

Exploring the Earliest State of China: New archaeological Evidence from Taosi*

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Preface

Regarding to the concepts both of civilization and state society, there are various terms in various aspects. I would like to point out that civilization is a kind of lifestyle in high level of state society. Most scholars, who concern about retracing Chinese civilization, absolutely focus on the earliest state formation in China. I suggest that the state society is top stage of complex society.

Archaeologically, the social complication in prehistoric China was prominently triggered around 3^d millennium BC. The pioneer was the Hongshan Culture in the Liaohe River valley, followed by the Lianzhu Culture in Lower Yangtze River valley, and the Qujialing-Shijiahe Culture in Middle Yangtze River valley. Undoubtedly they had respectively reached to the unprecedented peak of religious and cultural development by the middle of 3^d millennium BC, based on chiefdom organizations. But the final civilized core of China was established in the Middle Yellow River valley, the so-called “Central Land” or “Central Plain” in Chinese classical documents. “China” originally could be termed as “the state in Central Land”. Most international scholars believe that Shang Dynasty is the first civilization in China, while most native scholars consider Erlitou Culture as the earliest state, which could be dated at 1,700 BC in the beginning. It is quite clear that there is a big interval between the great achievements contributed by the above three chiefdoms and the civilization of Erlitou. The trail of Chinese civilization appeared foggy in the late days of 3^d millennium BC. Given this, most Chinese scholars focus on the Taosi Site in Shanxi Province, trying to find some evidence to demonstrate that the earliest state in China established in southern Shanxi Province, also referred to “Central Land” region.

In order to identify a given state society in aspect of archaeology, the most effective strategy is settlement pattern research dedicated to capital site. Besides, the specific cognitions for state society containing in archaeological evidence serve as crucial indicators of formation of state society.

Fortunately, the archaeological work at Taosi in the past three decades, has yielded most remarkable evidence referring to settlement pattern and cognitive archaeology, to demonstrate where and when the earliest state appeared in China.

1. Micro-settlement pattern of Taosi

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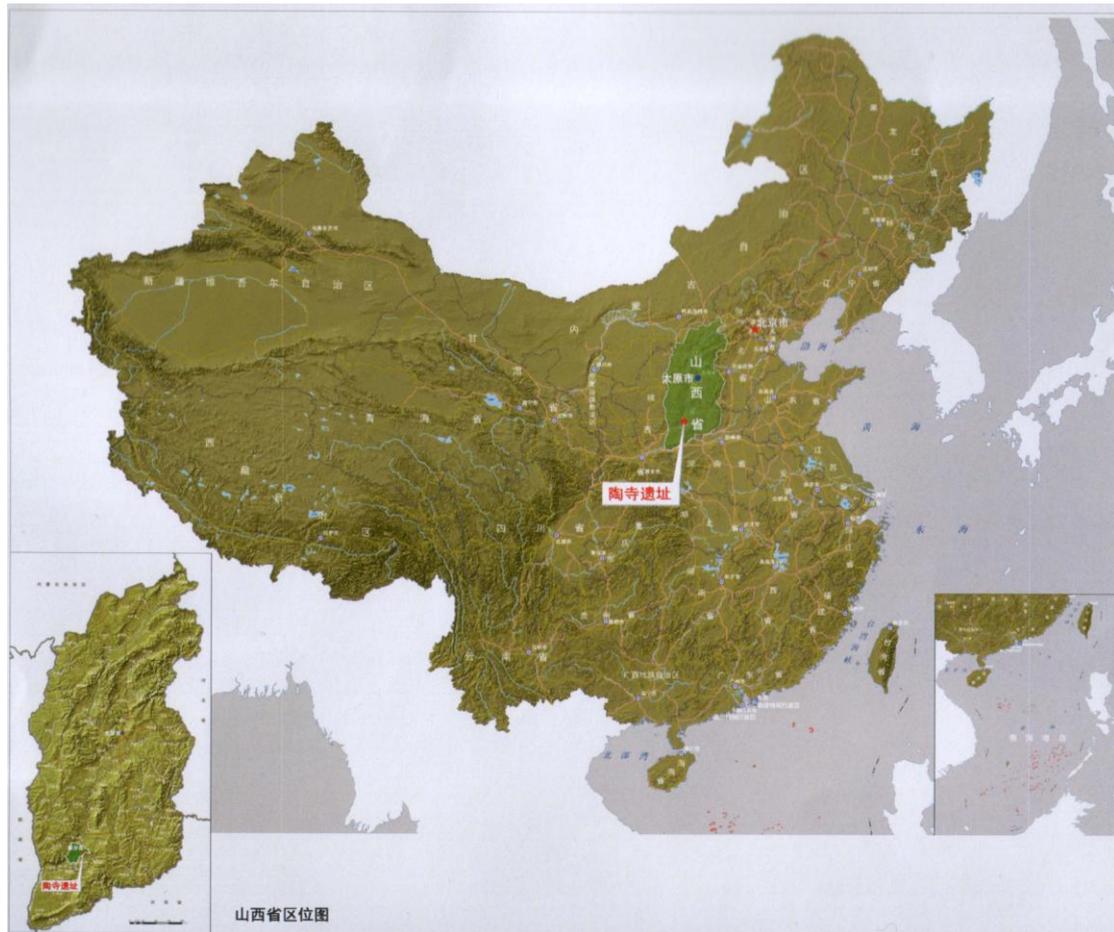


Fig. 1 Location of Taosi Site

Taosi Site is located at 7 km. northeast to the downtown of Xiangfen County, in southern part of Shanxi Province (Fig. 1), which is covering an area over 300 ha. From 1978 to 1987, the Institute of Archaeology of CASS excavated Taosi Site, trying to find the early capital of the Xia Dynasty, based on one statement in the historical documents, that southern Shanxi was called as Ruin of Xia, which probably had served as the capital of Xia Dynasty (Shanxi Team of Archaeology Institute of CASS & Linfen Cultural Bureau of Shanxi, 1980,1983,1984, 1986) . Archaeologists recovered a common residential area and a huge cemetery, in which over 1,000 burials were recovered (Fig.2). It was very striking that 9 big tombs referred to chiefs or kings, producing assemblages of furniture symbolizing authority, including ceramic tray painted with dragon design, ceramic drum, wooden drum covered with crocodile skin, big chime stone, jade axe, colorful wooden wares, over 100 offerings in each tomb, while over 95% small graves contained nothing in contrast. Besides chiefs and poor people, there are 40 aristocratic tombs compassing the chiefs' ones, containing several dozens of artifacts. It has suggested not only the social stratification or even classes had occurred in Taosi, but Taosi might have worked as the central town of a given polity. It was still uncertain, nevertheless, whether it had acted as the capital of a certain state society or a dynasty.

Taosi site is located on loess terrace at western side of Mt. Chongshan (the folk name is Ta'ershan), facing to Fenhe River. One of the fruitful outcomes of archaeological work on Taosi in

last century established Taosi Culture and its chronological date. The detail date of Taosi Culture is as follow.

Early Taosi period: 2,400 to 2,100 BC

Middle Taosi period: 21,00 to 2,000 BC

Late Taosi period: 2,000 to 1,900 BC

It is convinced that the civilization is a highly advanced lifestyle for a state society. And the capital settlement serves as the principle indicator for a state society. Archaeologically, we believe that palaces, royal tombs, monumentally ceremonial structures, executive storage area, executive craft industry, as well as the fortifications such as enclosure or wall and moat, could indicate a capital settlement. Given this, from 1999 to 2010, we have been conducting successive fieldwork at Taosi, trying to search for archaeological evidence regarding to palace, mausoleum, altar, shrine, city wall, which is organized and financed by the Project of Retracing Chinese Civilization. Within last 11 years, we have explored over 4,000 square meters, and do have recovered some significant archaeological evidence in terms of such issues.

By the spring season of 2002, we identified the small walled-town of the Early period and the large one of Middle period at Taosi. The former one is about 56 ha, and later one covers an area over 280 ha including the 10 ha southern small town (Fig.2). The entire town is proximately in square shape. Its direction is 225 °. The large town of Middle period at Taosi has been considered as one of the largest walled-towns of prehistoric China.

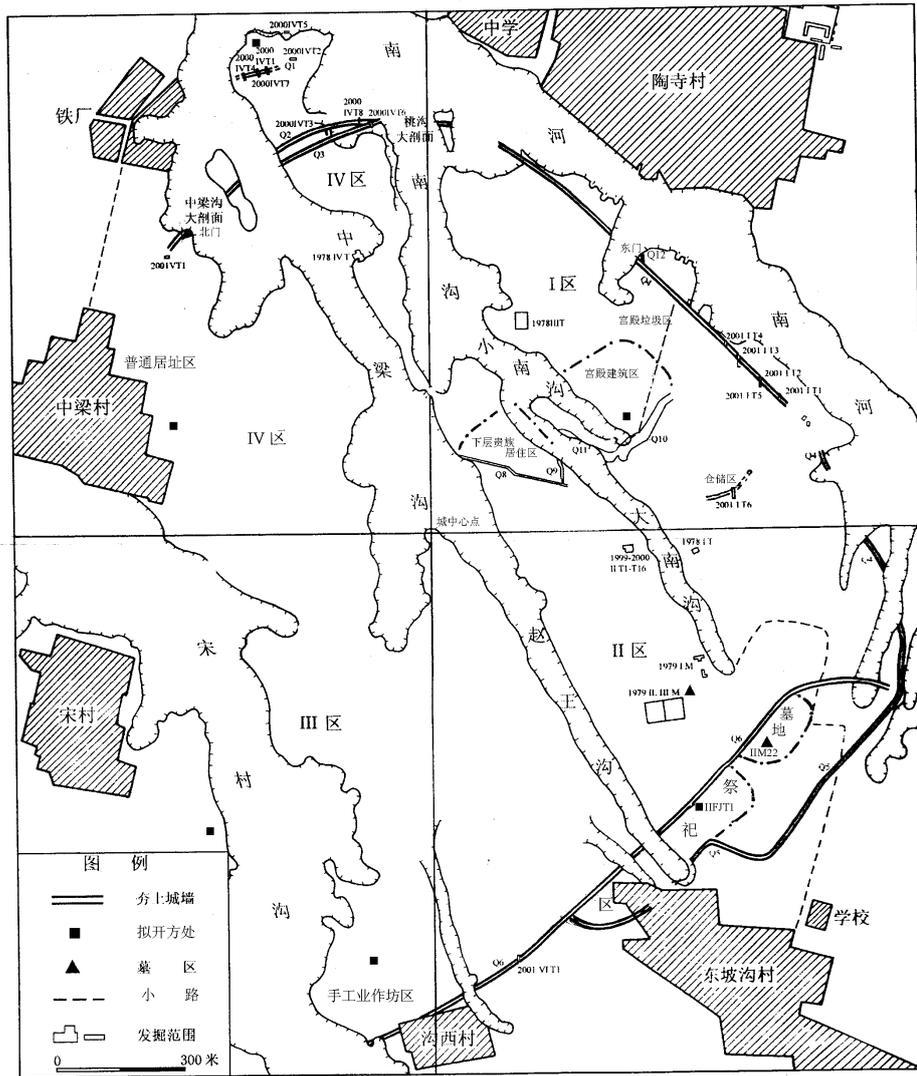


Fig.2 Plan of Taosi Site

[1] The wall of Taosi Town

Depended on the data of coring and excavation, we identified Early and Middle period city walls, which had been constructed at different plots in different strategies. Most of them were built with rammed clay blocks, and some were rammed in counterfort style, while some had basement trenches filled with rammed earth. The width of wall ranges from 4 to 8 meters, the depth ranges from 2 to 3 meters (Shanxi Team of Archaeology Institute of CASS & Archaeology Institute of Shanxi Province, 2005).

[2] Palace area

According to the information of coring and excavation, we estimated that the palace area of Taosi Town centered in southern part inner the early town, and it remained as palace area in northeastern zone of the huge town of Middle period. So far we have outlined a certain palace foundation built with rammed clay blocks. It is about 8,000 square meters in size. Totally 18

postholes have been found, ranging from 50 to 80 cm in diameters, with the basse stones about 30 cm in diameters at the bottom. It is estimated that one of the principle buildings centered on the monumental platform covers an area over 280 m². Within the foundation of the main structure, a piece of copper basin rim unearthed from the rammed-clay matrix (Shanxi Team of Archaeology Institute of CASS & Archaeology Institute of Shanxi Province, 2008). According to wooden species identification, almost all the carbonized wooden specimens from the palace area are cypress which is traditionally considered as noble wooden material in China, because of its smell, straight shaft, tight body, and exorcizing function.

During exploring the foundation of the palaces, we also recovered some artifacts relating to the palace construction or court life. I estimated that one kind of ceramic boards might have worked as tiles covering the roofs of palaces, which are the earliest examples of tiles in China. Except for the roof tiles, jade wares, red textile, calcimine engraved in geometric pattern or painted with blue decorations, ceramic basin handle shaped in owl head, also unearthed from the dumps.

We even found carbonized rice by floatation from palace area, indicating that elites consumed the rice as the symbol of noble life or sacrifice to deities, because it appeared rather rarely on loess plateau in prehistoric China.

[3] The King's Tomb of Middle Period

In 2002, we excavated a magnificent tomb in the small town of Middle period where is estimated as a holy precinct containing a royal cemetery and an observatory-altar (Fig. 2).

The king's tomb IIM22 is located at the southern end of the royal cemetery. It extends 5m. long, 3.7m wide and 7m deep, being one of the largest tombs in prehistoric China. Unfortunately, it was badly destroyed in the Late Taosi period. Even though, the remains form such extravagant tomb involve into 46 jade wares from coffin, 20 jadewares from destructing shaft, 8 painted ceramics, 18 jade wares, 8 sets of bone arrowheads, 25 lacqure wares, 4 stone chopping knives, 6 wooden chopping blocks, 10 pigs and 1 boar's jaw from undisturbed zones (Shanxi Team of Archaeology Institute of CASS & Archaeology Institute of Shanxi Province, 2003). One can easily recognize this tomb could be the principle manipulator of Taosi Walled-town in Middle period.

It is very striking that boar's jaw was stuck on the center of eastern wall of chamber, which was respectively compassed by three jade axes on right and left side. Such assemblage of boar's jaw and jade axes might have symbolized the optimal concept of exhibiting military power to overwhelming the enemy, rather than the real warfare. Moreover, there are total seven jade axes unearthed from this tomb. Jade axe is usually considered by Chinese scholars as the symbol of royal authority. The assemblage of 10 pigs, 4 chopping knives, and 6 chopping blocks, has exhibited the luxury life of the king. The most significant is that a lacquer stick, severed as a gnomon shadow template controlled by the king for its function of earth center identification (we will detail such issue in later). No matter the elegant jade wares and unique painted ceramics from IIM22, they have also characterized the identity of king. Given these evidence, we identified the dead buried in IIM22 as a certain king of Middle Taosi Kingdom.

[4] Tombs in middle sizes of Middle period

A number of tombs in middle sizes surrounding the King's one—IIM22, were also dated at Middle period. We believed that such tombs could be the burials of important aristocrats, which are usually 3m long, 2m wide, 3 m. deep. They were destroyed in the Late period, either. Except a few of painted ceramics survived in intact coves of the chamber of IIM26, almost of furniture were pulled out or

even crashed, and then tossed randomly combined with discarded skeletons in the matrix of layer covering entire destroyed burials. The artifacts from the matrix are jade ax, jade gear-shaped disk, jade bracelets, turquoise beads, and copper ring as well. The survived pottery is vases, basins, and amphora, painted in very pretty pattern on ceremonial purpose (Wang Xiaoyi & Yang Zhibin, 2006). Contrary to small graves containing nothing, the burials in middle size are supposed to be containing over several dozens of furniture, might have been the bureaucracies serving to the kingdom. For instances, the dead who wore the jade gear-shaped disk might have worked as astronomic officer. The dead who was furnished with bone farm tool *Si* 耜 engraved with an unknown glyph, which might be used as a farm ritual equipment, might have acted as agricultural officer.

[5] Observatory namely the Temple of Heaven

From 2003 to 2005, we detected and excavated a very unique structure in the special precinct, the small enclosure of Middle period, against the inner southern enclosure of the large town. Eventually, we realized that the structure might have worked both as observatory and altar for sun and heaven.

The foundation is constructed with rammed clay in small blocks semi-round in shape facing to southeast. It consists of the rim path and the platform. The total diameter is about 60 meters. The platform is about 40 m. in diameter. Undisturbed soil is centered in the platform, which is 28 m. in diameter. The entire structure covers an area about 1,740 square meters (Shanxi Team of Archaeology Institute of CASS & Archaeology Institute of Shanxi Province, 2004, 2007). The platform covers an area about 1,000 square meters. The remained depth of the rammed-clay foundation ranges from 1 to 6 meters. According to archaeological stratum as well as artifacts, the structure could be dated at Middle period (2100 to 2000 BC).

The platform might have three terraces. The first terrace is located in the east of the platform, which is shaped as crescent orientating to right east, with an undisturbed soil core in crescent shape surrounded by rammed-clay. It might have served as a ceremonial plot regarding to the east. One formal rammed-clay step connects the rim path with the first terrace.

The second terrace is formed as semi-ring. Its both ends connect with the southern wall of the walled-town.

The crucial portion for the platform is the third terrace. It is constructed with undisturbed soil core and rammed-clay counterfort wall. Between the core and counterfort wall, there is a system of rammed-clay structure composed with pillars and slots in the shape of an arch, facing to northeast, right east, and southeast.

Inside counterfort wall, there are ten slots which are cut 3 to 18cm. in deep, on the basement wall on purpose. The basement wall is around 1 meter wide, 1.9~3 meters deep. The width of most slots ranges from 15 to 20 centimeters, few of them are 30~50 centimeters. On the second terrace, one slot is cut between two rammed-clay pillars for Summer Solstice observation. Based on such features we reconstruct the vertical slots above ground. There are 12 slots in total respectively focusing on a given point of Chongshan Mountain.

The most significant recovery is the feature of an observation point at almost centers on the undisturbed loess core of the platform. It is composed with three rammed-clay rings within a round shallow pit. The pit is 145cm. in diameter. The outer ring is 86cm. The middle one is 42cm. The central part is 25cm. in diameter, on which one could step with two bare feet. The distance from the center of observation point to the outer fringe of the slots is about 12.2m. in radius, to the inner fringe is about 10.8m.

Based on our testing observation, we postulate that Taosi people might have stood on the center of the observation point to observe the bottom edge of sunrise cutting on a given point of Chongshan Mountain through a given slot on a special day.

So far, we have conducted testing observation 70 times from the Winter Solstice in 2003 to Winter Solstice in 2005. According to 20 times of sunrise in the slots, we initially estimated that Taosi people observed Winter Solstice through the Second Slot on Dec. 21, and observed Summer Solstice through the Twelfth Slot (the northernmost one) on June 21, although the change of ecliptic obliquity effects the sunrise points in current solstices. Dr. Wu Jiabi reckoned that horizontal point of Winter Solstice's sunrise in 4000 years ago, is localized about 38' 30.95" south of the present point. Taosi natives observed Spring Equinox on March 18th, and Autumn Equinox on Sept. 25. Both equinox observations are all through the Seventh Slot. The 7th Slot is set in the middle between Winter Solstice Slot and Summer Solstice Slot with 4 slots in interval (Shanxi Team of Archaeology Institute of CASS, 2006). The function for the First Slot (the southernmost one) is still uncertain. Some astronomers have suggested that it might have served to observe the southernmost point of moonrise.

Depending on astronomic calculation and testing observation on the same observation point, Taosi native might have divided one solar year into 20 terms by means of such a strategy, according to local cultivation terms, ceremonial dates, the rhythms of local weather shift in 4,100 years ago (He Nu, 2007). In other words, it served as alleging solar calendar controlled by the King or his astronomic officer. Chinese astronomers have been convinced that the structure served as the earliest observation in China in 4,100 years ago. Moreover, some astronomers supposed that observation structure of Taosi observatory might have served to observe moon and significant planets despite sun.

Undoubtedly, agriculture worked an essential subsistence foundation for complex societies in prehistoric China. As the sun provides the crucial energy for agriculture, Chinese complex societies unexceptionally lived on solar calendar, while their religious realm was mainly constructed by sun cult. Accordingly, the king of a given kingdom must manipulate both solar calendar and ceremony of sun cult. As such a result, the construction of observation and temple of heaven should have composed the unique assemblage of capital settlement pattern, which was physical indicator of king's manipulation of solar calendar and sun cult. Based on such theory, we regarded Taosi Town as a capital because of its monumental observation namely the temple of heaven.

[6] Executive Storage Area

In southeastern part of the large Taosi Walled-town of Middle period, there is a special storage zone has been detected. This area covering 1,000 square meters, was merely occupied with huge storage pits, ranging from 5 to 10 meters in diameters, 4 to 5 meters deep, which might have acted as storage facilities dominated by king or authority in the aim of tax storage and redistribution (He Nu, 2004a). The coring data has yielded that this special area is compassed with a buffer zone without any archaeological features, in turn to imply the storage area isolated from other function districts such as residential, ceremonial, and industry. We even recovered a half basement floor of sentry stand faced with lime plaster, about 1.5 m. in diameter, right at the entrance of a huge storage pit. Undoubtedly, at least some storage pits were guarded individually. They were absolutely not dedicated to a given household or family, but subject to administrative authority.

The executive storage area controlled by king or kingdom other than a certain household, played an unprecedented role of preserving the material tax (in most cases grain) for redistribution. It characterized the typical economic attributes for state society.

[7] Executive Industry area

Combined with detecting and archaeological survey data, we have identified 2 ceramic and 3 lithic workshops with relative dwelling houses in southwestern corner of large town of Middle period. It is very remarkable that each workshop has a rammed-clay construction, meaning that the workshop was dominated by bureaucracy, which characterized the typical attributes referring to the industry of later Chinese dynasties. The entire industry area occupies approximate 15 ha.

There is a water manage system in Taosi industry area we have detected, consisted of a mini-reservoir about 1,000 square meters, and a channel. The mini-reservoir is fortified with rammed-clay dam, acting as the water resource of the channel. The western dam is about 25 m. long, the northern one is about 33 m.. One section of inner southern enclosure is applied for southern dam. The eastern dam has been eroded by gully. The reservoir is about 2~3 m. in depth. There is a rammed-clay structure located by the west side of reservoir, indicating that the reservoir might have been handled by the officer.

The principle channel has already been detected at least 360 m. long, and brunch of it at least 63 m. long. They are all 8 m. wide, and 5~10 m. deep (He Nu, 2011).

The water management system supplied the critical water resource for Taosi's industry. Such a great public construction illustrated a powerful organization of massive labour, as well as the effective control on space occupation.

2. Special Cognitions for State Society

The cognition, following the definition by Flannery, is the products of past human mind, which could be categorized as cosmology, religion, ideology, and iconography. Depending on the considerations of historic China, the cognitions contributing to state society could specialize in moral thought of Earth Center deriving from cosmology, ideology of bureaucracy and political retaliating expressed in shamanism, dimensional symbolism of hierarchical residences, and creation of Chinese writing system. Cognitive archaeological research on Taosi has provided several specific evidences referred to distinct cognitions of state society.

[1] Dimensional Symbolism of Hierarchical Residences

From archaeological evidence of Taosi, one can easily realize that the remarkable phenomena of residential hierarchy. The lowest status of people settled in cave dwelling with single room around 25 m² in size. Most common citizens settled in semi-pitted houses with single room structure around 25 m². Lower ranked elites lived in the houses on the ground or semi-pitted apartments with double rooms around 50 m². Kings resided in the palaces built on monumental platform standing 50 cm. up the ground, in a size of 10,000 m². It truly enable us to convince that Taosi natives might have symbolized their social ranks with residential space dimension—social stratum from basement to the top corresponding to residences from underground to upper ground.

Moreover, the different social ranks were regulated in different residential area. Kings occupied the palace area over 100,000 m² (Fig.2), filled with several rammed-clay platforms being far away from garbage and crafts, intending to keep the environment clean. This area was isolated with a considerable plain buffer about 20 m. wide.

The lower ranked elites were kept 300 to 500 m. away from the palace area, concentrated in a plot about 50,000 m² (Fig.2). But their apartments were surrounded with dumps. The environment of such district appeared not very noble.

The common people were driven over 1,000 m. away from the palace area (Fig.2). A great number of semi-pitted houses surrounded with dumps and grain hoards were contained in this district, showing us a chaotic picture in more or less.

Here the political relationship with the kings was clearly depicted as dimension scale.

Contrast to the royal cemeteries of Taosi composed of mausoleum, middle sized tombs, and small graves, the palaces area was always the forbidden for semi-pitted houses settled by lower elites and common people. It may imply that residential hierarchy at Taosi might have been established according to class, while the mortuary hierarchy was still organized with family hierarchy. The social organization revolution was firstly launched in living world.

[2] Political Retaliating in the Later period

It is very striking that violent phenomenon were frequently exhibited in most features of the Late period. The dumps of Late period destructed palace badly, containing several layers of human skulls combined with large quantities of lithic trash, broken bone tools, living garbage, and construction waste (Shanxi Team of Archaeology Institute of CASS & Archaeology Institute of Shanxi Province, 2005; He Nu, 2004b). Meanwhile, the city enclosure was completely pulled down, most of the royal and aristocratic tombs were fatally damaged. The core plot of observatory, namely the temple of heaven, was also entirely demolished and violated with abnormal burials. Such violent behavior guides us to postulate that political retaliating might have swept Taosi Walled-town in the Late period.

[3] Gnomon shadow template and Earth Center Ideology

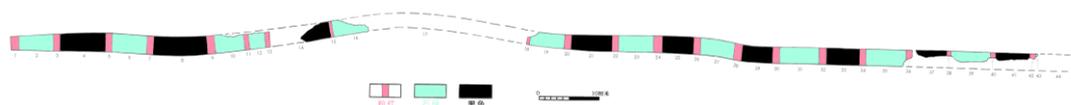


Fig. 3 Lacquered Gnomon Shadow Template from IIM22 at Taosi

In 2002, the lacquered wooden stick unearthed from the top part of the chamber of the royal Tomb IIM22 of Middle Period at Taosi Walled-town (Fig.3). Standing against the southeastern wall of the chamber, remaining 171.8 cm. in length, with a damaged section of 15.7 cm, it could be reconstructed as long as 187.5 cm. Tagged as IIM22:43, the stick is alternately painted with lacquer in dark and green sections, bounded with pink belts, implying its special function (He Nu, 2009; Li Geng & Sun Xiaochun, 2010). What is very striking is that the Section 10 in green is abnormally interrupted by a pink belt, the Section 11. The length from Section 1 to 11 is 39.9 cm. According to the research for the length unit of Taosi Culture, 1 *chi* is equivalent to 25 cm, so that 39.9 cm is 1.596 *chi*, parallel to the length of solar shadow right in the noon of summer solstice---1.6 *chi*, based on the records in historical document entitled as *Zhou Bi Suan Jing*.

The length from Section 1 to 34 is 142.6 cm., indicating it might have measured the solar shadow of spring equinox and autumn equinox. If the stick is double moved forward, the entire length from the original Section 1 to the Section 37 on doubled stick could reach to the length

totally 343.6 cm, indicating the winter solstice at Taosi over four millenarities ago. Given this, we estimated that the Lacquer Stick IIM22:43 might have served as gnomon shadow template which could be dated at Middle Taosi period, ranging from 2100 to 2000 BC.

Then a question has been arisen that the real solar shadow of summer solstice at Taosi around 4000 years ago should be 42.25cm or 1.693538~1.694476 *chi* which is reckoned by Dr. Zhao Yongheng, the Chinese astronomer, other than 40 cm. or 1.6 *chi*. Fortunately, the length from Section 1 to 12 painted on the stick is 42.3 cm. or 1.69 *chi*, exhibiting the precise mark of gnomon shadow on summer solstice at Taosi 4000 years ago. It is clear that the stick bears the exact marks of gnomon shadow on summer solstice both of theoretical one recorded in *Zhou Bi Suan Jing* and practical used at Taosi. Why did Taosi people mark the theoretical gnomon shadow on summer solstice with practical useless?

Compared to the theoretical gnomon shadow on summer solstice of 1.5 *chi* recorded in *Zhou Li*, which was clearly legislated as the criterion of the Earth Center, the theoretical gnomon shadow on summer solstice of 1.6 *chi* recorded in *Zhou Bi Suan Jing* might have been considered as the indicator of the Earth Center, either. It is quite certain that Taosi people pursued the Earth Center marked on their gnomon shadow template. Traditionally in ancient China, the Earth Center was recognized as an exclusive divine plot where the exclusive channel connects center of earth to zenith point. The zenith point was convinced as the residence of Heaven Lord or Ancestral Lord. It was a religious ideology. Once this channel was considered as exclusive path accessing to divine political power certified by Heaven Lord or Ancestral Lord, however, the religious ideology changed to political ideology—the state combining with its capital should be established in the Earth Center, in order to enable the kings to monopolize the divine channel, getting the divine authority from Heaven Lord or Ancestral Lord. In this way, the state and its capital settled in the Earth Center were believed as a moral legislative authority by most populations. Given this, we now realize that the title of “China”(Zhong Guo) linguistically explained word by word in archaic Chinese should be Central State, Zhong means “central”, Guo means “state”, namely the state and its capital established in the Earth Center where had been identified by gnomon shadow template with the summer solstice criterion of 1.5 or 1.6 *chi*.

The striking mark of 1.6 *chi* on the gnomon shadow template from Taosi could proclaimed that Taosi Site was the Earth Center, the state and capital established here accordingly was Central State—China (He Nu, 2010).

[4] First Chinese Writing System

In 2006, one fragment of flask with part of glyph written with vermilion, unearthed from a dump of Late period close to the palace area at Taosi. It reminds us about another piece of flask sherd with two glyphs of Late period (Fig.4), which was recovered last century from a dump close to the palace area. One of glyph on façade of the flask has been identified as “Wen”文, meaning “civilized”. The other on backside was identified as “Yang”易 (means “bright” or “sunlight”) , “Ming” 命 (means “fate”), “Yi” 邑 (means “town”) by some scholars. But I argued that it could be interpreted as “Yao” 堯, originally meaning the walled-town or palace, or the altar constructed with rammed clay blocks on loess terrace (He Nu, 2004c), meanwhile being the name of one of most distinguished kings in Prehistoric China.

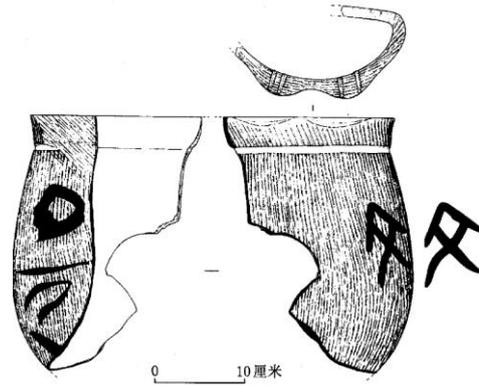


Fig.4 Fragment of Flask with Red Writings from Taosi

The glyph is composed with three parts. The top stroke in \diamond shape imitated the outline of the whole enclosure of the town, also depicted the blocks of rammed clay used to construct both the city wall and elite buildings. The bottom stroke is 己, imitating a profile of a man. The middle stroke is 一, indicating the town locates on the top of the man. The entire glyph implies the town with its enclosure is built on the top of loess tableland, because only as people stands in the gully the town is just looked like on the top of him (Fig.5). This is a typical picture of loess tableland landscape.

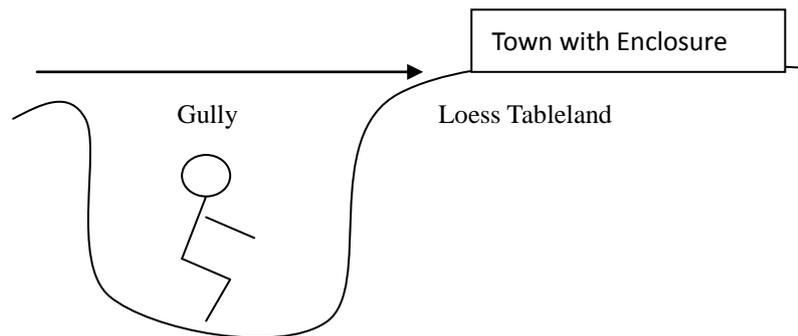


Fig. 5 Illustration the Context for Invention of 堯

That might be the reason why Yao (堯) was interpreted as high by Xushun the most distinguished linguist in Western Han Dynasty, in his work entitled as *Shuo Wen Jie Zi*. And it is very surprising us that such two glyphs written on the broken flask appear to be rather parallel to what of oracle bone inscriptions (堯) and bronze inscriptions (文) .

Some linguists have agreed with my viewpoint (Ge Yinghui, 2007). No matter what different interpretations we have made, we can confirm that writing system might have been applied in Taosi Walled-town in 4,000 years ago. Since such two characters could be linguistically pronounced as Wen Yao, meaning the civilized King Yao.

I believe that invention of writing system should meet the request of administrative management for state society, other than the needs merely from the farmers and craftsmen, to whom the marks usually were sufficient enough to apply for their work. Given this, the writing system unearthed from Taosi has not only depicted the invention of Chinese characters, but the formation of literally recording system, which rang the ending sound of prehistoric period of China, and prayed for newborn state.

Conclusion

The above archaeological evidence indicate that the Taosi Walled-town had extended in Middle period from a small town of early days, to one of the largest one in prehistoric China. It is estimated that its high wall and grandiose palaces had upgraded into state society, while the kings' and aristocratic tombs were trapped down to the class conflicts. The observatory, namely the altar for the sun and heaven, has not only suggested that the calendar of Taosi might have served as a significant part of dominant authority, but the observatory itself could characterize the distinguished attribute of the capital settlement. The special storage zone played an important role of tax storage and redistribution for a given state polity. The remarkable political retaliate, the dimensional hierarchy of residences, the political ideology regarding to Earth Center identified by gnomon shadow template, and the invention of earliest Chinese writing system, have yielded the unique attributes of cognitions for the state society.

Based on such new evidence, one can conclude that Taosi Walled-town might be the capital of the earliest state society or the first proto-state in China, which is earlier than Erlitou Site. Therefore, I consider the Taosi Walled-town as the first sunrise of Chinese early civilization, although there are many problems still needed to be dug out and detailed.

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