A Study Of Hongshan Culture The Goddess Temple Wood Construction

China Prehistoric Age Architecture Aesthetics

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Summary:
The aim of this paper was study the origin wood structure architecture in ancient China. In practical archaeological excavation, we hardly discovery the timber framework architecture object can exist thousands years. Even more hardly induce the prehistoric age building’s appearance and framework. And, The possibility predication for prehistoric architecture only can recur to archaeologist excavation and scientific research production. Hongshan culture the goddess temple is the first public architecture, among the architecture ruins site unearthed the goddess temple is the wood framework only. Furthermore, related component, mud imitate timberwork and the plane of the goddess temple ruin site unearthed, these practicality object for booms the architecture history provided more capacious space.

Keywords: The goddess temple, Clay replicas of the wood constructive, Decorative plastering, Wood and immature soil decorative structure, Ornamental design

1. Introduction

1.1 Review environment and background of hongshan culture in prehistoric age

1.1.1 The origin of the Hongshan culture
Hongshan culture was a tribe group located within the western Liaoning river valley to Daling river valley and the northern bank of the Bohai bay to the south of Yanshan Mountain around 3500BC[1]. Hongshan culture named after Hongshan Mountain in Chifeng, inner mongolia. Its spread and covered area of 200,000 square kilos though its original centre was along both Xilamulun river and Laoha river. At the time of Hongshan culture the society was in its low of matriarchy, a kind of racial group tied by maternal consanguinity began to conversion for father shaikh. The leading economics was agriculture with husbandry, fishing and hunting was juxtaposition.
1.1.2 Niuheliang Site During the Period in Hongshan Culture

The Niuheliang site belongs to the late period of Hongshan culture. Located at the Jianping country and lingyuan country of Chaoyang. Where the goddess temple, the sacrificial altar and the west and about 5,000m from north to south[2]. These complex sites from a large-scaled pre-historical sacrificial that stands along beyond the residential area(fig1). Niuheliang is located in the centre of a network leading to all the regions of the Hongshan culture. It is imbued with the characters of a sacred place and political center. This shows us that the Hongshan culture was a complex society that had reached the ‘ancient state’ stage.

Niuheliang site was found in 1981 and was first excavated in 1983. From the carbon measure and three wheel proofread(C14), the niuheliang site have 5580-4995(B.C.3779-3517) years[3].

1.1.3 The Goddess Temple in the General Distribution of Niuheliang Sites

The goddess temple, the stone mounds, the huge construction remains in pyramid shape consisted in complex Niuheliang sites. And, It is the earliest original public architecture in China the goddess temple is wood construction only. The goddess temple with mountain platform at one time buildup the hole goddess temple ruin sites(fig2). The goddess temple is located at the top of the main mountain ridge. Not far from the goddess temple is the large mountain platform, at the 8m north of the temple Its made up of three leved-up platforms. The side of the mountain platform is the man-made stonewall, where are in the same direction as the temple. Several round earth pits with diameters nearly 1m were found on the mountain platform, from which large potteries were unearthed. The earthen sacrificial wares and the animal bones were unearthed from the south of the temple.

1.2 The Goddess Temple’s Denominated

The goddess temple named after the idol unearthed. The main idol head is a life-size goddess. The face, the arms and legs which are nearly two times life-size. When putting together, it becomes a statue sitting cross-legged. The goddess status is true-life and apotheosized, it should be the idol of the ancestor(fig3). Moreover, worship of deities, which are centered on the main idol, shows the igh lever stage of worshipping the ancestor.

The goddess temple to be qua the first public architecture in China for provided a very important information for discuss the origin civilization of China have deep meaning. Its indite that the origin people was possess of expert sacrifice concourse for their activities.

2. The Design of the Goddess Temple Architecture
2.1 The Plane
The goddess temple composed of two parts, single south chamber and main chamber. Two parts plane all belongs to a semi-cellar style. The main part is composed of the main chamber, the east and west side chambers, the north chamber and the three south chambers. The temple 25m long from south to north and width of 2-9m from east to west. Total area covered is 75m². (fig4)

Fig4. the plane of the temple

The temple surface layer has been excavated, although, the cause of the temple collapse disrepair is fire. But, not conceal the architecture take the built-up on the excessive layer roomage in that period.

2.2 The Frame
The temple was totally a civil construction. The surviving walls begin to curve inward at ground level. The four underground walls, now preserved, were made with clay and sheaves of reeds. They contained mud replicas of the wood constructive components, the earthen sacrificial vessels, the fragments of the unbaked cllay sculptures of the human figure and animal within the temple[4]. From the charred wood column traces around(fig5), that proof the temple housetop is wood construction supported by columniation. The temple's inner wall velvet and fine, outer wall’s mud nature and coarseness. Bosom interlayer is used the diameter 35mm-40mm log columniation side by side trace.

Fig5. the charred wood pole

2.3 The construction technique
The goddess temple architecture is the earliest instance in China civil engineering. The base of the 1984 report, the main architecture bottom sides distance to ground is 70mm-120mm, the remain wall's height is 50mm-90mm, when the goddess temple surface layer excavated. The building is semi-cellar style(fig6), the house a part on the ground, a part under the ground, but the whole space. The primal person used the 50mm-100mm[5] log act the framework underprop the hole building. The log arrangemented, standed, clinged the bottom semi-cellar wall. The log ligated with grass and straw, the wall covered with the mud and the grass mixture, two or three times. Furthermore, the wall and the floor are differ degree baked by fire.

Fig6. semi-cellar style in Xinle

In world ancient architecture history, China wood constructure architecture technic level mostly reflect three aspect, truss system, tenon and mortise and a kind arch called Tou-Kung[6]. From the goddess temple archaeological unearthed, confirmed the goddess temple is known the furthest auld timberwork architecture in China.

3. The Goddess Temple’s Component
The main component in the goddess temple is mud imitate timberwork. Present substantiated owing
to the wood framework damage to fire, the mostly component were unearthed is mud model, that have mud model decoration Tou-Kung, mud model moulding. Thereby, the first sample of China’s Tou-Kung and moulding component were discovered.

3.1 The Original Tou-Kung in Goddess Temple

The rudiment of Tou-Kung in the ancient China architecture is lu-Tou[7]. The earliest Lu-Tou(fig7) appeared in the bronze ware when Xizhou to Zhanguo period, Lu-Tou recorded in literature and the great deal with in construction in Xi’han[8]. Tou-Kung to become architecture main composing portion not only its beauty aspect, but also can bearing heft to eaves and up base. The Lu-Tou imitate timberwork component is the earliest the practical construction draft example about Tou-Kung in China.

3.2 The Goddess Temple Man-made Moulding

architecture’s turn angle. Unearthed the moulding in the temple is the cingulum with the incomplete long is 305mm, width is 170mm(fig8). The goddess temle unearthed two kinds of mud moulding decorate line, they belongs to compacting and velvet wall. Two lines across and erect. The first is hemicycle, the shape of ‘round ridge’ which width 55mm, heave high 30mm-40mm extended. The second is flat, both of them all protruded the wall is 10mm. Two decorate lines across for each other, its aesthetics element homology with contemporary for waist and architrave. Furthermore, There are the imitate wood poles and imitate boards among in the clay replicas of the wood construct components.

4. The Goddess Temple Mural Paintings and Embossment Arts

The mural paintings and embossment make on the multilayer mud surface, and the back of the mural paintings and embossment is the trail of wood framework.

4.1 The Temple Mural Paintings

The mural painting drawing on the surface wall where the mud were planished, as flat as velvet, some nature exiguous crack in it. The paint is mineral, the colour is minium leaning reddish brown. The mural painting drawing on the khaki mud surface, with the pattern is canonical triangle interlaced design(fig9/a-b).

4.2 The Goddess Head Embossment Arts

Niuheliang site unearthed the temple with the goddess’s head statue is a life-size, the head surviving height is 240mm, width of face is 165mm. The eyeball with the jade to be wear to conglobate, the goddess is typical Mongolia ethnic group(fig10). The goddess face adored red prink colour, portion
deformity, the lumen face emerge the sheaves of reeds and bones with the clay trail by framework.

4.3 The Temple Tabernacle Decoration
The action of tabernacle in the goddess temple is ornament. Included the arc vault, the rise eaves, all for give prominence to the idol. The mud model tabernacle keep origin(fig11) aboriginality with the arm for other idol when its unearthed. accordingly, the first tabernacle appeared in Han era were denied.

4.4 The Temple Ornament of the Wall
Different formal representation ornament of the wall were discovered from the architecture the goddess temple ruins site.

4.4.1 The flat of surface, densely covered with rotundity adorn pattern. They all put on the mud wall with the long is 340mm, the width is 198mm, the height is 62mm. The rotundity high is 15mm-30mm(fig12/b).

4.4.2 The trace of the round socket on the wall, the socket be made by stick with the diameter is 10mm-14mm, the deep is 3mm-4mm. The round socket that arrangement concave densely covered in the wall’s surface(fig12/a).

4.4.3 The important pattern is shape ‘grain’ on the surface. That pasted on the mud wall which four layer., the similar with Zhanguo period jade ornamental.
Here in before, all pattern is on the wall. The wall’s faultage is clear, and the facing of quilt is the imprint of the wood in 60mm. That indicated that the wall surface is fall off on the stand surface.

5. The Valuable Orientation of the Hongshan culture the Goddess Temple
The goddess temple not only the origin religion public architecture in China, but also represented the primal person already have consciousnessness materializen designing in architecture. And, designing the surrounding and planning the habitation in the living.(fig13)
Owing to the goddess temple unfinished excavation archaeological work, made the progress of model recoverd for the goddess temple still not yet. The general structure of the temple can supposed from the other northern architecture with the similar culture site. Moreover, the model architecture in the neolithic period unearthed in many areas.they provided
very important information for recovered the goddess temple. For example, Yangshao culture pottery house, Dawenkou culture pottery house and so on(fig14/15/16/17).

Fig14. the Xinle site     Fig15. Dawenkou culture pottery house  
Fig16. the end of the neolithic period in jiangxi    Fig17. Yangshao culture pottery houses

5.1 The Characteristic of the Goddess Temple
The goddess temple architecture is the typical style in northern is different from the southern. The building were made for local immature soil materials, the wood framework and the grass roof. The temple of the building as well as practicality and burliness. This modality building of the grass roof and wood framework house come of original community, spring up at ZhanGuo, boom in LiaoJin and Yuan era. Following the past manufacture technique to become rifeness unto MingQing era. Until now, this configuration building were exist in the farness montane area in norther China.

6. Conclusion
As old as the others famous cradle civilzation, Hongshan culture the goddess temple architecture ruins sits provides a successful example for study the primal person creative mind coalesces the timelessness of aesthetics with the scientific knowledge of any given period. Hongshan culture the goddess temple architecture ruin site is a rare and rich gem in the northern.

7、References

[3] 《古文献》第 126 页,中国文史出版社 1993 年版。