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CROSS-CULTURAL TRANSLATIONS AND HYBRID TRADITIONS

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CROSS-CULTURAL TRANSLATIONS AND HYBRID TRADITIONS

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Traditional Dwellings and Settlements

Working Paper Series

DECODING HYBRID TRADITIONS: A KNOWLEDGE GRAPH APPROACH TO ANALYZING CROSS-CULTURAL TRANSLATION IN SHANGHAI'S HISTORIC ARCHITECTURE

*Zongcheng Zuo, Bangcan Yang, Aoshuang Wu, Hongpeng Yu,
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DECODING HYBRID TRADITIONS: A KNOWLEDGE GRAPH APPROACH TO ANALYZING CROSS-CULTURAL TRANSLATION IN SHANGHAI'S HISTORIC ARCHITECTURE



The Bund in Shanghai stands as a quintessential example of “translating traditions,” where Eastern and Western architectural elements converged to create a unique hybrid landscape. This research employs a knowledge graph as a computational framework to critically examine how diverse traditions were selected, interpreted, and synthesized. The core methodological challenge lies in bridging architectural form (visual/spatial) with semantic representation. This paper posits that architectural elements function as recognizable motifs and types that carry cultural meaning, thus providing a theoretical basis for their semantic encoding. The methodology follows a three-phase, iterative process grounded in a city-wide survey of 1,058 outstanding historical buildings in Shanghai while taking the Bund as an emblematic interpretive cluster. First, in the data acquisition and semantic schema definition phase, survey records, genealogy diagrams, knowledge cards, and selected visual/geometric evidence are used to define a domain-specific schema of component types, attributes, and relations. Second, during knowledge graph population and validation, the graph is populated through expert-guided annotation and comparison, ensuring that verbal categories correspond to visual-spatial consensus and that component classifications remain traceable to survey evidence. Third, the populated graph enables graph-based analysis through centrality, community detection, and provenance tracing, making it possible to identify central stylistic nodes, recurring hybrid combinations, and genealogical pathways of translation across façades and interiors. This approach moves beyond anecdotal observation or simple term frequency. It provides a structured, queryable model of hybridity that can systematically identify which source traditions are most semantically central, or how a specific element type was translated across contexts. The knowledge graph does not replace but scaffolds visual analysis, offering a transparent framework to organize and quantitatively support arguments about cultural translation. By formalizing the logic of translation into a computable model, this research demonstrates how digital semantics can illuminate the socio-cultural processes of “translating traditions,” providing a robust analytical tool for interpreting the layered heritage of Shanghai and its Bund.

1. INTRODUCTION

The concept of “translating traditions” is central to understanding the architectural heritage of global metropolises shaped by colonial encounters, trade, and intensive cultural exchange.¹ Within such settings, tradition does not survive as a fixed inheritance; it is selectively redeployed, materially adjusted, and socially re-signified under new urban conditions. Shanghai’s historic architecture—spanning religious, commercial, residential, educational, and civic buildings—offers an especially fertile field for observing this process.² The Bund remains its most emblematic cluster, yet the broader city reveals that translation was not confined to a single waterfront ensemble. Across Shanghai, Western architectural vocabularies were not merely copied but recalibrated through local craftsmanship, programmatic demands, and Chinese aesthetic sensibilities, contributing to the layered condition commonly associated with Haipai architecture.³

However, critically analyzing this translation process at a granular level remains methodologically difficult. Traditional art-historical approaches excel at narrative interpretation, while recent survey and card-based documentation also demonstrate how difficult it is to formalize the coexistence of multiple stylistic grammars

within the same façade, room, or component.^{4,5} Descriptions of hybridity therefore tend to remain evocative rather than comparable: they can identify mixture, yet they rarely expose its recurrent structures, branching genealogies, or the uneven ways in which traditions are redistributed across different parts of a building.

Our recent survey of Shanghai's historical decorative components provides an important basis for addressing this problem. The survey distinguishes three broad families of components—Chinese traditional, Western historicist, and Sino-Western hybrid/Haipai—and treats style not simply as a label for whole buildings but as a vocabulary carried by doors, windows, staircases, pediments, ceilings, fireplaces, walls, and columns. This shift in scale is theoretically important: it suggests that cross-cultural translation often takes place through partial transfer, selective recombination, and material adaptation at the component level. Such a perspective is valuable across Shanghai's historic architecture, where stylistic identity is frequently encoded less in total stylistic purity than in the fine-grained negotiation of details.

This paper proposes that a knowledge graph (KG) offers an effective computational framework for turning this survey-derived knowledge into an analyzable semantic structure.⁶ A KG represents knowledge as entities, attributes, and relations, making it possible to connect buildings, component instances, style families, materials, feature items, and documentary evidence within a single model. Rather than replacing visual interpretation, the graph scaffolds it: it stores the ontological assumptions behind classification, keeps evidentiary links visible, and allows researchers to retrieve, compare, and trace stylistic arguments across cases.⁷ In this sense, digital semantics becomes an interpretive infrastructure rather than a purely technical database.

Building on the survey project, the paper integrates a stylistic genealogy, a component-oriented ontology, a graph database, and a prototype intelligent question-answering interface. In doing so, it contributes not only a method for analyzing hybridity in Shanghai's historic architecture, but also a transferable humanities-oriented workflow for studying how traditions are deployed, transformed, and re-signified through the built environment.

2. THEORETICAL REVIEW OF ASSESSMENT AND EVALUATION TOOLS OF TRANSLATING TRADITIONS

2.1 The Theory of Architectural Hybridity and Translating Traditions

The notion of hybridity has been widely used in cultural and postcolonial theory to describe the emergence of new meanings through the interaction of heterogeneous traditions.⁸ In architectural history, this perspective reframes stylistic borrowing as an active process of translation rather than simple imitation. Translation, in

this sense, is never neutral or total: it involves selection, omission, scaling, and reinterpretation. Buildings in colonial ports and treaty-port cities are therefore understood as material records of negotiation, accommodation, and reinterpretation.^{9,10} Yet these negotiations do not occur only at the level of master plans or façade composition; they are often materialized in the transfer of specific component grammars, ornaments, and craft procedures.

2.2 Historiography of Shanghai's Architectural Heritage

The development of Shanghai's modern architecture has been richly documented, especially in studies of the concession era and the emergence of Haipai modernity.^{11,12} These works clarify the city's stylistic diversity and the important roles played by foreign architects, local clients, and Chinese practitioners. Yet most studies remain focused on overall building style, while the component-level mechanisms of translation—how arches, railings, sash windows, stair balustrades, ceilings, fireplaces, or pediments were reworked across contexts—are discussed only episodically. What is still lacking is an intermediate analytical scale capable of linking the city-wide history of stylistic exchange to the micro-politics of form, material, and decorative choice.

2.3 Knowledge Graphs in Architectural Heritage and Digital Humanities

Knowledge graphs have become increasingly important in cultural heritage research because they can integrate heterogeneous evidence into a semantically connected network that supports advanced querying and relational reasoning.^{13,14} In architecture and heritage, KGs have been used to model traditional building systems, connect documentary sources and geometry, and support information retrieval and decision-making.^{15,16,17} Their strength lies in linking formal categories with contextual evidence while preserving traceable relations among entities. At the same time, many heritage graphs are oriented primarily toward inventory, management, or information integration. Fewer are designed as interpretive models capable of encoding stylistic genealogy, hybrid branching, and the culturally loaded meanings carried by component details.

2.4 Research Gap and This Paper's Position

A gap remains at the intersection of these two research traditions. Shanghai studies provide deep historical insight but rarely formalize the branching logic of hybridization. Heritage KGs, by contrast, often rely on generic schemas that are insufficiently grounded in the component-level nuances of local stylistic practice. This paper bridges that gap by grounding a computational knowledge model in a recent survey of Shanghai decorative components and by treating Shanghai's historic architecture—with the Bund as one emblematic cluster rather than the sole object—as an empirical field for examining the translation of traditions.

2.5 Partial Translatability at the Component Scale

If tradition is understood not as a self-identical package but as a historically situated grammar, then its translation in Shanghai must be read as partial and selective. Imported styles rarely arrived as complete systems. What circulated more often were component fragments—an arch profile, a fanlight, a bracket, a sash pattern, a stair balustrade, a ceiling motif, or a material contrast—which could be detached from their original ensembles and re-sited within new building programs, labor regimes, and aesthetic expectations. The problem is therefore not simply whether a component can be named Gothic, Baroque, Georgian, Neo-Classical, or Art Deco, but how such labels are materially recalibrated when they enter Shanghai's mixed craft ecologies and urban hierarchies.

A component-oriented knowledge graph is useful precisely because it can model this partial mobility of style. It helps researchers distinguish relatively coherent translations from simplified quotations, mixed branches, and later repair substitutions. In this sense, semantic encoding is not a reduction of architectural meaning to data; it is a way of making interpretive decisions explicit and traceable. The graph does not settle the meaning of tradition once and for all, but records how traditions become legible through named features, evidentiary comparison, and genealogical inference.

3. METHODOLOGY: A SURVEY-GROUNDED KNOWLEDGE GRAPH FRAMEWORK

The core methodological premise of this study is that the knowledge graph should not begin with an abstract ontology imposed from outside, but with a survey-derived genealogy of architectural components. The framework therefore translates expert knowledge accumulated in the Shanghai survey into a structured graph that can be queried, analyzed, and reused. This move is methodologically important because it preserves the interpretive intelligence already embedded in fieldwork, typological comparison, and stylistic judgment rather than replacing them with an externally imposed data model. Figure 1 summarizes the workflow.

Survey-grounded workflow for decoding cross-cultural translation

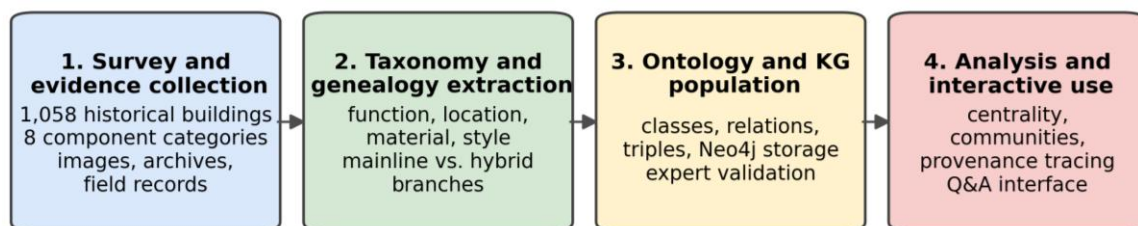


Figure 1: Survey-grounded workflow for decoding cross-cultural translation.

3.1 Phase 1: From Survey Data to Ontological Structure

3.1.1 Survey corpus and evidence acquisition

The empirical basis of the study is a city-wide survey covering 1,058 recognized historical buildings in Shanghai. The survey organizes decorative evidence across eight core component categories: door, window, staircase, wall, ceiling, fireplace, column, and pediment. It combines architectural history, iconographic reading, and field investigation, and for each component records not only formal characteristics but also its position, material, style attribution, and photographic evidence.

The survey workflow itself is highly compatible with semantic modeling. It proceeds through information collection and integration, extraction of stylistic “matrix” features, comparison and normalization of feature items, identification of genealogy relations, and iterative verification. In other words, the survey already distinguishes between empirical evidence, controlled vocabulary, and genealogical inference; the knowledge graph formalizes these distinctions so that they can be computed, compared, and retrieved without severing them from their interpretive basis.

3.1.2 Taxonomy, genealogy, and ontology design

The survey established a four-parameter classification system consisting of function, location, material, and style. It also developed a five-dimensional analytical lens—form, construction, ornament, materiality, and cultural semantics—for defining feature-identification items. This is important because it allows the same component to be read simultaneously as a functional object, a situated building element, a material assembly, a stylistic sign, and a carrier of cultural meaning. It also distinguishes mainline style branches from hybrid branches in which two or more stylistic matrices coexist.

Core ontology used to translate survey knowledge into graph entities

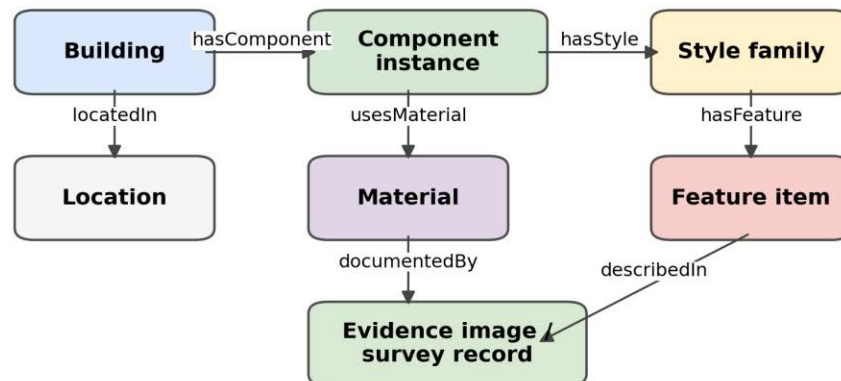


Figure 2: Core ontology used to translate survey knowledge into graph entities.

Based on this structure, we formalized a domain ontology with classes including Building, Component Instance, Style Family, Feature Item, Material, Location, and Evidence Record. Relations such as hasComponent, hasStyle, hasFeature, usesMaterial, locatedIn, and documentedBy were defined so that survey records could be transformed into graph triples. The ontology thus encodes not only what a component is, but also how it mediates between imported formal models, local material practice, and historically situated meaning. Figure 2 shows the core ontology used in the implementation, while Figures 3 and 4 show selected survey diagrams and feature-identification sheets so that the underlying classificatory logic remains legible to an international readership. Table 1 provides a concrete example of how survey-derived feature items are translated into graph attributes.

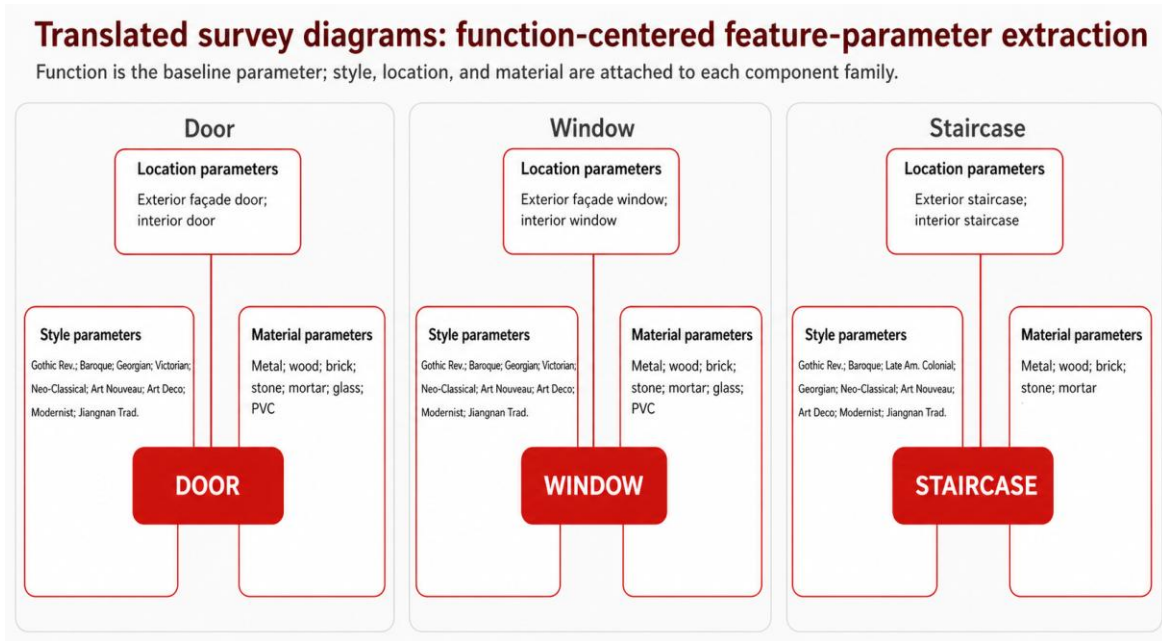


Figure 3: Translated survey diagrams showing function-centered feature-parameter extraction for doors, windows, and staircases.

Component	Style family	Survey-derived feature item	Semantic encoding in the KG
Window	Georgian	Keystone arch frame	Window →hasFeature→ Keystone_Arch_Frame
		Bracket-supported hood / balcony	Window →hasFeature→ Bracketed_Hood_Balcony
		Six-over-six sash or Palladian window	Window →hasFeature→ SixOverSix_Sash / Palladian_Window
		Human-face ornament on keystone	Window →hasFeature→ Figural_Keystone_Ornament

Table 1: Example of mapping survey-derived feature identification items to graph semantics (Georgian window).

Translated summaries of selected feature-identification matrices

Panels condense survey-based recognition items for the component families most frequently discussed in this paper.

DOORS	WINDOWS	STAIRCASES
Jiangnan Traditional axial ceremonial gate; timber/brick portal; lattice or panel leaves; Su-Song motifs	Jiangnan Traditional inset square opening; brick drip eave or none; lattice/oyster-shell sash; regional motifs	Roman Revival grand straight or bifurcated stair; heavy stone/iron balustrade; marble or granite; giant newels
Gothic Revival pointed arch; matching porch hood; exposed-board leaf; moulded reveals	Gothic Revival pointed arch; matching hood; stained-glass sash; mouldings and iron tracery	Gothic Revival spiral or pointed-arcade stair; carved timber tracery; dark wood/stone; vertical emphasis
Baroque stage-like portal; swan-neck/shell hood; multi-panel leaf; vegetal and figural ornament	Georgian keystone frame; bracketed hood or balcony; six-over-six sash / Palladian window; figural keystone	Late American Colonial straight orderly stair; turned balusters; hardwood; restrained ornament
Georgian keystone frame; bracketed hood; six- or ten-panel leaf; figural keystone	Neo-Classical pedimented composition; classical supports; gridded or French window; entablature detail	Neo-Classical symmetrical bifurcated stair; Greek-key/palmette ironwork; marble; sculptural newels
Neo-Classical ordered columnar composition; volute brackets; geometric recessed panels; entablature detail	Victorian bay or oriel window; floral hood; subdivided sash with coloured glass; handcrafted brick detail	Art Nouveau sinuous spiral layout; plant-like wrought iron; wood plus iron; whiplash curves
Art Deco geometric frame; stepped or cantilevered hood; glazed/panelled leaf; radiating abstract motifs	Art Deco stepped/geometric opening; integrated lintel band; metal sash; relief bands and machine aesthetics	Art Deco straight or curved stair; repeated geometric metalwork; steel/chrome/glass; speed and glamour

Figure 4: Translated summaries of selected feature-identification matrices for doors, windows, and staircases, redrawn from the survey sheets.

3.1.3 Feature-identification and genealogy extraction protocol

The survey report makes clear that style assignment followed a repeatable interpretive protocol rather than impressionistic naming. In condensed form, the workflow comprises five linked operations. First, information collection and integration assembled component photographs, building data, and, where necessary, field surveys and measured drawings. Second, the team extracted stylistic “matrix” features from the image corpus: for a door, for example, these included opening profile, hood or porch, leaf construction, and ornamental detail. Third, the extracted items were compared across a standardized matrix so that recurring features could be normalized into controlled descriptors. Fourth, components were sorted into genealogical relations, distinguishing mainline branches from hybrid branches in which two or more stylistic matrices coexist. Fifth, the resulting framework was iteratively checked and supplemented as new evidence entered the corpus.

Two methodological principles are especially important. The first is that component style should be determined primarily by the component’s own artistic characteristics and only secondarily by the overall architectural style of the building to which it belongs. This guards against forcing every detail into a single building-level label and is crucial in Shanghai, where additions, repairs, and mixed stylistic programs are common. The second principle is that function serves as the baseline parameter to which location, material, and style are attached. A window, staircase, ceiling, or fireplace is therefore never treated as an isolated ornament alone; it is always read as a situated artifact with programmatic, material, and semantic dimensions.

The knowledge cards operationalize this logic through highly specific feature-identification items. Gothic Revival windows are defined by pointed arches, traceried or story-bearing-stained glass, and articulated wall moldings; Georgian windows by keystone frames, bracket-supported hoods or balconies, and six-over-six sash or Palladian compositions; Neo-Classical examples by pedimented compositions, ordered supports, and entablature detail; Art Deco entrances by stepped geometries, metal-and-glass subdivision, and radiating or machine-like motifs. In graph terms, such items become neither loose keywords nor purely visual impressions. They become controlled nodes and relations through which component evidence can be compared, clustered, and genealogically traced. Figure 4 condenses this recognition logic for doors, windows, and staircases in translated form.

3.2 Phase 2: Knowledge Graph Construction and Population

Once the ontology was defined, the next step was to populate the KG from the survey outputs. Structured survey tables, genealogy diagrams, representative case descriptions, knowledge cards, and visual evidence were converted into RDF-like triples and stored in Neo4j. At this stage, the purpose of the graph is not only storage, but normalization and comparison: the same feature item, style family, material, or case type can be reused across multiple buildings and component instances, making cross-case analysis possible.

The graph population process combined rule-based extraction with expert validation. A representative record such as “the south façade window of the Palace Hotel displays Victorian bay-window morphology with pastoral ornament and gridded sash divisions” can be decomposed into linked entities for building, component, location, style, and feature items. In hybrid cases, the graph can also record branch relations, allowing an element to inherit from one lineage while exhibiting feature items associated with another. This is crucial for Shanghai, where a single building may contain multiple stylistic registers, and where later replacement components must be distinguished from historically layered hybridity.

Crucially, the graph retains links back to evidence. Photographs, survey cards, and case descriptions are not discarded after classification; they remain attached to component or feature nodes so that the reasoning process stays inspectable. This helps prevent the graph from becoming a black box and keeps semantic interpretation tied to visual and documentary reality. It also makes the graph useful for conservation, because arguments about authenticity can be traced back to the image, description, or archival comparison from which they were derived.

3.3 Phase 3: Graph-Based Analysis and Interactive Retrieval

The populated KG enables three kinds of analytical work. First, centrality analysis can identify which style

families act as semantic “hosts” or bridges in the hybrid system. Second, community detection can reveal recurrent clusters of components, styles, and building types that correspond to distinctive modes of translation. Third, provenance tracing can reconstruct how a specific hybrid element branches away from a more canonical lineage by following its feature-level links. Together, these operations allow the graph to move between micro-evidence and metropolitan pattern.

To test the practical usability of the model, we also implemented a prototype intelligent question-answering interface. Instead of querying the database through a specialist interface alone, users may ask natural-language questions; the system parses entities and relations, generates Cypher queries, and returns subgraph evidence together with linked knowledge cards and images. This transforms the graph from a documentation backend into an exploratory research tool and makes interpretive reasoning more accessible to both researchers and non-specialist users.

4. EXPERIMENT AND ANALYSIS: IMPLEMENTING THE KNOWLEDGE GRAPH

Knowledge Graph Construction Based on the Shanghai Survey

4.1.1 Survey deliverables used for graph population

The recent Shanghai survey did not produce a single report alone; it generated a layered corpus that is especially suitable for graph construction. At minimum, four deliverable types are relevant here: a research report defining the component-style framework, a set of seventy-five knowledge cards for representative mainline cases, component information tables, and genealogy diagrams for multiple component categories. This corpus is richer than a standard inventory because it records not only what components exist, but how they were classified, compared, and genealogically interpreted.

This layered corpus is methodologically important because it allows the graph to be populated at different levels of granularity. The report provides the conceptual vocabulary, the knowledge cards provide normalized case knowledge, the component tables provide instance-level evidence, and the genealogy diagrams provide the branching logic needed to model stylistic evolution and hybridization. Taken together, these materials make it possible to encode not just objects, but interpretive relations among objects. Table 2 summarizes these deliverable types, and Figure 5 reproduces representative genealogy diagrams for several component families so that the lineage logic encoded by the survey remains visible.

Survey deliverable	Quantity / Scope	Main content	Role in the KG
Research report	1 report	Four parameters, style identification logic, eight-category genealogy framework, representative cases	Ontology design and controlled vocabulary
Knowledge cards	75 cards	Representative mainline cases and recognizable feature items	Creation of style, feature, and evidence nodes
Component information tables	10 sites / 32 components	Four-dimensional records including building style, function, location, material, main style, and branch lineage	Instance-level population and validation
Genealogy diagrams	Multiple component categories	Mainline and hybrid branches for windows, staircases, doors, walls, ceilings, fireplaces, columns, and pediments	Modeling of lineage and cross-style translation

Table 2: Survey deliverables and their role in knowledge graph population.



Figure 5: Representative survey-derived stylistic genealogies for staircases, fireplaces, wall treatments, and ceilings.

4.1.2 Current implementation: scale and semantic structure

The current implementation translates the survey corpus into a graph structure that combines building entities, component instances, style families, feature items, and auxiliary conceptual nodes. In the present version of the full implementation, the graph comprises 968 nodes and 1,061 relationships, forming a dense semantic network that supports both macro-level pattern analysis and micro-level case tracing. The network already reveals that the project is not dealing with isolated monuments but with a relational field linking buildings, components, stylistic branches, materials, and meanings. Table 3 reports the current distribution of node and relation types, while Figure 6 shows the implemented graph environment in which these entities can be browsed and queried.

Node / relation type	Count	Illustrative examples
Style families	45	Neo-Classical; Gothic Revival; Shanghai_Art_Deco
Architectural components	8 categories / 324 instances	Column_Doric; Window_Casement_With_Transom
Buildings	127	Peace_Hotel; Customs_House
Visual features	412	Fluted_Shaft; Stained_Glass_Rose_Window
Material / concept nodes	62	Granite; Jugendstil_Influence
Total nodes	968	—
Total relationships	1,061	hasStyle; hasFeature; locatedIn; evolvesFrom

Table 3: Statistical summary of the current knowledge graph implementation.

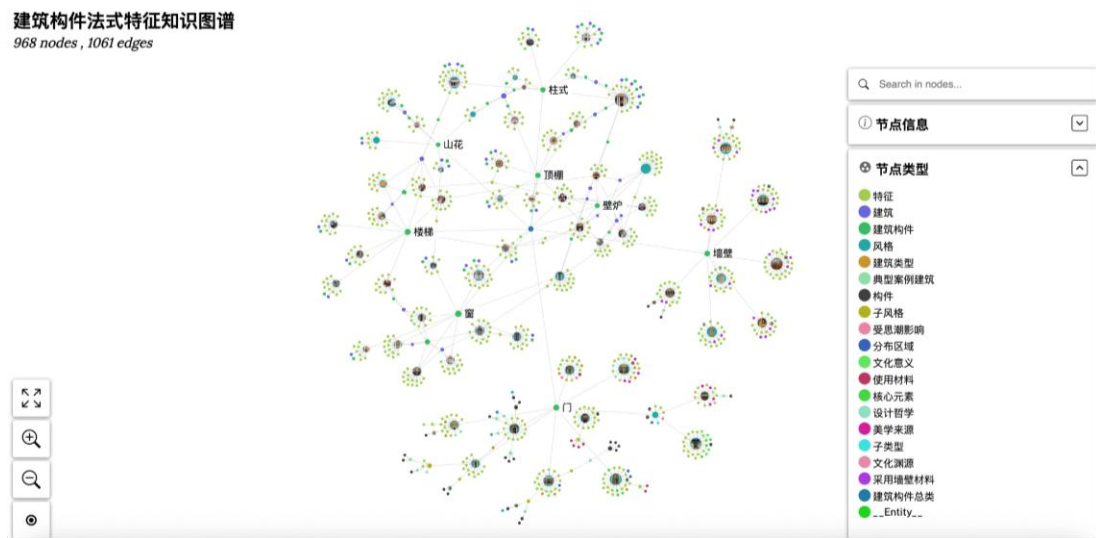


Figure 6: Screen capture of the current knowledge graph implementation for Shanghai historic architectural components (968 nodes, 1,061 relationships).

4.2 Graph-Based Analysis of Stylistic Translation

4.2.1 Centrality analysis: semantic hosts of hybridity

Preliminary centrality analysis indicates that Art Deco and Neo-Classical occupy the most important bridging positions in the present graph implementation. This result is consistent with long-standing art-historical observations: in Shanghai, these styles frequently acted as absorptive host frameworks into which other motifs, materials, and local decorative languages were inserted. The significance of the graph here is not that it “discovers” hybridity from nothing, but that it operationalizes and compares the degree to which styles mediate between otherwise separate stylistic constellations. Put differently, the graph helps distinguish frequently occurring styles from structurally important styles.

4.2.2 Community detection: translation communities rather than isolated cases

Community detection further suggests that translation is not random. One recurrent cluster links Neo-Classical forms, banking programs, and localized ornamental motifs, revealing a strategy in which Western institutional authority was retained while local identity was selectively embedded in decorative components. Another cluster associates Art Deco with commercial or residential modernity, especially where geometric abstraction and streamlined detail were used to convey urban progress. These graph results also resonate with the survey’s style-function correspondences: Gothic Revival doors and windows concentrate in churches and schools, Baroque elements appear strongly in commercial buildings, Victorian features recur in residential settings, and modernist window systems spread through office architecture. The graph therefore shifts the discussion from isolated hybrid objects to communities of translation logic.

4.2.3 Provenance tracing: from mainline branch to hybrid branch

The survey’s genealogy method is especially valuable for provenance tracing. A representative example comes from the Gothic Revival door lineage: the survey records relatively pure Gothic Revival doors in early church architecture, but it also identifies later hybrid branches in which pointed arches and Gothic wall moldings are retained while transoms or leaf panels display Art Deco characteristics. In graph terms, this makes it possible to connect a hybrid component simultaneously to its dominant lineage and to the feature items that mark translation into a newer stylistic register. Just as importantly, provenance tracing helps distinguish historically sedimented hybridity from later replacement. Where current components deviate sharply from documented feature matrices or historic images, the graph can flag possible non-original interventions, turning conservation from approximate imitation toward evidence-based “genealogical repair.”

4.3 Prototype Intelligent Question-Answering Interface

The prototype intelligent Q&A interface demonstrates how the graph can support interpretive retrieval. A user may ask, for example, which Shanghai historical buildings combine Ionic columns with Chinese motifs, how Baroque influence persisted in twentieth-century Shanghai architecture, or which staircase cases belong to Art Deco lineages. The system parses the question, identifies component and style entities, generates a Cypher query, and returns a subgraph together with linked knowledge cards, images, and explanatory text. In this way, the system preserves the evidentiary depth of the survey while lowering the threshold for semantic exploration. It thereby translates specialist heritage knowledge into a form that can circulate more widely without detaching interpretation from evidence. Figure 7 shows the current Chinese-language prototype interface, while Figure 8 summarizes the retrieval workflow.



Figure 7: Current Chinese-language prototype interface of the intelligent question-answering system for historic-architecture knowledge retrieval.

Workflow of the prototype intelligent question-answering system

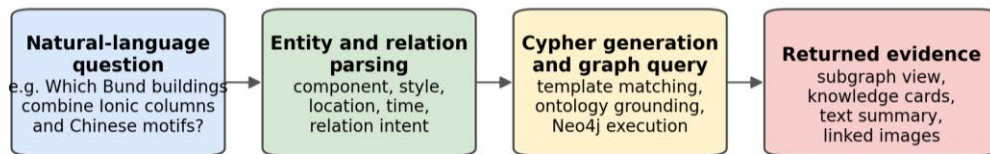


Figure 8: Workflow of the prototype intelligent question-answering system.

4.4 Discussion

Three points emerge from the implementation. First, the survey-to-graph workflow is not merely a matter of data conversion; it is a way of formalizing architectural interpretation. The graph works because the underlying survey had already articulated a clear controlled vocabulary of component types, feature matrices, genealogy logic, and cultural semantics. In other words, digital semantics succeeds here only when grounded in careful domain scholarship.

Second, the graph provides an intermediate scale of analysis between the single building and the whole city. Because components, styles, and feature items are all connected, the researcher can move from a single window or stair balustrade to a broader field of translation patterns. This is particularly useful for Shanghai's historic architecture, where hybridity is often distributed unevenly across building programs, districts, façade zones, and component categories rather than expressed as a single total style. At this intermediate scale, traditions become visible not as complete stylistic systems but as partial grammars selectively redeployed in specific architectural situations.

Third, the intelligent Q&A prototype shows that the graph has value beyond archival storage. It can support teaching, curatorial interpretation, and heritage communication by returning evidence-based answers that remain anchored in component-level knowledge. It can also assist conservation by helping distinguish historical hybridization from later substitution, a distinction that is central to questions of authenticity. At the same time, the current implementation still has limitations. Some analytical conclusions remain preliminary and should be supplemented by fuller quantitative reporting, broader district-level case expansion, and additional bilingual data cleaning before final publication.

5. COMPONENT-SCALE CASE READINGS OF TRANSLATION

5.1 Knowledge Cards as an Interpretive Bridge between Survey and Graph

If the survey report defines the controlled vocabulary, the knowledge cards provide the interpretive middle scale between inventory and argument. Each card condenses a representative component into a compact scholarly object: image evidence, component position, case source, recognizable feature items, and remarks on style-function correspondence. This format matters for a humanities-oriented paper because it demonstrates that the graph is not built from abstract categories alone. It is built from already interpreted cases in which naming, comparison, and image-based reasoning are held together. Table 4 synthesizes these card-based translation logics comparatively across the main style families discussed below.

For the present paper, the cards are especially useful because they show how translated traditions become legible in concrete architectural situations. Rather than asking whether a whole building is purely Gothic, Baroque, Neo-Classical, or Art Deco, they ask what makes a specific door, window, or entrance recognizably aligned with one lineage or another, and under what circumstances hybridization appears. The cards thus furnish the micro-evidence through which the larger claims of graph analysis can be historically thickened. Figure 9 reproduces two representative survey knowledge cards—Georgian and Victorian doors—as examples of the card format used throughout the corpus.

Style family	Representative component evidence	Typical programmatic setting	Dominant translated logic
Gothic Revival	Pointed doors and stained-glass windows with moulded reveals	Churches and schools	Relatively coherent import of ecclesiastical / disciplinary grammar
Baroque/Georgian	Shell pediments, keystones, bracketed hoods, sash and Palladian windows	Commercial and mercantile buildings, especially Bund and near-Bund cases	Prestige translated either through spectacle (Baroque) or ordered civility (Georgian)
Neo-Classical	Pedimented openings, ordered supports, simplified entablature detail	Public institutions, apartments, high-end residences	Classical authority simplified and re-coded under metropolitan modernity
Art Deco	Stepped geometry, metal-and-glass entrances, radiating motifs	Commercial buildings, hotels, apartments	Modernity translated as geometric discipline, speed, and cosmopolitan image-making
Jiangnan/Haipai hybrid	Wood lattice, brick carving, selective Western insertions	Traditional residences and hybrid domestic settings	Local craft continuity combined with selective incorporation of foreign grammars

Table 4: Case-based translation logics synthesized from the knowledge cards.

Representative survey knowledge cards used in the case-reading section



Figure 9: Two representative survey knowledge cards reproduced in the case-reading section: Georgian and Victorian door cases.

5.2 Gothic Revival: Liturgical Grammar and Disciplinary Space

The Gothic Revival cards are among the clearest examples of relatively coherent translation. Both doors and windows are said to concentrate in churches and schools, and their recognizable items are specific: pointed arches, story-bearing or traceried stained glass, molded surrounds, and, in door cases, exposed plank construction and bundled moldings rather than classical pediments or Baroque curves. The relative absence of substantial mixture is itself meaningful. It suggests that when Gothic first entered Shanghai through missionary and educational institutions, it arrived not as a generalized “Western style” but as a more disciplined liturgical and pedagogical grammar.

What is translated here is therefore not only a shape vocabulary but an institutional atmosphere. The pointed window or portal organizes vertical aspiration, moral seriousness, and denominational identity; it also materializes imported religious culture through local brickwork, craftsmanship, and later maintenance histories. In graph terms, the Gothic nodes form dense associations with program nodes such as church and school. The case shows that translation may begin with relative stylistic coherence before later branching and hybridization complicate the lineage.

5.3 Commercial Prestige: Baroque and Georgian Windows on and around the Bund

The Bund and its adjacent commercial districts present a different mode of translation. The Baroque knowledge cards emphasize theatrical composition: curved pediments, shell-like hoods, sculptural profiles, round or elliptical motifs, and the visual dynamism of a window or portal treated almost as a stage set. The Georgian cards, by contrast, stress order rather than drama: keystone frames, bracket-supported hoods or balconies, six-over-six sash divisions, Palladian arrangements, and occasional figural keystone ornaments. Yet both families are repeatedly associated with commercial or mercantile buildings. The city thus translated more than one European language of prestige, using Baroque for display and Georgian for civility, sobriety, and measured authority.

This distinction is important for understanding the Bund historically. Financial and trading institutions did not deploy tradition uniformly; they selected different stylistic fragments according to how they wished to stage trust, cosmopolitanism, and urban status. The graph helps model this by showing that Baroque and Georgian features are not merely frequent motifs but parts of separate translation communities. Their overlap occurs not because the styles are identical, but because the commercial program created a shared arena in which multiple imported traditions could be locally calibrated.

5.4 Neo-Classical Simplification and Institutional Authority

Neo-Classical components occupy an intermediate position between historical citation and modern simplification. The cards describe regular columnar compositions, bracket-supported hoods, grooved or paneled door leaves, entablature detail, and, in window cases, pedimented frames and ordered supports. At the same time, the notes emphasize that Shanghai examples were often simplified under the influence of early twentieth-century Art Deco and modernist tendencies. This is a critical observation. It means that Neo-Classicism in Shanghai functioned less as a pure revival than as a flexible host language through which public institutions, apartment entrances, and high-end residences could claim order and respectability under changing modern conditions.

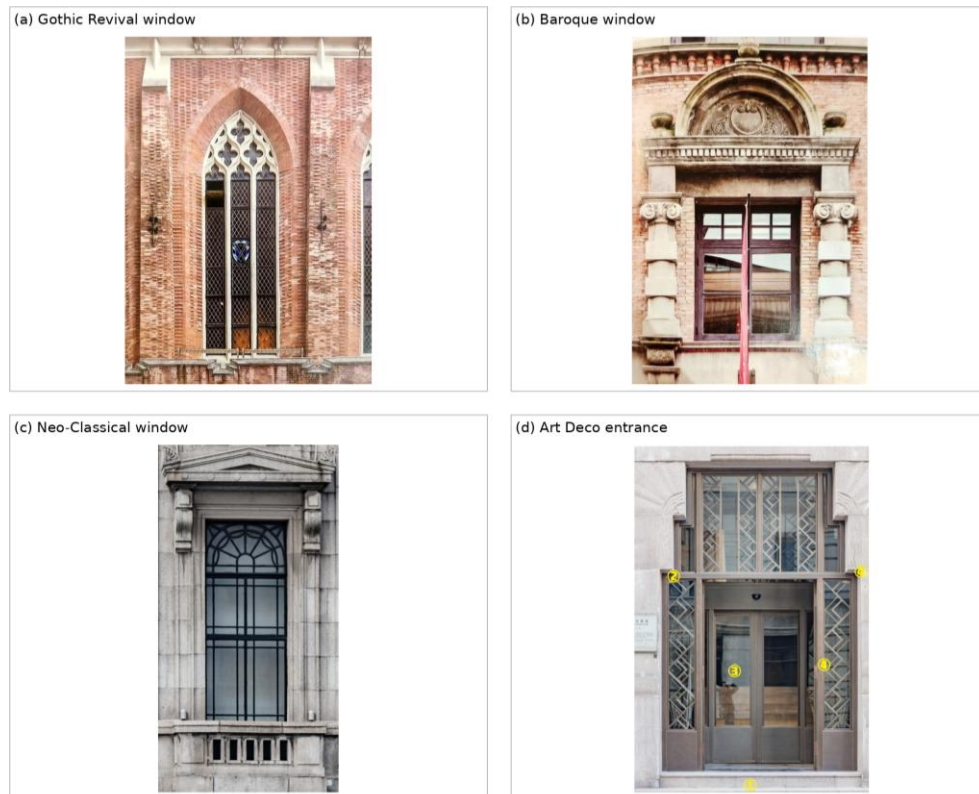


Figure 10: Selected component-scale cases used for close visual reading in the paper: Gothic Revival window, Baroque window, Neo-Classical window, and Art Deco entrance.

The Neo-Classical window reproduced in Figure 10 makes this especially visible: the overall composition remains classical, yet the window subdivision and material finish already point toward a more stripped and rationalized modern surface. In the graph, this helps explain why Neo-Classical styles appear as structurally important bridging nodes. They can absorb local ornament, coexist with newer material systems, and mediate between nineteenth-century classical authority and twentieth-century metropolitan modernity.

5.5 Art Deco and the Translation of Modernity

If Gothic imported a relatively coherent liturgical grammar and Neo-Classical forms provided a host language of authority, Art Deco translated modernity itself. The Art Deco knowledge cards emphasize geometric framing, stepped construction, vertical emphasis, metal-and-glass subdivision, radiating motifs, and references to machinery, speed, and global exotic sources. These are not simply decorative effects. They articulate a new relationship to time and urban life: accelerated, commercial, cosmopolitan, and technologically expressive.

Shanghai's Art Deco cannot therefore be understood as a passive derivative of Paris or New York. It was reworked through local building programs, craft execution, material availability, and the city's own appetite for modern image-making. Its entrances and windows often retain strong geometrical discipline while selectively incorporating local habits of use, repair, and coexistence with older fabrics. In the vocabulary of this paper, Art Deco demonstrates that translation is not the transfer of a finished style but the reassembly of portable motifs within a new metropolitan ecology.

5.6 From Case Reading to Genealogical Repair

These cases clarify why the paper insists on genealogy rather than style labels alone. In conservation practice, the crucial question is often not whether a component appears merely "old" or "Western," but which lineage it belongs to and which translated features are historically integral to that lineage. A repair based only on generalized period taste risks erasing the very hybridity that gives Shanghai's architecture its specificity. By linking feature items to documentary evidence, the graph can help distinguish historically sedimented hybridity from later substitution or stylistic pastiche.

This conclusion returns the argument to the practical problem of deploying tradition across cultures. Tradition here is neither sacred residue nor a free design resource. It is an evidentiary and interpretive problem. The combination of survey report, knowledge cards, genealogy diagrams, and graph model makes it possible to move from the humanities practice of close reading to an operational framework for documentation, explanation, and repair.

6. CONCLUSION

This paper has presented a survey-grounded knowledge graph framework for decoding cross-cultural translation in Shanghai's historic architecture, with the Bund treated as an emblematic cluster within a larger city-wide field. By drawing on a recent genealogy survey of Shanghai's historical decorative components, it translated component-level stylistic knowledge into a formal semantic structure linking buildings,

components, styles, materials, features, and evidence records. The result is a model that can be queried, analyzed, and interpreted at multiple scales.

The study makes four main contributions. Methodologically, it shows how a component genealogy survey can be converted into an ontology-driven knowledge graph rather than remaining a static documentation archive. Analytically, it demonstrates that graph operations such as centrality analysis, community detection, and provenance tracing can clarify how traditions were recombined in Shanghai's hybrid-built environment and how style-function correspondences shape that recombination. Conceptually, it argues that traditions circulate not as intact wholes but as selectively redeployed component grammars whose meanings are renegotiated through material practice. Finally, through the knowledge-card cases and the question-answering prototype, it shows how digital infrastructure can remain closely tied to architectural interpretation, thereby serving both scholarly debate and evidence-based heritage practice.

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Traditional Dwellings and Settlements

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FROM ACCOMMODATION TO INCULTURATION: THE EVOLUTION OF JESUITS' "DUAL TRADITIONS" AND THEIR REFLECTIONS ON THE ARCHITECTURAL SPATIAL PRACTICES IN CHINA

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FROM ACCOMMODATION TO INCULTURATION: THE EVOLUTION OF JESUITS' "DUAL TRADITIONS" AND THEIR REFLECTIONS ON THE ARCHITECTURAL SPATIAL PRACTICES IN CHINA



This paper explores the evolution of Jesuits' cultural and spatial practices in China based on the reconstruction of Jingyi Tang, the first Catholic church in Shanghai and the first church situated in Chinese landscape garden, dating back to 17th century yet rarely examined. Meanwhile, through comparative case studies, it articulates how the Jesuits, as the cultural intermediaries, gradually comprehended and harmonized their Renaissance heritage with Chinese culture, forming their unique "dual traditions"- a reciprocal cultural influence and synthesis - during their process of translating and reinterpreting Chinese culture and "chuan tong". More specifically, Jesuits' characteristic of reinterpreting tradition through space allows culture and space to be discussed within same framework. By analyzing historical documents and diagrams, this paper examines the Jesuits' transformations in cultural and spatial conceptions, as well as their potential embracement of Chinese life and spatial aesthetics, while revealing how the translation of tradition - based on real practice and mutual appropriation - endures across time and space.

1. INTRODUCTION

In 1600 (the 28th year of the Wanli era), a dream experienced by Xu Guangqi (Siu, Paul), which was recorded in the *Jingyitang Zhi* (Records of the Hall of Reverence), marked his conversion to Catholicism and the beginning of a new phase in intercultural communication in China initiated by the Jesuits.

“In his dream, he saw a round hall containing three altars that never seen or heard in his earlier life: one with a statue on it, two without. Upon explained by the Jesuit missionary, Michel Ruggier, Xu was acquainted and fascinated by the meaning of trinity,¹ which led to his baptism in few days later.”

Although this record is more of an anecdote, it reveals one of the traits during Jesuits' mission in China and how they were translating their own tradition while syncretizing the Chinese “chuan tong” — by reinterpreting and manifesting traditions through space.

On this basis, this paper explores the dynamic relationship between Jesuits' traditions and spatial practices, and how Chinese traditions and spatial conceptions gradually shaped the Jesuits' ritual and spatial practices toward accommodation and Sinification, by illustrating and examining the imagery and architecture cases with their historical contexts across three critical moments during Jesuits' mission in China, and analyzing the relations between rituals and spaces, rites and forms.

More specifically, when confronted with vast cultural and traditional differences, the Jesuits sought to accommodate the traditional Chinese culture, while holding fast to their mission and Renaissance heritage.

During their two mission periods in China, except from Intellectual Apostolate (evangelizing through science) and Matteo Ricci's rules, which they deliberately tailored for proselyting the Chinese official-scholars and the literati,² Jesuits also formed unique "dual tradition" that consisted of comprehending and syncretizing Chinese "chuan tong" with the inheritance and practice of Jesuits' Renaissance legacies. Meanwhile, Jesuits' approaches not only brought Western culture and techniques to China, but were also strongly influenced by Chinese culture and traditions in reverse, which created distinctive ideas and practices on the intercultural scale and at the architectural level. To some extent, Jesuits embraced Chinese timber construction and the lifestyle in the garden and courtyards with delight.

For instance, when Matteo Ricci followed Francis Xavier's approach and first entered China, his western-style residence in Zhaoqing along with his missionary work initially aroused curiosity among local officials and people, but its achievement was quite limited.

However, as Ricci's experience was gradually codified into rules and the Jesuits deliberately adapted to Confucian thought and the scholar-official class, during the era of Francesco Brancati (1650s), the Jesuits not only presented themselves in the guise of Confucian literati, harmonized Catholic liturgies with Chinese traditional rites, but also situated their churches in the traditional Chinese courtyards and crafted Chinese gardens within. At this point, the Jesuits were beyond merely reinterpreting or syncretizing Chinese traditions from an external perspective, they subjectively engaged in the creation of culture and space, and left notable legacies in history.

Moreover, when the Jesuits returned to China in modern era, their practices were integrated into the modernization progress of Shanghai city, their "Intellectual Apostolate" tradition was still manifested through architecture and space, though its category was shifted from belief space to the public buildings like Zikawei observatory.³

Due to their profound impact, the history of the Jesuits and their practices in China have long been examined by scholars in the framework of intercultural exchanges, numerous studies in various fields build a concrete framework for the subsequent inquiries.

Beyond semantics^{4, 5} and religious studies, culture and space played an inseparable role in comprehending and analyzing Jesuits' traditions and impacts. Research on Jesuits publications such as *La Description*,⁶ technical manuscripts⁷ and the dissemination of Vitruvius' *De Architectura*⁸ provide an overview of Jesuits' situation in China and the connection between culture and space. Studies on Jesuits paintings and imageries elucidate their accommodation strategy in reinterpreting the doctrine,⁹ their possible historical influence on Chinese official-scholars and the royal court,¹⁰ and present spatial information embedded in the imagery.

Research on Jesuits architecture illustrate Jesuits' inherent architectural tradition and their adaption methodology. Genealogical studies on Jesuits architectures in China¹¹ align their spatial heritage with its corresponding history. Studies on the churches and related Qing royal gardens,¹² offers another approach to explore the relation between traditions and space, and to what extent did Chinese cultural tradition reshape European's conception of space and landscape.¹³ On this basis, comparative studies such as Jesuits spatial practices in different regions,¹⁴ Jesuits architectural prototype in real practices¹⁵ indicate Jesuits specialty in China. Furthermore, studies on the Jesuits education, Renaissance inheritance and specific case analysis also shed light on the Jesuits evolving dual tradition and its reflection on space.¹⁶

However, previous studies simultaneously prompt some scholars to raise a series of criticisms and arguments on the prior. Scholars in the field of Chinese modern history argued that some studies remain trapped within the framework of the "one-way cultural transmission theory", which assumes the Jesuits as the catalyst of disseminating advanced science and technology, instead of viewing this period as the mutual selection and mutual appropriation of Chinese and Western culture.¹⁷ Meanwhile, some historians also point out that Chinoiserie and Chinese culture possessed profound influence in Europe, and greatly impacted the church,¹⁸ which shall not be ignored.

Furthermore, conceptual history study argues for a new method to inquire Jesuits tradition and the topic of "translating tradition". Scholars indicate, rather than being a specialized history of concepts or the branch of semantics research, "conceptual history" is better understood as a distinctive perspective and methodology during historical period of knowledge type transformation,¹⁹ which enables us to detach the concept of "tradition" from purely metaphysical discussion to the specific sceneries.

In detailed architectural studies, Jesuits architecture practices during the early 17th century were vital for examining their accommodation of space, especially as Jesuits proactively crafted courtyards and gardens that marked the beginning of their later influence on Europe, yet many studies tend to concentrate on preserved architectural heritage like Beitang Library or late Jesuits architecture in modern era, while space practices in early period are somehow neglected. Meanwhile, some studies may be too concentrated on the stylistic changes of Jesuit Chinese architecture, leaving out the historical context and the real needs for construction and utilization that promoted the transformation of form.

Meanwhile, recent studies on art history and Renaissance architecture provide traces to connect imagery with space through diagrams and reconstruction. Through historical context and visual metaphor, Wu Hong pointed out the connection between graphics and real space.²⁰ In addition, recent scholarship reveals the importance of imagery diagram and illustrative analysis on reconstructing and examining Renaissance masterpieces, especially on the study of designs that remained in drafts or no longer exist.²¹ Thus, Jesuits

imagery may offer us opportunity to illustrate their space conceptions, and make further speculation and recreation on early Jesuits architecture.

It is beyond scope of this paper to trace the full trajectory of Jesuits architecture practices in China during their two mission periods. What this paper hopes to offer is a more limited discussion based on the analysis of three less concerned yet quite significant Jesuits architecture, in which we may further explore Jesuits proactivity on accommodation, and their unprecedented integration of Chinese and Western spatial conceptions within the buildings. Moreover, how did Jesuits attempt to adapt their mission approaches and architectural spaces to the changing time and society, leaves us a trace to explore the subtle divergence between Chinese “chuan tong” and Western “tradition,” which stated in the conceptual history studies, as well as reveals the influences and traditions of Jesuits in China were not unidirectional, nor immutable, but evolved through an ever-shifting process of interpretation, reconfiguration and engagement with local realities.

2. FROM TEMPLE TO CHAPEL: MATTEO RICCI'S TRANSLATION OF “TRADITION”

Although Matteo Ricci was not the very first Jesuits to enter mainland China, he was the most prominent one among the first group of Jesuits who successfully reached mainland China. His approaches to initiate cross-cultural dialogue and spread Catholic, including Intellectual Apostolate and adherence to Confucian identities, directly shaped the subsequent practice and cultural tradition of Jesuits in China for over three centuries. Compared with his impact on the introduction of Catholicism into China, the historical legacy of Matteo Ricci is even more prominent in the history of cultural exchanges between China and Europe. His translations of Chinese classics to Europeans and Renaissance masterpieces to Chinese laid the foundation for Jesuits dual tradition in the future. Meanwhile, in doing so, Matteo Ricci placed both translating tradition and “chuan tong” within the same scenery, or the same conceptual stage, allowing us to further analyze the place where the terms overlapped or diverged under a both global, yet local lexicon.

Nevertheless, Matteo Ricci's rites and approaches were not inherited or existed initially. In fact, when he and other Jesuits first entered mainland China, they followed the Xavier's strategy that was synthesized through their relatively successful practices in Japan. However, this strategy soon turned out to be inappropriate in China. After numerous setbacks and struggles, Matteo Ricci turned into pragmatic, and established following basic principles:

First, adhering Confucian identity, no longer rigidly follow the established conventions of Francis Xavier, and distance himself from the image of Buddhist monks; Second, redefining his mission, and he regarded his

work as laying the foundation instead of mass conviction; Third, adopting a “slowly but surely” strategy of gradual progress in order to achieve engagement and integration within Chinese cultural context; Fourth, replacing traditional preach into writing manuscripts and conducting conversations with literati in Chinese; Fifth, striving for the right of preach freedom in China, where utopian “res publica” resides in Ricci’s perspective.²²

Moreover, Matteo Ricci and his Chinese writings represent a dual form of cultural translation. In some of the studies, his translation writings were synthesized as: toward the East, these texts attempt to present Christian teachings in a highly persuasive manner; toward the West, we see the actions of this Christian—specifically, acting as a semi-humanist in the Italian Renaissance—trying to reconcile the virtues and ethics of heathen antiquity with those of Christianity.²³ Thus, during the process of translation, Matteo actually cast a reconciling role between two different worlds, and his revision or even intended misinterpretation also indicates the divergence between “tradition” and “chuan tong”.

For instance, when he was introducing the concept of belief to disbelief Chinese, he borrowed the Confucian notion of “Tian” (Heaven) and integrated Catholic doctrine into the Confucian theoretical system through a modified version of ancient Greek philosophy. What documented in *Tian zhu shi yi* (《天主实义》, *True Meaning of the Lord Heaven*), Ricci’s interpretation of “Tian” further illustrated this divergence. For example, he extensively quoted the concept of “Shangdi” (the Lord on High) from *The Doctrine of the Mean* and the *Zhou Hymn* (part of the Book of Songs) to demonstrate the universal existence of the “Tianzhu” (the Lord of Heaven) both in Catholic doctrine and Chinese traditional culture. He also drew upon Pythagoras and the theory of metempsychosis (transmigration of souls), as well as Plato’s allegory of the cave, to graft Catholic faith into the moral framework of the Confucian tradition.²⁴

Only through embedding doctrines and western philosophy into Chinese moral codes and secular daily life, as well as the conceptions and aesthetics within the Confucian system that greatly connected to the nature, can those western traditions be compromised as part of the “chuan tong” that Chinese may familiar with and comprehend. This even led to an awkward yet cross-purpose dilemma that revealed the key cognitive differences: the Jesuits claimed that their Chinese collaborators were converts, while Chinese officials viewed the missionaries as tributary officials who had come to serve the emperor, believing that the Jesuits’ writings conveyed ancient Chinese doctrines that had been lost and merely preserved by the West.²⁵

The gradual progression of comprehending “chuan tong” was also reflected on the transformation of Jesuits architectural practices in China among the following three centuries. Ricci’s flower temple along with his residence, as the first Jesuits architecture in mainland China, symbolizes the beginning of this phase.

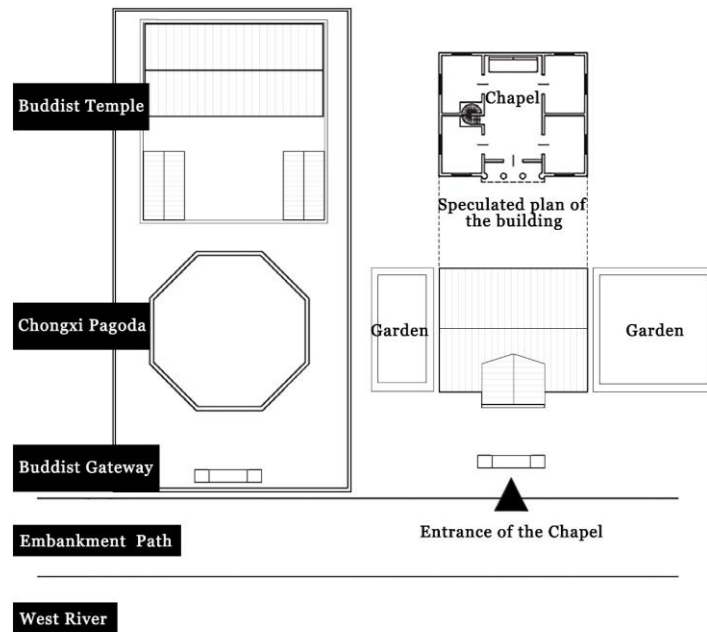


Figure 1: Space relationship between the chapel and Buddhism temple. (Source: Ground plan of the chapel was adapted from Xiao and Xie, 2020.)

Located in Zhaoqing, Guangdong province, Matteo Ricci's building was a combination of Jesuits residence, a chapel, and even a "poster" that attracted attention from the local official-scholars and common people. Named *Flower Temple* to imitate the impression of Buddhism, this temple was actually a western-style two story building next to a local Buddhist pagoda (Figure 1).

Ricci's building was placed on the site as a freestanding single structure, quite different from traditional Chinese architecture that composes buildings in group and arranges through courtyards or axis. It also became the central subject of depiction and narrative in relevant records and literary accounts, as various incidents and events, as well as Jesuit producing of paintings and publications during that period, were taken placed in this very space. This also indicated architecture's strong position in western cultural tradition.

According to historical records, the central portion of the building's façade projected outward, forming the balcony and the entrance below, above which a triangular pediment is placed as decoration and hinting at its potential Renaissance architecture prototype. On the ground floor, an altar is set in the center of the room, serving as a small chapel. Two porches winged the building with gardens; they serve as the botany garden and sometimes acted as a piece of farmland for vegetables.²⁶

When building was firstly constructed, it attracted the curiosity of local gentries and scholar-officials. Wang Pan, a bureaucrat who charges Zhaoqing, was even invited into the building, spent a delightful time on the balcony, and received items including prisms, cartography maps as the gift.

However, after the turmoil of Portugal succession spread to the East, Ricci's practice on space and his monk figure were suspected of being an espionage infiltration, causing fierce tension among the local gentries and officials, for they worried the Jesuits might gradually encroach on the land as the Portuguese did in Macao.²⁷

After series of difficulties, Ricci no longer adhered rigidly to the methods of his predecessors in practice, but instead made adjustments based on China's cultural traditions and social customs. Within the Chinese cultural context and its "chuan tong," Ricci along with other Jesuits began to further comprehend and employ ways that familiar to Chinese to "translate" western traditions. This was reflected not only in their costumes, customs, mission methods, and the social class of their main mission targets,²⁸ but also at the level of space practices.

In contrast to the "flower temple," which concentrated on a freestanding building and its own volumetric mass, the subsequent meeting halls and chapels no longer took the architecture itself nor its distinctive ornamentation as the absolute cultural and spatial core. Instead, within the urban context, they began to emulate the Chinese way to shape their own spaces. Meanwhile, in the process of interpreting tradition through space, they came to realize neither the Chinese hall in a courtyard house nor a single building alone constitutes the Chinese center in space, nor could any architecture derelict its profound spatial and spiritual connection with nature.

3. CHURCH AND COURTYARD: JESUITS' CULTURE WITHIN THE TRADITIONAL CHINESE SPACE

After Matteo Ricci's rites were integrated and codified by later Jesuits into the approach, the Jesuits gradually valued, or even specialized in, Chinese culture and traditions, so too in the field of space. To discuss such transformation, paintings and images provide one of the evident ways to elucidate Jesuits' conceptions of Chinese spatial aesthetics and space traditions.

For instance, in *Song nianzhu guicheng* (*Rules for Reciting the Rosary*), a Jesuits publication printed in 1619 that served as catechetical tools to represent fundamental Catholic doctrines, depicted the scenery of Annunciation (Figure 2). Though they shared the same theme, compared to the Renaissance version in *Evangelica Historiae Imagines* (Antwerp, 1593) (Figure 3), the Jesuit version transformed the scenery from a usual Western cottage or porch into a Chinese version that took place in the courtyard.



Figure 2: Comparison of the “Annunciation”. Jesuits version of Image in *Song nianzhu guicheng* (诵念珠规程, Rules for Reciting the Rosary) (Source: Getty Research Institute)

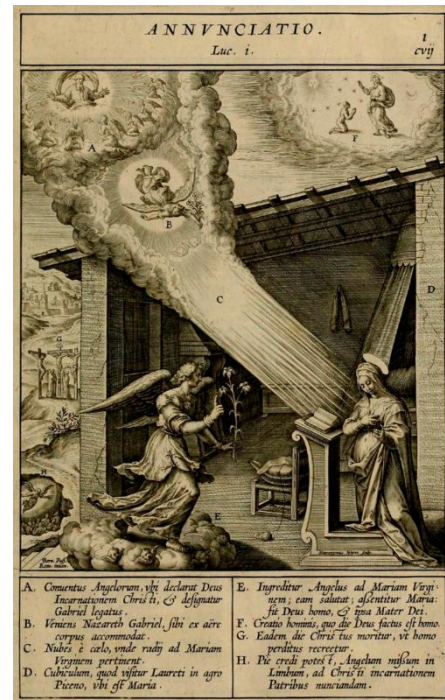


Figure 3: Comparison of the “Annunciation”. Image from Renaissance manuscript *Evangelica Historiae Imagines* (Source: Getty Research Institute).

Apart from the changing image of virgin Mary among the paintings, which she transformed from a humble maiden living in cottage into a noble Chinese lady with literati grace and a cultivated aesthetic taste,²⁹ the background of the painting further shows how Jesuits translated and integrated traditions.

In Jesuits version of the Annunciation, the scenery was arranged to take place in a Chinese courtyard. A fancy hall composites the main body of the painting, staging scenes and unfolding narratives. Meanwhile, in the left side of the painting, behind the image of angel, elevated stone balustrade, bajiao (musa basjoo), and rockeries indicates a traditional Chinese garden attached to the courtyard, which directly places the scene to where literati are quite familiar with. Furthermore, the landscape screen and decorated bed ahead not only separate the continuing courtyard space with the room inside, expanding the rear space with imagination, as Wu Hong stated in his *Double Screen*,³⁰ but also form a typical composition of the Chinese literati paintings, bring Catholic religious scene into traditional Chinese aesthetics space, while bring Mary to a more elevated social status to make the doctrine easier for Chinese literati to accept.

In order to proceed Intellectual Apostolate and draw more attention from Chinese literati, images like Jesuits version of Annunciation shed light to their comprehension on Chinese courtyard space and space conceptions, and translate their European culture into comprehensive scene in Chinese lexicon. Moreover,

they didn't merely translate and spread their tradition, but subjectively chose to follow Chinese lifestyle in courtyard, as well as the aesthetics and conceptions among such space.

During the period of the Controversy of Chinese Rites, how to translate and interpret Chinese traditions became an irreconcilable conflict between Jesuits and the Roman papacy. One of their divergences lies in the Chinese plaque (牌匾), and how to translate the content on the plaque, especially the word of *tian* (“天”) and *Jingtian* (“敬天”). Between the subtle meaning difference of Confucian “Heaven” and Catholic “Dieu”, Yan Dang (Charles Maigrot), the papal ordinary apostolic vicar, embarked total conflicts among Rome, Jesuits, and China. These interpretation conflicts soon extended far beyond translation, and included discussion of Confucianism, ancestral worship and Chinese ancestral tablet (牌位), how shall rites be conducted in space, and even a conflict for power.³¹ Among these worship spaces, a church in Shanghai with a plaque wrote “Qin Bao Tian Xue”(钦褒天学, Imperial Commended Heavenly Learning) that confiscated by Chongzhen (崇祯) Emperor, Ming Dynasty, become one of the cases to elucidate how Jesuits integrated their Catholic tradition into Chinese cultures and space.

Jingyi Tang (Hall of the only respected) was the first Catholic church in Shanghai, bought by the granddaughter of Xu Guangqi and Jesuits Francis Brancati from a local noble family. The church was transformed from a traditional courtyard into a church complex that sequenced the ceremonial buildings through architectural axis, while placed living quarter with library and porch in the west of the axis, yet crafted Chinese garden by Jesuits themselves.

Contemporarily, Jingyi Tang complex only leaves the hall itself and it is preserved as a historical heritage. However, based on the texts of *Jingyi tang zhi*, and photo shot in early 20th century, we are able to make a speculation on its original space in 17th century.

The whole complex placed in the alley of old Shanghai County (Figures 4, 5), due to Brancati's Platanus planting in its courtyards alongside the street, the street where its main entrance lied on was named Wutong Road (Platanus Road). The complex stretched several blocks northward, with couple of private alleys across its auxiliary area in its rear.³²

The church was well integrated into its surroundings, comparing its masterplan (Figure 8) and urban context, while it mainly adopted courtyard space as an approach to shape its figure-ground relationship. Along its space sequence, the complex used symmetric ceremonial buildings as positive figure to arrange the ground. With grand wall gate (Figure 6) embedded in street-front quarters, it distinguished church entrance from the context while keeping the continuity of the street frontage. Passing through the wall gate, the sequence was

aligned with grand ceremonial gate, the square, Jingyi Tang Church (Figure 7) and its ambulatory porch, which reinforced its monumentality and defined its magnificence through symmetric axis and the composition of space, instead of the grandeur from single church building.



Figure 6: Image of church's grand wall gate with a vertical "Catholic Church" plaque on its wall (Source: Pictorial Daily (Tuhua Ribao), c. 1909-1910.)



Figure 7: Image of Jingyi Tang's south façade (Source: Shanghai Municipal Library)



Figure 4: Jingyi Tang's location in 19th-century Shanghai (Source: Adapted from *Shanghai County Map*, held by Virtual Shanghai, with annotations added by the author)

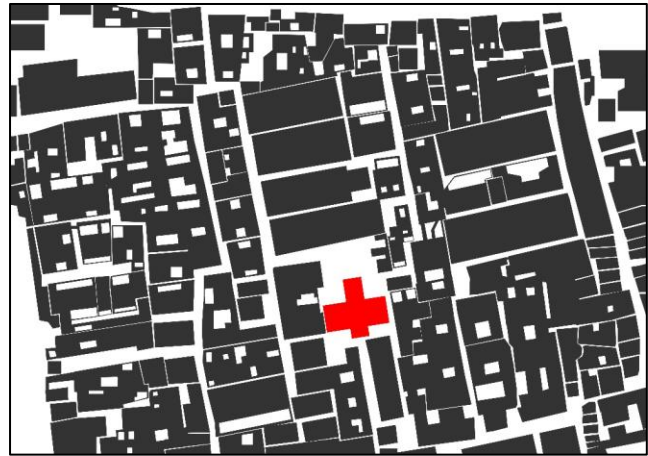


Figure 5: Jingyi Tang's contemporary urban context

Comparatively, across the west side wall of the sequence, living quarters space was arranged through courtyards and buildings were figure-ground reversed. This area became the place where Jesuits and laity engaged in daily work, study, and rest. Notably, the open hall with low walls that were topped with removable wooden panels even created a semi-open interior space linked to the Platanus courtyard, which became one of Jingyi Tang's impressions in the years to come. Until 1912, this area still had a big garden, a long porch, a large lawn and a big square shadowed by huge trees of Platanus,³³ representing Jesuits' integral characteristic on space practice.

Behind ambulatory and porch, previous ceremonial axis was suddenly transformed into a comforting Chinese garden. Enclosed by two-story mansions and porch, a space of nature was created amidst high density urban context and very behind this space of hierarchy and monumentality. Meanwhile, through another figure-ground reversal, the flower hall was placed within the enclosure, as the focal point of the garden. Except from providing a space to place small chapel of the lady, it also allowed Jesuits to have a place where they could enjoy the life and aesthetic of the Chinese garden just like literati, whom they advocated for.

As Jesuits crafted rockeries, managed waterscape, carefully selected and planted trees in the garden, not only did they surpass merely translating tradition into subjectively syncretizing and practicing tradition, but also transformed church-centered complex into a place for both ritual and daily life. Furthermore, it is documented that Jesuits set up an observatory pavilion on the rockeries in front of the flower mansion, where astronomical equipment was placed for decades, even during the period when Jesuits were banished from China.³⁴

At this point, "translated" more than "translating" tradition may better describe Jesuits comprehension and interpretation on Chinese cultural traditions and space - on Chinese way of living accommodated by courtyard in detail.³⁵ While they were practicing under the context of their dual traditions, especially their heritage out of Renaissance, to initiate their spatial reconfiguration.

4. SHAPE LAO-DOANG: A MODIFICATION ATTEMPT ON CHINESE TRADITIONAL SPACE



Figure 9: Oldest Catholic Church in Shanghai, image of the church (Source: La Revue Nationale Chinoises 38, 1940.)

In *Jingyi tang zhi*, the main hall space was specifically documented in detail, separated from the Jingyi Tang church. Meanwhile a French photographer's image on Lao-Daong (Jingyi Tang) (Figure 9) also induces the curiosity to explore the architecture in picture and its place in Jingyi Tang complex.

In the *Detailed Records of the Church Buildings and Structures of Jingyi Tang Zhi*, the document records the space structure of the main church. With three apses and three chancels, the Paifang (decorated Chinese archway) ceremonial gate is set in front of the main church. Coincidentally, this manuscript somehow corresponds to the French Lao-doang photo, which was published in *A Guide to Catholic Shanghai*, as the figure image of Lao-doang, or Jingyi Tang in another title.³⁶

In the photo, a French handwriting is on the top of the image with the content of “*Ci inclus, Hommage de tous les Curés du Lao-daong.*” (This included, with the respects of all the parish priests of Lao-daong.) Below the handwriting, readers attention may be firstly attracted by the grand Paifang archway in front of the building that forms the gateway. On the ridge of the Paifang, a cross is erected on the decorated ridge finial,

symbolizing its identity as the Catholic church. Meanwhile, five animal finials on each of the Qiang ridges indicate its noble status, for this may only be allowed to appear on the palace ridges due to Chinese feudal hierarchical ritual system.

Besides, ahead of the Paifang, we may also find a roof houselet on the wing of the church, and half-wall behind the houselet and church when we see through the archways. This not only indicates a possible square or courtyard ahead of the Paifang, but also implies church's surrounding context within the complex buildings.

Moreover, when we observe the ridge of the church that joints Paifang at the finial, it manifests the most significant of this church space, it shifts the gable wall façade(“山墙面”) to replace the common bay width façade(“开间面”) as the main entrance of the building. This modification on space is unusual in Chinese traditional space, especially for monumental architecture. Generally, Chinese traditional architecture uses bay width as its main façade to display the full image of its roof and exterior, its structural system and interior space also more favor such an approach. Thus, by adopting the Paifang archway as its main façade and rotating the hall space vertically to the archway to create a linear, depth space, this church distinguishes itself from the surrounding buildings while maintaining its monumentality and beauty.

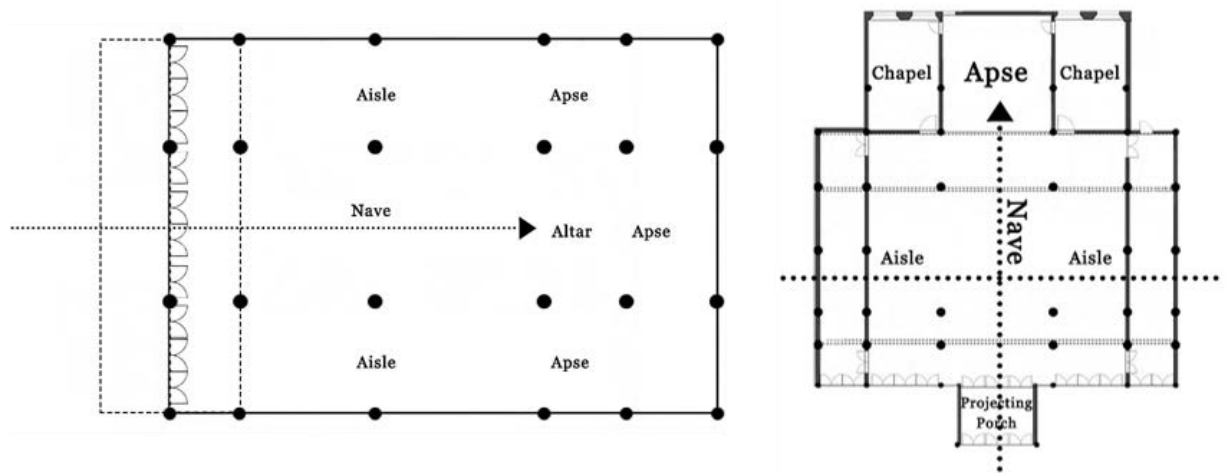


Figure 10: Reconstructed plan of the “Lao-Doang” church and the plan of Jingyi Tang.



Figure 11: Interior of the Jingyi Tang (Source: Shanghai Huangpu District Archives)

Even within the Jesuits Chinese churches, comparing to Jingyi Tang, this church shapes a different plan and space for the congregation and rituals (Figure 10). If we place their possible plan under the context of European churches, prior church's plan is similar to the basilica church in Europe, while Jingyi Tang is closer to a Hellenic cross with additional two bays in its rear. The prior church emphasizes the spatial depth and the possible sequence from the entrance to the altar, while Jingyi Tang, with its three Kaijian bays (“开间”), creates a lateral space that allows all three altars to be seen simultaneously (Figure 11).

Some of the previous studies argued that the church in the photo was a side façade of the Jingyi Tang, or the space was overlapping across the time. But when analyzing the photo of Jingyi Tang during the same time period, obviously research may find the ridge finial that carries the cross was in the middle of the Baosha (“抱厦” projecting porch), and there was no Paifang that could be seen at the end of the ridge. Furthermore, with such symmetric, monumental, and high-status exterior, this cannot be merely a side entrance or a little chapel attached to the Jingyi Tang or within the complex. Thus, this paper offers a speculation of the co-existence of a prior church and the Jingyi Tang, while the church in the photo was the main church among the church complex (Figure 12).

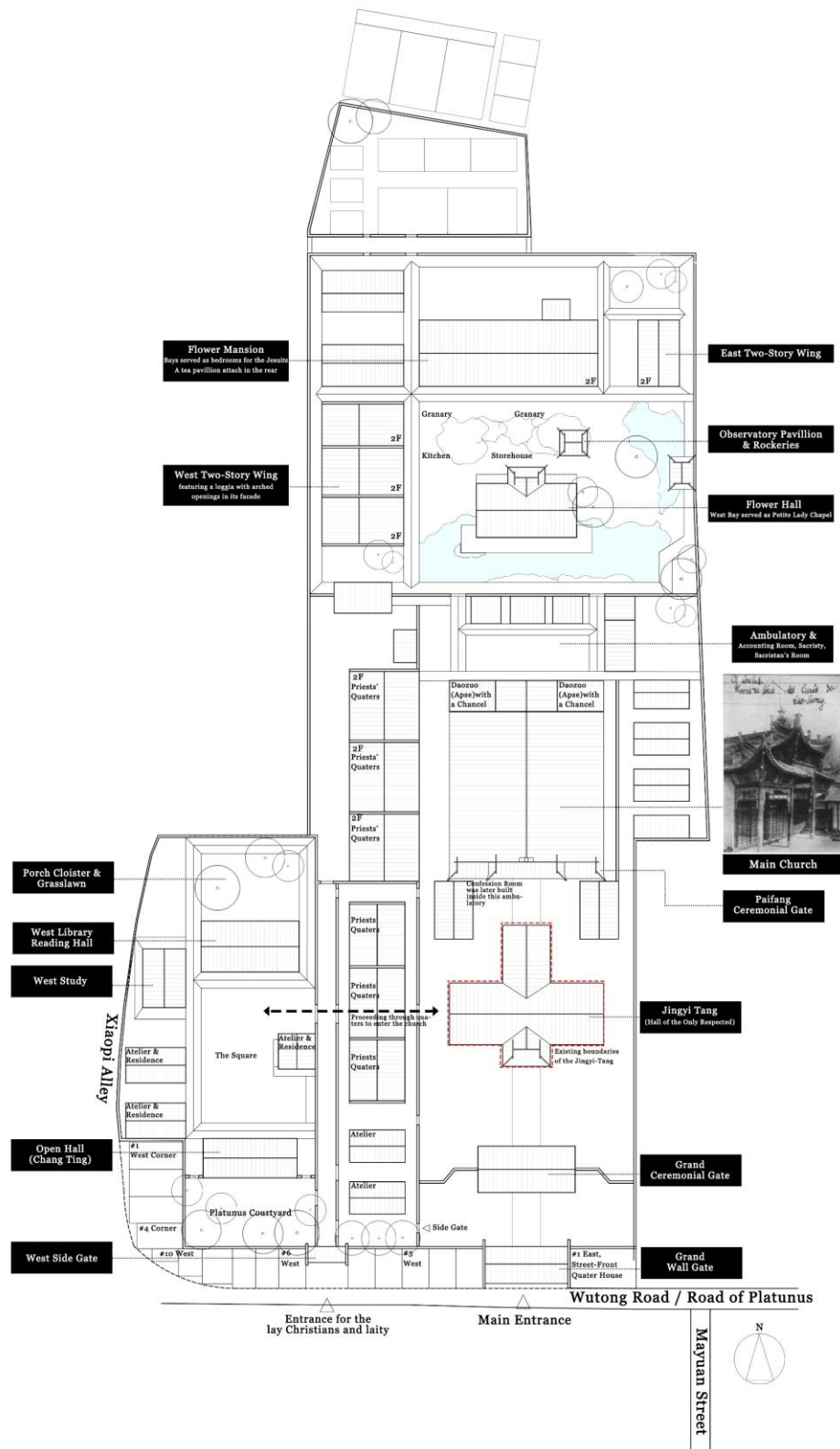


Figure 12: Reconstructed masterplan of the church complex.

On this basis, the relation between this church and the whole complex can now be probed through its image information. One of the possible locations of this church lies on the sequence of ceremony, at the rear of the Jingyi Tang, as the main church of the whole complex. Meanwhile, with houselets on their wings, they enclose a courtyard to manage the relation between two churches. In considering of their building heights and volume, Jingyi Tang and main church form a composition, where their ridges create a constantly enhancing succession of vertical volume and a spatial transition from a hall adapted from a vernacular dwelling to a more magnificent main hall. Furthermore, compared to Jingyi Tang, an even grander architecture further set off the preciousness of the Chinese garden behind it.

Notably, Lao-doang's transformation on spatial morphology and space orientation provides another variation in western missionary architecture in China. If Lao-doang did build in 17th century, it would be two hundred years earlier than the church with similar morphology in China. Compared to Guiyang North Catholic Church - built in 1874 as one of the early examples of "Chinese style" missionary church, featuring Chinese construction methods, Chinese appearance form, and Western space morphology³⁷ - Lao-doang in Jingyi Tang is truly a precedential paragon.

In Jesuits' tradition of interpreting through space, Jingyi Tang – the main hall and Chinese garden -constitutes a vivid example of Jesuits' accommodation, or even inculturation, into Chinese culture. The Jesuits shaped their habitation using Chinese construction methods, exterior form, or even the spatial morphology, just as they disguised Catholic doctrines as the lost Confucius classics, and claimed themselves as the western Confucian scholars. Building the complex not only granted them the identity of intellectuals, but also brought their church into the place where Confucians and official scholars were able to hold their elegant literati gatherings.

Alternatively, Jesuits practices also guided them to further explore and embrace many parts of Chinese culture and tradition and formed new "tradition" through reinterpretation. In their architectural practices, they comprehended Chinese close relation with the nature, and preferred space morphology out of Chinese own life and culture. Architecture itself was not the core of the life, nor was the any single garden or the atrium, but the space harmonized within the nature and the space suited to the secular daily life and space aesthetics. Thus, in accommodation to the "chuan tong", the divergence between "tradition" and "chuan tong" can be probed from this particular perspective: Chinese unique comprehension on the secular daily life and conceptions of the relationship between nature and life, on the aesthetics of space, distinguishes the "chuan tong" from the prior.

To some extent, through their daily living and dwelling, the Jesuits willingly and delightfully embraced Chinese timber tectonic construction, Chinese garden landscapes, the context and lifestyle in the courtyard. The aesthetics of Chinese life were gradually absorbed by and harmonized with the Jesuits.

5. INHERITANCE TRADITION: JESUITS' SPATIAL PRACTICES IN MODERN SHANGHAI

When Jesuits reorganized after *Ex quo Singulari* and came back to China as the “New Jesuits”, Chinese society had experienced fierce change and struggles from the western imperial invasion and colonialism. To step in, Jesuits had to seek new methods to bring themselves into the progression of Chinese modernization while competing with other orders or missionaries. Meanwhile, two issues were set before these new Jesuits: How to inherit and adapt their own tradition, including their intellectual apostolate in China, became one of the problems. Meanwhile, how they could translate their traditions into sensible, comprehensible “chuan tong” through space as they did two centuries ago, also lingered around their daily work and practices.

After Jesuits returned to China under the support of French government in 1842, they designated their center around reappropriated church spaces in Shanghai, including Zikawei church, Jingyi Tang, and multiple chapels. Jesuits maintained their intellectual apostolate as an approach, but their objects and projects had transformed. Compared to their former direct leverage on Chinese official-scholars and literati through introducing scientific innovation and subjective Sinification, Jesuits redirected their work into the public realm and common good, thereby extending their reach and attempting to shape their indispensability.

During this period, the work of Jesuits has been described as “periphery” in some of the studies.³⁸ Not only for their greatly declined influence in China, but also for the academic field they engaged with.

Instead of serving Chinese emperor and being royal astronomist and mathematician in their past, new Jesuits lost their direct connection with the court and official-scholars, and were restricted in certain concession areas. They did not possess the influence both in China and on their peers as they used to.

Besides, Jesuits practices were quite ambiguous and hybrid during this period. Navigating the tensions and interactions of church and secular world, they perpetuated the translation and interpretation of tradition within a modern historical context.

Among which, locality distinguished themselves from other Europeans.³⁹ They engaged in various research fields, including zoology, botany, geology, meteorology, astronomy, geomagnetism, and Sinology, but few of these studies were truly aimed at advancing technological exchanges. Beyond providing public services locally,

one of their goals was to send astronomical observation data and natural history research materials back to Europe, serving as a European outpost for collecting Chinese geographical information.⁴⁰

For their architectural spatial practices, Jesuits incorporated their local traditions into the progression of modernization. When renovating or shaping parish churches that relate to their daily work and life, they continued to apply their inherited traditional Chinese spatial conceptions. For iconic public buildings in Shanghai, however, they adopted Western architectural styles to convey monumentality and to manifest their identity.

Jingyi Tang's renovation and possible alteration was one of the examples for prior method, and T'ou- sè-wè (”土家湾”) church, French Jesuits' new center in Shanghai, also kept such method to translate Catholic conceptions through traditional Chinese space elements.



Figure 13: Paifang Archway and landscape beyond in T'ou- sè-wè. (Source: La Revue Nationale Chinoise³⁸, 1940)



Figure 14: The Chinese landscape drawing on the title page of Jesuits publication. (Source: Auguste Haouisée, S.J., 1937)

For instance, T'ou- sè-wè's Paifang archway, as the representation of their image in China, was placed in the front of Jesuits French publications (Figure 13). Different from the Paifang archway in the Jingyi Tang, this three-layered stone Paifang archway, along with the stone lion statues marked its greater magnificence. The passway under the Paifang extended into the far sight of the image, indicating its introduction and guide to Chinese Shanghai, and presented a clear image of Chinese landscape. This can also be witnessed in the drawing of a Chinese landscape scene attached to the publication (Figure 14).

The drawing depicted a Jesuits ideal scene of Chinese human settlement. A winding stream, trees, mist, birds, and distant mountains together formed the natural backdrop, while a riverside cottage and the brick-arched covered bridge constituted the focal point of the drawing, yet they blend seamlessly into the nature. For a publication introducing China to the French common people, such landscape was evidently iconic for the Jesuits, who used it to represent China and Chinese spatial aesthetic conceptions.

Furthermore, the drawing also cast the role of translation through space, though its objects are reversed. Instead of illustrating western culture to the Chinese (as recorded in the *Jin yi tang zhi*), it translates abstract concepts of China and Chinese traditions to the western audiences. Beyond arousing readers curiosity and Oriental fantasy, it condenses into a single image what the Jesuits assumed to be the tradition of Chinese culture and lifestyle—the harmony between habitation and nature, or, as we may say, Chinese “*chuan tong*”.

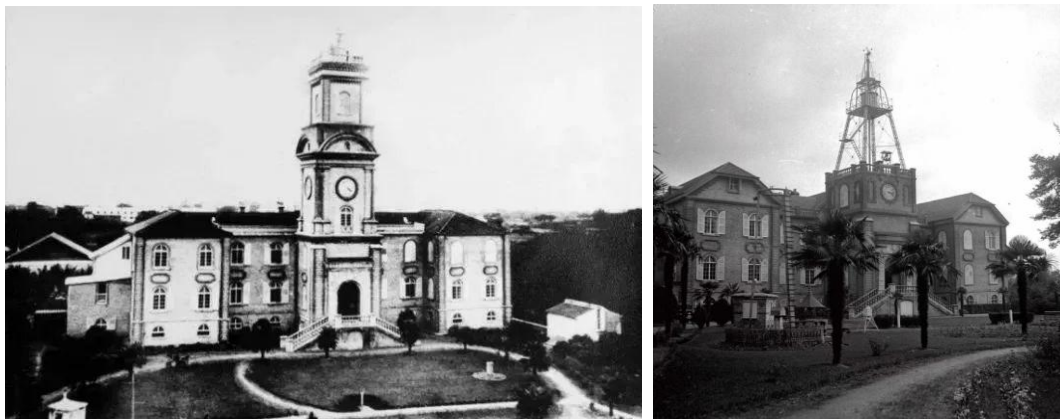


Figure 15: Zikawei observatory in its 1900 and 1910 (Source: Shanghai Xuhui District Archives).

On the contrary, Jesuits public buildings and academic facilities in China tended to imitate the buildings back in Europe, which set the building apart from its urban context, and enhanced their western identity. Zikaiwei observatory (Figure 15) was an example to illustrate this transformation and the shifts of tradition reflected on the architecture. Completed in 1900, the observatory has a main block that stretches into two wings, with protruding east and west ends. Its main façade features a symmetrical double staircase on the south side leading to the entrance hall, with a brick clock tower stands at the centre. As building was later changed into a meteorological observation, the clock tower was transformed into a lowered, flat roof platform to hold anemometer tower, which still somehow showed the image of its original form.

Zikawei observatory, along with other facilities like She shan observatory and Zikawei nature museum, their architectural space represent Jesuits attempts to join the tide of time. Through these buildings, they embedded themselves into the progression of modernization. At the same time, they used their new public-

service identity and corresponding spatial practices to translate and reinterpret their own tradition—specifically, their intellectual apostolate. In doing so, they sought across time and space, leveraging influence from the periphery to the center.

Yet, like their predecessors in the 16th-18th century, the Jesuits once again saw their efforts backfire, and their intellectual apostolate did not achieve its original goals. Nevertheless, their tradition of interpreting culture through space left a legacy that echoed through history. Compared with their primary objectives, perhaps the aesthetics grounded in the enjoyment of life, together with the heritage of civilizational exchanges, are more enduring and remain ever fresh in the long river of history.

6. CONCLUSION

After Matteo Ricci first entered mainland China, Jesuits began their three centuries' practices there. They not only translated West to the East, but also brought China to the West, directly influencing the later course of Enlightenment. As cultural intermediaries, Jesuits transformed their attitude and approach toward Chinese “chuan tong” from misunderstanding, to comprehending, to accommodating, to reinterpreting, and even to embrace it. In this process, the Jesuits' dual tradition, their Renaissance heritage, as well as methods and conceptions formed during their spatial practices in China, together shaped such landscape of inculturation.

To conciliate and harmonize two distinct cultures, the Jesuits deliberately tailored their approaches toward Chinese official-scholars and the literati, primarily through Intellectual Apostolate and Matteo Ricci's rites. These adaptive approaches, in turn, exerted a gradual yet clear influence on the Jesuits' own interpretations of doctrines, liturgical practices, and the architectural space associated with ritual. This trajectory of mutual influence and mutual appropriation can be understood as the process of translating tradition across four dynamic phases: encountering; comprehending and translating; reinterpreting and creating a new “tradition”; and finally, practicing within the context of that new “tradition”.

The Jesuits' distinctive spatial practices offer a unique lens into their broader cultural approach in China. Focusing on a case study of Jingyi Tang—the first Catholic church in Shanghai, built in the 17th century yet rarely examined—this paper reconstructs its possible spatial layout, particularly the courtyards and Chinese garden landscape. Through this reconstruction, the paper elucidates how the Jesuits integrated their ritual and daily spaces into Chinese architectural traditions, and how they imitated and refined Chinese literati aesthetics to enrich their own lives. To some extent, they embraced Chinese timber construction, garden landscapes, and the courtyard lifestyle. In contrast, the paper also examines the shifts in Jesuit practice, from Ricci's first building in Zhaoqing to the Zikawei Observatory, revealing a gradual evolution in conceptions across time.

On the basis of the Jesuits' tradition of spatial reinterpretation, this paper adopts a unique, internally comparative perspective with corresponding cases to address the divergence between Western “tradition” and Chinese “chuan tong,” and to examine how traditions were translated across time and space.

In their spatial practices, as articulated by the Ming dynasty garden theorist Ji Cheng - “Although man-made, it should appear as if created by nature” - Chinese secular life and the conception of human settlement, particularly aesthetics and dwelling spaces closely connected to nature and tied to the enjoyment of life and the pursuit of knowledge, distinguish “chuan tong” from “tradition.”

Meanwhile, like Johannes Prip-Møller, who designed the Tao Feng Shan Christian Center in the 1930s, advocated for a “Genuine Chinese Style” grounded in a decent understanding of Chinese culture. Only by embracing different conceptions and traditions through mutual appropriation, and by grounding such efforts in real life and real construction, can we truly transcend differences and translate an abstract, overarching “tradition” into “chuan tong” within detailed contexts - across every cultural exchange - and build a legacy that endures across time and space.

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Traditional Dwellings and Settlements

Working Paper Series

CRAFTING NATIONAL IDENTITY: FRENCH HORTICULTURAL ENCOUNTER IN CHINA

Vincent Peu Duvalon, Shiyuan Song

CRAFTING NATIONAL IDENTITY: FRENCH HORTICULTURAL ENCOUNTER IN CHINA:



This paper reflects on the design of the French Pavilion for the 2026 National Horticultural Expo in Wenzhou as an architectural and cultural inquiry into the contemporary stakes of national representation through landscape. Rooted in the 19th-century tradition of World's Fairs and colonial exhibitions, the horticultural Expo is a spatial and symbolic device where nature is staged as culture, and culture, in turn, becomes a statement of national identity. Emerging at the intersection of nationalism, scientific botany, and imperial trade networks, such exhibitions have long served as platforms to display both the technological prowess and the cultural particularity of nations. Yet, in the 21st century—amid climate crisis, biodiversity loss, and cultural globalization—what does it mean to design a "national" garden?

Drawing on this complex genealogy, the project presented in this paper seeks to critically reengage the notion of national identity by crafting a site-specific response to the Wenzhou landscape. Rather than relying on stereotypical forms of "Frenchness" or the picturesque legacy of the Jardin à la Française, the design merges elements of the French agricultural and horticultural tradition—such as the potager, espaliered orchards, and monastic walled gardens—with local Chinese agrarian knowledge and species. The result is neither a nostalgic tableau nor a pastiche, but a situated experiment in intercultural landscape practice.

The paper further addresses the political and professional negotiations involved in the project: as a French national designing for a Chinese public event, how can one navigate the expectations of institutional partners while resisting folklorization? What are the affordances and limitations of landscape as a medium for cross-cultural engagement today?

Through this case study, the paper interrogates the lingering frameworks of identity, authenticity, and representation embedded in horticultural exhibition design, and asks how the translation of tradition might instead become an act of situated, ecological, and transnational care.

1. INTRODUCTION

Emerging from the intertwined histories of world's fairs and botanical collections, contemporary horticultural expos operate at the intersection of environmental discourse, urban development, and cultural representation. In China, the "Garden Expo" system institutionalizes this model at a national scale, mobilizing landscape as both ecological infrastructure and a medium for staging identity. While international horticultural expos organized by the International Association of Horticultural Producers, initiated in the 1960s, have occasionally been hosted in China, from Kunming World Horticultural Expo 1999 to Beijing Expo 2019,¹ China has simultaneously developed its own national system of garden exhibitions. Branded as the China International Garden Expo and sponsored by the Ministry of Housing and Urban-Rural Development (MOHURD), this recurring event—held every two to three years since its inauguration in Dalian in 1997, with its 2026 edition in Wenzhou—extends the exhibitionary logic of the global model within a state-led framework of urban and territorial development.² The 15th China (Wenzhou) International Garden Expo provides a particularly revealing instance of this model, in which landscape operates simultaneously as ecological infrastructure, urban catalyst, and medium of representation. From 2024 onward, Wenzhou-Kean

University became involved in the development of the Expo's international section, contributing to the design and coordination of several proposals. Within this context, the author participated in the design of a proposal for the French garden, engaging directly with the exhibition's expectations and constraints. This situated involvement offers a privileged vantage point from which to examine the mechanisms through which landscape is mobilized, curated, and evaluated within the Expo. Taking this context as a point of departure, the paper interrogates the contemporary status of the "national garden." More specifically, it asks how a model historically rooted in the global exhibitionary systems of the nineteenth century—linked to industrialization, colonial expansion, and the circulation of botanical resources—can be rethought in light of current ecological conditions and what Bruno Latour describes as a shift from the "global" to a terrestrial or situated understanding of the world.³ Rather than reproducing a global logic of representation, in which cultures are juxtaposed and displayed, the paper explores the possibility of an "interlocal" approach in which landscape serves as a medium for constructing relations among situated practices, ecological conditions, and cultural traditions.

The first situates horticultural exhibitions within the broader framework of world's fairs—epitomized by the Crystal Palace—and botanical gardens, both shaped by the imperial ambition to assemble the world in a single place and by a Western project of classification and control. The second examines the Wenzhou Garden Expo as a contemporary rearticulation of this model, comparing its structure and ambitions with those of nineteenth-century exhibitions. It questions the relevance of such an exhibitionary framework in the present context, analyses the intentions of its planners—particularly their emphasis on ecology, development, and representation—and critically assesses how these ambitions are translated into spatial and institutional forms. Within this context, it also situates the involvement of Wenzhou-Kean University as an attempt to engage with and respond to these conditions. The third part focuses on the design of the French garden, presenting it as a situated response to these conditions and as an attempt to move from representation toward *interlocal* practice.

2. IN THE WORLD INTERIOR OF CAPITAL

The contemporary horticultural exhibition can be understood not simply as a descendant of the nineteenth-century world's fairs, but as part of a broader system through which the modern world was assembled, ordered, and made visible. As Peter Sloterdijk argues, modern globalization should not be understood merely as an outward expansion across territories, but as a process of interiorization, through which the world is progressively brought into a constructed, shared space.⁴ This "world interior" is not only metaphorical; it is spatial, material, and architectural. It depends on the creation of enclosures capable of containing, organizing, and rendering the globe's diversity intelligible within a bounded environment. In this sense, globalization does

not simply connect distant places; it transforms them into elements of a single system, detached from their original contexts and reassembled within a common frame. The "Globe," as it emerges in this period, is therefore not a neutral representation of the earth, but an abstract construct that enables comparison, classification, and control. It is precisely this abstraction that Bruno Latour later critiques, opposing it to a "terrestrial" condition grounded in situated relations and material attachments.⁵ The exhibitionary space, in this perspective, can be understood as one of the key apparatuses through which the Globe is made perceptible, transforming the complexity of the world into a legible and ordered interior. For Sloterdijk, this condition finds its paradigmatic architectural expression in the Crystal Palace, which he interprets as the moment when the world is first materially enclosed and rendered as a shared interior.

2.1. The Crystal Palace

The Great Exhibition of 1851, housed within the Crystal Palace, constitutes a paradigmatic realization of this world interior. More than an architectural innovation, it was a demonstration of engineering capacity at multiple scales: the building itself, with its modular iron structure and glass envelope, and the vast array of objects it contained, ranging from industrial machinery to crafted artifacts and raw materials.⁶ Designed by Joseph Paxton, the structure extended the logic of the greenhouse, transforming a device originally intended for plant cultivation into a system capable of enclosing and displaying the world itself.⁷ Within this *grand scenography*, machines and manufactured products were arranged according to a techno-geographic logic that reflected the expansion of imperialism and colonialism, driven by the ever-increasing demands of industrial capitalism and the rise of modern nationalism.⁸ Extending this colonial and globalizing logic, the exhibition incorporated representations of vernacular cultures and distant environments—from North African tents in the Tunisian section to elephant sculptures in the Indian section—producing a broader spectacle of difference. These elements did not merely illustrate diversity; they formed part of a representational system that rendered the "other" visible, comparable, and ultimately governable. As Alison Laurence summarizes, the Exhibition aimed to "celebrate the advance of Britain and other 'civilized' nations. It was hoped that visitors to the grounds would feel compelled to admire the cultural and technological apogee over which Victoria reigned, after consuming the art, science and industry collected in this venue."⁹ By staging the exhibition in London, Victorian Britain positioned itself as the center of a global order, symbolically organizing other nations within its imperial sphere of influence. The Crystal Palace not only assembled the world in one large space, but also in time, as "deep time had been domesticated, corralled and commoditized by British naturalists," transforming geological history into a controlled and intelligible narrative.¹⁰ Laurence further observes that "the earth's ancient matter had been commoditized by this industrial nation," revealing how the exhibition staged not only the diversity of the globe, but also the processes through which both nature and time were appropriated within the logics of industrial capitalism.



Figure 1: Lithograph, "The Tunis Court," from *Dickinson's Comprehensive Pictures of the Great Exhibition of 1851* (London: Dickinson Brothers, 1854).

This *dispositif* extends beyond the exhibition hall itself. The same processes of domestication and commodification operated within botanical gardens, where plant species were collected, classified, and transplanted across imperial networks. In this sense, the commodification of geological time finds its counterpart in the manipulation of living matter within botanical infrastructures, both participating in a broader system through which nature—whether temporal or biological—was rendered legible, controllable, and economically productive.

2.2. Greenhouses and Botanical Gardens

The logic of the Crystal Palace, brought by horticulturalist and greenhouse specialist Joseph Paxton, is inseparable from the development of greenhouses and botanical gardens in the eighteenth and nineteenth centuries. Institutions such as Royal Botanic Gardens, Kew, functioned as key nodes within expanding imperial networks, where botanical knowledge and plant circulation were closely tied to imperial governance and economic expansion.¹¹ These gardens were not simply sites of scientific inquiry; they were infrastructures

through which the natural world was reordered according to economic and political priorities. As Ferdinand von Mueller stated in his lecture on the relation between botany and industry, the role of botanical gardens extended to the cultivation, acclimatization, and dissemination of economically useful plant species, directly supporting industrial production.¹² This understanding was widely shared within the field, as early twentieth-century accounts emphasized their combined scientific, educational, and economic functions, linking botanical knowledge to broader processes of environmental management and resource development.¹³

The greenhouse, as an architectural device, played a central role in this process. By creating controlled climatic conditions, it enabled the cultivation of plants outside their native environments, effectively detaching them from their original ecological contexts and integrating them into new systems of production. This capacity to reproduce and manipulate environments parallels the logic of the exhibition hall, where objects, cultures, and resources are similarly displaced and recontextualized within a bounded space. At the same time, botanical gardens embodied the Enlightenment ambition to classify and organize the diversity of the natural world. Through systems of taxonomy and collection, they contributed to the construction of a universal knowledge of nature, aligned with broader encyclopedic projects of ordering and representation.¹⁴ Like the world's fair, they sought to assemble the globe in a single place—not only to display it, but to render it intelligible within a coherent system. Taken together, the Crystal Palace and the botanical garden can be understood as complementary apparatuses within a shared regime of world-making. The former operates through spectacle and engineering display, while the latter functions through scientific classification and environmental control. Both, however, participate in the same imperial logic: they assemble, reorder, and represent the world within a controlled interior, transforming it into a legible and manageable whole.

If the Great Exhibition of 1851 contributed to the emergence of modern architectural and design discourse,¹⁵ it also established the exhibition as a site where the world itself could be reconfigured through spatial and representational means. The question that follows is whether contemporary horticultural exhibitions remain capable of such transformation. In a context marked by ecological crisis and the critique of the abstract "global," should these events continue to reproduce the enclosure of the world within a single space, or can they instead open toward new forms of situated and relational design practice?

3. THE WENZHOU GARDEN EXPO: FROM INFRASTRUCTURE TO SCENOGRAPHY

The Wenzhou Garden Expo can be understood as a transformation of infrastructure into scenography, in which large-scale territorial systems are reconfigured into a coherent and legible landscape image. Framed within the national discourse of "ecological civilization" (生态文明), the project is presented as a model of environmental integration and sustainable urban development. Yet, as in earlier exhibitionary forms, this

discourse operates in tension with the material processes through which the site is produced. Rather than a temporary event, the Expo is conceived as a long-term territorial project, embedded within broader strategies of urbanization and economic positioning. It is within this dual condition—both infrastructural and representational—that the project must be critically examined.

3.1. The Expo as Territorial Project

In *Yuan Ruci: Garden Expo*, Yu Wei presents the Wenzhou Expo as an exemplary manifestation of contemporary Chinese landscape thinking, grounded in the ambition to forge a new relationship between the city and the environment.¹⁶ The project is framed through a vocabulary of harmony and integration—"诗画山海·共享绿色生活" ("poetic mountains and seas, sharing a green life")—which again situates it within the broader national agenda of *ecological civilization*.¹⁷ Within this narrative, landscape is mobilized as a medium capable of reconciling urban development with environmental preservation, thereby transforming the site into a model for future urbanization. However, as Pierre Bélanger reminds us, landscape is not merely a representational surface but a "sophisticated, instrumental system of essential resources, services, and agents that generate and support urban economies."¹⁸ From this perspective, the Wenzhou Expo can first be understood as a large-scale infrastructural operation, mobilizing hydrological systems, land transformation, and ecological networks as the basis of its design. The project draws extensively on the Wenruitang river system, historically central to the region's agricultural and hydrological organization, which Yu Wei describes as a foundational ecological and cultural substrate.¹⁹

Yet, rather than preserving this system in its existing condition, the Expo involves its extensive reconfiguration. The project aims to "transform the natural environment into a perceivable landscape system" (将大地的山水环境转化为可感知的景观系统), indicating a shift from ecological process to spatial representation.²⁰ Waterways are expanded, redirected, and consolidated into a central lake, while the surrounding landscapes are reshaped to produce a coherent, legible spatial composition. The construction process itself—documented through dredging, excavation, and large-scale earthworks—reveals the extent to which the project relies on heavy infrastructural intervention rather than minimal ecological adaptation.

In this sense, the Expo aligns with Bélanger's understanding of landscape as infrastructure, but simultaneously departs from it. While the project mobilizes territorial systems at a large scale, these systems are not left as operational frameworks; instead, they are reconfigured into a controlled visual and spatial order.

Infrastructure is thus transformed into scenography, producing a landscape that is as much an image as it is a system. This transformation can be further understood through the distinction proposed by Augustin Berque, who holds that "landscape is not the environment," but rather the "sensible aspect" of a society's relationship

to it.²¹ The Wenzhou Expo exemplifies this dual condition: while grounded in real environmental processes—hydrology, topography, vegetation—it ultimately produces a landscape that is carefully staged and mediated. What is presented as ecological restoration operates simultaneously as the construction of a perceptible and aestheticized image of nature.

This tension is reinforced by the broader cultural context in which the project is situated. As Berque notes, China historically developed a sophisticated conception of landscape, in which environment and representation were not separated through the dualisms characteristic of Western modernity.²² The landscape tradition of southern China, particularly in Zhejiang, has long understood human activity and natural systems as mutually constitutive. In this context, the Wenzhou Expo does not simply revive an indigenous landscape sensibility; rather, it reinterprets it within the frameworks of contemporary planning, infrastructure, and state-led development. The selection of Wenzhou as the host city further underscores this condition. Known for its economic dynamism and entrepreneurial culture, Wenzhou occupies a strategic position within China's development narrative. The Expo thus functions not only as an environmental project, but also as a platform for enhancing the city's visibility and prestige. The landscape becomes a medium through which economic and political ambitions are communicated, aligning ecological discourse with broader processes of urban branding. From this perspective, the project can be interpreted through the lens of David Harvey's concept of urban entrepreneurialism, in which cities mobilize large-scale projects to enhance their competitiveness and global visibility.²³

At the spatial level, the Expo is conceived as the core of a larger urbanization strategy. Yu Wei describes the project as a central landscape around which future development will unfold, structuring patterns of growth and investment.²⁴ The park is conceived not as an isolated site, but as the core of a broader urban development strategy that structures future growth and investment. In this respect, the project recalls Central Park in New York, which Rem Koolhaas famously interpreted both as a preserved fragment of nature, and as a constructed landscape anticipating urbanization—a "taxidermic preservation of nature" that records the progress of the city while staging an artificial Arcadian surface.²⁵ As later interpretations have emphasized, this apparent naturalness is underpinned by large-scale earthworks and infrastructural operations, leading Robert Smithson to understand Central Park as a form of ground engineering rather than a natural landscape.²⁶ Similarly, the Wenzhou Expo park operates as a structuring device, projecting a future urban condition while simultaneously serving as a present-day exhibition.

Yet, the scale and intensity of the intervention distinguish it from its historical precedents. The project involves the coordinated transformation of an entire territory, combining landscape design with large-scale engineering and infrastructure. The expansion of water bodies, the reshaping of landforms, and the

integration of circulation networks all point to a model of development grounded in control, optimization, and visual coherence. Far from a light ecological intervention, the Expo represents a significant material transformation of the site. The discourse of ecological civilization thus operates within a broader communication strategy, positioning Wenzhou as a model of sustainable development while facilitating urban expansion and economic growth.

The Wenzhou Garden Expo, therefore, occupies an ambiguous position. On the one hand, its integration into a long-term urban project suggests a departure from the temporary nature of nineteenth-century exhibitions. On the other hand, the underlying logic of staging and representation remains deeply embedded in its design. The Expo continues to function as a form of *grand scenography*, in which landscape is mobilized to produce a coherent narrative of development. In this sense, the project can be understood as both a continuation and a transformation of the exhibitionary model. It extends the logic of the world's fair into the domain of territorial planning, embedding it within processes of urbanization and infrastructure development. At the same time, it reveals the persistence of a representational framework in which nature is staged, ordered, and made visible within a controlled environment. It is within this tension—between infrastructure and scenography—that the involvement of Wenzhou-Kean University must be situated.

3.1. Wenzhou-Kean University: Between Participation and Critical Positioning

The spatial organization of the Wenzhou Garden Expo reflects a carefully structured exhibitionary framework, divided into three main categories: Provincial and Municipal Urban Exhibition Gardens, Zhejiang Mountains and Waters Gardens, and International City Exhibition Gardens, each section made up of a series of 11 gardens, making the overall Expo a "Garden of Gardens."²⁷ Each garden, both in the local and the international sections, ranging from approximately 2,500 to 3,500 square meters, was conceived as a platform for representing local and foreign cultural identities within the broader narrative of the Expo, alongside the much larger Wenzhou garden, occupying a central island of over 13,000 square meters. Within this structure, each garden operates simultaneously as a spatial unit and as a representational device, contributing to the overall scenography of the Expo.

The involvement of Wenzhou-Kean University began in a context that was still largely open and undefined. An early invitation extended to Nasrin Seraji to participate in a municipal planning discussion marked a first point of engagement. During this exchange, she suggested that the Expo's distinctiveness might lie not in the large-scale transformation of the site, but rather in an approach based on minimal intervention—emphasizing existing landscape conditions and limiting structural impact on the environment. Although this position was not retained within the official planning framework, it nonetheless fostered a critical attitude that would inform the WKU team's subsequent work. From Fall 2024 onward, the university became more directly

involved through an initiative led by the university's Vice Chancellor Zheng Xiaodong, a former chief planner of Wenzhou. The project mobilized faculty and students from the Michael Graves College of Architecture and Design, particularly from the School of Public Architecture, with Graham McKay serving as coordinator alongside Laura Del Pino, Nasrin Seraji, Daein Cheong, and the authors. This configuration positioned WKU not only as a design contributor but also as an intermediary between academic inquiry, design experimentation, and the Expo's institutional framework.

At this stage, the international gardens remained largely unassigned. Although the initial intention was to rely on overseas Chinese networks—particularly in countries with strong Wenzhou diasporic presence such as France, Italy, and the Netherlands—through chambers of commerce and institutional partnerships, neither specific designers nor precise site allocations had yet been determined. The international section thus existed as a conceptual structure awaiting definition, rather than a fully articulated design program. Within this indeterminate context, WKU's role was to develop a series of speculative proposals across multiple sites. Rather than responding to a fixed commission, the team explored a range of possible interpretations of national and cultural representation, producing proposals for gardens associated with France, Iran, the United Kingdom, Australia, Japan, Korea, and the United States. This multiplicity of proposals reflects an exploratory approach that sought not only to respond to the Expo's framework but also to test its underlying assumptions. The preliminary requirement for the international garden echoed, in part, the logic of Chinese gardens, which includes historically recognized garden traditions on the one hand, with contemporary creation linked to partner cities on the other. Similarly, for the international series of gardens, the brief distinguished between what could be described as "canonical" garden traditions—such as those associated with France, Italy, or Japan—and more contemporary or hybrid approaches, particularly in the case of partner cities or institutional collaborations, such as those involving the International Federation of Landscape Architects. This distinction, however, also exposed the reductive nature of the exhibitionary model, which tends to translate complex cultural and ecological conditions into recognizable and often simplified forms.

By early 2025, this exploratory phase gave way to a more formalized involvement. An agreement between the university and the Expo organizers led to the assignment of three gardens to WKU: the Japanese garden, with Graham McKay as design lead; the American garden, led by Laura Del Pino; and the Maritime Silk Road garden, developed by Nasrin Seraji and Bruno Malusa. At this point, the university became directly embedded within the operational structure of the Expo, moving from speculative engagement to concrete realization. At the same time, alternative proposals continued to be developed, most notably the French garden. From early 2025 through the summer, this project was pursued as an independent line of inquiry, developed by the authors. Rather than reproducing established images of the French garden, the proposal sought to explore

how national identity could be articulated within the specific ecological and cultural conditions of Wenzhou. In this sense, it functioned less as a finalized design than as a critical investigation into the modes of representation enabled—and constrained—by the Expo framework. The subsequent reassignment of the French garden to an external partner, whose proposal adhered more closely to conventional representational models, underscores the limits of this exploratory space. What had initially appeared as an open field of possibilities gradually became more structured and controlled, aligning with institutional expectations and diplomatic frameworks.

地点

温州园博园建设发展有限公司

函

温州肯恩大学：

感谢贵校有意愿参与助力园博园开发建设，第十五届中国（温州）国际园林博览会国际城市展园的招展工作目前由市委统战部牵头有序推进中。根据初步方案，国际城市展园包含国际经典园林流派城市展园、海丝合作园、国际友好城市展园。

经过前期多轮对接，初定C5日本石卷展园、C6海丝合作园、C9美国展园由贵校进行设计工作，展园的概念性方案根据计划要在1月10日前报市园博办，展园的招展情况需待市园博办最终确定。因工程紧迫，请予以尽快安排为盼！

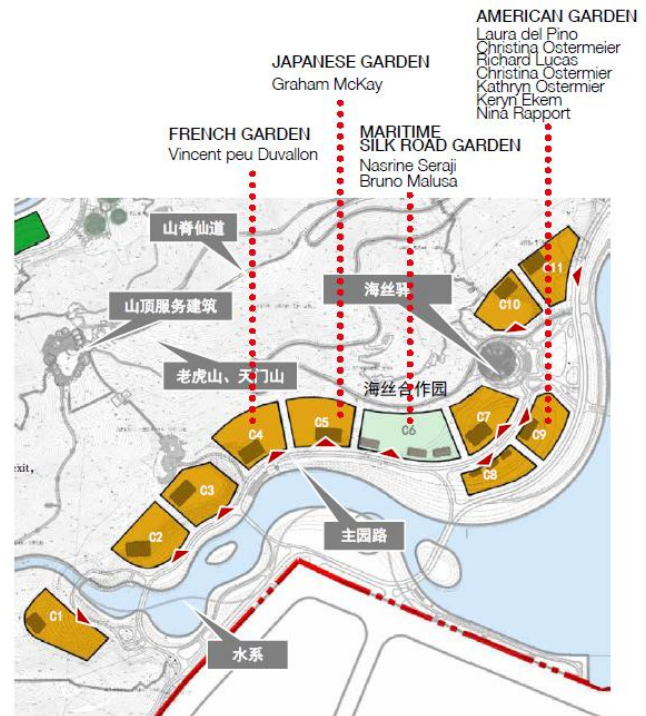


Figure 2: Presentation slide from Wenzhou-Kean University (Jan. 17, 2025), illustrating the agreement with the Garden Expo (left) and the garden design in development (right).

By the end of 2025, WKU's involvement had stabilized around the American garden—curated within the university—and the Japanese garden, coordinated with the partner city of Ishinomaki. The Maritime Silk Road project, however, revealed further challenges, particularly in reconciling differences in design approaches, construction practices, and institutional coordination. This trajectory highlights WKU's ambivalent position within the Expo. On the one hand, the university actively contributed to the production of the exhibition, participating in its design and implementation. On the other hand, its involvement exposed

the constraints inherent in the system, particularly in relation to the representation of cultural identity and the translation of design concepts into built form. The process thus oscillated between participation and critical positioning, situating WKU both inside and at a distance from the exhibitionary logic of the Expo. The Wenzhou Garden Expo can thus be understood as a complex assemblage in which infrastructure, landscape, and representation are tightly interwoven. At the territorial scale, the project mobilizes large-scale environmental systems and engineering operations, transforming them into a spatial framework that structures future urban development. At the same time, these operations are reconfigured as scenography, producing a coherent and carefully staged image of ecological transformation.

The involvement of Wenzhou-Kean University reveals the tensions embedded within this process. While the Expo offers a platform for experimentation and international exchange, it also imposes constraints that shape how landscape and identity can be articulated. The projects developed within this framework operate within a narrow space between innovation and conformity, where alternative approaches remain contingent on institutional, cultural, and operational conditions. It is within this space that the French garden must be situated. Rather than simply contributing to the exhibition, it can be understood as an attempt to question and reconfigure the terms through which landscape is mobilized—shifting from scenographic representation toward a more situated and relational practice.

4. FROM SCENOGRAPHY TO INTERLOCAL PRACTICE: THE FRENCH GARDEN

4.1. Historical and Conceptual Framing

The proposal for the French garden, primarily developed by the authors, emerges within the constraints of the Expo's exhibitionary framework while seeking to reconfigure its underlying logic. The question of what constitutes "Frenchness" in garden design is neither stable nor easily transferable. Far from being a fixed typology, the French garden results from a layered historical construction, drawing from Renaissance Italian precedents while developing as a large-scale territorial and engineering project.²⁸ This genealogy complicates any attempt to represent the French garden as a stable cultural object. As historians have shown, the gardens of Versailles were not only formal compositions but also infrastructural achievements, mobilizing hydraulic systems, earthworks, and technical expertise to construct an idealized landscape.²⁹ In this sense, the French garden is a transformation of territory, rather than a preservation of nature. At the same time, the notion of a distinct European landscape tradition must itself be reconsidered. Anthropologist Philippe Descola has argued that pre-Renaissance European conceptions of nature operated through analogical correspondences that bear affinities with Chinese cosmological systems.³⁰ This observation is reinforced by historical studies demonstrating the influence of Chinese garden aesthetics on European landscape design from the

seventeenth century onward, particularly in the development of picturesque and irregular compositions.³¹ These reciprocal influences suggest that the opposition between "Western" and "Chinese" landscape traditions is itself a historical construct

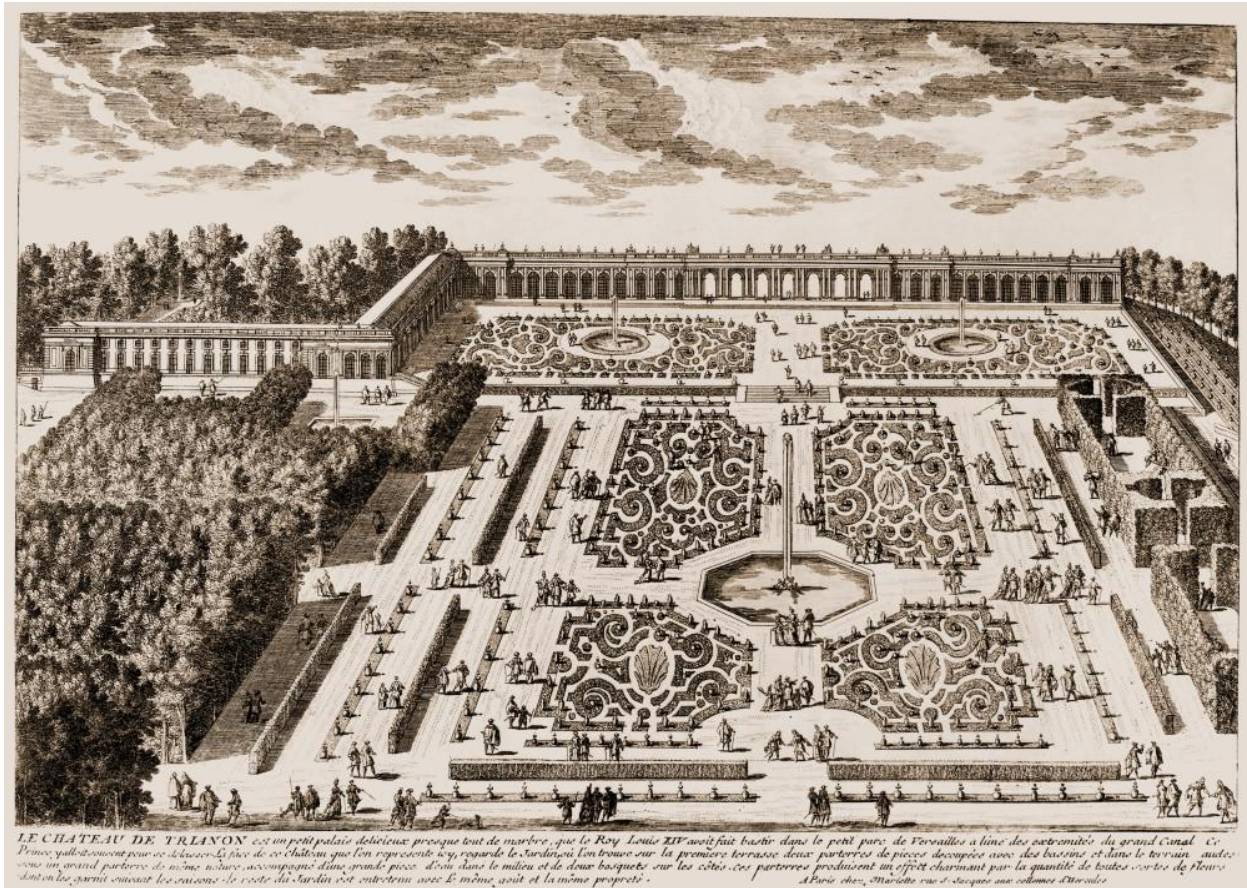


Figure 3 : Gardens of Versailles, France (Petit Trianon gardens). Line engraving from Adam Perelle, *Vues des belles maisons de France*, 1685.

It is within this context that the notion of *interlocality* becomes operative. Extending Julia Kristeva's concept of intertextuality, *interlocality* describes a condition in which meaning emerges through the interaction of situated references rather than through the affirmation of a singular origin.³² Transposed to landscape design, this implies that forms and practices are not transferred intact from one context to another but are transformed through their encounter with specific ecological and cultural conditions. This position also resonates with the critique of globalization articulated by Bruno Latour, for whom the opposition is not between the global and the local, but between the global and the terrestrial.³³ In this perspective, the "local" often appears as a reactive, reconstructed identity, detached from its material conditions, while the "global" operates as an abstract, disembodied horizon—what Peter Sloterdijk describes as the "world interior of capital."³⁴ *Interlocality*

proposes an alternative: neither the reproduction of localized identities nor the abstraction of a global space, but the reintegration of design within a given *geohistorical* condition, where landscape emerges from the interaction of ecological, cultural, and territorial processes.



Figure 4: Bayberry greenhouses, Lin'an District, Hangzhou, China. Photograph by Kejia Mei, 2023. Comparable slope-adaptive techniques are found across Zhejiang, including in the more mountainous terrain of Wenzhou.

4.2. Execution: From Bosquet and Arabesque to Agricultural Mediation

The central challenge of the project was to reconcile the formal logic of the arabesque and the spatial logic of the *bosquet*, while refusing large-scale terrain transformation. The site, measuring approximately 44 by 54 meters and featuring an elevation difference of nearly 25 meters, presents a condition fundamentally at odds with the flat or terraced terrain of classical French gardens. Rather than reshaping the land, the project draws inspiration from vernacular agricultural practices in Wenzhou's mountainous landscapes, particularly orchard systems that adapt to slope conditions. This shift establishes a mediating framework for reinterpreting the formal and spatial elements of the French garden. The initial approach focused on the *bosquet*, understood as a

spatial device organizing sequences within a wooded structure.³⁵ This typology proved compatible with the existing vegetated condition of the site, allowing for the articulation of enclosed spaces without extensive modification of the terrain. In a second phase, arabesque patterns, associated with Baroque parterre design, were introduced as a formal matrix.³⁶ While the *bosquet* defines space, the arabesque defines form; their combination generates a tension that structures the project. To resolve this tension, the project adopts agriculture as a mediating practice. Rather than treating the site as a neutral surface, it builds upon the existing logic of cultivation, where form emerges through adaptation to topography. As Henri Bava and Antoine Picon have argued, landscape design originates in the organization of productive systems, preceding its formalization as an aesthetic discipline.³⁷ This return to agricultural logic reconnects the garden to its territorial origins while grounding it in local conditions.

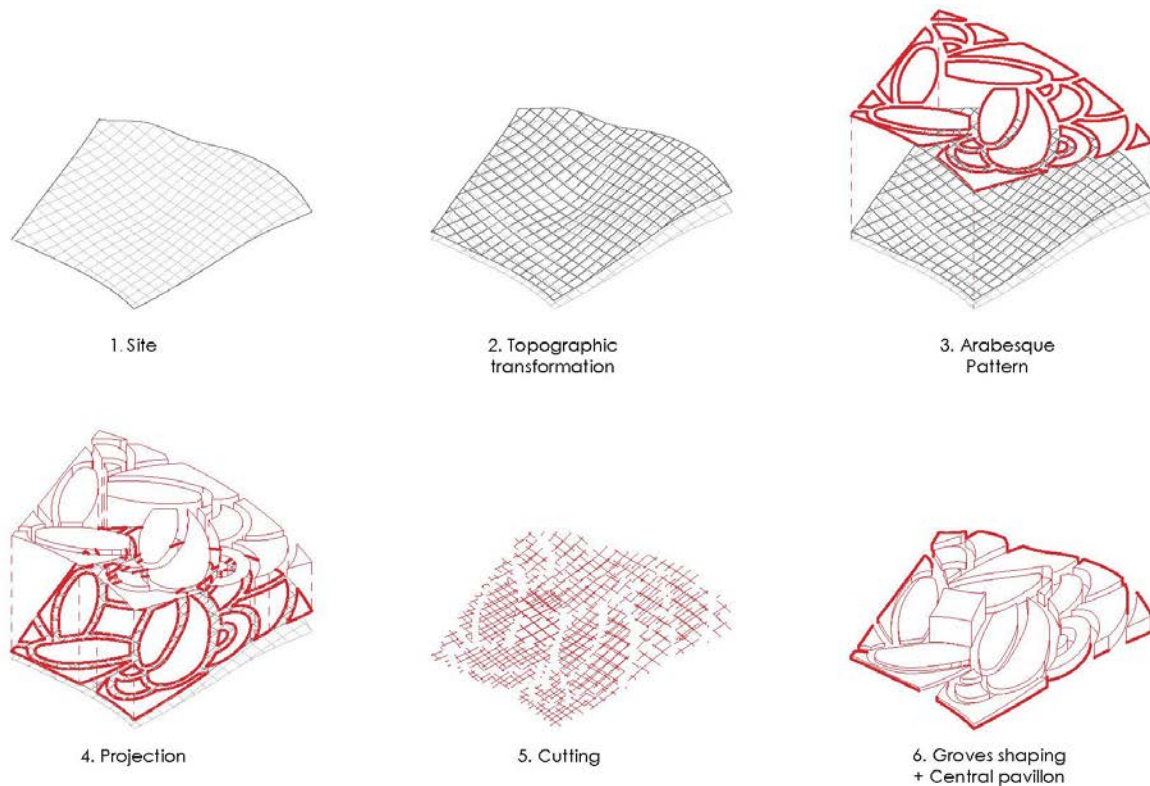


Figure 5: Diagram showing the massing process of the *bosquets* in the French garden (project and drawings by the authors).

The spatial organization follows this approach. The entrance is located at the lowest point of the site, initiating an ascending sequence structured by variations in planting height and density. The layout, based on an arabesque pattern, is oriented diagonally to align with the slope. Planting is organized in vertical layers: low vegetation at the front ensures open views, intermediate shrubs structure the middle ground, and a forest-like condition emerges at the upper level, merging with the mountain. The planting strategy reinforces this

interlocal logic. Drawing from French topiary traditions and grove structures, vegetation is framed to maintain geometric clarity while reducing maintenance, echoing local greenhouse practices used in Wenzhou agriculture. Citrus trees, central to both the French orangerie and local cultivation (Ougan), establish a direct correspondence between the two contexts.

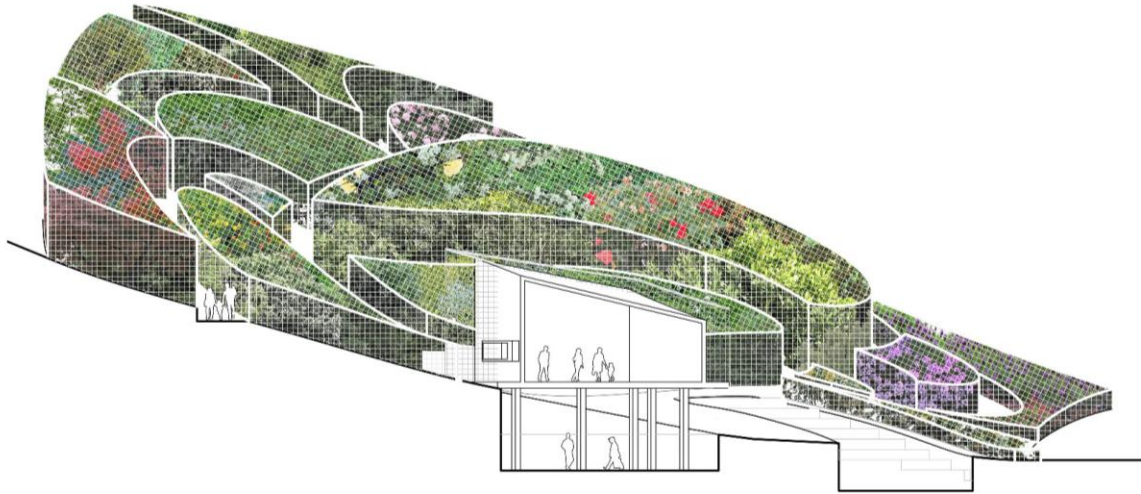


Figure 6: Section of the French Garden for the Wenzhou Garden Expo 2025. (Source: project and drawings by the authors).

The pavilion, or *fabrique*, extends this integration. Inspired by classical garden structures and modernist precedents such as Villa Savoye, it is conceived as a lightweight, two-level construction embedded within the landscape. The ground level remains open, while the upper level functions as a belvedere, framing views of the garden and its surroundings. Rather than acting as a dominant object, it mediates between spatial experience and environmental context. This shift operates simultaneously on three levels: it reconnects the garden to its historical origins in land management practices; it anchors the project within the ecological and cultural conditions of Wenzhou; and it reveals the extent to which the conventional image of the garden depends on the abstraction—and erasure—of productive labor. As Augustin Berque has shown, the landscape tradition, including garden design, is inseparable from the "foreclosure of peasant work," a condition that the project seeks to counter by reintroducing agricultural references into the design and making it explicit.³⁸

4.3. Toward an Interlocal Landscape Practice

Through these strategies, the project moves from a purely representational and scenographic logic—based on spectacle and display—to an *interlocal* practice grounded in relation, adaptation, and mediation. Rather than

staging a fixed image of the French garden, it constructs a set of correspondences between Versailles and Wenzhou, between historical forms and contemporary conditions.



Figure 7: Collage of the French Garden for the Wenzhou Garden Expo 2025. (Source: project and drawings by the authors).

This position does not reject the legacy of the French garden; rather, it reinterprets it. By moving away from its most infrastructural and transformative aspects and by reconnecting it with agricultural and ecological practices, the project proposes an alternative understanding of tradition—one that privileges process over image and relation over representation. In doing so, it responds to the broader question raised throughout this paper: how can a model historically rooted in global exhibitionary systems be rethought under contemporary ecological conditions? The answer proposed here is not to abandon the garden as a medium, but to transform its mode of operation—shifting from the representation of the world to the construction of situated relationships within it.



Figure 8: Physical model of the French garden (1:200), by the authors, illustrating the translation of arabesque geometry and *bosquet* structure onto sloped terrain.

5. CONCLUSION

From the Crystal Palace to the Wenzhou Garden Expo, the exhibitionary apparatus has operated through a persistent logic of representation: assembling the world within a unified spatial framework and rendering it legible through identifiable forms. While the contemporary discourse of ecological civilization appears to signal a shift toward environmental awareness, the Expo's material and spatial operations reveal a strong continuity with this legacy. Infrastructure is mobilized to produce landscape, and landscape is in turn reorganized as scenography: a coherent and readable image that stabilizes meaning while obscuring the transformations on which it depends.

In his account of the French garden proposals "Matisse Red Meets Banyan Green,"³⁹ Yu Wei describes the two distinct design approaches: one developed by a designer commissioned through the French Chamber of Commerce, and the other proposed by the authors. "Matisse Red" encapsulates the former, referring to a scheme centered on the chromatic reference to the extension of the Matisse Museum in France,⁴⁰ combined with a composition derived from a traditional French formal garden in the manner of André Le Nôtre. By contrast, what Yu Wei designates as "Banyan Green" corresponds to the authors' proposal, anchored in the specific conditions of Wenzhou's topography and landscape practices. The banyan tree, emblematic of local flora, is thus mobilized to characterize a more site-responsive, landscape-based approach.



Figure 9: Digital rendering of the French garden (project by the authors), rendering by Chengyu Gu.

In the "Matisse Red" option, the sloped terrain is reshaped through substantial earthworks—most visibly in the imposition of a rigid system of stairs aligned along a central axis—in order to sustain the clarity and symmetry of the composition. The proposal decontextualizes both the logic of the French garden and the material and cultural conditions of the site, while statues, fountains, and ornamental elements function as pastiches of canonical features associated with French garden traditions. Taken together, these components form a legible assemblage of signs, in which landscape operates as a support for identifiable cultural markers rather than as a site of situated adaptation and transformation.

This condition can be understood within a broader contemporary framework. On the one hand, it resonates with what Guy Debord described as the *society of the spectacle*,⁴¹ in which social relations are mediated through images and meaning is organized through visibility and recognition. On the other hand, it reflects the operational logic of what Dan Wang has characterized as the modern engineering state,⁴² where large-scale technical interventions are deployed to produce controlled and optimized environments rapidly. In the

context of the Expo, these two logics converge: the capacity for territorial transformation supports the production of coherent and immediately legible images.

Against this framework, the alternative proposal developed by the authors did not seek to produce a competing representation, but to operate through a different logic—one of translation. In the sense articulated by Bruno Latour, translation does not consist in transporting a form unchanged from one context to another. As Latour insists, there is no movement "from one point to another without transformation"; to translate is to modify, displace, and rearticulate.⁴³ Applied to design, this implies that a French garden in Wenzhou cannot be defined through the clarity of its image, but through the transformations it undergoes in relation to the site. It is in this sense that the notion of interlocality becomes operative. Rather than reproducing localized identities or projecting global forms, interlocality describes a mode of engagement grounded in the interaction of situated conditions. It aligns, in this respect, with Donna Haraway's notion of "situated knowledges," which challenges the illusion of a totalizing and universal viewpoint by emphasizing partial, embodied, and context-specific forms of understanding.⁴⁴ Interlocality can thus also be understood as a form of intersubjectivity, in which knowledge does not emerge from a detached observer, but from the encounter between different positions, practices, and perspectives. Applied to design, this implies a shift away from the global as an abstract and all-encompassing vision, toward a multiplicity of *grounded* viewpoints, where meaning is produced through relations rather than imposed through representation. In the project, this took the form of a negotiation between the formal logic of the French garden—arabesque patterns, bosquet structures—and the ecological and agricultural practices of Wenzhou, particularly orchard systems adapted to sloped terrain. The aim was not to represent Frenchness, but to allow it to be transformed through its encounter with another landscape. The divergence between the two projects is therefore not a matter of stylistic difference, but of operational logic. One organizes landscape as a legible composition of signs, supported by the combined apparatus of spectacle and engineering. The other treats landscape as a field of relations, in which meaning emerges through processes of transformation.

The stakes of this distinction are not only formal but epistemological. If horticultural exhibitions are to respond to contemporary ecological and territorial challenges, they cannot remain instruments of representation alone. They must become learning devices, capable of producing knowledge through their engagement with specific sites. This requires a shift from the *global* to the *terrestrial*, and from *representation* to *translation*: not the staging of the world as a collection of images, but the construction of situated relations within it.

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Traditional Dwellings and Settlements

Working Paper Series

**TRANSLATING TRADITION(S): BUILDING FOR
TELEVISION IN ANGOLA (Arch. SIMÕES DE
CARVALHO) AND MACAU (Arch. MANUEL
VICENTE), 1960-1990**

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TRANSLATING TRADITION(S): BUILDING FOR TELEVISION IN ANGOLA (Arch. SIMÕES DE CARVALHO) AND MACAU (Arch. MANUEL VICENTE), 1960-1990



In an age of swift development in global telecommunications and broadcasting media, how were traditions being translated and reflected in the built environment? Using the medium of television as a tangible symbol of the accelerated mediatization process of the 20th century, this paper aims to reflect on how architectural design evolved to conform to the emergent technological exploration of radio waves for broadcasting purposes, which expanded explosively in the postwar period. It examines two broadcasting centers in former Portuguese colonies, Angola and Macau, to trace a genealogy of television architecture and assess its impact on building cultures and traditions.

1. INTRODUCTION

“Even the layperson is now aware of the importance that radio broadcasting has acquired and that television is beginning to acquire in daily life. After having been a secondary form of entertainment, radio broadcasting is now, for many, an essential means of distraction, culture, and information. It can even be said to be a powerful means of civilization.”

Simões de Carvalho, 1963¹

The possibility of transmitting images over a distance, at the exact moment they are recorded, became a reality with the invention of television. The first regular public television service began in England in 1936, with the British Broadcasting Corporation (BBC), but in Portugal, it arrived only two decades later, halfway through the authoritarian dictatorship of the *Estado Novo* regime (1933-1974). Salazar was not particularly fond of technological innovations, already distrusting cinema and airplanes. It is a well-known fact that the dictator never visited the Portuguese overseas territories during his time in power and only flew once in 1966, on a flight connecting Lisbon to Porto. With the chief of government ruling from a distance, radio was a key tool for disseminating the regime’s nationalist propaganda throughout the metropolis and the colonies. By contrast, Marcelo Caetano – who succeeded Salazar in 1968 and remained in power until the revolution of 1974 – was a fierce advocate of television. Eager to exploit this new means of communication for political purposes, Caetano became the driving force behind the establishment of a public television service in Portugal while serving as deputy prime minister (*Ministro da Presidência*, 1955-59). The first experimental television transmissions of the Portuguese Radio and Television (Rádio Televisão Portuguesa - RTP) took place in 1956, in an ephemeral metallic pavilion designed by Eduardo Anahory at Lisbon’s Popular Fair (the today’s gardens of Calouste Gulbenkian Foundation). RTP’s regular broadcasts began the following year, in 1957, which coincides with the year that Fernão Simões de Carvalho (Luanda, 1929) presented his final

student project in architecture (CODA) at the Lisbon School of Fine Arts, with a work entitled *A Television Center*² (Figure1). In the project report, Simões de Carvalho quotes the French general Paul Labat (1900-1944), an army officer and engineer, specialist in electromagnetic wave propagation, who was a pioneer in radar technology and was a key member of the Resistance, ultimately being killed by the Nazis at Natzweiler-Struthof concentration camp. In the preface, written during the Second World War, in 1941, for the first edition of a book entitled *La Télévision*,³ Labat refers to the evolution of radioelectric technology in the first months of the “phoney war” (*drôle de guerre*), which were marked by a rapid and vigorous development of new processes, the specific techniques of which resembled those of the television technology. The war had halted the commercial production of television, to redirect resources to military radar and communications technology, but the accelerated technical advances used for national defense purposes, such as high-frequency radio, would later lead to smaller, cheaper television receivers and a massive post-war boom in the 1950s.

Simões de Carvalho chose to design a television center, for the hypothetical capital city of a small, prosperous country, since this service was still in its very early stages of development in Portugal, as he admits in his report: “Among us, it [television] has just made its appearance, it is taking its first steps.”⁴ He developed this student project during his stay in Paris from 1955 to 1959, while working on Le Corbusier’s projects at André Wogenscky’s atelier, his chief assistant. Simões de Carvalho based his design process for a television center on field research of major broadcasting studios in both Paris (Buttes-Chaumont) and London (BBC, White City Project in Wood Lane), to which he was deeply grateful to both Le Corbusier and Wogenscky for their influence and connections within the French government, which allowed him access to all the teaching and advice he needed regarding the technological and spatial requirements for television broadcasting.⁵ In the 1920s, when automobiles became commercially available to the masses, Le Corbusier became fascinated by their mechanics as symbols of modern efficiency and precision.⁶ Given the explosive growth of television in the 1950s, one can easily imagine Simões de Carvalho being similarly enthusiastic about the most popular technological innovation of his time, despite its far greater complexity as an electromagnetic system and mass media phenomenon compared to the straightforward mechanics of an automobile. As the architecture critic Herbert Muschamp once wrote, Le Corbusier had a solid justification for basing his rational vocabulary on machine technology and its reduction of form to functional necessity. Television, on the other hand, is a medium “that thrives on the irrational power of popular taste and the protean images that capture it”. Mechanics plays only a supporting role in television — “the principles of the machine age do not hold for the information age.”⁷

Television is a window looking out onto the world that also brings the whole world straight into people’s homes. Its impact on the way traditions were passed on and transmitted is not easily grasped and can never be fully measured. Like the medium it houses, the architecture of television functions as both a receptor and a

transmitter of meaning, a converter box of remote cultures and practices, a translator of traditions. In that sense, the architecture designed specifically for broadcasting can offer some clues about the impact of television (and radio before it) in building cultures and traditions. Drawing on concepts and methodologies from Alfredo Thiermann's *architecture of radio* — in which the author argues that the historic solidity of architecture was radically challenged by the effects of the *ethereal medium* — this paper reflects on the interaction between architectural design and broadcasting, from inception to territorial implementation and through various technological developments.

“The *architecture of radio* is not a top-down project designed by any specific architect, planner, or political agent alone. Rather, it is a technological assemble constructed by electronic and mechanical elements, building types, and ultimately by urban structures making indissoluble the relationship between these three scales of operation”.

Alfred Thiermann, 2022⁸

Based on these assumptions, this paper reflects on the conference theme, **Translating Tradition**, by analyzing two different responses to the challenge of giving architectural form to the medium of television when it was initially introduced in the colonial territories under Portuguese rule. The first case study is the Angola Broadcasting Center, which Simões de Carvalho had the opportunity to build in Luanda a decade after his speculative student project. Designed in collaboration with José Pinto da Cunha and Fernando Alfredo Pereira from 1963 to 1967, and resulting from a competition the team won in 1961, the building complex reflects Simões de Carvalho's formative experience with Wogenscky, working on Le Corbusier's postwar projects in *béton brut*, such as the *Unité d'Habitation* in Berlin, La Tourette and *Maison du Brésil* in Paris's *Cité Universitaire*.⁹ From the same period, but on the other side of the world, the second case study is the project for the *Emissora Radiodifusão de Macau* - ERM (later renamed *Teledifusão de Macau* - TDM), designed by architect Manuel Vicente (Lisbon, 1934). Vicente would be involved with this project for an extended period of 25 years, from 1964 until 1989, as it was developed, expanded and renewed in multiple phases. For Vicente, the ERM/TDM project was one of the most important stages of his professional career, later admitting in a 1990s interview that this was the project where he felt free from all the architectural lessons he had learned before, in Lisbon and Porto, and his architecture started exhibiting signs of cultural assimilation and identification with Macau. The building complex began as a small, single-story concrete building that housed radio studios in the 1960s; then, in the 1980s, it underwent several alterations and expansions to include television services, growing in height and gaining a more dematerialized appearance with the expressive use of metal and glass in its facades. Throughout these changes, the main design themes always remained present, not through repetition but through a process Vicente defined as “metamorphosis”. Having adapted to multiple technological advancements and to profound cultural and political changes, from Angola's transition from Portuguese colony to independence in 1975 and to Macau's handover to China in

1999, the two buildings by Simões de Carvalho and Vicente still exist today and continue to serve as the headquarters for public broadcasting services.¹⁰

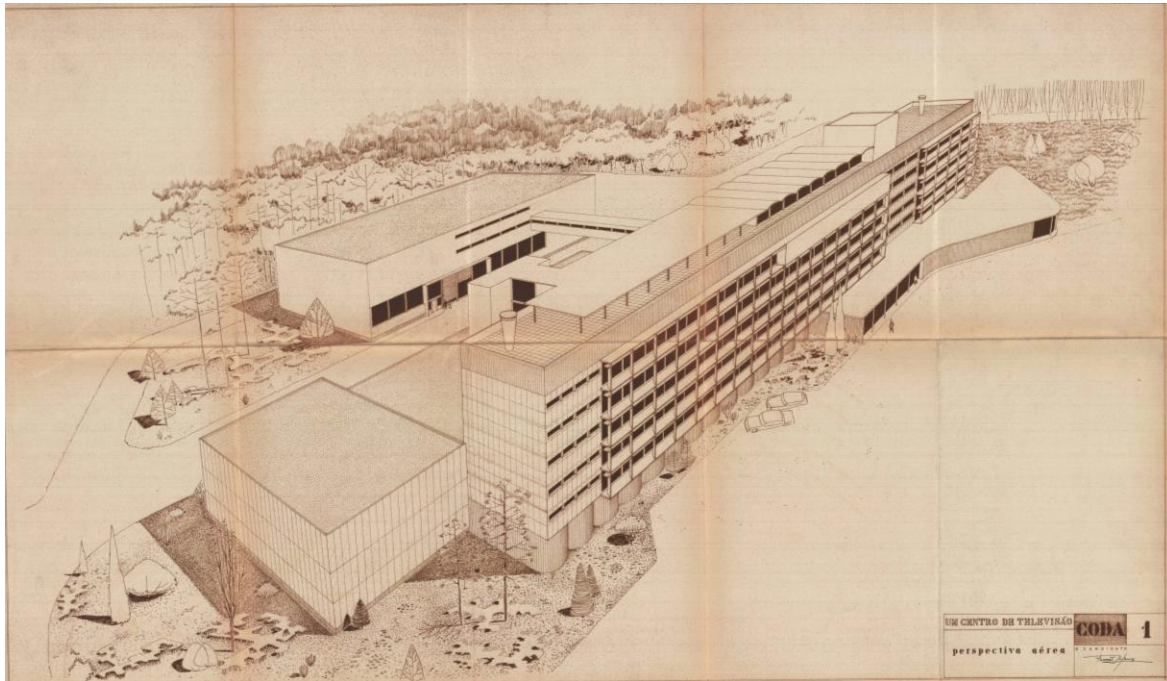


Figure 1: Fernão Simões de Carvalho, *A Television Center*. CODA, 1957. (Source: FIMS-PT_FIMS_FSC_CODA_01_SC_0039).

2. ON TRADITION, ON TELEVISION

— “From one hand to another”. *On Tradition* (1966),¹¹ Theodoro Adorno departs from the Latin verb ‘*tradere*’, meaning “to hand down”, to frame the concept of tradition as an essentially feudal category, implying a certain degree of physical proximity or immediacy for it to be transmitted, “handed down”. In its terminology, tradition recalls familial relations and the continuity of generations, which, for Adorno, was incompatible in the strictest sense with bourgeois society — the medium of tradition is not “consciousness”, but the “pre-given, unreflected and binding existence of social forms”. Technology, adds Adorno, made us forget the *hand* that created it, making it an extension of itself. What tradition guaranteed — a self-evident relation between objects, materials, and techniques — is ultimately lost in bourgeois society and cannot be replaced aesthetically. Any effort to conjure it would be a “false” tradition, a “fictional character” of lost traditional aspects of culture. “There is no tradition today and none can be conjured, yet when every tradition has been extinguished the march towards barbarism will begin”¹² — ultimately, this is the insoluble contradiction identified by Adorno regarding the concept of tradition.

“Television is a new, hard test of our wisdom. If we succeed in mastering the new medium it will enrich us. But it can also put our mind to sleep. We must not forget that in the past the inability to transport immediate experience and to convey it to others made the use of language necessary and thus compelled the human mind to develop concepts.”

Rudolf Arnheim, 1935¹³

In his critical essay *Forecast of Television* (1935), pioneering media theorist Rudolf Arnheim expressed some apprehension about the new medium, which is particularly relevant considering the political climate in his native Germany at the time he wrote it. For Arnheim, television was just an instrument of transmission — a “means of cultural transportation” — functioning similarly to the motorcar and the airplane; it was different from radio and film because it did not allow for the artistic interpretation of reality. But television could change our attitude towards reality, giving a sense of multiplicity, of what happens simultaneously in various places. Instead of being translated into a succession in time through language and words, television was creating an experience of simultaneity that had never existed before in the history of humankind: “The detour via the describing word becomes unnecessary, the barrier of foreign languages loses importance. The wide world itself enters our room.”¹⁴

Reyner Banham, the “historian of the immediate future,”¹⁵ described the 1960s as the beginning of a Second Machine Age, marked by the introduction of “domestic electronics and synthetic chemistry.”¹⁶ For Banham, the symbolic machine of the Second Machine Age was the **television**, as a means of mass communication dispensing popular entertainment to a large part of society. By contrast, the symbolic machine of the First Age, in the first decades of the 20th century, was the **automobile**, available only to a certain elite that could afford it. The First Machine Age was defined by the “power of the mains and the reduction of machines to human scale” and had begun nearly a century and a half before (with the Industrial Revolution and the availability of coal gas for heating and lighting). Unlike the great ships and railway expresses of the early Industrial Age, which needed a separate class of workers to operate them, the dynamics of a fast-moving car represented for the elite a new kind of power, one they could own themselves and personally control. At that point in time, Banham was already looking upon the First Age as a period of the past. The rapid developments of the Second Age broadened the availability of technology for the masses and increased its personal scale and presence in the domestic realm. In Britain, the 1960s were a decade of modernization and Banham, a technological optimist, deeply rejected any attitude towards preservation and conservation — to revive it [architectural historicism] is “to abdicate from the Twentieth Century.”¹⁷ For Banham, there wasn’t a city in the world that wouldn’t benefit from “some ruthless modernization”, making a distinction, however, between the urban textures we live in, which hold a relatively permanent value, and the buildings we inhabit, which were ultimately expendable:

“No individual building needs [to] survive. It is the in-and-out weave of men and communications among the buildings that is essential, not the buildings themselves. No monument is as important to Europe as this texture of its cities”

Reyner Banham, 1957¹⁸

According to Nigel Whiteley, Banham’s views of architecture “did not respect history in the sense of national and cultural traditions and forms”, but rather upheld “a post-Enlightenment commitment to a generalized notion of Western technological progress”. Both traditionalism and historicism were nothing less than “architectural irresponsibility” for Banham, and his positions didn’t change significantly during his lifetime. In the next two decades, Banham would search for an “architecture of technology” adapted to the Second Machine Age, which had television as its symbolic machine. Coming from the *New Brutalism* in the late 1950s, he would later explore the concept of *Megastructures* in the 1960s and became interested in the *High-Tech* in the late 1970s, embracing all these developments as “examples of a democratic architecture for the *classless* Second Machine Age.”¹⁹

The two broadcasting centers for Luanda and Macau studied in this paper could also be integrated into these architectural movements. Simões de Carvalho’s design for the Angola Broadcasting Center in the mid-1960s has been described as “Brutalist megastructure”, with its design being based on the *Modular* metric system — the building has a rectangular base plan measuring 101.35 meters long by 64.75 meters wide and is organized in modules of 3.66 meters — and also references Le Corbusier’s research on *béton brut*, present in projects such as the Convent of La Tourette, in which the architect participated.²⁰ Ana Vaz Milheiro also highlights the fact that the building is composed along a symmetrical axis, relating it to “a common practice in early projects within the Brutalist movement by Reyner Banham”, resolving the problem of sunlight on the facades through continuous vertical and horizontal brise-soleil elements.²¹ In the case of Manuel Vicente, it is possible to identify an evolution from his first design for the *Emissora Radiodifusão de Macau* (ERM) in the 1960s — a small single-story facility in raw concrete, linearly organized along a central corridor — to the later design stages for the building complex of *Teledifusão de Macau* (TDM) in the 1980s — in which the upper floor of the administrative tower gives architectural shape to the company’s logo, distinctively marking Macau’s skyline with a *pop* feeling, while its interior features geometric grids, illuminated porticos and superimposed textures of standard materials points towards a more *high-tech* sensibility (Figure 2). Jorge Figueira identifies a shift in Manuel Vicente’s professional path somewhere in the 1970s, in which his architecture evolved towards a “full-time postmodernist” approach — “in *method* (through collage, replication, enlargement); in *effect* (the use of lettering, color, and a saturation of geometry); and in *objectives* (a dense, labyrinthine, and *electrified* space).”²² Through the various stages of the design process of these two buildings for broadcasting in Luanda and Macau, and their progressive adaptation to several technological developments in the broadcasting industry, it

is possible to trace a genealogy of an *architecture of radio* — and, by extension, an *architecture of television*, too. The two buildings for broadcasting position Simões de Carvalho and Manuel Vicente, alongside Reyner Banham, on the path of a postwar generation of architects searching for a resolution to an architecture caught between tradition and technology.



Figure 2: Manuel Vicente, TDM (*Teledifusão de Macau*) Administrative Building, 1989. (Source: Photo by Agnelo Vieira published in *Architèti, Revista de Arquitectura e Construção*, nr. 4, April 1990)*.

3. COLONIAL LANDSCAPES OF BROADCASTING

In the aftermath of World War II, when other countries were letting go of their colonies, Portugal chose to cling to them even tighter. Facing international criticism and pressure, and instead of addressing the process of decolonization, the Salazar regime amended the Portuguese constitution in 1951, which revoked the Colonial Act of 1930. From then on, references to “colonies” were replaced by the term “overseas provinces”, and the regime shifted its narrative to promote Portugal as a multiracial, multicultural, pluricontinental nation rather than a colonial empire. This change in colonial policy had a profound impact on the *Estado Novo*’s broadcasting strategies, leading to large investments in overseas stations, both privately owned radio club stations as well as those created by the State over time. It was only at this moment, under the pressure to decolonize, that Salazar decided to invest heavily in forging a bond, through radio, between Portugal in Europe and its overseas provinces in Africa and Asia.²³ One of the major built enterprises of the new radio strategy adopted in the 1950s was the *Centro Emissor Ultramarino* [Overseas Broadcasting Center],

launched in March 1954, in S. Gabriel, Pegões, 70km from Lisbon, with the main purpose of reaching all Portuguese nationals.²⁴

In Angola, radio began in 1938 with the establishment of *Rádio Clube de Angola* (RCA), following experimental broadcasts in Benguela in the early 1930s. Based in Luanda, RCA served as an unofficial radio station, reading government communiqués, speeches and compulsory notices. Additional radio clubs then began emerging throughout various districts, such as in Benguela, Lobito, Huíla and Huambo, due to the strong presence of white elites in locations outside Luanda.²⁵ In 1951, the *Emissora Oficial de Angola* (National Broadcasting Station) was launched, first on an experimental basis, under the direction of the *Direção dos Serviços de Correios, Telégrafos e Telefones* - CTT (Directorate of Post, Telegraph and Telephone Services). The Portuguese government put the station into operation only a few years later, in 1955, installing it in facilities that were scattered and unsuitable for that function. The outbreak of the colonial (or liberation) war in 1961 led to an increased need to strengthen political control over radio broadcasting, resulting in the establishment of a coordinating commission for the Broadcasting Plan of Angola (*Comissão Coordenadora do Plano de Radiodifusão de Angola* - CCPRA).²⁶ It was at this point that Simões de Carvalho became professionally involved in the design process of the new studios of the *Emissora Oficial de Angola*. At first, an architectural competition for the new building had been announced, but due to the local architect's previous experience in designing a television center for his student project, the commission contacted Simões de Carvalho directly, asking him to present his conditions for developing the project, which were ultimately accepted. In 1963, Simões de Carvalho signed the contract to design the new Broadcasting Center of Angola (*Centro de Radiodifusão de Angola*), to which we will return later.

“In territories with characteristics like Angola — low population density, communication difficulties, diverse ethnic groups with eight most widely spoken dialects and four used by smaller population groups, in addition to others with limited use — radio broadcasting is currently the only means available to reach all corners immediately and economically. Although it lacks the allure of its younger sibling, television —radio requires imagination, technique, artistry, and knowledge of the listeners' tastes and emotions to compensate for this deficiency —, the abundance of portable receivers, now found even in isolated villages, should compel us to look at it with more attention — even concern — making the most of the existing infrastructure.”²⁷

Magazine *Electricidade* (1970)

In Macau, the first radio station was created in 1933, with two hours of daily broadcasts (under the name of *CQN-Macau* and *CRY-9-Macau*). During the Second World War, when Japan occupied large parts of China (1937) and captured Hong Kong (1941), Macau became a haven for thousands of refugees because it was technically neutral under Portuguese colonial rule. Its population tripled between 1937 and 1945, reaching half a million. The official *Rádio Clube de Macau* was created during this period, in 1941. Despite the difficulties

imposed by the context of war, it broadcast continuously under the direction of the Post, Telegraph and Telephone Services (*Correios, Telégrafos e Telefones* – CTT), from a small room next to the clock tower of the CTT headquarters — a building that still exists today and defines a monumental corner in Largo do Senado. This building resulted from a long-recognized need to provide proper facilities for several telecommunications services, also with the ambition of transforming Macau into the “center of the radiotelegraphic communications between the Metropole and the colonies of the East.”²⁸ The design process of the CTT headquarters was long and complex, involving several stages and authors.²⁹ As a side note, it is worth mentioning that its initial design was the responsibility of Carlos Rebello de Andrade, the first architect who came to Macau from the metropolis to work in the Department of Public Works, in 1918, who is credited with the European neoclassical language of its facades. This eclectic and symbolic reproduction of imperial forms in Macau served as a form of social and political representation of the Portuguese State in Macau. Carlos Rebello de Andrade and his brother Guilherme soon afterward designed the Portuguese national pavilion for the international fairs in Rio de Janeiro in 1922 and Seville in 1929, in a highly revivalist and nationalist architectural style.

Rádio Vila Verde was a private commercial radio station created in the 1950s, which enjoyed great popularity in Macau, especially because of its charismatic owner, Pedro José Lobo (Manatuto, Timor, 1892). Lobo was Chief of the Economic Affairs Department of Macau for 27 years, negotiated with the Japanese during the war to solve the problem of food scarcity and later became one of the wealthiest men in Macau due to his involvement in the gold trade. Lobo was also a patron and promoter of Macau’s cultural, musical, and artistic life. A composer himself, Lobo also set up his own private orchestra, and each day *Rádio Vila Verde* broadcasted concerts of his works. The radio station operated out of Lobo’s house, which is how it got its name. Photographs published by the *Boletim Geral das Colónias* (no. 331, May 1951, p.123) show that the station was installed in a small *Art Deco* pavilion, facing the pool in the garden (Figure 3). *Vila Verde* was located at Rua de Francisco Xavier Pereira and Avenida do Ouvidor Arriaga — very close to the future location of ERM/TDM headquarters, designed by Manuel Vicente from 1964 to 1989. In Vicente’s *Systematic and critical inventory of the architecture that characterizes Macau*,³⁰ produced in 1980/81, *Vila Verde* is featured already in a state of decay and the site that is now dominated by supermarkets and shops (Figure 4,5).

“Grandfather lived in a large house which he named *Vila Verde*. In the same street, there were six houses, three on each side. Each belonged to one of his children. There were goats in the street in those days. Vendors arrived with bread and other foods. The pace of life was very slow.”

Nuno Lobo (José Pedro Lobo grandson, 2019)³¹



Figure 3: (left) *Emissora Vila Verde*, Boletim Geral das Colónias, nr.311, Maio 1951.

Figure 4,5: (middle, right) Manuel Vicente, *Inventário Sistemático e Crítico da Arquitectura que caracteriza de Macau*, 1980-81. (Source: Biblioteca de Arte Gulbenkian. CFT024.J03.1).

In 1962, the official *Rádio Clube de Macau* was replaced by *Emissora Rádio Macau* (ERM), managed by a Steering Committee. The opportunity to lead the design process for a new broadcasting center in Macau came to Manuel Vicente in 1964, at invitation of the then-director of the Provincial Department of Postal and Telegraph Services of Macau. Vicente developed the ERM (later TDM) project in three main phases — from 1964 to 1966, from 1979 to 1982, and from 1983 to 1989 — which corresponded to key moments in the broadcasting center's history. *Radio Macau*, the public broadcasting service, was established in 1976, and *Teledifusão de Macau* (TDM), a public television company, was founded in 1982, incorporating the radio services. The TDM television channel began broadcasting on May 13, 1984, alternating programs in Portuguese and Chinese, until it was split into two channels in 1990. Besides the headquarters building complex of ERM/TDM, Vicente was also involved in the design of a Transmission Center in Guia and in Coloane (1987), including a new transmission tower, which was never constructed. According to the director of Portuguese Radio and Television at the time, who visited the premises in 1989, this unbuilt enterprise that only existed in sketches would have left “a (Portuguese) mark” in Macau, much like the Sydney Opera House.³²

4. ARCHITECTURE OF TELEVISION

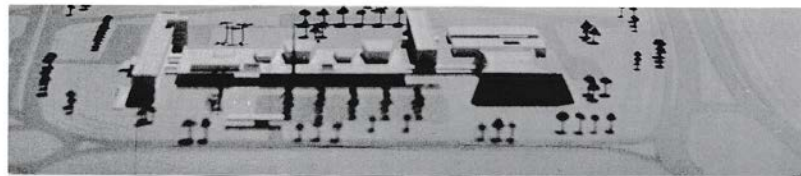
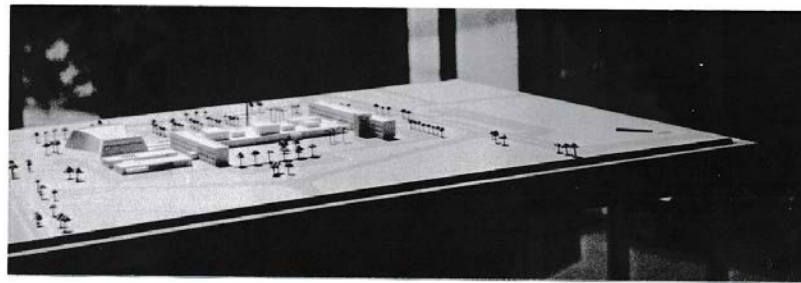
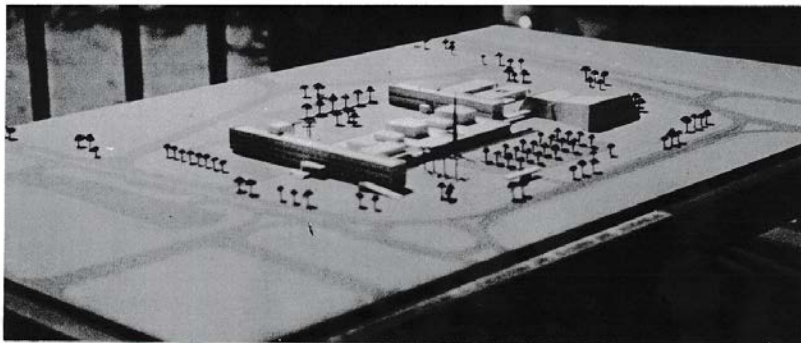
As argued by Thiermann, the *architecture of radio* is “a system of relations, a tectonic arrangement woven across different institutions, scales and technologies.”³³ To conceive architecture for broadcasting requires looking

not only at elements such as windows, doors, and walls but also at the electronic media apparatuses that make these buildings work, from the small-scale electronic devices (tape recorders, mixing boards, microphones...) and, ultimately, at the territorial scale of the infrastructural network that sustains them (antennas, submarine cables, satellites...). The studio is the most fundamental element of a radio station, around which all other functions revolve; it is also the space with the most sensitive technical requirements, especially regarding acoustics and soundproofing. In addition, television studios must also accommodate the demands of image recording, requiring large areas for sets, backdrops and lighting.

As Simões de Carvalho argued in his student project in 1957, the functional demands of a television center should include the construction of two distinct and separate units, one for recording and the other for building the sets. In his speculative architectural design, the two functions appear clearly separated into two building blocks separated by a 9-meter-wide road, connected only by a 3.66m-wide aerial pedestrian passageway on the third-floor level. The main building has six floors and is organized vertically. Its spatial arrangement and design aesthetic are very reminiscent of Le Corbusier's *Unité d'habitation*, particularly the *brise-soleil* façade and the ship-deck-inspired communal terrace rooftop featuring two large cone-shaped chimneys. The various functions of each floor are also distributed linearly according to a rigorous 3.93-meter module, but instead of using *rues intérieures*, circulation is made through an exterior gallery on the rear façade that runs the length of the building. Unlike Le Corbusier's *Five Points of Architecture*, Simões de Carvalho's speculative design does not elevate the building off the ground with *pilotis*. Instead, the entrance level is fully enclosed, with large glass windows marking the entryway to the main studios in the center, while opaque curved walls on the left and right sides of the building's ground floor hide the dressing rooms and the workers' cafeteria. Overall, the building's design makes it difficult to tell that it was specifically created for television. By sheer coincidence, Simões de Carvalho's speculative project bears a striking resemblance to the current headquarters of the Portuguese Radio and Television (RTP), a building that was originally conceived as an "archetype for the diamond cutting industry", designed by Carlos Manuel Ramos and António Teixeira Guerra to serve as the headquarters of the company DIALAP/DIAMANG, and that was later adapted for television services in the early 2000s.³⁴

The Angola Broadcasting Center in Luanda, which Simões de Carvalho co-designed between 1963 and 1967, follows the main functional principles that guided his academic project for a generic television center a few years prior — which clearly outlined the television broadcasting service for a city like Lisbon at an average of 30 to 35 hours per week, with a maximum transmission time of 5 hours per day. Besides adapting the project for an African capital city like Luanda, the architectural design also had to respond to the guidelines previously established by the Broadcasting Plan of Angola in 1961, including its location on a 5-hectare lot in the high part of the city, which was almost entirely flat and offered a broad panoramic view. Instead of a

vertical block with six floors, as in his speculative student design, Simões de Carvalho and his co-authors conceived a building complex for Luanda composed of six autonomous units connected by galleries, which included a large auditorium open to the city (Figure 6). The project also designated a large area for future television studios, but no decision was ever made in that regard until Angola gained independence. Of the six planned units, only the main building and a smaller workshop block were constructed. The main building's design was laid out on a horizontal, rectangular platform measuring 101.35 by 64.75 meters. The interior is organized around a central longitudinal axis punctuated with skylights that provide natural lighting. Seven outdoor green patios permeate the building with light and ventilation while reducing noise transmission between the four broadcasting studios (Figure 7). The first broadcast from the new center took place in 1971.



CENTRO DE RADIODIFUSÃO DE ANGOLA
MAQUETTE DE CONJUNTO - 1967

Figure 6: Fernão Simões de Carvalho et al. *Centro de Radiodifusão de Angola*, Model of the building complex. (Source: FIMS – PT_FIMS_FSC_0021_SC_0022).

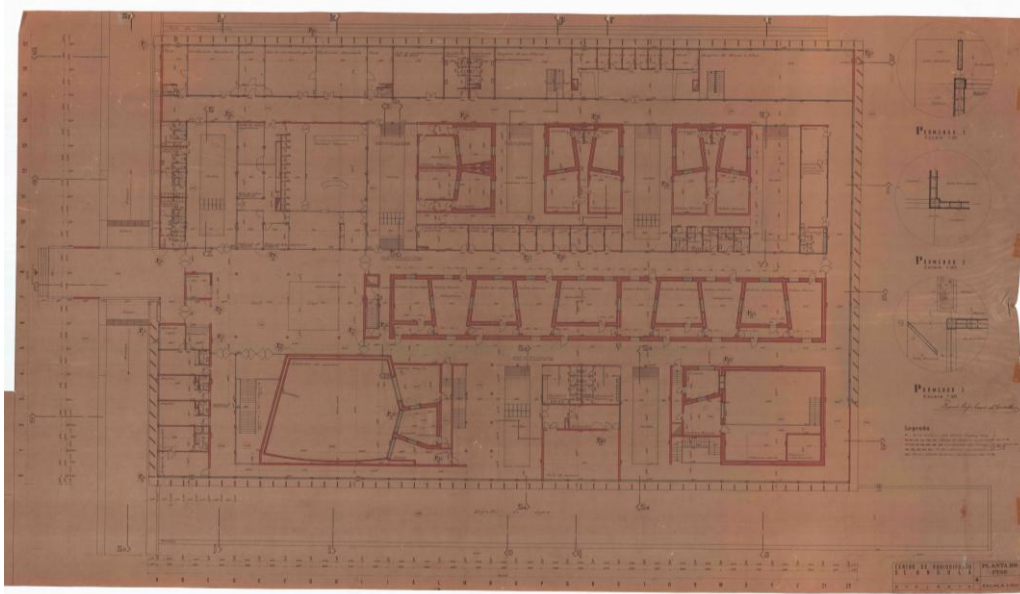


Figure 7: Fernão Simões de Carvalho et al. *Centro de Radiodifusão de Angola*, Main floor plan. [Source: FIMS-PT_FIMS_FSC_0021_SC_0022].

Regarding the broadcasting center in Macau, this project was highly relevant to Vicente's professional path, for two main reasons, as he explained in a 1990 interview.³⁵ Firstly, because this was the first time Vicente was designing a “non-building”, a term he used to describe a project that would never be perceived as a single building and instead should be read as a “set of built situations”, with a diminutive exterior presence towards the street. Secondly, because he had to make concessions to the “integral design” and incorporate “ready-made” solutions, which were the preconceived designs of the broadcasting studios. As mentioned before, Vicente received the commission to build the first phase of the ERM building at invitation of the then-director of the Provincial Department of Postal and Telegraph Services of Macau. Vicente describes the director as a person “given to the arts” (*dado às artes*), to whom the intervention of an architect was an absolute necessity for the commission in question, and that worked alongside an adjunct that was “given to the techniques” (*dado às técnicas*).³⁶ According to Vicente, the adjunct had already designed and detailed a row of radio studios, both in plan and section, to be implemented in a site sandwiched between the backs of late-colonial houses, the bottom of a shady hill and an old army shed in an equally derelict state.³⁷ Despite the project's less than desirable pre-existing conditions, and the immediacy with which the commission had to be carried out, Vicente accepted the invitation, for both as a matter of principle and out of respect of his friendship with the director. The ERM project introduced a “radical new way” of designing for Vicente, as he confesses that for the first time in his career, the design of an architectural object did not result from theoretical reflection; instead it emerged in response to the various conditions of its surroundings,

as well as the technical demands and “ready-made” solutions associated with the installation of a new broadcasting service.

“To invent from a null site, with functional and sonic contradictions, ready-made organizational charts of ideal studios for the technicians. The first collage began. Gluing together the space that would give it meaning; like an organic palace.”

Manuel Graça Dias (Vicente’s former collaborator, 1979-80)³⁸

The first phase of the ERM project began in 1964 with a set of pre-designed radio studios created by the adjunct, Engineer Alípio Guedes. The studios were already arranged in a line, which formed a long, closed corridor. Two rooms for the Portuguese and Chinese record library were located on the opposite side of the corridor, which ended in a small internal patio. The square entrance hall was the most spacious area, where Vicente’s signature design was most prevalent. Measuring 10 by 10 meters and 5 meters in height, the hall had large windows with metallic brise-soleils that diffused natural light from above, and the concrete formwork of its outside walls was assembled at a 45-degree angle. The large raw concrete slabs framing the blind masonry walls were also strong design elements (Figure 8) Although it was very modest in both scale and program, this initial phase launched many “themes and characteristics” that were present since the beginning with “a great clarity and simplicity”, and that continued to be explored and integrated in the later phases of the project, always through a process of what Vicente called “metamorphosis” and never by repetition. The second phase began in 1979, two years after the creation of the TDM, when the station was preparing to launch its television channel. In this phase, the postmodernist approach began to gain momentum: the 45-degree angle of the 1964 concrete formwork is transferred to the glass Xs of the windows; the square module of 5 by 5 meters is also adopted throughout the design; different volumes emerge, squares twist from the orthogonality of the plan, open patios become closed and more “forbidden (desired)”.

“Quoting Khan, who said that the way of posing any problem already contained the answer: in relation to my ERM/TDM project, I would say that in 1964 everything that I came to decide during the 1980s was present, although undeciphered.”

Manuel Vicente, 1990³⁹



Figure 8: Manuel Vicente, ERM (*Emissora Radio Macau*), Main entrance, 1964. (Source: Photo by unknown author published in *Architêcti, Revista de Arquitectura e Construção*, nr. 4, April 1990)*.



Figure 9, 10: Manuel Vicente, TDM (*Teledifusão de Macau*) Administrative Building, Interiors, 1989. (Source: Photos by Agnelo Vieira and Leong Katai in *Architêcti, Revista de Arquitectura e Construção*, nr. 4, April 1990)*.

Finally, in the third and final phase, which began in 1983 and was developed in ten different stages until 1989, the glass Xs from the windows and outside pillars of the radio building also pass into the interior spaces of the administrative tower, which then gave way to the geometric composition of the interior ceilings and partitions. A large red M, the company's logo, gains architectural expression and spatially defines the meeting room on top of the building. The 45-degree concrete formwork of 1964 and the clerestory windows with metallic brise-soleils are translated into the final design of the administrative tower, now with a greater impact and scale, since it is in direct dialogue with its surroundings in Macau's skyline. The entire building appears dematerialized, with transparencies, reflections, and dim lights permeating its interior and diffusing its exterior into the surrounding atmosphere. The overall effect is reminiscent of a television broadcast.

5. CONCLUSION

“The electromagnetic spectrum is as vital to our national prosperity — and our ultimate survival — as any other natural resource”, introduced the President of the National Association of Broadcasters (NAB) in an engineering manual from the 1970s.⁴⁰ A chapter of the handbook, titled *Planning and Costing of Radio and Television Stations*, was found among the technical drawings, sketches, descriptive memoranda, and contracts in the archival collection of Manuel Vicente. The chapter outlines the spatial requirements for broadcasting services, from the site selection to the building program and construction, to electronic media engineering and acoustics. A similar handbook from the 1950s, titled *TV Stations: A Guide for Architects, Engineers, and Management*, published in the series *Progressive Architecture Library*, was also found in the archival collection of Simões de Carvalho.⁴¹ This paper outlines the initial research stage for the two case studies presented. One of the next steps in the ongoing research process, which could not be included in the paper, is examining the Simões de Carvalho’s and Vicente’s architectural designs in light of the technical knowledge about building television stations contained in these handbooks and similar international publications from the same period, in order to understand their influence on the final design.

The goal of this research is to contextualize the two broadcasting centers in Luanda and Macau within the broader framework of international technological exchanges, global media networks, infrastructural territorial implementation and its impacts on traditional built environments. It considers the construction of these broadcasting centers in relation to power and state policies, connecting them to their historical context and contemporary theoretical thinking. Assuming that the exploration of the electromagnetic spectrum as a “natural resource” has not been sufficiently examined within the framework of 20th-century architectural historiography, this research reflects on the architecture of television beyond its formal and authorial existence, analyzing it as an intricate and entangled system of relations that crosses technology, geopolitics, public institutions, and private interests across many different territorial scales and cultural environments.

ACKNOWLEDGEMENT

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(*) Every effort was made to obtain copyright permission for the photographs of Agnelo Vieira and Leong Katai. However, these attempts were unsuccessful because the magazine in which they were originally published, *Architècti*, has ceased publication. The author would be grateful to be contacted by the photographers or rights holders so that formal permission may be requested.

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Traditional Dwellings and Settlements

Working Paper Series

TRANSLATING SPATIAL EVALUATION ACROSS THREE HUIZHOU HERITAGE VILLAGES (CHINA): *FENG SHUI*, GEOBIOLOGY AND ENVIRONMENTAL MEASUREMENT

Liangyu Li, Cristiana Mazzoni

TRANSLATING SPATIAL EVALUATION ACROSS THREE HUIZHOU HERITAGE VILLAGES (CHINA): *FENG SHUI*, GEOBIOLOGY AND ENVIRONMENTAL MEASUREMENT



Taking feng shui as a mode of spatial diagnosis, this article examines how heterogeneous systems of spatial evaluation are translated within contemporary heritage contexts. A layered protocol places feng shui, geobiology and scientific environmental measurement in comparative relation. Applied across three Huizhou villages and through a double-scale analysis in Hongcun, the study investigates both long-term structural configuration and short-term environmental exposure. The results reveal tensions between durable geomantic organization and contemporary forms of occupation, showing how heritage space becomes a site where traditional environmental knowledge is rearticulated within present regimes of spatial evaluation.

1. INTRODUCTION

While many historic villages face tourism economies, the proliferation of short-term rentals and development strategies based on the profitability of heritage (Graham et al. 2000; Cocola-Gant 2019), modes of spatial analysis and evaluation that articulate sensitive and scientific approaches make it possible to foreground both the material and immaterial significance of patrimonial heritage (Mazzoni 2026). Heritage space undergoes qualitative assessments of the body–space relationship, while environmental conditions are addressed through technical standards for noise, ventilation, lighting and air quality. Mobilized for renovation, these approaches and their indicators shape modalities of habitability (Star and Lampland 2009).

Ancestral knowledge persists in tourist narratives and lodging practices, invoked to explain spatial comfort and perceived suitability. In Chinese contexts, *feng shui* has long operated as a system of environmental reasoning guiding site selection, settlement organization and architectural orientation. Derived from “wind” and “water” (風水, Guo c. 276–324 CE), it structures relations between landform, hydraulic configuration and built form. In Huizhou villages such as Hongcun and Xidi, inscribed on the UNESCO World Heritage List, and in Chengkan, these principles took shape through successive spatial adjustments and became embedded in settlement morphology and lineage organization (Zhao and Zhang, 2008).

Today, however, these historic settlements are increasingly shaped by heritage governance, short-term accommodation and tourism economies. Spaces originally organized for long-term dwelling are re-evaluated through new frameworks of measurement, regulation and commercial use. Alongside *feng shui*-based reasoning, spatial environments are assessed through quantified indicators such as air quality, daylight access and acoustic performance. This coexistence raises a central question: how can heterogeneous systems of

spatial evaluation articulate within the same heritage site, and how is evaluative authority positioned between professional standards, inherited knowledge and embodied experience?

To address this question, the analysis mobilizes the concept of translation. In science and technology studies, translation refers to processes through which heterogeneous knowledge systems, actors and material conditions are brought into relation (Callon 1986; Latour 2005). As Jasanoff (2004) suggests through the notion of co-production, forms of knowledge and modes of governance are mutually constituted. Translation therefore designates epistemic and political operations through which spatial evaluation acquires legitimacy within specific contexts. Applied to heritage space, this perspective frames spatial evaluation as a relational process in which heterogeneous regimes of knowledge are brought into structured comparison.

The analytical framework developed in this study is structured around a double conception of translation.

The first dimension, defined as internal translation, refers to the differentiated materialization of *feng shui* principles across the three Huizhou villages of Hongcun, Xidi and Chengkan. In each case, geomantic reasoning became embedded in territorial configuration, hydraulic organization and built morphology through specific environmental conditions and lineage interventions. Internal translation therefore designates the long-term process through which *feng shui* was stabilized as spatial structure.

The second dimension, defined as external translation, concerns the articulation of heterogeneous evaluative systems within a shared analytical framework. *Feng shui* is examined alongside geobiology and scientific environmental measurement, three modes of spatial evaluation that operate through distinct temporal horizons and spatial resolutions. External translation organizes these systems into a comparative relation without collapsing their internal logics.

Within this configuration, *feng shui* is approached as a structural mode of environmental diagnosis, operating through territorial configuration, water systems and orientation. Geobiology functions as a point-based interpretative system centered on bodily exposure and subsurface conditions. Scientific environmental measurement relies on standardized indicators addressing noise, ventilation, illumination and air quality. Although conceptually distinct, each system establishes a relation between environmental conditions and human habitation.

Empirically, internal translation is examined comparatively at the settlement scale across the three villages, analyzing how geomantic principles took distinct spatial forms in each settlement. External translation is investigated in Hongcun through a double-scale analysis. At the settlement scale, long-term structural configuration, point-based bodily interpretation and short-term environmental fluctuation are examined in

parallel. At the micro-scale of a guest room, the same three evaluative systems are brought into direct relation within a confined interior environment.

Through this double movement across villages and across scales, the study analyses how heritage space operates as a field in which durable spatial structures, localized bodily exposure and short-term environmental variation intersect within contemporary regimes of spatial evaluation.

2. CASE STUDY I: SETTLEMENT-SCALE ANALYSIS OF THREE HUIZHOU VILLAGES

2.1. Site Characteristics and Internal Translation in the Formation of Three Huizhou Villages

Internal translation refers to the long-term process through which *feng shui* principles become materialized in settlement morphology, water-system layouts and spatial structures under specific environmental, technical and social conditions. These spatial outcomes stabilize through historical accumulation and provide the basis for subsequent symbolic interpretation and external analysis.

The spatial form of Hongcun emerged through long-term processes of internal translation. The siting of the settlement, the organization of its hydraulic system, and subsequent spatial expansion resulted from sustained articulations between geomantic principles, topographic constraints and lineage organization, producing cumulative spatial adjustments over time (Figure 1).

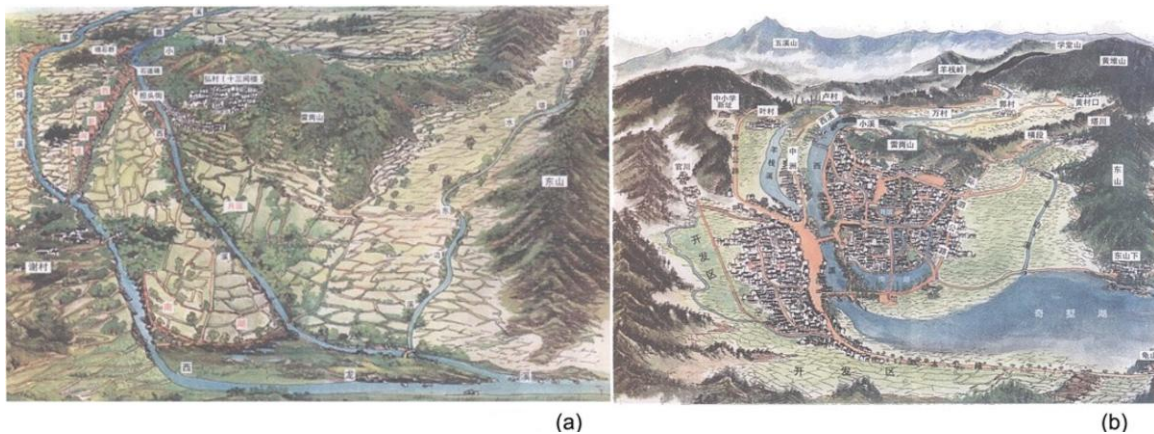


Figure 1: (a) Reconstruction of the former hydraulic system of Hongcun prior to 1276 CE. (b) Aerial drawing of Hongcun (2004). Both images after *The Water Veins of Hongcun* (Wang, 2004).

Hongcun was founded in 1131 by the Wang lineage. The village was established at the foot of Leigang Mountain, described in *Genealogy of the Wang Family of Hongcun Village* (Wang 1748) as protected by ridges and oriented towards flowing waters. The genealogy notes spatial inadequacies, stating that “two streams failed to

converge, the western course bending southward”. Heavy rainfall during the Southern Song period (1127–1279 CE) altered the river’s course, creating an opportunity for hydraulic intervention. A perennial natural spring within the village, described as “a natural cavity from which water gushes throughout the year without exhaustion”, became the focal point of hydraulic reorganization.

In the early Ming period (c. 1368–1450 CE), Hu Chongniang commissioned the geomancer He Keda to survey the village. He proposed introducing water to the west through canal excavation, transforming the hydraulic organization. The ancestral hall built north of the spring anchored this hydraulic node within the spatial structure. The excavation of the crescent-shaped Moon Pond before the ancestral hall consolidated water as the village’s central organizing principle.

In 1607, the South Lake was constructed. This intervention is described as a solution to the unfavorable form of the southern hill, characterized by a sharp, flame-like profile, which was considered detrimental in *feng shui* practice. The excavation of the lake aimed to store water and to counterbalance the hill’s fire-like force through the controlling power of water (Wang 1748). Together, the Moon Pond and the South Lake formed interconnected water surfaces and open public spaces within the dense residential fabric.

Through these successive interventions, water bodies, circulation routes and built form progressively became interwoven. The urban form reflects repeated adjustments responding to environmental analysis and reinforcing spatial logic.

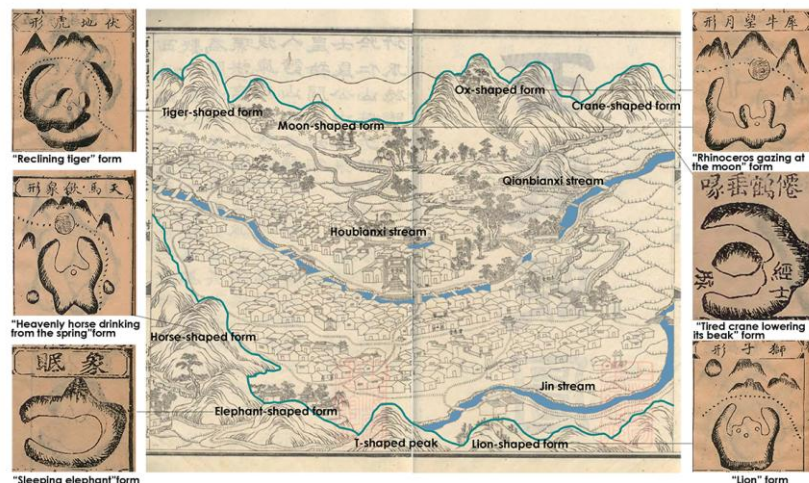


Figure 2: Morphological representation of mountains in Huizhou *feng shui*: the example of animal-shaped forms in Xidi.
© L. Li, 2025, after *Mingjing Hu Lineage Genealogy of Xidi* (Hu Clan of Xidi 1821–1850 CE)

Xidi developed within a mountain basin where surrounding ridgelines and westward-flowing streams form a configuration long interpreted as geomantically favourable. Historical genealogical records, including the *Mingjing Hu Lineage Genealogy of Xidi* (Hu Clan of Xidi) compiled during the Qing Daoguang period (1821–1850 CE), recount how the fifth-generation ancestor Hu Shiliang, passing through the area on official business, observed a landscape encircled by mountains and structured by converging waterways (Figure 2). Together with a geomancer, he surveyed the terrain and identified a series of auspicious morphological signs described in traditional *feng shui* language, such as a “crouching tiger” landform in front, distant peaks appearing to “embrace” the site, a “heavenly horse drinking from a spring,” and the unusual configuration known as “rhinoceros gazing at the moon.” These interpretations emphasized water convergence, fertile soils, accessible building stone, and a stable topographic enclosure, all considered conducive to long-term lineage settlement.

The westward flow of water ultimately gave the village its name, Xidi. Unlike Hongcun, whose hydraulic system underwent significant historical adjustment, Xidi’s overall settlement morphology has remained comparatively stable over several centuries, reinforcing its reputation in local discourse as a consistently favorable *feng shui* site.

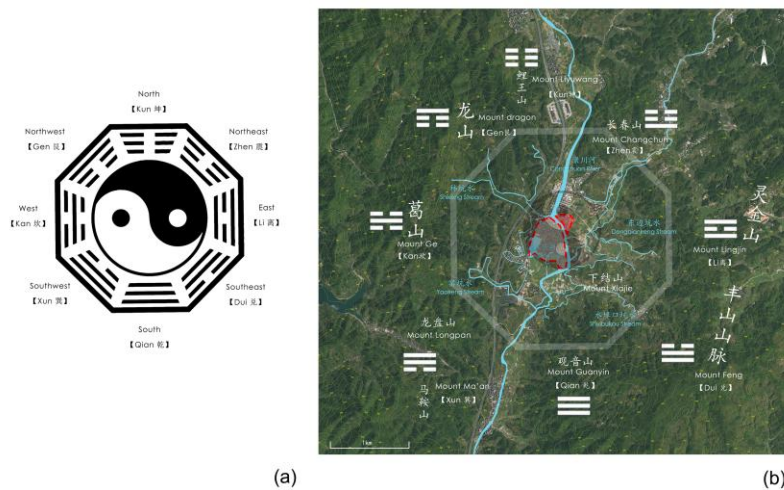


Figure 3: (a) Diagram of the Eight Trigrams of the Earlier Heaven (*Xiantian*), traditionally attributed to Fuxi (mythic antiquity) and transmitted through the *Yijing* (*Book of Changes*), dated in its canonical form to the Western Zhou period (ca. 11th–8th century BCE). (b) The village of Chengkan and its eight mountains representing the Eight Trigrams, drawing made by the author based on *A Pearl on the Xin'an River – Chengkan, a Village Famous for Its History and Culture* [1], Luo Laiping, journal: *Planner*, 1995(1): 33–50.

Chengkan presents a case in which settlement naming, site selection, and subsequent spatial modification were closely articulated through geomantic reasoning (Figure 3). Early lineage records indicate that the Luo family, originally from Jiangxi where geomantic practices were already well established, deliberately chose this

site. *Genealogical Record of the Luo Lineage Branches* (Luo 1859) describes the surrounding landscape through conventional geomantic expressions: one passage characterizes the setting as “*zu mai Huangshan, wuxing chaogong*” (“ancestral vein linked to Huangshan Mountain range, with the Five Peaks paying homage”), indicating perceived topographic enclosure and symbolic auspiciousness, which were considered favorable conditions for long-term lineage settlement.

Early spatial conditions, however, were not fully aligned with geomantic expectations. A stream originally ran along the mountain base, limiting available construction land and creating a watercourse perceived as overly direct. During the Ming period (1368–1644 CE), and partly in response to settlement expansion, the Luo lineage undertook substantial hydraulic works, constructing seven stone dams along the Zhongchuan River. This intervention redirected the water into the present zigzag configuration passing in front of the ancestral hall, simultaneously addressing practical land-use constraints while reinforcing a spatial arrangement interpreted as geomantically favorable.

Since the 1990s, Chengkan has been actively promoted within heritage tourism under the label of “China’s foremost *feng shui* village.” New symbolic installations, including the Wufu Bridge, Bagua-style gateways, and a *Yijing* exhibition hall created through adaptive reuse of an older structure, have made geomantic symbolism more explicit in the built environment.

2.2. External translation and integration of spatial evaluation for heritage governance

External translation designates the re-articulation of *feng shui* within contemporary regimes of spatial evaluation, where it is mobilized alongside geobiological interpretation and scientific environmental measurement. Within this configuration, heterogeneous evaluative frameworks are brought into relation through a shared analytical plane, each retaining its own temporal horizon, scale and evidentiary logic.

Within this assemblage, *feng shui* operates through a structural reading of space. It foregrounds territorial configuration, hydraulic organization, settlement boundaries and circulation systems as elements through which the overall spatial coherence of the heritage ensemble is interpreted.

Bodily experience functions as a diagnostic operator, directing analytical attention to spatial situations related to measurement frameworks. It thus serves as a heuristic indicator enabling the identification of zones and moments in which different interpretative frameworks may be confronted and compared. On this basis, the analysis articulates the long-term processes through which spatial configurations are formed with their contemporary reconfigurations in practices of evaluation and governance.

Geobiology functions as an environmental interpretative language oriented towards site diagnosis. Emerging in the twentieth century, this practice relies on models such as the Hartmann grid, the Curry grid, underground water circulations, geological faults and electromagnetic fields to explore the relationships between bodily sensitivity and environmental conditions (Hartmann 1954). Within the framework of this study, geobiological readings are considered as observations carried out *in situ* and recorded at specific points; they are mobilized to analyze how bodily sensitivity is articulated in spatial diagnosis.

Alongside geobiology, scientific standards of environmental measurement constitute another analytical framework. They rely on quantifiable physical parameters to characterize the environmental conditions within which spatial experience unfolds. Reference scales from the ISO and the World Health Organization (WHO) address noise, daylight access, air quality and radon exposure, allowing description of disturbances in comparable terms across contexts.

Although *feng shui*, geobiology and scientific measurement mobilize distinct terminologies, reference systems and protocols, each establishes a relationship between environmental conditions and human experience. Their juxtaposition seeks to examine the points of convergence and tension that emerge when they are applied to the same site. To coordinate these heterogeneous forms of spatial analysis, platforms such as geographic information systems (GIS) are mobilized as shared operational interfaces through which heterogeneous traditions of spatial evaluation are rendered comparable. Within this interface, morphological configurations derived from *feng shui*, geobiological interpretations centered on bodily exposure, and environmental measurement data are organized into distinct but comparable layers.

The principle of entanglement rests precisely on this stratified organization: each mode of evaluation retains its conceptual and methodological autonomy while being related to the others through operations of superposition, confrontation and translation. Geobiological readings are thus treated as an interpretative layer, examined in parallel with morphological configuration and measured environmental parameters. They function as heuristic indices enabling the identification of zones of correspondence, divergence or redundancy between evaluative regimes. Entanglement therefore designates a dynamic co-presence of analytical frameworks that intersect at different scales and jointly contribute to the spatial evaluation of the site.

2.2.1. *Feng shui* analysis: spatial structure

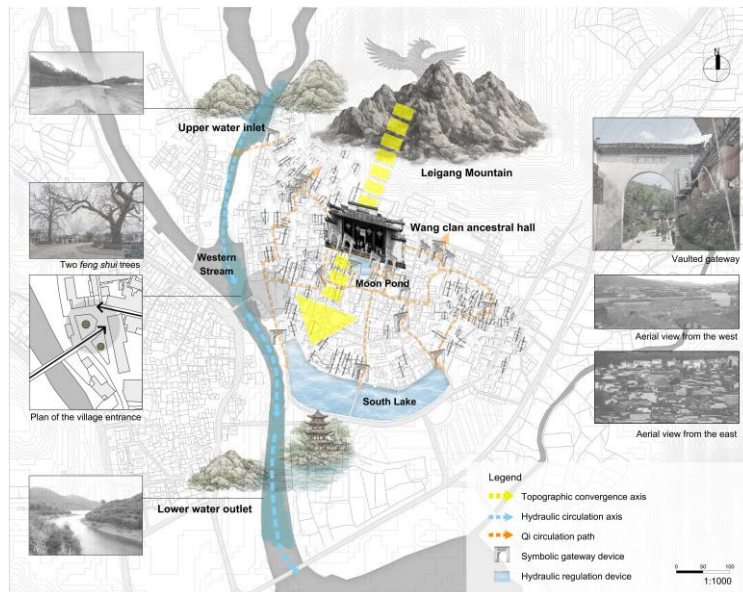


Figure 4: Spatial organization of the village according to *feng shui* principles. © L. Li, 2025.

Figure 4 presents a structural reading of Hongcun according to *feng shui* principles. The diagram foregrounds territorial configuration, hydraulic organization and principal points of force. Considered in combination, these elements render legible a coherent spatial framework referring to the qualities of the heritage ensemble and defining a selection of locations for subsequent analyses.

Most buildings orient south–west, inclined 26° – 27° westward. Traditional architectural knowledge associates this orientation with an opening in the mountain range located to the south-west, locally recognized as the principal passage of *qi* (Duan and Jie 2009). The three other sides of the village are surrounded by hills. Our analysis further indicates that the orientation of these implantations reflects the underlying social and cultural structures of the community. A comparison between the internal spatial network and the orientation of public buildings shows that the principal axes of residential alignment correspond to the axial orientation of the ancestral halls.

Hongcun's entrance forms a transitional zone where internal circulations meet external routes in an angular configuration redistributing pedestrian flow. Two ancient trees designated "*feng shui* trees", stand at this intersection and remain linked to ritual practice.

At the macro-territorial scale, Hongcun is situated at the center of a vast flat basin surrounded by a mountain chain forming a natural enclosure. Leigang Mountain forms its northern boundary. Historical accounts

indicate that members of the Wang lineage conducted a careful examination of the local geography when selecting the site. They mobilized geomantic principles to identify the Hongcun basin as an appropriate location for the establishment of the lineage, including funerary siting.

Ancestral halls represent the highest spatial and symbolic hierarchy in Hongcun. Aligned along the principal geomantic axis from Leigang Mountain, ancestral halls occupy positions considered the most favorable in local *feng shui* practice (Duan and Jie 2009). They serve as reference points within the village ensemble.

The hydraulic system plays a central role in Hongcun's spatial structure. The Moon Pond and the South Lake, together with canals, form a continuous hydraulic system linking residential areas, public spaces and circulation routes. They create a geomantic water-gate system that follows a hierarchical organization, with a relatively open water inflow and a more constricted outflow.

A system of vaulted gateways further punctuates the internal spatial organization of Hongcun. These gateways act as thresholds within the village. They guide movement and mark transitions between different functional zones. The inscriptions on the gateways are often locally understood as symbolic openings of *qi* (*qikou*). Their location and opening direction form elements of force interacting with territorial components. They are positioned near key points and alignments of *qi* circulation, including hydraulic nodes and enclosure points.

2.2.2. Geobiological analysis: point-based sensitivity.

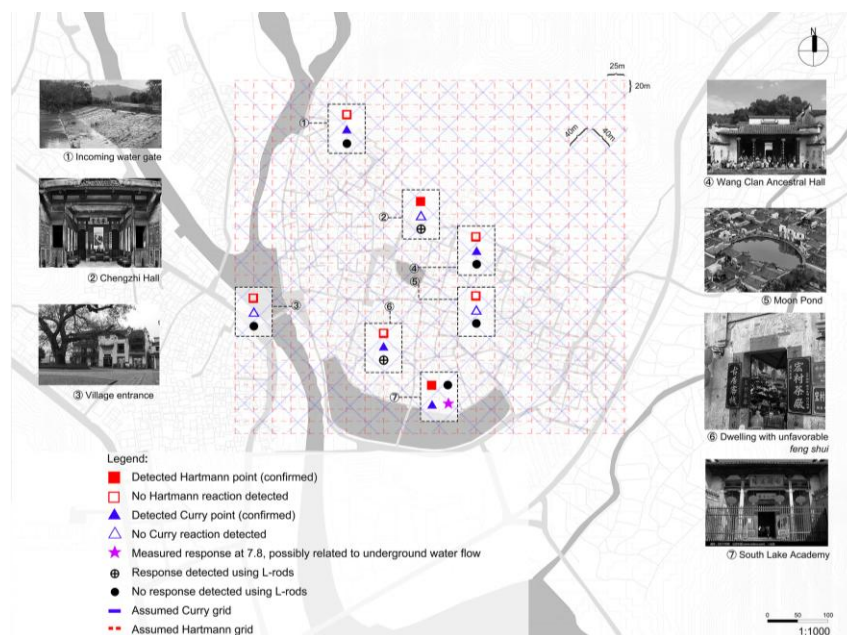


Figure 5: Case distribution across the settlement. © L. Li, 2025

At the scale of the village, we conducted geobiological readings centered on the body. Seven locations were selected for their central position, social significance, and association with narratives of comfort or discomfort. These sites allow examination of how bodily sensitivity varies in relation to geobiological networks and nodes.

Surveys used a Lecher antenna and L-shaped dowsing rods¹, with attention to the lines of the Hartmann and Curry grids, underground water circulations and potential vortex configurations (Figure 5). No vortex structure or dry geological fault line was identified. This suggests relatively stable overall conditions.

At the same time, the surveys reveal clear differences between sites. At the village entrance and the Moon Pond, no Hartmann or Curry lines were detected, and the rods showed neutral responses. These areas are often described as open and comfortable. Geobiological readings appear to align with perception, indicating low point-based sensitivity.

More complex configurations were recorded at the Wang clan ancestral hall, the geomantic water-gate and the Chengzhi Hall. At the ancestral hall and at the geomantic water-gate, intersections of Curry lines were detected, without corresponding Hartmann structures or clear reactions from the rods. In practitioners' accounts, isolated network lines are generally not considered harmful. Intersections, by contrast, are more often treated as points of higher sensitivity, particularly when aligned with underground water circulations or geological faults (Gautier 2020). Such locations are approached with caution for prolonged rest and are sometimes described in terms of "low vibration" (Semelle 1991). Here, this vocabulary is treated as part of an interpretative register.

The Chengzhi Hall presents a different pattern, with identified Hartmann lines accompanied by distinct rod reactions. Point-based sensitivity is more pronounced, suggesting a concentration of factors that may be associated with bodily tension during prolonged occupation in enclosed rooms.

Additional readings examined points at the South Lake and a residential house described as having unfavorable *feng shui*. At the South Lake, an intersection of Hartmann and Curry lines was recorded, corresponding to a "star point" configuration. Such star-point configurations are commonly treated as points of high sensitivity and are often avoided for prolonged rest (Semelle 1991). They serve as heuristic markers to compare point-based interpretations with other layers. In the residential house, Curry lines and rod reactions were observed jointly, and the presence of underground water circulations was reported by the occupants. In both cases, surface spatial conditions are interpreted as corresponding to subsurface factors, producing convergent signals between geobiological readings and local experiential narratives. These locations are often presented locally as less comfortable or more difficult to inhabit.

Geobiological readings suggest a gradient of interpreted vibration extending from central public spaces towards more aggressive peripheral or functionally specialized zones. Low vibration corresponds primarily to spaces characterized by openness, regular circulation and collective use. Higher vibration tends to appear near water bodies, within enclosed interiors, or at points of spatial transition. Geobiology functions as a point-based diagnostic language centered on the body, identifying localized nodes of tension and enabling comparison with spatial organization and lived experience.

These observations indicate a limitation of geobiological mapping at settlement scale. When the Hartmann and Curry grids are extended across a village plan, intersections become dense and difficult to read. Representation was therefore maintained at a reduced scale. Surveys were limited to selected points so that diagnostic information could remain legible within the broader spatial analysis.

2.2.3. Scientific measurement analysis: situated conditions

Methodology	Tools used
Geobiology	  Lecher antenna L-shaped rods
Feng shui	 Chinese compass (luopan)
Scientific measurements	    CO ₂ sensor Radon detector Wood's lamp (UV 365 nm), used for mould observation Sound level meter     High-frequency electromagnetic field meter (10 MHz–8 GHz) Lux meter Anemometer Multiparameter analyser (PM1.0, PM2.5, PM10, TVOC, formaldehyde, temperature, humidity)

Figure 6: Set of instruments used for spatial diagnostic measurements. © L. Li, 2025.

Environmental measurements were conducted over four days across multiple points within the village. Data were collected during daytime *in situ* analysis sessions, using the same instruments at each location to ensure consistency. Recorded parameters concern carbon dioxide concentration, noise levels, illuminance, electromagnetic fields and airflow (Figure 6). Fine particles (PM1.0, PM2.5, PM10), total volatile organic

compounds (TVOC), formaldehyde, temperature and relative humidity were measured using a multiparameter analyzer. The analysis focuses on carbon dioxide, noise and light levels (Figure 7), as these variables relate to patterns of occupation, enclosure and exposure.

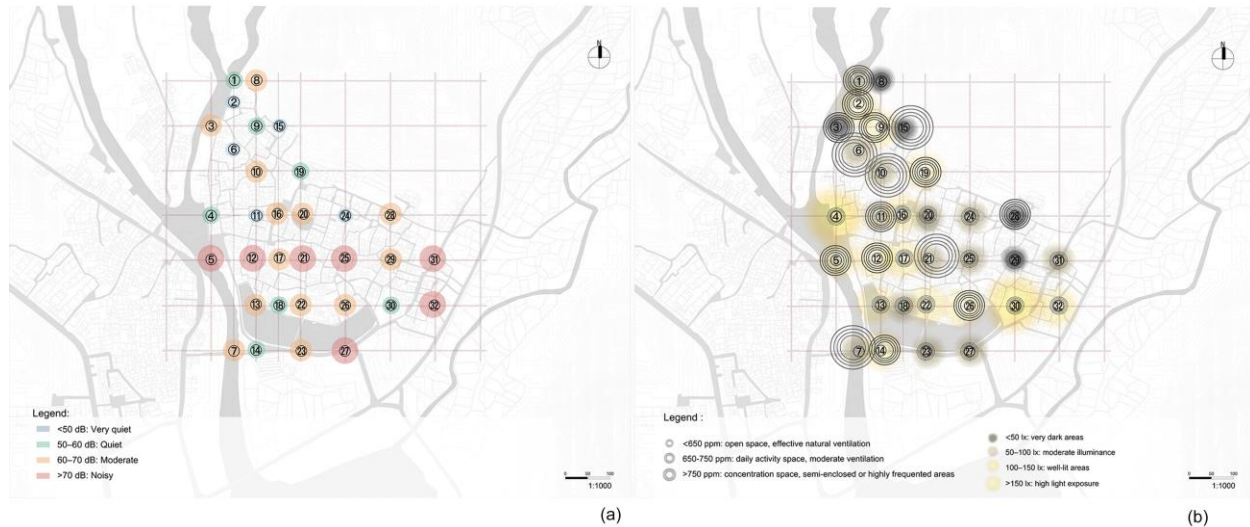


Figure 7: (a) Map of the distribution of measured noise levels in Hongcun. (b) Measurements of CO₂ concentration and illuminance (lux) in the village of Hongcun. © L. Li, 2025.

Noise levels were analyzed using the Environmental Noise Guidelines of the World Health Organization (2018). Figure 7(a) shows that the highest noise levels are concentrated at the village entrance, around the artificial water bodies (the Moon Pond and the South Lake), and near road access points. These areas coincide with circulation and tourist presence, peaking during visiting hours. Interior lanes and residential passages present lower noise levels, as they remain more protected from visitor flows and gatherings. Acoustic disturbance in Hongcun is situated, varying with behavioral patterns and rhythms of use.

Carbon dioxide concentrations were analyzed using ISO 16000-26 and the Chinese Indoor Air Quality Standard GB/T 18883-2022 as benchmarks. Figure 6(b) shows higher CO₂ concentrations clustered primarily in the western part of the village, near water-related locations and areas of high circulation intensity. Most sites in the eastern residential sector display lower and more stable CO₂ levels. The contrast highlights intensity of use, duration of occupation and temporal conditions in shaping concentration patterns.

Natural light levels were analyzed using EN 17037:2018 and ISO/CIE 8995-1:2025. The central and eastern sectors present lower illuminance values. This reflects the dense configuration of narrow lanes and arranged courtyard buildings, limiting direct sunlight access. Higher illuminance appears in the western areas near the water-gate and the South Lake, where spatial openness, ground surfaces and unobstructed exposure allow

daylight penetration. Variations show how built form and exposure conditions shape solar radiation across the village.

Environmental measurements delineate short-term fluctuations linked to occupation, movement and activity. They reveal zones of temporary disturbance, constraint or exposure under conditions of use and intensity. Scientific measurements record environmental conditions over time, showing how noise, light, ventilation and air quality respond to momentary situations. In this way, measurable conditions complement the evaluation of geomorphological structure and bodily sensitivity by incorporating short-term disturbances associated with ongoing use.

2.3. Spatial evaluation through stratified superposition

This section examines how the evaluation of spatial performance takes shape through the entanglement of three analytical layers: structural configuration, point-based bodily interpretation and situated environmental measurement.

The Moon Pond shows convergence between structural organization and symbolic interpretation. In *feng shui*, the Moon Pond occupies a favorable position associated with openness, accumulation and centrality. At the point-based level, geobiological readings indicate no significant bodily sensitivity. Situated measurements show that although crowds and guided tours pass through, noise and carbon dioxide levels remain moderate.

By contrast, the water-gate area presents a stratified situation in which the three evaluative registers point in different directions. *Feng shui* readings emphasize the spatial structure of the water-gate as a controlled passage within the hydraulic system. Geobiological readings detect the presence of Curry lines at this location, suggesting a potential point of bodily sensitivity under conditions of prolonged exposure. Situated measurements show episodic peaks in carbon dioxide linked to visitor gatherings, vehicle stops and guided tours.

The South Lake segment illustrates a configuration in which point-based sensitivity and situated disturbance overlap more directly. Constructed to rebalance, through water, the force emanating from the southern hill and associated with fire, the lake functions as an equilibrating mechanism at the scale of the entire village. Geobiological readings identify an intersection of the Hartmann and Curry grids near the South Lake Academy, corresponding to a star-point configuration associated with increased bodily sensitivity. Lecher antenna surveys also suggest the presence of underground water circulations in this area, reinforcing the interpretation. Situated measurements record peaks in noise levels and carbon dioxide concentration during intensive visitation.

The village entrance presents a configuration in which structural organization and point-based sensitivity remain closely aligned. In *feng shui*, the entrance is an opening of *qi* regulating the passage between exterior and interior space. In Hartmann-based interpretation, zones between bands are neutral, while intersections are described as geopathogenic nodes linked with disturbance (Dolezel 2020). At this location, no intersection sensitivity was detected, suggesting neutral conditions in terms of bodily exposure.

However, situated measurements record high noise linked to visitor gatherings and amplified commentary from guided tours. Disturbance at this node therefore appears short-term and behavioral, shaped by patterns of use during peak hours.

By contrast, the Wang clan ancestral hall illustrates a nuanced relationship between long-term institutional stability and bodily exposure. Located along the principal geomantic axis of the village extending from Leigang Mountain, it is locally regarded as one of the most favorable *feng shui* sites in Hongcun. Geobiological readings detect Curry lines, indicating a potential for moderate bodily sensitivity. Apart from the low illuminance levels characteristic of courtyard architecture in the Huizhou region, situated measurements show no significant short-term disturbance.

Across these sites, long-term spatial structure remains legible, while bodily and situated analyses introduce more localized zones of exposure operating over the short term.

The stratified evaluations examined here suggest that forms of spatial organization grounded in ancestral knowledge continue to be mobilised as interpretative frameworks through which relationships between human beings and the environment are described, sometimes locally framed in terms of harmony or energetic balance, even as these heritage sites are increasingly subject to pressures related to tourism and short-term occupation (Graham et al. 2000). In Hongcun, this tension is visible in dwellings converted for tourism-related economic purposes, where economic benefits coexist with disturbances linked to functional transformation and the intensification of short-term uses (Li, Shan and Gao 2018). Heritage space in Hongcun is thus shaped by a durable spatial organization that has historically been framed as harmonious with the geographic environment, while contemporary occupation introduces modifications that affect the ambient quality of places and their perception by individuals, unevenly distributed and generating discomfort and experiences locally described in terms of vibrational or harmonic imbalance.

3. CASE STUDY II: DIAGNOSIS AT THE MICRO-SCALE OF A GUEST ROOM IN HONGCUN

This micro-scale case study is based on a short stay in a guest room in Sixi Hall, a traditional Huizhou courtyard house near the South Lake in Hongcun. In local geomancy, house entrances facing the street are often arranged in an offset manner to avoid direct door-to-door alignment, associated with negative forces linked to domestic tensions (Han 2003). This arrangement is materialized through threshold devices regulating visibility and circulation, here a screen wall (*zhaobi*) is opposite the main entrance of Sixi Hall.

The guest room is situated on the western side of the courtyard and is constructed using timber and brick techniques characteristic of Huizhou domestic architecture (Cao and Zhou 2013). During the two nights of occupation, sleep was interrupted by recurrent nightmares and sustained alertness. This experience initiated the analytical inquiry and is reported as situated observation guiding subsequent investigation. During the night, a slight intermittent noise comparable to knocking or scratching was perceived several times near the entrance. The disturbance ceased when the interior light was turned on and reappeared when it was turned off, suggesting the hypothesis of a minor animal presence within the wooden structure. Following this embodied experience, the room was subsequently examined through three diagnostic systems.

First, *feng shui* analysis used compass and Flying Stars method to evaluate the relationship between symbolic distribution and functional arrangement (Shen 1933). Second, environmental measurement devices collected data on airflow, noise, illuminance and indoor air quality, documenting the physical conditions that shape bodily exposure. Third, geobiological readings using a Lecher antenna and L-shaped rods identified local disturbances associated with telluric networks and underground water circulations.

3.1. Feng shui Analysis: Interior Zoning

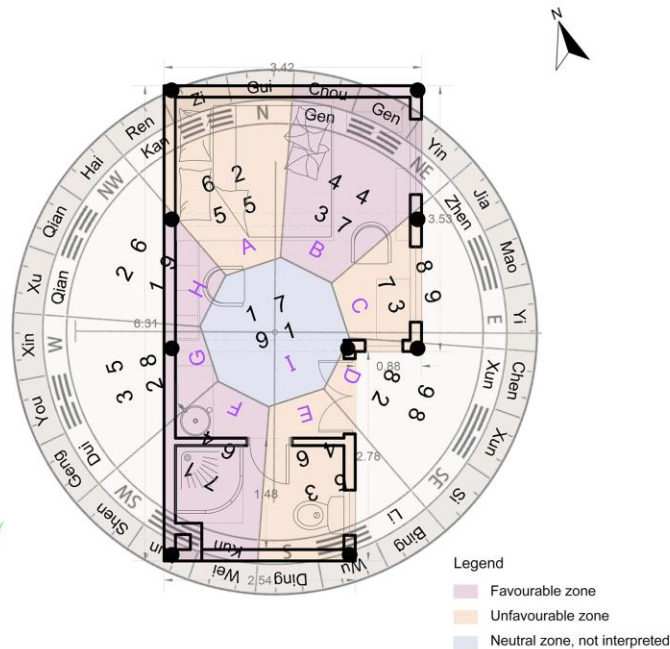


Figure 8: Distribution of interior zones according to the *feng shui* Flying Stars method. © L. Li, 2025.

From a *feng shui* perspective, the analysis focused on the relationship between room function and the symbolic zoning from the Flying Stars system. Using Shen's Flying Stars method (Shen 1933), the interior was divided into nine zones, each associated with distinct functional attributes. These zones form a traditional classificatory framework evaluating interior suitability for dwelling and activity (Figure 8).

In the current layout, the bed extends across two zones with different symbolic attributes. One side of the bed lies in zone “a”, associated with bodily burden, psychological pressure and long-term exhaustion under static conditions. The other side lies in zone “b”, generally regarded as favorable to mental activity, communication and cognitive engagement, while offering limited support for bodily rest. Superposition of these functional logics places the sleeping area within conflicting symbolic attributes, weakening spatial coherence. Within the stratified analytical framework, this zoning conflict makes it possible to relate recurrent dream disturbances and a state of unease at the onset of sleep to the symbolic organization of space.

Examination of the zoning shows misalignment between functional use and symbolic attributes. Zone “d”, associated in *feng shui* with bodily and emotional exhaustion and short-term use, corresponds to the entrance. The recurrent intermittent noises observed at night contribute to a spatial character marked by heightened

vigilance. Zone “h” is appropriate for long-term dwelling and domestic activities. Here, however, it is allocated to storage and temporary use, leaving its restorative potential unrealized.

Several zones display relatively coherent correspondences between symbolic attributes and actual use. Zone “c”, associated with short-term or peripheral functions, contains storage near the window. Zone “e”, unfavorable for long-term dwelling, coincides with the bathroom, limiting prolonged exposure. Zone “f”, linked to transitional and regulatory functions, serves washing uses with minimal long-term exposure. Zone “g”, emphasizing low activation and secondary use, accommodates shelving and counter surfaces with minimal interference. Finally, zone “i”, characterized by circulation and directional change, corresponds to the central movement corridor of the room. Symbolic tensions remain spatially localized, with the bed area and the entrance emerging as the primary zones of concern.

3.2. Geobiological Assessment: Position of The Bed

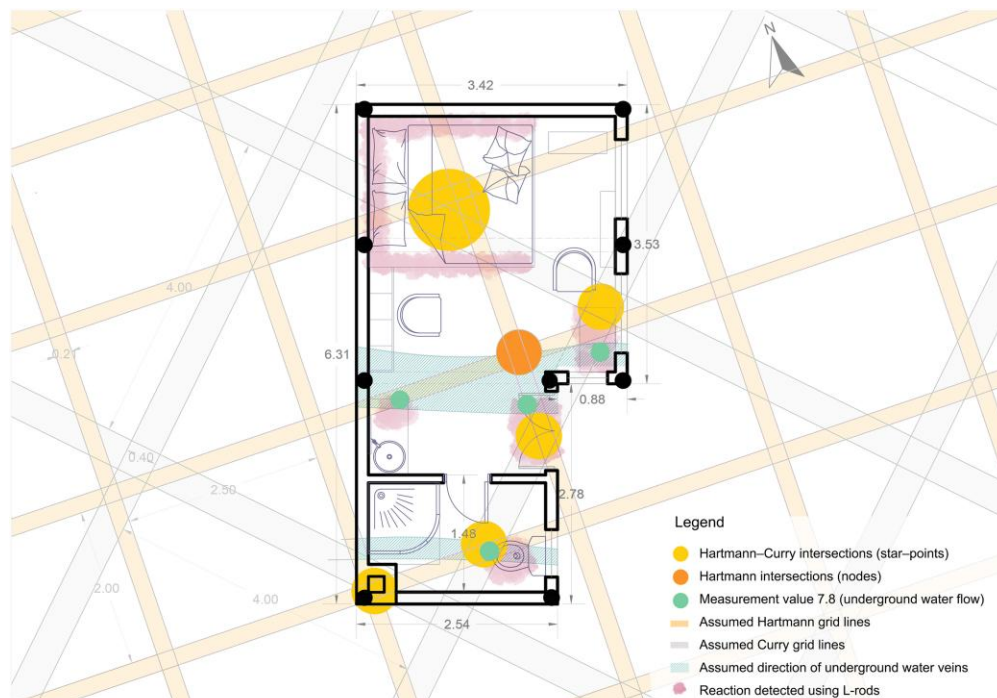


Figure 9: Interior spatial diagnostic diagram from a geobiological perspective. © L. Li, 2025.

The geobiological interpretation introduces a second spatial logic of subdivision. It adopts the point as the basic unit of analysis, focusing on localized disturbances in the built environment associated with bodily sensitivity. Using a Lecher antenna and L-shaped dowsing rods, the Hartmann and Curry grids were mapped at room scale (Figure 9).

At locations where the Hartmann and Curry grids intersect, star points were treated as places commonly avoided for prolonged rest in geobiological practice. In this case study, the geobiological readings suggest that the position of the bed was mapped at the intersection of two Hartmann lines and one Curry line, corresponding to a star point position and covering both the torso and head areas. At this location, the L-shaped rods showed a consistent reaction associated with underground water circulation. The Lecher antenna also indicated responses related to the underground water system. Considering the building's drainage layout, these readings suggest groundwater factor beneath the sleeping area. Additional point intersections were identified near toilet, entrance and desk, areas generally regarded as less suitable for long-term occupation in geobiological practice.

In this stratified approach, these anomalous points map how different evaluative grammars localize “tension” in space. Geobiology functions as diagnostic practice oriented towards bodily sensitivity, identifying points of pressure within spatial configurations that may be associated with long-term exposure. These localized disturbances form a comparable relation with the symbolic zoning tensions identified through *feng shui*. The two spatial grammars appear to converge on the same interior situation. *Feng shui* identifies tensions emerging through functional allocation and symbolic ordering, while geobiology localizes points of bodily sensitivity associated with subterranean conditions. The interior space can therefore be read as a composite field in which structural organization coexists with zones of exposure and tension.

3.3. Assessment based on Scientific Measurement: Interior Conditions

Environmental monitoring focused on the main activity area of the room, namely the bed zone, where the human body is repeatedly exposed over prolonged periods. The same instruments used outdoors were used indoors. In addition, a radon detector and a Wood's lamp (365 nm UV) were used to assess radon concentration and to conduct a mould inspection (Figure 10).

Carbon dioxide reached 669 ppm, consistent with restricted winter ventilation. Indoor temperature was 23°C, with 62% relative humidity. Noise levels were low, yet limited acoustic insulation allowed faint exterior sounds to be perceptible indoors. Illuminance was a significant environmental constraint. At bed height, illuminance measured 14.6 lux, reflecting narrow window openings, surrounding building density and weak artificial lighting.

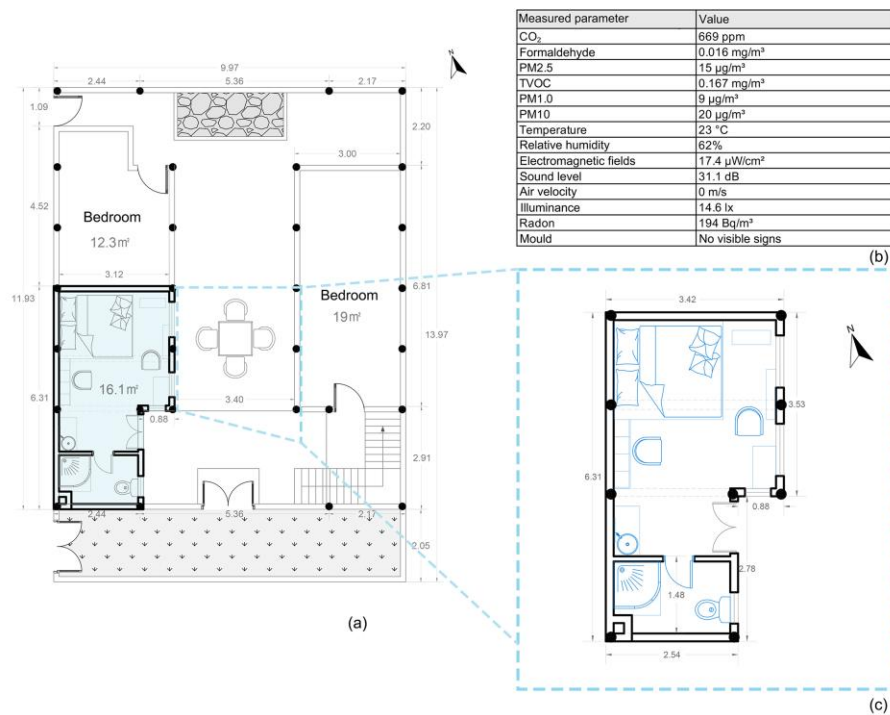


Figure 10: (a) Location of the measured room in a Huizhou courtyard house in Hongcun. (b) Environmental measurement results. (c) Interior plan showing measurement zones. © L. Li, 2025.

Other parameters were within acceptable ranges, including formaldehyde, PM2.5, PM10. No visible traces of mould were detected using the Wood's lamp. Radon reached 194 Bq/m³, exceeding the WHO reference level of 100 Bq/m³ (WHO 2009)². This may relate to the room's proximity to moist ground and use of traditional construction techniques. Measurements indicate an accumulation of environmental constraints: limited ventilation, low illuminance, high acoustic permeability and elevated radon.

3.4. Inter-layer Comparison

At the architectural level, the space presents a clear planar organization, legible circulation and a configuration consistent with the Huizhou courtyard house typology. The distribution of functions, construction techniques and material condition correspond to widely accepted criteria of architectural stability and usability.

However, this formal coherence does not necessarily align with bodily comfort during prolonged occupation. At bodily level, extended presence in the room was accompanied by heightened vigilance and difficulty in sustaining rest. This divergence introduces a gap between structural adequacy and lived experience. Environmental measurements frame this gap through low illuminance, restricted ventilation, high acoustic permeability and elevated radon concentration. These parameters delineate conditions of exposure and constraint associated with the interior, providing measurable reference points for comparison.

Within this framework, the symbolic zoning of *feng shui* and the point-based diagnosis of geobiology acquire analytical relevance. When the resting area overlaps multiple symbolic bands or remains closely coupled to circulation thresholds, bodily discomfort may be interpreted as a spatial condition linked to organization and orientation. Geobiology addresses the same situation through exposure structure, directing attention to locations characterized by persistent geomagnetic grids and possible underground water influence. The bed thus becomes a focal point of repeated bodily exposure, where environmental pressure may accumulate over time.

In this configuration, *feng shui* and geobiology articulate different dimensions of the same spatial condition. One operates through symbolic structure and organizational logic, the other through bodily exposure and point-based sensitivity. Layered comparison renders disturbances more legible across registers.

Beyond micro-scale analysis, this interior case reflects a broader condition related to the adaptive reuse of vernacular dwellings for short-term accommodation. Spatial configurations initially oriented towards long-term residence, seasonal rhythms and gradual bodily adaptation are increasingly converted for tourists with different temporal expectations. Within short-term occupation, sensitivities that remain latent in long-term use may become more immediately perceptible.

4. DISCUSSION: WHAT THE PROTOCOL REVEALS AND WHAT IT CANNOT RESOLVE

The fundamental logic of the protocol developed here rests on the fact that geomantic evaluation, geobiology and scientific environmental measurement approach habitability through distinct temporal horizons and spatial resolutions. Each mode evaluates the built environment through its own operational scale, shaping how spatial quality is recognized, interpreted and translated.

Feng shui is presented here as operating through place-based logic closely tied to long-term practice. At village scale, it enables cumulative evaluation grounded in intergenerational continuity, spatial hierarchy and durable coordination between landforms, hydraulic systems and built form. In this context, evaluation develops progressively through repeated interpretations and continuous adjustments over time.

Geobiology is situated within a different temporal orientation. Its attention does not primarily focus on the historical formation of spatial configurations, but on conditions of prolonged bodily exposure within the built environment. Diagnostic analysis concentrates on points of intersection, superposition or accumulation, such as crossings of assumed grids or zones of stagnation, where repeated bodily presence is sometimes associated with sensations of tension or discomfort. In this perspective, time is approached as duration of exposure: it is the potential effects of sustained presence at the same location that guide interpretation.

Scientific environmental measurement operates on a short temporal scale. Its principal contribution lies in capturing environmental fluctuations occurring over minutes or hours. The parameters respond rapidly to weather, activity rhythms and occupancy variation. Scientific measurement thus functions as situated description, producing evidence of short-term disturbances while complementing analytical approaches oriented towards long-term structures or prolonged bodily exposure.

This temporal contrast is significant in traditional environments such as Hongcun. As an inhabited heritage site, the village follows the rhythms of tourism, maintenance, repair and adaptive reuse. Long-term spatial stability remains visible, yet short-term disturbances occur with increasing frequency. These episodes affect bodily experience and everyday perception, even as urban form changes only gradually.

Environmental measurement data play a specific role through their capacity to register rapid fluctuations. Data collection may occur over a short duration, yet the measured values can vary continuously over hours or days, modifying lived experience while remaining only partially legible within long-term spatial evaluation. In Hongcun, environmental conditions vary with weather, activity cycles and visitor density, creating situated uncertainty even within the same location. Certain episodic activities illustrate this temporal contrast more clearly. During *in situ* analysis, punctual practices such as open-air burning of crop residues produced abrupt PM_{2.5} peaks, rising from typical values around 21 $\mu\text{g}/\text{m}^3$ to over 400 $\mu\text{g}/\text{m}^3$, accompanied by acute respiratory discomfort. Construction works may similarly generate intense acoustic conditions that temporarily dominate spatial experience.

These examples show that scientific measurement operates alongside modes of evaluation grounded in different temporal and spatial scales, those of long and short duration and those of the village as a whole and the specific point. It addresses a crucial analytical question: within patterns of occupation and disturbance, which environmental conditions are present at a given moment? Its contribution lies in the description of immediacy rather than continuity.

The micro-scale case study clarifies how these temporal dimensions articulate with one another. *Feng shui* analysis differentiates spatial adequacy through symbolic zoning, while geobiology directs attention to key points of exposure such as the bed position, and scientific readings present the interior as a relatively uniform environmental background. Within this setting, the different systems identify spatial evaluation at different scales.

The study conducted on the heritage site of Hongcun highlights the entanglement of evaluative systems usually treated as separate. Spatial quality appears as the result of a relation established between several analytical regimes: long-term structural coherence, localized conditions of bodily exposure and short-term

environmental fluctuations. Entanglement refers to their superposition and confrontation within the same site, where each retains its own logic while illuminating the others. Habitability thus emerges from the overlap of these temporalities and spatial layers, within a continuous process of adjustment between configuration, use and measurement. Discomfort and exposure derive neither exclusively from structural imbalances nor solely from punctual disturbances; they are shaped at the intersection of cumulative conditions and episodic events, whose effects may reinforce or compensate one another depending on the situation.

In architectural and heritage research, these modes of spatial evaluation do not carry equal weight. Scientific measurement is often treated as the primary evaluative reference. Experiential, symbolic and locally grounded forms of evaluation tend to enter analysis in a more limited manner. In certain contexts, local knowledge is also mobilized to support claims of cultural legitimacy. By placing environmental measurements, geobiological readings, bodily experience and symbolic zoning within a shared analytical framework, the layered protocol maintains the analytical distinctness of different modes of evaluation while allowing them to be examined together.

This distribution plays an important role in heritage governance. Recorded risks, recognized experiences and prioritized interventions depend on the way evidence is assembled. An evaluation based on thresholds, for example, may restrict attention to compliance. Abstract representations of geomantic knowledge may likewise overlook internal tensions or conflicts with contemporary patterns of use.

At the same time, localized and symbolic spatial logics continue to organize everyday practice, even as patterns of occupation shift. When courtyard houses originally designed for long-term residence are adapted for short-term rental, the temporal organization of bodily exposure changes. Conditions previously accommodated through gradual adaptation may become more perceptible under short-term and high-intensity occupation. Heritage evaluation thus unfolds through the coexistence and entanglement of multiple evaluative modes. Measurable compliance, embodied experience and locally grounded reasoning inform decisions in parallel. Their relative influence varies according to the situation, shaping how comfort, risk and intervention are interpreted and addressed in practice.

5. CONCLUSION

This study demonstrates that spatial evaluation in Huizhou heritage settlements operates through a double movement of translation. Internal translation reveals how geomantic reasoning became durably embedded in territorial configuration, hydraulic organization and built morphology across the three villages of Hongcun, Xidi and Chengkan. *Feng shui* operated as a cumulative spatial practice, producing differentiated configurations shaped by geography, lineage organization and temporal continuity.

External translation brings *feng shui*, geobiology and scientific environmental measurement into comparative relation within Hongcun. The protocol situates these systems within a shared analytical framework while preserving their distinct validation logics. At the settlement scale, long-term structural coherence remains legible in mountain–water organization and symbolic hierarchy, alongside short-term environmental disturbances registered through measurement. Geobiological readings, centered on bodily exposure, identify localized zones of sensitivity that only partially overlap with structural logic.

At the micro-scale of a guest room, structural adequacy, bodily discomfort and measurable environmental constraints are analyzed in direct relation. The coexistence of coherent spatial organization with intensified experiential unease under short-term occupation demonstrates how spatial evaluation shifts when duration, exposure and intensity of use are modified.

Considered across both scales, heritage environments operate across intersecting temporalities and evaluative registers. Long-term spatial structure, embodied exposure and situated measurement interact within a relational field in which evaluative legitimacy is negotiated in practice. Moments of alignment, divergence or dissonance between these registers shape uses, perceptions and modes of spatial governance.

By rendering these articulations explicit, the proposed protocol reframes heritage evaluation as a structured and negotiable process. Spatial quality emerges from the entanglement of symbolic reasoning, embodied sensitivity and measurable environmental conditions. Heritage space appears as a dynamic configuration in which inherited environmental knowledge continues to operate while being continually reinterpreted through contemporary measurement and occupation.

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1. L-shaped rods are used in geobiological practice and are also mentioned in certain water distribution contexts to locate pipe leaks (Semelle 1991).
2. The World Health Organization recommends a reference level of 100 Bq/m³ as a long-term target for indoor radon, while allowing national thresholds of up to 300 Bq/m³ where lower levels cannot be achieved (WHO 2009).



CROSS-CULTURAL TRANSLATIONS AND HYBRID TRADITIONS

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