowed domestic staff to intercept or relay calls. To answer a call, Zhou required passage through the pantry;

consequently, the presence of the telephone reconfigured the kitchen from a site of culinary production into a nexus of communication, directly subverting the architect's original functional programming.

Inside the unit, Hazzard's design established clear thresholds: one passed Zhou's bedroom to reach the expansive and luxuriously decorated living room. The interior was furnished with a large circular tea table, a piano, sofas, and leather chairs, with Zhou's portraits adorning the walls. The living room served as a formal salon for dignitaries, while the dining room was reserved for intimate acquaintances (Figure 16). A contemporary report in *Little Daily* (1948) titled "The Radiant Star Zhou Xuan" described her domestic environment:

"Her 'boudoir' consists of three rooms, with the rectangular drawing room being exceptionally spacious. Windows on both sides—one facing Avenue Haig and the other overlooking the grand garden—provide ample light and fresh air. The decor is thoroughly Westernized, featuring a large tea table and chairs. The floors are waxed to such a mirror-like sheen that they resemble a dance hall's ballroom floor. The bedroom, located near the entrance, is slightly smaller but exquisitely furnished; its vibrant red and green bedding and embroidered pillows give it the air of a bridal suite.²⁴"



Figure 15: Northwest view of the Brookside Apartments, circa 1931–1937 (Source: *Cities in Old Days*).



Figure 16: Plan of the three-bedroom unit occupied by Zhou Xuan (Source: Drawn by the author).

Moreover, Zhou Xuan's domestic life was commodified by the media, transforming her apartment suite into a domestic space exposed to public spectatorship. In early autumn 1947, *Movie Magazine* (Shanghai) published a feature detailing Zhou Xuan's daily life at the Brookside Apartments. Photographs of Zhou in her living room, dining room, and bedroom, including a scene of her playing the piano, accompanied this journalistic account (Figs. 17–19).

Two specific reports from the period offer a window into her domestic routines. One account highlights her disciplined morning regimen: she rose early to practice vocal exercises and sing to her own accompaniment. Following breakfast, she meticulously read the newspapers, demonstrating a keen concern for national affairs. In the afternoons, when not filming, her primary leisure activities were limited to watching movies or attending Peking Opera; notably, she remained largely indifferent to the social dancing popular in cosmopolitan circles.²⁵ A second report noted her affinity for short tragic novels, often falling asleep while reading in her bedroom, and her preference for traditional home-cooked dishes like braised chicken and green vegetables, alongside a fondness for badminton.²⁶ Collectively, these media accounts illustrate that while Zhou Xuan inhabited a Western-style apartment, her daily life functioned as a seamless extension of her professional identity, characterized by deeply indigenized and vernacular Chinese practices.



Figure 17: Zhou Xuan in her living room (Source: Movie Magazine (Shanghai), 1947).



Figure 18: Zhou Xuan in her dining room (Source: Movie Magazine (Shanghai), 1947).

In 1948, following a ten-month film shoot in Hong Kong, Zhou Xuan returned to Shanghai for a brief one-week reprieve. During this time, she granted an interview to reporter Yan Ciping in her living room. Struck by the grandeur of the interior, Yan remarked: “Here are two magnificent parlors, partitioned by red velvet curtains and adorned with Romanesque relief decorations. Such opulent surroundings are perfectly suited to the stature of a preeminent film star.²⁷”

Following the interview, the reporter engaged in a conversation with the apartment's elevator operator, Huang Axiang, whose curiosity regarding Zhou's personal affairs reflected the public's fascination with her life. Within this domestic setting, the interior furnishings and architectural style functioned as spatial cultural capital, utilized to broadcast a modern, sophisticated, and noble public image. In contrast, the bedroom served as a clandestine sanctuary, a private sphere where Zhou could discard her celebrity persona, immerse herself in novels, and return to her authentic self. Moreover, activities such as gazing from the balcony, swinging in the garden, and reading outdoors represented an extension of domesticity, bridging the private interior with the semi-public landscape (Figure 20).



Figure 20: Zhou Xuan in the interior and exterior of the Brookside Apartments (Source: *Voices of the Brookside: An Oral History of the Century-Old Brookside Apartments and Pictorial History of Film Stars*, 1949).

5. CONCLUSION

Brookside Apartments was not a mere replica of Western apartment housing transplanted from the West to the East, but rather a “middle ground” of cultural negotiation. It demonstrates that modern architectural design was not determined unilaterally by architects; instead, it emerged as a co-produced history shaped

through the mutual adjustment and interweaving of owners, builders, and residents. As a member of Shanghai's elite gentry lineage, Li Ching-mei did not simply embrace wholesale Westernization. Rather, his residential ideal can be understood as an attempt to "borrow from the West while preserving the Chinese." Architect Elliott Hazzard responded to this ideal of seclusion through an inward-looking overall layout. Drawing upon the logic of family structure, he created a composite spatial arrangement that juxtaposed unit-based and corridor-based circulation, thereby establishing a stable social network and reconstructing apartment life in Shanghai. This composite layout may be understood both as a morphological device and as a sociological one: within a unified architectural system, it integrated circulation routes, hierarchical order, privacy protection, domestic service, and family structure. In doing so, it ultimately presented an early mature form of the composite apartment plan in Shanghai's modern apartment housing.

A certain discrepancy existed between the "modern life" envisioned by the architect and the residents' actual "localized life." Although Hazzard designed a variety of dwelling types, the spatial reproduction of identical unit types gave rise to markedly different patterns of habitation. The Raven family embodied a form of modern life largely shaped by British domestic conventions, yet the intersection of circulation routes between living and service areas blurred their spatial boundaries. Owing to her professional identity and family structure, Zhou Xuan likewise chose to live in a three-bedroom unit organized through unit-based circulation. Nevertheless, her lifestyle, dietary habits, and social networks retained a strong local character. What Hazzard had envisioned was a form of "static modernity"; in contrast, through localized everyday practices, such as using the living room as a rehearsal space and answering telephone calls in the kitchen, Zhou transformed the apartment into a dynamic field and destabilized its originally singular spatial functions. This tension between "spatial Westernization" and "behavioral localization" reveals a defining feature of Shanghai-style modernity, in which Westernized spatial forms were reinterpreted through localized living habits, domestic labor, and social practices.

Therefore, in today's context of global integration, the contribution of this study lies in revealing how a single apartment building can illuminate the micro-mechanisms of transcultural residential modernity. It offers important insights for contemporary urban renewal and high-quality housing design, particularly in rethinking transcultural residential modernity and the production of everyday space.

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1. Wu, Jiang. *A History of Shanghai Architecture, 1840–1949*. Shanghai: Tongji University Press, 2008.
2. Denison, Edward, and Guang Yu Ren. *Building Shanghai: The Story of China's Gateway*. Chichester: John Wiley & Sons, 2013.

3. R. White, *The Middle Ground: Indians, Empires, and Republics in the Great Lakes Region, 1650–1815* (Cambridge: Cambridge University Press, 1991).
4. C. Lévi-Strauss, *The Savage Mind* (Chicago: University of Chicago Press, 1966), p. 22.
5. The Brookside Apartments is located at Nos. 699–731 Huashan Road, Jing'an District, Shanghai. In 1995, the Shanghai Municipal People's Government designated the complex as a member of the second batch of "Excellent Historical Buildings" in Shanghai (No. 2B020). It continues to serve as a residential building today.
6. Douglas Haig (1861–1928) was a British Field Marshal born in Edinburgh. A graduate of the Royal Military College, Sandhurst, he served in Egypt, South Africa, and India. Between 1906 and 1909, he served as Director of Military Training, assisting in the establishment of the General Staff and the Territorial Force. During World War I, he commanded the First Army in France and was appointed Commander-in-Chief of the British Expeditionary Force in 1915, receiving the rank of Field Marshal in 1917. Although criticized for his costly war of attrition against German forces, he paved the way for the final victory in 1918. Post-war, he dedicated himself to veteran welfare and organized the Royal British Legion. He was created an Earl in 1919.
7. L. Zhao, *Voices of the Brookside: An Oral History of the Century-Old Brookside Apartments* [Zhenliu zhi sheng: Bainian zhenliu gongyu de koushushi] (Shanghai: Shanghai People's Fine Arts Publishing House, 2024), p. 30.
8. Elliott Hazzard (1879–1943) was born in Georgetown, South Carolina, and studied architecture at the Citadel and the Georgia Institute of Technology. He worked for Bruce Price in New York starting in 1900 and later practiced at the renowned firm McKim, Mead & White. He established his own practice in 1905 and joined Harold P. Erskine (1879–1951) as a partner in 1911. In 1921, Hazzard arrived in Shanghai as the manager for the American firm Murphy & Dana. When the firm closed its Shanghai branch in 1923, Hazzard remained to practice independently. In 1941, he moved his office to the Brookside Apartments.
9. "Brookside Apartments," *The North China Desk Hong List*, January 1933, p. 39.
10. Tao Guilin (1891–1992), a native of Nantong, Jiangsu, began as an apprentice in Shanghai at age 12. He studied English and construction at night school and rose to become a foreman and superintendent for several American firms. In 1922, he founded Voh Kee Construction Co., which built major landmarks such as the Sun Yat-sen Memorial Hall in Guangzhou, the Sun Yat-sen Mausoleum (Phase III), the Brookside Apartments, and the Park Hotel.
11. C. Lou and S. Xue, *Architects and Builders of a Century in Shanghai* [Shanghai bainian jianzhu shi he yingzao shi] (Shanghai: Tongji University Press, 2011), p. 168.
12. "Brookside Apartments," *The North-China Daily News*, January 22, 1930.
13. "Mrs. E. J. Lloyd has returned from Weihaiwei and is residing at Brookside Apartments," *The North-China Daily News*, September 25, 1931.
14. "Mr. E. J. Lloyd, who has been elected Land Commissioner in the French Concession," *The North-China Sunday News Magazine Supplement*, April 13, 1930.
15. C. H. Gonda (1889–1969) was a Jewish-Hungarian architect educated in Vienna and Paris. A WWI prisoner in Siberia, he married the daughter of architect Nikolay Dmitriev before moving to Shanghai in 1920. Gonda was a pioneer of Modernist architecture in China, designing over forty buildings in Shanghai, Beijing, and Tianjin before immigrating to the United States in 1949.
16. "Brookside Apartments Now under Construction," *The Shanghai Sunday Times*, January 12, 1930.
17. "Brookside Apartments," *The North-China Daily News*, January 22, 1930.

18. "Photography of Avenue Haig Apartments" [Haige lu gongyu quanbu shejing], *The China Times* (Shanghai) [Shishi Xinbao], December 5, 1930.
19. "American Women's Club of Shanghai, Inc.," *The North China Desk Hong List*, January 1932, p. 84.
20. "Miss Helen Raven Weds Here," *The Shanghai Times*, September 27, 1933.
21. "American-Oriental Banking Corporation," *The North China Desk Hong List*, July 1932, p. 20.
22. Zhou Xuan (1920–1957) was a legendary singer and actress known as the "Golden Voice." She rose to fame with the film *Street Angel* (1937) and was a major star in Shanghai and Hong Kong. Her life was marked by personal tragedy and relationship failures, leading to a mental breakdown in 1951. She passed away in Shanghai in 1957.
23. K. Zhuang, "Zhou Xuan Busy Filming" [Zhou Xuan paixi mang], *Shanghai Renbao*, October 5, 1947.
24. "The Radiant Star Zhou Xuan" [Fuxing Zhou Xuan], *Little Daily* [Xiao Ribao], May 17, 1948.
25. Xiao Fang, "Zhou Xuan's Boudoir" [Zhou Xuan de xianggui], *Shanghai Renbao*, October 1, 1947.
26. "Asking Zhou Xuan" [Wen Zhou Xuan], *Movie Magazine* (Shanghai) [Dianying zazhi], no. 1 (1947), pp. 4–5.
27. "Magnificent: At Miss Zhou Xuan's Home, 6th Floor, Brookside Apartments" [Fulitanghuang: Zai Zhou Xuan xiaojie jiali], *Gardenia Movie* [Qingqing Dianying], no. 16 (1948), p. 2.

Traditional Dwellings and Settlements

Working Paper Series

TRAMWAY DEVELOPMENT AND THE SHAPING OF STREET-NETWORK MORPHOLOGY: THE WESTERN DISTRICT OF THE INTERNATIONAL SETTLEMENT, SHANGHAI (1860s–1930s)

Wenxuan Li

TRAMWAY DEVELOPMENT AND THE SHAPING OF STREET-NETWORK MORPHOLOGY: THE WESTERN DISTRICT OF THE INTERNATIONAL SETTLEMENT, SHANGHAI (1860s–1930s)



This article investigates how tramway development influenced the street-network morphology of the western district of the International Settlement in Shanghai from the 1860s to the 1930s. A combination of historical maps, archival sources, and morphological period and region analysis serves to trace the street network from the pre-tramway through to the tramway and trolleybus periods. This study demonstrates that changes in transport technologies restructured road patterns, reorganized linear urban expansion, and created a layered urban fabric with multi-scale street networks. Furthermore, the tramway played a significant role in shaping modern urban morphology in Shanghai.

1. INTRODUCTION

The development of transport modes in modern Shanghai intertwined with the process of street-network morphology formation. Colonial technology exchange introduced the tramway to Shanghai as a consequence of the nineteenth-century Western technological revolution. Since the late nineteenth-century rise of the tramway, its enhanced speed and accessibility were instrumental in the spatial restructuring of many cities. Confronted with the pressures of technological progress, population explosion, and traffic congestion, the tram became an indispensable tool for urban expansion and commuting.

Plans for a modern tramway system in Shanghai emerged in the late nineteenth century. British merchants established the system, began construction in 1906, and opened it to public service in 1908. The Shanghai Tramway Company gradually expanded the tramway network within the International Settlement. Among its routes, Route 1 connected the Bund and Jing'an Temple via Nanjing Road. It became one of the most important transport corridors in the western district. The tramway followed the existing road system and grew out of the westward expansion of the International Settlement and its large-scale road construction projects. Transport technology also shaped urban space. The tramway enabled new mobility patterns and produced distinct morphological characteristics in different periods.

This article addresses three main questions. First, as a new mode of mobility, how did the tramway network become embedded in Shanghai's urban space and interact with the existing street system? Second, how did this transport technology participate in the formation and restructuring of street-network morphology? Third, how did new travel modes reshape urban spatial organization and residents' social lives? This study adopts historical map analysis as its principal method. It draws on maps of Shanghai produced by Chinese and foreign institutions in different years.¹ Combining urban morphological theory² with visual interpretation, the

study conducts a systematic comparative analysis of street-network patterns and their transformation across different areas. In doing so, it helps address a historical and spatial gap in existing studies of transport technology and urban form.

2. THE EVOLUTION OF THE STREET NETWORK THROUGH MAPS

This study uses a series of nine representative maps from 1860 to 1940 to trace the evolution of the street network in the Western District of the International Settlement. It treats maps not only as records of geographic change, but also as evidence of how mobility systems shaped urban texture. The analysis applies the concepts of morphological periods and morphological regions. It identifies three major transitions in the development of the district's street network. First, horse-drawn traffic established the initial spatial framework. Second, the tramway restructured the main urban arteries. Third, the introduction of the trolleybus produced a composite transport network. More specifically, three periods can be distinguished:

Pre-tram era (1860s–late nineteenth century): The creek-and-canal landscape structured the street network, while colonial authorities transformed waterways into an initial framework for land transport through their early construction of extra-settlement roads.

Tramway era (early twentieth century–mid-1920s): The westward expansion of the International Settlement brought large-scale municipal construction. Streets became increasingly gridded, and tram lines embedded within this network guided linear urban growth along specific corridors.

Trolleybus era (mid-1920s–1930s): A composite transport system emerged, with tramways carrying trunk passenger flows and trolleybuses serving secondary streets. Together, they improved connectivity and accessibility and promoted deeper urban development.

2.1. Pre-tram Era (1860s–Late Nineteenth Century): Waterways and Early Roads

Prior to the advent of the tramway, the street network of western Shanghai evolved gradually from a waterway-based layout to a road-based one. To a great degree, modern Shanghai inherited its street pattern from the natural creek system. These waterways provided an underlying spatial structure and later constrained the alignment of roads and tram lines.

When Taiping forces approached Shanghai in the early 1860s, the British Settlement constructed military roads for transportation and defense, laying the foundation for the later street network of the western district. The 1861 map *City, Settlement, and Environs of Shanghai* provided the first systematic and scientific survey of the

spatial relationships between the walled city and the foreign settlements. Fine lines indicate muddy paths, while the map also depicts the camps and roads that Anglo-French forces constructed west of the settlements. These sites served both defensive and circulatory functions (Figure 1).

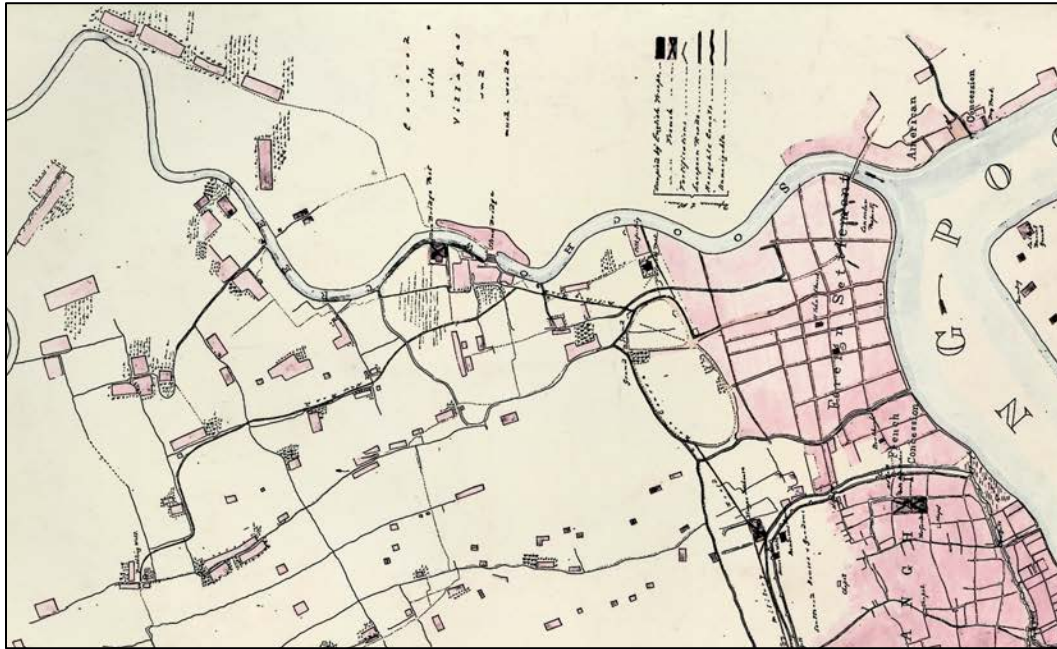


Figure 2: Selected Detail from the 1861 City, Settlement, and Environs of Shanghai (Source: Adapted from Sun, X., & Zhong, C. (2017), *Integrated atlas of Shanghai city maps*).

By 1889, the *Street Plan of the English, French and American Settlements, Shanghai*, published by the offices of the *North China Herald* and the *North China Daily News*, illustrated the gradual expansion of roads beyond the official settlement boundaries and the associated industrial development. During this period, roads connecting the International Settlement to the western district relied primarily on the two east-west axes of Bubbling Well Road and Sinza Road. Near Niking Creek, north-south branches began to emerge on both sides of Bubbling Well Road, including Tung Tai Road (now Huanghe Road), built in 1887, and Mohawk Road (now Huangpi North Road). Other minor roads also appeared north of Sinza Road, linking the area to Suzhou Creek (Figure 2). Together with Hart Road, Carter Road, and Tongfu Road, these north-south routes formed a fishbone-like network centered on Bubbling Well Road.

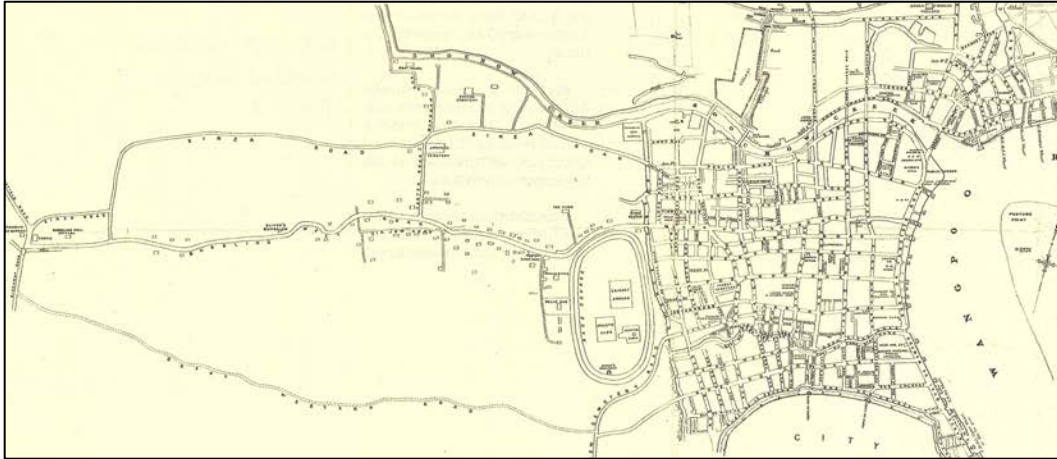


Figure 3: Selected Detail from the 1889 Street Plan of the English, French and American Settlements, Shanghai (Source: Adapted from Sun, X., & Zhong, C. (2017), *Integrated atlas of Shanghai city maps*).

The westward expansion of the International Settlement, which brought the Jing'an Temple area under municipal jurisdiction, appeared subtly in the 1900 *Map of the Foreign Settlements at Shanghai*. The map indicates this westward extension and identifies the Third Race Course, Zhang Garden, Yu Garden, and the Foreign Cemetery at Jing'an Temple. Bubbling Well Road emerged as the principal east-west artery, revealing a landscape characterized by two distinct spatial zones: municipal roads and undeveloped agricultural land (Figure 3). Morphologically, its uneven and curving alignment followed the local topography, reflecting both the earlier creekside road network and the practical requirements of horse-drawn traffic. In contrast, the straight alignment of Avenue Road embodied the geometric logic of efficiency and anticipated later modes of transportation, including the tramway.

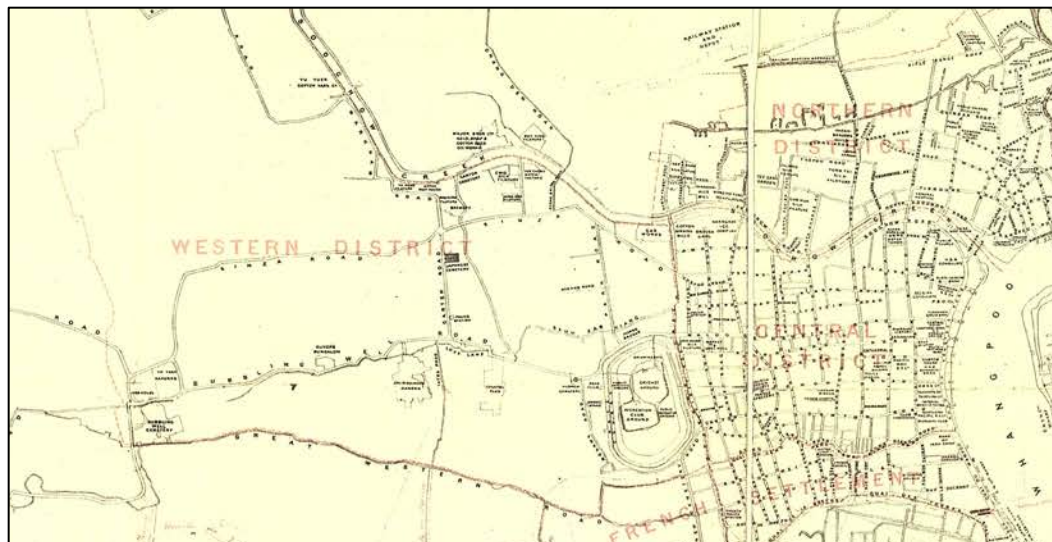


Figure 4: Selected Detail from the 1900 Map of the Foreign Settlements at Shanghai (Source: Adapted from Sun, X., & Zhong, C. (2017), *Integrated atlas of Shanghai city maps*).

2.2. Tramway Era (Early Twentieth Century–Mid-1920s): Linear Expansion and Urban Gridding

After 1900, the authorities of the International Settlement launched large-scale municipal works in the newly expanded western district. Street density increased markedly, ushering in a new phase of urban expansion. Colonial power drove this expansion, while road construction led its physical development. Tramway planning formed part of this broader municipal program. As Lewis Mumford suggested in another context, modern transport technology participated in a historical process through which technical systems reconfigured urban axes. When engineers laid tram tracks along existing roads, they intensified circulation and redirected land use from dispersed natural settlements toward linear corridors³.

Construction of the tramway system began in 1906. The 1907 *Map of the Foreign Settlements at Shanghai* marks the planned routes with solid green lines and, for the first time, shows tracks under construction, substations, and car depots (Figure 4). The appearance of the tracks foreshadowed the emergence of the western district's future transport axes and marked the transition from horse-drawn mobility to a rail-based urban transport system.

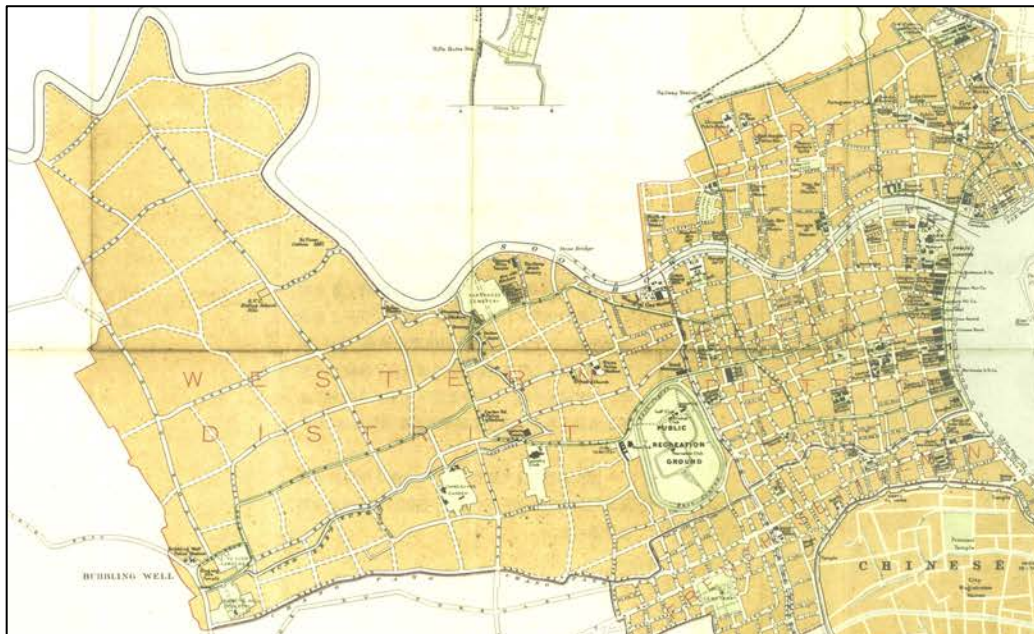


Figure 5: Selected Detail from the 1907 Map of the Foreign Settlements at Shanghai (Source: Adapted from Sun, X., & Zhong, C. (2017), *Integrated atlas of Shanghai city maps*).

These spatial implications of the transition became more legible in the 1910 *Measured Map of the Walled City and Foreign Settlements of Shanghai*, published by the Commercial Press. The map depicted tram tracks, roads, and remaining waterways together and indicated the location of the Jing'an Temple tram depot. Newly paved roads, including Chengdu Road, Seymour Road, Nanyang Road, Ferry Road, and Hart Road, contributed to

this layered spatial order. Rail infrastructure coexisted with street patterns and surviving watercourses, creating a multilayered urban fabric within the same district. Urban blocks also spread westward during this period. Developers had already built lane housing around Park Road and Mohawk Road (Figure 5), illustrating how residential development followed roads and tram access. The tramway also reconfigured the relationship between the Bund and Jing'an Temple by reducing travel time between the two locations. A journey that had previously taken nearly an hour by carriage could now be completed in 30 minutes. Residents thus experienced distance differently, and the western district became more closely integrated into the everyday geography of the settlement.

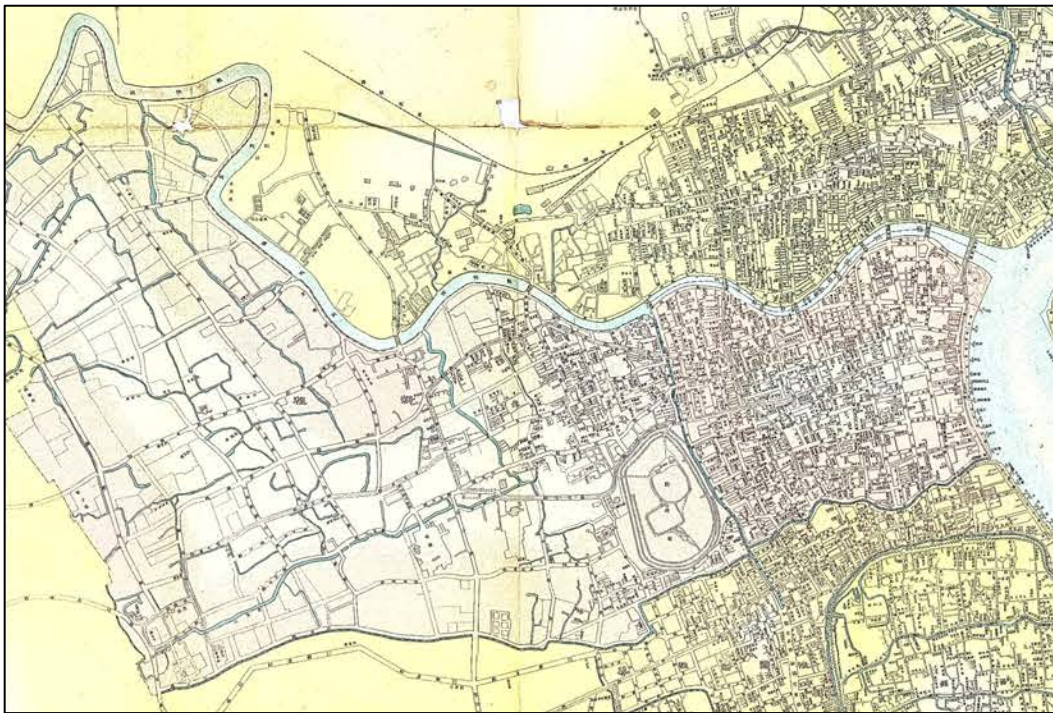


Figure 6: Selected Detail from the 1910 Measured Map of the Walled City and Foreign Settlements of Shanghai; published by the Commercial Press, Shanghai (Source: Adapted from Sun, X., & Zhong, C. (2017), *Integrated atlas of Shanghai city maps*).

By 1919, this transformation had progressed further. The *Pocket Map of New Shanghai* marked tram routes with solid red lines. Bubbling Well Creek had already been filled in, and the waterways near Avenue Road had largely disappeared. A more regular street-block structure had emerged (Figure 6). The new gridded urban structure thus overlaid the earlier landscape shaped by environmental features. After nearly two decades of construction, the western district had largely completed its municipal infrastructure and road network. The tramway then served as an axis of spatial production. It functioned not only as a transportation system, but also shaped the location of movement, residence, and commercial activity, attracting development toward corridors served by fixed rail. As a result, the linear character of the settlement's westward expansion became

more pronounced. The pocket map further suggests a change in the social practice of cartography. Maps no longer served solely as official survey documents; they also became portable tools for everyday use. Residents used them to navigate the city in their daily movements. Together, the tramway and the pocket map reshaped both the understanding and practice of urban navigation. This transformation was particularly visible along Bubbling Well Road. Improved accessibility made the area less peripheral and more fully integrated into Shanghai's everyday residential landscape.

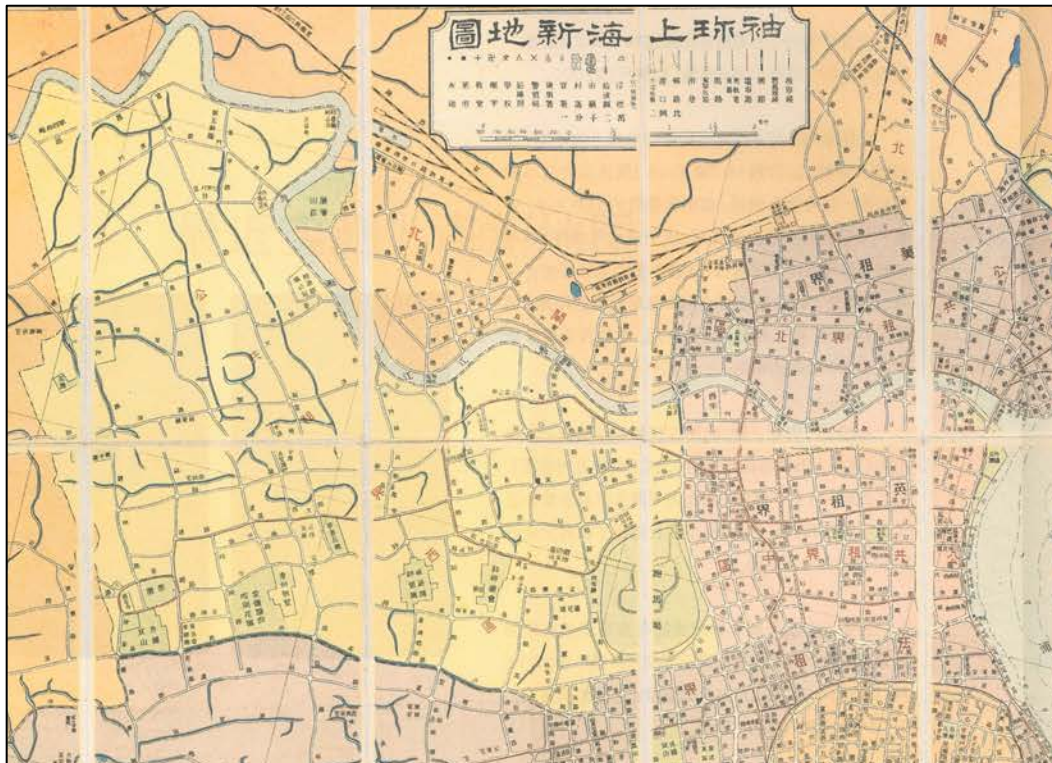


Figure 7: Selected Detail from the 1919 Pocket New Map of Shanghai; published by the Commercial Press, Shanghai (Source: Adapted from Sun, X., & Zhong, C. (2017), *Integrated atlas of Shanghai city maps*).

2.3. Trolleybus Era (Mid-1920s–1930s): Composite Transport and a Capillary Street Network

Since the mid-1920s, a complex transportation system increasingly shaped the western district. Improved road conditions facilitated the expansion of motorized traffic. Tramways continued to carry the majority of passengers along the main roads, while trolleybuses and motor buses served complementary functions. Because rubber tires gave them greater operational flexibility, they could more easily penetrate secondary streets. As a result, the transportation network developed a more differentiated structure. This change also reshaped the street network. Tram lines formed the primary framework, while trolleybus and motor-bus routes extended this framework into smaller streets. Transportation no longer concentrated on only a few major roads; instead, it spread throughout a more finely grained urban network. The street system thus

acquired a more capillary-like structure. Main corridors, branch lines, stations, and transfer points became increasingly integrated into a single network.

By the late 1920s, Shanghai had become one of the leading financial centers in China and East Asia. In this context, urban maps also shifted from engineering records to public-service media. *The Map of Shanghai*, published by Zhichengtang in 1924, was particularly significant in this regard. It was the first map to draw concentric distance rings centered on the Bund. By combining these distance loops with bus routes, the map made accessibility clearer at a glance (Figure 7). This map suggested a shift in spatial perception: urban distance was increasingly understood not only as geographical distance, but also as travel distance determined by public transportation.

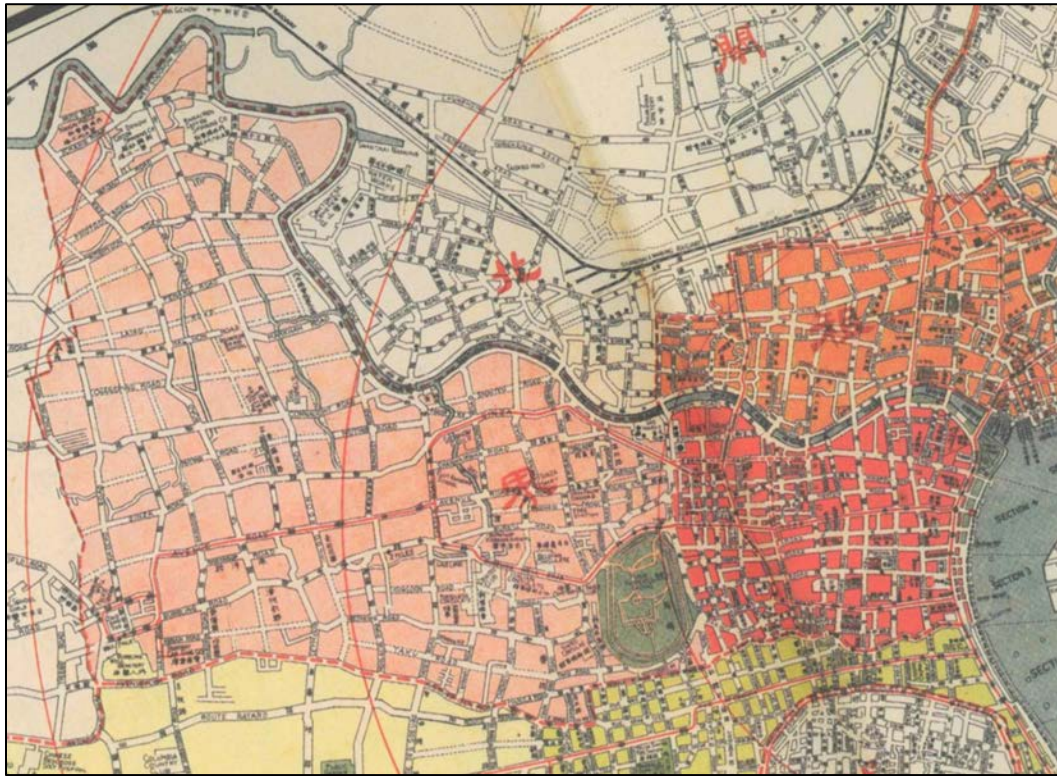


Figure 8: Selected Detail from the 1924 Map of Shanghai; printed by the Luze Printing House, Shanghai; issued by Zhichengtang (Source: Adapted from Sun, X., & Zhong, C. (2017), *Integrated atlas of Shanghai city maps*).

In 1929, the Chinese Urban Cartographic Society published the *Transportation Map of the Shanghai Port District*, which showcased a more mature mapping language. The map distinguished tram, trolleybus, and motor-bus lines through different route symbols and indicated primary and secondary stations with double and single circles, respectively (Figure 8). This was the first map in the present study to apply this station level system. The legend indicated that public transportation coverage had become increasingly dense and suggested that

the city had established a hierarchical station structure. As large and small stations became more closely integrated into urban blocks, they enhanced street vitality, and shops, residences, and public services increasingly gathered around transportation nodes. These patterns reflected broader changes in everyday urban life.



Figure 9: Selected Detail from the 1929 Transportation Map of the Shanghai Commercial Port; China Urban Cartography Society (Source: Adapted from Sun, X., & Zhong, C. (2017), *Integrated atlas of Shanghai city maps*).

By 1936, the mapping of public transportation had become more standardized. The *Complete Map of New Shanghai*, issued by the Xinshen Cartography Society, uses a more systematic set of symbols (Figure 9). The map also includes a dedicated tram route chart at the bottom. This specialized traffic information was therefore available to ordinary users. The routes, stations, and route lists are integrated into a single graphical system. This integration indicated the institutionalization of urban public transportation. By this period, bus

routes had become a backbone of urban space. They supported not only commuting, but also leisure, entertainment, and consumption activities. Maps played an intermediary role between individual travel and urban systems, helping residents plan trips, compare routes, and calculate transfers. Spatial knowledge was therefore no longer confined to surveyors, engineers, or municipal authorities, but had become part of everyday urban culture.

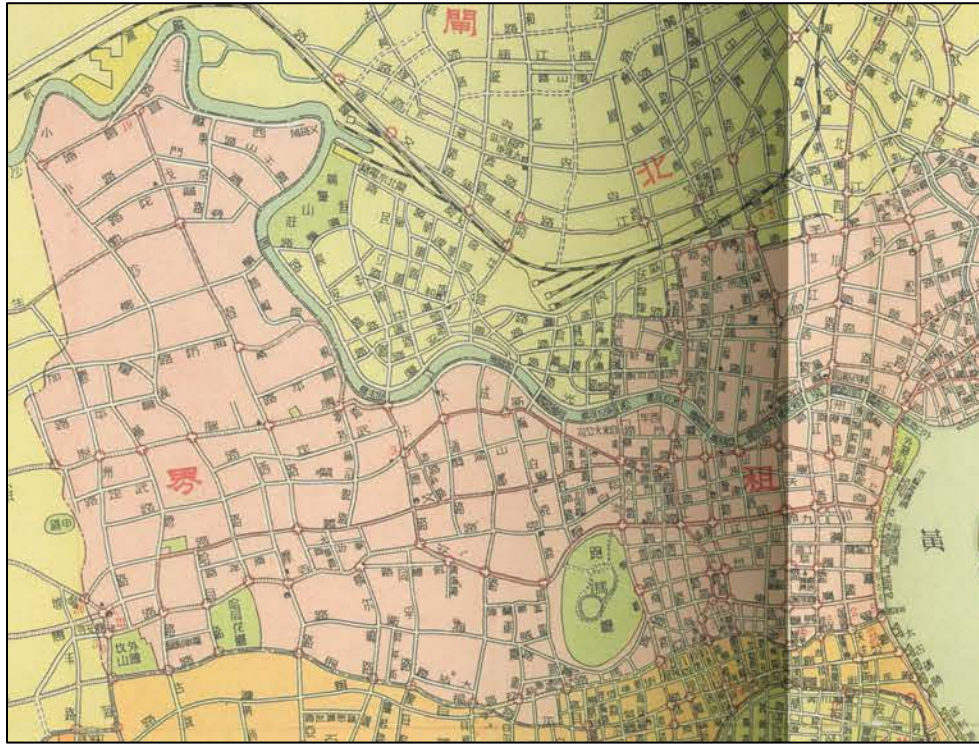


Figure 10: Selected Detail from the 1936 Complete New Map of Shanghai; published by Xinshen Cartographic Society (Source: Adapted from Sun, X., & Zhong, C. (2017), *Integrated atlas of Shanghai city maps*).

Looking at these maps of the Western District of the International Settlement from 1860 to 1937, we can trace a significant transformation in Shanghai's urban morphology. Early Bubbling Well Road embodied a topographical logic; its alignment conformed to local waterways and terrain. Avenue Road embodied a different logic; its straight form expressed the geometric order of industrial urbanism. The laying of tram tracks reconstructed the city's spatial framework and helped generate a modern street grid. Subsequently, the emergence of composite transportation networks gave rise to dense and multifunctional urban corridors through station level systems and transfer design. Throughout this process, maps not only documented spatial change, but also became a key medium through which residents understood the city and navigated it. Over time, they shifted from technical documents of colonial engineering to tools of everyday life, demonstrating how technological power continuously reshaped the city through the mediation of institutions, design, and practice.

3. THE DEVELOPMENT OF TRANSPORT TECHNOLOGY AND URBAN SPATIAL TRANSFORMATION

3.1. Road-Building Patterns and Spatial Transformation in the Pre-tram Era (1860s–Late Nineteenth Century)

Before Shanghai opened as a treaty port, rivers and canals crisscrossed western Shanghai, where dense polder fields made waterways the primary mode of transportation. During the second half of the nineteenth century, this water-based mobility system began to change. The occasional appearance of horse-drawn carriages created new demand for land transportation, and the region's spatial structure gradually reorganized in response. Analysis of historical maps suggests that road construction generally followed three patterns: building roads along creeks, detouring around creeks, and filling creeks to construct roads. These approaches reflected both the practical constraints of the local environment and the social logic that shaped street construction.

The first mode was to build roads along riverbanks. This approach utilized existing riverbank embankments as roadbeds, which provided relatively stable ground and slightly higher elevations. As a result, it reduced construction costs and enabled the rapid opening of roads, an advantage that proved particularly important during military emergencies. Bubbling Well Road followed the course of Bubbling Well Creek, while Zikawei Road extended along Zicawei Creek in the French Concession. Both examples demonstrate how early road construction adapted to local topography.

The second mode was to detour around the riverbank. This approach is often used in situations where directly crossing rivers was difficult or costly, allowing them to avoid bridge construction. Jessfield Road (now Wanhangu Road) provides a clear example. Its winding alignment resulted from the need to pass between Tianji Creek and Zhaojiabang Creek. In this way, the road reached Caojiadu with limited engineering intervention.

The third mode was to fill the embankment and build roads on the reclaimed land (Figure 10). By the late 1860s, this practice had become increasingly common, driven in part by the third revision of the Land Regulations. Carter Road, which opened in 1869, provides an early example, as builders constructed it directly over a buried waterway. This practice marked an important morphological transformation. Road construction no longer simply adapted to the natural landscape; it began to reshape that landscape. By eliminating waterways, new urban land is produced.



Figure 11: Relationship between Bubbling Well Road and the Creek System (left); relationship between Jessfield Road and the Creek System (right) (Source: Author).

The spatial extension enabled by horse-drawn transport also generated new forms of social life. Bubbling Well Road gradually became a leisure corridor for colonial elites, lined with stables, clubs, and private gardens. From the 1870s onward, foreign merchants and some Chinese residents traveled to the western suburbs for recreation and residence. The area's pleasant natural environment, together with improvements and tree planting along Bubbling Well Road, made these journeys easier and more comfortable. As a result, horseback and carriage excursions became fashionable among foreign residents, some of whom compared Bubbling Well Road to Shanghai's Champs-Élysées.⁴ At the same time, Chinese comprador-merchants used carriage outings, garden visits, hunting, and horse racing to construct social status, frequently visiting sites such as Zhang Garden and Yu Garden. Some foreign merchants also purchased land and built residences along the road; Zhang Garden, for instance, was originally the residence of the senior manager of Jardine, Matheson & Co.

By this period, a small number of foreign residents had already chosen to live near Jing'an Temple while commuting to work at the Bund. In 1875, one Westerner remarked that the trip from his home to the new hospital took fifteen minutes if the horse ran fast, or twenty minutes when traffic was heavy.⁵ This account suggests that a rudimentary separation of residence and workplace had already emerged along Bubbling Well Road, linking Jing'an Temple to the core of the International Settlement. The reference to traffic congestion also indicates that the area had already become a popular suburban residential district. These residents may be regarded as among the earliest urban inhabitants in Shanghai to practice a separation between home and work (Figure 11).

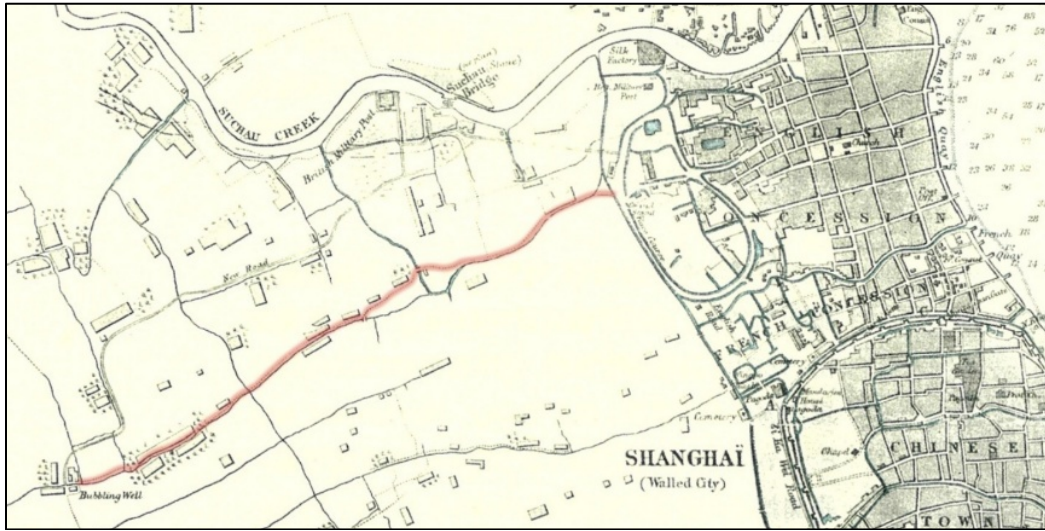


Figure 12: Selected Detail from the 1862 Map of the City and Suburbs of Shanghai (Source: Adapted from Sun, X., & Zhong, C. (2017), *Integrated atlas of Shanghai city maps*).

3.2. Tramway Operation and the Expansion of Urban Space (Early Twentieth Century–Mid-1920s)

During this period, the street network continued to expand outward. Road density increased further between Bubbling Well Road and Sinza Road, and urban blocks began to take shape. In the western district of the International Settlement, numerous branch roads subdivided large tracts of land previously enclosed by major thoroughfares into smaller units suitable for building development.

In 1908, the British-run tramway was inaugurated (Figure 12). Route 1 ran from Jing'an Temple to the Shanghai Club on the Bund. It followed Avenue Road (now West Beijing Road), Bubbling Well Road (now West Nanjing Road), and Nanjing Road (now East Nanjing Road), covering a total distance of 6.04 kilometers. Initially, the route had six stops (Figure 13). The distance between stops ranged from 0.8 to 1.2 kilometers. The tram operated from 5:30 a.m. to 11:30 p.m., for a total of eighteen hours per day.⁶ Assuming an average speed of about eight miles per hour (12.8 km/h),⁷ the journey from Jing'an Temple to the Shanghai Club took approximately twenty-eight minutes, while the total travel time, including stops, was about thirty minutes. This compression of time and space⁸ fundamentally changed the rhythm of urban life: increased speed expanded the commuting range, while shorter travel times transformed geographic distance into time distance.

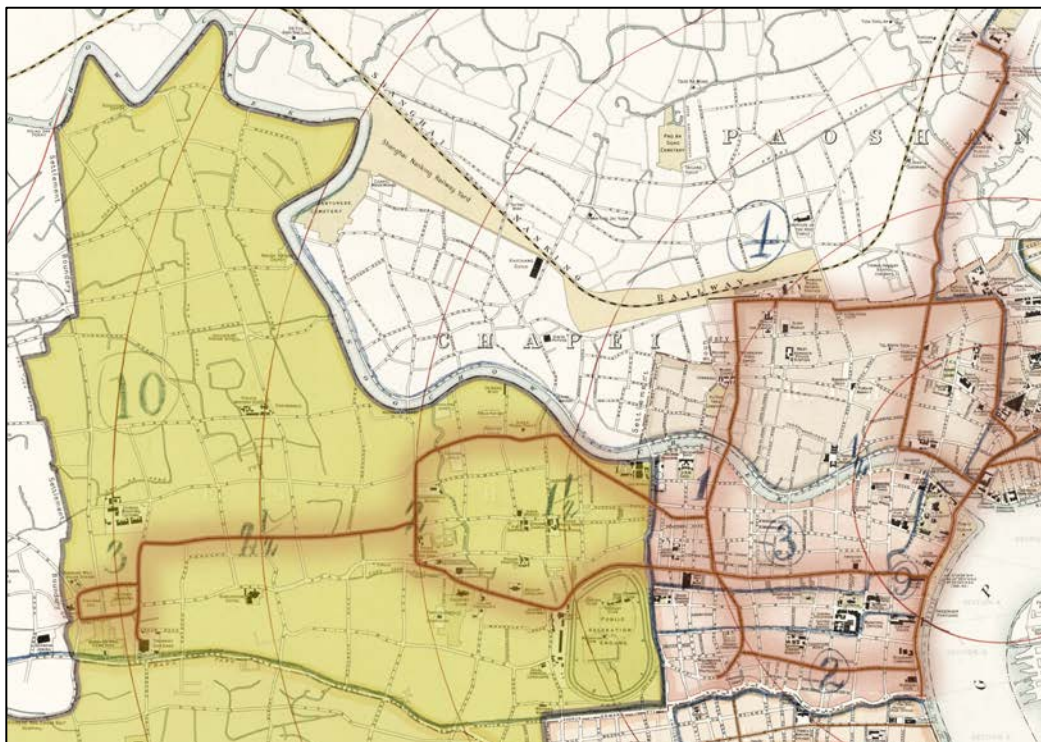


Figure 13: Map of Tram Routes of the British Tramway Company at the End of 1908 (Source: Drawn by the author based on historical maps).

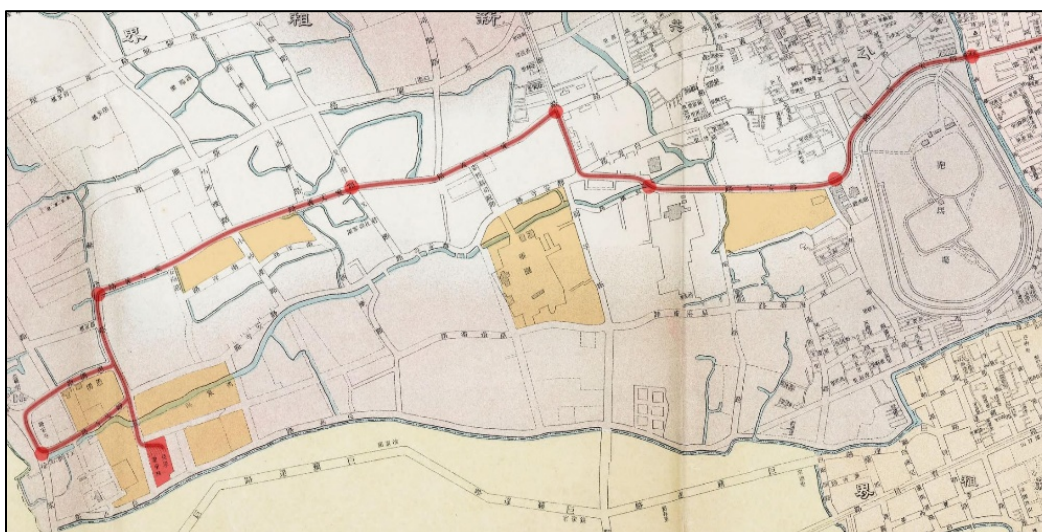


Figure 14: Selected Detail from the 1910 Measured Map of the Walled City and Foreign Settlements of Shanghai, published by the Commercial Press (Source: Route 1 tram line and residential examples added by the author).

The speed of the tramway widened the separation between residence and workplace. Improved accessibility made the Jing'an Temple area easier to reach and attracted population growth to the western district. This concentration of residents stimulated land leasing and real-estate development by both Chinese and foreign investors. Jing'an Temple gradually developed into a western urban node, and commercial activity increasingly concentrated there. This process is evident in cadastral records. The number of perpetual leaseholds in the western district of the International Settlement grew rapidly. In 1900, records listed 597 plots covering 3,172.768 mu. By 1907, the number had risen to 1,258 plots covering 5,704.527 mu. In 1911, 1,433 plots covered 7,121.393 mu. Although the total leased area declined slightly to 6,862.637 mu by 1920, the number of plots increased to 1,607. The leased area still exceeded twice the 1900 figure.⁹



Figure 15: Tramways and the Urban Landscape, 1908–1920.

The tramway not only accelerated population movement but also reorganized the spatial order of urban development. Land along the route gained value from improved accessibility, while the combination of roads and tram corridors redirected development from dispersed locations to linear corridors. This process pushed the western district beyond its suburban character and promoted the emergence of a more continuous urban landscape. In this respect, the tramway was not merely constrained by the existing road system. It also strengthened the axial function of the road network and accelerated the city's outward expansion along transportation corridors.

3.3. Trolleybus Networks and the Deepening of Block Structure (Mid-1920s–1930s)

By the mid-1920s, the western part of the International Settlement had established a relatively complete street system. Subsequent changes were more limited in scope. New branch roads increased the density of the local network. Compared with the early tramway period, the most significant change was the improvement in road-paving quality. Improved road surfaces facilitated the expansion of trackless vehicles. In response, the British tramway company adopted a strategy of “tram-led, trolleybus-supported,” gradually building a composite transport system characterized broadly by east-west tram routes and north-south trolleybus routes.

The initial capital investment required for trolleybuses was lower than that for trams, with smaller turning radii and more flexible parking arrangements. These characteristics made trolleybuses better suited to Shanghai's dense street texture. However, the first trolleybus line, which opened in 1914, soon ceased operation. Narrow roads and poor operating conditions limited its use. This failure is significant because it demonstrates how road conditions shaped transportation technology. At the same time, transportation demand also drove road improvement. During the 1920s, demand for trackless public transport continued to grow, while advances in road-building materials and construction techniques steadily improved street conditions. By around 1926, these conditions had matured sufficiently to support the large-scale expansion of trolleybus services. As a result, the transportation system changed substantially, breaking through the strong linear structure in the early tram era and forming a broader and more networked layout.

Trolleybuses were slower than trams, but they offered greater operational flexibility. This technical difference influenced station spacing. The relatively wide spacing of tram stops gave way to a denser station arrangement during the trolleybus era. According to the 1929 *Transportation Map of the Shanghai Port District*, trolleybus stops in the western part of the International Settlement were located at nearly every street corner, reducing the distance between stops to approximately 200 meters (Figure 15). This capillary service model further improved the accessibility of secondary streets and activated the development potential of small plots between sites.

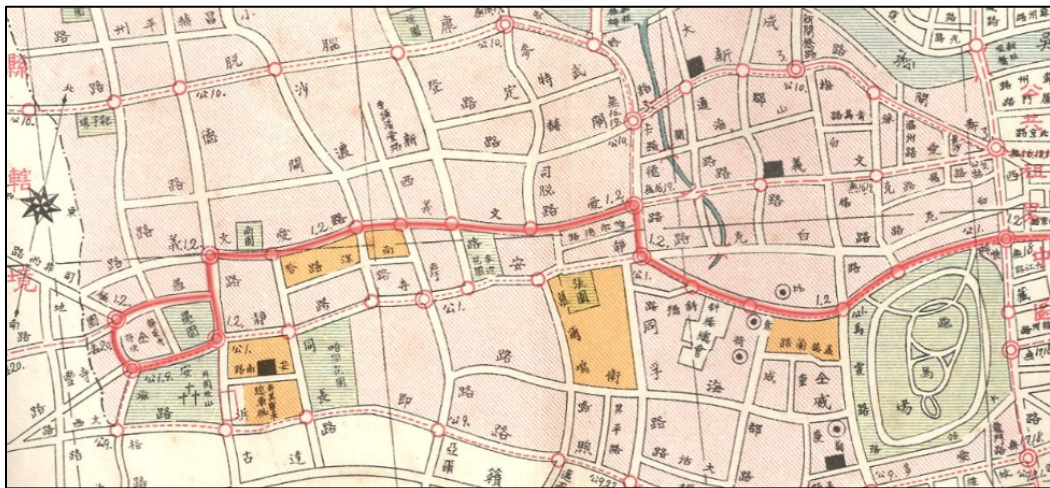


Figure 16: Selected Detail of the Western District of the International Settlement from the 1929 Transportation Map of the Shanghai Commercial Port (Source: Route 1 tram line and residential examples added by the author).

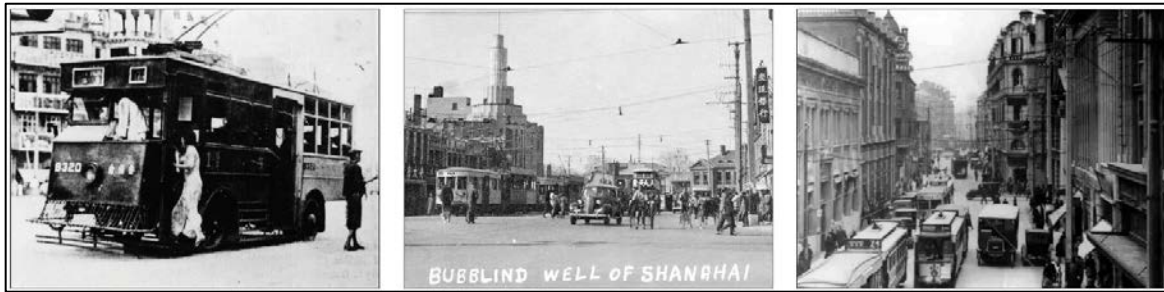


Figure 17: Public Transport and Urban Form, 1920–1937.

The network composed of trams and trolleybuses changed both urban movement patterns and the spatial development of the city. Trams carried trunk passenger flows along the main corridors, while trolleybuses distributed passengers through a finer-grained street network. Together, they extended public transportation services across the entire western district, improved accessibility within urban blocks, and distributed development pressures more evenly across the urban fabric. The growth in passenger numbers partly resulted from changes in Shanghai's social structure driven by industrial and commercial expansion. The number of clerical workers, teachers, and small business owners increased rapidly, making them major users of public transportation. At the same time, ticket prices continued to decline, enabling ordinary working-class residents to afford daily commuting. By the late 1920s, tram fares had fallen below rickshaw fares, transforming public transportation from a service primarily used by the wealthy into a daily necessity for ordinary urban residents. By the 1930s, the continued expansion of the working and middle classes sharply increased the number of commuters who relied on trams, while students and industrial workers also joined the growing passenger population. Trams became crowded during rush hours, a common feature of everyday urban life.

In the trolleybus era, the total area of land transactions in the western district continued to rise steadily, but a considerable share no longer involved the first conversion of agricultural land into building land. Instead, transactions increasingly reflected the subdivision, consolidation, and recombination of already urbanized parcels. Cadastral records show that in 1924 the western district registered 2,296 title deeds covering 7,498.658 mu. By 1930, the number of deeds had fallen to 2,128 while the total area increased to 7,812.577 mu, suggesting a degree of land consolidation; by 1933, the number rose again to 2,256 and the total area to 7,852.655 mu¹⁰. Between 1924 and 1933, although the total registered area increased from roughly 7,498 to 7,853 mu, the average size per parcel was only about 3 mu, substantially smaller than in the early stage of tramway development. This indicates intensified land subdivision, continued growth in land value, and the gradual formation of a cycle in which transport improvement drove land-price inflation, which in turn deepened urban development.

4. THE SHAPING OF STREET-NETWORK SCALE BY TRANSPORT TECHNOLOGY

The technical characteristics of transport modes in different periods exerted a significant influence on the scale of the urban street network. Drawing on M. R. G. Conzen's theory of the morphological region, this article divides the Central and Western Districts of the International Settlement into three morphological regions and uses diagrammatic analysis to demonstrate that changes in street-network scale were closely associated with the evolution of transport technology. These regions are defined primarily by differences in street-network scale. B denotes the British-controlled International Settlement, while the Arabic numerals 1, 2, and 3 distinguish street-network forms associated with different phases of development (Figure 17). Overall, the spatial expansion of the International Settlement proceeded from east to west.

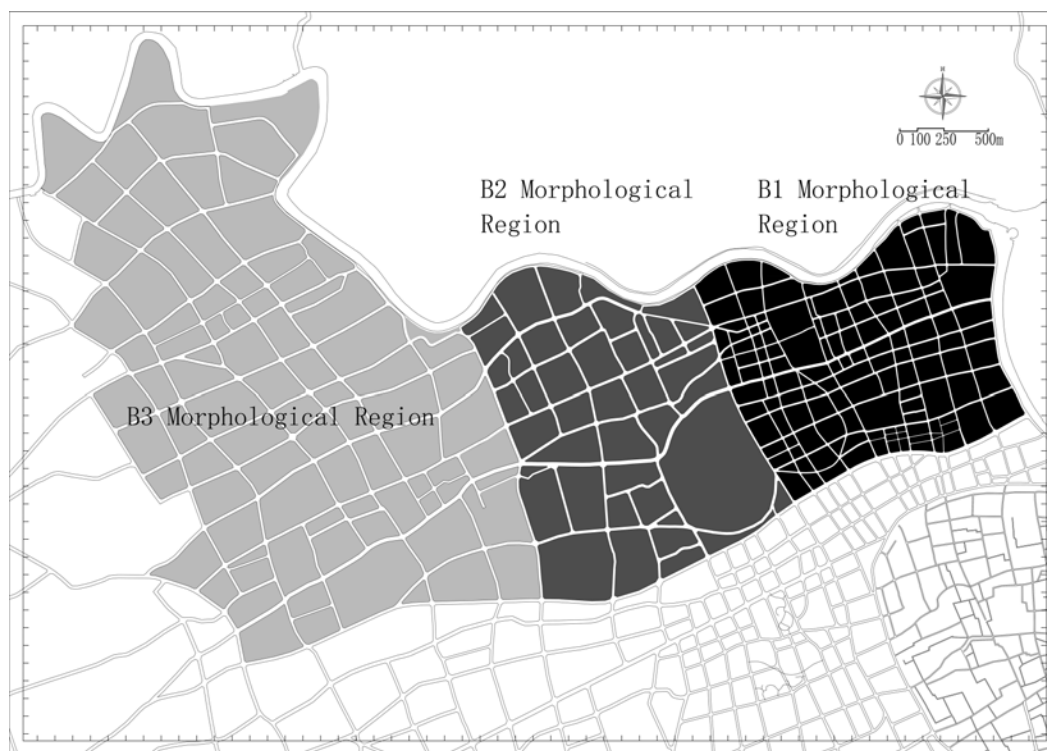


Figure 18: Street Network Scale and the Three Morphological Regions of the International Settlement in Modern Shanghai (Source: Drawn by the author).

4.1. The Scale of the B1 Street Network: Shaped by Horse-Drawn Traffic

The first morphological region corresponds to the earliest built-up area of the Shanghai Concession. Its street texture was strongly shaped by carriage transportation and foreign travel practices in the mid-nineteenth century. To understand this pattern, we must first consider the boundaries of the International Settlement and the French Concession. Area B1 lies west of Niking Creek (present-day Middle Xizang Road) and south

of Yangjing Creek (present-day East Yan'an Road). This region exhibits a compact and regular orthogonal grid. The blocks in B1 generally measure between 100 and 200 meters in length (Figure18). This grid scale was not accidental; rather, it reflected the dominant mode of transportation at the time, namely Western-style horse-drawn carriages. The carriage itself constituted a technical system with specific geometric requirements. The width of the vehicle, wheelbase, turning radius, speed, and operating characteristics all imposed constraints on street design. Through the planning and investment decisions of concession authorities, as well as the repeated travel practices of foreign residents, these technological requirements gradually became embedded in the urban landscape. Together, they shaped a street morphology characterized by a particular block scale, road-network density, street hierarchy, and pattern of daily use.

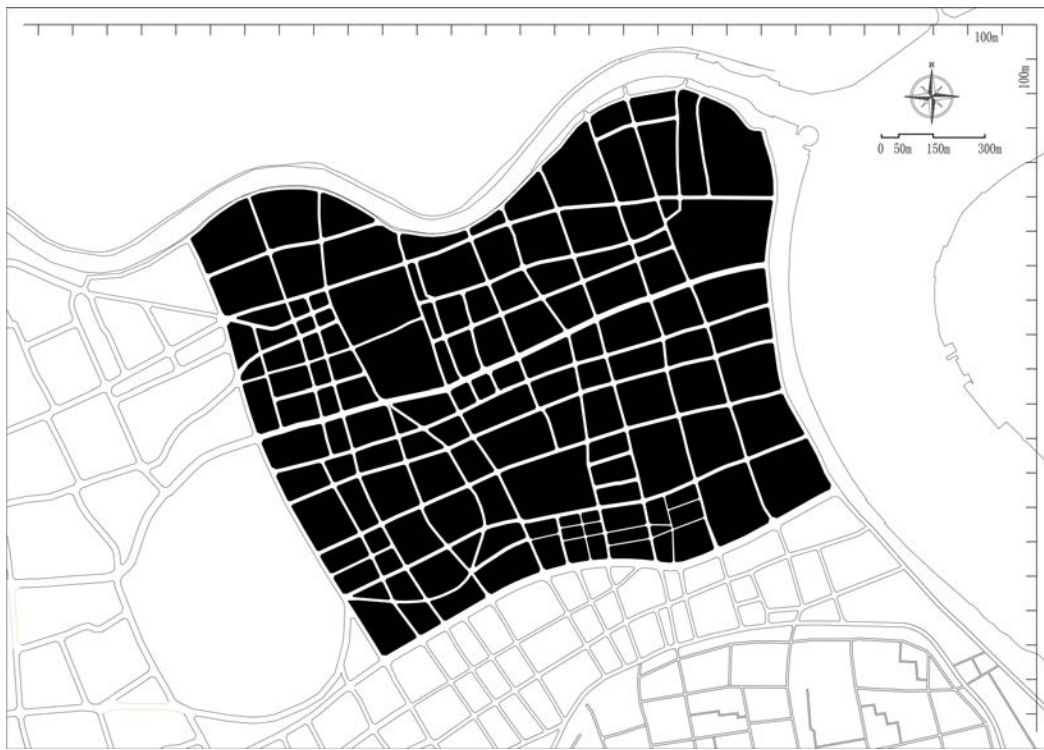


Figure 19: Street Texture of the B1 Morphological Region (Source: Drawn by the author)

To support carriage traffic, the city first required a continuous hard-surfaced road network. After the opening of the port, foreigners introduced Western-style carriages to Shanghai. Some accounts identify J. Caldecott as the first person to introduce a four-wheeled carriage in September 1852,¹¹ while others attribute its introduction to an Englishman named Smith in 1853.¹² For British migrants, the carriage served not only as a means of commuting, but also as a vehicle for suburban excursions and leisure travel.¹³ Shanghai itself had no prior tradition of horse-carriage use. In the Jiangnan region, dense waterways, abundant rainfall, and soft soils made animal-drawn wheeled vehicles difficult to operate. Transportation relied primarily on creek-based

water traffic and, on land, on hand-pushed wheelbarrows. After the opening of the port, the hard-surfaced roads laid out in the settlements provided the infrastructural foundation for the spread of carriage traffic.

Once horse-drawn carriages began operating on settlement roads, they became integrated into a route system shaped by technical considerations. Ease of movement was a primary concern. The carriage's turning radius was particularly important, favoring rectilinear street alignments over curvilinear ones. Four-wheeled carriages typically had limited steering angles at the front axle and relatively long wheelbases, requiring turning radii of several meters in urban settings. When street-corner radii were too small, wheels could cut across corners; in extreme cases, drivers had to reverse several times to complete a turn. Consequently, settlement road planning favored long, straight, and nearly orthogonal streets that accommodated carriage traffic while minimizing tight-radius turns. However, this technical constraint also limited the ability of Western carriages to enter the narrow and winding alleys of the old Chinese city. In this sense, the turning limitations of the carriage helped produce a clear morphological distinction. Settlement streets moved toward right-angled regularity, whereas older Chinese lane patterns remained more sinuous and fine-grained. The B1 street network was therefore shaped not only by administrative planning, but also by the operating geometry of horse-drawn traffic.

4.2. The Scale of the B2 Street Network: Spatial Form in the Carriage-to-Tram Transition

The second morphological region lay west of the first region. B2 primarily covered the area east of Carter Road in the western district of the International Settlement. Compared with B1, it had wider street spacing. The distance between streets increased to approximately 200 to 250 meters, and block size also increased significantly (Figure 19). As a result, this region developed a street-network density distinct from that of the earlier urban core. Only a few major roads in this region dated to the second half of the nineteenth century, including Bubbling Well Road, Sinza Road, and Carter Road. Most other streets were built in the early twentieth century. The street network and block form of B2 can therefore be regarded as products of this later phase of urban development. Between 1900 and 1908, although tramway planning and construction were already underway, horse-drawn carriages remained the dominant mode of transportation. As a result, the practical demands of carriage traffic and the anticipated technical requirements of the tramway simultaneously shaped the street texture of the second region, giving it a transitional character between the carriage and tramway eras.

Diagrammatic analysis shows that the scale of the B2 street network was significantly enlarged relative to B1. This change was likely related to tram operating speeds, the strengthening of trunk-road functions, and shifts in land-development practices. First, the tramway reinforced the role of major roads within the street network. Because tracks were laid primarily on principal roads, trams were better suited to continuous

movement over longer distances than to frequent stopping and starting. Each cycle of braking and acceleration reduced operational efficiency, while densely spaced intersections increased the likelihood of conflicts with pedestrians and other vehicles. Under this mechanical logic, urban planners tended to enlarge street-network scale moderately to preserve the linearity and continuity of tram movement.

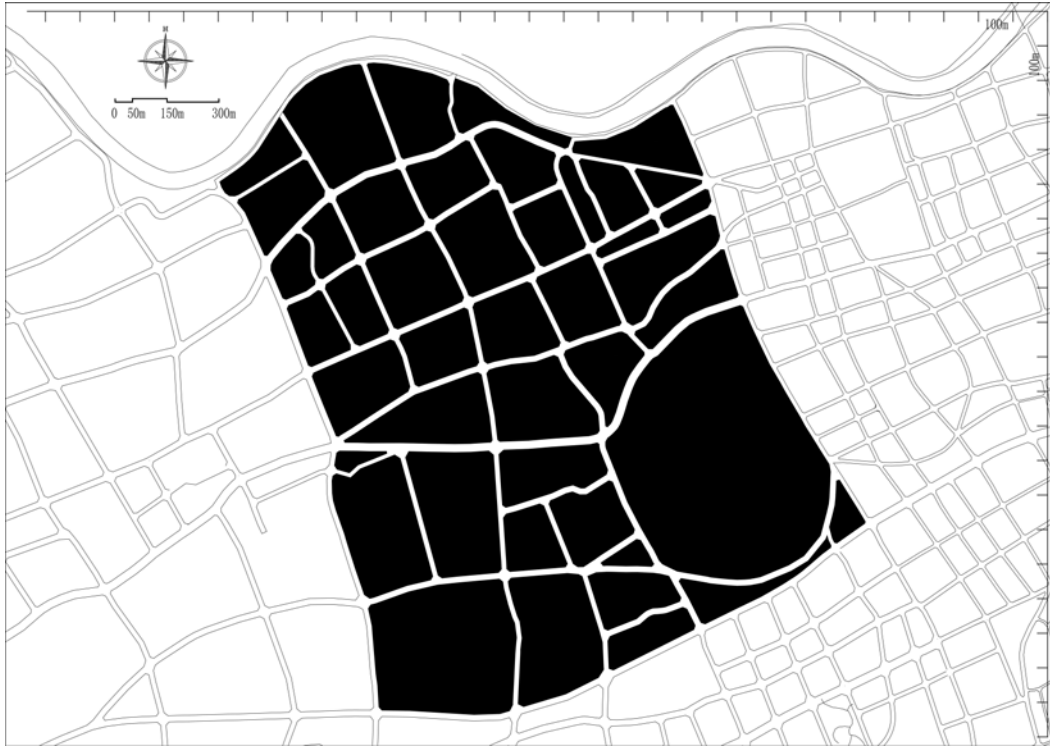


Figure 20: Street Texture of the B2 Morphological Region(Drawn by the author)

At the same time, however, street construction still had to accommodate carriage traffic and pedestrian movement, so block size did not expand without limit. Instead, it increased moderately from the 100–200 meter range of B1 to about 200–250 meters. To offset the disadvantages of larger blocks for walking, a finer-grained system of secondary lanes gradually developed within the district, producing a multilayered street structure in which trunk roads coexisted with subsidiary lanes. Compared with B1, B2 had a denser network of minor lanes and a clearer hierarchy of streets. It was under the combined influence of mechanical operating logic, land-development practice, and changing ideas of mobility that street-network scale gradually increased and the hierarchical role of main roads became more pronounced. Because B2 was formed during the transitional period from carriage to tram, the expansion of scale remained limited. As dependence on the tramway deepened and concepts of urban mobility changed further, street-network scale would continue to expand in B3 and F3.

4.3. The Scale of the B1 Street Network: Shaped by Horse-Drawn Traffic

The third morphological region occupied the western edge of the modern Shanghai settlements. Most of its streets were built after 1908. By this time, the mechanical logic of tramway operation had become more deeply embedded in urban street planning. B3 covered the area west of Carter Road in the western district of the International Settlement, while F3 covered the Central, Foch, and Pétain administrative districts of the French Concession. These areas shared a common morphological characteristic: street spacing increased further. The interval between streets expanded from about 200-250 meters in the second region to approximately 250-350 meters. As a result, a larger block structure emerged (Figure20). In B3, several major roads had already been built before tramway operation began, including Sinza Road, Bubbling Well Road, Avenue Road, Carter Road, Gordon Road, Hart Road, and Ferry Road. Most other roads, however, were laid out after the tramway opened in 1908. Their planning and construction therefore reflected tramway requirements more directly.

The cruising speed and braking mechanism of the tramway were important factors shaping the spacing of newly built streets. In the early twentieth century, urban tramways typically operated at about 12-18 km/h¹⁴. They accelerated slowly, and braking on steel rails required a certain stopping distance. As a result, operators commonly spaced stops 300-400 meters apart in city centers and 500-800 meters apart in suburban areas¹⁵, ensuring sufficient room for acceleration, cruising, and deceleration. If stop spacing was too short, frequent stopping reduced operating efficiency, while inadequate braking distance increased operational risk. When Shanghai's tramway system opened in 1908, B3 generally followed a suburban stop-spacing model. Stops were placed approximately 500-800 meters apart, and in some sections the interval exceeded one kilometer. In practical terms, a single stop served two or three blocks. This pattern changed in the late 1920s. Blocks in the western district became more fully urbanized, and trolleybuses introduced a denser stopping pattern. Transit operators gradually added minor stops along the tram line and reduced stop spacing to about 300-400 meters. They also positioned stops closer to major intersections.

A clear relationship can therefore be observed between the street spacing of B3 and the operating logic of the tramway. The 250–350-meter street interval corresponded to tramway speed, braking distance, and stop spacing. Block length became the physical unit through which tramway operation was organized, allowing planners to coordinate route design, service scheduling, and pedestrian access more effectively. The tramway therefore changed more than patterns of urban movement. Through its requirements for speed, stopping distance, and station intervals, it also shaped block scale and street-network structure. In B3, the dominance of mechanized transport strongly influenced street-network morphology.

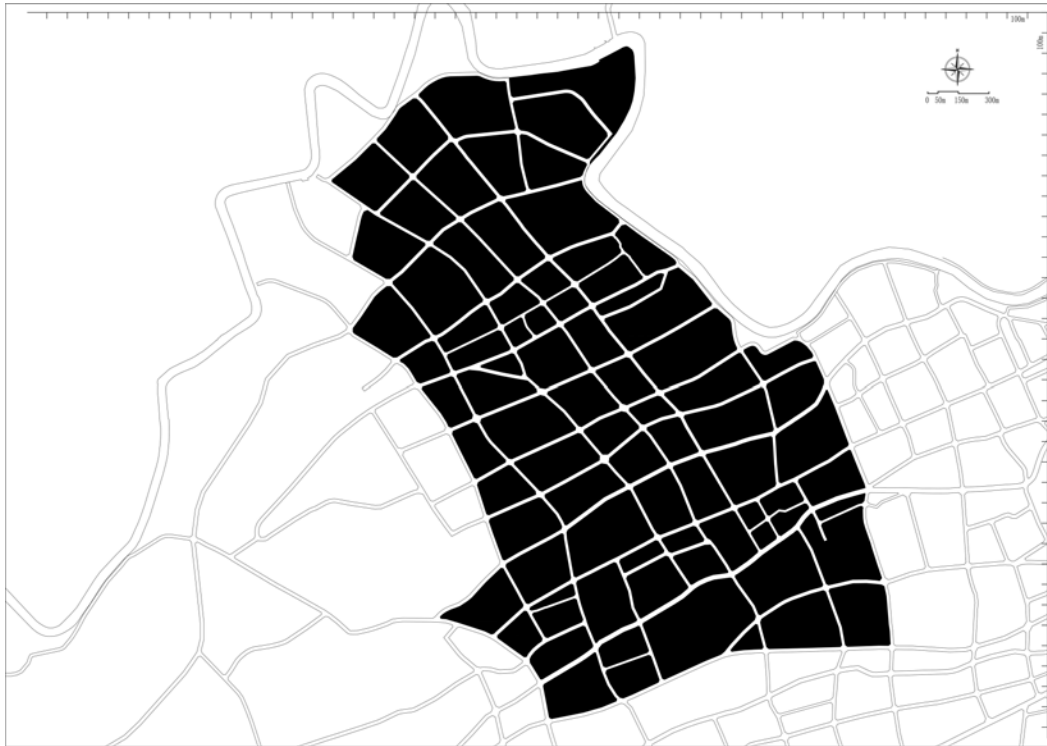


Figure 21: Street Texture of the B3 Morphological Region (Source: Drawn by the author)

5. CONCLUSION

This article has analyzed the relationship between tramway lines and street-network morphology in modern Shanghai. By combining the analytical dimensions of morphological period and morphological region, it has helped answer the question of how transport technology participated in the production and organization of urban space and the reconfiguration of social life. The study shows that not only settlement expansion, land development, and the creek-and-canal system, but also modern transport technology contributed to the development of Shanghai's street-network morphology. The introduction, operation, and evolution of modern transport technology constituted a significant force in the production of urban form.

From a diachronic perspective, the development of transport technology and the transformation of street-network morphology display a clear stage-based coupling. In the pre-tram era, the street network took shape on the underlying framework of the natural creek system, and road construction largely followed existing topography, thereby establishing the spatial foundation for early urban expansion. During the tramway era, the rapid extension of the road system under colonial municipal construction created the conditions for rail-based transport, while the laying of tracks reinforced the organizational role of trunk roads and promoted the

city's linear expansion along transportation corridors. By the trolleybus era, the strategy of “tram-led, trolleybus-supported” enabled urban space to extend further beyond existing axial routes, while the hierarchy and composite character of the street-network system became increasingly pronounced. The operating mode, speed mechanism, stop logic, and route flexibility of different transport technologies thus not only transformed urban mobility but also continuously shaped the reorganization of street-network structure and spatial scale.

From a cross-sectional comparison of morphological regions, street-network form cannot be explained simply by the sequence of development. Instead, it correlates with the degree of technological penetration and the operating logic of different transport systems. The B1 morphological region emerged under the dominance of horse-drawn traffic. Its compact grid, dense street network, and short street intervals reflected a spatial pattern shaped by carriage and pedestrian movement. The B2 morphological region emerged during the transition from horse-drawn traffic to the tramway. The moderate increase in street spacing and block scale indicates an initial adaptation of the conventional street system to the requirements of new transport technology. In the B3 morphological region, tramway technology had matured further, and both street hierarchy and block scale responded more directly to the operating logic of mechanized transport. The increase in street spacing, the spatial organization oriented around transport corridors, and the later emergence of a highly accessible street network through the combination of tramways and trolleybuses all indicate that the scale of residents' daily activity space gradually shifted from a pedestrian scale to a mechanized transport scale. In this sense, the spatial differences among the morphological regions resulted fundamentally from the long-term coupling of technological systems, development mechanisms, and everyday life.

More broadly, this article brings together transport history, urban morphology, and historical map analysis. It shows that the evolution of Shanghai's street network should not be understood solely as the product of colonial planning, nor merely as a continuation of natural topography. Rather, it was a process through which technical systems became embedded in urban space and repeatedly restructured the city. Tramway technology was not passively attached to preexisting roads. Instead, it actively influenced road construction, land development, commuting patterns, and the segmentation of everyday living space. Different transport technologies coexisted and overlapped across different periods and in different parts of the city. Their superimposition generated the composite and palimpsestic urban texture of modern Shanghai. The argument also has broader implications for the study of modern urban morphology. Urban form should be analyzed through the interplay of technology, institutions, and everyday practice, rather than interpreted as the expression of a single planning intention.

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HONG KONG'S INFLUENCES ON THE ARCHITECTURAL MODERNIZATION OF INLAND CITIES IN EARLY-REFORM CHINA: A CASE STUDY OF CHONGQING (1978-2001)

Wenwen Miao, Liran Chen

HONG KONG'S INFLUENCES ON THE ARCHITECTURAL MODERNIZATION OF INLAND CITIES IN EARLY-REFORM CHINA: A CASE STUDY OF CHONGQING (1978-2001)



In the early stage of reform and opening up, the architectural modernization of Chongqing, an inland city, was profoundly influenced by Hong Kong (hereinafter referred to as HK). Constrained by the geographical and communication limitations of inland areas, Chongqing's approach to learning from HK's architectural experience gradually evolved from "subjective translation" to "systematic transplantation." This study holds that Chongqing's inland characteristics exerted dual influences on its assimilation of HK's architectural knowledge. On the one hand, it resulted in one-sided understanding and superficial learning; on the other hand, the relatively loose modernity constraints also promoted diversified localized adaptations and enriched the urban architectural landscape of Chongqing. Such logical dynamics underpin the uniqueness and complexity of HK's influence on the architectural modernization of inland China.

Keywords: Reform and Opening-up; architectural modernization; modern architectural experience of HK; local adaptive transformation

1. INTRODUCTION

Following the reform and opening-up, China accelerated its modernization drive, rendering the rational transformation and localized adaptation of Western development experience a critical issue. Due to long-term external isolation during the planned economy era, the "systematic transplantation" of Western development models in mainland China faced constraints arising from geographical, cultural and institutional disparities. Benefiting from geographical proximity, cultural kinship and close social connections, HK served as a vital intermediary through which the mainland introduced Western expertise.¹ Consequently, China's early social and economic development exhibited distinctive characteristics of "HK-oriented assimilation."²

Existing scholarship on HK architectural influences during the early reform era predominantly focuses on southeastern coastal cities and emphasizes their direct absorption of HK development models. However, this body of research largely overlooks the diverse practices of inland regions. Coastal cities possess inherent locational advantages in connecting with HK and Macao, advantages that most Chinese cities do not share. Consequently, studies confined to coastal areas cannot fully capture the nationwide dissemination of HK's architectural influence. Taking Chongqing as the research perspective enables a more comprehensive understanding of how HK-driven forces advanced the architectural modernization of inland cities.

Traces of HK development models are widely evident in Chongqing's architectural evolution during the early reform period. Nevertheless, in-depth scholarly exploration of the HK-Chongqing interaction mechanism remains inadequate. Discussions of communication pathways, practical manifestations, and tangible contributions to Chongqing's architectural modernization remain fragmented. By taking Chongqing as a case

study, this paper explores how HK shaped typical inland Chinese cities during the early reform decades, in contrast to southeastern coastal regions, which enjoyed unique geopolitical advantages in receiving HK's influence.

Current scholarship has established relatively mature research frameworks for early reform-era architectural history and cross-cultural architectural studies. The former identifies the period from 1978 to 1990 as a pivotal transition during which Chinese modern architecture shifted from isolation to openness, with research focusing on Sino-Western architectural exchanges. However, it pays insufficient attention to architectural interactions among HK, Macao, and inland China and remains geographically concentrated on coastal open cities and core metropolises such as Beijing and Shanghai. Inland urban cases are severely understudied, while the impacts of geographical and economic disparities on architectural modernization remain underexamined. The latter elucidates the general mechanisms through which Western architecture was localized in China. Several studies also address cross-border architectural exchanges involving HK and Macao, thereby providing a theoretical foundation for understanding transregional architectural diffusion.

Overall, existing literature rarely addresses inland cities represented by Chongqing and fails to distinguish the characteristics, evolutionary trends, and practical outcomes of subjective translation and systematic transplantation. Furthermore, analyses of localized practices lack an in-depth interpretation of the humanistic and economic logic underlying Chongqing's localized adaptation of HK design experience.

This paper takes Chongqing as a case study. Drawing on first-hand materials, including journal publications, archival records, and expert oral interviews, it examines the modes and outcomes of HK's influence on the architectural modernization of inland cities during the early reform and opening-up period. It further explores the diversity and complexity of cross-cultural architectural interactions between HK and mainland China. This research provides a new perspective for understanding how cities beyond China's southeastern coast achieved architectural modernization under external influences during the reform era and offers a multidimensional analytical reference for regional studies of China's contemporary architectural history.

2. DISSEMINATION PATHS OF HK'S ARCHITECTURAL KNOWLEDGE AND CHONGQING'S ABSORPTION MECHANISM

After the reform and opening-up, urban modernization generated growing demand for high-rise construction and improved living environments. Restricted by limited foreign exchanges in the early stage, mainland China suffered from a severe lack of accessible modern architectural experience. As an inland city, Chongqing lagged far behind coastal open cities in absorbing advanced overseas architectural concepts. Benefiting from

its unique development context, HK introduced development experience that integrated Western modernist architectural theories and high-density urban construction strategies into mainland China, exerting a profound influence on the early modern construction of inland cities.¹

In the early stage of reform and opening up, HK's architectural culture profoundly shaped architectural modernization in Chongqing. Constrained by its inland location and policy limitations, Chongqing could not take the lead in introducing HK capital or directly replicating HK's architectural models, making the spontaneous inflow of HK's architectural experience unattainable. Clarifying the cross-regional communication paths of architectural culture between the two regions, as well as Chongqing's mechanisms of absorption and adaptation, is key to understanding the uniqueness of architectural modernization in inland cities. Identifying the dissemination routes of HK's architectural concepts to Chongqing enables an in-depth analysis of how the city absorbed, reconstructed, and adapted foreign experiences, and facilitates a broader understanding of the patterns governing the localized transformation of HK's architectural knowledge in inland cities within a cross-cultural context. During the initial stage of engagement with HK's architectural expertise, Chongqing acquired relevant knowledge mainly through four major channels.

First, dissemination through academic journals and news reports served as the dominant means through which inland regions learned about HK's urban development during the early reform decades.

Communication evolved from fragmented introductions to technical cases, traffic regulations, and environmental policies in the 1980s to comprehensive interpretations of HK's overall urban spatial planning by the late 1990s, reflecting a gradual progression from scattered cases to holistic cognition and from concrete phenomena to systematic theories (Table 1). Meanwhile, local scholars increasingly combined Chongqing's urban realities with analyses of HK's development models and explored feasible localized applications. Although early knowledge transmission remained relatively superficial, its depth and systematicity improved continuously over time.

DOCUM- ENT TYPE	DOCUMENT TITLE / AUTHOR & YEAR	MAIN CONTENT	KEY KNOWLEDGE ON HK	REFERENCE AND ENLIGHTENMENT FOR CHONGQING
Professional Journal: Chongqing Architectu- re	News Brief (Anonymous, 1985)	It reports industry news regarding the 3rd International High-rise Building Conference, which was held in HK and Guangzhou ³ .	Industry updates and brief news without detailed elaboration.	Chongqing's architectural community began to pay attention to development trends in HK's architectural field, marking the initial germination of cross-regional knowledge dissemination.
	Investigation on HK's Urban Traffic and Reflections on Traffic Improvement in Chongqing/ (Zhang Quangeng, 1985)	In 1981, the author visited HK and conducted research on its urban construction by combining field observations with documentary data.	Current urban traffic conditions in HK, congestion management strategies, and experience in the construction of traffic regulatory systems	Drawing on HK's traffic governance experience, it provides innovative ideas for the local traffic optimization, planning and construction of Chongqing. Error! Reference source not found..
	A Preliminary Study on Old City Renewal and Environmental Renovation of Chongqing (Xiong Yan, 1987)	It proposes five development indicators of a modern city, compares the environmental management systems of Singapore and HK, reflects on the deficiencies of urban governance in Chongqing, and reviews the evolutionary process of HK's environmental legislation. Error! Reference source not found..	Drawing on Western environmental protection experiences, HK enacted its first Clean Air Ordinance in 1959 ⁶ . By the 1980s, it had established a comprehensive regulatory framework covering air, noise, wastewater, and solid waste ⁷ . Anchored in the Air Pollution Control Ordinance, HK's robust urban governance system, supported by stringent penalty mechanisms, has delivered notable progress in urban environmental management.	It highlights the deficiencies of Chongqing's urban management system, the insufficient professionalism of grassroots administrators, and the lack of rigid legal constraints. HK's sophisticated environmental regulations and localized legislative experience provide practical references and templates for Chongqing.
	A Grand Blueprint Across the Century (Chen Caiti, et al. 1999)	Interpret the development strategy of Chongqing Urban Master Plan (1996-2020) and explore the spatial development path of the central urban area.	HK's urban spatial development model featuring high-rise construction, high density, complete supporting facilities, intensive layout and high efficiency ⁸ .	Chongqing's central urban area drew on the HK model to explore the approaches of intensive land use and high-rise, high-density development, so as to achieve the planning goals of controlling urban scale and promoting efficient land utilization in the central city.
Local Gazetteers	On the Modernization of Building Construction (Zeng Chuanyi, 1992)	Taking HK's Bank of China Tower as a typical case, relevant architectural knowledge was disseminated through the circulation and reading of publications.	Combined with regional climatic conditions, this paper analyzes modern building structural technologies, taking the construction details of landmark buildings in HK as examples ¹⁰ .	It brought new ideas for the structural design of modern high-rise buildings to Chongqing's architectural community and fostered a deeper understanding of HK's modern construction technologies.

Real Estate Chronicles of Yubei District, ChongqingJian gbei County Gazetteer	Record the development process and community construction model of Chongqing Jiazhou Garden housing Project ^{11\12} .	Local developers with living and working experience in HK introduced HK's real estate development logic and supporting community construction experience.	The HK real estate development model was directly applied to local project practices in Chongqing.
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Table 1: The knowledge of HK disseminated in literature and documents.

Second, mutual visits and exchanges among architectural professionals served as an important channel of interaction between the two regions. As an inland city, Chongqing lacked the policy and locational advantages needed to attract large-scale HK capital into local construction during the early stage. Consequently, it could not introduce HK's architectural experience directly. Local professionals also undertook study tours to HK much later than their counterparts in coastal cities. They therefore absorbed HK's experience only sporadically through limited informal channels such as academic exchanges and field visits, resulting in a fragmented and unsystematic understanding of HK's architectural theories and practices among mainland architects.

In terms of academic communication, Chongqing mainly relied on projects in the Pearl River Delta as an intermediary bridge. In 1982, the award-winning design *Pearl River Sails*, created by a team from the Chongqing Institute of Architecture, received support from HK stakeholders through a project in Guangzhou.¹³ The team conducted a study visit to HK in 1985. Inspired by HK architecture, designer Zhang Congzheng adopted design strategies in the Baixiangju Residential Complex, including a tower-podium cluster layout and a staggered building arrangement. In the late 1990s, scholars from Chongqing University, including Dai Zhizhong, Zhang Yingguo, and Fu Er, participated in international architecture seminars at the University of HK, combining academic exchange with on-site investigation and learning (Interview Record of Dai Zhizhong, August 30, 2025).

The study tours of Chongqing architects to HK generally remained superficial (Interview Record of Xu Qianli, August 30, 2025). Xu Qianli argued that this limitation stemmed from the absence of a market-oriented architectural development environment in Chongqing. When learning from HK's experience, local architects focused primarily on superficial architectural forms while failing to examine the underlying commercial development logic, land mechanisms, and operational systems that underpinned HK's architecture.

Combined with the practical experience of numerous local architectural practitioners, this superficial tendency manifested itself in multiple dimensions. First, professionals predominantly concentrated on intuitive spatial

forms and technical methods. During his investigation in HK, Dai Zhizhong focused on the Central elevated pedestrian network, drawing on its strategies for alleviating traffic congestion while neglecting its associated commercial value (Interview Record of Dai Zhizhong, August 30, 2025). During his visit to HK, Zhou Yi was deeply impressed by the city's high-density, super-high-rise urban form. He later adopted these typological features in the design of Jazhou Garden Housing but overlooked the core logic of commercial profitability, resulting in unsatisfactory operational outcomes after project completion. In subsequent study tours to HK undertaken for project research purposes, he learned only superficial techniques, including curtain wall systems and station-city connection forms (Interview Record of Zhou Yi, August 30, 2025), without conducting an in-depth exploration of market-oriented development mechanisms.

Second, field investigations were fragmented, contingency-driven, and short-sighted, lacking long-term strategic planning. Most visits to HK were casual stopovers or incidental arrangements attached to academic conferences, with no targeted and systematic research. For instance, Zhang Quangeng only made a brief stop in HK during transit⁴, and Dai Zhizhong took multiple trips to HK without clear research objectives (Interview Record of Dai Zhizhong, August 30, 2025). At that time, the rare official study tours to HK were mostly emergency measures intended to resolve technical bottlenecks in ongoing projects (Interview Record of Zhou Yi, August 30, 2025). Having just transitioned from the planned economy era, most Chongqing architects prioritized fulfilling fixed production quotas in practical projects. They lacked the initiative to conduct independent research and systematic studies of HK's construction experience, management systems, and design philosophies. Furthermore, a mature local construction market had not yet taken shape in Chongqing, and the industry lacked market-oriented demands corresponding to HK's highly commercialized development model. Consequently, the local architectural community failed to establish forward-looking experience reserves through learning from HK, nor did it carry out scientific and localized adaptation and transformation tailored to Chongqing's urban conditions.

Third, HK-based businessmen of Chongqing origin (such as Zeng Weicai and Zhang Songqiao), together with HK merchants with close mainland connections (represented by Li Ka-shing), emerged as distinctive disseminators. In the early stage, few HK investors entered Chongqing voluntarily. Most local development projects relied on returning Chongqing-born HK businessmen such as Zeng Weicai, who carried out scattered development through native-place networks.¹⁵ Nevertheless, most of these developers lacked professional architectural backgrounds, while HK design practitioners had limited access to local construction practices. As a result, the replication of HK experience was confined to superficial formal features (Interview Record of Zhou Yi, August 30, 2025), failing to fully convey the market-oriented development logic of HK. Overall, constrained by multiple limitations in market conditions, geographical location, and research modes, HK's architectural knowledge failed to spread systematically to Chongqing, and the learning of relevant

experience remained largely superficial. This also constitutes the distinctive impact of “subjective translation.”

Third, thematic study tours to HK were launched when there was “no precedent to follow.” In local projects designed by Chongqing architects, HK architectural cases provided critical references for addressing a series of challenging issues in Chongqing, including mountainous traffic construction, spatial conflict resolution, adaptation to fire safety codes, architectural functional transformation, and fire evacuation in confined spaces. Meanwhile, these experiences also boosted the confidence of inland cities in tackling similar practical dilemmas (Table 2).

PROJECT NAME	YEAR	PROJECT CONSTRUCTION BACKGROUND	REFERENCED CASES AND CONTENTS	REFERENCE METHODS AND LOCALIZED ADAPTATION
Jialing River Cableway	1981	Restricted by mountainous terrain, it was imperative to develop low-cost and efficient cross-river transportation, while domestic passenger ropeway projects remained scarce at that time.	HK Ocean Park Tourist Cableway (opened in 1976); passenger volume and hourly capacity ¹⁶ , as well as modern transportation construction experience.	HK cableways were taken as the reference benchmark in the project approval brief ¹⁷ .
Kaixuan Road Public Elevator	1986	There were no reference cases of similar urban public elevations in mainland China. Faced with tight construction funds, Chongqing needed to balance vertical traffic connection, architectural functions and cost control ¹⁸ .	Sui He Court Public Elevator in HK, including the strategies for coping with mountain elevation differences, the layout mode integrating public elevators with buildings, and the structural form of footbridges and elevator shafts.	After studying HK's cases, relevant local practices were not directly adopted due to their single functional configuration and high construction costs. Instead, an independent and innovative architectural form integrating transportation, residential and office compound functions was developed ¹⁹ .
Hejing Jurong Plaza	Launched in 1996	The project is adjacent to rail transit stations. In the absence of relevant domestic fire protection design codes and construction precedents, project approval was hindered.	A large number of mature architectural cases in HK built in close proximity to rail transit stations; including the layout pattern of buildings adjacent to rail transit, fire protection design standards for adjoining sites, and relevant safety protection measures.	The research team conducted an inspection and study visit in HK, compiled a demonstration report drawing on HK's regulatory experience, and officially implemented the plan after obtaining government approval.
Liziba Building-Traversing Section of Rail Transit Line 2	Planning initiated in 1998	The construction land for buildings and rail transit overlaps, requiring breakthroughs in structural safety, vibration and noise control, with no relevant precedents in mainland China.	Urban cases of rail transit traversing high-rise buildings in HK; the design philosophy for the coexistence of architecture and rail transit, structural separation strategies, and engineering solutions for vibration and noise reduction.	Adopting a structural separation scheme and straddle monorail technology ²⁰ , physical isolation was applied to mitigate adverse impacts, realizing localized adaptation and implementation.

Table 2: The knowledge of HK disseminated in literature and documents.

All three aforementioned modes of knowledge dissemination concerning HK architectural practices belong to the category of subjective translation of HK professional experience. Consequently, the absorbed HK experience remained fragmented, unsystematic, and heavily shaped by personal understanding and contextual interpretation.

The fourth mode refers to the direct involvement of HK teams in local Chongqing projects, which realized the systematic transplantation of HK architectural knowledge. Nevertheless, opportunities for in-person communication and collaborative learning between Chongqing architects and HK teams remained limited. This was primarily due to the small number of local projects in Chongqing with direct HK participation. Although bilateral cooperation existed, both sides completed design details independently. Moreover, this form of knowledge dissemination emerged later in Chongqing than in China's coastal cities. Taking the Metropolis Square project as an example, the Chongqing team was mainly responsible for structural design, while the HK side led the architectural design. During the collaboration, neither side participated extensively in the other's design work. The Chongqing team was only invited to HK to conduct research and study on the design of glass curtain walls (Interview Record of Zhou Yi, August 30, 2025), and such learning opportunities were extremely rare.

Overall, constrained by the historical context and the immature real estate and commercial market in the early stage of reform and opening-up, Chongqing's absorption of HK's architectural knowledge was generally superficial, unsystematic, and project-driven. This reflects the distinctive characteristics of inland cities in learning from HK's architectural experience. As opening-up continued to advance, exchanges between Chongqing and HK gradually deepened. HK developers and design institutions gradually established a presence in Chongqing and began to participate more deeply in local urban construction. Chongqing's absorption of HK architectural concepts thus evolved from subjective translation to systematic transplantation, with the scope of learning continuing to broaden.

3. "SUBJECTIVE TRANSLATION": LOCAL PRACTITIONERS' SELF-LEARNING AND ADAPTATION OF HK'S ARCHITECTURAL MODEL

In the early years of the reform and opening-up, HK's architectural system had not been systematically introduced to mainland China. Architectural practitioners learned and drew references through informal channels such as documents and field investigations, forming a model of subjective translation. Such practices were marked by personalized interpretation, resulting in fragmented and superficial application of relevant

knowledge. As an inland city, Chongqing had limited access to modern architectural knowledge and was less constrained by modern normative disciplines. Therefore, the localization of HK's architectural models in Chongqing exhibited greater flexibility. Influenced by changes in communication pathways, geographical conditions, and market environments, Chongqing's subjective translation of HK's architectural experience displayed differentiated characteristics across various stages of development.

3.1. Baixiangju (1982): Romantic Interpretation and Localized Practice of the HK Model

In the early years of reform and opening-up, HK developed design practices such as the tower-podium typology to cope with land scarcity. Disseminated through informal channels, these experiences spread to mainland China and served as a vital reference for the modernization of high-rise residential buildings in inland regions.²¹⁻²² Against the backdrop of mainland architects' subjective translation of HK's design experience, Zhang Congzheng, the designer of Baixiangju, was exposed to concepts of HK high-rise residential architecture. He subsequently proposed abandoning conventional architectural forms for several buildings within the community and experimenting with a tower-type high-rise residential typology.

The "subjective translation" of the HK model embodied in Baixiangju represents a process of self-directed learning and context-specific adaptation by the design team. Zhang Congzheng first acquired knowledge of HK architectural ideas through professional journals. Combined with his on-site investigation in HK in 1985¹⁴, he revised and localized the HK development model to fit Chongqing's unique geographical and social conditions. Buildings 2 and 3 in the residential complex adopt HK's tower-podium typology, while the other three are designed as traditional slab-type residences. This hybrid pattern of "tower high-rises and setback slab buildings" (Figure 1) effectively increased construction density to meet resettlement demands while improving residents' living experience. Although the setback design of the slab buildings led to a slight reduction in usable floor area, it granted residents broader landscape views and greater spatial comfort. This design approach was feasible because of Chongqing's immature real estate market at the time. As state-funded welfare housing, Baixiangju was free from the profit-driven demands of intensive commercial development and high economic returns.

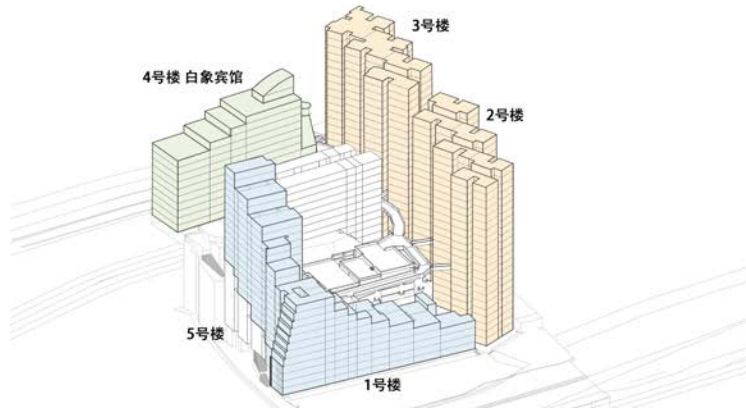


Figure 1: Hybrid Typology of Tower-style High-rises and Setback Slab Buildings in Baixiangju.

Zhang also learned from HK's space-efficient "infill landscape design" strategies¹⁴ and designed Chongqing's first collective housing roof landscape for Baixiangju (unbuilt). While HK's landscape design was originally intended to enhance the commercial value of space, the landscape planning of Baixiangju aimed to improve residents' quality of life and strengthen their sense of community belonging. According to Zhang, the design inspiration stemmed from his admiration for the vibrant green spaces within HK residential communities during his field research, representing a romanticized interpretation of HK's economically driven design logic. Furthermore, in adapting to Chongqing's mountainous terrain, he reorganized HK's vertical functional prototype of "commercial podium at the base and residential or office spaces above." By relocating commercial functions from the ground podium to the mid-level floors of the buildings, he created interconnected sky corridors and supporting public spaces.

The design practice of Baixiangju demonstrates a distinctive feature of "learning, exploration, and implementation in parallel." When the project commenced in 1982, Zhang had not yet visited HK and understood HK architectural models only indirectly through architectural publications. His thinking on high-rise residential design remained at an early exploratory stage. After conducting on-site investigations in HK in 1985, he gained direct insight into the detailed design features of residential estates such as Taikoo Shing and further refined the overall scheme, including rooftop landscapes and tower housing layouts. Throughout the early reform and opening-up period, mainland China lacked unified national codes for high-rise residential construction, and Chongqing had no mature real estate market or commercial profit-oriented restrictions, together with relatively generalized building regulations. This loose institutional context granted designers considerable freedom for experimentation and adjustment. Gradually, HK design experience was adapted to local mountainous conditions, limited funding, and other practical constraints. Ultimately, Baixiangju emerged as a representative architectural achievement of its era that prioritized the quality of everyday civic life. The

project fully illustrates that “subjective translation” during this period embodied strong initiative and flexible adaptation, alongside a distinctly romanticized understanding of the HK architectural model.

3.2. Chongqing Shaping Hotel (1985-1987): Formal Reference and Localized Practice of the HK Model

Built between 1985 and 1987, Chongqing Shaping Hotel was jointly developed and operated by HK Yufeng International Limited. In its architectural design, the HK strategy of “corner activation” was integrated with the street-front characteristics of the site. The podium was arranged along the street, and a circular front courtyard was designed at the entrance (Figure 2). The high-rise main tower inclines toward the road at an obtuse angle to the street²³, which not only alleviates the oppressive effect of a high-rise building on pedestrians but also strengthens the commercial visibility of the building.

The design also adopts HK’s tower-podium typology. Integrated with the complex terrain, it takes full advantage of the hotel’s rear side being at a lower elevation than the street to organize functional layouts vertically. The two underground floors, street-level floor, and upper floors are rationally allocated to logistics, catering, guest rooms, and other supporting facilities. This mixed-use pattern breaks the single-functional limitation of inland hotels and achieves a localized adaptation of the HK development model.

Against the background of HK-Chongqing joint venture cooperation, the subjective translation of HK architectural experience embodied by the hotel exhibits the following characteristics. On the one hand, when drawing on HK’s experience, Chongqing was less constrained by modern rational norms, enabling flexible adaptation of the HK model to local conditions. On the other hand, local practitioners lacked systematic learning and in-depth comprehension of the HK model and tended to introduce both its merits and inherent flaws into local architectural practice indiscriminately. Had a comprehensive analysis of the advantages and limitations of the HK model been conducted at the initial design stage, commercial outlets could have been arranged around the hotel entrances by taking advantage of the terrain at the street-level floor, thereby alleviating the negative effects caused by spatial islanding. Overall, the practice of Shaping Hotel reflects that the inland absorption and translation of HK architectural knowledge remained fragmented and unsystematic.



Figure 2: Entrance of Chongqing Shaping Hotel.

3.3. Wujiaohua Building (1992): Subjective Reference to the HK Model

Completed in 1992 in Chongqing's Jiefangbei Commercial Center, the Wujiaohua Building is a landmark project in the early modern exploration of large-scale commercial architecture in Chongqing and was designed by the Architectural Design and Research Institute of Chongqing University. Its “subjective translation” of HK commercial architectural experience was mediated through the White Swan Hotel in Guangzhou (Interview Record of Li Shiyu, August 30, 2025). The atrium design of the White Swan Hotel inherits the spatial characteristics of large-scale shopping malls in HK, creating a diversified, high-quality indoor environment with a pleasant and controllable microclimate (Figure 3)²⁴ to attract people to stay and consume within the building. It also served as a crucial medium through which inland regions indirectly learned from the HK model.

In the early stage of reform and opening up, consumerism had not yet exerted a profound influence on architectural design in Chongqing. When drawing on HK architectural forms, local designers generally focused only on spatial quality itself. Most large shopping malls in HK adopt enclosed atriums with abundant environmental elements and rely on central air conditioning to create comfortable indoor spaces that encourage lingering and consumption, thereby retaining customers and stimulating commercial vitality. In

contrast, the Wujiaohua Building adopted this design paradigm without being constrained by consumerism. It did not deliberately construct consumption-oriented spaces, but merely replicated external features such as courtyards and waterscapes, as well as a pleasant spatial atmosphere (Interview Record of Dai Zhizhong, August 30, 2025). At that time, large-scale commercial buildings in mainland China prioritized practical functions while paying little attention to spatial experience. Against this background, the designers created a well-designed atrium (Figure 4) to provide citizens with high-quality public commercial space. This represents a romantic interpretation of HK's design logic driven by commercial consumption demands.

Upon the completion of the Wujiaohua Building, the developer failed to recognize the consumption-boosting value of the atrium space. In pursuit of short-term economic benefits, the uniquely designed atrium with distinctive architectural features was converted into ordinary shops for commercial use. Essentially, this renovation stemmed from the developer's cognitive bias due to a lack of systematic understanding of HK's commercial architectural models. It further demonstrates the fragmentation and inherent limitations when inland practitioners drew lessons from HK's architectural experience.



Figure 3: Atrium of Guangzhou White Swan Hotel (Source: Glory and Exploration: Henry Fok Ying-tung's Dream and the Path of the White Swan).



Figure 4: Atrium of the Wujiaohua Building.

3.4. Linjiangmen Area Renewal (Starting from 1992) and Jiazhou Garden housing (1993-1997): One-sided Translation of the HK Model Driven by Real Estate Development

In the 1990s, Chongqing's real estate market began to take shape. Against the backdrop of scarce land resources, HK development models, including the tower-podium typology and high-density construction, became core references for local projects. The Linjiangmen renewal project (launched in 1992) and Jiazhou Garden Housing (constructed from 1993 to 1997) both adopted subjective translation based on HK architectural experience. However, driven by distinct development demands and design philosophies, the two cases followed markedly different development paths.

In the early stage of the Linjiangmen area renovation, architect Zhang Congzheng optimized HK's tower-podium typology. Drawing on HK's logic of vertical functional zoning to improve land utilization efficiency, he integrated the waterfront terrain along the Jialing River and the morphological features of mountainous residences. The design introduced river-view corridors (Figure 5), terraced setback sloped roofs, and elevated ground floors to inherit local daily living scenarios and community context.²⁵ Nevertheless, driven by the developer's pursuit of maximum investment returns, this refined scheme was rejected.²¹ The final plan only

partially absorbed the commercial and high-density development characteristics of the HK model, adopting a compact layout of high-rise towers and commercial podiums. Consequently, the renewal of this district was reduced entirely to a tool for capital profit pursuit.

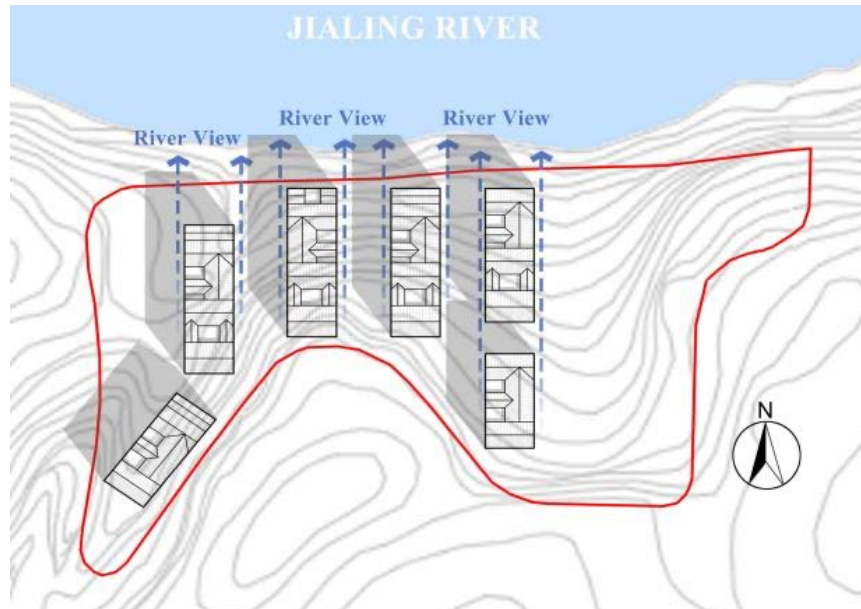


Figure 5: General Layout Plan of Linjiangmen Area Renewal (Source: Drawn by Chen Liran).

In contrast, Jiazhou Garden Housing represents a rational exploration of the commercial attributes inherent to the HK architectural model. Developed by Zhongyu Property, a local enterprise founded by HK-based developers who returned to Chongqing, including Zeng Weicai, Zhang Songqiao, and Tu Changfu, the project was conceived with a high plot ratio requirement from the outset. Beyond economic considerations, the developers aimed to introduce HK's high-quality residential concepts to Chongqing and improve local living standards. Against this backdrop, architect Zhou Yi drew on the high-density, vertical development layout of Central, HK. Taking advantage of the unregulated framework for high-rise construction in Chongqing at that time, he formulated the residential master plan based on fire separation standards (Interview Record of Zhou Yi, August 30, 2025). Subsequent designer Zhang Li further carried out the subjective translation of HK experience. While adopting the cruciform unit typology widely used in HK, he systematically incorporated the supporting facility system of high-end HK residences and arranged forward-looking amenities, including schools, swimming pools, and parking garages (Figure 6)¹⁵. Ultimately, the design of Jiazhou Garden Housing achieved effective integration of HK's high-end residential concepts and local living demands.



Figure 6: Jiazhou Garden housing (Source: Courtesy of Chongqing Zhongyu Property).

4. "SYSTEMATIC TRANSPLANTATION": THE SYSTEMATIC INTRODUCTION OF HK ARCHITECTURAL EXPERIENCE

“Systematic transplantation” refers to the systematic and refined introduction of HK’s architectural experience. As reform and opening-up continued to advance, HK’s participation in mainland construction projects gradually expanded from coastal cities to inland regions, offering Chongqing valuable opportunities for direct cooperation with HK counterparts. Through a series of HK-Chongqing joint projects, Chongqing’s architectural community gained an in-depth understanding of modern HK architectural theories and design practices.

4.1. Holiday Inn Yangze Chongqing (1985-1988): A Preliminary Exploration of HK-Chongqing Cooperation

The Holiday Inn Yangtze Chongqing was Chongqing’s first international four-star hotel. At the initial stage of the project, it faced a severe capital shortage.²⁶ Instead of relying on traditional fiscal funding channels, the Chongqing Municipal Government adopted an innovative model of HK-led capital participation and joint-

venture operation. In 1985, Yufeng International Limited, an offshore window platform, was established in HK and eventually attracted US\$26.5 million in HK investment. This approach of indirectly securing overseas capital through an offshore window company differed from the investment model of eastern coastal cities in the same period, which relied on direct investment from HK tycoons. It represented a distinctive investment promotion strategy pursued by inland cities that lacked convenient access to foreign capital, revealing the inherent difficulties and complexities of introducing foreign capital into inland regions.

The architectural design of the hotel was led by HK's Vincent Architects, with the Chongqing Design Institute responsible for structural engineering and technical consultation.²⁶ This arrangement formed a collaborative model of HK-led design and mainland construction. Inheriting HK's emphasis on practicality, the design adopts concise geometric volumes and an L-shaped reinforced concrete frame-shear wall structure. The exterior walls are finished with white ceramic tiles and glass curtain walls, while partial glass canopies are arranged to integrate the mountain city landscape (Figure 7).²⁷ Nevertheless, because the design institutions were located separately in HK and Chongqing, frequent problems such as delays in drawing communication and poor interdisciplinary coordination emerged.²⁸ This reflects the challenges of multi-party collaboration encountered by inland regions in the systematic transplantation of the HK model before the 1990s. Furthermore, the HK side introduced 30 foreign management staff who cultivated local internationalized professionals through mentoring and on-the-job training, representing another dimension of the systematic transplantation of HK's hotel management expertise.

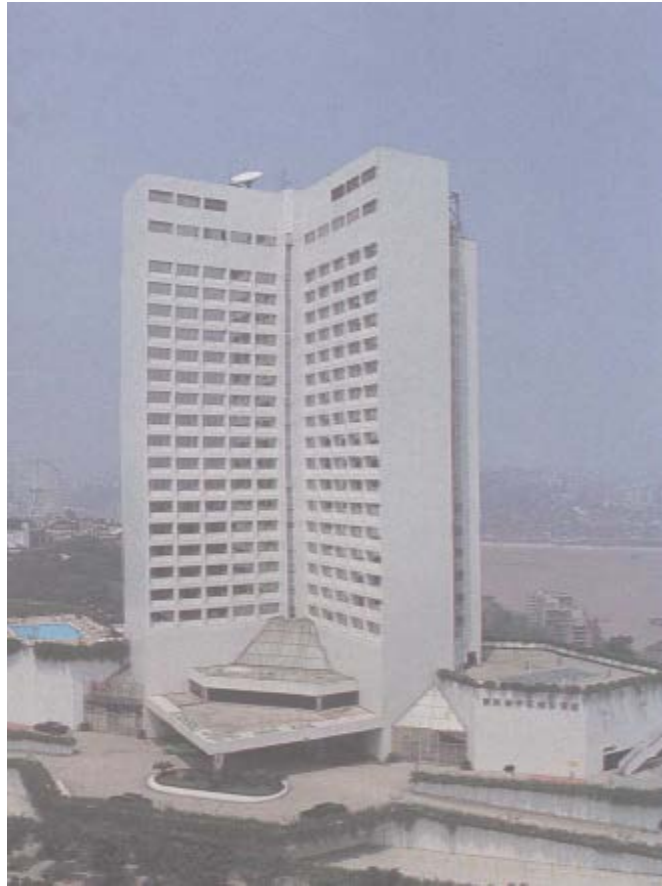


Figure 7: Facade of Chongqing Yangtze River Hotel (Source: Chongqing Yangtze River Holiday Hotel).

4.2. Yanghe Garden (1996): Systematic Transplantation and Local Adaptation of HK-Style Residential Areas

Yanghe Garden, funded and developed by HK's Cheung Kong Holdings, was Chongqing's first National Healthy Housing Project, marking the systematic expansion of the HK tower-podium typology from high-end residences to housing for middle- and low-income groups. Unlike California Garden, an earlier project shaped largely by the personal aspirations of HK-origin developers and the "subjective translation" of HK design experience, Yanghe Garden, backed by a leading HK capital conglomerate, realized the systematic transplantation of HK residential planning principles.

Rather than mechanically copying the typology of HK high-rise towers, the project tailored its apartment layouts to local market demands in Chongqing. It offered a diverse range of unit types to accommodate resettlement, upgrading, and high-end residential needs. The planning layout of Yanghe Garden also adopted HK's self-contained development concept, integrating education, commerce, medical services, parking, and other amenities within the community to form a comprehensive supporting system. Various landscape

features were incorporated throughout the residential compound,³⁰ greatly enhancing living quality and making the project highly forward-looking among residential developments in Chongqing during the same period.

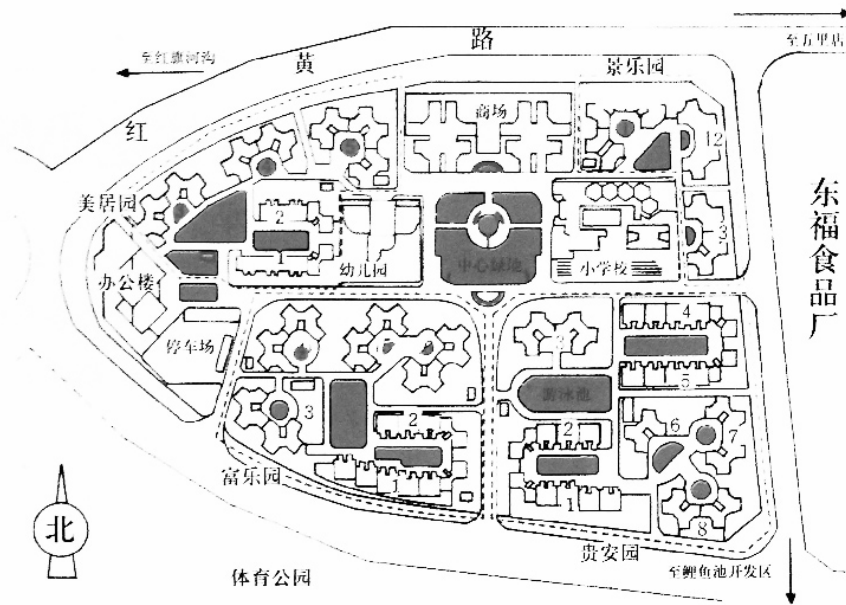


Figure 8: Layout of Yanghe Garden (Source: Yanghe Garden: A Cross-Century Homeland).

The residential compound adopts a layout of “four residential clusters surrounding a central garden” (Figure 8). Enclosed management within each cluster is realized through semi-permeable boundary walls and gated main and secondary entrances with on-site security.²⁹ Nonetheless, the imported HK-style property management system clashed with local social conventions. In the 1990s, Chongqing residents were unfamiliar with paid property services, as traditional residential communities relied on extensive, low-maintenance management by work units or neighborhood committees. This disparity triggered frequent conflicts between residents and property managers during the early stage of operation. Orderly governance was not fully established until the promulgation of national and municipal property management regulations in 2003.³¹ The case of Yanghe Garden demonstrates that the systematic transplantation of HK’s developmental experience and the localized adaptation of the HK model can effectively improve the living quality of ordinary residents. Meanwhile, the process of “systematic transplantation” inevitably brings about conflicts between modern governance logic and indigenous local traditions.

4.3. Haike Yingzhou (Late 1990s): Refined Transplantation Oriented by Commercial Interests

Developed by an HK-funded enterprise and designed by Wong & Ouyang (HK) Limited, Haike Yingzhou stands as a typical case of the “systematic transplantation” of HK’s tower-podium model into Chongqing. Drawing on the diamond-shaped floor plan of Taikoo Shing, the project arranges three super-high-rise towers in a staggered riverside layout (Figure 9). Residential units are graded by floor levels, ranging from standard apartments to duplex residences and penthouse garden suites. Such hierarchical classification leverages riverfront landscape resources to maximize property value appreciation.²¹ Within its podium structure, Haike Yingzhou integrates high-end commercial and club spaces, accompanied by large-scale sky gardens and exclusive membership clubs. These sophisticated amenities reinforce its identity as an elite residential community,³² representing a thorough “systematic transplantation” of the supporting systems of HK luxury residential developments. Positioned specifically for the emerging affluent class, the project creates premium value through panoramic river views, luxury unit typologies, and comprehensive facilities, attracting numerous non-local and foreign buyers.³² This development logic closely aligns with HK’s commercial principle that spatial form is strictly calibrated to market profitability.

On the other hand, the “systematic transplantation” of the HK model also exerted adverse impacts on the city. The three high-rise buildings block public access to riverfront views, disrupt the continuity of waterfront public space, and weaken Chongqing’s unique mountainous urban landscape.



Figure 9: Haike Yingzhou with three towers arranged parallel to the river surface.

4.4. Metropolis Square (1994-1998): The Full Paradigm Introduction of HK Commercial Complexes

Developed by HK-funded Hutchison Whampoa and designed under the leadership of a HK design team, with structural and civil engineering design completed in collaboration with the Chongqing Design Institute, Metropolis Square stands as Chongqing's first large-scale commercial complex led by an HK enterprise.

The HK design team systematically transplanted the design logic of HK commercial complexes, arranging hotel, office, and retail functions in an orderly manner. Separate entrances were provided for different functional zones (Figure 10) to avoid intersections and interference among pedestrian circulation routes.³³ Multiple primary and secondary atriums within the commercial podium accommodate vertical circulation, while external corridors surrounding these atriums form a continuous indoor pedestrian street,³⁴ efficiently integrating diverse commercial functions.

The HK design team also introduced experiential consumption facilities such as indoor ice rinks and cinemas into the commercial podium. By creating comfortable and engaging spaces, they extended visitors' staying duration within the shopping mall²¹, which aligns with the core intention of experience-oriented spatial design widely adopted in HK.

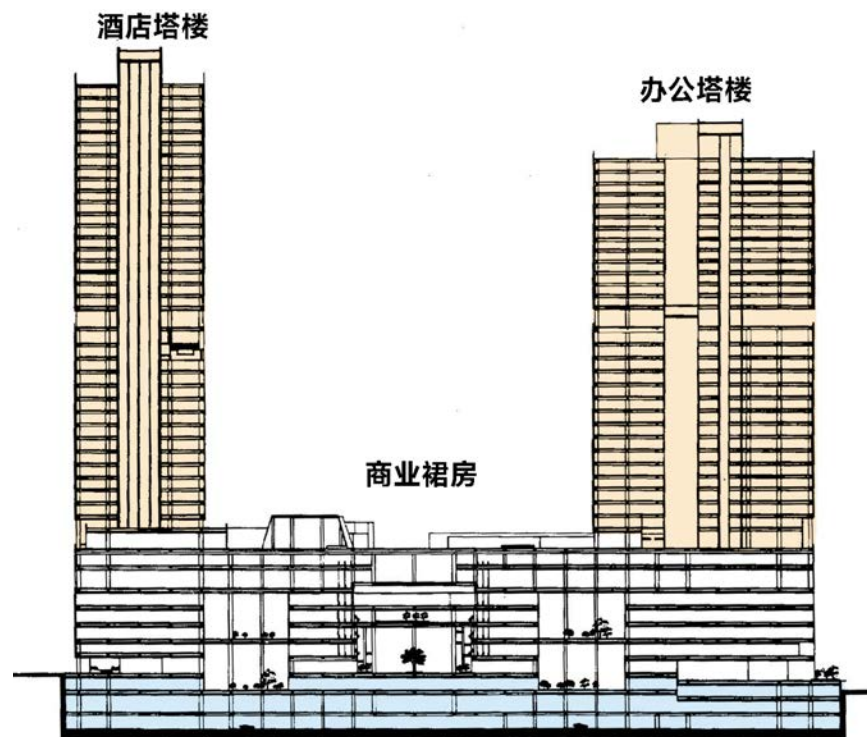


Figure 10: Cross-section of Metropolis Square.

Upon its completion, Metropolis Square became a key benchmark for commercial real estate development in Chongqing. It not only attracted greater inflows of foreign capital but also accelerated the upgrading of the Jiefangbei business district, facilitating its transformation from traditional department stores into modern integrated shopping malls and diversifying the city's commercial typologies.

Nevertheless, HK capital entered Chongqing's large-scale commercial construction market later than it entered those of coastal cities. High-quality projects featuring in-depth HK investment and full-process leadership by HK design teams, such as Metropolis Square, remained extremely scarce. Although the project introduced advanced design concepts and development models, the lack of comparable projects limited its broader transformative impact. It failed to fundamentally advance the modernization of large-scale commercial buildings in Chongqing during the late 1990s. Subsequent local projects adopted only fragmented and superficial forms of imitation when drawing on HK's architectural experience.

5. THE INFLUENCE OF "SUBJECTIVE TRANSLATION" AND "SYSTEMATIC TRANSPLANTATION" ON THE ARCHITECTURAL MODERNIZATION OF CHONGQING IN THE EARLY STAGE OF REFORM AND OPENING UP

In the early stage of reform and opening up, constrained by the transitional planned economy and the immature mechanisms of real estate and commercial development, Chongqing primarily absorbed HK's architectural experience through "subjective translation." As opening-up continued to deepen and exchanges between Chongqing and HK grew increasingly intensive, cross-regional cooperation evolved into more diversified forms. Chongqing gradually adopted the approach of "systematic transplantation" to introduce HK design theories and development models. These two differentiated modes of cultural absorption were reflected in the architectural practices of different periods, ultimately generating built outcomes with distinct temporal characteristics.

In the early phase when Chongqing drew on HK's architectural achievements, "subjective translation" served as the dominant form of knowledge transmission. This approach provided local architects with mature references for exploring urban architectural modernization. In practical projects, it further embodied the adaptive wisdom of inland cities, which revised and creatively applied HK design concepts in response to regional conditions. As an inland city, Chongqing was far less disciplined by modernization than coastal open cities. Within this context, self-initiated learning and localized adaptation demonstrated the unique flexibility of inland regions in absorbing external knowledge. In response to the mountainous terrain, local designers adapted HK's tower-podium typology. Meanwhile, architects' romanticized interpretations and selective simplifications in the process of "subjective translation" freed Chongqing's understanding and application of

modern architectural concepts from the profit-oriented commercial logic of HK. Such practices better accommodated the local living needs of Chongqing residents and enriched the city's architectural diversity.

Emerging in the mid-1980s, systematic transplantation advanced Chongqing's absorption of HK modern architectural knowledge toward greater systematization and refinement. During this period, Chongqing began to learn comprehensively from HK's sophisticated experience in developing commercial complexes, high-rise buildings, and star-rated hotels. By introducing complete HK architectural systems and design frameworks, the city acquired a more professional and standardized modern built environment. Metropolitan Plaza fully transplanted the mature paradigm of HK commercial complexes. Its completion attracted more foreign investors and accelerated the upgrading of the Jiefangbei Central Business District, transforming traditional department store operations into modern integrated shopping centers. Yanghe Garden systematically introduced HK's self-contained residential supporting system, integrating education, parking, and other daily services to improve living conditions for ordinary citizens. Furthermore, the technical support and professional training provided by HK teams through "systematic transplantation" indirectly enhanced the overall competence of local practitioners, laying a talent foundation for the long-term modernization of Chongqing's architecture.

Although both approaches greatly facilitated Chongqing's architectural modernization, they exhibited prominent limitations shaped by the city's inland characteristics. Throughout this process, the understanding and application of HK architectural knowledge remained superficial and one-sided. During the era of subjective translation, due to the lack of systematic learning channels, local practitioners mostly imitated formal aesthetics without grasping the underlying commercial logic and design connotations. For example, the adoption of the HK tower-podium model in Shaping Hotel failed to resolve its isolated urban spatial relationship; driven by capital interests, the Linjiangmen renewal project pursued the high-density development typical of HK at the expense of local cultural context and living quality. While "systematic transplantation" realized the large-scale introduction of HK experience, its long-term influence was constrained by inland cognitive inertia and limited cross-border cooperation. On the one hand, HK-Chongqing cooperative projects remained scarce and were predominantly confined to high-end residential and commercial buildings, failing to cover broader architectural sectors or fundamentally advance the comprehensive transformation of Chongqing's architectural modernization. On the other hand, the systematic transplantation of HK models constantly generated friction between modern design paradigms and local contextual traditions, hindering the popularization of such practices across diverse building types. Moreover, even when local projects attempted to learn from HK-invested schemes completed in Chongqing in the late 1990s, they still fell into fragmented, superficial "subjective translation." The difficulty of independently replicating sophisticated HK development mechanisms reflected the persistent constraints of

inland characteristics. Consequently, Chongqing's absorption of HK architectural knowledge lagged more than a decade behind that of coastal cities, accompanied by higher thresholds for learning and localization.

To conclude, “subjective translation” and “systematic transplantation” constituted the two primary channels through which HK architectural knowledge spread to Chongqing, outlining the overall trajectory of Chongqing's architectural modernization during the early reform era. Through flexibility and localized adaptation, “subjective translation” pioneered Chongqing's modern architectural exploration and inherited the traditional settlement wisdom of making the best use of natural terrain. In contrast, “systematic transplantation” promoted professionalization and internationalization by introducing systematic and standardized design mechanisms. The achievements and inherent limitations of both approaches essentially reflected the dual impacts of Chongqing's inlandness: weaker modern institutional discipline granted greater spatial adaptability and contextual flexibility, while limited external exchanges restricted in-depth comprehension of foreign design theories. In essence, inlandness represents a state insufficiently regulated by modern rationality, in which new urban and architectural elements were absorbed through empirical and non-institutionalized means. It not only constituted the internal cause of HK's unique influence on inland architectural modernization but also defined the inherent complexity of such cross-cultural exchanges.

6. CONCLUSION

In the early stage of reform and opening up, the exploration of architectural modernization in inland cities did not advance in the smooth and progressive manner observed in coastal open cities and major metropolises such as Beijing and Shanghai. Instead, it underwent a gradual learning process that evolved from “subjective translation” to “systematic transplantation.” Taking Chongqing as the research object, this paper examines local buildings shaped by HK's modern architectural influences during the early reform era and reveals the diversity and complexity of cross-cultural architectural exchanges between HK and mainland China.

The research indicates that Chongqing's inlandness exerted dual effects on its reception of cross-cultural influences from HK. Restricted by geographical conditions and market constraints, the city faced inherent limitations in absorbing external architectural experience. Meanwhile, weaker modern institutional discipline allowed ample space for localized adaptation and innovative transformation. This finding offers a new perspective for understanding how cities beyond China's southeastern coast achieved architectural modernization under overseas influences during the reform period and enriches the multidimensional analytical framework for regional research on contemporary Chinese architectural history.

[This research is supported by the National Natural Science Foundation of China (No. 52308006) and the General Research Grant of Macau University of Science and Technology (No. FRG-25-002-FA).]

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PATH TO MODERNITY BEYOND THE “BIG ROOF”: ANALYSIS AND REASSESSMENT OF ORNAMENTATION TRANSLATION MECHANISMS IN “CHINESE ART DECO” ARCHITECTURE ACROSS THE SINOPHONE WORLD

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PATH TO MODERNITY BEYOND THE “BIG ROOF”: ANALYSIS AND REASSESSMENT OF ORNAMENTATION TRANSLATION MECHANISMS IN “CHINESE ART DECO” ARCHITECTURE ACROSS THE SINOPHONE WORLD



This paper contends that Chinese Art Deco constitutes a theoretically coherent and historically unique category of modern architectural practice. It is fundamentally distinct from the holistic methods of the typical Chinese Classical Revival, yet it has long been undervalued, often dismissed as a derivative sub-type or a secondary direction in the exploration of a modern Chinese architectural style. Through a new framework of “Totality/Non-totality” and “Diachrony/Synchrony,” this study analyzes the distinct characteristics of Chinese Art Deco and reveals its underlying operative logic: the “ornamentation translation mechanism.” This mechanism utilizes six operational principles to systematically transform traditional Chinese architectural elements into autonomous Art Deco decorative units. Based on a comprehensive archive of Sinophone cases spanning mainland China, Hong Kong, Taiwan, Singapore, Indonesia, and New York, the paper further identifies seven compositional patterns. These patterns demonstrate that Chinese Art Deco represents an organic and integral contribution to the global Art Deco lineage. Finally, grounded in various theoretical frameworks, the paper delineates the internal evolution of this style across geographical and ideological dimensions, repositioning Chinese Art Deco as a genuine formal innovation in the history of modern ornament.

1. INTRODUCTION

Among the dense concentration of Art Deco buildings in the Waitanyuan district of Shanghai, two structures invariably attract a second, closer look (Figure 1). The first is the Royal Asiatic Society Building (亚洲文会大楼): its entrance flanked by octagonal bagua windows, and above its triple-arched portal an oversized Chinese stone balustrade. The second is the Young Women’s Christian Association Headquarters (基督教女青年会大楼): its entrance bay and repeating facade panels embossed with traditional Chinese ornamental motifs, and set directly above the main doorway, a fragment of a *yingshan chuibua gate* (硬山垂花门). Both buildings possess an Art Deco atmosphere in complete harmony with their surroundings; both are simultaneously saturated with the detail and sensibility of traditional Chinese architecture. Together, they represent a distinctively particular category of modern Chinese architectural practice: Chinese Art Deco.

The term requires immediate qualification, because it names something that existing scholarship has been reluctant to name with precision. This paper argues that Chinese Art Deco constitutes an independent, theoretically consistent cluster of architectural practice whose operational logic is fundamentally distinct from the “Big Roof (*da wuding*, 大屋顶)” tradition of Chinese Classical Revivalism, yet its distinctiveness can be precisely described, theoretically grounded, and traced across the full geographic extent of the Sinophone world.

The argument proceeds in six stages. First, it establishes the conceptual framework by defining the two divergent paths of Chinese architectural modernization, identifying their shared epistemological roots and their fundamental divergence, and introducing the analytical tools necessary for understanding what Chinese Art Deco actually does. Second, it situates Chinese Art Deco within the broader global context of Art Deco as a part of an international movement of decorative liberation. The third part identifies, through close analysis of canonical Chinese Art Deco works, the six operative principles that define the movement's formal logic. Forth, it applies these principles to a comprehensive survey of Chinese Art Deco across the Chinese-speaking world. The fifth part demonstrates, through seven compositional pattern types, the systematic formal correspondence between Chinese Art Deco and its global Art Deco genealogy. Lastly, it repositions Chinese Art Deco within the theoretical frameworks of ornament, style, and visual culture, proposing a revised account of its historical significance.



Figure 1: (Left) Historical drawing of the Royal Asiatic Society Building (亚洲文会大楼); (right) Facade of the Young Women's Christian Association Headquarters (基督教女青年会大楼) (Source: <https://magazeta.com/arc-ras>; 洛克外滩源, <https://www.jfdaily.com/wx/detail.do?id=890526>).

2. TWO PATHS, AN EPISTEMOLOGICAL DIVIDE, AND THE FRAMEWORK OF TRANSLATION

2.1. The Limitations of Existing Classification Frameworks

A relatively simple and common approach within existing classifications is the use of element-proportion as the primary sorting criterion - the visible quantity or prominence of traditional Chinese formal features¹. This

framework generates a spectrum running from “fully traditional” through “eclectic” to “fully modern.” In fact, Lai Delin has already criticized this.² Another potential classification is based on Liang Sicheng’s criticism of the “Adaptive Architecture” practiced by Henry K. Murphy and other foreign architects in China who preceded him.³ This seemingly creates an objective distinction between Chinese and foreign architects. Lai Delin’s classic summary of Western-led Chinese-style designs prior to Liang, along with Li Hua’s nuanced elaboration on “Beaux-Arts ‘Composition,’” appear to have unintentionally reinforced this perspective.⁴ However, to treat “Chinese Beaux-Arts Practice” as a single broad category is clearly an over-generalization.

Sveral primary attempts have directly inspired the classification logic of this paper. Huang’s stylistic dichotomies⁵ and Xu Yihong’s identifies of Chinese Art Deco,⁶ both lack specific criteria for defining and remain relatively vague. Lai’s dichotomy of “translation/metaphoric” versus “decoration/metonymic” is far more profound;⁷ based on an analysis of Liang Sicheng’s concept of “translatability,” it serves as the direct source for this paper’s approach, though it arguably overemphasizes operational techniques and views domestic Chinese practice in isolation. Finally, Wang Ying adopts an unconventional approach by identifying three distinct threads based on design patterns.⁸ While her case studies are more comprehensive than those of her predecessors, she further divides her second category, “Modern Architecture reflecting the Chinese Spirit,” into so-called “extroverted” and “introverted” approaches. This hierarchical method is not only somewhat convoluted but also blurs her own evaluative standards. The dichotomy proposed in this paper is, to an extent, a reorganization of her tripartite framework.

The classification of this paper, holds that there are two fundamentally different operative strategies: two paths whose divergence was not merely stylistic but epistemological.

The first path may be termed the “**Totality Path**,” corresponding to what Chinese architectural historiography calls the “Chinese Classical Revival” (*Zhongguo gudian fuxing shi*, 中国古典复兴式) in its narrow sense. Architects following this path understood Chinese architectural tradition as a historically constituted symbolic totality: a system of forms, proportions, structural logics, and cultural meanings that had achieved its meaning precisely through its historical integrity. Modernizing this tradition, from this perspective, meant reproducing or translating this totality (or at least its essential grammar) into contemporary building practice.

This path generated two recognizable *sub-types*. The first is the *historicist* sub-type, which pursues the total imitation of Chinese “palace-style” motifs. This evolution ranges from the strained “revivalism” (Murphy and his predecessors) to the precise “revivalism” (the *Society for the Study of Chinese Architecture* and thereafter). This approach essentially involves forcing contemporary spatial requirements into ancient forms. The second is the *grammar-translation* sub-type. It is based on the assumption that a formal compositional framework possesses

an inherent universality, which progresses from the “parts” to the “whole,” so that classical Western architectural styles can be converted, via a one-to-one correspondence, into a composition governed by Chinese motifs.⁹ In this new composition, the relationships between the various components still replicate the structural and aesthetic logic found in traditional architectural precedents.

The second path - the subject of this paper - may be termed the “**Non-totality Path**,” corresponding to “Chinese Art Deco” as defined here. Architects following this path do not view the Chinese architectural tradition as a historically constructed symbolic whole. Instead, they treat it as an open repository, recognizing that its constituent parts and elements possess intrinsic aesthetic value and decorative utility in their own right. These elements are seen as capable of functioning within entirely unprecedented architectural forms, independent of any necessary association with a specific historical totality or motif. Consequently, the application of these elements is liberated from the constraints of historical holism. They are utilized as autonomous decorative units that, through specific formal processing, are integrated into a new visual system.

The design methodologies employed in *Path 1 sub-type 2* and the entirety of *Path 2* both utilize a “translation-based” approach. In their technical execution, they align with what earlier Chinese historians identified as “Beaux-Arts Methods,” where “Composition” serves as the core conceptual framework.¹⁰ But *Path 1 sub-type 2*’s compositional logic demands a high degree of holistic integrity: once every individual component has been “translated,” the resulting sum of these parts still preserves a complete “syntax” and appropriate structural relationships when measured against the rigorous standards of traditional Chinese architecture. For Chinese Art Deco (*Path 2*), however, the compositional logic is either directly from Western styles inspired by new decorative concepts such as Art Deco, or it “translates” Eclecticism and Historicism in a more liberated and creative fashion, mirroring how Art Deco absorbed and fused with historical styles. In this approach, the architect prioritizes the correspondence of localized elements while effectively abandoning any requirement for the final assembly to adhere to tradition.

2.2. Epistemology: The Historiographical Roots of “Synchrony/Diachrony” and the “Three” Liang Sichengs

The divergence between the two paths is not merely a matter of architectural preference; it reflects a fundamental divide in how Chinese architectural tradition was conceptualized and historicized from the very moment of the discipline’s formation. Harrer’s 2022 study demonstrates that, from the earliest systematic engagement with Chinese architectural history, two fundamentally incompatible epistemological frameworks were in play.¹¹

The first, which Harrer terms the **diachronic approach**, is exemplified by Liang Sicheng's *History of Chinese Architecture*.¹² This approach foregrounds the historical dimension of Chinese architecture: it emphasizes the differences between historical periods, identifies each period's characteristic formal language, and understands Chinese architectural tradition as a chronologically organized succession of historically specific totalities. The key theoretical consequence of this approach is that diachrony reinforces totality. It is precisely this diachronic epistemology that provides the historiographical foundation for the Totality Path.

The second framework, which Harrer terms the **synchronic approach**, is exemplified by Börschmann's *Chinesische Architektur* and Liang Sicheng's *Architectural Design Reference Drawings* (*Jianzhu sheji cankao tujij*, 建筑设计参考图集). Börschmann's monumental survey of Chinese building types, ornamental systems, and structural details operates on an entirely different principle: it foregrounds the perceptual and formal differences among Chinese architectural elements without organizing these differences into a narrative of historical evolution. Liang explicitly criticized Börschmann's synchronic approach as historically superficial and theoretically irresponsible; yet his own latter book functions an even more comprehensive synchronic resource catalogue - one with greater archaeological authority and broader typological coverage than Börschmann's survey.¹³ The theoretical consequence of the synchronic approach is the inverse of the diachronic: synchrony produces non-totally. The tradition functions as a toolbox rather than as a sacred text.

We can thus re-evaluate the paradoxes within Liang Sicheng's career. An unresolved tension exists between his diachronic historiographical views and the synchronic design resources he provided, resulting in three distinct stances across different periods and contexts. Liang's critique of Murphy and others did not stem from an opposition to palace-style motifs, but rather from a desire for "diachronic" precision, the capturing of specific historical moments.¹⁴ This commitment to *Path 1 sub-type 1* (Historicist) is evident in his mid-career projects in Nanjing and his later works in Yangzhou. Conversely, in his 1954 comprehensive exposition of the "Theory of Architectural Translatability," he emphasized the necessity of a holistic "grammar" when substituting Chinese and Western elements, a point he demonstrated personally in his teaching.¹⁵ Means that his original conception of translatability aligned with *Path 1 sub-type 2* (Grammar-Translation). Remarkably, it was during his early career, before his persistent pursuit of diachronic history began to constrain his design practice, that Liang produced his most exceptional Chinese Art Deco works between 1930 and 1932.

It is precisely in this tension that Chinese Art Deco finds its historiographical precondition. Even as Liang officially promoted a diachronic-integral approach to Chinese tradition, the availability of both Börschmann's survey and Liang's own Reference Drawings provided Chinese architects of the 1920s–1960s with the material conditions for a synchronic, non-total practice.

The synchronic character of Chinese Art Deco is directly legible in the formal evidence of the buildings themselves. Across the entire case archive assembled for this paper, Chinese Art Deco works consistently display one of two related formal characteristics: either the Chinese traditional elements they employ cannot be confidently attributed to any specific historical period, or they openly combine elements from multiple historical periods in a single composition.¹⁶

3. ART DECO AS GLOBAL DECORATIVE LIBERATION

The 1925 Exposition Internationale des Arts Décoratifs et Industriels Modernes in Paris crystallized a set of design tendencies that had been developing across Europe and North America for the preceding two decades into something recognizable as a movement. Art Deco was neither historicist nor anti-decorative. It accepted, from the movements that preceded it the lesson that ornament could be generated from principles internal to design rather than borrowed wholesale from historical precedent. But it departed from these predecessors in its willingness to be openly eclectic in its sources, aggressively decorative in its application, and frankly commercial in its patronage. The result was a decorative practice of unusual formal freedom: Art Deco drew simultaneously from ancient Egyptian and pre-Columbian Mesoamerican sources, from Gothic structural logic, from Cubist geometry, from the machine aesthetic of industrial production, etc.; combining these heterogeneous materials through a set of compositional principles that gave the resulting buildings sufficient formal coherence to constitute a recognizable international style.¹⁷

According to historians' re-evaluations of the style movements of the early 20th century, Art Deco can be regarded as part of a broader wave of decorative avant-garde movements, yet it advanced further than its predecessors:¹⁸ any formal resource from any cultural tradition could be mobilized, provided it was subjected to sufficient geometric abstraction and integrated into a coherent compositional framework. The world's architectural traditions were treated, for the first time at a global scale, as a simultaneously available synchronic inventory - precisely the kind of resource conception that, as we have seen, the synchronic epistemological framework makes possible.

Art Deco was an international phenomenon from the beginning that its practitioners on every inhabited continent were participating in a shared formal conversation in real time, facilitated by international publications, world expositions, traveling exhibitions, and the migration of trained architects across national boundaries. The myth of Art Deco as a Western (specifically French or American) export received passively by non-Western cultures is contradicted by the evidence: non-Western architects were among Art Deco's earliest practitioners, its most creative formal innovators, and its most persistent advocates after its decline in the Western mainstream. "To obscure the complexity of global encounters with modernity through over-

simplification and generalization ... threatens to distort our understanding of the West's 'other' throughout this epochal era.”¹⁹

The significance of this for Chinese Art Deco is both historical and methodological. Historically, this implies that while the initial practices of Chinese Art Deco architecture may have emerged from a non-holistic and ahistorical approach toward Chinese architectural tradition, they were, in fact, active participants in a shared international practice. Their unique “ornamentation translation mechanism” (the transformation of Chinese traditional ornament into Art Deco ornament units) constituted a genuine formal innovation within the movement’s global development.

4. THE SIX OPERATIVE PRINCIPLES AND THE SINOPHONE CASE ARCHIVE

4.1. From Canon to Principles: Inductive Method

Inducing the operational principles of the “ornamentation translation mechanism” is not an exercise in exploring abstract theoretical concepts external to architecture. Rather, it is a formal generalizations derived from close analysis of the most canonical and historically significant Chinese Art Deco works. The analytical process proceeded from the specific to the general: beginning with a small group of works whose formal character is unambiguous and whose architects’ intentions are reasonably well-documented, identifying the specific formal operations they perform on Chinese traditional elements, and then testing whether those operations recur consistently across the broader case archive.

Zhou and Cui’s article, “Translatability of Architecture,” offers an inspiring attempt at this type of specific analysis.²⁰ It dissects the repertoire of Liang Sicheng’s early design practice, which involved employing Beaux-Arts compositional methods and borrowing specific Western architectural frameworks, while substituting and filling them with Chinese decorative elements. However, the article fails to distinguish between the totality/non-totality differences in the resulting designs. Consequently, it conflates the “Memorial Pavilion of Liang Qichao’s Tomb” with projects that more belong to the Chinese Art Deco category.



Figure 2: (1) West Lake Exposition entrance gateway; (2) Theatre of Heavenly Shows; (3) Renli Carpet Company shopfront renovation; (4) Shanghai Municipal Stadium complex; (5) The Sun Department Store details; (6) Nanjing National Assembly Hall; (7) Bank of China Shanghai headquarters. (Source: multiple sources).²¹

The inductive analysis in this paper draws upon Zhou and Cui's methodology, using the following anchor works: Liou KiPaul's West Lake Exposition entrance gateway (1928); Swan & Maclaren's Theatre of Heavenly Shows (1928); Liang Sicheng's Renli Carpet Company shopfront renovation (1932); Poy Gum Lee's Shanghai Y.W.C.A. Headquarter (1933); Dong Dayou's Shanghai Municipal Stadium complex (1935); the Kwan, Chu and Yang partnership's The Sun Department Store (1936); Xi Fuquan's Nanjing National Assembly Hall (1936); and the Palmer & Turner / Luke Him Sau collaboration's Bank of China Shanghai headquarters (1939) (Figures 1, 2). Analysis of these works reveals six principles that account systematically for how Chinese traditional architectural elements are transformed and deployed in Chinese Art Deco contexts.

4.2. The Six Principles

4.2.1. Principle 1: Dislocation

The first principle is the systematic dislocation of Chinese traditional architectural elements from their original structural context. Elements that traditionally occupy specific spatial positions within Chinese architectural motifs are transposed to non-traditional building parts; alternatively, multiple elements are rearranged into relative positions that deviate from historical precedent. This involves utilizing elements traditionally found at lower elevations in high-level positions, or placing components originally situated in the

mid-section or below the roofline onto the roof or cornice. The principle can be seen operated on the Nanjing National Assembly Hall, the Shanghai Sun Department Store and the Renli Carpet Company storefront.²²

4.2.2. Principle 2: Scalar Transformation

The second principle involves a systematic transformation of scale, utilizing traditional architectural forms in a manner that defies their original logic of proportion and holistic scale. This transformation operates in two directions: enlargement and reduction. Small-scale traditional elements may be magnified to become dominant compositional features. Conversely, elements that were traditionally large are often reduced to ornamental details suitable for individual panels or window frames. The principle can be seen operated on the Shanghai Municipal Stadium and the Shanghai Y.W.C.A. Building.²³

4.2.3. Principle 3: Abstraction

The third principle is the geometric abstraction of traditional ornamental forms: their reduction to essential geometric structure with the suppression of iconographic specificity, narrative content, and surface textural complexity. Abstraction serves a double function. Formally, it makes traditional motifs compatible with the clean-surfaced, geometrically precise aesthetic of Art Deco construction (which was largely executed in modern materials: reinforced concrete, machine-cut stone, factory-produced tile). Semiotically, it produces what we may call legible anonymity: the abstracted element retains sufficient visual distinctiveness to read as “Chinese” without committing to any specific historical period or regional tradition. The principle can be seen operated on the Bank of China Shanghai Headquarters and the West Lake Exposition entrance gateway.²⁴

4.2.4. Principle 4: Planarity

The fourth principle is the flattening of traditional three-dimensional or projecting architectural elements into bas-reliefs, or even purely two-dimensional graphic motifs. While traditional Chinese architecture is defined by a system of three-dimensional, protruding forms, Chinese Art Deco simplifies these elements into low-relief decorations applied to flat wall surfaces. This transition serves both as a material adaptation (since reinforced concrete facades are less suited for deep, structural carving) and as a formal alignment with the Art Deco aesthetic, which prioritizes surface over volume. Indeed, this is perhaps the most prevalent principle of the four. The principle can be seen operated on the Renli Carpet Company storefront, the Shanghai Municipal Stadium and the West Lake Exposition.²⁵

4.2.5. Principle 5: Collage

This principle refers to the concentrated assembly within a specific architectural section of numerous elements that, in traditional Chinese architecture, could not coexist or were separated by significant spatial or functional distances. This may include concentrating elements from different orientations into a single corner or compressing a complex system of columns and beams into a single opening. In a broader sense, it also encompasses the juxtaposition of traditional elements derived from disparate historical periods, regional traditions, and building typologies. The principle can be seen operated on the Shanghai Municipal Stadium, the Shanghai Sun Department Store and the Renli Carpet Company storefront.²⁶

4.2.6. Principle 6: Cross-Medium Transposability

The final principle is perhaps the most comprehensive: it entails maintaining a consistent decorative vocabulary across disparate architectural scales, material types, and media categories. This involves the cross-pollination and mutual borrowing of formal and ornamental methods typically segmented between traditional architecture, interior design, furniture design, and even the fine arts (including sculpture, painting, and textiles). This may involve applying non-architectural decorative techniques to buildings or, conversely, within the framework of a *Gesamtkunstwerk* (total work of art),²⁷ transposing architectural ornamentation onto other design categories.

This cross-media convertibility is directly contingent upon the operations of Principles 3 and 4. Once decorative patterns are sufficiently abstracted and flattened, they lose their specific architectural tectonic identity; they instead become “universal ornament units” capable of being applied to any medium that supports two-dimensional pattern application. This characteristic is particularly salient in the works of Liou KiPaul and Poy Gum Lee.

4.3. The Sinophone Case Archive and the Key Observations

Using the six operational principles of the Chinese Art Deco “ornamentation translation mechanism” as criteria, Table 1 presents a comprehensive archive of Sinophone cases, categorized by city, architect or firm, and specific building. The scope of these cases ranges from Liou KiPaul’s 1925 Chinese Pavilion at the Paris Exposition to Ma Ti-qian’s 1970s design for the Tamkang University campus - representing nearly half a century of continuous architectural production across mainland China, Taiwan, Hong Kong, Singapore, Indonesia, and New York’s Chinatown. This case collection can be interpreted through three concurrent dimensions: the architects’ profound formal application of the Chinese Art Deco mechanism; the geographical distribution of this mechanism; the continuity of this mechanism amidst the political upheavals

of the Sinophone world over the past fifty years.

CITY	ARCHITECT	ARCHITECTURAL CASE (YEAR)	P1	P2	P3	P4	P5	P6
Paris	Liou KiPaul (刘既漂)	Exposition Internationale des Arts Décoratifs - Chinese Pavilion Main Exhibition Hall (1925)			✓	✓		✓
	Yu Binglie (虞炳烈)	Cité Internationale Universitaire de Paris - Chinese Apartment Proposal (1930)		✓		✓	✓	✓
Tianjin	Liang Sicheng (梁思成)	<i>Tianjin Physical Construction Plan</i> - Haiguang Temple Park Municipal Library (1930)	✓	✓	✓	✓		
		<i>Tianjin Physical Construction Plan</i> - Municipal Art Museum (1930)	✓	✓	✓	✓		
Jilin	Liang Sicheng (梁思成)	Jilin Provincial University Assembly Hall and Library (1930)	✓	✓	✓		✓	
Beijing	Kwan, Chu & Yang Architects & Engineers ²⁸ (KCYAE, 基泰工程司)	Bank of Communications Beijing (1930)		✓	✓		✓	
	Liang Sicheng (梁思成)	Renli Carpet Company Shopfront Renovation (1932)	✓	✓	✓	✓	✓	✓
	Yang Tingbao (杨廷宝) (post-1949)	Wangfujing Department Store* (1954)	✓			✓		
	Lin Lexi (林乐羲), Beijing Industrial Building Design Institute	Capital Theatre** (1955)		✓	✓	✓		
	Yi Deshun (翼德顺), Beijing Industrial Building Design Institute	Ministry of Building Engineering (1955)		✓	✓	✓		✓
	Zhao Dongri (赵冬日) & Yao Lisheng (姚丽生), Beijing Municipal Design Institute	Chinese People's Political Consultative Conference Hall** (1956)		✓	✓	✓		
	Zhang Bo (张博), Beijing Industrial Building Design Institute	Beijing Friendship Hotel* (1956)	✓	✓	✓	✓	✓	
		Great Hall of the People** (1959)		✓	✓	✓		
		Cultural Palace of Nationalities* (1959)	✓	✓	✓	✓	✓	✓
	Hong Qing (洪青), Northwest Architectural Design Company (with Dong Dayou)	Xi'an People's Mansion (1954)	✓	✓	✓	✓	✓	✓
Xi'an		Xi'an People's Theatre** (1954)	✓	✓	✓		✓	
		Xi'an Architectural Engineering Corporation Building* (1954)		✓	✓	✓		
Changchun	--	Changchun Nanhu Hotel** (1960)		✓	✓	✓		
Guangzhou	Lin Keming (林克明)	Guangzhou Yangcheng Hotel*** (1960)			✓	✓		
Jiangmen		Xinhui Overseas Chinese Mansion* (1960)	✓	✓	✓		✓	
Shanghai	Loo Shu-Shung (卢树森)	Luwan Mingfu Library (1931)		✓		✓		
	Palmer & Turner Group (公和洋行)	Royal Asiatic Society Building (1932)		✓		✓		✓
	Palmer & Turner Group + Luke Him Sau (Bank of China Architectural Dept.)	Bank of China Shanghai Headquarters (1939)		✓		✓		✓
	Poy Gum Lee (李沛锦)	Shanghai Y.W.C.A. Headquarters (1933)		✓		✓	✓	✓
	(Y.M.C.A. Building Bureau)	Woosung Quarantine Station (1935)		✓		✓		
	Poy Gum Lee (李沛锦)	Yan Tongchun Residence (1934)		✓		✓	✓	✓
		Shanghai Municipal Museum* (1933)	✓	✓	✓	✓	✓	
		Shanghai Municipal Stadium Complex (Stadium, Gymnasium & Swimming Pool) (1935)	✓	✓	✓	✓	✓	
	Dong Dayou (董大酉)	Shanghai China Aviation Association (1935)	✓		✓			✓
		Shanghai Municipal Hospital** (1936)			✓	✓		✓
		Shanghai Tomb of the Unknown Hero (1936)			✓	✓		

	Kwan, Chu & Yang Architects & Engineers (KCYAE, 基泰工程司)	Juxingcheng Bank* (1934)			✓	✓	✓	
		The Sun Department Store (1936)	✓	✓	✓	✓	✓	✓
Nanjing	Liou KiPaul (刘既漂)	Paper proposals: KMT Central Headquarters, National Revolutionary Army Memorial Hall, National Library, Fine Arts Library, Zuiyue Pavilion etc. (1927-28)					✓	✓
	Kwan, Chu & Yang Architects & Engineers (KCYAE, 基泰工程司)	National Central Stadium (1931)		✓	✓	✓	✓	
		National Central Hospital** (1933)	✓		✓	✓		
		Dahua Cinema - Lobby & Auditorium Interior (1935)		✓	✓	✓		✓
	Luke Him Sau (陆谦受)	4th-Place Design Proposal for the National Central Museum (1933)		✓	✓	✓		
		Bank of China Nanjing Branch** (1934)		✓		✓		✓
		Nanjing Villa (1936)		✓		✓		✓
		5th-Place Design Proposal for the National Central Museum (1933)	✓	✓	✓	✓		
	Xi Fuquan (奚福泉)	National Assembly Hall (1936)	✓	✓	✓	✓		
		National Art Gallery (1936)	✓	✓	✓	✓		
		China National Products Bank Nanjing Branch ** (1936)		✓	✓	✓		
	A. J. Yaron (Fearon Lowe & Co.)	Ministry of Communications** (1933)	✓		✓	✓		
Hangzhou	Allied Architects (华盖事务所) (Tong Jun (童隽) & Zhao Shen (赵深))	Ministry of Foreign Affairs** (1935)	✓		✓	✓		
		Sun Yat-sen Cultural and Educational Hall (1935)		✓		✓		
	Yang Tingbao (杨廷宝)(post-1949)	East China Aeronautical Institute Teaching Building* (1953)			✓	✓	✓	
	Liou KiPaul (刘既漂)	West Lake Exposition - Main Entrance Gate (1928)		✓	✓	✓		✓
Nantong		West Lake Exposition - Revolutionary Memorial Hall Entrance Gate (1928)			✓	✓		✓
	Poy Gum Lee (李沛锦) (Y.M.C.A. Building Bureau)	Zhejiang Jianye Bank Hangzhou (1934)		✓		✓		✓
	Guo Yulin (郭毓麟) (Bank of China Architectural Dept.)	Hangzhou Bank of Communications Building (1935)	✓	✓		✓	✓	
Chongqing	Guo Yulin (郭毓麟) (Bank of China Architectural Dept.)	Nantong Bank of China Building (1935)	✓	✓		✓	✓	
Shashi (Hubei)	Luke Him Sau (陆谦受)	Bank of China Chongqing Branch** (1937)		✓		✓		
	Xi Fuquan (奚福泉)	Shashi Post Office Building (1938)		✓	✓	✓		
New York		Design Proposal for Chinese Consolidated Benevolent Association (C.C.B.A.) (1947)		✓		✓	✓	✓
		Leong Tong Merchant's Association* (1948)	✓	✓		✓	✓	
	Poy Gum Lee (李沛锦)	Eng Suey Sun Association (1952)	✓	✓			✓	
		Design Proposal for Hoy Sun Ning Yung and Lee Association* (1953)	✓	✓	✓	✓	✓	
		Design Proposal for C.C.B.A., 2nd version (1957)	✓	✓	✓	✓	✓	
	Andrew S. Yuen (袁世昌)	New York C.C.B.A.** (1960)	✓			✓		
Chiayi (Taiwan)	Yongning Architects (永寧建築師事務所) - Loo Shu-Shung (卢树森)	Bank of Taiwan Chiayi Branch (1946)			✓	✓	✓	
Kaohsiung (Taiwan)	Guanghua Architects (光華建築師事務所) - Chen Yu-po (陈聿波)	Bank of Taiwan Kaohsiung Branch* (1949)			✓	✓	✓	

Tainan (Taiwan)	Yongning Architects (永寧建築師事務所) - Cheng Ting-pang (郑定邦)	Cathedral of Our Lady of China (1964)	✓	✓		✓	✓
Danshui (Taiwan)	Yongda Architects (永大建築師事務所) - Ma Ti-qian (马惕乾)	Tamkang University Chongling Chemistry Building (1959)	✓	✓		✓	
		Tamkang University Student Activity Center (1962)	✓	✓	✓	✓	
		Tamkang University Liuxian Memorial Science Building (1967)	✓	✓		✓	
		Tamkang University Administration Building (1970)	✓	✓		✓	
Taipei (Taiwan)	KCYAE, Taiwan (台湾基泰工程司)	Taipei Municipal Comprehensive Sports Stadium (1956)		✓	✓	✓	✓
	Yongda Architects (永大建築師事務所) - Ma Ti-qian (马惕乾)	Tamkang University Taipei City Campus Building (1965)	✓	✓		✓	
		National Taiwan University Qiaoguang Hall (1968)	✓	✓		✓	
Hong Kong	Clark and Iu Architects (John Caer Clark & Iu Tak Chung (姚得中))	Pui Ching Middle School - Primary & Junior Secondary Old Campus (1933-35)	✓	✓	✓	✓	✓
	--	Former Chinese Methodist Church in Wan Chai (1936)	✓	✓		✓	
	Chau & Lee Architects (Chau Lu-Nin (周耀年) & Richard Lee (李礼之))	St. Mary's Church* (1937)		✓		✓	✓
	Palmer & Turner Group + Luke Him Sau (Bank of China Architectural Dept.)	Bank of China Hong Kong Branch (1950)	✓	✓		✓	✓
	Luke Him Sau (陆谦受)	Chapel for the Regional Seminary of South China (1955-56)	✓	✓	✓	✓	✓
Singapore	Swan & Maclaren	Telok Ayer Chinese Methodist Church (1925)	✓	✓		✓	✓
		Eu Tong Sen's Apartment (1925)	✓			✓	✓
		Theatre of Heavenly Shows (1928)	✓		✓	✓	✓
		Kheng Chiu Building (1963)	✓			✓	✓
	Keys & Dowdeswell	OCBC Building (The China Building) (1929)	✓	✓		✓	
	Ho Kwong Yew	Holy Trinity Church (1940)	✓	✓	✓	✓	
	Palmer & Turner Group	Bank of China Singapore Branch (1952)		✓		✓	
Ungaran (Java)		Poendok Pajoeng Residence (1931)				✓	✓
Semarang (Java)		Han Tiauw Tjong Residence & Interior (1932)				✓	✓
		Liem Tjiauw Liat Residence Interior Renovation (1934)				✓	✓
Cirebon (Java)	Liem Bwan Tjie	Design Proposal for A Crematorium (1933)		✓	✓	✓	
Malang (Java)		The Bo Djwan Residence (1934)				✓	✓
Jakarta		Oei Tjong Ham Group Branch Office (1941)		✓		✓	✓
		Hioe Tjo Joeng Residence Interior Renovation (1948)				✓	✓

*: Chinese Art Deco with Stripped Classicism tendencies

***: Chinese Art Deco with "Chinese Classical Revival" features at the top

***: Chinese Art Deco with modernist tendencies

Table 1: Comprehensive List of Chinese Art Deco Architecture in the Sinophone World (Source: Author, based on various sources).

The most structurally significant finding from the archive as a whole is the near-universal coexistence and parallel practices as the norm, within each architect's body of work, of all three design modes: the narrow *Chinese Classical Revival* (Path 1, the Totality path), the internationally aligned Art Deco that makes no gesture toward Chinese ornament, and the Chinese Art Deco recorded in the present table. Nearly every major architect in the archive commanded these three styles with equal fluency. This holds true even for British firms such as Palmer & Turner and Swan & Maclaren, as well as Liem Bwan Tjie in far-off Indonesia.²⁹ The few exceptions are instructive precisely because of their rarity. Architects such as Xi Fuquan, Luke Him Sau, Yu Binglie, and Ho Kwong Yew have no recorded works in the Chinese Classical Revival style: beyond Chinese Art Deco, their practices were concentrated entirely within the realms of International Art Deco and Modernism.³⁰ These facts demonstrate that Chinese Art Deco was not a "second-best" compromise, but rather a mode of active choice and persistence - one that possessed facets aligning it more closely with modernity than with tradition.

Together, Nanjing and Shanghai formed the nucleus of 1930s architectural production. In this period, Nanjing's output skewed heavily toward municipal and governmental edifices, whereas Shanghai's was characterized by a predominance of commercial and cultural buildings. Beijing's projects were concentrated within two disparate eras: the early experimental schemes of 1930–1932, and the state-commissioned projects of the late 1950s. Though fewer in number, the works in Hong Kong and Taiwan maintained temporal continuity from the 1930s through the 1950s, primarily manifesting as religious and institutional typologies with a distinct, non-governmental character. New York's Chinatown represents the westernmost node of this network; the series of association buildings constructed by Poy Gum Lee over the course of a decade constitutes the only sustained cluster of such cases in a non-Asian city. In Singapore, Swan & Maclaren emerged as the primary custodians of this stylistic lineage. The Indonesian entries (all by Liem Bwan Tjie) are the archive's most formally autonomous, operating at the greatest distance from both the Chinese mainland stylistic debates and the colonial institutional frameworks, yet activating the same operative principles.

The list also reveals that Chinese Art Deco was not diffused solely through individual architects but was concentrated and amplified by specific agents. On the non-governmental side, five agents proved particularly decisive: the Bank of China's Architectural Department, through commissions to architects like Palmer & Turner and Luke Him Sau, fostered a coherent, transnational architectural typology spanning East China, South China, and Singapore; the Y.M.C.A. Building Bureau under Poy Gum Lee, which extended the style across various regions of China;³¹ Hong Kong's Chinese Christian congregations, whose commissions for churches and mission schools produced an unexpectedly localized vernacular of Chinese Art Deco; Tamkang University in Taiwan, where Ma Ti-qian's campus buildings constitute the most sustained series of Chinese Art Deco commissions by a single client within Taiwan's historically conservative architectural atmosphere;

and the Chinese merchant elite networks of Singapore and Java, whose commercial and residential commissions gave Swan & Maclaren and Liem Bwan Tjie their most inventive formal opportunities. On the governmental side, three major project programmes provided concentrated institutional momentum: the ROC government's capital-building campaign in Nanjing, which produced the most prolific concentration of Chinese Art Deco civic architecture in the 1930s; the Greater Shanghai Plan, which generated a systematic programme of Art Deco municipal infrastructure; and the state design institutes' contributions to the Tenth National Day anniversary projects of the late 1950s, in which the intersection of Soviet theories regarding the relationship between "Class Nature" and "National Character," alongside the ambiguity of Liang Sicheng's "National Form" guidelines - situated between *Path 1 sub-type 2* and Chinese Art Deco - facilitated the development of a Chinese Art Deco style with a distinct socialist character.³²

5. GENEALOGICAL CORRESPONDENCE: THE SEVEN COMPOSITIONAL PATTERNS OF CHINESE ART DECO

5.1. The Translation Process and Its Visual Grammar

The formal language of Art Deco, as it developed through the 1920s and 1930s, was characterized by a set of compositional principles that were sufficiently consistent to constitute a recognizable visual grammar while remaining flexible enough to accommodate wide regional and typological variation. These compositional principles created, in effect, a universally adaptable formal framework into which the decorative resources of any tradition could be inserted. The Chinese architectural tradition, with its extraordinarily rich inventory of precisely detailed, geometrically characterful ornamental elements, was exceptionally well-suited to this kind of appropriation. The question was not whether Chinese traditional ornament could be Art Deco-ized, but rather what specific formal operations were required to accomplish the transformation; and whether those operations could be systematized into a teachable, transferable design methodology.

The argument that Chinese Art Deco is an organic component of the global Art Deco movement, rather than a peripheral borrowing from it, requires formal demonstration at the level of compositional logic. What is needed is a systematic account of the specific compositional frameworks within which the formal translation (the conversion of Chinese traditional ornamental resources into Art Deco decorative units) consistently took place. The seven compositional patterns described below represent the result of such an analysis.

5.1.1. Pattern Type 1: Vertical Brick-and-Panel Matrix

The simplest and most widespread compositional type in the global Art Deco repertoire organizes a multi-storey facade as a vertical grid of brick piers and recessed spandrel panels, producing a rhythm of controlled

austerity seen across American civic and commercial buildings such as Jefferson County Courthouse (Texas); Chicago Union Park Hotel; New York American Stock Exchange Building; New York Niagara Mohawk Building, etc. Chinese Art Deco adopts this matrix without structural modification, inserting traditional ornamental panels into the recessed fields while preserving the vertical emphasis whole: the Sun Department Store, the Y.W.C.A. Headquarters, and the Yan Tongchun Residence all demonstrate this substitution.

5.1.2. Pattern Type 2: Nested-Frame Frontispiece

Perret's *Théâtre des Champs-Élysées* established the nested rectangular frame as Art Deco's defining monumental gesture. This technique is easy to imitate and has spread widely around the world, from London Surbiton railway station to Richmond Odeon Cinema and to even Africa and Southeast Asia. Chinese practitioners recognized the formal affinity between Perret's nested frames and the layered gateway logic of Chinese ceremonial architecture, and mobilized it accordingly: the National Assembly Hall and National Art Gallery in Nanjing, the Singapore Theatre of Heavenly Shows, and the New York Leong Tong Association building all deploy nested-frame frontispieces charged with Chinese ornamental content.

5.1.3. Pattern Type 3: Setback Skyscraper with Eclectic Ornamental Fusion

American Art Deco towers, from the American Radiator Building to the Chicago Board of Trade and LeVeque Tower, combined stepped massing derived from zoning-law setback requirements with ornamental surface programmes freely fusing Gothic, Aztec, Egyptian, and industrial motifs. Chinese Art Deco absorbed this strategy wholesale, substituting Chinese architectural decorative vocabulary for the eclectic Western sources: the Juxingcheng Bank Shanghai, the Bank of China's Shanghai, Hong Kong, and Singapore branches, and the Cultural Palace of Nationalities in Beijing all perform this substitution across a range of scales.

5.1.4. Pattern Type 4: PWA Moderne / Greco Deco, or Decorated Stripped Classicism

American Public Works Administration Moderne (as practiced at the Folger Shakespeare Library, Indianapolis Central Library, and various federal courthouses) applied sparse, low-relief ornamental sculpture to a Stripped Classical compositional base, generating institutional gravitas with minimal decorative expenditure. This was the natural formal vehicle for Chinese civic and governmental architecture that required both modernist sobriety and legible cultural identity: the proposed Tianjin Municipal Library, the Bank of Communications Beijing, the Shanghai Municipal Hospital, the Nanjing Ministry of Foreign Affairs, the Great Hall of the People, and the Xi'an People's Theatre all operate within this pattern. In its later stages, the development of the so-called "National Style" in mainland China essentially consisted of the mass

replication of this specific typology, until decorative ornamentation was systematically reduced to the point of invisibility.

5.1.5. Pattern Type 5: Monumental Masonry Block

A distinct Art Deco monumental type (exemplified by the Leipzig Battle of the Nations Monument, Sydney's Anzac Memorial, and Tokyo's Meiji Memorial Picture Gallery) produced massively walled, minimally fenestrated compositions of overwhelming civic weight. Chinese Art Deco found in this type an effective vehicle for athletic and commemorative programs largely without traditional architectural precedent: the Jilin Provincial University Assembly Hall, the National Central Stadium and Shanghai Municipal Stadium Complex, and the Shanghai Tomb of the Unknown Hero all employ its formal logic.

5.1.6. Pattern Type 6: Dutch Expressionist Vertical Massing

Dutch brick Expressionism and its Art Deco affiliates (Radio Kootwijk, the Utrecht Central Post Office, the Jeruzalemkerk, Dudok's Hilversum Town Hall, etc.) developed a vocabulary of bold vertical piers, plastic volumetric composition, and richly textured brickwork that proved particularly generative for Chinese Art Deco practitioners working with tower-bay and gateway compositions. The Renli Shopfront, the Royal Asiatic Society Building, the Sun Yat-sen Cultural and Educational Hall, the East China Aeronautical Institute teaching building, the Wan Chai Methodist Church, and Liem Bwan Tjie's Jakarta Chinese Chamber of Commerce all draw on this compositional resource.

5.1.7. Pattern Type 7: Fine-Arts Abstraction

A final type does not derive from a specific building typology but from the decorative design culture that ran from Art Nouveau through the applied arts, temporary exhibition architecture, and graphic design into Art Deco: from Atelier Elvira and the Maison Cubiste through Steiner's First Goetheanum to the Palais de la Porte Dorée. Here ornament operates as pure pictorial and plastic invention rather than as architectural element-substitution. Liou KiPaul's entire output belongs entirely to this type (from the 1925 Paris Exposition pavilion to his paper architecture), as does Liem's Semarang interiors.

5.2. The Translation Process and Its Visual Grammar

Cases marked with “**” in the comprehensive archive warrant a dedicated discussion within this comparative genealogy, specifically concerning the polysemy of the “Big Roof” when viewed through the lens of Art Deco.

Traditionally, these cases might be interpreted as instances where architects remained “uncontrollably obsessed” with the Big Roof while attempting to practice a more flexible, modern “Chinese style” that discarded holistic classical correspondences, leading to its redundant addition onto an otherwise self-contained volume. This interpretation naturally places such works at the boundary between integral and non-integral assemblages. It is precisely this ambiguity that has led previous scholars to struggle with their categorization, resulting in inconsistent attitudes or even a refusal to classify them at all.

However, this paper proposes an alternative explanation: in these practices, the traditional Chinese pitched and tiled roof served as a formal surrogate for the pyramidal or conical aesthetic prevalent in global Art Deco crowns. Across global Art Deco production, there was a consistent demand for building tops (whether via stepped set-backs, Romanesque-inspired domes, Egyptian-style pyramids, or Mayan-style stepped corbelled peaks) to establish a “top-heavy” visual climax and a concentrated decorative focus. This treatment of the crown as a distinct sculptural termination is a hallmark of Art Deco that distinguishes it from Neoclassicism or other forms of historicism. When Chinese architects, through their understanding of this specific Art Deco trend, recognized the inherent and “natural” decorativeness of the traditional Chinese roof, an “integral translation” of the building’s crown became a logical, perhaps even inevitable, gesture. Further evidence for this interpretation lies in the fact that many of these projects utilized the double-eaved pointed roof (*chongyan cunjian ding*, 重檐攒尖顶) - a specific type that is relatively rare in traditional Chinese architecture but perfectly aligns with the formal requirements of Art Deco aesthetics.

6. THEORETICAL REPOSITIONING: THE SIGNIFICANCE OF CHINESE ART DECO

6.1. The Internal Formal Spectrum: A Wölfflinian Geographic Axis

Wölfflin argues that a style is not a uniform condition but a set of opposed formal tendencies between which individual works are distributed, and whose polarity defines the style’s characteristic range of possibility more precisely than any single representative example could. Chinese Art Deco, examined across the full case archive, exhibits exactly this kind of internal polarity.

The polarization first manifests itself in forms. At one pole, Chinese Art Deco shades toward *Path 1*. However, within the range, this tendency is at most conceptual rather than formal, and thus differs in substance from *Path 1*. At the opposite pole, the design increasingly exhibits a blurring of ornament detail and an integrated, modernized aesthetic, thereby gradually distancing itself from the traditional Chinese context. Between these poles, the entire productive range of Chinese Art Deco is distributed.

The polarization first manifests itself in ideologies. The tendency toward greater Chinese formal legibility is characteristically associated with a “Political Nationalism” the institutional demand that buildings visibly perform Chinese cultural identity for legitimacy. The tendency toward greater abstraction is characteristically associated with what might be called an “Apolitical Nationalism”: an idealized or commercially motivated decorative preference for Chinese formal character that operates without the weight of political obligation, and is therefore free to treat Chinese traditional elements with a lightness and inventiveness.

These two axes, the formal and the ideological, roughly overlap with the North-South geographical divide of the physical world. The Northern Limit occurred in Manchukuo, where the Japanese-led “Kōa-shiki (興亜式, *Asia-Harmonic Style*)” construction projects catalyzed a series of architectural typologies. These buildings were essentially hybrids of Japanese and Chinese efforts to modernize their respective traditions; while they served Japan’s Pan-Asianist ideology, they also reproduced, within a displaced institutional context, the full spectrum of formal debates internal to the Sinophone world.³³ Consequently, this region naturally produced works closely allied with Chinese Art Deco, albeit operating under the highest degree of political instrumentalization. Conversely, the Southern Limit was found in Java, where Liem Bwan Tjie served the Chinese elite diaspora. Those practices were almost entirely liberated from any explicit political nationalism. Liem’s engagement with Chinese decorative aesthetics reflected the sensibilities of an aesthetically acute “outsider”: flexible, inventive, and unburdened by ideological constraints. At their most abstract level, his works began to move toward a radically new interpretation of Chinese architectural tradition that transcended mere decorative citation.³⁴

6.2. *Ornament, Style, and Translation: Three Anchors to Reassess Chinese Art Deco*

On one hand, Chinese nationalist historiography subordinates the style to the political prestige of the “holistic” path; on the other, international modernist historiography dismisses it as mere ornamentation. Despite their diametrically opposed political natures, both narratives fail to accommodate the unique formal logic represented by Chinese Art Deco. To reposition Chinese Art Deco within a theoretical framework, a genuine re-evaluation requires a framework anchored by three keywords: *Ornament*, *Style*, and *Translation*.

Alina Payne’s historical analysis of *Ornament* establishes a fundamental thesis: within the theoretical traditions discarded by modern architecture, ornament is not a dispensable supplement to the architectural essence, but rather the primary medium through which architectural meaning is generated. The modernist rejection of ornament was not merely a formal simplification, but a theoretical reorientation: meaning shifted from the architectural surface to the building’s volume, function, and structural system.³⁵ From this perspective, the practitioners of Chinese Art Deco from the 1920s to the 1960s were continuing a much older and broader

understanding of ornament: the communication of cultural identity through formalized visual material. This expressive function operates on the building's material surfaces, both interior and exterior, while the spatial and structural organizations remain contemporary. Furthermore, among the "Six Principles," Scalar Transformation, Collage, and Cross-Medium Transposability frequently created three-dimensional, miniature traditional architectural elements within the ornamentation. This bridged the formal migration between the "Small Woodwork (*Xiao Mu Zuo*, 小木作)" of the Chinese tradition and Payne's highlight on *Kleinarchitektur*.³⁶

Antoine Picon subsequently pointed out that the decisive shift in the theoretical status of ornament did not begin with the modernist rejection of decoration, but rather with its gradual liberation from the obligation to represent a historically constructed cultural totality. Extending this revival into the modernist era, he notes that ornamental elements never truly vanished from modern architecture; instead, they were suppressed into a "critical unconscious," from which they continually return - observed in the global Art Deco movement, postmodernism, and today's logic of parametric surfaces.³⁷ So the "Six Principles" are, in Picon's terms, the specific techniques by which the liberation of Chinese traditional ornament from its cultural-systemic obligations was accomplished: the formal procedures through which ornamental forms that had historically derived their meaning from participation in a total architectural grammar (diachrony/totality) were transformed into autonomous ornament units available for new formal combinations (synchrony/non-totality).

The most commonly used *Style* framework typically treats style as an inventory of characteristic formal elements, such that a building is classified by which elements it contains and in what proportion. Deborah Schaffer's and Mari Hvattum's independent critiques of this framework converge on the same alternative: style is not an element-inventory but a set of operative structural principles; a logic of formal production that generates characteristic results without prescribing specific formal outcomes.³⁸ This is precisely the distinction this paper has been making throughout: Chinese Art Deco is not defined by which Chinese traditional elements appear in a building but by the "Three-Stage Mechanism" through which those elements are processed and integrated. A classification framework that treats style as element-inventory will always misplace Chinese Art Deco: either absorbing it into the integral path (because Chinese elements are present) or dismissing it as eclectic compromise (because the grammar of those elements is not preserved). Only a framework that treats style as operative logic can correctly identify what Chinese Art Deco actually is: a coherent formal program with consistent internal principles, a characteristic formal range, and a historically specific relationship to both Chinese tradition and global Art Deco.

7. CONCLUSION

This paper presents three propositions. First, Chinese Art Deco is a distinct category defined by an “ornamentation translation mechanism” that transforms Chinese traditional architectural resources into Art Deco decorative units without the historical wholeness of the integral path. Second, this category is global, spanning mainland China, Hong Kong, Taiwan, Singapore, Indonesia, and North American Chinatowns. Its persistence across varied political and institutional conditions demonstrates its structural independence from specific ideological or political projects. Third, Chinese Art Deco is an organic contribution to the global Art Deco movement, evidenced by seven compositional pattern types, and grounded in the significance of *Ornament, Style, and Translation*.

Recovering this category impacts the global Art Deco narrative by adding formally sophisticated work, expanding its geographical range, and challenging the center-periphery model. Furthermore, it clarifies the relationship between cultural specificity and formal universality, proving that encounters between locally specific formal traditions and globally circulating compositional frameworks produce results that are simultaneously recognizably particular and formally universal. These are not hybrid compromises but genuine syntheses that transcend the traditional opposition.

NOTES AND REFERENCES

1. Examples of works that primarily employ this approach include the following two: Chao-Ching Fu. *中國古典式樣新建築：二十世紀中國新建築官制化的歷史研究*. Nan tian, 1993; Li Haiqing, and Wang Xiaoqian. *叠合与融通：近世中西合璧建筑艺术*. Zhong guo jian zhu gong ye chu ban she, 2015. WorldCat.
2. *This new understanding of eclectic architecture has also prompted us to reflect on methodological issues in architectural history. In the history of Chinese architecture, the exchange between Chinese and Western architectural cultures is undoubtedly one of the most central themes. Currently, in discussions of related architectural styles, commonly used descriptive terms include “integration of Chinese and Western elements,” “fusion of Chinese and Western styles,” “hybrid style,” and “eclecticism,” among others. While these terms can summarize the general characteristics of the corresponding architecture, they fail to clarify the specific connotations of the so-called “Chinese” and “Western” elements, let alone explain the specific ways in which they are “combined,” “mixed,” or “synthesized.” In short, after making an intuitive judgment about a phenomenon, there remains a lack of further explanation regarding the question of “how.” The ambiguity and vagueness of these descriptive terms reflect the limitations of existing research methods when faced with new challenges.*
In Delin Lai. “Architectural Translations and the Notion of Architectural Translatability in Modern China.” *The Architect*, no. 1 (2009), p. 22–30.
3. Jeffrey W. Cody. *Building in China: Henry K. Murphy’s “Adaptive Architecture,” 1914-1935*. University of Washington Press, 2001; Jun Wang. “1955: A State Criticism of a Formal Language of ‘the Big Roof.’” In *Sixty years of Chinese architecture history (1949-2009)*. Zhongguo jian zhu gong ye chu ban she, 2009. p. 76-77.

4. Delin Lai. "Architectural Translations and the Notion of Architectural Translatability in Modern China." *The Architect*, no. 1 (2009), p. 27; Hua Li. "'Composition' and a Constitution of Architectural Knowledge." In *Sixty years of Chinese architecture history (1949-2009)*. Zhongguo jian zhu gong ye chu ban she, 2009. p. 236-245.
5. Yuanzhao Huang. "China's Eclecticism(III): the Practice of Chinese-style Eclecticism in China." *World Architecture Review* 31, no. 3 (2016): 45–51. <https://doi.org/10.14080/j.aw.2016.03.007>; Yuanzhao Huang. "The Chinese Classicism(II) : the Practice of Chinese Classical within China." *World Architecture Review* 30, no. 6 (2015): 45–51. <https://doi.org/10.14080/j.aw.2015.06.003>.
6. Xu Yihong. *Art Deco 的源与流: 中西“摩登建筑”关系研究*. Southeast University Press, 2006.
7. *The starting point of the "Translation" method is the belief that classical architectural elements of both the East and West possess a correspondence in terms of their formal positioning and structural functions, a concept Liang Sicheng termed "Translatability." Coexisting with this is another architectural design approach for the "Chinese style," which may be referred to as "Decoration." Instances of "Translation" typically take classical Western architectural compositional prototypes as their reference point, emphasizing the Sinicization of the overall image of the Western prototype. Conversely, "Decoration" involves the localized addition of Chinese architectural elements or ornamental motifs onto a physical composition designed according to Western - specifically modern or contemporary - architectural principles. The forms of these elements do not strictly adhere to the fashi (traditional rules or codes) of Chinese architecture, and their placement on the building is more flexible, no longer strictly governed by the correspondence between formal positioning and structural function. As a result, these Chinese elements become mere appendages to a Western composition. ... If the West-to-East transformation in the "Translation" method is a holistic "metaphor" (metaphoric), then the same transformation in the "Decoration" method is a "metonymy" (metonymic), where the part stands for the whole.*
In Delin Lai. "第 4 章 学院派来源与梁思成的‘文法-词汇’表述." In *Changing ideals in modern China and its historiography of architecture*. Zhongguo jian zhu gong ye chu ban she, 2016. p. 84-85.
8. Wang Ying. In *seeking of a "Chinese shiyang": the conception of style in early modern Chinese architecture*. Zhongguo jian zhu gong ye chu ban she, 2015. p. 110, 156.
9. Li Hua offers an exceptionally insightful summary and critique of this assumption, which, to a certain extent, reveals the inherent flaws in this design approach and the inevitability of the emergence of Chinese Art Deco when applying Beaux-Arts methods beyond the scope of this assumption:
However, employing language as an analogy for "translatability" is an ambiguous and potentially misleading metaphor. It implies that architects and buildings from disparate historical eras and nations can establish a systemic relationship akin to language, and specifically, to the act of "translation." Under this framework, architectural differences are reduced to two dimensions: a "vocabulary" (elements) and the "grammar" (or "order") that links them. Yet, this model fails to capture the true nature of linguistics. For one, "words" in one language correspond to those in another through their meanings, which generally overlap rather than align perfectly. ... In other words, there is no "universal dictionary" capable of both capturing shared meanings and delineating the precise semantic boundaries unique to each language. Furthermore, in linguistic terms, "grammar" refers to the specific rules governing the use of a language. These rules are not only distinct from one language to another but also lack direct comparability, as there is no overarching universal standard of usage.
Hua Li. "A 'New' and 'Chinese' Architecture in Relation to the Beaux-Arts Tradition as a System of Knowledge." In *Sixty years of Chinese architecture history (1949-2009)*. Zhongguo jian zhu gong ye chu ban she, 2009. p. 40.
10. Hua Li. "'Composition' and a Constitution of Architectural Knowledge." In *Sixty years of Chinese architecture history (1949-2009)*. Zhongguo jian zhu gong ye chu ban she, 2009. p. 239.
11. Harrer, Alexandra. "In Defense of the Wrongly Convicted-Ernst Börschmann's Chinesische Architektur and the Controversial Synchrony of the Chinese Architecture Survey." *Journal of Asian Architecture and Building Engineering* (ABINGDON) 21, no. 3 (2022): 735-54.

12. Refers to Liang Sicheng (梁思成), Liu Dunzhen (刘敦桢), Yang Tingbao (杨廷宝), Tong Jun (童寯).
13. Delin Lai. “第 4 章 学院派来源与梁思成的‘文法-词汇’表述.” In *Changing ideals in modern China and its historiography of architecture*. Zhongguo jian zhu gong ye chu ban she, 2016. p. 84.
14. Wang Ying. *In seeking of a “Chinese shiyang”: the conception of style in early modern Chinese architecture*. Zhongguo jian zhu gong ye chu ban she, 2015. p. 120.
15. Zhang Bo. *我的建築創作道路*. Zhongguo jian zhu gong ye chu ban she, 1994.
16. The Renli shopfront (北平仁立地毯公司铺面改造, 1932) is exemplary of the second type: Lai Delin has identified elements derived from the Tianlongshan cave-temple bracket systems (Northern Qi/Tang), the Dule Monastery structural details (Liao), and the sumeru-base balustrade (Song/Ming) - three historically non-contiguous sources assembled with apparent indifference to their historical separateness. This is not a failure of historical knowledge (Liang Sicheng was perhaps the most historically knowledgeable architect in China at the time); it is the deliberate expression of a synchronic operative logic. In Delin Lai. “第 4 章 学院派来源与梁思成的‘文法-词汇’表述.” In *Changing ideals in modern China and its historiography of architecture*. Zhongguo jian zhu gong ye chu ban she, 2016. p. 85.
17. Benton, Charlotte, Tim Benton, and Ghislaine Wood, eds. *Art Deco 1910-1939*. 1st North American ed. Bulfinch Press/AOL Time Warner Book Group, 2003.
18. Art Nouveau/Jugendstil/Secession/Modernisme/Liberty could be repositioned as pioneering movements. Rather than being a dead end, the New Art is now seen to lead to the architectural innovations of the 1910s and the emergence of intellectual Modernism and fashionable Art Deco. Most importantly the values expressed in Art Nouveau and Jugendstil were recognized as valid: individualism, plastic and sculptural values, picturesqueness (asymmetry) and fantasy. In Anderson, Anne. *Art Nouveau Architecture*. The Crowood Press, 2020. p. 422.
19. Denison, Edward. “Art Deco and the Other.” In *The Routledge Companion to Art Deco*, 1st ed. Routledge, 2019. p. 294.
20. Hanxiang Zhou, and Xiaosheng Cui. “‘Translatability of Architecture’: A Possibility of Transforming Traditional Architectural Ornament.” *装饰*, no. 7 (2023): 77–84.
21. Hongbin Zheng. “Blending China and West to Create Chinese New Architecture: Liou KiPaul’s ‘Art Architecture’ and its Interpretation.” *South Architecture*, no. 6 (2013): 77–85;
https://www.sixthtone.com/news/1017459?utm_campaign=feed&utm_medium=referral&utm_source=later-linkinbio; National Archive of Singapore, NAHD0003 - NA0309_0287.
https://www.nas.gov.sg/archivesonline/maps_building_plans/record-details/816fab29-e913-11e6-828d-0050568939ad; Liang Sicheng. *Liang si cheng quan ji*. 9. Zhong guo jian zhu gong ye chu ban she, 2013; Anj001, CC BY-SA 4.0. <https://commons.wikimedia.org/w/index.php?curid=100207353>;
ScareCriterion12, CC BY-SA 4.0 <<https://creativecommons.org/licenses/by-sa/4.0/>>, via Wikimedia Commons; Denison, Edward, and Guang Yu Ren. *Luke Him Sau, Architect: China’s Missing Modern*. John Wiley & Sons Inc, 2014. p. 299.
22. For instance, on the facades of the Nanjing National Assembly Hall, grouped bracket set (*dougong*, 斗拱) motifs appear at the cornice. Here, they function purely as decorative signifiers of Chinese identity, strategically placed within the “ornamental climax” defined by the compositional logic of Art Deco. Similarly, the Shanghai The Sun Department Store features Chinese-style stone balustrades at the roof level. And on the roof parapet of the Renli Carpet Company storefront, several isolated chiwen-shaped decorative elements were positioned at the corners, wooden lattice windows are even placed directly above the *dougong* motifs throughout the facade.

23. The Shanghai Municipal Stadium exemplifies this enlargement: the architraves (*lan'e*, 阑额) and spandrel brackets (*qutie*, 雀替) above the arches are significantly larger than what would be considered a functional or traditional scale. Furthermore, the cloud-motif carvings capping the vertical blocks of the Shanghai Y.W.C.A. Building represent an extreme enlargement of patterns typically reserved for furniture or small utensils, elevating them to an architectural scale.
24. The degree of abstraction varies across the cases but the direction of transformation is consistent. A relatively modest degree of abstraction can be observed in the openwork wall carvings (*toudiao*, 透雕) of the Bank of China Shanghai Headquarters. Conversely, a prime example of radical abstraction is found in the entrance gate of the West Lake Exposition entrance gateway, where the entire facade of a traditional memorial archway (*pailou*, 牌楼) was reduced to a stylized, two-dimensional graphic pattern.
25. The decorative dougong band at the center of the Renli Carpet Company storefront; the *lan'e* and *qutie* above the arches of the Shanghai Municipal Stadium (previously cited in Principle 2); the complete two-dimensional rendering of the traditional *pailou* at the West Lake Exposition entrance gate (previously cited in Principle 3).
26. Shanghai Municipal Stadium concentrates arched gates, double-layered *lan'e*, and *pailou*-style *yingshan* (硬山) roofs into a single bay. On Shanghai The Sun Department Store's top floor, balustrades are integrated with abstracted *lan'e* and *qutie* within the unit of a small-scale opening. For Renli Carpet Company storefront, as previously noted, the facade merges elements from three historically non-consecutive dynasties into a single cohesive front.
27. Munch, A. V. *The Gesamtkunstwerk in Design and Architecture : From Bayreuth to Bauhaus*. Aarhus University Press, 2021.
28. Found by Kwan Sung-sing (关颂声), Chu Pin (朱彬), Yang Tingbao (杨廷宝).
29. The examples of these three architects' *Chinese Classical Revival Practice*: Palmer & Turner's Ho Tung Garden (1925) in Hong Kong; Swan & Maclaren's Ee Hoe Hean Club (1927) in Singapore; Liem Bwan Tjie's Jang Seng Ie Funeral Home Association (1938) in Jakarta. Also see: 何培斌 and 蒋志丹, "何東花園是中國民藝復興建築?", *信報*, 20 Dec. 2011; BiblioAsia. "Chinese Renaissance Architecture." Accessed May 9, 2026. <https://biblioasia.nlb.gov.sg/all-sections/vol-14-issue-1-apr-jun-2018-chinese-renaissance-architecture/>; Liem, Bwan Tjie, and Judy den Dikken. *Liem Bwan Tjie (1891 - 1966): Westerse Vernieuwing En Oosterse Traditie*. Bibliografieën En Oeuvrelijsten van Nederlandse Architecten En Stedebouwkundigen. Stichting Bonas [u.a.], 2002.
30. Notably, Luke Him Sau and Ho Kwong Yew were trained within the British Commonwealth architectural system, while Yu Binglie and Xi Fuquan were products of Continental European architectural education, one in France, one in Germany - Xi Fuquan was actually a doctoral student of Börschmann.
31. Changxin Peng. "Intervening in the Metropolis: The Creation of YMCA Architecture in Modern China." *New Architecture*, no. 6 (2017): 11–18; Changxin Peng, and Xueping Gu. "Surpass the Prototype: The Construction and Development of Physical Space in YMCA Buildings in Modern China." *The Architect*, no. 1 (2020): 110–18.
32. Guohua Ji. "The Incursion of Soviet Socialist Realism and its Influence on Chinese Architecture in the 1950s." In *Sixty years of Chinese architecture history (1949-2009)*. Zhongguo jian zhu gong ye chu ban she, 2009; Jun Wang. "1955: A State Criticism of a Formal Language of 'the Big Roof.'" In *Sixty years of Chinese architecture history (1949-2009)*. Zhongguo jian zhu gong ye chu ban she, 2009.
33. In recent years, within the scholarship on the colonial architecture of Manchukuo, Kōa-shiki (Asia-Harmonic Style) schemes have been the subject of sustained analysis. However, there have been few

previous attempts to compare their internal formal variations with the “Chinese Art Deco” style defined in this paper. In practice, the former Ministry of Civil Affairs, the former Ministry of Communications, and the former Mukden Railway Bureau Headquarters can be categorized as nearly Chinese Art Deco. The former Comprehensive Justice Building and the Residence of Premier Zhang Jinghui lean toward a fusion of “Chinese Expressionism and Eclecticism.” The former State Council Building and the former Ministry of Justice approach “Japanese Stripped Classicism.” Finally, the former Ministry of Military Affairs and the former Ministry of Economy align closely with “Chinese Classical Revival” in its narrowest sense (*Path 1*).

34. That was the territory later explored by architects such as Wang Dahong (王大閼) and Ge Ruliang (葛如亮), who approached the field from the perspectives of structure and space. This proximity foreshadowed (though did not yet complete) a trajectory moving from a decorative to a structural engagement with Chinese tradition; however, this lies beyond the scope of the present paper.
35. Payne, Alina Alexandra. *From Ornament to Object: Genealogies of Architectural Modernism*. Yale University Press, 2012. p. 16.
36. Payne, Alina Alexandra. *From Ornament to Object: Genealogies of Architectural Modernism*. Yale University Press, 2012. p. 21.
37. Picon, Antoine. *Ornament: The Politics of Architecture and Subjectivity*. 2nd ed. AD Primers. John Wiley & Sons, Incorporated, 2013. p. 43.
38. Hvattum, Mari. *Style and Solitude: The History of an Architectural Problem*. The MIT Press, 2023; Schafer, Debra. *The Order of Ornament, the Structure of Style: Theoretical Foundations of Modern Art and Architecture*. Cambridge University Press, 2003.



TRADITIONAL DWELLINGS AND SETTLEMENTS
WORKING PAPER SERIES

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Volume 356
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TRANSLATING MODERNITY AND URBAN TRADITION ACROSS SPACE AND TIME

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