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Traditional Civilian Fortress Settlements in  
Central Henan –Take Shenhou Ancient Town in  
the Ming and Qing Dynasties as an Example

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# Study on the defensive characteristics of traditional civilian fortress settlements in central Henan

## --Take Shenhou ancient town in the Ming and Qing Dynasties as an example

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**Key words:** Defensive characteristics, Shenhou ancient town, Fortress settlement, Central Henan

**Abstract:** As the birthplace of the Central Plains culture, the central area of Henan has formed numerous civilian fortresses with defensive functions based on a unique historical and war background. As one of them, the ancient town of Shenhou, due to its unique Jun porcelain trade culture, makes the defence function closely integrated with daily production and life, and its defence is more meaningful for research. The current drive towards urban modernisation has led to the decline and destruction of traditional rural fortified settlements. The article is a detailed analysis of the defensive features of the ancient town of Shenhou from an architectural and sociological point of view, through field research, combined with relevant historical documents, and concludes that its defensive system consists of a combination of physical and spiritual defences, providing a basis for the study of the conservation of traditional fortified settlements in central Henan.

## 1. INTRODUCTION

The fortress settlement is a particular form of settlement space, a residential and defensive structure built to protect people from the effects of war and the struggle of populations. Its prototype can be traced back to the trench settlements of primitive society and later withstood the trials of war and warfare, banditry and banditry, before being customised in the late feudal period. It has a well-developed system and proven functionality and is highly valued in the countryside and villages for its outstanding defence effectiveness. In terms of the concept of habitation alone, a fortress settlement is not substantially different from an ordinary settlement. Still, it is a place to live to meet the needs of a group of people for living and production. In terms of settlement form, the fortress is distinctly different and has unique advantages, and its impressive enclosing walls alone show the distinctive character of the defence. This difference not only gives the defence settlement a very different appearance in terms of form but also, and more importantly, in terms of function, creates a defensive barrier on which the community relies for security ([Huang, \(2020\)](#)).

From a sociological point of view, fortresses are related to the defence consciousness that existed in the minds of ancient people as a 'subconscious',

a complete physical manifestation of the traditional defence ideology stimulated by social instability in the historic environment. It has defensive ideas common to conventional settlements and its unique defensive characteristics due to the differences in the conditions of its creation ([Zheng and Wang, \(2016\)](#)). Henan is located in the southern part of the Yellow River, and in ancient times it was known as Yuzhou. Zhongyuan nowadays refers to Henan, the centre of Han culture from the Xia Dynasty to the Northern Song Dynasty ([Zheng and Zhang, \(2005\)](#)). In the late Ming and Qing dynasties, villagers began to build their forts for self-preservation or response to government requests. These unique war histories have shaped the defensive characteristics of traditional fortress settlements in Henan to some extent. The geographical division of central Henan into four administrative units - Xuchang, Zhengzhou, Pingdingshan and Luohe - is the subject of this study, with the ancient town of Shenhou located in Xuchang ([Figure 1](#)).



Figure 2. Geographical area of central Henan

## 2. OVERVIEW OF FORTRESS DEFENSIBILITY RESEARCH

### 2.1 The urgency of defensive research at the fortress

According to "Voice of China News" reporting and the relevant departments of the latest statistics it was shown that there were 3.6 million villages 10 years ago, however now only 2.7 million, with about 80-100 villages still disappearing every day on average, including a large number of traditional fortress villages ([Bai, Zhang, et al. \(2016\)](#)). The fortress settlement has solid defensive characteristics. The relationship between "real" and "virtual" is formed mainly through space defence and spiritual defence, which play a role in safeguarding the village's safety and creating a human settlement environment suitable for survival and development. Such ancient villages reflect a fundamental claim to the territory and a primary attempt to construct defensive spaces and reference the study of defensive thinking. The defensive area of the fortress settlement was created in

response to changes in the social and natural environment such as defence against foreign enemies and war, or against floods and wind and sand, and is of high historical, scientific and cultural value ([Li and Zhou, \(2017\)](#)). However, with the gradual changes in the social environment, the spatial composition of the newly built villages got rid of the fortification form. At the same time, it had a massive impact on the fortified settlements, making them in extreme decline, and the space defence system was also severely damaged. Therefore, it is urgent and necessary to study the defensive space composition and protection of fortress settlements.

## 2.2 Civilian and military forts

Traditional fortified settlements are divided into military and civil defence settlements, depending on the object and purpose of their use ([Wang, \(2010\)](#)). Military fortification settlements were used by the court in ancient times to garrison the frontier. They were a product of political necessity, with military-type facilities and a predominantly military function, usually located in flat dams or flatter parts of river valleys, close to towns and main roads, to facilitate the deployment of troops in times of war ([Kang and Wang, \(2017\)](#)). Civilian fortified settlements are defensive assemblages built by their users to protect themselves, seek stability, and escape from war, focusing on people's livelihoods and a defensive function. The civil fortress has various forms and is highly territorial due to differences in topography, folk culture and construction techniques. Qing "Defence Integration": "Those who know war but do not know how to strengthen the people's fortress are those who do not plant their roots but grow branches and leaves. "Civilian fortified settlements are an essential vehicle to ensure the survival and reproduction of the people ([Wang and Hou, \(2010\)](#)).

## 2.3 Special features of the ancient fortress of Shenhou

The town is located in the shallow mountainous area of the Funiu Mountains in the southwestern part of Yuzhou City, Henan Province. With its natural resources of clay, alabaster, limestone and coal, it is the birthplace of Chinese porcelain. It was also a vital distribution market for porcelain goods in China ([Cheng, Yang, et al. \(2020\)](#)). In addition, due to the unique culture of Jun porcelain, historical and cultural relics resources are also abundant in Shenhou, which currently has one national cultural relics protection unit, three provincial cultural relics protection units, more than 40 ancient temples, ancient houses, etc., all with traditional Central Henan regional architectural style, complete preservation of the Ming and Qing Dynasty fortress buildings and the original appearance of the surrounding environment, selected as the second batch of Chinese historical and cultural towns in 2005. In 2016, it was named the first batch of characteristic Chinese cities ([Yuan and Ge, \(2017\)](#)).

### 3. BACKGROUND TO THE DEVELOPMENT OF THE FORTRESS AT SHENHOU ANCIENT TOWN

#### 3.1 Regional location

Conveniently located at the junction of Yuzhou, Jiaxian and Ruzhou counties, the ancient town's rich natural resources and excellent geographical location became essential for the site to take shape. The Xiao River, a defensive part of the fortress water system, originated in the back shade of the Daliu Mountains. Along with the Xiaoqing River, it provided a source of water for the inhabitants and an abundant supply of water for the production of Jun porcelain (Guo, (2020)). The general distribution of the mountains in Shenhou town is rough as follows: Yungai Mountain in the north, Daliu Mountain in the south, Phoenix Mountain and Jiaozi Mountain in the east, Niutou Mountain and Fengyang Mountain in the west, and Qianming Mountain in the centre, which runs east-west and divides the ancient town into two basins. The overall topography of the city is low in the southeast and high in the northwest, with Daliu Mountain being the highest point, at over 700m, and the southern end being lower, at 240m (Wang and Wang, (2019)) (Figure 2). While respecting the original natural terrain, the overall construction of the ancient town of Shenhou also fully met the production and life needs of the residents of the town.

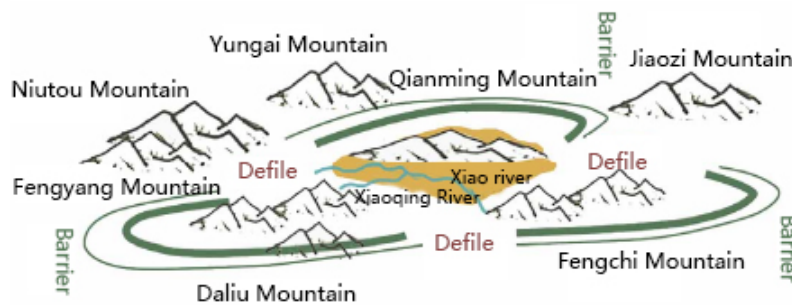


Figure 2. Distribution of the landscape pattern of the ancient town

#### 3.2 Historical evolution

Shenhou has been inhabited since the Xia and Shang dynasties and gradually became a national porcelain making centre in the Tang dynasty. In the Song dynasty, it was known as Shenhou Dian, and in the Ming dynasty, Officials changed it to Shenhou Town, and in the Qing dynasty, it was part of Wenfengli. During the Republican period, the town was transformed into the Shenhou District in 1947, and in 1948 the Shenhou District People's Government was established, followed by the Shenhou Town People's Government and the Shenhou District Office in 1949 Shenhou People's Commune in 1969. In 1981, the name was changed to Shenhou Town People's Government with the approval of the higher authorities (Figure 3).

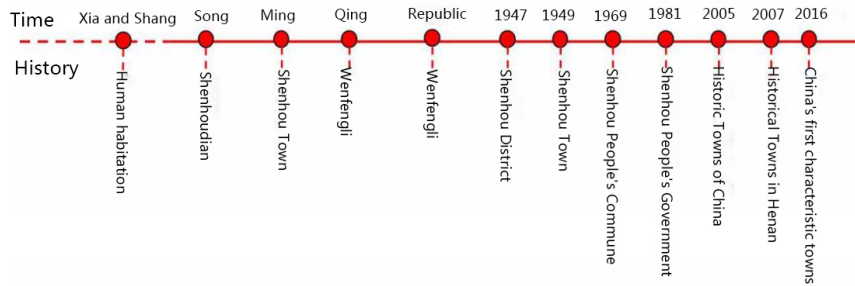


Figure 3. Timeline of Shenhou's historical evolution

### 3.3 Spatial development

The spatial development of the ancient town of Shenhou is closely linked to the local trade in Jun porcelain production. During the Xia and Shang dynasties, the ancestors lived on both sides of the Xiao River, starting the earliest farming and pottery smelting and forming the first settlements. The Jun porcelain trade reached its peak during the Tang and Song dynasties. At this time, the old street had developed into the main trading street in the ancient town, making the five villages of Erdao Street, Gaolaozhuang, Zhuyuangou, Tea Valley, and Laoyaopo near Xiaohe gradually Connected into a whole, forming a city that is beginning to take shape (Liu,Zhang, et al. (2015)). When warfare and social unrest were frequent in the Central Plains, wealthy local merchants pooled their money to build forts to defend their homes during the Ming and Qing dynasties. The five villages living along the river have gradually developed into fortresses with complete defensive functions. The internal space is fully functional, with the ancient town forming a productive living space centred on the forts. The spatial pattern of "one river connecting five villages and grouping to embrace the river" has been formally established (Li, (2005)) (Figure 4).



Figure 4. overall spatial pattern of the fortress

### 3.4 Fortress composition

Shenhou built Yiyuan Fortress in the fourth year of Jiaqing; in the fifth year of Tongzhi, they began to build Tianbao Fortress, Weiyuan Fortress, and Dengyu Fortress; in the 20th year of Guangxu, Qing Dynasty,

Wangsong Fortress was completed, and Xiaohe divided the ancient town into two ([Chen, Yang, et al. \(2020\)](#)). Five fortresses are located on both sides of the river. Each defence has a high and strong wall, and the gates open at dawn and close at sunset. Each fortress was an organic whole, with various functions, including commerce, housing, activity and defence, and could be independent, but could also look after each other and defend themselves against foreign enemies. Only the two fortresses of Wang Song and Tian Bao remain ([Figure 5](#)), connected by the Zouyu Bridge above the Xiao River.

The inscription on the west gate of Wangsong Fortress is engraved with the word 'Wang Song', which refers to the fact that the pavilion at the west gate can see Song Mountain in the distance, giving it its name. The overall layout unfolds east-west, with shops opening north and south along both sides of the old street. The wall is of brick construction, built from the bottom of the river upwards in a wrapped weir, with a base of about 2 metres high, and was initially used to prevent flooding. Later, because of the seriousness of the banditry, the inhabitants of the fortress began to set up gun towers along the walls, and wealthy merchants raised money to build a large gun tower at the entrance of the old street cave. Tianbao Fortress is located across the river from Wangsong Fortress and is therefore also known as Xizhaili. The village's original public buildings, such as Guanyintang and Confucian Temple, were destroyed due to the war. The trenches on the south side of the fortress, which rest on the Shaw River, are relatively well preserved and indicate their defensive effectiveness at the time. Beginning in the 1970s during the Republican period, Market Street began to expand with the resumption of trade, passing through the middle of the north and south fortress walls. Market Street broke the enclosed nature of the Tianbao fortress. Later, some residents found slag and coarse porcelain tiles about 2 meters underground to rebuild their houses. It is presumed that the residents on both sides of the river poured waste porcelain during the kiln burning process. The former prosperous scene of Jun porcelain firing in the fortress can be imagined ([Lin and Zhou, \(2019\)](#)). The Xiao River is located on the north side of the Tianbao Fortress. The west-to-east flowing river diverts to the south under the Zouyu Bridge between the west gate of the Wangsong Fortress and the east gate of the Tianbao Fortress before continuing to flow eastwards along the south wall of the Wangsong Fortress, serving as a natural barrier.



*Figure 5. The gates of WangSong Fortress (left) and TianBao Fortress (right)*

## 4. THE FORTIFICATION SYSTEM OF THE SHENHOU FORTRESS

### 4.1 Physical defence characteristics

Physical defences are the concrete expression of the means of defence of a fortress-type settlement at the level of the physical entity. In contrast to mental defence's focus on psychological mechanisms, physical defence is a concrete physical construct that serves as a division boundary and a defence barrier. In fortress settlements, the levels of defence have a basic correspondence with the levels of space, i.e. the settlement, the residential groups within the settlement and the unit houses all have their own defence needs and functions, thus requiring the closure and continuity of the boundaries between levels, thus forming a continuous multiple defence hierarchy. The general location and layout of Shenhou fortress strictly abide by the closed block model, and the spatial form is also affected by the local Jun porcelain culture and traditional Confucianism regarding urban construction and generally follows the principle of the plane layout. The defence system is hierarchical, divided horizontally into outer walls - internal lanes - and courtyard groups, with each level interacting and restraining each other, performing its defence function thoroughly and solidly (*Figure 6*).

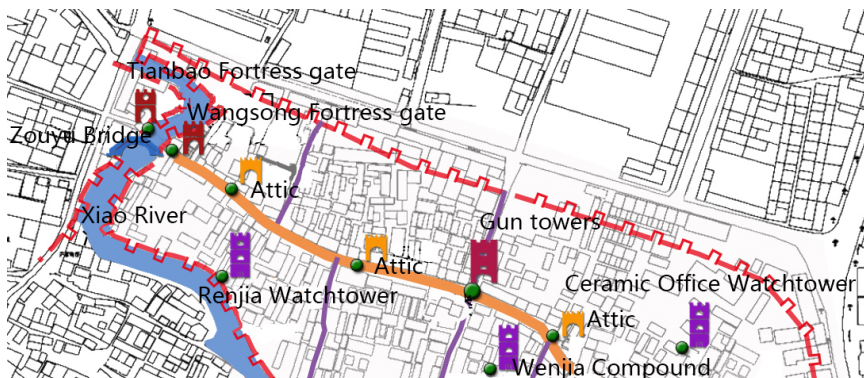


Figure 6. Composition of the physical defence elements of the fortress

#### 4.1.1 Perimeter wall defence

The outer defensive system is the most basic and vital component of the overall defensive function of the fortress, playing a combat-determining role, often combined with dangerous terrain to supplement weak defences, or in a linear closure to form an enclosure to protect the inner members ([Deng and Zhang, \(2018\)](#)). The fortress of Shenhou combines the three, with tall, thick walls, the vast, deep Xiao River, and towering, sturdy watchtowers, completing the fortress's entire outer defence system (*Figure 7*). The Shao River serves as a natural barrier to control the spread of fire during combat and facilitate the daily life of the fort's inhabitants. Across the Xiaohe River, the immediate border of the defence is the wall, which is 7 meters high and 1.15 meters thick. The overall shape is enclosed, the inside is flat, and there are brick crevices on the outside. The fortified wall has a concealed ditch for one person to pass through, combined with the fortress high point



watchtower for enemy communication, the enemy can strike from above when they come, forming a common platform for defence and attack. The primary function of the walled walls and gates is to resist bandits and prevent floods, effectively repel the enemy, and divide the space inside and outside the settlement: the walled walls are used as separation, with residential living areas inside the walls and field farming areas outside the walls.

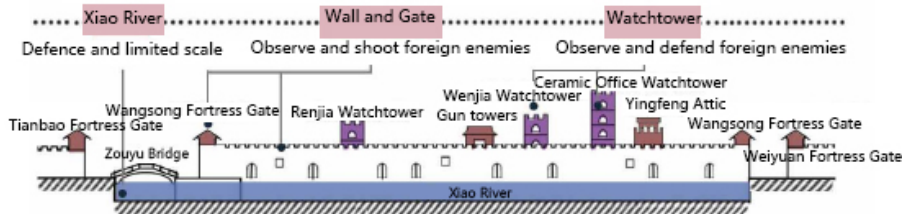


Figure 7. External defence system of the fortress

#### 4.1.2 Internal street defence

The internal street space is the second level of defence and is mainly based on the traffic function of the street and the grouping of mansions. The street space is the most open space within the fortress and is largely unobstructed. Its role is to cooperate and assist the main body's defence function. The defence capability is relatively limited, but it supports the first-level overall defence and guards the third-level residential houses. If appropriately used, the street space can form a closed room and become a place for active attacks (Wang, (2003)). Shenhou fortress is distinct from other official road structures in that the overall spatial form is 'fishbone' shaped. The main road is the Old Street, which unfolds from west to east, with hutongs extending on both sides, forming branches of the overall spatial structure. The spatial system is layered, showing a grouping of "avenues and paths", which aligns with the natural village pattern and allows for an undirected attack on the enemy. The Old Street serves as the core of traffic within the entire fortress, allowing the inhabitants to convert quickly between life and defence. It is used for trading and patrolling at regular times. Still, in particular, circumstances it becomes the main battlefield and combined with the complex terrain of the alleyways, it can bring both physical and mental pressure to the enemy. The artillery tower is located in the middle of the street and can be used for observation and shooting. It has the most potent attack force in the entire fort and is the central defence system inside the whole defence. Several pavilions were set up along the road to divide the fortress and provide zoning control, allowing for stronger internal links. The fortress's interior is linked by the old streets and the various winding alleyways to form a complete and orderly internal defence system (Figure 8).

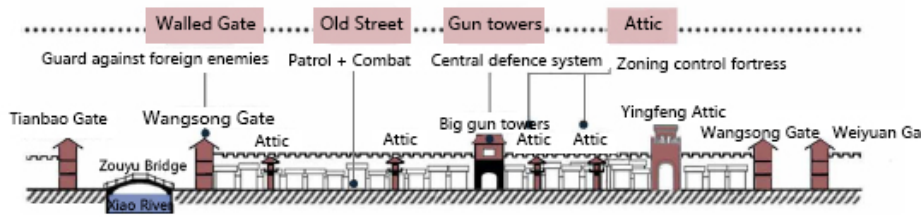


Figure 8. Internal defence system of the fortress

#### 4.1.3 Courtyard cluster defence

The household unit is a single house that constitutes the entire settlement, the primary department of fort-style settlement defence, and the last level of the defence system (Bai, (2015)). The wall forms the main body of protection at the defensive level of the courtyard group, which strictly encloses the residents in a specific space. It then uses the building itself and the courtyard for encompassing defence (Chen, Kong, et al. (2017)). The traditional dwellings that exist within the Shenhou Fortress are mostly in the form of courtyards built on the natural terrain, with three courtyards in a row, and the occasional large family with five courtyards in a row, each with a population ranging from a few dozen to hundreds. The building consists of an upper room, a wing, a courtyard and a gatehouse. Along the street are shops for trading, with people living in the middle, a place for daily life; at the back are workshops for the firing of Jun porcelain (Figure 9). Shenhou is a warm temperate continental climate zone, with cold winters and hot summers. The long and narrow courtyards can block the sun in summer and the north wind in winter, creating a comfortable living environment while ensuring safety and privacy. The courtyard is bordered on three sides by high walls from other yards, with only narrow openings facing the street, effectively blocking access to the yard by intruders. If the enemy enters the compound, the doors of the rooms are immediately stopped, and wells are set up inside the rooms to sustain everyday life activities. By the end of the Qing dynasty, the more extensive courtyards within the fortress or Jun porcelain merchants for self-preservation began to build towers in the location of the upper room, to ensure defensive at the same time, Watchtower can carry out a specific range of attacks to force back the enemy, the courtyard living space remains unchanged, continuing the original pattern.

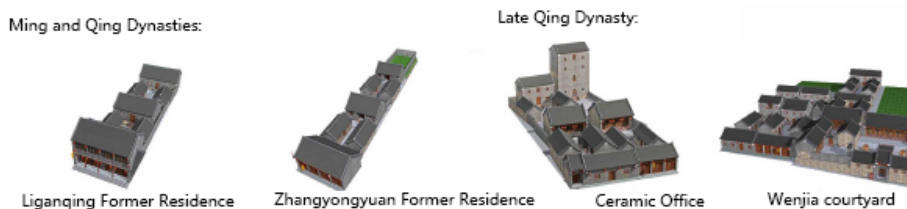


Figure 9. Illustration of a traditional courtyard pattern

## 4.2 Spiritual defence features

Spiritual defence conveys the optimistic aspirations of the people through certain explicit or implicit symbols of settlement construction so that the occupants are comforted on a spiritual level. The offenders are psychologically intimidated, thus, to a certain extent strengthening the

defensive forces and reducing the power of aggression and usually related to abstract concepts such as site selection, geomantic omen, religion, culture, etc. Influence control from the spiritual realm of people is a necessary measure for residents to gain a sense of psychological security. It is combined with the physical and physical defence system to make the entire defence system of the fortress. More comprehensive and effective ([Wang and Wen, \(2012\)](#)).

#### **4.2.1 The virtual image effect of the defence**

The fortress settlement is also good at stimulating the self-protection mechanism within the social structure of the settlement through the organisation of the architectural domain and the visible space, which can make the residents feel safe, and the intruder can spontaneously develop a sense of fear. To achieve the purpose of restraining crime, this kind of mental defence function known for "mind attack tactics" is called "the virtual image effect of defence". The shape of the outer wall's sense of defence is fundamental to the fortification of the fortress. It is the most intuitive basis for evaluating defensive performance, which is maximised in the face-to-face conflict between internal and external groups ([Wang and Hou, \(2006\)](#)). The contrast between the outer side of the fortress, which the Xiao River naturally defends, and the high and solid walls of the fortress creates a simple and purely massive structure that gives the enemy a sense of intimidation and oppression, which in turn makes sense of fear and is a source of psychological security for the inhabitants of the interior. For settlements, single scattered houses have a limited defensive capacity than high-density clustered buildings, Shenhou Fortress highlights and reinforce traditional group defences from a security perspective. As a security measure against the outside world, the densely-packed building form of the fortress is often used as a form of settlement, giving the inhabitants a solid psychological defence against the elements and a sense of security in the protection of the group. The natural topography of the intersections, alleyways, crossings and changes in the slope and width of the roads create a disorienting spatial atmosphere. The "one-way visible" surveillance asymmetry of the spatial pattern created by this natural labyrinth structure makes it impossible for intruders inside the fortress to know for sure whether they are being watched or not, which in turn leads to the belief that their behaviour is under the control of the internal inhabitants at all times, limiting their potential offensive behaviour and using hostile forces to keep the enemy at bay to a certain extent. The use of hostile forces provides the enemy with a degree of restraint and allows time to prepare for an internal counter-attack and the best time to attack.

#### **4.2.2 Religious beliefs**

For the Shenhou Town, which is a source of porcelain, the industry's prosperity directly impacted the standard of living of the inhabitants. In contrast, the low rate of finished porcelain and the uncertainty of the firing process made religious beliefs an essential part of the spiritual life of the local population ([Li and Ren, \(2014\)](#)). The Burlingweng Temple is a powerful symbol of faith in the hearts of the inhabitants, reflecting their fear of natural and artificial disasters and their desire to live in peace and prosperity, and serving to unite the clan and maintain social order, It was an essential spiritual pillar of the fortress and an apt expression of the

spirituality of the people who lived in Shenhou for peace ([Zhao, Nie, et al. \(2015\)](#)). The Burlingweng Temple, also known as the Temple of the God of Kilns, is located on the north side of the middle section of the main street within the fortress. It was first built in the Song Dynasty, then rebuilt in the Ming Dynasty, and in 1986 was designated as a 'key cultural relics protection unit in Henan Province', a symbolic building of Jun porcelain culture in the ancient town of Shenhou and a venue for the residents of the fortress to gather and deliberate. The main hall of the temple was destroyed, but the Flower Opera House is relatively well preserved. It is integrated with the mountain gate, with the stage on top and the doorway on the bottom, and the back of the opera house against the mountain gate, making clever use of the space ([Figure 10](#)). The entrance is outside the temple is a gatehouse with a multi-storey eaves projection and carvings on the frontal pillar. The two stone eaves pillars in front of the gate are connected to the back of the stone lion, with a pair of couplets carved on the pillar and a fine Rangoon design carved on the pillar base. The three-bay, single-gabled hipped roof is covered with green glazed tiles, and in the centre of the ridge stands a qilin carrying a porcelain gourd, and the ceiling of the opera house is decorated with coloured paintings and carvings on the arch.



Figure 10. Burlingweng Temple Hill Gate (left) and the Flower Theatre (right)

#### 4.2.3 Spiritual decoration

The gods have become psychological support for people's daily lives, satisfying the spiritual requirements of the inhabitants and providing a source of material for the design of architectural details. A variety of evil-defying motifs, patterns and symbols are used as part of the landscape of spiritual defence details. ([Yang, Yang, et al. \(2019\)](#)). The spiritual decorations in Shenhou Fortress include wood carving, stone carving, brick carving and colour painting, etc ([Figure 11](#)). The main manifestations are various auspicious patterns. They are widely distributed throughout the fortress, from the settlement to the households, at all levels, reflecting the architectural aesthetic and folk culture of the inhabitants of Shenhou as well as their perception of the social phenomenon of banditry and their subjective desire to pray for peace in a turbulent environment, and their aspirations for a better life, while enriching and enriching the spiritual defence system of the fortress ([Wang and Hou, \(2014\)](#)).



Figure 11. Bucket arch (top) and stone carving (bottom) in the fortress

The decorative motifs throughout the fortress consist mainly of animals and flora and fauna and various combinations of their images. Common animal styles include dragons, tigers, lions, cranes and unicorns. According to legend, the dragon was born with nine sons, of which Chiwen likes to spray flames, and is of great importance to the city of Shenhou, where the porcelain is made. Residents often decorated its 'dragons' on the roofs and ridges of the houses. Plant patterns mainly include Ganoderma, lotus, gourd, peony, pomegranate, vine grass, other plant patterns, and other curly grass patterns. The peony symbolises prosperity, happiness and peace, and was once known as the national flower during the Ming and Qing dynasties. Residents used the peonies to decorate the buildings of Shenhou, expressing the desire for health and safety, but also the desire to make a fortune from the porcelain industry. The decorative form of the entrance in the middle of Tianbao Fortress is "卍", which was first thought to be a symbol of 'fire' or 'sun', in keeping with the character of Jun porcelain made in the ancient town of Shenhou, and is also a symbol of "fire" or "sun", which conforms to the characteristics of Jun porcelain fired in the ancient town of Shenhou. It is also a symbol of Chinese Buddhism, which means the light of Buddha, and it entrusts the good wishes of the fortress residents for auspiciousness and peace. The gun tower is inscribed with the word "Zhen An", creating a context of a place that fits the fortress's function and image through written language, expressing the peace-seeking mentality of the inner circle members serving as a warning to the enemy ([Huang, Wang, et al. \(2002\)](#)).

## 5. CONCLUSION

The Yellow River Basin, the birthplace of Chinese civilisation, has nurtured a profound Central Plains culture. The Central Henan region has developed different forms of architectural settlements under the influence of other cultural ideas ([Zheng, \(2008\)](#)). The Shenhou Fortress is a product of multiple historical conditions, including the collapse of social order and the lack of government capacity in late Chinese society, and is of excellent research significance. After researching, reading and analysing the history of the fortress, from the macro-level to the micro-level, we preliminarily summarised the dual compound defence features of Shenhou Fortress material entity defence and spiritual belief defence: The physical defence system is progressive at three levels: the outer whole, the inner streets and the courtyard groups. In contrast, the spiritual defence system creates a good defence atmosphere through solid spiritual forces such as religious beliefs

and spiritual building blocks. The various spiritual 'soft' defensive functions possessed by the fortress settlement and its material 'hard' defensive means complement each other and work together, resulting in a richly layered defence system for the fortress settlement, which provides a more It also provides a more open vision for the interpretation of the spatial connotation and cultural personality of the fortress settlement from multiple perspectives. Its construction ideas and spatial layout can also have positive implications for creating contemporary regional architectural design.

## PHOTO SOURCE

Figure 3,2,3: Drawn by the author;

Figure 4: Redrawn according to “Shenhou Ancient Town, Yuzhou, Henan National Research Centre for Historic Cities Research on Historic Districts”;

Figure 6,7,8: Redrawn according to “An analysis of the spatial characteristics of the industrial-dependent ancient town of Shenhou”;

Figure 9: Redrawn according to “An Exploration of the Regional Nature of Traditional Architecture in the Ancient Town of Shenhou”;

Figure 5,10,11: Photo by the author.

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