

A Study on the Theoretical Qualities of the Architectural Culture of Chinese Song Dynasty Historical Neighborhoods and Its Inheritance

Changhe Wang¹

¹ School of Marxism, Ningbo University of Finance and Economics, Ningbo, Zhejiang 315175, China

ABSTRACT

The Song Dynasty is widely regarded as the pinnacle of Chinese culture by scholars worldwide. Its economy, handicrafts, and technology drove its architects, carpenters, and building techniques to reach new heights, resulting in diverse building designs. As a result, Song Dynasty architecture is synonymous with its culture. This study explores the architectural culture of China's Song Dynasty historical neighborhoods as a theme to examine the theoretical qualities of contemporary Song Dynasty architectural culture and its inheritance work. The Song Dynasty's architectural culture has diverse characteristics, including unique architectural space structure, technology, and humanistic heritage. In the feudal society, the Song Dynasty's architectural technology and humanistic pursuit reached a high level. Therefore, the preservation and inheritance of Song Dynasty culture are closely tied to its architectural culture. To study the corresponding architectural space structure, technology, and humanistic spirit, it is crucial to focus on the ancient architecture of the Song Dynasty. Moreover, Song Dynasty culture, as a significant part of China's traditional culture and a representative historical and cultural landmark of the region, has distinct cultural and economic values in the development of urban cultural tourism integration and innovation. To preserve and promote this culture, historical districts can be revitalized and enriched through the excavation of Song Dynasty cultural materials, the creation of neighborhood projects featuring Song Dynasty architecture, and the development of Song Dynasty cultural landmarks. This will provide visitors with the opportunity to learn, understand, and appreciate the beauty of Song Dynasty culture.

Keywords: Song Dynasty culture, Song Dynasty architecture, Historic districts, cultural heritage, Ancient building preservation

1. INTRODUCTION

Apart from historical documents, architecture is among the most important real products that can provide evidence of the passage of time. The study of ancient architecture not only involves exploring its artistic impact but also entails systematically sorting out its objective reflection on economic, political, and cultural aspects of the historical period in which it is located. As a crucial carrier of urban memory, the historic districts contain rich historical and cultural symbols, such as folk customs, architectural culture, and life marks [1]. Further, authorities consider it to be an important means of transmitting excellent traditional cultural elements, broadening public cultural horizons, improving public historical awareness, and actively

participating in contemporary urban development in terms of historical inheritances as well as contributing to the innovative growth of tourism.

2. THEORETICAL CHARACTERISTICS OF THE ARCHITECTURAL CULTURE OF CHINESE SONG DYNASTY HISTORIC DISTRICTS

The cultural level of the Song Dynasty is widely recognized as the peak of Chinese culture among the dynasties that have ever existed on Chinese soil. In particular, the architectural culture of the Song historical districts holds a very high status in the development of Chinese architectural history.

During the Song Dynasty regime, the economy reached its peak of development and reached a higher level of development in all areas, including architecture, art, and commodity economy.

2.1 The Scientific Nature of the Architectural Culture of the Song Dynasty

Song Dynasty architecture was primarily built using a "wood structure" framework, and in the southern region, the favored style was the "pierced wooden structure"[2], which was used for temples, halls, spare rooms, and pavilions. In the temple frame type, the roof frame runs horizontally while being supported by longitudinal columns, beams, and other components. The columns have an arch at the top. The hall is usually made of pillars and beams, and an important example of this style is the hall of Ningbo Baoguo Temple, which belongs to the "hall" frame type and is a representative of southern Song Dynasty architecture. It embodies the regional architecture system of "Jiangnan Hall" and the architectural technology style. The remaining houses were constructed using pillars and beams for the wooden frame, while the pavilions were divided into two types: laminated wooden frame and mixed whole frame [3].

Song Dynasty building techniques included wood, brick, and stone construction technologies. The wood construction technology mainly relied on "timber" and involved creating various types of beams to support the entire building [4]. Craftsmen used the method of column reduction to expand the interior space based on their understanding of wood's mechanical properties. They also developed the "collocated beam" and "collocated column" technique, where small materials were combined to form larger materials, improving wood efficiency [5]. In the "jointed beam" technique, craftsmen added material to the back of the beam and used wooden mortise and tenon to increase the load capacity, improving the building's stability. The Song Dynasty was a representative period of technological maturity in ancient brick structure building. During the brick tower building process, they innovated building technology for different types of pagoda-style brick towers, such as steps and floors. The stone structure construction technology was mainly applied in the stone tower, bridge, and other architectural designs. The multi-span beam stone bridge construction technology of Luoyang Bridge is a representative example. In the bridge foundation construction process, bridge

workers innovated the "raft foundation bridge foundation" and "oyster planting" techniques to improve the solidity of the bridge foundation, taking into account the geographical environment and natural conditions [6].

As far as the importance of construction materials is concerned, the level of construction materials is an important basis for determining the level of construction technology. Analyzing the building materials used in the Song Dynasty, it can be seen that the main materials were natural materials like wood and stone, as well as artificial building materials such as brick, tile, pottery, and lime [7]. The Song Dynasty had diverse wood harvesting and processing techniques, including large woodworking, small woodworking, sawing, and other methods. The production and processing of style materials developed rapidly after the invention of "gunpowder" in the Song Dynasty. Black gunpowder improved the efficiency of collecting large pieces of stone, and craftsmen used peeling and sluicing techniques for processing [8]. The Song Dynasty standardized the specifications of brick materials and clearly specified their functions, uses, sizes, and other specific information. This facilitated the processing and use of bricks in large-scale construction projects. In terms of tile materials, the "Building Method" recorded the tile work and kiln work system, and craftsmen produced tile materials through roasting technology [9].

2.2 The Artistic Qualities of the Architectural Culture of China's Song Dynasty Historical Districts

The architecture of the Song Dynasty underwent a significant transformation, departing from the grandeur of the Tang Dynasty to adopt a more elegant and decorative style, decorated with an emphasis on design. This shift was influenced by the advancements in the economy, handicrafts, science, and technology during the Song Dynasty, which allowed architects, carpenters, craftsmen, engineers, and building construction and modeling techniques to achieve a high level of sophistication. The construction methods became more systematic and modular, allowing for the creation of buildings that were free and varied in their combinations, and mature in their appearance. The focus of the architects shifted from the exterior to the interior, with an emphasis on the details of the building. Artistic processing of beams and columns, careful decoration and ornamentation, and attention to

detail in every aspect of the building were key features of Song Dynasty architecture. For instance, lattice doors might have seven or eight types of sectional forms, while carpet-written window panes might have raised line feet. Even in color painting, each petal of a flower would be haloed in four layers from light to dark before it was considered complete. The shaping of flower petals in carving was similarly varied and lively [10].

The Song Dynasty is known for various types of buildings, with pagodas, stone bridges, wooden bridges, gardens, imperial tombs, and palaces being among the most outstanding. In terms of landscape design, the emphasis was on creating a mood that blended natural and artificial beauty, resulting in a departure from the majestic characteristics of the Tang Dynasty. The buildings' ridges and corners tended to rise and fall, giving a light and soft feeling that differed from the Tang Dynasty's mellow style. Paint was used extensively, making the colors prominent. The window panes, beams, and stone seats were richly decorated with carvings and paintings, while the columns came in a variety of shapes. Additionally, due to the economic and social development of the period, the importance of garden architecture and its focus on mood also increased. Chinese classical gardens were designed with a focus on integrating natural and artificial beauty, such as rock gullies, flowers, and trees, into household landscapes. The demand for exquisite, delicate, and elegant architectural features was high. The site selection and layout concept based on mountains and water coincided with the architectural design orientation of the landscape, reflecting the aesthetic thought of "harmony of yin and yang," "rigidity and flexibility," and "balance of motion and static" [11].

The architecture of the Song Dynasty represented a mature stage of ancient Chinese architecture, and its art and technology had a significant impact both domestically and internationally. According to records, the Jin people, who ruled during the Northern and Southern Song dynasties, also adopted the "Han method" following the destruction of the Liao and Northern Song dynasties. In building construction, Han craftsmen were mostly employed, and the architectural form, particularly in the details and decorations, was soft, delicate, and clearly influenced by Song architecture. In the Yuan Dynasty, the palace layout and market settings also displayed characteristics of Song Dynasty architecture.

2.3 The Humanistic Traits of Architectural Culture in China's Song Dynasty Historical Districts

The Song Dynasty architecture stands at the pinnacle of ancient Chinese architectural aesthetics and embodies a strong humanistic heritage with a profound spiritual essence. Its interpretation of architectural culture consistently demonstrates exquisite aesthetics that see the big picture in the smallest details, remaining intimately connected to everyday life. Take, for example, the architectural patterns of the Song Dynasty, where craftsmen incorporated patterns into different materials such as stone, wood, carving, and bamboo work, presenting a strong vitality with forms of plants, animals, clouds, flying fairies, and other living things. The vitality and secular value of architecture are apparent. The application of colors in Song Dynasty architecture follows the "building method," with green, green, and red as the primary colors and red, yellow, and white as the secondary colors. The design emphasizes cold and warm and green and green between them. The tendency of "cold colors" in tone is more pronounced, reflecting the Song Dynasty's style of "freshness and elegance," "calm and reserved," and "simplicity and introspection." Unlike the Tang Dynasty's free and tolerant social atmosphere and cultural characteristics, the changes in Song Dynasty architecture's hues and patterns are related to the political and cultural factors of the time. The "Confucian ideology" of adhering to the ritual system and the ruling class's surrender to the outside world led to a change of ideology reflected in the architectural style. After the Song Dynasty, the culture shifted its focus to the development of benevolent government and ethics, encouraging Confucians to create a new Confucianism. Confucianism in the Song Dynasty was not just a product of the Confucian school, but it incorporated the views of Taoism and Buddhism to form a systematic philosophical system encompassing the relationship between nature and man, and forming a systematic system of doctrine. The concept of doctrine in the Song Dynasty was a kind of ethics, and it gradually covered the theory of mindfulness, consistent with the traditional Chinese concept of creation and the idea of cultivating the body by uniting heaven and man with the world. Song Dynasty philosophy served the ruling class, manifested as a cosmic and political philosophy, and inward search for the Divine Principle. The personal life of the literati in the Song Dynasty was exceptionally rich, and they pursued a relaxed

attitude to life, leading the trend of thought in society. The aesthetic concept of most Song Dynasty people tended to be more elegant and beautiful, highly respecting the harmony between human and nature. This cultural background led to an architectural style with natural characteristics and a pursuit of simplicity, resulting in the Song Dynasty architecture's delicate and simple appearance with a minimalist style.

3. THE REAL PROBLEMS FACING THE HERITAGE OF ARCHITECTURAL CULTURE IN CHINA'S SONG DYNASTY HISTORIC DISTRICTS

Because Song Dynasty architecture relies heavily on wooden structures as the main framework, it can be challenging to maintain and repair ancient buildings from this period. Sadly, the old streets and alleys have lost their urban atmosphere today, and a significant number of ancient buildings are rapidly deteriorating or even collapsing.

3.1 Exploring the Difficult Problems Based on the Perspective of Historical Building Protection and Repair

Regardless of the vision for protection and heritage, there seems to be no viable alternative to protecting the ancient city as the first principle. However, in order to repair such a large number of ancient buildings, a significant amount of capital will be required. The longer the repair project is delayed, the higher the cost, the more difficult the repair, and the fewer the number of preserved buildings, which greatly increases the investment cost and makes it difficult to achieve a short-term balance [12]. The challenge now is to find a way to urgently start housing repairs, so that some of the dangerous buildings can be properly preserved, while also significantly reducing the initial investment needed. We know that ancient buildings, if uninhabited and unmaintained, will fall into decay in a very short period of time. Due to the limitations of the historic districts's grand scale and long advancement time, a large number of historic buildings cannot be secured in an effective time frame. Many social resources, such as the bed and breakfast industry, the cultural sector, the business community, and the old neighborhoods, have a demand for the use of ancient buildings. Finding a fit between the needs of both sides and the

conservation and utilization of Song Dynasty buildings becomes a feasible thinking. A large number of historical buildings and cultural preservation units have become the core of the cultural and development value of Song Dynasty architecture. Their preservation status has become a significant hidden danger to the historical districts, which will become the biggest obstacle and the most significant loss to the historical districts if they are not protected and utilized. History has bestowed on us the mission and valuable assets of preserving, repairing, and utilizing a large number of remaining historical buildings. History has entrusted us with the responsibility and obligation of preserving and developing the historic districts.

3.2 Problems of the Policy Mechanism for the Inheritance of Architectural Culture in Song Dynasty Urban Neighborhoods

Currently, there are still some issues with the top-level design and policy mechanisms for protecting and revitalizing ancient buildings in Song Dynasty urban neighborhoods. It is essential for relevant government departments to recognize that promoting the inheritance of architectural culture in these historic neighborhoods requires a coordinated effort across multiple sectors. This includes collaboration between the government, enterprises, educational institutions, and talent development programs to establish a synergistic mechanism of policy support, talent training, content integration, project development, and commercial publicity. By establishing a systematic, professional, and targeted policy framework, we can create a favorable environment for the preservation of the architectural and cultural heritage of Song Dynasty historic districts.

3.3 There Is a Shortage of Publicity for the Architectural Culture of Song Dynasty Urban Neighborhoods

The significance of propaganda carriers, insufficient propaganda, single propaganda methods, and other factors in the inheritance of historical districts architectural culture cannot be underestimated. Personnel involved can approach this challenge through the lens of information technology to create innovative Song Dynasty cultural dissemination carriers and enrich the presentation of Song Dynasty culture. This will bring the Song Dynasty culture to life once again in

the historical districts [13]. For example, various cultural elements such as the daily life of Song Dynasty citizens, overseas trade, and Song lyrics can be used as themes for cultural interpretation activities that immerse visitors in the Song Dynasty culture and deepen their understanding of it.

4. THE PRACTICAL PATH OF CULTURAL INHERITANCE OF HISTORICAL DISTRICTS ARCHITECTURE IN CHINESE SONG DYNASTY

As an important part of China's excellent traditional culture and a representative historical and cultural mark of the region, Song Dynasty culture holds distinct cultural and economic values in the innovative development of urban cultural tourism integration. Strategic requirements include the preservation and promotion of the excellent traditional culture and the development of cultural confidence. Accordingly, the goal of preserving and promoting Song Dynasty culture is based on the preservation and revitalization of the historical districts. Several Song Dynasty cultural elements have been preserved in the historical districts through the excavation of Song Dynasty cultural materials, the creation of Song Dynasty cultural districts projects, and the establishment of Song Dynasty cultural characteristic landmarks. This provides visitors to the historical districts with a channel to study, learn, understand, and perceive the beauty of Song Dynasty culture. This not only creates good conditions for inheriting the excellent traditional culture of the Song Dynasty and continuing the Chinese historical lineage, but also helps to build a representative and distinctive Song Dynasty cultural brand. Additionally, it provides theoretical and practical support for promoting the integrated development of Song Dynasty culture and tourism.

4.1 Optimizing the Top-level Design and Policies to Lead the Work of Architectural and Cultural Inheritance in China's Song Dynasty Historic Districts

Realizing the work of architectural cultural inheritance in Song Dynasty historic districts is a systematic project that involves multiple sectors, aimed at protecting and revitalizing these districts. In order to create a favorable development environment for the cultural heritage of architecture

in Song Dynasty historic districts, it is essential for the government, enterprises, talents, and education to work together to form a synergistic mechanism of policy support for top-level design, talent support for training mechanism, content support and project support for material integration, and commercial support for the publicity mechanism. In order to preserve and revitalize Song Dynasty historic districts, government departments should optimize the top-level design, formulate medium- and long-term development plans, and clarify the major objectives, priorities, and primary tasks associated with the architectural and cultural heritage of Song Dynasty historic districts. As part of the revitalization of historic districts and cultural heritage of the Song Dynasty in the region, government departments need to develop and implement mechanisms for cultivating talents, mechanisms for developing relevant resources, and major historic districts projects in a goal-oriented approach.

The project will be guided by the top-level design, and human and material resources will be dedicated to the cultural heritage of the Song Dynasty. The top-level design will serve as a guide, taking into consideration humanistic care, ecological and environmental protection, commercial art, and other aspects comprehensively, to realize the synergy of policy, enterprise, and talent, and create a good policy atmosphere for the inheritance of architectural culture in the Song Dynasty historical districts.

4.2 Excavating the Cultural Materials of Song Dynasty and Enriching the Way of Inheriting the Architectural Culture of Song Dynasty Urban Neighborhoods

Inheritances of architectural culture in Song Dynasty historic districts should follow the principles of authenticity and accuracy, and focus on extracting representative cultural elements that vividly showcase the charm of the Song Dynasty's economy, society, humanities, and other cultural fields. At the same time, it is important to consider the combination with the contemporary quality of life and aesthetic interests of modern people, in order to achieve the modern transformation and transmission of Song Dynasty historical culture. Achieving this requires relying on the specific historical background and delving deeply into the cultural materials of the Song Dynasty. It is necessary to systematically sort out the history, regional scope, and evolution of Song culture, as

well as the excellent traditional culture, including Cheng-Zhu philosophy and Neo-Confucianism. Furthermore, it is essential to explore the rich spiritual connotations of Song culture, such as family sentiments, people-oriented concepts, and a sense of concern and mission.

4.3 Developing a Program Rooted in Local History to Revitalize the Architectural Culture of the Song Dynasty Historical Districts of China

To thoroughly excavate Song Dynasty cultural elements, a diverse range of cultural carriers and communication strategies should be created to aid in the construction of architectural and cultural landmarks in historic districts. Additionally, policy mechanisms should be explored to attract professionals from the perspective of talent support. It is important to promote Song Dynasty culture through campus activities and to establish connections with universities to improve the long-term training system for cultural heritage talent. To broaden communication channels, digitalization and information technology should be utilized to improve the publicity mechanism for the integration of culture and tourism. In this study, the subject group intends to invite experts to assess the feasibility of the aforementioned strategies and conduct stage optimization, ultimately forming a feasible work plan.

5. CONCLUSION

The architectural culture of historical districts in Chinese Song Dynasty has diverse characteristics, and its architectural structure, architectural technology, and cultural heritage all reflect the historical culture uniqueness of the Song Dynasty. The inheritance of the Song Dynasty culture cannot be separated from the exploration of the architectural culture of the Song Dynasty historical districts. Taking the architecture in the historical districts of the Song Dynasty as the research object, and studying the scientific, artistic, human nature and other cultural characteristics has an important significance. At the same time, it is necessary to analyze the difficulties and shortcomings in protection and repair of the ancient architecture in the Song Dynasty historical districts from the perspectives of architectural materials and structural characteristics as well as professional technical. The effective practical paths of cultural inheritance of historical districts architecture in Chinese Song Dynasty include improving the

government policies, enriching architectural cultural inheritance methods, and creating a systematic revitalization plan, ultimately forming a feasible work plan.

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