

A Brief Analysis of the Evolution of Spatial Construction in Confucian Temples from the Perspective of Spirit of Place: A Case Study of Zhengzhou Confucian Temple

Chen Chen

*School of Architecture, Zhengzhou University, Zhengzhou, China
a1944703494@stu.zzu.edu.cn*

Abstract. During China's feudal era, local Confucian temples were essential for ritual worship and moral teaching. Zhengzhou Confucian Temple is a prime example in the Central Plains. Using the idea of place spirit as its analytical framework, this study establishes a paradigm to investigate the relationship between form and spirit. It methodically examines the temple's spatial design development by analyzing its architectural design and spatial features across historical periods. The study concludes that the temple's space arrangement continuously followed the core idea of "integration of temple and academy," tracing three stages: the Yuan dynasty's establishment of Confucian orthodoxy, the Ming's strengthening of the imperial examination system, and the Qing's restructuring of cultural identity. To clarify the relationship between the development of social educational place spirit and architectural aesthetics embodied by the temple, it analyzes changes in spiritual connotations within the distinctive cultural and architectural aesthetic context of the Central Plains, focusing on the unique value of the fusion between "ritual order" and "Central Plains regional characteristics." This study offers a theoretical reference for restoring historical buildings while preserving place spirit, and a fresh deconstructive perspective for research on Confucian temple architecture in the region.

Keywords: Place Spirit, Zhengzhou Confucian Temple, Spatial Evolution, Ritual Architecture

1. Introduction

As one of the most complete surviving official academy complexes in the Central Plains region [1], Zhengzhou Confucian Temple boasts over seven centuries of construction history and holds profound significance for spiritual and cultural heritage transmission. In recent years, with the deepening development of China's cultural heritage conservation theory, research on traditional architecture has gradually shifted from purely formal analysis towards a dual-dimensional interpretation of 'material-spiritual' [2]. This paper adopts a theory of place spirit perspective, examining the relationship between the Confucian temple's spatial design and its expression of place spirit. It establishes an analytical framework for the 'form-spirit' relationship within Confucian temple architecture, focusing on the Zhengzhou Confucian Temple as a representative case study.

The research investigates the evolution of spatial design characteristics across different periods, reflecting shifts in its spiritual connotations. This reveals its unique social educational function and architectural aesthetic expression within Henan Province, exploring the connection between the spiritual essence and spatial design of Confucian temples in the Central Plains. It offers new perspectives and approaches for the restoration of historical Confucian temples, emphasising that beyond restoring their physical form, it is essential to perpetuate their spiritual essence. This achieves the conservation goal of preserving historical buildings in both form and spirit.

2. Development overview of Zhengzhou Confucian Temple

2.1. Historical evolution

Zhengzhou Confucian Temple was first constructed during the Yongping era of Emperor Ming of Han [3], its establishment linked to Emperor Wu of Han's cultural policy of 'suppressing all schools of thought except Confucianism'. By the Tang dynasty, the scale of Confucian temple construction had expanded significantly. Throughout the subsequent Song, Yuan, Ming, and Qing dynasties, successive Zhengzhou officials maintained an unwavering commitment to the Confucian Temple, with extensive historical records documenting its restoration activities. Its developmental trajectory can be broadly divided into three pivotal phases. The first was the foundational period during the Yuan dynasty: in the 24th year of the Zhi Yuan era (1287), Prefect Huang Tingzuo oversaw reconstruction efforts, establishing the fundamental layout of 'temple at the front, academy at the rear'. According to the *Jiajing Zhengzhou Gazetteer*, this reconstruction 'utilised the original foundations from the Han Yongping era,' explicitly emphasising historical continuity. The second phase was the Ming Dynasty's heyday, with the Jiajing reign (1522-1566) marking the Confucian temple's zenith. A dual-axis layout emerged, expanding the complex to over 150 rooms spanning 70 mu (approximately 4.7 hectares). The Hall of Reverence for the Classics, expanded in the 14th year of Jiajing (1535), was situated 'to the rear of the Hall of Sacrificial Offerings, measuring fifty feet from foundation to eaves, six fathoms deep, and twice that in width,' reflecting the paramount importance accorded to classical recitation. The final phase was the Qing dynasty's period of standardisation. In the third year of the Qianlong reign (1738), Magistrate Zhang Yue oversaw systematic renovations. Following a fire in the twenty-second year of the Guangxu reign (1896), the main structures were rebuilt, ultimately forming a six-courtyard layout. Renovations during this period prioritised functionality over ornate decoration, reflecting a pragmatic orientation.

2.2. Current state of preservation

Zhengzhou Confucian Temple is situated at No. 301 Dongda Street, Guangdong Hui District, Zhengzhou City, Henan Province, within the core area of Zhengzhou's historic city centre (Figure 1). It borders the Zhengzhou Shang Dynasty Site Conservation Area to the east and adjoins the Zhengzhou Shang City Ruins Park to the west. The extant complex occupies approximately 35 mu (2.3 hectares). As shown in the aerial view (Figure 2), the temple preserves its final Qing dynasty layout, with a clear central axis. Systematic restoration works commenced in 2006, and the site was designated a National Key Cultural Heritage Protection Unit in 2013. The Confucian Temple's core structures comprise the Hall of Great Achievement (Dacheng Hall), the Hall of Moral Instruction, among others. The front elevation of the main Dacheng Hall (Figure 3) showcases its majestic architectural style.

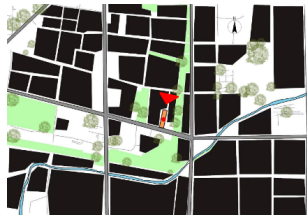


Figure 1. Geographic location of Zhengzhou Temple of Literature in Zhengzhou City



Figure 2. Aerial view of Zhengzhou Temple of Literature



Figure 3. Front elevation shot of Dacheng Hall

3. The evolution of confucian temple spatial design through the lens of place spirit

3.1. The value of place spirit theory in confucian temple research

Place spirit denotes the unique atmosphere and emotional experience inherent to a specific location or space. It arises from human interaction with the site, being linked not only to physical spatial characteristics but also intrinsically connected to the emotions, sense of belonging, and memories evoked within it. The spirit of place in Confucian temples manifests as the 'material embodiment of ritual order'. Through physical carriers such as central axis layout, hierarchical architectural divisions, and spatial sequence organisation, it transforms Confucian educational functions into perceptible spatial experiences [3], forming a distinctive 'temple-school unity' spiritual domain. Examining Confucian temples through the lens of place spirit establishes a 'form-spirit' analytical framework (Table 1), offering a novel interpretative perspective. On one hand, it reveals the Confucian ritualistic philosophy underlying layouts such as 'central axis symmetry', while also aiding comprehension of cultural conceptual shifts underlying renovations across different eras—such as the psychological influences reflected in the Ming dynasty's addition of the Jingyi Pavilion. Furthermore, this research enriches Confucian temple restoration theory by emphasising that, from a place spirit perspective, restoration must not only reconstruct the physical form but also perpetuate the spiritual essence of the site. This approach achieves the preservation objective of historical architecture that embodies both form and spirit.

Table 1. Form and spirit analysis framework for the space creation of literary temples from the perspective of the spirit of place

Analytical Dimensions	Spatial Element Types	Concrete Manifestations of Place Spirit
Spatial Organisation	Symmetry of Confucian Temple Spaces	The orderly sense of traditional Confucian temple architecture is conveyed through its meticulously symmetrical central axis.
	Sequentiality of Confucian Temple Spaces	The rhythmic arrangement of temple structures fosters a sacred place spirit, creating spatial climaxes that accentuate the commemorative perception of the site.

Table 1. (continued)

Architectural Form	Defining Elements of Confucian Temple Spaces (Archways, Stele, etc.)	Constructing spatial enclosure or openness through defining elements to accentuate the temple's intimacy, public nature, and interactivity
	Characteristics of Individual Temple Structures	Emphasising the temple's role as an educational venue through the distinct features of its individual buildings
Environmental Relationships	Landscape Configuration of Confucian Temples	Manifestation of regional aesthetics and feng shui principles
	Urban Fabric Surrounding Confucian Temples	
Functional Zoning	Sacrificial Spaces	Layouts such as temple-front-school-rear, temple-left-school-right, and central-temple-side-school reflect the evolution of educational philosophy across eras.
	Educational Spaces	

3.2. Formation and expression of the place spirit at Zhengzhou Confucian Temple

Through a framework analysing both form and spirit, which details the connection between spatial design and place spirit (Table 2), this study examines the relationship between the place spirit of Zhengzhou Confucian Temple and its spatial design across several dimensions: spatial organisation, architectural form, environmental relationships, and functional zoning. The mechanism underlying the formation of this place spirit constitutes a crucial aspect of researching the temple. Firstly, historical and cultural traditions are pivotal factors in shaping place spirit. Over seven centuries of continuous use since its Yuan Dynasty reconstruction, the Confucian Temple's 'temple-school integration' spatial layout has crystallised into a profound repository of cultural memory. Secondly, geographical context and natural landscapes significantly shape this spirit. The Central Plains' distinctive blue-brick and grey-tile materials, alongside colourful Yu Opera motifs, translate Confucian ritual principles into tangible regional cultural symbols. Moreover, socio-cultural factors exert a profound influence on the formation of this spirit. Through periodic Confucian memorial rites and daily Confucian educational activities, a multi-layered system of spiritual transmission has emerged, encompassing 'official education – scholar-official identification – popular participation'. In summary, the mechanism for forming the spirit of a place is a complex and multifaceted process involving historical, cultural, environmental, and social factors [4].

Table 2. Analysis table of the connection between space creation and spirit of place in the Zhengzhou Temple of Literature

Analytical Dimensions	Spatial Element Types	Concrete Manifestations of Place Spirit	Diagram
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Table 2. (continued)

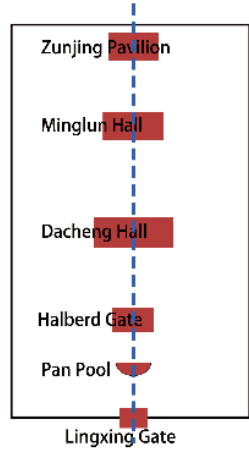
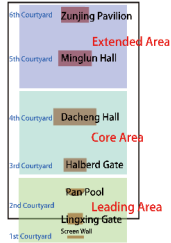
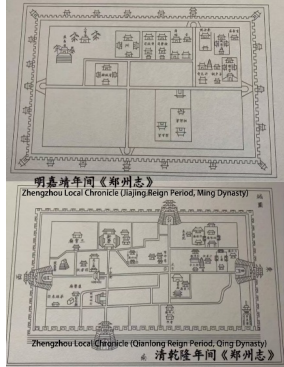
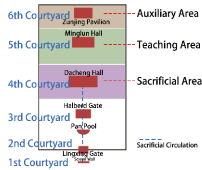
Spatial Organisation	Central Axis Symmetry	Spatial Translation of the Confucian Doctrine of the Mean	
	Six-Courtyard Sequence	Progressive Ideal of 'Self-Cultivation - Family Harmony - State Governance'	
	Seven-Bay Double-Eaves Dacheng Hall	Material Vehicle for Confucian Instruction	
Architectural Form	Minglun Hall: Five-bay Gable Roof	Spatial symbol of 'Five Classics' education	
	Lingxing Gate: Astrological Carvings	Cosmological expression of Heaven-Man Resonance	
Environmental Context	'Virtue Matches Heaven and Earth' Archway Inscription	Condensed symbol of Confucian ethics	
	Banchi Pond: Semi-circular Form	Modern interpretation of the ancient 'Piyong' tradition	
	Site Selection in the Southern Highland	Embodies the feng shui principle of 'embracing yin and yang'	
Environmental Context	Backed by the foothills of Xiong'er Mountain	Reflects Confucian pursuit of 'benevolence finds joy in mountains'	
	Aligned with the prefectural government's 'temple left, offices right' layout	Manifests the governance philosophy of 'veneration for learning and education'	

Table 2. (continued)

Functiona l Zoning	Sacrificial Space	Front temple, rear academy configuration
		

3.3. Research on the correlation between the transformation of place spirit and the evolution of spatial design

The spatial layout and evolution of the spirit of place at Zhengzhou Confucian Temple exhibit distinct historical interactive characteristics, with its developmental trajectory traceable to the Sui and Tang dynasties. During the formative Sui-Tang period, the temple adopted a single-courtyard arrangement centred upon the three-bay Great Hall of Achievements and the Hall of Moral Instruction. The circular pond (Panchi) reflected the spatial features of the early 'separation of temple and academy' system. The spirit of place during this period primarily manifested through the centralised architectural layout, establishing Confucius as the revered core, while enclosed walls maintained the privacy of teaching activities. The Panchi pond, serving as a public ceremonial space, nevertheless exhibited a degree of openness. By the Song and Jin dynasties, the spatial configuration evolved into the rudimentary form of a three-courtyard layout. Five-bay east and west wings were added, and the Panchi pond was altered from circular to semi-circular. This transformation reflected the educational demands arising from the refined imperial examination system of the Song dynasty. The semicircular Panchi retained the symbolic significance of the ancient 'Biyong' while adapting its form to local practicalities. The Jin dynasty preserved the basic Song layout while reinforcing the spirit of multi-ethnic cultural integration through facilities like the Hall of Eminent Sages. During the Yuan dynasty's formative period, a simple axial layout emerged with the teaching zone offset. The Great Hall of Learning featured a five-bay hip-and-gable roof, while the Hall of the Seven Sages was established, laying the groundwork for a spatial order integrating temple and academy. The design of architectural elevation differences and staircase heights reinforced psychological identification with Confucian orthodoxy through the physical experience of ascending step by step. During the Ming Dynasty's zenith, the complex evolved into a dual-axis system. The regulated width of the principal axis, alongside new facilities such as examination halls and candidates' quarters, translated the authority of the imperial examination system into tangible architectural language through spatial expansion and functional specialisation. The secondary axis established functional complementarity between ritual and education. The Zunjing Pavilion, expanded during the Jiajing reign with dimensions 'six zhang deep and twice as wide,' reinforced the spiritual significance of classical recitation through architectural reverence for knowledge repositories. By the Qing dynasty's period of consolidation, the extension of the six-courtyard sequence and controlled framing perspectives translated the cultural identity of 'virtue matching heaven and earth' into a clearly layered spatial rhythm. The functional repositioning of the Jingyi Pavilion during the Qianlong era and the simplification of ornamentation in the Guangxu period reflected a pragmatic reinterpretation of sacred space. This spatial order was consistently centred on human experience: From the visual isolation of the screen wall to the psychological transition at Lingxing Gate, from ceremonial kneeling on the moon platform to teacher-student interaction in the Hall of Moral Enlightenment, architectural elements employ dual mechanisms of demarcation and guidance. Through physical practices of walking, pausing, and gazing upwards,

participants undergo a psychological transition from the secular to the sacred, ultimately forming a complete chain of education: shaping space, regulating behaviour, and internalising spirit. The formation of this distinctive spatial sequence itself is the result of a long-term evolution, as analyzed in the comparison of temple plans across different historical periods (Table 3).

Table 3. Analysis of the evolution process of confucian temple floor plans across different periods

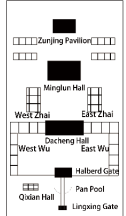
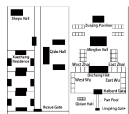
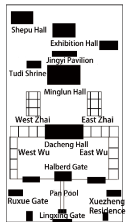
Historical period	Plane characteristics	Axis system	Reasons for evolution	Expression of place spirit	Illustration
Sui and Tang Dynasties (581-907)	Single courtyard	Single Axis System	Simplicity of form at the time of its inception; Influenced by the Tang Dynasty's "temple-school separation" system	The Dacheng Hall is the centre of the "Honouring Confucius" core. The walled-in teaching space and the pond are a public ceremonial space.	
Song and Jin Dynasties (960-1234)	Three courtyards	Single Axis System	Improvement of the imperial examination system in the Song Dynasty; Demand for cultural integration in the Jin Dynasty	Axis symmetry reinforces the sense of ritual, the Hall of Sages shows local role models, and the "Pangu Palace" was built to receive scholars.	
Yuan Dynasty Pre-Period (1271-1368)	Three courtyards	Single Axis System	The Mongol Yuan regime enlisted scholars; Re-establishment of Han tradition	The Seven Sages Hall reinforces the local cult, and the instructor is a separate part of the light house. The co-existence of multi-ethnic cultural symbols	
Ming Dynasty (1368-1644)	Five courtyards	Double Axis System	The imperial examination system flourished; Jiajing ritual reforms	The Pavilion of Honouring the First Pavilion Demonstrating imperial authority, the Examination Hall reflects the needs of the imperial. Examinations, and the Shrine of the Virtuous is open to the public.	
Qing Dynasty (1644-1911)	Six courtyards	Single Axis System	Integration of Manchu and Han cultures; Pragmatism	The "Virtues of Heaven and Earth" pagoda, the Land Temple, which replaced the Wenchang Temple, is simplified in its decoration, but strict in its regulations.	

Table 3. (continued)

Existing layout (after Guangxu reconstruction)	Six court yard	Single Axis System	Transformation of Modern Education: Contemporary Conservation Needs	As a cultural space in the city, digitalization displays the tradition. Revitalisation of the Confucian rituals	
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4. Existing spatial characteristics of the confucian temple in Zhengzhou

4.1. Existing plan form

The existing building complex of Zhengzhou Confucian Temple retains the spatial pattern after its reconstruction in the Guangxu period of the Qing Dynasty, presenting a rigorous and orderly sequence of six courtyards, which interprets the architectural concept of the traditional Confucian temple of 'temple-learning-unification'. This three-stage spatial sequence of 'leading-sacrificing-teaching' is a typical paradigm for the architecture of temples in the Central Plains during the Ming and Qing dynasties [1], which together constitute a hierarchical and well-ordered ritual spatial system.

The ceremonial precursor area is the beginning of the whole architectural sequence(see the zoning analysis in Figure 5), a tall wall stands at the entrance, engraved with the words "Taihe Yuangi" in the centre, and the back is decorated with the exquisite "Carp Leaping Dragon Gate" bas-reliefs, the combination of the wall's inscriptions and bas-reliefs not only serves as a spatial defining function, but also visualises the concepts of Confucianism through the use of symbols" [5]. Behind the symmetrical distribution of the "Virtue with the world" and "Road crowns the ancient and modern" two wooden pagodas, highlighting the lofty status of Confucius' thought [6]. Through the pagoda, the stone latticework gate with three rooms and four pillars stands majestically" [5], which is not only a sign of spatial transition, but also an important node connecting the mundane world and the sacred realm.

The core sacrificial area is the centre and climax of the whole complex. Dacheng Hall compound is magnificent, retaining the architectural features of the Qianlong period [7], highlighting the lofty status of the sacrificial space. The hipped corridors with ten hard hill roofs on each side of the east and west are symmetrically distributed (as shown in the site plan, Figure 4). Forming a rigorous and orderly ritual space. From the architectural proportions to the decorative patterns, all of them reflect the strict adherence to Confucian rituals and the high respect for the Most Holy Master.

The teaching logistics area reflects the practical function of the Temple as an educational venue. Zunjing Pavilion in the backyard is a two-storey hermit roof building, Zunjing Pavilion in the Qing Dynasty generally used the "lower hall on the pavilion" form, not only to meet the functional needs of the collection of books, but also highlights the sublime nature of the transmission of knowledge, and its existence highlights the important function of the Confucian Temple as a centre for the dissemination of knowledge " [8]

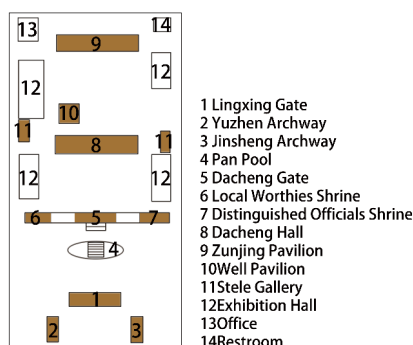


Figure 4. Existing plan of the Temple of Literature in Zhengzhou

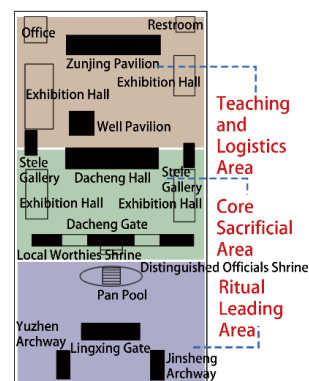


Figure 5. Analysis of the zones of the Temple of Literature in Zhengzhou

4.2. Existing functional characteristics

Zhengzhou Confucian Temple, as a nationally important cultural relics protection unit approved in 2013, has a multifaceted and complex functional value in contemporary society. Through systematic restoration projects (launched in 2006) and adaptive use strategies, it has successfully realised the organic fusion of the triple functions of cultural heritage protection, traditional culture display, and urban public space. The Confucian Temple has not only resumed the solemn Confucian rituals in spring and autumn, but also regularly holds cultural activities such as traditional rituals, music performances, Confucianism lectures(as exemplified in Figure 6 and Figure 7), and serves as the core node of the Guancheng Historical and Cultural Neighbourhood. It continues to carry out all kinds of traditional cultural experiences and non-legacy demonstration activities, which not only meet the public's needs for a high-quality cultural space but also give new life to the ancient architectural complex through the innovative implementation of its functions, and has become an important window and a platform for demonstrating the historical and cultural heritage of Zhengzhou. It has become an important window showcasing Zhengzhou's historical and cultural heritage and a vibrant place for the city's cultural life.



Figure 6. The 2567th anniversary of Confucius' birth ceremony to inherit the way of respecting teachers and valuing learning



Figure 7. The 2020 Zhengzhou Confucian Temple bell ringing for the new year event

5. Conclusion

This study analyses the evolution of the spatial creation of the Confucian Temple in Zhengzhou based on the perspective of the spirit of place, revealing that its spatial organisation has always been based on the essential feature of manifesting the spirit of place of Confucianism. The conclusions and significance of this paper are as follows.

Follows:

(1) The spatial organisation of the Confucian Temple is not a simple arrangement of functions, but a strict correspondence with the function of Confucianism and indoctrination. High-grade buildings such as the Dacheng Hall of the seven-room system not only reflect the grandeur of the form, but also, through the layout of the "in the centre of respect", highlight the core status of Confucian ritual thought. The relatively simple spatial treatment of the teaching area, on the other hand, reflects the educational philosophy of "emphasising the way and not the weapon". This kind of differentiation based on functional zoning is, in fact, a spatial translation of the Confucian ethical concept of "order of respect and inferiority".

(2) Zhengzhou Confucian Temple is in the process of historical evolution from a single function to a composite function, from a simple form to a systematic development trajectory. At the micro level, the architectural details transformed from simple and simple in the Yuan Dynasty, complicated in the Ming Dynasty to neat in the Qing Dynasty; at the meso level, the spatial sequence evolved from the three courtyards in the Yuan Dynasty to the complete system of six courtyards in the Qing Dynasty; and at the macro level, the overall pattern evolved from the initial "temple in front of the temple and school behind it" to the multifunctional composite body of rituals-teaching-life". These changes show the spatial adaptability of the temple building to meet social needs while maintaining its core ritual functions.

(3) Zhengzhou Confucian Temple is not only a model of official architecture in the Central Plains, but also a living testimony to the inheritance of Chinese civilisation. In terms of material form, its core spatial pattern has been rebuilt repeatedly over 700 years and continues to be rebuilt. In terms of cultural connotation, intangible practices such as the Confucius rituals continue to convey Confucian values. Therefore, this study enriches the restoration theory of the Confucian Temple from the perspective of the spirit of the place by establishing an analytical framework of the "form-spirit" linkage, emphasising that restoration is not only about restoring the material form, but also focusing on maintaining the spirit of the place, to realise the conservation objective of "both form and spirit" of historical buildings.

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