



Research Paper

## Architectural development in Yin Shang dynasties and empirical evidence of architectural archaeology

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**Abstract:** This paper starts with the development of Yin Shang society, and on the basis of the analysis of social structure, political system, economic form and cultural characteristics of Yin Shang society, points out that as an important chapter in the history of ancient Chinese architecture, Yin Shang architecture has a unique charm and profound cultural heritage. From the architectural features to the architectural representatives of Shang Dynasty, this paper focuses on the excellent architectural level of Shang Dynasty, on the basis of which it discusses the strong support of the archaeological discovery and ruins of Yin and Shang architecture. At the end of this paper, the research methods, techniques and significance of the architecture archaeology of Yin and Shang dynasties are described.

**Key words:** Yin Shang architecture; Yin ruins; architectural archaeology

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### 1. The development of Shang society

The Yin Dynasty, or the late Shang Dynasty, represented by the Yin Ruins in Anyang, Henan Province, was an important period for the development of Chinese slave society. As an important stage in ancient Chinese history, Yin and Shang dynasties have their unique social structure, political system, economic form and cultural characteristics. Shang society is a hierarchical society, composed of Shang king, noble, common people, slaves and other strata. There are significant differences in the status and wealth of different classes. The Shang king was at the top of the society and possessed supreme power. The aristocracy is divided into three levels: high, middle and low, and they each have different social status and wealth. The common people are located in the lower part of the pyramid, although they have no social status, they have a certain amount of personal freedom and a small amount of wealth. Slaves were at the bottom of the pyramid, without any social status, freedom, or wealth. Yin Shang society is not a unified state, but a loose alliance with the Shang kingdom as the main body. The relationship between the Shang kingdom and the surrounding countries is complicated, some have long been allied, some have surrendered or rebelled, and some have always been enemies. The influence of the Shang Kings on these states depends on the rise and fall of the Shang kingdoms. When it was politically and economically strong, the Shang Kingdom was able to dominate the other states and was like the Middle Kingdom. At this time, the Shang king exercised royal power as the leader of the princes and the leader of the alliance.

The political system of Yin Shang was an absolute monarchy, with the king having supreme power and a hereditary system. Shang monarchs sometimes appointed worthy officials or relatives as assistants to help administer government affairs. At the heart of the political system was the idea of "mandate of heaven," in which the Shang king was believed to be appointed by the gods of heaven, and his rule was determined by providence and must be acted upon. The bureaucracy of the Yin and Shang dynasties was relatively strict, and senior officials were divided into six levels, each with corresponding duties and powers. This bureaucratic system ensures the normal operation of the state machinery to a certain extent.

The economy of the Yin and Shang dynasties was mainly based on agriculture, and the main crops included wheat, barley, beans, cotton and so on. The development of agricultural production provided the material basis for the stability of Shang society. Handicraft industry was also relatively developed in the Yin and Shang dynasties, and the technology of making bronzes, jades and other handicrafts was very exquisite. These handicrafts not only satisfied the domestic demand, but also spread to the surrounding areas through trade.

Commercial activity also developed during the Yin and Shang periods, with the use of money and the construction of markets promoting the exchange of goods and economic development.

The Yin-Shang culture placed great emphasis on sacrifices and rituals, which were important ways of expressing the relationship between man and God. The frequent and large-scale sacrificial activities of the Shang Dynasty reflect the awe and worship of gods. The characters of the Shang Dynasty were mainly oracle bones, which recorded rich historical and cultural information. The discovery of oracle bone inscriptions provides valuable materials for future generations to study the history of Yin and Shang dynasties.

In terms of art, the bronze, jade and pottery of the Shang Dynasty have their own unique styles. The bronzes were particularly skilled, and the patterns and texts on them reflected the political, economic, religious and cultural conditions of the time.

Yin and Shang society is a historical stage with unique social structure, political system, economic form and cultural characteristics. It occupies an important position in ancient Chinese history and has a profound influence on later generations.

## **2. Development status of Shang architecture**

As an important chapter in the history of ancient Chinese architecture, Yinshang architecture has unique charm and profound cultural heritage. The rule of the Shang Dynasty was extensive, and the construction technology was significantly improved during this period, which laid the foundation for the development of later architectural art. With its unique layout, majestic palace, exquisite technology and simple style, the architecture of Yin and Shang dynasty has left a strong mark in the history of ancient Chinese architecture. These buildings not only show the wisdom and creativity of ancient people, but also provide us with valuable physical materials for studying ancient societies and cultures today.

### **2.1 Architectural Features**

#### **2.1.1 City layout**

During the Yin and Shang dynasties, the city was generally rectangular, and the city walls were rammed with rammed earth, which was solid and durable. Inside the city, there is an obvious central axis layout, which reflects the rigor of ancient urban planning. The building zoning is clear, including palace area, sacrificial area, residential area and burial area, and each area has distinct functions, independent and interrelated.

#### **2.1.2 Palace buildings**

The palace building is the core of Yin Shang architecture, and its base site is often built into rammed earth platform to highlight the majesty and honor of the royal power. The exterior of the palace is primitive and simple, but the interior decoration and structure are quite complex, reflecting the superb architectural technology and artistic level at that time. There are often trenches around the palace area as defensive facilities, enhancing the security and defensive capabilities of the palace area.

#### **2.1.3 High platform building**

High platform building is one of the important features of Yin Shang architecture. The base of the palace mostly adopts the form of high platform, which is conducive to drainage and moisture-proof, and can highlight the majestic momentum of the building. The high platform architecture also reflects the ancient people's ability to adapt and utilize the natural environment, as well as the pursuit of architectural aesthetics.

#### **2.1.4 Construction technology**

The construction technology of Yin and Shang period has been quite mature, including rammed earth technology, woodworking technology, stone processing technology and so on. Bronze components were also used in Yin Shang architecture. For example, the two copper components unearthed from the Xiaoshuangqiao site in Zhengzhou are among the earliest metal components known at present. The architectural form of Sia heavy house also appeared in the Yin and Shang dynasties, that is, under the eaves of the four-slope house, a rain-proof eave was set to protect the rammed earth platform. This architectural form is both beautiful and practical.

#### **2.1.5 Architectural style**

The architectural style of Yin and Shang is solemn, simple and elegant, which embodies the unique sense of balance, order and aesthetic interest of ancient Chinese architecture.

As the representative of Yin Shang architecture, the shape and decoration of palace and temple buildings and royal tombs are full of strong religious color and mystery.

## **2.2 Representative buildings of Shang Dynasty**

### **2.2.1 Yin Ruins**

Yin Ruins, the capital site of the late Shang Dynasty, is located in Anyang, Henan Province. It is the first capital site in Chinese history that has been documented and confirmed by archaeology and oracle bone scripts. The ruins of palaces and temples and royal tombs in Yin Ruins are important material materials for the study of Yin

Shang architecture.

#### 2.2.2 Zhengzhou Mall

Zhengzhou Mall is an important city site in the early Shang Dynasty, located in Zhengzhou, Henan Province, and its architectural scale and layout reflect the superb level of urban planning and architectural technology at that time.

#### 2.2.3 Yanshi Mall

Yanshi Mall is also an important city site in the early Shang Dynasty, located in Yanshi, Henan Province. The ruins of its palace are stacked on top of each other for three floors, all of which are courtyard-style buildings, reflecting the superb construction technology and diversity of architectural forms at that time.

### **3. Archaeological discoveries and sites of Yin and Shang Dynasties**

The architectural archaeology of Shang Dynasty is an important subject to study the architectural remains, architectural techniques and architectural styles of Shang Dynasty.

#### 3.1 Yin Ruins

##### 3.1.1 Location and importance

Yin Ruins, located in Anyang City, Henan Province, is the capital site of the late Shang Dynasty. It is also the first capital site in Chinese history that has been documented and confirmed by archaeology and oracle bone scripts. It was rated as the first of China's "100 major archaeological discoveries" in the 20th century, and is of great significance for the study of Shang Dynasty architecture.

##### 3.1.2 Architectural remains

In the ruins of Yin, a large number of palace and temple buildings and large royal tombs were found. These architectural remains not only show the scale and layout of Shang Dynasty architecture, but also reflect the superb architectural technology and artistic level at that time.

##### 3.1.3 Foundation and courtyard

The archaeological discovery of the Shang Dynasty house base has 18, these house bases can be composed of 3 multi-entrance courtyard, the plane is "sun" shape, for the descending courtyard, the ground is flat, facing south. The layout of the courtyard reflects the planning thought and spatial organization of the architecture of the Shang Dynasty.

#### 3.2 Other Sites

In addition to the Yin ruins, also found such as Zhengzhou Mall, Yanshi Mall and other important city sites in the early Shang dynasty. The architectural remains of these city sites also provide important information for us to understand the architecture of the Shang Dynasty.

### **4. Research methods and techniques of architectural archaeology in Yin and Shang dynasties**

#### 4.1 Field Archaeology

Field archaeology is the basic work of the architecture archaeology of the Shang Dynasty, through excavating and cleaning the architectural remains in the site, to obtain first-hand information. Archaeologists have carried out a lot of field archaeological work in ruins such as Yin ruins, and found a large number of palace and temple buildings and large royal tombs.

#### 4.2 Interdisciplinary

The architectural archaeology of Yin and Shang dynasties involves the knowledge of many disciplines, such as history, architecture, geology, chemistry and so on. Archaeologists need to use interdisciplinary research methods and technical means to comprehensively analyze and study the architectural remains in the site.

#### 4.3 Application of modern technology

With the development of modern science and technology, more and more modern scientific and technological means have been applied in Yin Shang architectural archaeology. Such as remote sensing technology, GIS technology, UAV technology, etc. are used in the exploration and measurement of sites; 3D scanning technology and virtual reality technology are used in the digital reconstruction and display of architectural relics.

### **5. The archaeological significance and value of Yin Shang architecture**

#### 5.1 Historical Value

The architectural archaeology of Yin and Shang dynasties provides us with important material materials to understand the social history and culture of the Shang Dynasty. Through the archaeological excavation and research of architectural remains, we can understand the planning and layout, construction technology and architectural style of the Shang Dynasty city.

### 5.2 Scientific Value

The architecture archaeology of Yin and Shang dynasties also has important scientific value. Through the in-depth study and analysis of architectural relics, we can reveal the mysteries and development laws of ancient architectural technology, and provide reference and inspiration for the development of modern architectural technology.

### 5.3 Cultural Value

The archaeology of Yin Shang architecture also has important cultural value. Shang architecture is an important part of ancient Chinese architecture, and its unique architectural style and decorative art reflect the aesthetic concept and artistic pursuit of the people at that time. These cultural heritage is not only the precious wealth of the Chinese nation, but also an important part of the world cultural heritage.

## 6. Closing remarks

The architectural archaeology of Yin and Shang dynasties is a subject field with important historical, scientific and cultural value. Through the archaeological excavation and research of architectural remains in Yin ruins and other sites, we can deeply understand the history and culture of the Shang Dynasty society, reveal the mystery and development law of ancient architectural technology, and provide reference and inspiration for the development of modern architectural technology.

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