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## Ch'in-Han Architectural Remains \*

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Our knowledge of Ch'in-Han architecture is to a much greater extent based on literary records rather than on existing specimens. Some investigators do not hesitate to declare that "Chinese architecture has virtually no 'ruins'." (2.37†) This is due to the fact that Chinese architecture is basically a carpenter's art. Since it relies mainly on timber in structural framework this type of ancient ruins would naturally be non-existent. Archaeological investigators in recent years, however, have brought to light a large number of Ch'in-Han ruins which may give some clues to the ancient structures in general. They include walls and terraces, stelae and gateways, foundations of palaces and temples, tombs and burial chambers as well as bridges and ruins of industrial sites. Most of them are solid constructions which have survived the ravages of destructive agencies throughout the centuries. So far twenty stoneworks are listed as important cultural relics in 1961 (*WW*, 61.4/5.10-16) because they deserve preservation and constant care. With the exception of the funerary buildings which will be discussed elsewhere, this paper is devoted to a brief review of the architectural ruins. They may be divided into two periods, Western Han and Eastern Han, each being preceded by a transitional stage, namely, Ch'in and Hsin. But since most of the sites had continued to be occupied throughout the entire period the division cannot be absolutely clear-cut.

### I. Ch'in architectural ruins

The unification of the Chinese world by the first emperor of the Ch'in dynasty marked the beginning of Chinese architecture in a grand universal scale. The building of additional palaces and the expansion of the capital, the construction of a highway system throughout the land and the connection of the defensive fortifications of the northern states into a gigantic Great Wall, stretching from the heart of Asia to the Pacific, all contributed in one way or another to re-enforce the rule of the new universal government and the standardization of the Chinese culture. Some of these Ch'in ruins may be mentioned as follows:

#### THE GREAT WALL

The construction of the Great Walls dates back to the 4th century B.C. in the Chan-kuo period. Apart from the nomadic tribes that scattered in the steppe north and a few small vassal states in the agricultural south, the Chinese world was then dominated by seven powerful kingdoms. They constantly waged war against one another and set up walls at strategic points for self-defence. Ruins of these fortifications can still be seen not only in Liaoning in the north but also in Shantung, Hopei and Honan in central China. The northern states of Yen 燕, Chao 趙, Wei 魏 and Ch'in 秦 also raised walls along the

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† All references in the text are placed in parentheses. The number or group of letters in bold face refers to the book or journal listed in the Bibliography which follows the text. In most cases the page reference is also given. Where the three numbers follow the bold face group of letters, for example '(*KX*, 59.2.46)', the first refers in the year, the second to the number and the last to the page of the journal.

Yin-shan 陰山 range to guard against the harassment of the northern nomads, especially the Hsiung-nu 匈奴. It was after the grand unification in 221 B.C. that Ch'in Shih-huang ordered one of his generals, Meng T'ien 蒙恬 to take 300,000 soldiers and peasants to re-fortify his northern frontier. The separate walls of the ancient northern states were connected together and extended by additional fifty per cent forming the Great Wall of Ch'in, measuring some 5,000 kilometres in length. Starting from Lin-t'ao 臨洮 in southern Kansu it passed the northeast bend of Huangho and ran along the Yin-shan range into Liaoning in the Northeast. It lay far to the north of the present Great Wall which was built in the Ming dynasty.

The construction of the Ch'in Great Wall was a simple affair. Unlike the present structure it was built mostly with layers of stamped earth and wherever blocks of stone happened to be available they were included either as a sort of concretion or arranged as the backbone of the structure. At strategic points towered passes and fortifications were erected with outstretched walls which mounted over mountain ranges or went to link with some precipitous cliffs. Most of the battlements were planted at high positions giving a good view of the surrounding country side. Many of these were used as beacons or signal stations. Moreover, at favourable areas walled cities were built for the concentration of population which included a large proportion of farming military regiments. But when they were not in use and repairs were not kept up the walls and fortifications could easily be eroded by natural elements, such as wind and rain, frost and ice. After many centuries of neglect their devastation is only to be expected. Now only some scanty ruins can still be observed along the line. Let us begin with the eastern part of the wall.

In Jehol a section of the Ch'in Great wall, some 75 kilometres long has been investigated to the north of Ch'ih-feng

赤峰. (KX, 56.1.38-43) The wall at Pei-t'ai-tzu 北台子 was built of stone and earth, 6 metres wide at the foundation and the remaining height about 2 metres. At Shui-ti-ts'un 水地村 and Lao-yeh-miao 老爺廟 it was constructed of stone, but in another section only yellow earth was used. There are also a number of terraced platforms, varying greatly in size, which were probably ruins of beacon towers. The largest measures 40 metres square while the smaller ones range from 4 to 1.5 metres in diameter. The ruins usually contained sherds of cord-marked pottery vessels and tiles and fragments of bronze knife coins. Along the line a few dwelling sites have also been found. The largest at Sa-shui-p'o 撒水坡 stretches for 5 kilometres, evidently the ruins of a large city at the ancient border. The Ch'in Great Wall was quite well maintained and extensions were also added at both ends. In the east it was reported to have run through Kirin into Korea.

To the west of Ch'ih-feng another section of the Great Wall has been noted at Wei-ch'ang 圍場. Running along the ridge of the mountain the remaining mud wall stretches for about 24 kilometres, measuring some 2 metres wide and 1.3 metres high. No ancient relics have yet been found in the ruins but its connection with the Ch'ih-feng sections is noted. The whole line lies some 200 kilometres north of the Ming Great Wall, indeed, more than 300 kilometres directly north of Shan-hai-kuan 山海關, the eastern end of the Ming structure.

The most well-known section of the Ch'in Great Wall may be found at Chang-chia-k'ou 張家口 in Chahar. (14, 97-98) Easily accessible from Peking on the main line of communication into Inner Mongolia, the site has frequently been visited by explorers and tourists. Much of the earth of the ancient wall had been eroded, leaving only the backbone which was a triangular structure of stone, some 3-4.5 metres high

and 3-4.5 metres wide at the base. The stones were roughly 30-60 centimetres in size and were piled on top of one another without any cementing material. Nearby are some ruins of watch-towers, mostly dilapidated beyond recognition. The walls could have all been razed to the ground long ago if no stone were used in the construction.

The completion of the Great Wall served its purpose which brought peace to the border regions at various intervals. Some of the frontier towns along the wall were quite prosperous in the Late Chou and Ch'in-Han times. The city of Shang-ku 上谷 which occupied the western end of the Yen wall, furnishes a good example. The ruins of this ancient city is located on the southern bank of Wei-shui 媯水, south of Huai-lai 懷來 in Chahar. The river flood at the end of the Han dynasty might have caused its abandonment by the settlers. But at its height, apart from serving as a strategic point of defence, it was a flourishing provincial capital, rich and important enough to issue its own currency. Bronze spade coins of Shang-ku have been reported from Hui-hsien 輝縣 in Honan. The abandoned city was investigated by An Chi-min 安志敏 in 1954. (KG, 55.3.44-48) There are actually two cities, a larger one, roughly 1.5 × 1.0 kilometres in size by the river and a smaller one of half a kilometre square which was attached to the southern part of its eastern wall. The northern section of the city had been washed away by the river and the remaining walls of stamped earth measure 8 metres high and 6 metres wide. The cultural relics reported from the site include a wide variety of pottery vessels and moulds, bricks and tiles and bronze utensils, arrowheads, coins and seals. They are all articles of the Ch'in and Han period.

More ruins of the ancient Great Wall have been encountered along the Yin-shan range to the west of Chahar. (WW, 56.6.67) At Feng-chen-hsien 豐鎮縣 in Suiyuan there

is the Tzu-chai 紫塞 or "Purple Pass", so called because the earth used in the structure is purple in colour. The site of a city has been investigated at T'a-pu-t'u-ts'un 塔布禿村, east of Hu-ho-hao-t's 呼和浩特. Situated at the foot of Yin-shan, the city was built with two stamped earth walls one inside the other. The outer wall measures 900 metres long and 850 metres wide. The layout indicates that the inner wall was reserved for the officers in command of the outpost, the southern section of the outer city for the garrison and local inhabitants while the rest of the enclosure their training grounds and cultivated fields. (WW, 56.6.75) At Ha-te-men-kou 哈德門溝 to the west of Pao-t'ou 包頭, there is a long stretch of wall, linking to an abandoned city which dominated the highway leading westward north of the Huangho. The city wall, its remaining height being 3 metres, was built of stamped earth on the slope of the mountain. The enclosure, roughly rectangular in shape measures some 250 metres each on the east and west, 150 on the south and 120 on the north. There is a gap on each of the two latter walls. At the northern part of the city is the ruins of a platform, 3 metres high and 50 × 35 metres in size. Grey cord-marked potsherds and fragments of bricks are common relics on the ground. There seems no doubt that it formed a strategic fortification guarding the communication route into the steppe north.

Another important section of the ancient Great Wall has recently been investigated in the Wu-lan-pu-ho 烏蘭布和 desert in Ning-hsia, west of Huangho. (KG, 73.2.92-107) Apart from some remnants of the ancient wall the complex consists of three abandoned cities, six ancient village sites, many burial grounds and 13 beacon towers. The ancient cities are identified as three border towns of the Han period:

1. Lin-jung 臨戎 — situated at the southwest of Po-lung-nao 布隆淖 village. Constructed of stamped yellow earth, the

wall measures about 450 metres long on the north and south, 637.5 on the east and 620 on the west. Parts of the northern wall stand now about 0.5-2 metres high and 10 metres wide, while the rest had been overrun by the desert sand. Among the ruins inside the city, a large number of Han pottery and stone artifacts have been found. There is a concentration of fragments of bricks and tiles in the centre, indicating the remains of some important buildings. To the northwest, ruins of a metal workshop has been discovered. It covers an area of 50 × 20 metres in size, yielding iron and bronze articles and pieces of charcoal and slags. There are also quantities of armour plates showing that the industry was installed to serve the border garrison.

2. Yü-hun 竄潭 — lying about 3 kilometres southwest of the Sha-chin-t'ao-hai 沙金套海 Commune. The site was ransacked by some foreign explorers in 1905. It is a rather small city, 250 × 200 metres in circumference. The walls, irregular in shape, were built of stamped earth, measuring 9-13 metres wide. There is a gap of about 20 metres in the centre of the southern wall. It was the ruins of a city gate. The foundation shows that the opening was re-enforced with additional projections and an outer wall or protective fence. In this way the entrance could only be made through a side gate in the outer wall and by taking three right-angled turns inside the fence-wall. In the south-western corner of the city a large number of bronze arrowheads are recovered indicating that the area was probably a ware house for military equipments. Most of the arrowheads are of the three-edged type, typical of the Han arrow-point.

3. San-feng 三封 — located some 4 kilometres southwest of the headquarter of the Pao-e'rh-t'ao-li-kai 保爾陶勒蓋 Farm. The ancient city was of the doubt-walled type, a common structure in the Gobi area. On the flat tableland it was essential to

have a walled settlement protected by an outer wall, but since they were exposed to the desert sand, the surface structures had been razed to the ground. The ruins now consists of a square area in the middle, 118 × 118 metres in size which is covered with broken pottery, bricks, tiles and vessels because most of the lighter materials had been blown away by the wind. Beyond this low mound two sections of the outer wall, both roughly 100 metres long, one to the northeast and the other to the southwest are still recognizable. Among the finds are bronze three-edged arrowheads and coins of the Western Han and Hsin periods.

The ancient tombs and villages suffered the same fate as these walled cities. Most of the villages were badly obliterated by the desert sand, leaving here and there some underground brick constructions of wells. The surface structures in the cemeteries were also completely wiped out exposing the brick work of the burial chambers. One of these has been excavated. The construction of the tomb and the mortuary objects include pottery models of household furniture and bronze *wu-shu* 五銖 coins are all in the Western Han tradition. The ancient settlement was further protected in the north by two series of beacon towers and outposts which stretched into the valleys on the southern side of the Yin-shan range. There is no reason to doubt that the region was a flourishing residential area in the Western Han times.

The protective outposts are well-organized and better preserved. The complex consists of a small stone walled city with a string of beacon towers which were placed at various high spots in the valley. The southern fortification is composed of 10 beacon towers and one stone walled city, but in the northern valley only a stone walled city and a beacon tower have been investigated. Located at Chi-lu-sai 鷄鹿塞 the southern walled city was placed at a level 18 metres above the valley bottom. It was solidly constructed of blocks of stone



from the mountain side. The enclosure measures 68.5 metres square, the wall roughly 5.3 metres at the base and 3.7 on top and the remaining height 7-8 metres. It has four outstretched projections at the four corners and an outer wall for the city gate in the southern wall. Like the city of Yü-hun, it could only be entered through a

side entrance in the outer wall. On the inside of the eastern part of the southern wall was a slanting passage which leads to the top of the wall. (Fig. 1) Some Han pottery fragments have been found in and around the city. The beacon towers, either square or oblong in shape were also made of stone.

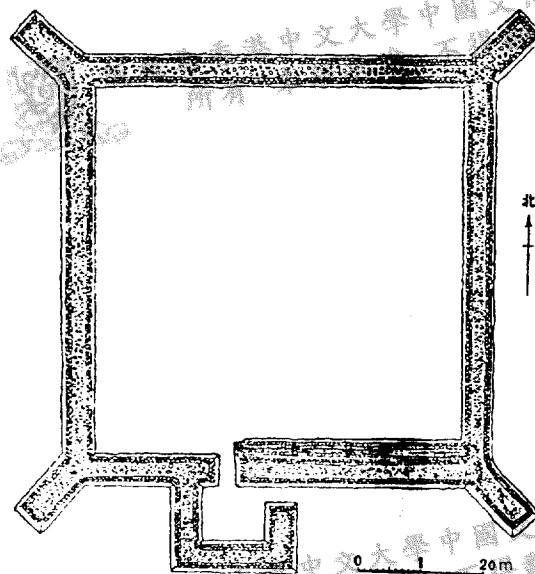


Fig. 1. Plan of the city of Chi-lu-sai — after KG, 73.2.106

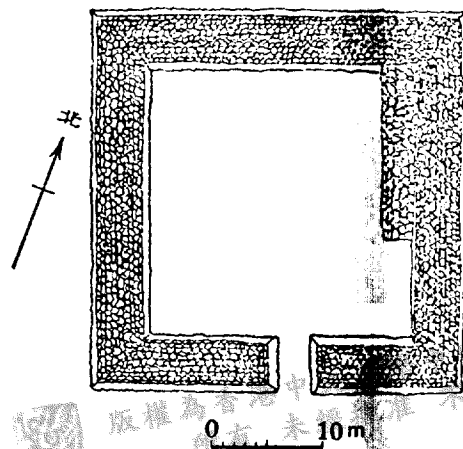


Fig. 2. Plan of a beacon tower, Chi-lu-sai — after KG, 73.2.106

The stone city of the northern outpost was strategically placed at a terrace on the mountain side. It is also square in shape, 22.5 metres on each side. The wall measures 4.4 at the bottom, 3.9 on top and 5.6 metres high. The gate is located also on the south wall but it does not have an outer wall and the slanting passage was placed against the eastern wall. The latter

has 18 well-preserved steps leading up to the top. (Fig. 2)

The ruins in the Wu-lan-pu-ho desert was undoubtedly a flourishing centre in the Han times. The settlement was made on the southern bank of Lake T'u-shen-che 屠申澤 and well-fortified on the northwest to keep out the harassment of the hostile nomads. The climatic change in the later

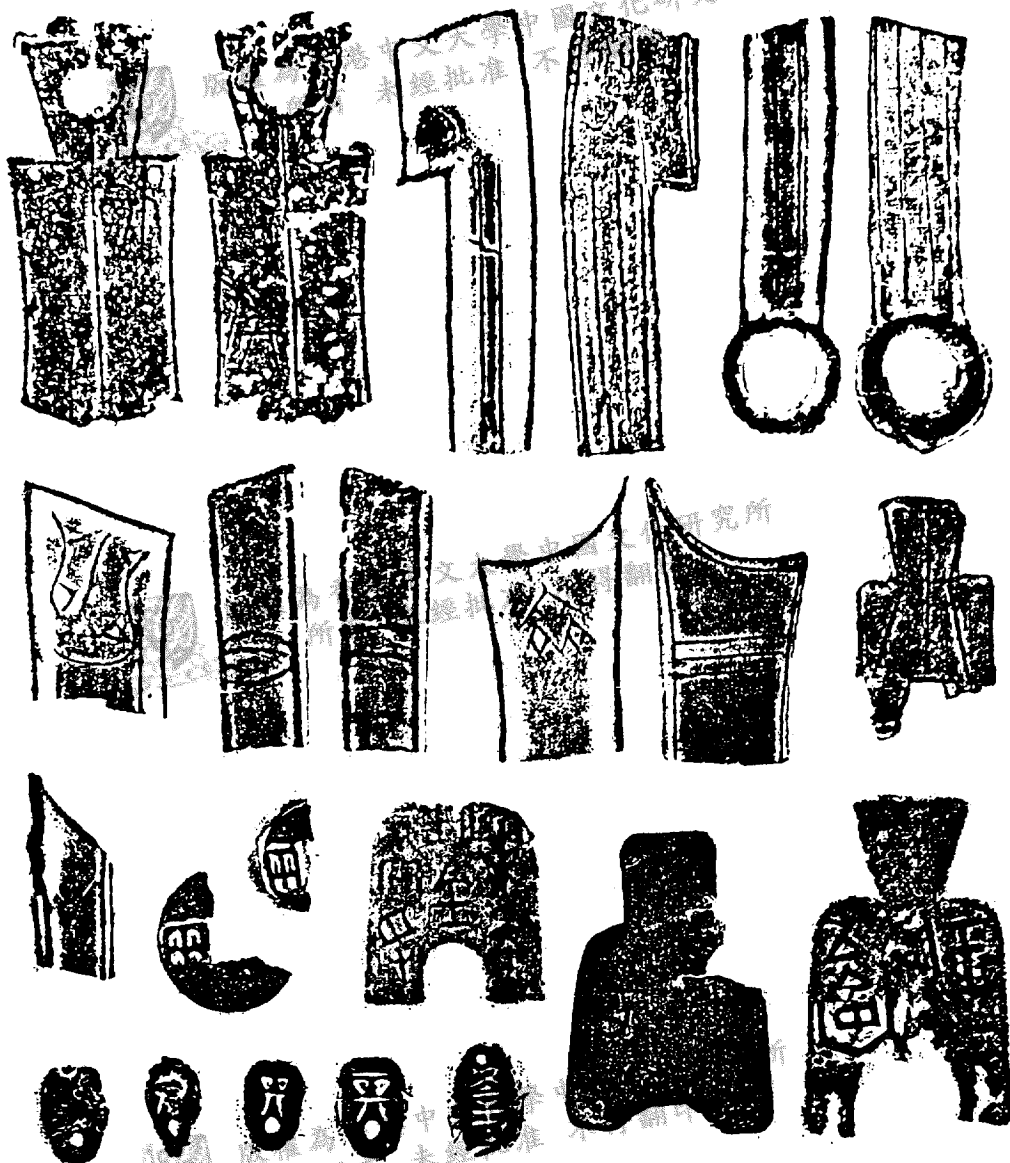


Fig. 3. Various types of coins, Hsien-yang — after KG, 74.1.24.

centuries was probably responsible for its abandonment. The lake had disappeared from the scene and the settlement was engulfed by the desert sand. Future excavation of the ancient cemeteries will throw more light on the life and agricultural activities in this outlying region.

The same situation may also be observed in southern Ninghsia. (*WW*, 56.6.67) In the T'eng-ke-li 騰格里 Desert, the Great Wall was laid out according to the topographical position to ensure a more effective defence. To the northeast of Lake T'eng-ke-li it rises like a gateway on the edge of the Yin-shan range. Hence it is known as K'ao-chüeh 高關, meaning "The Tall Gateway".

Further west another section of the Great Wall has been investigated at Lin-t'ao. Winding across the strategic pass at the mountain range, the ruins stretches for more than 400 metres to the north of Yao-tien-yi 窰店驛. (*WW*, 64.6.47-48) In the middle there is a large gap where the ancient

structures are still noticeable on both sides. The foundation ranges roughly 3 – 3.5 metres wide while the remaining walls are not higher than 3 metres. They were all constructed of layers of stamped earth tempered with pieces of stone. Among the debris are fragments of pottery tiles and tubes showing that there were originally some superstructures at this strategic outpost. A few sherds of household utensils indicate that it was once a habitable fortification.

**HSIEN-YANG 咸陽, THE CH'IN CAPITAL**  
(*KG*, 62.6.281-89-74.1.16-26;  
*CR*, 62.12.24-26)

Hsien-yang was first made the capital of Ch'in in 350 B.C. It reached the height of its splendour in 221 when it became the political and cultural centre of the Chinese world with the proclamation of the new dynasty. The metropolis must have covered an extent several dozen miles in dimension. Apart from the original Ch'in palaces

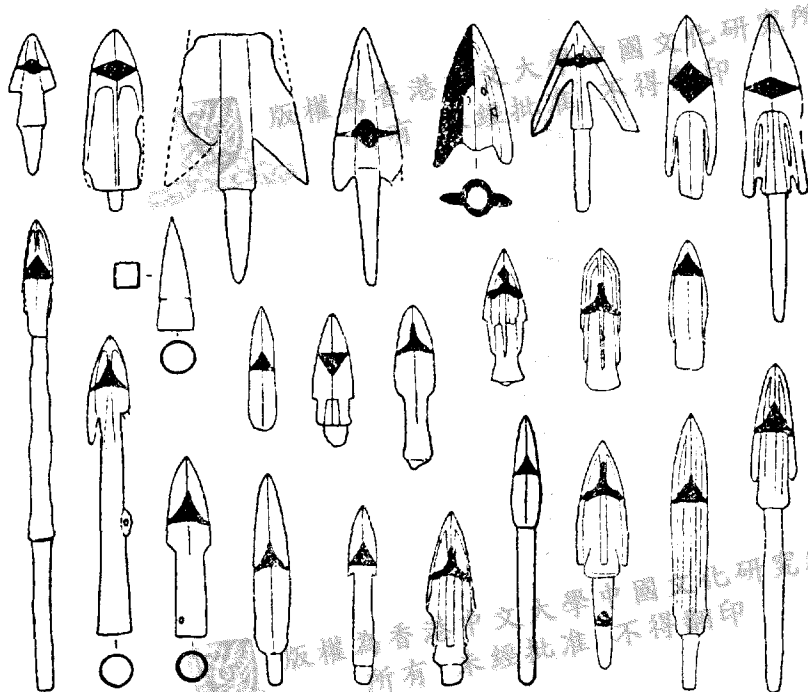


Fig. 4. Various types of arrowheads, Hsien-yang—after *KG*, 74.1.21.

there were the emperor's summer resort in Shang-lin-yuan 上林苑, the Royal Park, the model palaces of all the six defeated states and above all the magnificent palace, Ah-fang-kung 阿房宮 on the bank of the Wei river. All these were ransacked, set on fire by Hsiang Yü 項羽 in 206 and razed to the ground. The site has been well-known and frequented by scholars throughout the centuries. Ch'in relics reported to have come from this region are common in traditional archaeological works. The ruins of Ah-fang-kung is listed as No. 151 of the National Cultural Relics. (*WW*, 61.4/5, 15)

The Shensi Institute of Archaeology began to explore the ruins in 1959. After several seasons of investigation and excava-

tion it was concluded that the southern part of the ancient ruins was destroyed over the centuries by the flood waters from the Wei river. The remaining northern part is situated around the Ch'ang-ling 長陵 railway station, about 10 kilometres north-east of modern Hsien-yang covering the territories of several villages. The excavation unearthed two sections of the ancient wall of stamped earth, 1048 and 594 metres long respectively. The remaining width varies from 5.3 to 7.6 metres. In other parts of the site there is a section of an earthen road about 100 metres long. In the vicinity 12 building foundations have been found associated with walls of rammed earth and bricks which were used to pave

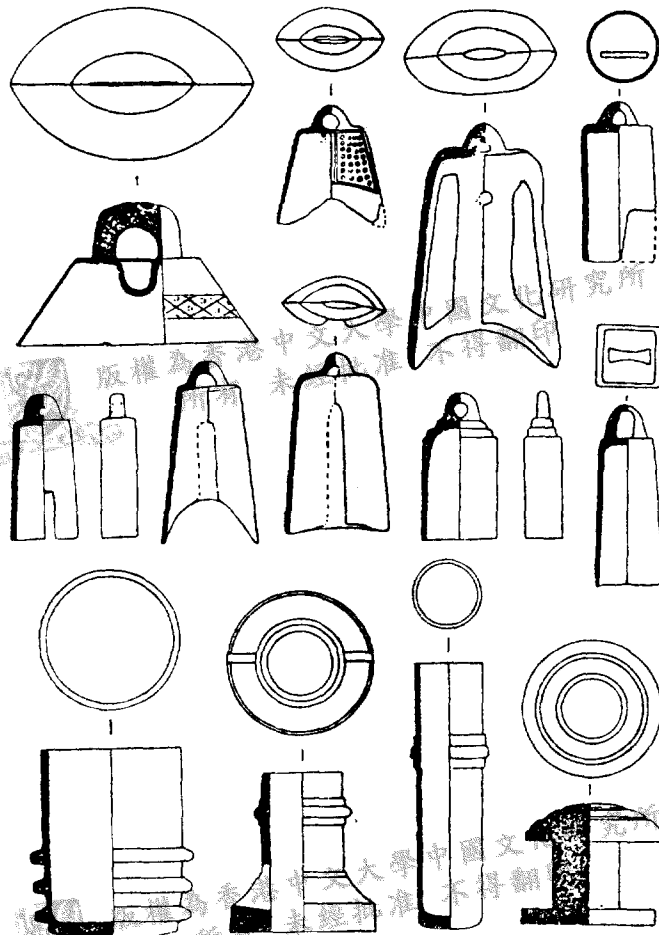


Fig. 5. Various types of bronze bells and fittings, Hsien-yang — after *KG*, 74.1.22.

the floors. Besides there are hundred of storage pits, some 70 water wells and several draining trenches. One of the latter is still lined with unglazed pipes, each being 20 metres long. Four pottery kilns have also been uncovered together with some equipments of the industry. All these architectural remains are in the Late Chou tradition. The ancient relics which came to light such as bricks and tiles, coins and metallic objects, pottery and fragments of wall painting are also evidently of the same period. Some of these may throw additional light on the Ch'in architectural structure. (cf. *WW*, 73.5.66)

The metallic objects unearthed consist of bronze and iron articles weighing a total of 1,000 *jin* 斤 catties. Since they had all been damaged by fire, most of the original shapes had been rendered beyond recognition. But some of the bronzes are inscribed and the readable characters are "five", "twelve", "front", "east" and "south",

showing that they were originally architectural parts. Some of them are decorated with finely carved animal-mask designs and plated in gold, and others are inlaid with cloud patterns of spiralled circles or squares. There are also bronze mattocks and saws and coins of various shapes, knife coins from Ch'i, spade coins of Wei, bronze shell coins of Ch'u and circular coins of Ch'in (Fig. 3). Among the other finds are 25 kinds of arrowheads (Fig. 4), 8 sizes of chariot and horse harness bells (Fig. 5), some with beautifully chased openwork; 12 varieties of belt hooks decorated with cranes, deer and hares in low relief of simple, forceful lines (Fig. 6); basins, jars, tripods and seals; bronze knife and sword, iron axes and spades and other miscellaneous articles. More recently 8 pieces of *ch'en-yuan* 陳爰 gold bars of Ch'u (Fig. 7), some circular coins of Ch'in, a bronze mirror and an urn burial have also been reported at Hsien-yang. (*KG*, 73.3.167)

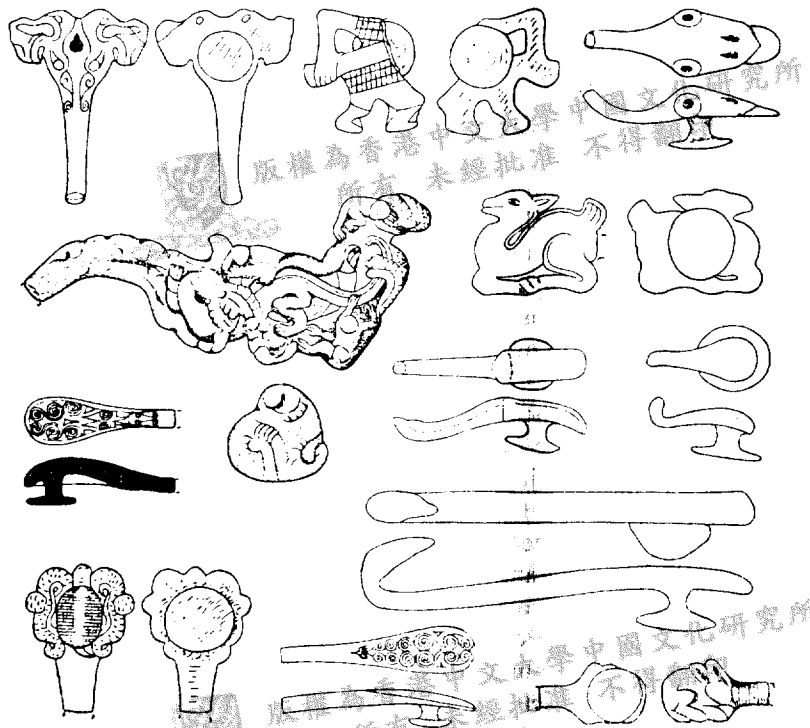


Fig. 6. Various types of belt-hooks, Hsien-yang—after *KG*, 74.1.25.

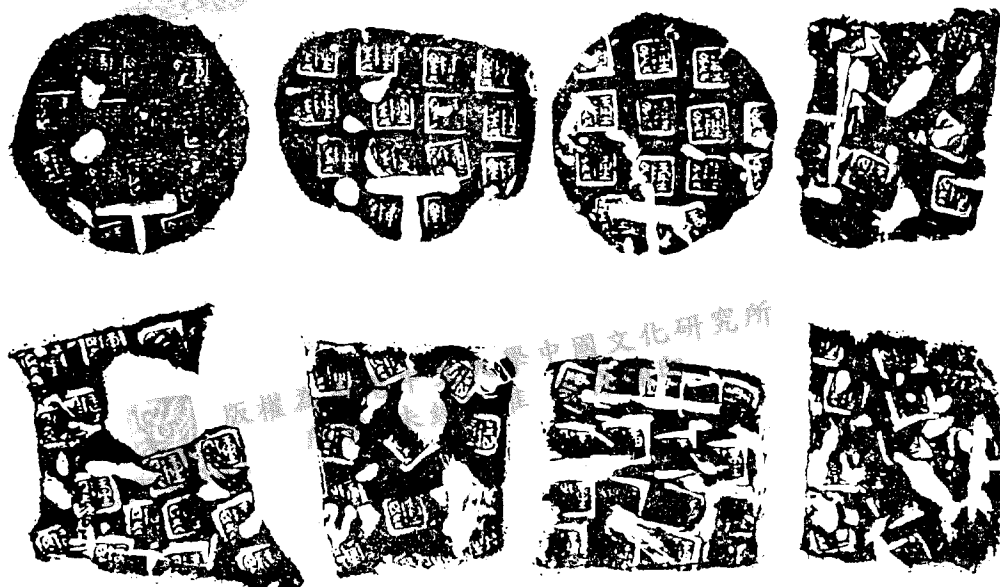


Fig. 7. Some gold bars, Hsien-yang — after KG, 73.3.167.

Another group of architectural material consists of tiles and bricks, pipes and well-rings. Most of these are impressed with cord-marks and textile patterns and decorated with geometric, floral and cloud designs. Some of the mud brick walls were further coated with straw-tempered clay, then covered with a thin layer of limy plaster and finally painted with various sorts of linear compositions in red, yellow, blue and black. These fragments of murals are the first ever to be found from the Ch'in period and they show that elaborate work had gone into the interior decoration of the palaces.

The pottery vessels unearthed at the site are mainly vessels of daily use consisting of jars, basins, cauldrons and jugs. The most conspicuous feature is their large size. A wine jar measures 72 centimetres high with a capacity of 400 kilograms. The paste, shape and decoration are all in the Late Chou tradition. So are the carved or impressed inscriptions giving the names of the potters or places of manufacture (Fig. 8). The characters themselves provide important data for the study of the evolu-

tion of Chinese writing and of the Ch'in calligraphy.

One of the most important objects is a bronze plaque on which was inscribed an imperial decree ordering the standardization of weights and measures throughout the world. It measures  $10 \times 6.5 \times 0.2$  centimetres thick and all the 40 characters of the inscription are clearly legible. Articles bearing the famous edict have been reported throughout China from Kansu to Shantung and now it is satisfying to have a specimen unearthed from the debris of the Ch'in capital.

Unsatisfied with hundreds of palaces which occupied the Ch'in capital Ch'in Shih-huang contrived to build in 212 B.C. a new one, gigantic in proportion and magnificent in construction. It was to stand on the south bank of the Wei river. But the scale of the project was so enormous that he did not manage to complete even the front hall of the complex before his death. This part of the palace, according to *Shih-chi* 史記, was about 833 metres from the east to west and about 167 metres from north to south and it has a capacity

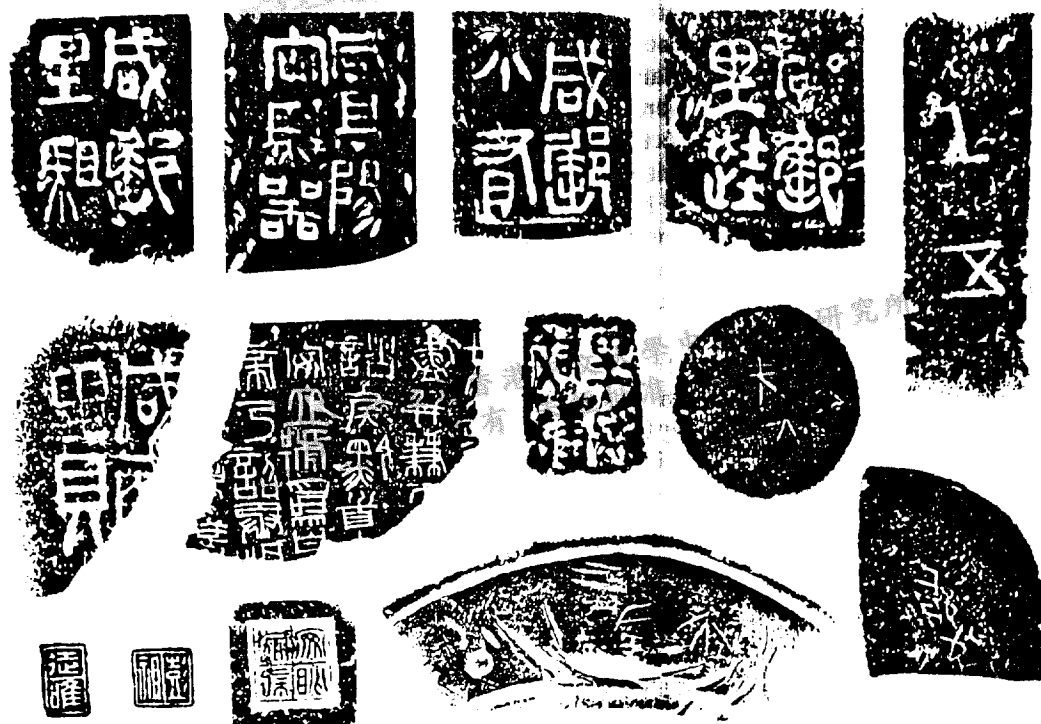


Fig. 8. Various types of potters' marks, Hsien-yang — after KG, 74.1.20.

to accommodate 10,000 people and to hold a flag pole of 16.6 metres. The ruins of this architecture has been found at the modern Ah-fang village about 15 kilometres west of Sian. A tract of elevated land about 7 metres high and 1,000 metres long with original pounding traces is identified as remnant of this famous building. (cf. *Sian Sheng chi* 西安勝跡)

#### LI-SHAN 驪山, THE TOMB OF CH'IN SHIH-HUANG

Another well-known site further to the east of the Ch'in capital is the tomb of Ch'in Shih-huang himself. It is situated at the foot of Li-shan 2.5 kilometres east of Lin-t'ung 臨潼. The surface structure had long been razed to the ground and after more than 2,000 years of weathering, the burial mound which was originally 166 metres high with a circumference of 2.5

kilometres has become now squarish in shape, measuring  $345 \times 350 \times 277.7$  metres high. In the past the site had yielded a large number of Ch'in relics, brick and tile fragments, pottery figurines, bronze vessels, gold bars, *pan-liang* 半兩 coins, iron spades, stone objects and bronze arrowheads with iron stems. (*WW*, 64.7.35-37; 73.5.66-67)

The excavations of the site by the Shensi Committee for the Protection of Cultural Relics in 1961-62 revealed that the mound was surrounded by two rectangular walls one inside the other. According to the foundations and existing portions of the enclosures the inner wall measures  $578 \times 684.5$  metres, totalling 2,525 kilometres and the outer wall,  $974.2 \times 2,172$  metres, totalling 6.294 kilometres. Four gateways have been found, three in the inner wall and one in the outer wall. The last is located in the east, measuring 12.2 metres wide and the other three, in the west, north and east of

the inner enclosure, all 8.9 metres wide. The building foundations, fragments of tiles and bricks, lumps of burnt clay and ashes and charcoal show that the towered gates were destroyed by fire. Architectural remains encountered in the deposit include sections of pottery and green limestone underground waterways and building foundations of stamped earth and stone, associated with numerous fragments of tiles and bricks of many descriptions. Some are decorated with typical Ch'in designs and stamped inscriptions, giving the names of the temples and halls of the cemetery. Among the other finds are three pottery figures in seated position. The modelling is elaborate and realistic with the headdress and folds of the costume in detail and the facial expression calm and dignified. (KG, 62.8.407-419; 26, No. 136)

#### THE CH'U AND HAN CITIES (WW, 73.1.42-43)

The fall of Ch'in was followed by several years of chaos and disorder. Two of the revolutionary leaders, Hsiang Yü (Ch'u-wang 楚王) and Liu Pang 劉邦 (Han-wang 漢王), originally sworn brothers and close allies, were engaged in a life and death struggle for supremacy. Wars and combats between them took place in various parts of the Central Plain. In the beginning Ch'u had the upper hand, but soon Han began to gain more support from the people. A series of decisive battles was fought to a standstill around Kwang-wu 廣武 in central Honan. By the autumn of 203 B.C. the two armies were facing each other across Hung-kou 鴻溝 when Ch'u-wang was forced to recognize the strength of his enemy and obliged to conclude a treaty with Han-wang, dividing the world in halves, with Hung-kou as the boundary — the territory west of it to be Han's and that of the east of it to be Ch'u's.

Hung-kou literally "Great Canyon" is a canyon which cuts through the tableland

of the mountain range on the southern bank of Huangho. It measures 800 metres wide and 200 metres deep with crooked precipitous cliffs on both sides. Stretching almost directly southward it forms a remarkable natural barrier. Besides, it is the most eastern outpost of a string of strategic passes guarding the eastern entrance into the western provinces. There was hardly any possibility for Hsiang Yü ever to harass Han-wang's home base in Kwan-chung 關中 (Shensi) again. But at the advice and encouragement of his lieutenants, Han-wang soon chose to scrap the treaty and press forward until the Ch'u army was completely destroyed. Hsiang Yü was mortally wounded and rather than be taken prisoner, killed himself.

There are now two walled cities facing each other across the great canyon. They were erected separately by the two contending armies at the spot for self-defence and used probably as their respective headquarters, Han on the west and Ch'u on the east. The fortifications were left to the rain and weather after the war, though frequently visited by scholars and historians throughout the ages. The two cities are both square in shape but the northern parts had long been washed away by the southward shifting course of the Yellow River.

In their present condition the Han city is the larger of the two. Its southern wall, about 30 metres wide at the base, measures 1,200 metres long while those of the remaining east and west walls about 300 metres each. They stand roughly 6-7 metres high, the highest about 10 metres on the east over the bank of the river. The site can be reached now only by climbing up the cliff of the canyon at this point.

The Ch'u city has a southern wall, 1,000 metres long and the remaining parts on the east and west about 400 metres. Though thicker at the corners, they are all roughly 26 metres wide at the base, the remaining height ranging from 6 to 15 metres. The western section occupies the



highest point on the mountain range, hence it should have commanded a clear view of the Han fortification on the other side of the canyon.

The ruins of the two cities are both more badly eroded than any ordinary city walls of the same period. Being temporary constructions the yellow earth was used without any tempering material and the layers were not as solidly pounded as most of the ancient walls that were meant to be permanent enclosures for seats of government and habitation. Besides, as they were deserted after the war, the cities have never been occupied again and no repairs had ever been made to the crumbling structure. So far only scattered bronze arrowheads have been reported from these ruins. (cf. *WW*, 74.1.74)

[Note: The review given above covers the Ch'in architectural discoveries up to the end of 1974. More recently some more important sites have been investigated and published, notably the Tzu-wu-ling 子午嶺 Highway, leading from the Ch'in capital in the Shan region to Chiu-yuan-chün 九原郡 north of the Yellow River in Inner Mongolia (*WW*, 75.10. 44-54; 67) and the ruins of the Hsien-yang 咸陽 capital (*WW*, 76.11. 13-44). They are to be presented in some further occasions.]

## II. Western Han ruins in and around the capital

The building of the Han capital at Ch'ang-an 長安 was undertaken by Hsiao Ho 蕭何, the chief minister. The site was situated south of the Wei river to the southeast of the Ch'in capital. The first Han sovereign was still busy pacifying the rest of the country and the work was started while he was away. In the second month of 200 B.C. the emperor visited Ch'ang-an while Hsiao Ho was building the Wei-yang-kung 未央宮 palace complex and setting up the eastern and northern gate towers, the front hall, the arsenal and the great granary. History records that when the emperor saw their enormous size and elegance he was very angry. He said to

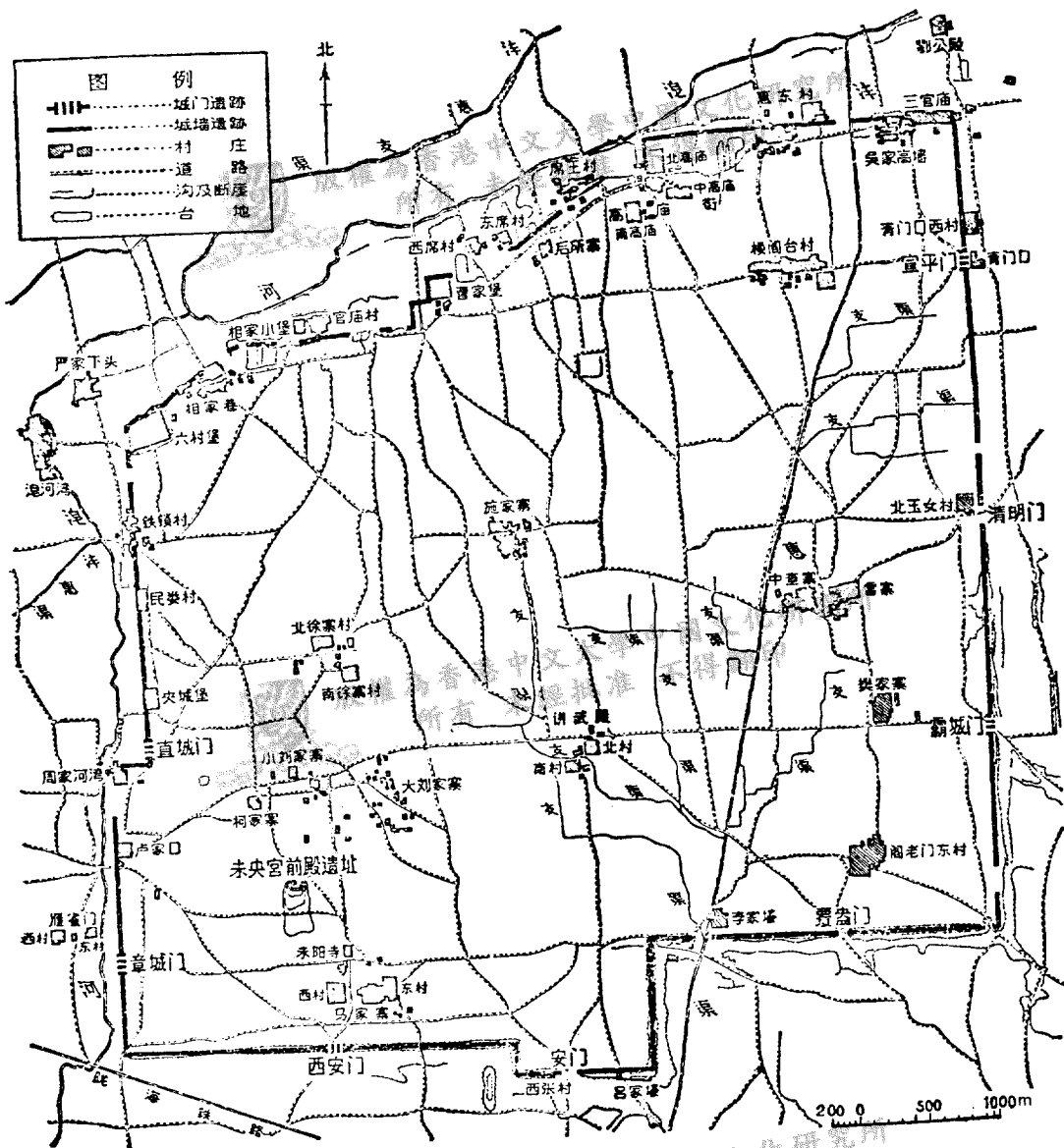
his minister, "The world is still in turmoil and after many years of toil and struggle our success or failure is yet unsure. Why are you building these palaces and halls beyond measure?" Hsiao Ho replied: "It is because that the world is not yet subjugated that we need to complete the palaces and halls. Besides, as the Son of Heaven owns all the territories within the four seas, his authority and majesty will not be regarded with high esteem without the greatness and magnificence. Moreover, we should not leave it to the later generations to do better." The emperor was delighted, removed from Yüeh-yang 櫟陽 and established his capital at Ch'ang-an.

Ambitious as it was the grandiose scheme surrounding the Wei-yang kung was after all inadequate to meet the needs of the universal government. It proved cramped in a few years time and intensive expansion had to be taken around 190 B.C. spreading out towards the river on the north and east. Wei-yang-kung was matched by Ch'ang-lo-kung 長樂宮. They were flanked by three other minor ones on the north with the government offices and places of worship in the midst of the residential areas. When Hui-ti 惠帝 came to the throne (194-188) he was dissatisfied as there were no walls to protect the palaces. He ordered an enclosure to be built around the capital. It was squarish in shape, about 26 kilometres in circumference with 12 city gates, each having 3 gateways for traffic. In the reign of Wu-ti 武帝 more buildings and gardens were added, some way beyond the city wall. Among them the Shang-lin-yuan 上林苑 Royal Park and the Li-kung 離宮 palace were both as grand as they were magnificent, while a series of altars and temples were inspired by the emperor's ambition to establish contact with the supernatural world. It seems evident that the layout of the Han capital at Ch'ang-an was not conceived as an organized scheme. It grew gradually out of necessity and convenience. It is not surprising that when it was destroyed

ed at the end of the dynasty it was allowed to lay waste and crumble with the years. It stands today as National Cultural Relics No. 152. (WW, 61.4/5.15) Some of the ruins which have been investigated in recent years are described below —

**CH'ANG-AN, THE HAN CAPITAL**  
(KG, 58.4.23-27; 13, 80)

The ruins of the Han capital is located about 8 kilometres northwest of Sian. (Map I) The remaining sections of the



Map 1. Plan of Ch'ang-an, the Western Han capital — after 13, 80.

city wall which was constructed of stamped earth about 5 metres wide, has been systematically traced and a large number of bricks and tiles were found in the debris. The wall is roughly square, straight in the east, with ins and outs in the south and crooked and bent in the west and north, totalling 25.1 kilometres in length. There are 12 gates, 3 on each side. Two on the east wall and one each on the south and west have been excavated. They are found to have consisted of three doors, each 8 metres wide. It is interesting to note that the impressions left by the wheels of the passing carriages show that a Han vehicle was 1.5 metres wide. The three doors would therefore allow 12 carriages to use the entrance at the same time. The gateways are linked to the main street inside the city which, according to Han literature, could accommodate 12 vehicles abreast. The ruins at the gateways are covered with a thick layer of ash, blackened clay and charred planks and logs showing that they had towers above them. Judging from the objects recovered in the deposit, these buildings were burnt down during the turmoil at the fall of the dynasty in 22 A.D.

The general layout of the capital, as recorded in Han literature may also be verified. The royal halls and palaces occupy roughly two-third of the city in the southern section which is higher than the rest of the ruins. Commercial houses and various industrial workshops were located in the northwest along the bank of the Wei river. The northeast section was reserved for common residence. The residential quarters overflowed the city limits beyond the northeastern gates. The royal palace complex consisted of five separate compounds, two major ones, Wei-yang-kung and Ch'ang-

lo-kung in the south and three minor ones, Kuei-kung 桂宮, Shou-kung 壽宮 and Ming-kuang-kung 明光宮 to the north. The northern gate of Wei-yang-kung led north into a broad avenue which formed the high street in the industrial and commercial quarters. These and the residential areas were divided into nine *shih* 市 wards with a total of 160 streets. The latter could be separated from one another with a gate which was closed at night or in case of emergency. They were known as Lü-li 閭里, meaning "gated streets".

None of the halls and palaces inside and outside the city has survived. The Wei-yang-kung furnishes a good example. It was stated to be about 11 kilometres in circumference and within the compound were 43 castles, halls and lodges. But now there is nothing but heaps of debris forming a large elevated rectangular plateau with a few modern villages scattered here and there. (KG, 57.5.102-110; 57.6.26-30) The excavations conducted at the ruins claimed that some of the cobbled floors were terrace pavements and there are a number of stamped earth platforms, foundations of the T'ai-miao 太廟 royal ancestral temple, the T'ien-lu-ke 天祿閣 and Shih-chü-ke 石渠閣 library buildings respectively. (KG, 55.2.46-49) Such identifications are difficult to substantiate under the present state of preservation. However, the relics recovered indicate that most of the buildings were destroyed by fire at the end of Wang Mang.

It was a common practice in the Han times to have bricks and tiles order especially for a particular building. Many of those inscribed with the name of the building have survived. A large number of such inscriptions are known. (KG, 59.12.676-78). Some may be listed as follows (Fig. 9):

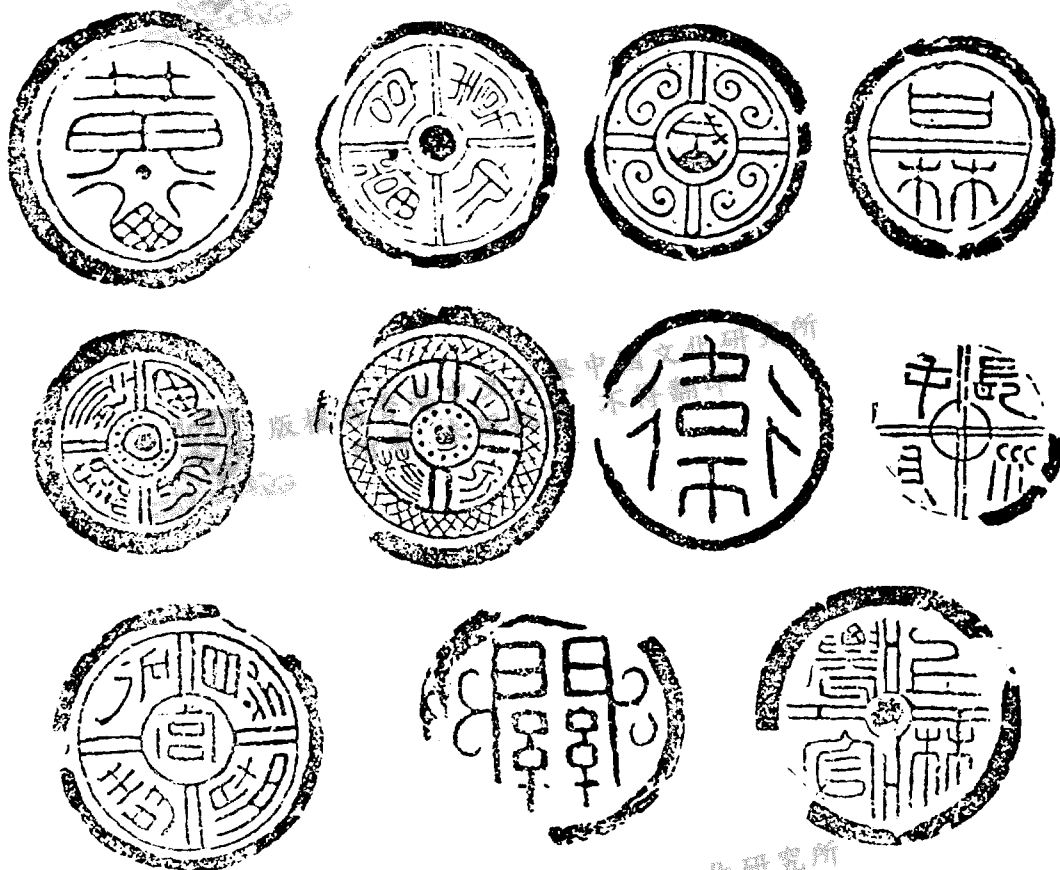


Fig. 9. Some tile-ends, Ch'ang-an — after KC, 59.12.676.

1. *Huang-shan* 黃山 — tile-end of Huang-shan-kung palace.

2. *Lan-ch'ih-kung tang* 蘭池宮當 — tile-end of the Lan-ch'ih-kung palace.

3. *T'ai-tang wan-nien* 駘蕩萬年 — “May the T'ai-tang Hall stand for ten thousand years.” This was one of the halls of Chien-chang-kung 建章宮.

4. *T'o-ch'uan-kung tang* 藻泉宮當 — tile-end of the T'o-ch'uan palace.

5. *Ch'eng-shan* 成山 — tile-end of Ch'eng-shan palace.

6. *Shou-ch'eng* 壽成 — tile end of Shou-ch'eng hall, Wei-yang-kung.

7. *Ting-hu yen-shou* 鼎胡延壽 — “May the Ting-hu-kung prolong its longevity” — tile-end of Ting-hu-kung.

8. *Yi-yen Shou-kung* 益延壽宮 — tile-end for Yi-yen and Shou-kung halls.

9. *Wei* 衛 — tile-end for the lodge of the royal guard. Both Wei-yang-kung and the Ch'ang-lo-kung were stated to have such buildings.

10. *Kan-ch'uan Shang-lin* 甘泉山林 — tile-end for the buildings in the royal park, Kan-ch'uan Shang-lin. There are also those with abbreviated inscriptions, bearing either *Kan-ch'uan* or *Shang-lin*.

11. *Shang-lin Nung-kuan* 上林農官 — tile-end for the building of the royal gardener at Shang-lin.

FU-LI-KUNG 扶荔宮, THE ROYAL BOTANICAL GARDEN (KG, 61.3.125)

The destruction of the Western Han palaces was wide spread. It included most of the summer houses and pleasure resorts of the emperor in Shang-lin-yüan, the Royal Park far away from the capital. One of the ruins has been identified as the famous Fu-li-kung at Chih-ch'uan 芝川 in Hanch'eng 韓城, some 250 kilometres northeast of Ch'ang-an.

It was in 111 B.C. to commemorate the subjugation of the southern kingdom of Nan-Yüeh 南越, Emperor Wu-ti built this palace to look after a collection of rare and strange tropical plants which was brought back from the expedition. As the

most delicate fruit tree was the litchi which needed much extra care, the building was so named, meaning literally "Palace for tendering the litchi". The work was placed under the supervision of the Shui-heng-tu-wei 水衡都尉, Ministry of Navy. It was recorded that since none of the more than 100 trees which were transplanted in the royal park survived, new specimens were ordered every year and the navy was responsible for the transportation. Moreover, as the litchi did not bear fruit in the northern climate, the emperor's interest was kept up by shipping the delicious fruit from the south every year. There is no record of the destruction of the Royal Botanical Garden and all remained now was the ruins of the palace.

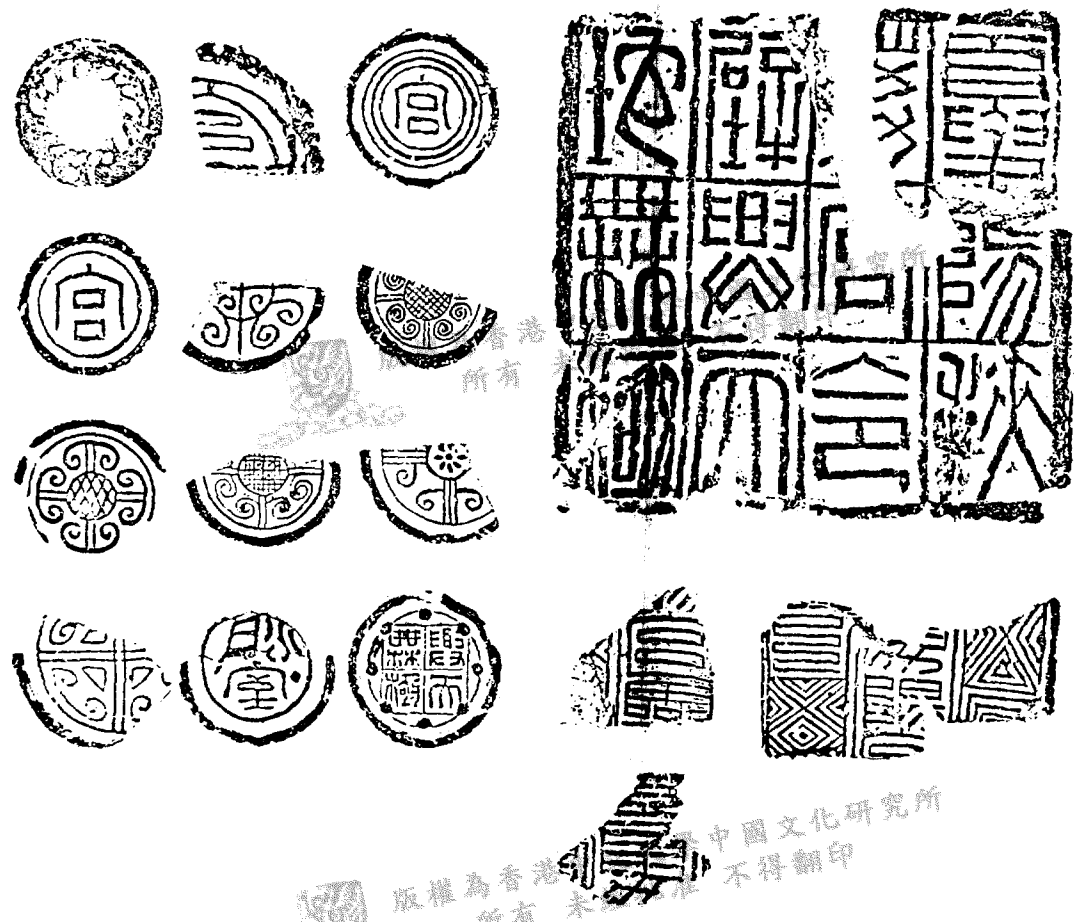


Fig. 10. Some bricks and tile-ends, Royal Botanical Garden — after KG, 61.3.124-125.

The ruins of Fu-li-kung was investigated by the members of the Shensi Committee for the Protection of Cultural Relics in 1960. (KG, 61.3.123-126) It lies about 300 metres south of Chih-ch'uan, not far from the bank of Huangho to the east. The palace was erected on a large prehistoric dwelling site because the fields in the neighbourhood are strewn with fragments of the neolithic red ware. The palace ruins is located on the top level of a flat terrace, some 30-40 metres above the river bed nearby. Apart from 4 sections of stamped earth and part of a pottery pipe line which served as an underground waterway, it is covered with a wide variety of Han architectural materials, such as tiles and bricks, pipes and potsherds. Among the decorated tiles and bricks, there are a series of inscriptions (Fig. 10). The complete ones are:

1. *Kung* 宮 — meaning “for the palace”.

2. *Ch'uan-shih* 船室 — meaning “for the house of shipping equipments”. There was an office in charge of naval apparatus under the Ministry of Navy in the Han times. Evidently it was this office which was responsible for the transportation of these tropical plants.

3. *Yü-t'ien wu-chi* 與天無極 — meaning “May it survive without limit like Heaven”.

4. *Hsia-yang-kung* 夏陽宮 — In the Han times the area was under the jurisdiction of Hsia-yang, hence the palace was

sometimes referred to as the palace of Hsia-yang.

5. *Hsia-yang Fu-li-kung ling-pi yü-t'ien-ti wu-chi* 夏陽扶荔宮令壁與天地無極 — meaning “Brick of Fu-li-kung, Hsia-yang, may it survive without limit like Heaven and Earth.”

The discovery of these bricks, though mostly badly damaged, gives definite proof that the site is the ruins of Fu-li-kung.

BRONZES OF SHANG-LIN-YUAN  
(KG, 63.2.62-70)

In this connection the discovery of the Shang-lin bronzes in 1961 may be mentioned. This collection was accidentally uncovered by some farm workers at Kao-yao-ts'un 高峇村 in San-ch'iao-chen 三橋鎮, west of Sian. It consists of 22 vessels, 10 *chien* 鑑 basins, 5 *ting* 鼎 tripods, 3 of them with cover, 5 *chung* 鍾 vases, 1 *fang* 魴 vase and 1 *chiian* 鍚 pot. With the exception of a *chung*, all the vessels are inscribed, indicating that most of them were especially made and used in the various buildings at Shang-lin royal park, such as Yu-chang-kuan 豫章觀, T'ai-shan-kung 泰山宮, Hsuan-ch'ü-kung 宣曲宮, Nan-kung 南宮, Kung-fu 共府, Chao-t'ai-kung 昭台宮, etc. The contents of the texts and the styles of writing are all typical of the Western Han period. Most of them give some details about the vessels, their place and date of manufacture, the names of the

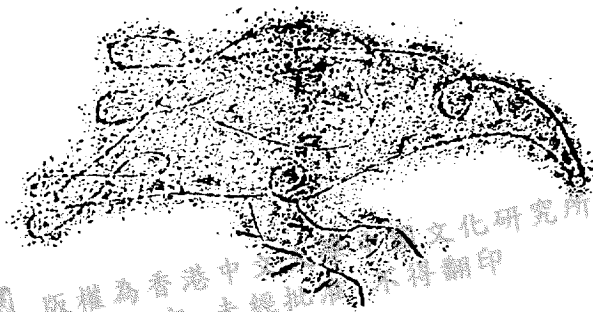


Fig. 11. Inscription on a bronze *chien* basin, Kao-yao-ts'un — after KG, 62.2.62.

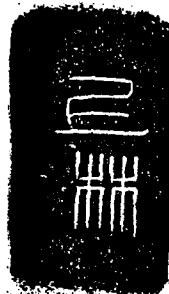
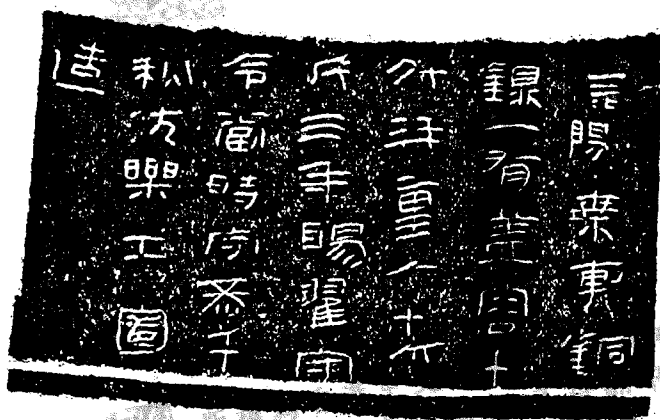
bronze masters, their respective capacities and weights as well as the numbers in the set of the particular type of vessel. The *chiian* pot for instance is numbered 726.

This small group of vessels is undoubtedly but a few from the enormous numbers of household furniture used in the royal park. (Figs. 11-13)

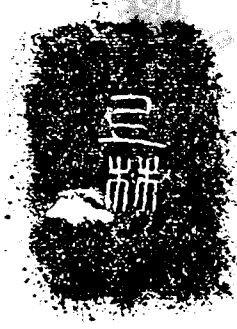


Fig. 12. Some inscriptions on bronze vessels, Kao-yao-ts'un — after KG, 62.2.63.

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0 1 2 3 4 5 cm

Fig. 13. Some inscriptions on bronze vessels, Kao-yao-ts'un — after KG, 62.2.67.



The excavation of the site conducted by the members of the Institute of Archaeology in 1962 (KG, 63.2.62-70) found that these bronze vessels had come from an underground pit about 2 metres deep in association with some fragments of pottery vessels, bricks and tiles, a *wu-shu* 五銖 coin, an iron blade of a *ch'a* 斬 spade, all of the same period. Besides, 241 metres north of the pit was a building platform of stamped earth, 143 metres long and 62 metres wide. It was built over a series of underground waterways which were constructed of tubular tiles. A large number of the bricks and tiles collected at the site are decorated with typical Han geometric patterns and some are stamped with inscriptions. The latter read *Ta-chiang* 大匠 meaning "master artisan", *Ta nien-chiu* 大廿九 "large, no. 29", *Ta nien* 大廿 "large no. 20", and *Ta ssu* 大 四 "large no. 4". (KG, 63.2.80-82; 63.4.198-200) It seems evident that the Han architect ordered his building materials in specific sizes.

KILNSITE AT TS'AO-T'AN-CHEN 草灘鎮  
(KG, 64.4.180-181)

The bricks and tiles and other architectural pottery for the Han buildings were supplied by the kilns in and around the capital. Two of these have been excavated by the provincial authority in 1956 at Ts'ao-t'an-chen to the northeast of Ch'ang-an. They were both constructed on a large platform of stamped earth, probably foundations of some ancient architecture. One of them is reasonably well preserved. The ground plan of the structure is shaped like a horse-shoe, standing in a slanting position rising from the fire-pit in the bottom up the firing chamber and the fire passage to the top of the kiln. It is actually in three sections. The fire-pit, 1.68 × 0.7 metres in dimension, occupies about one-fourth of the kiln. It was placed under the front part of the chamber, 10-20 centimetres below its opening. The floor of the chamber mea-

sures 2.38 × 2.1 metres. At the back of the chamber are three vertical fire passages, which curve and meet probably at the chimney on the ceiling. The top part of the kiln had collapsed, showing that the walls and ceiling were constructed of yellow earth which after long firing had become red and grey and hard in texture. The inner surface of the wall, measuring 10-18 centimetres thick is brick-hard and grey. The intermediate layer, 8-20 centimetres thick, is brick red while the outer layer remains yellow. In the fire pit ashes of grass and wood and pieces of charcoal have been found. The firing chamber was filled with lumps of red burnt clay which had fallen down from the ceiling and fragments of various types of bricks and tiles and pottery vessels. Many of these are cord-marked and decorated with cloud and triangular designs typical of the Han ware.

OFFICIAL MINT AT  
HSIANG-CHIA-HSIANG-TS'UN 相家巷村  
(KG, 56.5.22-23)

The metal workshop of Ch'ang-an may be represented by the ruins of a mint in the northwestern part of the Han capital. It covers an area of about one square kilometre east of the modern village of Hsiang-chia-hsiang-ts'un. Four types of coin moulds have been reported:

1. Stone mould for the obverse of *wu-shu* coins — made of a flat piece of grey soapstone, 1.2 centimetres thick. The shape of the coin was inscribed with a pair of compasses leaving a tiny hole in the centre and the characters are depressed.

2. Clay model for the obverse of *wu-shu* coins — made of fine red clay, 3 centimetres thick. As the characters are in relief, it was meant as a model for making clay moulds.

3. Clay mould for the reverse of *wu-shu* coins — also made of fine red clay. It is the most common articles found at the site.

4. Clay mould for the reverse of small *wu-shu* coins — also made of fine red clay. It is a rare type of Han coins, only 1.2 centimetres in diameter.

Among the ruins are a large number of tile-ends which were decorated with some rare cloud patterns. The investigator suggests that they were architectural remnants from the official residence of the Chung-kuan 鍾官, Director of the Official Mint.

Moreover another concentration of coin moulds and pottery tiles has been found further to the west of Hsiang-chia-hsiang-ts'un at O-t'ou-chai 窩頭寨. It seems that the Director maintained several workshops in the capital.

In 1972 a complete pair of stone moulds for casting *pan-liang* coins was unearthed at Han-chia-wan 韓家灣. (KG, 73.3.169) They are both 47 centimetres long and about 3 centimetres thick, but one is 12.5 and the other 11.8-12 centimetres wide. They formed a two-piece mould in which 60 coins could be cast at the same time. (Fig. 14) The depressions for the coins were systematically arranged, linked to each other with small grooves, which were in turn connected to a larger and deeper groove in the centre, ending with a semicircular opening at one end. When they were set facing each other for casting, the molten metal could be poured into the mould through the wide opening and flow through the network of grooves to every unit in the mould. It is reported that the two pieces have been found held together with a pair of iron clamps at each end. The process of coin

minting was quite efficient in the beginning of the Han period.

At another spot in the southwestern corner of the Han capital, a group of 10 copper bars has been found among some architectural ruins. (WW, 56.3.82) They are shaped like a rectangular block, 38 × 20 × 7 centimetres thick, with a hole to facilitate transportation. One of these has an inscription on one side, indicating that the material was on sale at Fu-p'o 富波 in Ju-nan 汝南 (modern Honan). The rest are marked with its respective weight, ranging from 130, 129 to 128 *chin* 斤 catties. As the 130 *chin* piece weighs only 68.5 *chin* nowadays, it is clear that the Han *chin* is about half the weight of a modern one. Besides, the metal is very pure, containing 99% copper. Among the ruins are fragments of bricks and tiles and underground waterways. It may be presumed that this was a warehouse of raw materials for the official mints.

#### ROYAL CEMETERIES

The cemeteries of the Western Han emperors were just as grand and gorgeous as their palaces and temples. Each forming a compound by itself, the building process included the construction of the underground palaces, the piling up of the burial mound, the erection of the spirit way and towered gate and the layout of the gardens and residential areas. All the emperors were buried on the plateaux around Ch'ang-an, two to the south and nine on the north

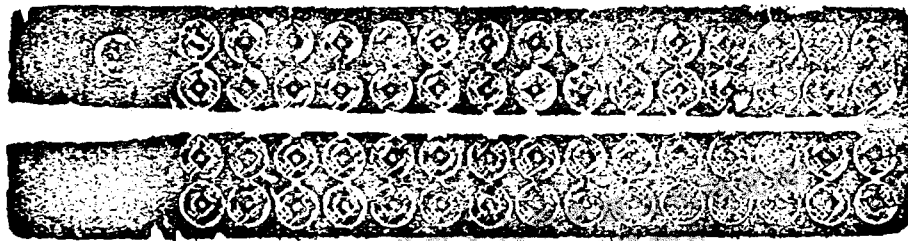


Fig. 14. Some mould for casting *pan-liang* coins, Han-chia-wan — after KG, 73.3.169.

of the Wei river. All the surface structures had suffered the same fate as the royal palaces and halls in and around the capital mentioned above. Only the mounds in the cemeteries are left still visible from a far distance. Those on the north of the river stand in a row with the largest, Mao-ling 茂陵 on the extreme west, some 45 kilometres northwest of Sian. This is the Tomb of Wu-ti, 47 metres high and about a kilometre in circumference. Similar to the other mounds to the east, it is a low square pyramid standing on a rectangular platform with a flat top. Generally, the Han royal tombs were 40 metres high, but owing to Wu-ti's outstanding military merits his tomb was seven metres higher than the others. (KG, 64.2.86-88) History records that it took some fifty years to prepare this resting place for the great emperor. Members of his household and some of his meritorious ministers and generals were given the honour of taking their final resting places in the compound. They included the tombs of the emperor's favourite concubine, Lady Li 李夫人, his minister Huo Kuang 霍光 and his generals, Wei Ch'ing 衛青 and Huo Ch'ü-ping 霍去病. All these tombs are smaller than the royal one in size. At its height Mao-ling had a population of 61,087 families. One can imagine how flourishing and luxurious it was in those days, but they are all in ruins, with the fields strewn with fragments of bricks and tiles and occasionally a section of the underground drainage.

The tomb of Huo-ch'ü-ping has attracted much attention especially from the art historians. The famous general died in 117 B.C. when he was only 24 years old. In memory of his great military service in opening up the Ho-hsi 河西 corridor leading to the conquest of the Western Region, the emperor ordered to have his tomb built with rocks in the shape of the Ch'i-lian mountain. The court yard of the tomb is still decorated with various kinds of huge

stone carvings which are the earliest and biggest solid sculptures from the Han period.

Travellers in the past were familiar with the remaining pieces of sculpture lying at the tomb of Huo Ch'ü-ping. (20, 17-44; WW, 58.11.63) They include the famous horse trampling a Hsiung-nu chieftain, the monster biting a small bear, a crouching tiger and a bull. Recent excavations made by the Shensi Committee for the Protection of Cultural Relics have brought to light eight more examples: an elephant, 2 fish, 1 frog, 2 other animals and two inscribed fragments. (WW, 64.1.40-46; 23, 59) One of the latter reads Tso-ssu-k'ung 左司空 indicating that the carving was made by the craftsmen in the Works Department. The other has an inscription of ten characters, noting that the carvers were Su Po-ya 宿伯牙 and Huo Chü-meng 霍巨孟 from Lo-ling 樂陵 in P'ing-yuan 平原. (WW, 64.5.2-3).

The Huo Ch'ü-ping stone works are quite uniform in style. Taking advantage of large boulders and natural forms of the rock, these animals were hewn into shape without much elaboration. Massive in form, simple in execution and monumental in spirit they are fine examples of the Han art.

In 1966, a beautiful horse and rider of white jade was discovered associated with fragments of tiles and bricks in the ruins of P'ing-ling 平陵, the cemetery of Emperor Chao-ti 昭帝 (86-74). (KG, 73.3.167) The sculpture, 8.9 centimetres long and 7 high, represents a fairy riding a flying horse on a piece of cloud. The material has a slight greenish tint with a few small patches of brown and its texture is translucent, rich and warm. The animal is realistically expressed in the round; the contours fine and delicate, the linear details simple and free and the spirit cheerful and gay. It is indeed a rare specimen in a rather unusual style for the Han period.

Another piece of fine jade carving was discovered in 1968 in the ruins of the eastern tomb in Ch'ang-ling 長陵, the cemetery

of Emperor Kao-tsu. (WW, 73.5.26) The jade is a square seal of Empress Lü 呂后 who had her resting place beside that of her husband. It measures 2.8 centimetres square and 2 centimetres high. The material is of the pure "mutton fat" quality, translucent and warm, and the carving extremely refined with the button in the shape of a crouching *li-hu* 螭虎 animal. The inscription in the standard *hsiao-chuan* 小篆 script, reads *Huang-hou chih hsi* 皇后之璽 or "Seal of the Empress". As it was recovered in the debris consisting of a large number of tile fragments which bore an inscription reading *Ch'ang-ling tung-tang* 長陵東當, meaning "Tile-end of the Eastern Tomb at Ch'ang-ling", there seems no reason to doubt that it was a personal seal of the famous empress (Fig. 15).

#### DWELLING SITES OF THE COMMON PEOPLE (WW, 56.11.72-73)

In the capital area of Western Han some dwellings of the common people in and around Ch'ang-an may also be mentioned. In 1956, a Han dwelling foundation, 1 kilometre to the west of Sian was investigated by the Provincial Committee. It covers an area of 600 square metres. The floor was very well prepared first with a layer of stamped earth and then a layer of straw-tempered clay before flat square bricks were laid. The pillar foundations which

were either round or square or oblong in shape were systematically arranged. The remaining walls were built on the same fashion as the floor with a series of thick layers of stamped earth as the core, which was surfaced with straw-tempered clay and finally plastered with a thin limy white coating. In the debris were fragments of pottery tubes, flat tiles, decorated bricks, iron nails and heaps of ashes and charcoal. These dwellings of the middle class people suffered the same fate as the royal palaces and halls in the capital.

Apart from the architectural ruins reported in and around the Western Han capital, a large number of remains of minor architecture and industrial workshops have also been investigated. They may be grouped according to their geographical locations in the following chapters.

### III. Western Han ruins in North China

It is well-known that the ancient Chinese were most active in wall building. The culmination of this activity is expressed by the Great Wall mentioned above. The erection of city walls on the other hand indicate their presence in settled conditions. Historical accounts and local gazetteers are always ready to take notes of their existence as well as their dates. According to the Chinese encyclopaedia *Ku-chin t'u-shu chi-*

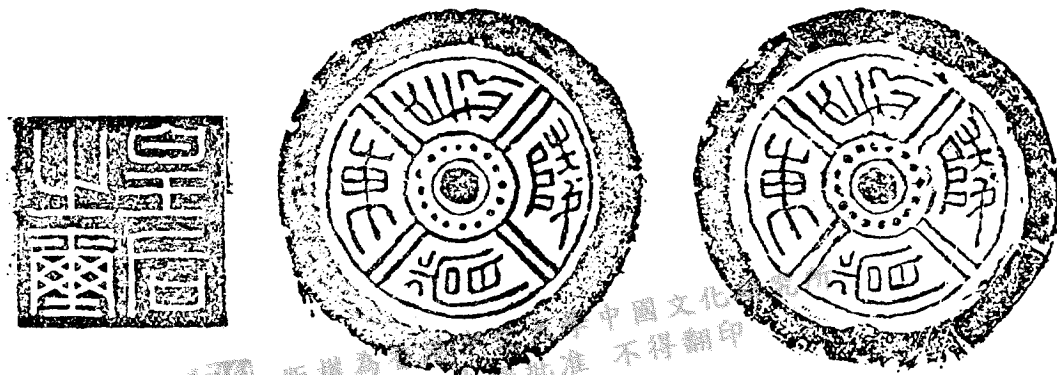


Fig. 15. Seal of the Empress and two tile-ends, Ch'ang-ling — after KG, 73.5.26.

*ch'eng* 古今圖書集成, a total of 677 city walls were built during the Han dynasty alone. The activity corresponds to one of the most important periods of the expansion of the people. (18, 57-60) In spite of the fact that some of them had been eroded or destroyed by flood, buried by earthquakes or engulfed by the desert sand, a large number had been deserted and they appear on records as abandoned cities. Most of them may still be spotted in the country side and some of them have been investigated in recent years. Apart from the literary evidence, the dating of an abandoned city presents always a problem. In most cases the abandonment means complete dissolution. The city was left to ruin at the mercy of natural and human agencies. All the reusable materials on the surface such as stone and wood, bricks and tiles had been removed and the ground reclaimed by the diligent farmers for cultivation, leaving only parts of the wall which was always made of stamped earth. The latter was occasionally adapted to serve as pottery kilns, if the clay was found suitable for ceramic work. There would be nothing left to indicate the date of the old structure. Besides, a walled city was a living institution and it could have been enlarged or supplemented with annexes in subsequent periods. As the people are traditional minded it is also common to associate an abandoned city with some ancient legends. Therefore, without digging it would be hard to pin a site down to the Han period, not so say, to ascribe it to either Western or Eastern Han. The Yü-wang-ch'eng 禹王城 at Hsia-hsien 夏縣 in south-west Shansi serves as a good example.

#### YU-WANG-CH'ENG (KG, 63.9.474-499)

Yü-wang-ch'eng is so named because the region has been taken as the centre of the Hsia people and Yü was the founder of the Hsia dynasty (Traditionally, 2183-1752). The ancient ruins is located some

7 kilometres northwest of Hsia-hsien, so-called for the same reason. According to literary sources, the site may be identified as An-yi 安邑, the capital of Wei 魏 in the Chan-kuo period. During the Ch'in, Han and Chin times, it was the seat of the Ho-tung-chün 河東郡 provincial government. It had been a living city for at least 800 years, covering an area of more than 13 square kilometres. The abandoned city is now occupied by five modern villages, one of which is known as Yü-wang-ts'un 禹王村 with a temple of the same name to the north, both apparently also in honour of the ancient king.

The ruins of Yü-wang-ts'un was investigated by the Shansi Archaeological Team in 1959-62. Some trial diggings revealed a complex of three ancient cities varying greatly in size, on the southern side of the Ming-t'iao-kang 鳴條崗 hill and sloping down towards the bank of the Ch'ing-lung-ho 青龍河 river to the south. The largest wall was rather irregular in shape. It was built of stamped earth in varying thickness. The northern wall, 22 metres thick, makes a straight line of about 1,530 metres, ranging now from 2 to 5 metres high. The western wall, 18.5 metres thick, 2 metres high and 4,980 metres long, bends and curves according to the topography of the landscape. The other two sides are not so well preserved, the eastern wall being 17 metres thick and the southern one, only 11.5 metres. The remaining length of the latter measures 3,565 metres. The northwest corner was re-enforced and slightly curved, measuring 32 metres thick.

The medium sized enclosure, roughly square in shape and 6 square kilometres in area, is located in the southwest corner of the main city. It was marked out with two walls on the north and east. The northern wall, 5.8 metres thick, 1.5 metres high and 1,522 metres long forms a straight line, while the remaining eastern wall measures  $8 \times 0.4-1 \times 435$  metres.

Adjacent to the northwest corner of the second wall, the smallest city sits in the middle of the site. The northern walls of the two smaller enclosures forms a straight line. Square in shape with a rectangular indentation in the southwest corner, it covers an area of about 754,000 square metres. The wall measures 12 metres thick, 855 metres long in the north,  $11 \times 930$  in the west,  $16.5 \times 495$  in the east. With the indentation in the southwest, the southern wall, 11.3 metres thick, was built in three sections, measuring 270, 140 and 580 each, totalling 990 metres. In their present condition there is no clue to the dates of the respective walls. Some of them could have been added in the course of expansion, for the settlement was in use for a long time. It was also possible that the ancient city was constructed in an organized plan right from the very beginning.

However, apart from a group of Late Chou pottery fragments most of the remains recovered by the excavators may be dated as Han. They include broken pottery *tou* 豆 cups, *po* 碎 bowls, bricks, flat and tubular tiles and circular tile-ends. One of the bowls bears the inscription of a rectangular seal, reading *An-t'ing* 安亭. As *An* is an abbreviation of *An-yi* and *ting* means an official market place, the pottery was made locally under government supervision. The inscriptions that appeared on the circular tile-ends are mainly auspicious phrases, common for Han architecture. Two complete ones read *Ch'ang-lo wei yung* 長樂未央 or "Long happiness without end" and *Ch'ien-ch'iu wan-sui i-pao ch'ang nien* 千秋萬歲以保長年 or "A thousand autumn and ten-thousand years to ensure an everlasting longevity". The cloud patterns on the others are also common for the Han period. There is also a fragment of pottery mould for casting bronze *t'ai-kou* 帶鉤 belt hooks in the Han style. There seems no reason to doubt that the *Yü-wang-ch'eng* is the ruins of the capital of *Ho-tung-chün*.

HOU-T'U-TZ'U 后土祠  
(*WW*, 56.10.23; 25)

*Ho-tung-chün* was a flourishing region during the Han times. With the great salt lake to the south it was the largest salt producing centre in the Huangho basin. Further north another abandoned Han city and an enormous kiln site have also been noted at *Wen-hsi* 聞喜 and *Ch'ü-wu* 曲沃 respectively. To the northwest at *Wan-ch'üan* 萬泉 is the *Shui-shan* 睢山 hill where Emperor *Wu-ti* inaugurated the official worship of *Hou-t'u*, the Goddess of Earth. The latter had long been the seat of a popular cult of *Hou-t'u* from great antiquity. According to the *Shih-chi*, a great earthen mound with five places for sacrifice was constructed on the southern slope of the hill at *Fen-yin* 汾陰, south of the *Fen* river. In order to give it all the solemnity possible the emperor arrived to conduct the ceremony in person. This was in 113 B.C. But the sacrificial site became redundant when Eastern Han dynasty was established. A new centre for the worship was consecrated in the capital at *Lo-yang*. The old temple in *Shansi* was abandoned and as centuries went by it suffered the same fate as a large number of ancient cities.

When the *Shansi* Provincial Library joined forces with Freer Gallery of Art to excavate the *Hou-t'u* temple in 1930 it was but an open terraced platform which had long been under cultivation. The trenches that were dug into the site yielded only fragments of bricks, tiles and pottery vessels. They indicate that it was a Han site. The inscriptions on the relics are mostly of the auspicious phrases used in the Han times, such as *Ch'ien-ch'iu wan-sui*, *Ch'ang-lo wei-yang*, *Ch'ang-sheng wu-chi* 長生無極 ("Long life without end") and *Kung i tzu-sun* 宮宜子孫 ("A palace suitable for sons and grandsons"). There is also a *wu-shu* 五銖 copper coin. The paucity of the finds was so disappointing that the excavators inclined to conclude that the centre

of the site "must have been somewhere in the northern part of the plateau".

#### BRONZES OF TA-CH'UAN-TS'UN 大川村 (*WW*, 63.11.4-12)

In contrast, the discovery of treasure hoards could be rich and more rewarding. One of these, consisting of eight bronze vessels and a gilt quarterfoil with a ring came to light in 1962 at Ta-ch'üan-ts'un in Yu-yü-hsien 右玉縣, northern Shansi. The site is located in a small ravine of the loess plateau and the treasures were simply washed down from the eastern slope by a heavy rain. The investigation of the spot by the Provincial Cultural Committee did not find any human burial in the neighbourhood so they could be only treasures stored underground for hiding. In the Han times, Yu-yü was called Chung-ling 中陵 under the jurisdiction of Yen-men-chün 雁門郡, south of the Great Wall. Being a strategic point it was the scene of numerous wars and struggles at the border. Hence some precautions to preserve valuable objects in time of disturbance could have been made by the local families.

Among the Ta-ch'üan-ts'un bronzes six are inscribed and their significance is worth noting. There are a group of four *ting* tripods, a common food vessel of the Han period. Three of them are of the same size, all 33 centimetres high, while the fourth slightly smaller, 31 centimetres in height. Two bear each an incised inscription, one of them reading *ch'ien-sui* 千歲, which means "a thousand years" and the other being undeciphered.

A pair of *wen-chiu-ts'un* 溫酒樽 both 25 centimetres high, deserves special attention (Fig. 16). The vessel has a circular body supported by three legs in the shape of seated bears and with a pair of ring handles on the side. The flat conical cover has a ring handle in the centre and three birds seating on the three sides. The vessel and cover are both decorated with a series

of realistic birds and animals in all sorts of movement among mountain peaks with floating clouds above, all in relief. Inside the cover is a painted design of a bird among clouds in red lacquer. (Fig. 17) Such a vessel is generally known as *lien* 奩 box, but the inscription incised at the rim of the cover gives the information that the vessel was called *wen-chiu-ts'un* meaning a "wine warming vase", 24 *chin* cattiees in weight and was made in the third year of Ho-p'ing 河平 (26 B.C.) for Hu Fu 胡傅 of Chung-ling 中陵.

Another wine vessel is shaped like a *ch'ien* 鑑 basin with three legs each in the form of a seated tiger and three ring handles linked with raised animal masks on the side. (Fig. 18) The entire vessel was gilted and further decorated with painted animals in action in white, red and black. It has also an incised inscription at the mouth-rim which states that the *chiu-ts'un*, weighing 120 *chin* was made for Hu Fu of Chü-yang 劇陽 and Yin-ch'eng 陰城 in 26 B.C.

The eighth vessel is a plain *p'an* 盤 shallow circular basin, 39 centimetres in diameter. It has an incised inscription reading *Shang-chün Shao-fu* 上郡少府 or Supplies Department of Shang-chün. Shang-chün was a province in modern Shansi to the southwest of Yen-men. The vessel is apparently of the same period as the rest of the collection. With the data from these inscriptions it seems reasonable to conclude that the buried treasures belonged to Hu Fu, a member of an influential family in the border provinces. He had not only access to the supplies of the Shang-chün province but also the means to order such fine household utensils in Chü-yang, Yin-ch'eng and Chung-ling. The three districts were adjacent to one another at the border close to the Great Wall. As these vessels were ordered in 26 B.C. some three decades before the end of Western Han, the owner

might have found it necessary to hide his treasures during the disturbance at the fall of the dynasty or the harassment of some nomadic hordes south of the Great Wall.

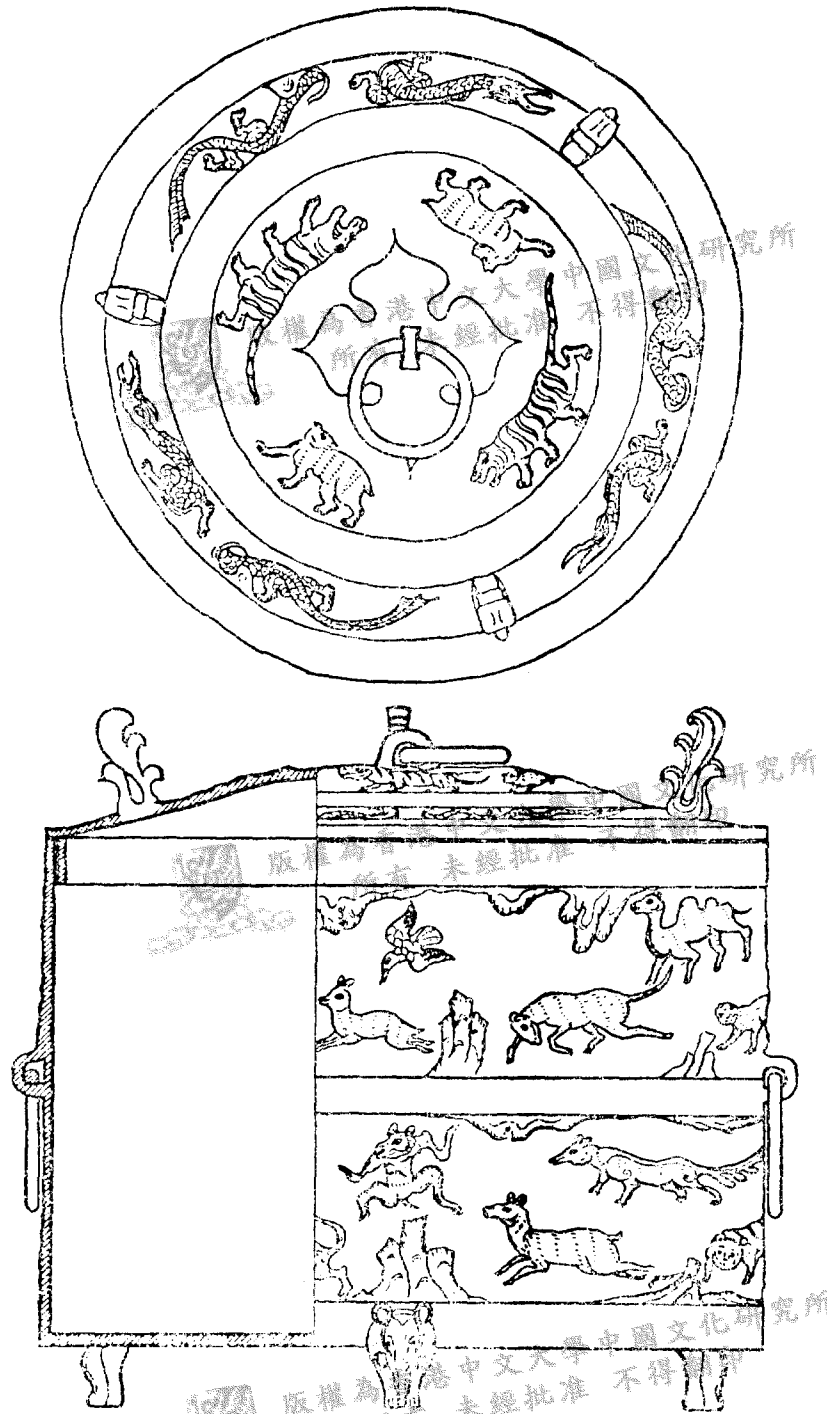


Fig. 16. Some animal designs on a bronze *tsun* wine vessel, Ta-ch'uan-ts'un — after *W*, 63.11.6.



Fig. 17. Painted design of a bird in red lacquer inside the *tsun* wine vessel, Ta-ch'uan-ts'un — after *WW*, 63.11.8.

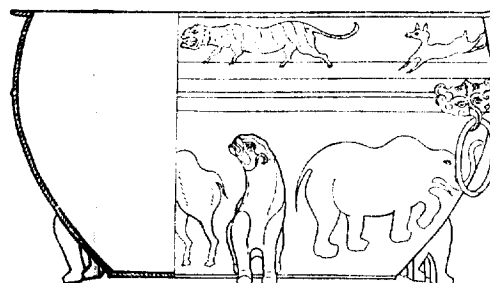
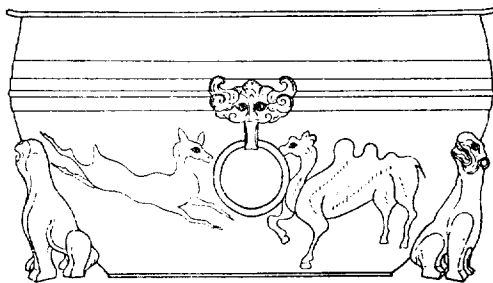


Fig. 18. Some animal designs on a bronze *tsun* wine vessel, Ta-ch'uan-ts'un — after *WW*, 63.11.89.

PO-HSIEH-TAO 褒斜道  
(*WW*, 61.4/5.57-61; 63.2.29-33;  
64.11.25-42)

Before we leave the loess highlands it may be of interest to take notes of the relics along the famous Po-hsieh-tao in southern Shensi. It was the line of communication between the capital region and fertile basin of Pa 巴 and Shu 蜀 on the upper Yangtse. The natural barrier was the formidable range of the Ts'in-ling mountain. In the north the road followed the Hsieh-shui valley up and it wound down the Po-shui valley in the south, hence the name Po-hsieh-tao. At a strategic point of the Po-shui parts of the mountain rocks had to be cut for the road to go through, and so the tunnel entrance was known as the Shih-men 石門 or Stone Gateway. The line was so treacherous that a large number of *chan-tao* 棧道 suspended roads had to be constructed of pillars and planks laid across dangerous points or against precipitous cliffs. The route was already in use in the Chou times and was considerably re-enforced and widened by the Ch'in state for the movement of troops and military supplies to conquer the states of Pa and Shu in 318 B.C. It is well-known that when Liu Pang, the Han king was forced by his enemy, the king of Ch'u to move his forces into Han-chung 漢中, south of the Ts'in-ling in 206 B.C. he took this road, and at the advice of one of his generals, Chang Liang 張良, he burnt down all the suspended roads on the way in order to guard against stealthy attacks by other troops in the revolution as well as to show his rival that he had no intention of returning to compete with him in the Central Plain. But within the year he returned by the same route to challenge the king of Ch'u and finally defeated him and established the Han dynasty.

Po-hsieh-tao was very well kept in the Han times. According to the *Shih-chi*, extensive improvements were made during

the reign of Wu-ti, involving a labour force of several tens of thousand men. Further works were done in the Eastern Han times. Recorded inscriptions at the site indicate that successive repairs were carried out in A.D. 61-63, 143 and 155 respectively. It was during the Six Dynasties when north China was in great turmoil, the road fell into disuse and the famous Stone Gateway was left deserted. By the T'ang times, the ancient line of communication across Ts'in-ling was restored, but parts of the road were re-routed. The part below and above the Stone Gateway was investigated by the Shensi Institute of Archaeology in 1960 and 1963.

Shih-men was the most treacherous point of Po-hsieh-tao because no road was available and it could only be passed by using suspended ones. The woodwork was built by setting beams and pillars into the holes which were chiselled on the walls and at the foot of mountain cliffs respectively. None of the timbers have survived but series of artificial post holes on the rocks have been spotted. In a distance of 3 kilometres 246 of these were examined, 56 on the walls and 190 at the foot of the cliff. The former are invariably square in shape and 40-43 × 80-90 centimetres deep, all slightly slanting inward. They form a horizontal row, roughly 8-9 metres above the river level in the winter times. The holes at the foot of the cliff vary from round to square and they are scattered in various positions, some below the river level and others as high as those on the walls of the cliff. From the arrangement of these holes it is evident that the ancient suspended roads were constructed according to the barriers, curves and bends of the landscape.

There were at least three ways to erect the wooden structure of the suspended roads. The most common type was built against the cliff by inserting horizontal beams in the holes on the wall and they were supported by one to three pillars standing in the holes at the bottom. The

road surface is estimated to be about 5.50 metres wide. Where the foot of the cliff was broad enough, series of pillars were erected to support the road. They stood at various levels in the river bed and were firm and secure enough for the lading of the horizontal beams which needed no attachment to the wall. The same device was used to link the spaces between two promontory cliffs. In this fashion the road served like a bridge or flyover. The third method was to cut a section out of the solid rock for the road to go through, but it had to be provided with post holes at both ends for the attachment of the suspended woodwork. This was constructed by Yang Ch'üeh 楊厥 in 61 A.D. The commissioner of the road construction was also responsible for the tunneling of a rock promontory about two kilometres south of Po-ch'eng 褒城. This is the famous Stone Gateway, 14 metres long, 3.95-4.25 wide and 4-4.75 high, frequented by visiting dignitaries and scholars throughout the ages. On the walls of the tunnel and on the rocky cliffs nearby many ancient inscriptions have survived ranging from the Han to Ch'ing dynasty. Apart from giving the history of the famous road, a wide variety of calligraphic styles have been preserved. The site stands now as an important cultural relics of the nation (*WW*, 61.4/5.13) to be preserved as an outdoor museum of Chinese calligraphy.

### SAN-MEN-HSIA (12)

The communication between the loess highland and the Huangho flood plain to the east faced more serious problems than the crossing of the Ts'in-ling to the south. Here the natural barrier was the Huangho gorges in western Honan. Following the course of the river which turns abruptly eastward the line had to provide a road as well as a waterway for transport. Starting from T'ung-kuan 潼關 at the border of Shensi, the main road passed through a

string of **strategic passes** and proceeded on to Lo-yang. It was the scene of many bloody **battles** in history. The waterway came to a **bottle-neck** at the San-man-hsia gorge, **where** three large rocky islands followed **immediately** by three smaller ones stand in **the** middle of the river. From the east to **west**, the large islands were called Jen-men 人門, Shen-men 神門 and Kuei-men 鬼門, and so were the three waterways collectively known as San-men, the Three Gateways, namely, Human, Divine and Devil Gateways respectively. The line of communication had been in service since time immemorial, but it was in the Western Han dynasty **when** the capital region in Shensi began to **rely** on the supplies of grains and merchandise from the east that extensive constructions were made to improve the facilities of the waterway. The water flow in the **centre** at Shen-men was too swift for navigation and along the Kuei-men in the west the **numerous** rapids were treacherous, so most of the works were concentrated along the **western** edge of the Jen-men island where the stream was comparatively calm and smooth, making the passage less hazardous. The main facility was the erection of suspended roads along the cliff for teams of boatmen to pull their ships upstream. As it would take a long time for a fleet of grain vessels to go through and many of them would have to wait for their turns, large granaries were established at the two ends of **the** passage for storage in transit. In the T'ang times when the capital region around Ch'ang-an had to rely more and more on **the** supplies from the east, a canal was chiselled out of solid rock on the eastern side of **the** island to provide an additional waterway. This was known as the Hsin-men 新門, New Gateway. A nine kilometre road was also constructed to link up the two granaries. All these facilities were kept in regular service throughout the dynasties until they were replaced by the railway system in **the** beginning of the present century. And finally in the early 1960s, a

big dam was constructed in the area linking the three islands together and now all the ancient relics of communication were submerged under the huge Huangho Reservoir.

However, before the construction of the reservoir the ancient relics at San-men-hsia were systematically investigated by the Institute of Archaeology in 1955-57. The record covers not only the ruins of the suspended roads along the Jen-men and Kuei-men Gateways and those further downstream, but also the granary sites, the Hsin-men canal, the road and all the inscriptions that were left on the rocks in the gorges by the ancient officials and visitors. A number of the calligraphic works were dated from the Han dynasty.

The suspended roads of San-men-hsia were quite different in many respects from those used at Shih-men on the Po-hsieh-tao across Ts'in-ling. They were more extensive in scale and more elaborate in construction. The entire line at Jen-men for instance stretched over a distance of no less than 625 metres. It was perched at a height of 282.7-287 metres on the cliff at low season, but in summer times, it was submerged by the river flood. As the edge of the island was so crooked parts of the suspended roads were linked to one another with bridges. With the woodwork missing the entire line appeared in twelve separate sections, each with a series of holes and perforations for the construction.

The suspended roads were constructed first by cutting a narrow horizontal passage into the solid rock, generally 1.2 metres deep and 2.5 metres high. At right angle with the inner wall the floor was trimmed flat and smooth while the ceiling was left curved and rough. At some points the passage appeared without the roof like an artificial step on the cliff. There were many perforations and holes along the passage which are classified into three types. On the inner wall there were large tunnelled perforations. These were drilled each as a pair of holes which went diagonally into

the rock to meet behind its surface leaving a bar in between. They all appeared about a metre above the floor and at intervals of 3-11 metres. Apparently they served to tie a heavy rope against the wall which would give the boatmen's hand a grip while pulling their boats up the river. Slightly above the floor of the passage were a series of square holes which were chiselled into the wall. They varied greatly in size, one was as deep as 48 centimetres. They were used for inserting the horizontal beams of the suspended road. And finally, on the floor there were more holes and grooves which served either to pin the beams firmly down with additional pegs or to keep them and other woodwork securely in position.

The sites of the two granaries were found on the northern shore of the river. The eastern site occupied terraces 2 and 3 covering an area of more than 120 × 40 metres and the western one was on terrace 1, measuring about 100 × 20-30 metres in size. No surface structure was left but among the debris were fragments of Han pottery tile-ends and vessels, so it is evident that the granaries were first constructed in the Han period.

The report on the ruins at San-men-hsia presents a series of photographs of the site and a complete set of ink rubbings of the existing inscriptions. Moreover, 13 complete inscriptions had been removed from the cliffs and 2 square beam holes and 3 tunnelled perforations chiselled out of the stone walls for preservation.

LO-YANG (KG, 56.1.18-26;  
KX, 56.2.1-32)

The ruins of Lo-yang presents a puzzling problem to Chinese archaeology. The site had been occupied since the neolithic days and continued as dynastic and provincial capitals throughout the ages. It has never been abandoned and its boundaries expanded and contracted according mainly to the political fortune. Most of the habita-

tion levels had been much disturbed and the ancient remains mixed with one another. Besides, much of the area are still occupied. Several parts of the ruins have been excavated by the Institute of Archaeology in the 1950s. The remains that may be attributed to the Han period will be noted here while ruins of the Eastern Han capital will be presented in a later chapter.

In the western suburb of modern Lo-yang three localities have been investigated. The western locality yielded the remnants of three ancient city walls. They were all constructed of stamped earth, but not of equal thickness. The oldest, Western Chou wall measures 4.1 metres thick; the next, Eastern Chou, 5.5 metres; while the last, 12 metres, is recognized as Eastern Han. Since the walls of Western Han and Sui-T'ang are known elsewhere as 6.3 and 16 metres thick respectively, it is concluded that the city walls of Lo-yang became progressively thicker with the passage of the dynasties.

The central locality was the ruins of a Western Han dwelling area. The excavation revealed two house foundations, 4 round granaries, two wells and 12 underground pits. These were found in association with Chan-kuo and Eastern Han storage pits as well as three draining trenches and four roads of the later periods. The house foundation, No. 105 for example, is a square building of stamped earth, 11 × 11 metres on the outside and 8.5 × 8.5 inside. It was partly subterranean, 2.05 metres below the ground level, the southwest corner being intruded by an Eastern Han structure. At the southeast corner, a door, 0.7 metre wide, opened to the east with a step of 0.6 metre and followed by a slanting passage which turned north reaching the ground surface with a stair of four steps. On the inside the four walls are smooth and rounded at the base with plaster of mud. The floor was paved with layers of earth on which fragments of Chan-kuo and Western Han pottery were occasionally found. This is a

common type of Western Han dwelling which was constructed without the use of brick. In some cases the floor was found associated with a pillar base, a stove and a large pottery jars for storage.

The Western Han round granaries were also made of stamped earth. The size varies from 1.25–0.8 metres in diameter at the mouth, 1.05 at the bottom and 1.7–0.5 deep, all filled with greyish green earth. The wells are simply holes dug into the ground, using no brick in the construction. The underground pits were used as storage. They were found to contain all sorts of household utensils and pottery tile-ends. The most significant remains are more than 20 pieces of sealing clays mostly stamped with official seals. They include those of the Governor of Ho-nan, the magistrate of Lo-yang and other minor official. Hence it is suggested that the buildings were offices or official dwellings of the Western Han times.

An Eastern Han dwelling site has been encountered in the eastern locality of Lo-yang. Four house foundations, 9 granaries, 1 well, a section of water drainage and 2 cobbled passages are located close to the ruins of a Chan-kuo stone workshop. Each of the houses was composed of 2 or 3 rooms, mostly rather small, the largest being 8 × 4 metres. The size seems to suggest that they were dwellings of the common people. But with one exception, bricks were used for the construction of the walls and the pavement of the floor. The ruins yield many pottery fragments of daily utensils, including an elongated pig's manger, iron tools and agricultural implements, bronze fittings, stone pestles and mortars as well as some coins of Wang Mang and Eastern Han period and a *wu-shu* lead coin.

Most of the granaries, either square or round, were also built with bricks. The largest example measures 3.44 × 3.1 × 1.4 metres deep, while a round one, 3.6 × 1.2 deep. Some were also provided with an opening on one side which was re-enforced

with a barrier of slotted posts and planks in order to prevent the grains from overflowing. Apart from the yellowish green soil at the bottom, a number of iron implements, stone mills, pestles and mortars, large storage jars and fragments of tiles were collected. The last were originally used in the construction of the granary roof. There are also many *wu-shu* coins and some of them had been trimmed around the edge, both common currencies in the later part of the Han dynasty.

The wells usually matched with water trenches and cobbled passages were also constructed of bricks. Some of them were associated with a cover and a piece of perforated stone which was meant for setting a pulley rack. The trenches at the well head, were to conduct the water into the cultivated field. The passage nearby was paved with cobblestone and re-enforced with bricks. The device was meant to keep the space free from excessive water.

The data collected at the three localities of Lo-yang provide some concrete criteria for the dating of the dwelling ruins at the ancient site. Apart from the coins circulated in the Western and Eastern Han respectively, the architectural remains are distinguishable from one another by the fact that Western Han houses were constructed with layers of stamped earth, while those of Eastern Han mainly with bricks. And among the relics, iron implements were more common in the Eastern Han times.

#### CHUNG-CHOU-LU 中州路 (11)

The construction of the main road, Chung-chou-lu, that cut across the ruins of the Han city of Ho-nan-hsien, gave another opportunity to examine the ancient deposit at Lo-yang. The accumulation began in the neolithic period and continued through Shang and Chou to Han. The area which yielded the Han remains was extensive, and the cultural deposit was thick and abundant. The ruins of house H 1101 furnishes a

good example. It was a square semi-subterranean dwelling of stamped earth,  $10.3 \times 10.3$  metres in size. The foundation was set 1.6 metres below the ground level and the remaining wall measures 1.2-1.5 metres high and 0.8-1.2 thick. There were three doors opened to the east, west and south respectively. In front of each door was a slanting passage leading up to the surface of the ground. The east door, 0.9 metre wide was blocked up with mud bricks. The south door, 1.3 metres wide, had a door step of 0.4 metre high and a piece of stone which served as the base of the standing door. It opened into the house. The west door, also 1.3 metres wide, was accompanied with a hole on the wall which was to hold the cross bar of the door. The floor of the house was flat and smooth. In the centre was a stone which served as the base of a pillar. It went up with the walls to support the roof. Close to the west wall was a raised platform, like an earthen couch,  $0.1 \times 0.3 \times 1.3$  metres wide. There were two large pottery jars built into the floor and some broken brick works in the northwest corner, which could be the remnant of a stove. The deposit inside the house consisted of three distinctive levels. On top was a layer of cultivating soil with a few post-Han posherds. In the middle was a stratum of yellowish brown earth with Han pottery fragments and occasionally blocks of stamped earth. At the bottom was the greyish brown earth and a rich variety of Han relics, mainly pottery vessels and tiles. The shapes of the utensils, some inscriptions, the types of bricks and tiles, the bronze *pan-liang* coins and *tai-kou* belt-hooks, the iron and stone axes and knives and some inscribed sealing clays were consistently in the Western Han tradition. They are distinguishable from the Eastern Han remains that were recovered from the ruins of Ho-nan-hsien in other parts of Chung-chou-lu. It seems reasonable to conclude that the house was destroyed and the roof collapsed to the floor at the same time

and the debris has not been disturbed ever since.

LING-KUANG-TIEN 靈光殿 IN LU 魯  
(22, 327-39)

Lu, the home city of Confucius was an important cultural centre in the Chou dynasty. It continued to flourish into Western Han when it became the capital of Lu, a kingdom created by Emperor Ching-ti 景帝 for his son, Prince Kung 恭王 in 154 B.C. Prince Kung was a great lover of architecture and among the gardens and palaces which he built, Ling-kuang-tien Hall was the most famous. Tradition has it that he made use of the foundation of the royal ancestral temple of ancient Lu and a part of Confucius' residence for the building and the magnificent architecture stood as a pride to his kingdom. But like all the Han palaces in Ch'ang-an, the hall, together with the Chou city of Lu was razed to the ground during some political upheavals in later dynasties and the land reverted eventually to cultivated fields by the peasants. The modern city of Ch'ü-fu 曲阜, about a quarter of the size of ancient Lu, occupies parts of its south-western section while the ruins of Ling-kuang-tien stands outside the modern city to the northeast. It was investigated by K. Komai, T. Sekino and others in 1940-42.

The ruins of Ling-kuang-tien forms a rectangular mound of about 700 metres east to west and 400 north to south. The north and east section is higher than the rest, appearing like a terrace with the highest level in the north-eastern corner, about 8 metres high. The cultivated fields are strewn with fragments of brick, especially in the walls of a gutter which runs from north to south in the middle. There were also several blocks of white sandstone, 76 × 85 × 30 centimetres thick each, which had served as pillar bases of the building. Most of the bricks and tiles collected are decorated with geometric, floral and animal

designs, inscriptions of auspicious phrases and figures of the deities of the four directions, all typical of the Han period. The excavation revealed several sections of the foundation, showing that the building was mainly a brick construction, including the walls, passages, floors, wells and underground drainage. Among the architectural materials are a large number of ceramic cobbles which were either cast singly or in groups of 64 neatly arranged in 8 lines on a square block forming a studded brick. They were used like river pebbles for the pavement of passages. The most significant discovery is a decorated block of white marble, 94 × 40 × 19 centimetres thick. Apart from the geometric design it bears an incised inscription on one side, reading *Lu liu nien chiu yüeh so tsao pei pi* 魯六年九月所造北陛 which may be translated as "This is the northern steps to the throne, constructed in the ninth month of the sixth year of Lu". There is no doubt that here is the ruins of Ling-kuang-tien, which was built in 149 B.C.

IRON SMITHY OF T'IEH-SHENG-KOU  
鐵生溝 (8)

The mountain range around T'ieh-sheng-kou in Kung hsien 鞏縣, Honan, was well-known for its iron ores ever since the Chou times. In the Western Han the mineral deposit here was explored by an iron smithy which maintained a flourishing industry at the spot. The ruins of this ancient mining factory was excavated by the Honan Archaeological Team in 1958-59. Extending over an area of 21,600 square metres, its surface is covered with a considerable amount of ore dusts, slags, burnt clay and ashes. Within an excavated area of 2,000 square metres, the remains of 17 smelting furnaces, a low temperature roasting oven, a melting furnace and a firing hearth have been revealed. There are also four building foundations, several ore-dressing grounds, groups of pits for casting,

quenching, compounding and storage and numerous implements and products of the industry such as iron hammers, picks, and hoes, ploughshares and arrowheads, nails and hooks as well as pottery vessels and moulds, bricks and tiles, whetstone and pounders and some bronze objects including a series of Western Han coins.

Among the four building foundations, 2 are semi-subterranean while the others are on the ground surface. One of them was built with stamped earth while the rest of bricks. It is worth-noting that one of the brick buildings was built over the foundation of the stamped-earth structure. This gives another indication that brick and tiles were not introduced for the building of ordinary houses until the end of Western Han.

Of the 17 smelting furnaces, two are rectangular while 6 are circular in shape. Five others are neatly arranged in a single row. They were built of different refractory bricks and their structure vary according to their shapes. But the interior were all lined with a layer of refractory clay mixed with straw.

The reverberatory furnace consists of two parts, one for smelting the ores and the other for the fuel. The bottom of the former is covered with a layer of lime while the walls are built of bluish refractory bricks which is further strengthened by a layer of refractory clay. The large amount of vault-shaped refractory bricks found in the furnace indicate that it had a vaulted top. Among them are a number of pottery tubes which were built in to facilitate the

passage of air into the furnace, probably with the help of bellows. Around the furnace are blooms of low carbon steel of a rather high quality. Metallographical studies show that one of them has a carbon content of about 0.35 %. Around melting furnace eight casting pits with many clay moulds scattered nearby are found. It shows that the main method of production was casting. Most of the implements unearthed were cast in double-moulds which feat may be considered as a technical advance over the single mould casting generally used in making iron implements in the Chan-kuo period. Moreover, in the vicinity of a firing hearth is a quenching pit. This indicates that a forging technique was also practised.

Among the fuel unearthed at the site are charcoal, coal and coal cakes. The latter was made of coal dusts, clay and quartz. The fact that not only coal but also coal cakes were used seems to suggest that coal was already a popular industry. The use of coal may be pushed back to an earlier date than Western Han.

Finally, the ceramic vessels, bricks, tiles, the bronze objects, the *wu-shu* and *ta-ch'uan wu-shih* 大泉五十 coins and the inscriptions stamped, incised or written on the pottery all show that the site may be dated from the reign of Wu-ti through the end of Western Han.

Honan was a favourable region for the iron industry in the Han times. Two other sites have also been discovered by the Honan Archaeological Team one at Nan-yang 南陽 in southern Honan (WW, 60.1.58-60) and

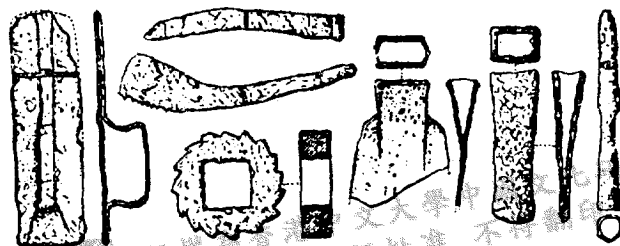


Fig. 19. Some iron artifacts, Ho-pi-shih — after KG, 63.10.551.



the other at Ho-pi-shih 鶴壁市 in the north. (KG, 63.10.550-552) They were both operating in the same tradition as that of T'ieh-sheng-kou. (Fig. 19) The additional data throw more light on our understanding of the iron industry in Western Han.

POTTERY KILNSITE OF LI-TS'UN 李村  
(KG, 57.5.78)

The investigation of a Han dwelling site at Li-ts'un, some 6 kilometres west of Meng-hsien 孟縣 in Honan revealed a series of ancient pottery kilns. A few of these, either square or round in shape, are quite well-preserved. Some are constructed in earthen mounds and others are built of bricks, but the firing chamber is always flat at the bottom and has an opening in the ceiling. A round kiln which is full of fragments of common Han pottery vessels and wood-ashes, has a floor space of 1.9 metres in diameter and is 2.5 metres high. One of the square ones, constructed of bluish bricks, measures 2.5 metres high and 2.5 metres wide, and the contents comprise also a large quantity of potsherds including fragments of typical hollow bricks of the Western Han period. The excavators presume that this type of kilns were designed specially for the firing of hollow bricks which are usually very large in size. Broken pots and tiles and kiln refuse are abundant in the cultural debris and it has been common for the modern villagers to build their houses with these ancient remains. Travellers in Honan cannot help being impressed by the general use of wasteful materials in the country side, for nothing is wasted in China. No wonder that all abandoned cities are simply striped bare, often including the mud walls themselves.

CHU-FANG-HSIANG 朱房鄉  
(KG, 59.3.136)

The conversion of an abandoned city wall of stamped earth into a brick factory has been quite common in China. One

example may be found at Chu-fang-hsiang in the northern suburb of Peking. Baking chambers were constructed in the mud wall while the sections nearby supplied the raw material. In 1954 a survey of the wall discovered that it was an ancient city which had long been converted into cultivated fields. The southern city wall, which was built of stamped earth, contains a considerable portion of Chan-kuo potsherds, Han materials being very rare. In the middle of the northern city are some ruins of an iron smithy where no less than 40 iron implements have been collected. Since then several excavations have been conducted at the site by the Peking Cultural Fieldworkers. It is a square city about 2000 metres in circumference with a cultural debris of about 1 metre thick. The surface layer, 50-60 centimetres thick had been badly disturbed by farming activities. Two-third of the potsherds, including fragments of bricks and tiles collected at the site are of the Han period. The most common metallic objects are Han *wu-shu* coins and bronze arrow-heads. Among the iron implements are spades, hoes, mattocks, socketed axes, swords, broad axes, dagger axes and ring-handled knives. There is also a cooking range which is quite well preserved. Inside the stove are some Han potsherds while nearby an accumulation of charred animal bones. All these cultural remains indicate that this city was abandoned shortly after the Western Han period.

POTTERY WELLS OF  
TS'AI-KUNG-CHUANG 蔡公庄  
(KG, 59.3.136)

Another interesting discovery has been made in Peking itself. In the course of improving the irrigation system of Yung-ting-ho 永定河, a whole series of Han pottery wells has been found between Fu-hsing-men 復興門 and Hsuan-wu-men 宣武門 in the southwestern part of the city. They are crowded in four groups, each covering an

area of 6 square metres. They are all sunk deep into the ground and re-enforced with large pottery rings. The most well preserved example has 16 rings on top of one another. Each ring was impressed with decorative designs, usually cloud patterns on the inside and cord-marks on the outside. Those that are plain on the inside has mat-impressions on the outside. These are all common decorations on the well-rings since the Chan-kuo period. For the Han times, the cord-marks are generally of the coarser type. Besides, there are always some pottery jars in the bottom of the well. One of them had collected as many as 16 pieces, apparently dropped or abandoned during the course of drawing water. A few of these were inscribed in the Chan-kuo and Han fashion. Among the objects recovered from these wells are many *wu-shu* coins indicating that the use of these wells had been discontinued shortly after Western Han. The concentration of so many wells in one spot was meant more for farm irrigation than for household water supply.

WU-CHI KU-CH'ENG 午汲古城  
(*WW*, 57.1.78)

Most abandoned cities in China had been occupied continuously for a long time. The ancient city of Wu-chi in Wu-an 武安, Hopei furnishes a good example. The square city wall of stamped earth is quite well preserved. The northern and western walls stand at 3-5 metres high while those in the south and east about 2 metres and there are four gates in the four directions. The city covers an area of 68,000 square metres. The excavation conducted in the western part of the site in 1956 revealed three successive levels, corresponding to Ch'un-ch'iu, Chan-kuo to Western Han and Eastern Han respectively. It was a centre of ceramic industries, a total of 16 kilns were found. The majority produced ordinary household utensils while a few specialized in brick and tile making.

The fire chamber was either round or square in shape ranging from Eastern Chou to Eastern Han in date. As a whole the earliest kiln was small and it became progressively larger in subsequent periods. In some cases, several kilns were constructed side by side together as a group with water wells, clay pits and simple piles of stone and bricks in the neighbourhood.

The most common architectural remains encountered in the excavation are underground pits of various period yielding quantities of whetstones and small knives. The majority are round in shape and square ones are rare. Most of the Eastern Chou houses are subterranean in construction and one of them has a cooking range of red burnt clay which is preserved together with the chimney. There are also a few earthen stair steps and post holes nearby. The earthen street of the Han period were usually provided with stone trenches as water passages underground and cobble re-enforcements on the surface.

The majority of cultural remains collected at the site are bricks and tiles of many descriptions, belonging to various periods. The pottery wares are mostly daily utensils such as pots, bowls, vases, jars and steamers. Those that are associated with the *li* 鬲 tripod are the earliest in date while the Chan-kuo and Western Han examples decorated with designs and inscriptions typical of this stage. Among the metal objects are tools and implements, including hoes, ploughshares, mattocks, cauldrons, knives, arrowpoints and coins, also from various periods. So are stone mills, mortars, whetstone and axes. A fragment of a cogwheel occurs together with some trimmed *wu-shu*. These should belong to the Eastern Han period. Besides, more than 40 tombs unearthed in this locality are mostly rectangular burials of the Late Chou period. All these seem to testify that the ancient city of Wu-chi was at its height in the Chan-kuo to Western Han times.

## NORTHERN KIANGSU (KG, 64.1.22-23)

Abandoned Western Han cities in the Yangtse basin suffered the same fate as those in the Huangho basin.

In northern Kiangsu the region along the Lung-hai 隴海 railway between Pi-hsien 邳縣 and Hai-chou 海州 was populated ever since the prehistoric days. Apart from some neolithic and Western Chou deposits, no less than 20 Han sites have been investigated by the Nanking Museum. One of these is identified as the ruins of Li-ch'eng 利城, a *hsien* city in the Western Han times. The walls were built of stamped earth roughly square in shape, 500 metres on each side. The northern wall had long been completely destroyed, but the other three sides are still noticeable. Within the enclosure, the grey earth is strewn with fragments of pottery vessels and tiles, mostly with cord-mark impressions. At another site, identified as the Han city of Tung-an-hsien 東安縣, bronze arrowheads and coins have been found. Further south at Chang-pa-ssu 丈八寺 in Shu-yang 沭陽 (WW, 53.1.53-54), the Han cultural deposits, 1 metre below the ground surface, has yielded, besides pottery, bronze swords and mirrors, *pan-liang* and *wu-shu* coins and pieces of deer antlers. There are also a series of wells and a stone bridge. Most of the 70-80 wells were all built with large pottery rings, each measuring 37 centimetres high, 3.3 thick and 76 in diameter. The bridge, lying 2 metres underground, was built in two sections with two spans of black limestone. It should have been buried by river flood before the city was abandoned, otherwise the stone would have been commissioned for other purposes in subsequent times.

## CENTRAL KIANGSU (KG, 64.5.223-226)

In central Kiangsu, 26 sites with Han deposits have been found around Lake Hung-tse 洪澤. At To-lung-ssu 駝龍寺 the Han stratum was laid over a layer of

neolithic and a layer of Western Chou remains in stratified order. In four others only the Western Chou stratum has been found under the Han deposit. The rest are Han sites. As a whole they range from 10 to 90 thousand square metres in area, but the largest site at Ch'üan-ch'eng 穿城 covers 225,000 square metres. Some of them have been found on the banks of the old river bed of Huangho, buried under a layer of yellow earth 1-3 metres thick. Others are located among the hills surrounded by rivers. The majority are situated on low mounds clearly marked by the remnants of mud walls. The Han cultural level is generally yellowish grey in colour, yielding all sorts of grey pottery with cord-mark impressions. At ch'üan-ch'eng a hoard of Han bronze coins weighing about 50 kilogrammes has been unearthed.

## EASTERN KIANGSU (KG, 64.1.27)

The investigation of the region further east around Lake She-yang 射陽 yielded roughly the same results. The Han dwelling site of Ma-wa-fen 麻瓦墳 at Yen-ch'eng 鹽城, for instance, covers an area of about 1.5 kilometres north to south and 1 east to west in a mound of about 3 metres higher than the surrounding plain. The cultural remains comprise a wide variety of metal tools and implements, pottery vessels, bricks and tiles, *wu-shu* coins, belt-hooks, lamps and spindle-whorls and sealing clays. (Fig. 20) One of the sealing clays bears the impression of a seal of the magistrate of She-yang. Most of the geometric, floral and animal designs on the pottery are clearly in the Han tradition. There are also pottery well rings, underground pipe lines as well as moulds and slags from some metal industries.

More ruins of industrial workshops and pottery kilns have been noted at Ch'eng-wei-tzu 城圍子 in Ssu-yang-hsien 泗陽縣 (KG, 64.5.223) and at Li-kuo-yi 利國驛 near Hsü-chou 徐州. (WW, 60.4.46-47)

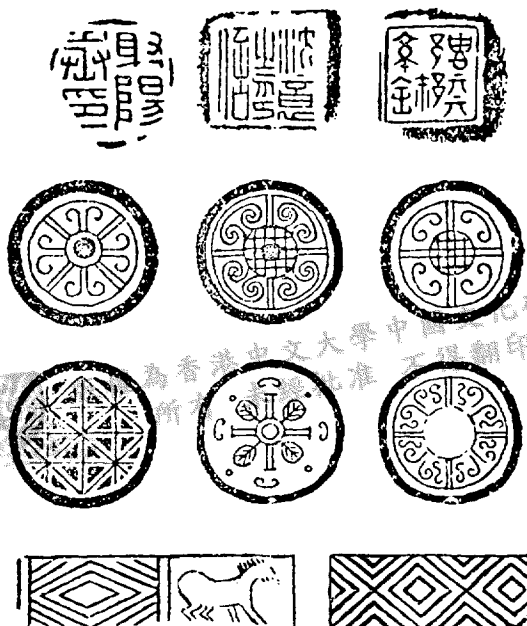


Fig. 20. Some sealing clays, tile-ends, and bricks,  
Ma-wa-fen — after KG, 64.1.27.

#### ANHUI (WW, 55.11.129-30)

In Anhui a number of Han ruins have also been recorded. The ancient site at Po-hsien 亳縣 was occupied since neolithic times. The overlying Han cultural stratum measures 1.5 metres thick. The abandoned city is square in shape roughly 2.5 kilometres on each side covering an area of no less than 10 square kilometres. Among the debris are fragments of decorated bricks, pottery vessels, heaps of ashes and lumps of burnt earth, pieces of iron slags and some *wu-shu* coins.

At Shou-hsien 壽縣, another cultural centre of ancient China, a section of an abandoned city wall is built of stamped earth. (WW, 63.7.54) A narrow strip of land inside the city about 140 metres long, nine ancient wells have been found. Two of them are simple vertical shafts dug into the ground while the others are all re-

enforced with pottery rings. They were placed on top of one another and lined with sandy earth on the outside. Each ring measures 40 centimetres high, 80 in diameter and 1.5-2.0 thick, making a depth of about 7 metres. Three of the wells are linked to one another, while the rest are scattered about 7-70 metres apart from one another. From the bottom of the wells a large number of Han pottery vessels, fragments of tiles and stone artifacts have been recovered. The most common objects are some globular pottery water buckets with two loop handles on the shoulder.

Many more abandoned cities of the Han period have been recorded in other provinces along the Yangtse. Investigations into these ruins yielded as a whole the same results. They tend to throw light on one another. There was a general uniformity of culture throughout the land in Han China.

#### IV. Western Han ruins in South China

CH'ENG-TS'UN 城村 (KG, 60.10.1-9; 61.4.219-221)

Most of the ancient cities in north China are square in shape. But in the hilly provinces of the south where the topography of a site had to be taken into consideration, the walls of a settlement can be quite irregular. The Han city of Ch'eng-ts'un at Ch'ung-an 崇安 in Fukien may be taken as an example.

According to *Shih-chi* Fukien was part of the kingdom of Yüeh 越 in Eastern Chou. The rulers were descendants of Kou-chien 句踐, the famous King of Yüeh who absorbed the Kingdom of Wu 吳 in 473 B.C. After the Ch'in unification, the region became a county of Min-chung-chün 閩中郡, but in the beginning of the Han dynasty the kingdom was restored under the name Tung-Yüeh 東越. It was soon subjugated by Emperor Wu-ti who moved most of the people to the north of Yangtse and put the region under the K'uai-chi-chün 會稽郡 with its capital in Chekiang. Throughout the Han period Fukien remained obscure. The ruins of Ch'eng-ts'un was known as Min-wang-ch'eng 閩王城 because it was attributed to the King of Min, Wang Shen-chih 王審知 (907-925) in the Five Dynasties. The excavation of the site by the Cultural Committee of Fukien in 1959 testified that it was actually an abandoned Han city.

The city walls were erected around a mound, bounded on the north, east and west by the Ch'ung-hsi 崇溪 river. Higher in the west the site broadens down to the east into the river delta. The city is slightly rectangular in shape with bended wall in all directions. The remaining structure measures 800 metres long, 5-6.1 high and 8.5 wide in the east,  $750 \times 6 \times 8$  in the west;  $500 \times 2.6 \times 8$  in the south and  $505 \times 4 \times 10$  in the north. Within the enclosure, totalling

2,555 metres in circumference is an area of 40,000 square metres. It has 3 gates, 2 on the east and one on the west, each about 30 metres wide. Beyond the walls it is further surrounded by a terrace 4-6 metres wide and a ditch of 4-6 metres, serving as a defence trench or moat.

The wall was built in two stages. The foundation was set on the sloping surface of the ground, 1.8-6.1 metres high, 38.5 at the base and 22.5 on top. It consists of three layers of grey clay mixed with river pebbles about half a metre thick at the bottom. Another layer 3.2 metres thick of grey sandy earth mixed also with river pebbles and miscellaneous potsherds in the middle and a third layer of yellow sandy earth tempered with large quantities of pebbles, 2.4 metres thick on top. The wall itself was made of stamped yellow earth and some potsherds, 12 metres at the bottom and 6.5 on top with a remaining height of 2.6 metres.

The general topography inside the city is characterized by a number of mounded terraces, eight in the middle and two square ones in the northwestern and southwestern corners. There are two gullies, some 30 metres wide which cut across the city linking the west gate to those in the east. They were probably the main thorough fare of the settlement. The entire field is strewn with all sorts of cord-made potsherds similar to these found in the city walls.

Under the cultivating surface of the ground, the excavation encountered several sections of cobbled passages, 10 underground pits and the foundation of a large building in the northwestern part of the city. Thousands of pottery, iron and bronze objects have been recorded and 391 complete vessels restored.

The building was set on one of the terraces about 466 square metres in area. The foundation itself is rectangular in shape, measuring 47 metres east to west and 10 north to south. There are five rows of stone pillar bases systematically arranged

with 12 in the south and 11 in the north and 21 each in the middle. Each of these bases was constructed with a flat piece of natural stone either round or square or slightly trimmed at the edges for the purpose, 50-60 centimetres in diameter and 25-30 thick. It was firmly set on a solid foundation of river pebbles about 50-60 centimetres thick. Between the pillar bases of the two outer rows are placed alternately 9 circular holes in the south and 10 in the north. Each of these measures 40-50 centimetres in diameter and 60-70 deep. They were meant to take a pillar each which was set in position with fragments of bricks and pottery. So there are 21 pillars in each row, totalling 105 pillars forming the frame work of the building. Since there is no traces of any wall it may be presumed that the entire structure was made of wood which had decayed and disintegrated.

All the way south of the foundation is a narrow terraced platform about 5 metres wide with a cobbled passage slanting down at 30° leading to the main street of the city. This indicates that the building had faced south.

The ancient pottery and metal relics from the ruins are all in the Han tradition. Among them the abundant architectural ceramic finds are worthy of special consideration. The 36,979 fragments comprise tiles of various sizes and shapes, flat, semi-tubular and circular ends. Apart from the cordmarks, geometric and floral designs common in the Han times, there are some with a spotted pattern which is reminiscent of those reported from the Nan-Yüeh 南越 site in Canton before the war (*JA*, 20-31). It may be taken as a characteristic feature of the Yüeh tradition. The most significant discovery is a group with impressed inscriptions, either stamped with a square seal or cast from a circular mould. (Fig. 21) There are 11 varieties found on the semi-tubular tiles, 4 on the flat ones and only one readable on the circular tile ends. All the seal impressions are of one or two

characters and they may be taken as a name of the potter, the place of manufacture or the building for which the material was ordered.

The application of seals on tiles was started in the Chan-kuo period merely for the identification of various orders. The practice continued into the Han period and it changed with the passage of time. In the early Western Han the seal was applied on the underside of the tile, but in the later period it began to appear on the surface. Some of the Ch'ung-an tiles are marked on the underside, while others on the surface. Moreover, the impressions were sometimes applied close to each other forming a row or covering the entire surface. This was a style introduced in middle Western Han and was distinguishable from the singular impression practiced in the earlier periods. In this way the potter's or owners's mark was employed as an element of the decorative design. Besides, the impressions show that the Ch'ung-an seals were mostly carved on pottery, a new fashion started also in the middle Western Han, unlike those used earlier which were mainly made of bronze. Further more, the tile end inscription reads *Ch'ang-lo wan-sui* 常樂萬歲, a common auspicious phrase on Han tiles, but the first character was replaced by a homony which means "always" instead of "long", the standard expression. This, as recorded in history was introduced by Wang Mang when he came to power. All these seems to indicate that the building at Ch'eng-ts'un was constructed towards the end of Western Han.

This assumption may further be supported by another inscription which was incised on a bronze cross-bow mechanism. The readable characters are *Ho-nei kung kuan san-shih chin pai wu-shih* 河內工官三十斤百五口六口 . . . , meaning "[manufactured] by the Works Officer of Ho-nei, 30 *chin* [was used], [this is no.] 156[?] . . .". According to the *Han-shu*, an Office of

Works was established in Ho-nei-chün with its capital at Huai-hsien 懷縣, Honan. It is interesting to note that some military supplies from the Government workshop north of Huangho reached the southern province at this early stage.

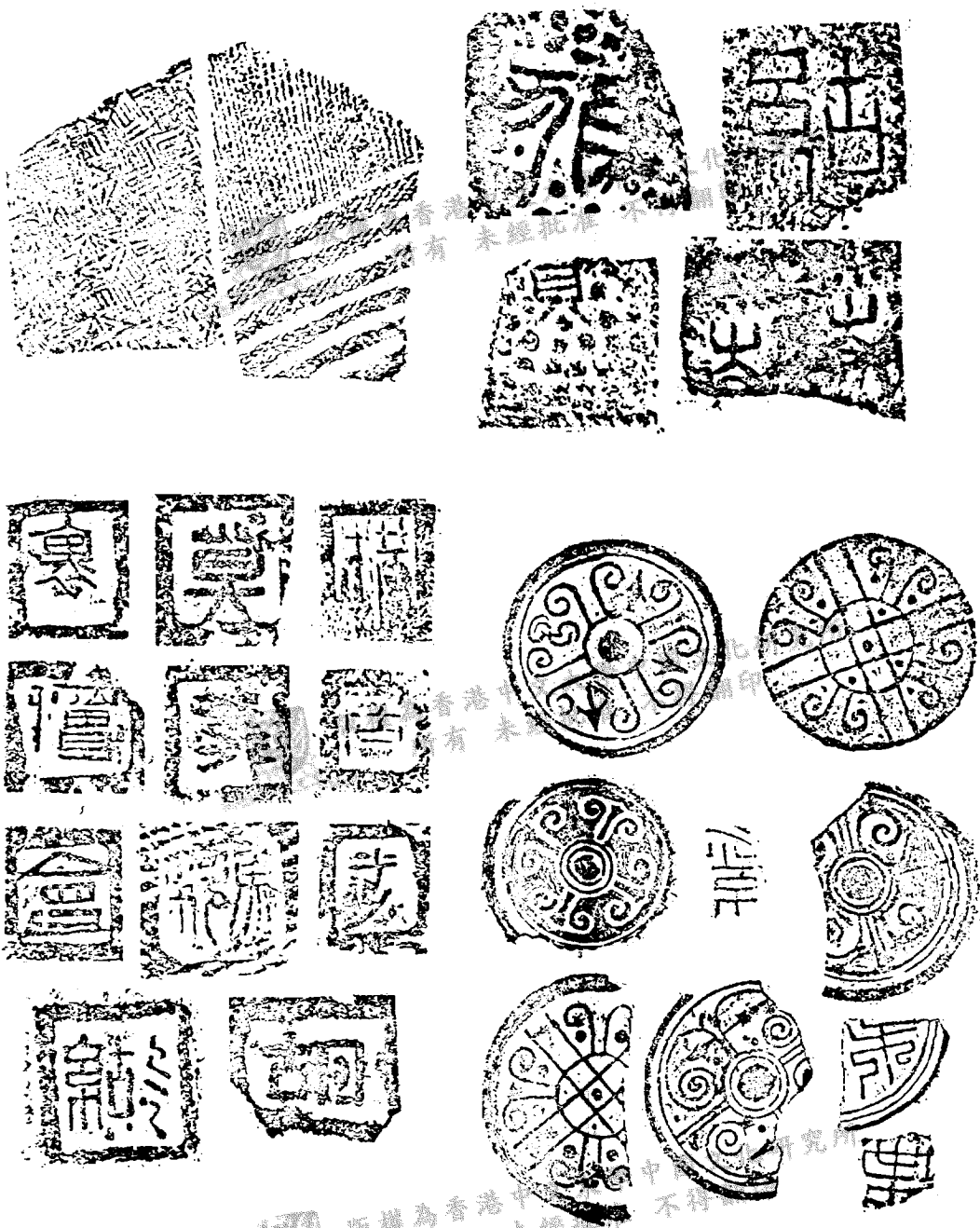


Fig. 21. Some bricks and tiles, Ch'eng-ts'un — after KG, 60.10.8-9; 52.

LIEN-CHIANG-K'OU 連江口  
(KG, 64.8.421-422)

The expansion of Ch'in and Han into south China was responsible for many strategic fortifications in the mountainous region in northern Kwangtung. According to the *Shui-ching-chu* 水經注 and local gazetteers some of these, known as K'uang-p'u-kuan 滙浦關 and Wan-jen-ch'eng 萬人城 were built in the beginning of the Han dynasty along the river banks at Lien-chiang-k'ou in Ying-te 英德, the northern gateway into Canton. The region was investigated by the Kwangtung Cultural Committee and two sites were found, one on each bank of the river.

The northern fortification ruins is situated on the top of a hill about 50 metres above the river level. With a high mountain range on the northeast it commands the approach of the river Pei-chiang 北江 in the north and the entrance of Lien-chiang in the south. The removal of earth at the site for construction purpose exposed a cultural layer stretching for a distance of about 30 metres. The deposits, measuring 10-20 centimetres thick yielded a considerable amount of potsherds, mainly tiles and broken vessels. The former are of the common grey ware with textile impressions while the latter are grey hard ware with impressed or incised geometric designs. The recognizable shapes include jars and other daily utensils.

The ruins of the southern fortress occupies the top of another hill which is smaller than the one on the opposite bank. The removal of the soil has sliced off the top on the northern side. The pottery collected at the site are similar to those found at the northern fortification, all in the Han tradition.

In the beginning of Western Han there existed a powerful kingdom, known as Nan-Yüeh in south China and Indo-China. The ruler was Chao T'o 趙佗, a native of

Chen-ting 真定, Hopei who served as the magistrate of Lung-ch'üan 龍川 in Kwangtung under the Ch'in government. When Ch'in Shih-huang decided to subdue Indo-China further south, Chao was appointed one of the commanding generals. The fall of Ch'in gave him the opportunity to declare himself the Emperor of Nan-Yüeh with P'an-yü 番禺 (Canton) as its capital. This was in 207 B.C. and two of his *chün* provinces were in Indo-China, known as Chiao-chih 交趾 and Chiu-chen 九真. After repeated diplomatic manoeuvre he was persuaded to recognise the Han suzerainty and accept a kingship from the Han emperor in 196 B.C. But the struggle against the Han domination continued until it was finally subjugated in 112 B.C. The armies under the command of four admirals, advanced in four columns by four water routes and spearheaded for P'an-yü at the same time. The fortresses of Lien-chiang-k'ou constituted a fortified position erected by Nan-Yüeh to defend its capital. After the fall of P'an-yü one of the Han generals, Fu-po-chiang-chün 伏波將軍 Lu Po-te 路博德 pressed on to destroy the remaining forces of Nan-Yüeh in Indo-China. As a result nine *chün* provinces were created within the territory of this southern kingdom.

DONG-SON 東山 (15, 3.28-34)

The village ruins of Dong-son was first discovered in Thanh-hoa 清化 which corresponds roughly to the Han province of Chiu-chen in northern Annam. It is located on the right bank of the Songma river, some 10 kilometres southwest of Thanh-hoa. In the past many Ch'in and Han bronzes had been reported. Several excavations were carried out there by French scholars, especially Olov R. T. Janse in 1938-39. Apart from many ancient tombs and pottery kilns, the village ruins is characterized by the remains of some pile-dwellings. Various



poles and wooden fragments have been found 2-2.50 metres below the surface of the ground, some still standing in upright position. In the cultural stratum of greenish-black earth a considerable number of ceramics, especially potsherds and net-sinkers, bronze buckets containing a few weapons and animal bones have also been unearthed. It seems evident that the people of Dong-son lived in pile-dwellings in the Han times on the right bank of Songma, stretching out over the surface of the river. What was left of the village after it had been abandoned must have been covered by the alluvial soil deposited by the annual overflow of Songma.

The discovery of pile-dwellings at Dong-son is not unique in Chinese archaeology. This type of architecture was known in ancient literature as *kan-lan* 干蘭 and a number of other names because it was a common type of dwelling in south China. There are frequent references to it in ancient texts and even to this day it can still be found in certain areas of China. (KX, 63.2.65-85)

Among the archaeological finds discovered south of the Yangtse more complete remains than those of Dong-son have been reported. For the prehistoric period it appears in the form of many wooden piles driven into the ground, arranged in neat rectangle or oval. Examples have been recorded from Ch'ien-shan-yang 錢山漾 in Chekiang to Hai-men-k'ou 海門口 in Yunnan. (KG, 58.6.7-8) Others, such as those recovered at Mao-chia-tsui 毛家嘴 in Hupei belonged to the Western Chou period. They show that this type of architecture was used in China not only at an early date but also in a much wider area than what was mentioned in the ancient texts.

Moreover, there are many models and representations of such dwellings among the archaeological finds from south China. They include the knob of a neolithic pottery cover,

resembling a house with distinctive features of a pile-dwelling from Ying-p'an-li 盤里 in Kiangsi and a number of models and pictures of such dwellings in pottery and bronze, including those on bronze cowrie-containers from Shih-chai-shan 石寨山 in Yunnan. (Figs. 22-23) Judging from these models and pictures it seems that the Han pile-dwelling is not as simple as it looks. An ordinary house uses two pillars which go up to support a horizontal beam for the construction of the roof. The latter is saddled in shape, thatched or covered with laths of bamboo. Others use a series of pillars not just to support the roof but also to serve as walls and partitions. They are further provided with doors and windows as well as railings around the building. A large example comprises an elaborate complex, a main building flanked by four smaller ones, two on each side forming a court yard in front of the main building. This is a typical ground plan of Chinese houses. The dwelling floors may appear on different levels and some of the ground floors are high enough for men and animals to move round. There is no doubt that the Kan-lan architecture followed a tradition of its own.

In the Eastern Han tombs this type of architecture was even more common appearing in the form of pottery models of houses and granaries. While still supported with piles, the roof and other structures of these buildings were already similar to the standard type of Han architecture. These representations show that the pile-dwelling of south China underwent considerable alterations and modifications in the Han times. In reviewing the *Kan-lan* architecture in ancient China An Chih-min 安志敏 concludes:

"The pile-dwellings were probably an indigenous form of architecture south of the Yangtse, unlike the Han style architecture found in the Yellow River valley which belongs to a different tradition. Before the

influence of the cultures of the Central Plain reached this region, the indigeneous cultures south of the Yangtse as expressed in the pottery with geometric impressions, bronzes and architecture were marked by strong local characteristics. But under the continuous influence of the cultures of the Central Plain, they were completely absorbed by or become integrated with the latter, thereby forming an organic constituent of the Han civilization." (KX, 63.2.85) The discovery of the remains of pile-dwellings

and tombs together with Ch'in-Han jades and bronzes, pottery and pottery kilns in Dong-son and other parts of Indo-China gives concrete evidence that Han culture was well-established in this region in the Western Han times as recorded in the ancient literature.

Finally, it may be noted that pile-dwellings are still quite common in many parts of southeast Asia. But compared with the Western Han *kan-lan* they are generally rather simple in structure.

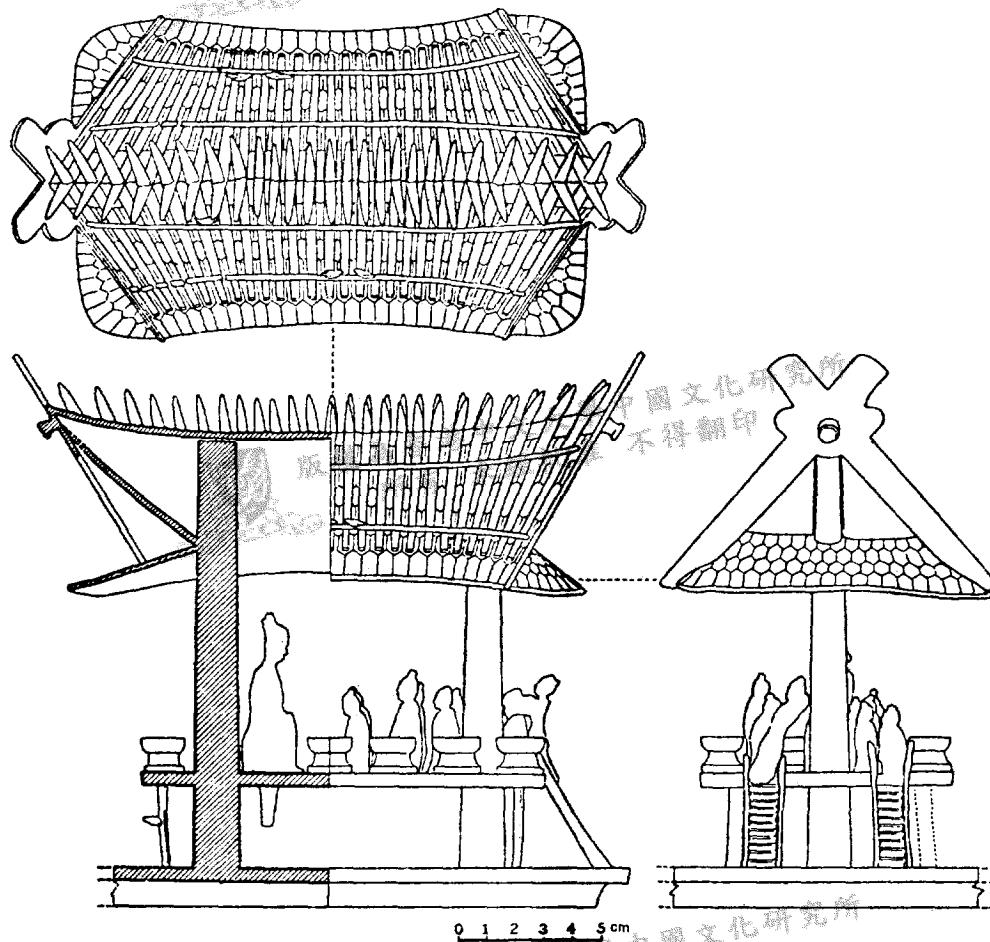


Fig. 22. Model of a *kan-lan* building on a bronze cowrie-container, Shih-chai-shan — after KX, 63.2.67.

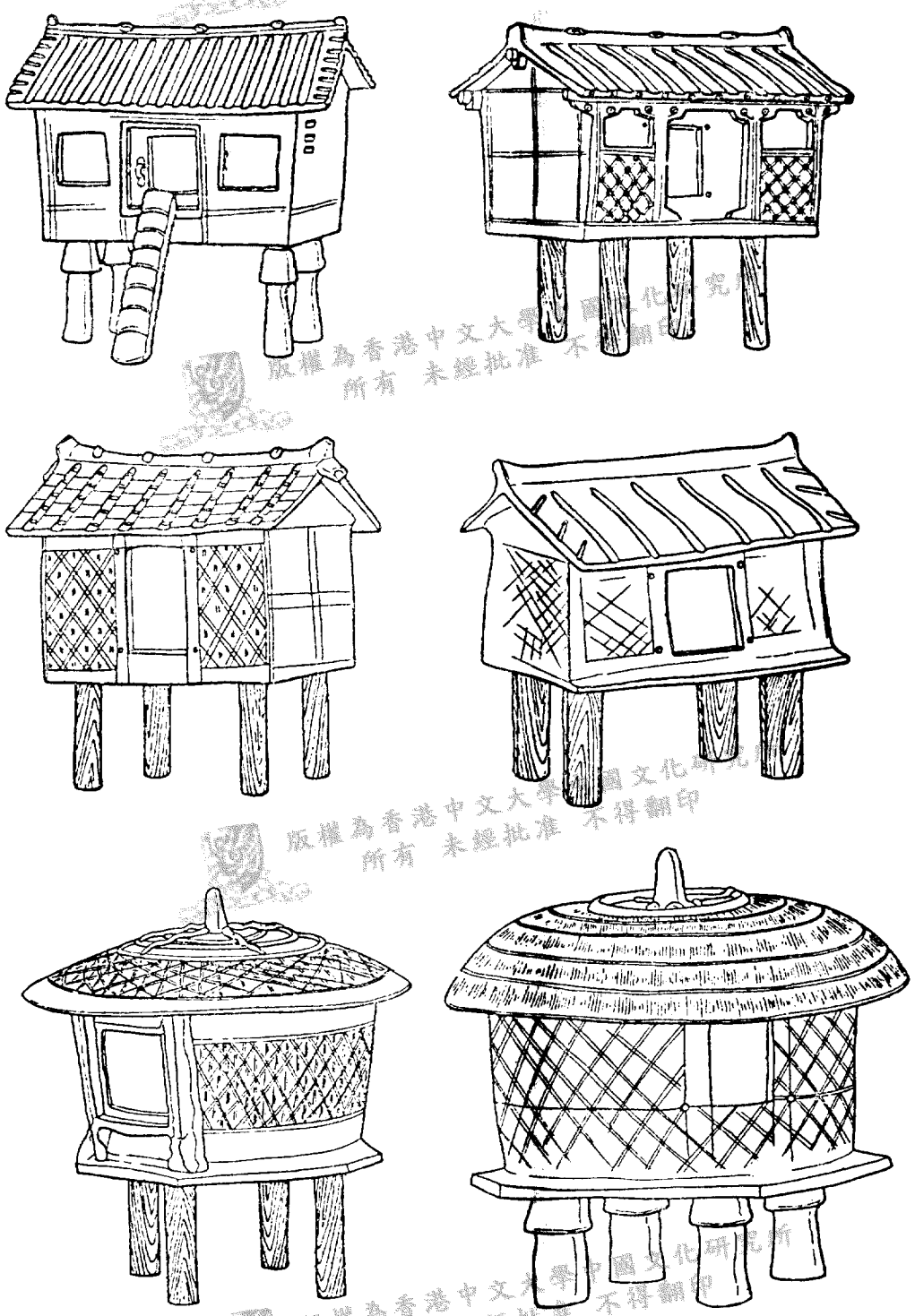


Fig. 23. Some models of *kan-lan* architecture in pottery, Canton — after KX, 63.2.72.

## V. Western Han ruins outside the Great Wall

A number of Han architectural ruins have been noted in connection with the Great Wall mentioned above. The latter was but an artificial demarcation between the nomadic north and the agricultural south. In times of war it could indeed serve as a fortified barrier, but during normal periods when peaceful relations prevailed it was opened to busy intercourse between the two cultures. Apart from practising pastoral nomadism the northern peoples were always ready to adapt Han material culture. It is well-known that the Hsiung-nu 匈奴 wore silk, ate rice with bone chopsticks, sheltered themselves in Han type of semi-mud huts and drove Han carts. They even followed the Han example of keeping registers of the population and domestic animals for the purpose of levying taxes. (27, 206) There were also intermarriages. In the Western Han times five Han princesses were married to the Shan-yü 單于 chieftain of Hsiung-nu. Their relations were not always hostile against each other. Therefore, Han types of architectural and other remains outside the Great Wall are only to be expected. Let us begin with some of the archaeological finds in Sinkiang beyond the western end of the Great Wall.

SINKIANG (*WW*, 56.8.11-31;  
60.6.27-28; 64.6.49-51)

The struggle against the harassments of Hsiung-nu in the early Han times was extended beyond the western limit of the Great Wall. In 140 B.C. Wu-ti dispatched Chang Ch'ien 張騫 on an embassy to Yüeh-chih 月支 in Central Asia hoping to make an alliance with them against the common enemy because they had been chased out of their original home in Kansu by the Hsiung-nu and moved to settle in a new territory west of the Pamirs. The mission was unsuccessful but Chang Ch'ien's

report on the prosperity of the various countries in Central Asia kindled much ambition in the emperor who pressed forward with his anti-Hsiung-nu policy. He had to rely on his own resources.

The initial programme was to gain control of the Ho-hsi 河西 (Kansu) corridor. This was successfully achieved by General Huo Ch'ü-ping in 121-119 B.C. with aggressive conquest as well as by military colonization. As a result four *chiün* prefectures, namely Wu-wei 武威, Chang-yeh 張掖, Chiu-ch'üan 酒泉 and Tun-huang 敦煌 from east to west, were established and two strategic passes at the most western frontier, Yü-men-kuan 玉門關 in the north and Yang-kuan 陽關 in the south were fortified and garrisoned. In order to make the corridor safe against the raids of the enemy, extensive fortifications were constructed. There were a *sui* 燧 beacon fire tower every five *li* 里 (about 3 kilometres), a *tun* 燧 beacon fire mound every 10 *li*, a *pao* 堡 military station every 30 *li* and a *ch'eng* 城 walled city every 100 *li*. The ruins of a series of these fortifications has been investigated by the Sino-Swedish expedition in 1930. It consists of a long but often disconnected wall along the Eh-chi-na 額濟納 river (Edsen-gol or Jo-shui 弱水 in the Han times) with 10 forts, 156 watch-towers, a pavilion, a house and six walled enclosures or settlements. The main defence line stretches from south to north for about 250 kilometres on the east bank and there is also a branch line which extends over the mesa area for about 60 kilometres. The architecture found in the remains was invariably built of unfired bricks, stamped earth or long blocks of stone. Although partially repaired in subsequent times most of them were built in the beginning of the first century B.C. and continued in use until the end of the second century A.D. The dating is fully supported by a large number of written documents unearthed in the ruins. (*KX*, 63.1.77-110)

It was a planned military colonization. The climate was then favourable for agriculture and most of the garrisons could support themselves partially by practising field cultivation besides their military duties. In this way the corridor came to serve as a plunging board for the westward expansion. Through continuous diplomatic manoeuvre and military operations out west all the countries in the Western Region were finally made tributaries of the Han court.

The Han expansion into Central Asia made the communication between East and West safe for trade and commerce. The main merchandice from China was silk and the road westward came to be known throughout the ages as the Silk Route. In the Han times River Tarim was a mighty stream and Lop-nor, a large inland lake. But with the climatic change in subsequent centuries the water resources had greatly been reduced and the flourishing country side was gradually engulfed by the desert. When the European and Japanese expeditions tried to explore the ancient trade route in the beginning of the present century they found many of the Han cities and fortifications along the river under the desert sand.

Among the archaeological finds recovered in these desert sites there are several collections of written documents on bamboo and wooden tablets which, being source materials of primary importance, have attracted much attention in the academic world. Aurel Stein of the Indian Archaeological Survey was probably the first to have made such discoveries. In 1901 he found some forty pieces at Niya in Khotan which may be dated from the Eastern Han period (24, 1.358-63; 2. Pls. 112-4). At Lou-lan 樓蘭, Sven Hedin of the Sino-Swedish expedition found in 1903 many more documents of wood, silk and paper, including 121 pieces of wooden tablets dated 266 and A.D. 269. Between 1902 and 1914, the Otani 大谷 expedition explored the same region and found some more belonging to the same period. In his third expedition

in 1913-15 Stein discovered again 83 wooden tablets dating from A.D. 263-270. All these are primarily administrative and private documents including one "Letter Tablet" dated A.D. 266. The most important finds, however, were made by Huang Wen-pi in 1930. His excavation in the Lou-lan ruins brought to light two series of wooden tablets which are dated 49 B.C. and 12-9 B.C. respectively, testifying the beginning of Western Han settlements in this area as noted in the official history. (9, 105-112)

The site is located at T'u-ken 土垠 in one of the three northern most fresh water bay of the present lake Lop-nor. It was originally the kingdom of Lou-lan which had close intercourse with Hsiung-nu, but was subdued by the Han military settlers in the 2nd century B.C. and became soon the main Han military centre in this area. The ruins consists of solidly constructed fortresses with walls of stamped earth, signalling stations with subterranean tunnels, dwelling houses with solid walls re-enforced with timber, and cemeteries with primary graves as well as secondary mass-burials. The site was first discovered by Sven Hedin in 1900-01 and repeatedly investigated by other scholars. But it was not until 1930 when Huang Wen-pi made his important finds in the ruined structure that the date of the Han settlements was established. This was further supported by a large quantity of Han pottery, silk fabrics, lacquer utensils, bronze mirrors, coins, seals, arrow-heads and others which were unearthed in the debris.

The military colonization of Hsi-yü 西域, the cross road of many cultures, continued into the Eastern Han period. The most far-reaching campaigns were conducted by General Pan Ch'ao 班超 in the first century and western dignitaries and merchants began to visit Lo-yang in increasing numbers. They surrendered to the Han domination in various degrees, while the Han officials and soldiers arrived to settle down among them. In the early decades

of the present century a large number of ancient ruins have been investigated along the Tarim river by various parties, (1; 10, 1-62; 9), but it was not always easy to identify them as Han structures without inscribed records. One exception has been found in the ruins of Yen-ch'eng 延城 at K'u-ch'e 庫車 (Kucha). The Han architectural remains include a number of fortified passes. On a rock cliff in the neighbourhood there exists a long inscription which records that the strategic fortification was built by Liu P'ing-kuo 劉平國 in A.D. 158. Among the ruins were some Han relics such as bronze seals and coins, indicating that it was another fortified centres of the Han military colonization. (10, 31; 99-102)

Recent investigations in Sinkiang have brought to light some stone human figures in Yi-li 伊犁. In standing posture they are chiselled out of large block of stone in the Han style, simple in details and execution, retaining the angularity of the original block. In 1958, ruins of two Han iron smithies have been found in Lo-p'u-hsien 洛浦縣 and K'u-ch'e-hsien. The construction of the furnace, together with remnants of iron ores, slags, crucibles and pottery tubes for the bellows, shows that the industry was conducted in the Han manner. It is evident that the Han garrisons in the Western Regions were equipped with some military industries at their respective stations. The Han westward expansion was indeed not a temporary affair. Future excavations in Sinkiang will produce more evidence for the wide spread Han influence in this outlying province.

DESERT RUINS IN THE  
KANSU CORRIDOR  
(25, 96-102; 17, 1-67;  
KX, 63.1.77-110)

The Han provinces in the Ho-hsi corridor suffered the same fate as the oasis countries in the Western Region. In the course of the struggles after the fall of the

Han dynasty and the encroachments of the nomads and in their wake the all-engulfing desert sand put an end to most of the Han settlements in these areas. Explorations of the desert ruins along the corridor brought forth many more collections of Han written tablets. Stein's expeditions in Tun-huang and Chiu-ch'üan are well-known. His collection of Han wooden tablets number more than 1,000 pieces dating from 98 B.C. to A.D. 153. Apart from the messages and accounts of the garrisons stationed at the western most tip of the corridor, there are literary works and calendars and works on arithmetics, divination and astrology. The most interesting materials are a great number of official dispatches and private communications which throw light on the military organization and the signal system, the civil administration and its elaborate communication network as well as the life and activities at the outlying stations. Some of the calendars are complete, notably for the years 63, 59, 57 and 39 B.C. and 94 and A.D. 153. Besides, there are fragments of the *Chi-chiu-ch'ang* 急就章, a popular lexicon which was composed in 48-33 B.C. and widely used in elementary instruction in the Han times. All these show that the population of the Han outposts at the frontier were not limited to the military community.

The same situation has also been found in Chang-yeh which had some military and civil headquarters south of Chü-yen. The ancient prefecture was drained by Eh-chi-na which flows from the Kansu corridor in a northwesterly direction into the lake of Sogho-nor 索果諾爾 in Ninghsia. In the Han times there were series of watchtowers and signal stations guarding the northern flank of the corridor as mentioned above, but all these installations had long been engulfed by the desert sand. The region was explored by P. K. Koslov in 1908 and by Stein in 1914, but it was in 1930 when Folke Bergman of the Sino-Swedish expedition made an extensive exploration along the east bank of the river. A large collec-

tion of Han documents was discovered, totalling no less than 10,000 tablets. The ruined fortress at Ta-wan 大灣 (Taraling-indurbeljin) alone yielded some 4,000 pieces while at Ti-wan 地灣 (Ulan-durbeljin) 1,500 pieces were collected. A large number of these documents are dated, ranging from 102 B.C. to A.D. 31, a period of no less than 130 years.

Similar to those found at Tun-hüang, the Chü-yen tablets consist primarily of official dispatches to the garrisons of the frontier stations, documents and registers, letters and calendars, laws and statutes, lexicons and medical prescriptions and miscellaneous records. The most interesting finds is an inventory of weapons stored at the military outpost. They were in 77 connected tablets, strung together with two lines of hemp cord at the ends. The tablets are 23 centimetres long and about 1.3 centimetres wide, and the entire text spreads out about 122 centimetres long. It was written between A.D. 93 and 95. The manuscript efforts an existing sample showing the ancient system of book making as represented by the character *ts'e* 冊. When rolled up in a bundle, it forms a *chüan* 卷 scroll, a term used for Chinese books up to the present day.

#### INNER MONGOLIA (*WW*, 57.4.29-30)

The climatic condition in Inner Mongolia outside the Great Wall was also favourable for Han expansion. The *t'un-t'ien* 屯田 military agricultural colonies were practicable and Emperor Wu-ti succeeded in establishing eight *chün* provinces along the Yin-shan range. It is well-known that some 56 cities each with some fortified stations were constructed during that time. In the 1950s a large number of these ruins have been investigated. They were all built of stamped earth and rather small in size. The better preserved example, located to the east of Hu-ho-huo-t'e 呼和浩特, measures 900 metres north and south and 850 east

and west. According to the present conditions **these** Han ruins may be classified into **three** groups. A typical Han city consists **normally** of two square walls one inside the other. The area within the inner wall is strewn with fragments of Han pottery, bricks and tiles while the spaces between the inner and outer walls usually devoid of **these** remains. This shows that the former **was** occupied by government buildings and official residences while the latter **was** allotted for the dwelling of the common people and living quarters of the border garrisons. The walls are quite well preserved, some as high as 5.6 metres and the cultural deposits are all typical of the Han period. It seems that the city was abandoned in the Han times and had never been used again.

The second group consists of those that had been repeatedly occupied by later settlers. In this case the architectural and cultural remains of Han, North Wei, T'ang and Yuan periods occur in mixed form. The rest of the ancient sites mostly quite small in size had suffered much from rain and wind erosions, leaving a few remnants of the Han walls.

Most of the leading Han cities in this outlying region have yielded the foundations of office buildings, ruins of iron smithies, and sites of pottery and brick kilns as well as dwellings and storage pits of the common people. The ancient cemeteries are located in the **outskirt** beyond the city wall. Among the cultural remains, there are fittings of iron armours and large quantities of official sealing clays indicating that the office in charge **was** responsible for the military affairs. There are also pottery wells and various types of material remains which may be ascribed to the Western Han as well as Eastern Han period. (*WW*, 61.9.7)

The struggle and peaceful co-existence between the agricultural south and the nomadic north was most wide spread along the **Great** Wall. Apart from the Han military installations which set the founda-

tions for a number of Han *chün* provinces, a mixing of cultures took place involving the two leading groups, the Hsiung-nu in the north and the Tung-hu 東胡 in the northeast. In some of the tombs which were found in the three Han provinces the cultural relics of these groups usually occurred together, notably a large number of bronze plaques and fittings in the animal style. It is not always easy to identify the owner without any inscriptions. (*WW*, 57.4.30-32; 13, 86-88)

TUNG-PEI 東北, THE NORTHEAST  
(*KG*, 57.1.22-27)

Han activities in the Northeast were comparatively more peaceful than in Inner Mongolia. The territory had already been colonized during the Yen 燕 and Ch'in times and several *chün* were established. There were less nomadic groups to harass the Han settlers and agriculture was favourable. The recorded population amounted to 945,644 persons in Western Han and 216,903 in Eastern Han. The ancient Great Wall that stretched from Ch'ih-feng in Jehol through Kirin into Korea served as the northern boundary has been mentioned and south of this demarcation line a large number of Han cities and villages have been investigated in recent decades. They are scattered far and wide in Jehol, Kirin, Korea and Liaoning. In most of these sites the remains of Chou, Ch'in and Han were usually found in mixed form, indicating a long and continuous occupation. A few important typical Han sites are to be noted below.

The ruins of a Han iron-work was investigated at Ch'eng-te 承德 in 1953. The site represents a complete working complex of the industry including a mine, an ore processing yard, a series of workshops and living quarters. The mine consists of a main shaft which penetrates the mineral deposit to a depth of 100 metres in three levels with tunnels branching out in all

directions. The latter were paved and supported with timber mostly in an advanced stage of decay. The upper level had collapsed and the mine can only be entered through a modern tunnelled passage that leads into the middle level. The main feature at this level is a long terraced platform about 4 metres wide and 1 metre below the entrances to the various tunnels. These may be reached by a series of steps, each being 0.2 metre high. Among the ruins on the terrace are rocks and earths fallen from the upper level, a decayed ladder and other woodworks as well as fragments of pottery and charcoal. This is recognized by the investigators as a mining platform leading into the mining tunnels. One of the latter is still quite well preserved measuring about 2 metres high at the entrance. It was noted that there are several mining platforms in the two lower levels. The ore was collected on the platforms before it was removed from the mine with wheeled carts. A pair of iron wheels with the axle has been reported at the entrance of the ancient mine. Besides, some iron hammers and a pair of iron tongs were also collected.

The ore processing yard is situated 8 metres southwest of the mine entrance. It was here that the iron ore was separated from the rocks which were left in large mounds around the yard. Only the ore was transported to the smelting area. There are four workshops adjacent to one another lying on the hill side and on the banks of the river which flows nearby. The one on the hill is better preserved with the ruins of five smelting furnaces. Among the ruins are quantities of brick fragments, iron slags and six discoidal blocks of copper which are all inscribed. Apart from two characters *Erh-nien* 二年 meaning "the second year" which appears on five of them, the inscriptions read *Tung* 東 60, *Tung* 58, *Tung* 54, *Hsi* 西 60, *Hsi* 35 and *Hsi* 53 respectively. As *Tung* means "East" and *Hsi* "West", it has been presumed that they were produced by the workshops on the



eastern and the western banks of the river respectively. It seems evident that the iron smithy undertook to smelt copper as well.

The dwelling ruins are located on the river bank as well as on the hill. The super-structure of the ancient houses had all been razed to the ground leaving layers of greyish earth with fragments of pottery tiles. Among the remains are various types of Han pottery vessels, iron *tai-kou* belt hooks, iron hoes and some *pan-liang* coins. They give support to the assumption that the iron work was in operation during the Western Han times.

T'OU-KOU-TS'UN 頭溝村  
(KX, 56.1.36)

The Han cities in Jehol may be represented by the ruins of T'ou-kou-ts'un some 40 kilometres north of Ch'eng-te. The wall measures 229 metres east to west and 146 north to south and is 3 metres high. Within the enclosure the field is strewn with all sorts of decorated tile-ends, and some bronze arrowheads and iron axes have been collected. To the north of the city is the ruins of an ancient village about 500 square metres in area which is also covered with fragments of Han tiles. The region around Ch'eng-te was undoubtedly a busy centre in the Han times.

AN-CHANG-TZU 安杖子  
(KX, 56.1.36)

Most of the Han cities in the Northeast are rectangular in shape surrounded with a wall of stamped earth. An exception has been found at An-chang-tzu in Ling-yuan 凌源, also in Jehol. It has two walls one inside the other. The northern wall, of the inner city, measuring 113 metres long, forms part of the northern and eastern walls of the outer city. As the city was built on the slope of a hill, the other three sides vary from one another in length, 120 metres on the east, 100 on the west and 80 on

the south, making roughly a square enclosure. Inside the city, a quarter of the area is **now** occupied by a cemetery which belongs to the Chang 張 family. In the northwest corner is a mound about 3 metres high which was probably the ruins of some ancient architecture and the southwest area is under cultivation forming a sloping field at a height of one metre. The outer wall had been badly damaged but the remaining structure gives a rectangular outline, 200 metres from east to west and 300 from north to south. The ground is strewn with broken pottery tiles and vessels, typical of the Han period.

SAN-TAO-HAO 三道壕  
(KX, 57.1.119-125)

A number of Han villages in Kirin and Liaoning existed without the protection of walls. Some of the areas were quite prosperous, harbouring large populations. At San-tao-hao in the northern suburb of Liao-yang 遼陽, for instance, a large ancient village site has been found on an alluvial plain along the western bank of T'ai-tzu-ho 太子河 river. It covers an area of no less than 4 square kilometres, larger than an ordinary *hsien* city. Members of the Tung-pei Museum have excavated a small part of it in 1955, revealing six dwelling floors, 11 water wells, 7 pottery kilns, 2 sections of stone roads and 368 urn burials for young children.

Standing 15-30 metres apart from one another, the dwellings were built at random with no definite ground plan nor any standardized orientation. Apart from the living quarters most households were provided with cooking ranges, storage pits, water wells, lavatories, cattle folds and garbage heaps. Between these houses there are ruins of pottery kilns and roads paved with river cobbles. The excavation shows that the site was occupied for a long time and the houses had been destroyed and rebuilt in at least three separate intervals.

Dwelling site no. 2 is the largest at San-tao-hao. It measures 38 metres east to west and 15 north to south. The cultural accumulation appears in three levels. The lowest deposit was found in the western part of the site about 1.7 metres below the surface of the ground. Apart from a stratum of greyish earth with quantities of fragments of tiles and pottery vessels there are a well pit and a small cooking range which had been overlaid by a cattle fold and a lavatory of the middle period. Among the remains are large and small *pan-liang*, and *i-tao* — 刀 coins. Some *wu-shu* coins have been found in the earth which filled the upper part of the well. The pottery vessels are *tou* cups, *kuan* jars and a large *yung* pot. The main deposit of the middle level is located in the eastern part of the site. It may be represented by a foundation platform of yellow earth with large quantities of tile fragments and potsherds. The building was probably constructed of wooden pillars, mud walls and a straw and tile roof. Adjacent to the west of the house is a cattle fold, a fenced enclosure re-enforced with six square wooden posts, fragments of which are left in the ground. Behind it is another fence leaving three post-holes. Further west is a well which was a vertical pit in the ground with square construction of wood at the bottom up to the water level. It was filled with earth and there are the ruins of a cooking range and some skeleton of a horse in the upper part of the pit. In the middle of the site was the upper horizon lying over the middle stratum. Six stone pillar bases have been found associated with large quantities of tile fragments, pieces of stone and potsherds. With the ruins of two pottery kilns closeby, it seems possible that the building was the potter's residence. There is also a water well which was constructed in the same fashion as the one found in the middle level, but the lower part was lined first with large pottery rings and then with large rectangular bricks forming roughly a vertical

shaft. It was filled mainly with broken bricks. Further east is another pit filled with brick fragments, pieces of stone and potsherds and a *ta-ch'uan-wu-shih* 大泉五十 coin. As a whole the cultural remains recovered at the site include bronze arrowheads, belt hooks and buttons; iron hoes, axes, adzes, spades, sickles, arrowheads, swords, and knives; pottery mills, pots, rings, spindle whorls, bowls and cups, vases and jars and steamers; *i-tao*, large and small *pan-liang*, *wu-shu* and *ta-ch'uan-wu-shih* coins; and some glass beads and earrings.

The ancient remains excavated from the five dwelling sites at San-tao-hao presents a similar picture. The accumulation in three levels, the types of architectural work and cultural relics are all similar to one another. In some cases, some of the pottery tiles and vessels bear inscriptions. They show that the settlement was occupied by small agricultural families who maintained their respective activities, forming a self-sufficient community. Pottery making was probably their secondary occupation. Among the ruins of seven pottery kilns five were found in the middle and later levels. They were all constructed in the same fashion. A vertical square chamber was dug in the ground roughly 3 metres high with a chimney on top and an entrance at one side. The floor and the upper opening were re-enforced with rectangular bricks and clay and the inner surface plastered with layers of straw-tempered clay. There was a fire pit under the floor which was provided with several heat vents. The accumulation of layers of plastered clay inside the firing chamber seems to suggest that the kiln had been used for a long time. Calculated from the size of the bricks recovered at the site the chamber was big enough to fire 1800 pieces of the building material at the same time. In front of the kiln is an open space, probably for the storing of fire wood, and large quantities of tile fragments and pillar bases of stone found nearby indicate that

the work shop was sheltered under a roof. Among the architectural remains, there are some bronze *p'u-shao* 鋪首 masks and arrowheads, iron spades, hoes, chisels and knives, pottery basins, bone points, glass earrings and knife-shaped *i-tao*, *pan-liang* and *wu-shu* coins, all similar to those recovered at the dwelling sites.

The ancient people of San-tao-hao built a road in the settlement. A stretch of about 166 metres has been investigated to the north of the excavated dwelling ruins. It measures about 7 metres wide with a slight upward curve on the surface and straight and smooth on both sides. On the surface of the road there are series of impressions left by passing carts showing that the two way traffic was regular and heavy. At the eastern end of the road it branches out to the north and to the south. It could be the main thoroughfare of the entire settlement. The cultural relics scattered along the road include some bronze belt hooks and arrowheads; glass beads and earrings; *pan-liang* and *wu-shu* coins and fragments of pottery tiles and vessels. These are all similar to those found in the settlement.

#### LO-LANG (5, 4-5; 21)

One of the *chiün* provinces established by Emperor Wu-ti in 108 B.C. in the Northeast was Lo-lang. The ruins of the capital city is located on a terrace on the southern bank of the Ta-t'ung 大同 river in north Korea. Like all abandoned cities in other parts of China it had long been razed to the ground leaving only parts of the ruined mud wall. The ancient structure measures about 700 metres from east to west and nearly 600 from north to south. The investigation of the site conducted by Sekino in 1909 unearthed a large number of Han cultural relics including *pan-liang*, *wu-shu*, *ta-ch'ung-wu-shih*, *hsiao-ch'uan chih-i* 小泉直一 and *huo-ch'uan* 貨泉 coins; some bronze and stone seals; bronze

and iron arrowheads; fragments of bricks and tiles and various sealing clays belonging to the officials of Lo-lang and a series of round tile-ends each with a inscription reading *Lo-lang li-kuan* 樂浪禮官. The last items indicate that they belonged to the building of the ceremonial office of the Han province. Besides, there are also other tiles inscribed with *Ta Chin Yuan-k'ang* 大晉元康 (291-300) showing the province was still under the Chinese jurisdiction after the Han dynasty.

In the neighbourhood of the site there are a large number of well-preserved Han tombs. The excavations carried out by Japanese scholars prove that Lo-lang was a flourishing centre during the Han times.

#### VI. Hsin architectural ruins

The rise of Wang Mang towards the end of Western Han marked another period of extensive architectural activities in and around the capital at Ch'ang-an. As a champion of ancient rituals and ceremonies Wang Mang was responsible for a series of new buildings in the southern suburb of the city. They were used in all sorts of activities associated with the sage kingship of old and were known in a wide variety of names. According to their functions these buildings may be classified into three categories, namely, the *Ming-t'ang* 明堂 and *P'i-yung* 辟雍 palaces for effective government administration; the *Chiao-ssu* 郊祀 and *She-chi* 社稷 temples for the offering sacrifices to the various gods in Heaven and on Earth; and the *Chung-miao* 宗廟 shrines and *Ling-yuan* 陵園 funerary halls for ancestral worships. All these were constructed according to the so-called classical tradition in a grand scale. The work started as soon as Wang Mang rose to power and continued into the Hsin dynasty for no less than 20 years in the beginning of the first century A.D. but they were all destroyed in the turmoil resulted from his downfall.

CEREMONIAL ARCHITECTURE  
(KG, 60.7.36-39)

In the excavations of Ch'ang-an in the late 1950s, the ruins of eight ceremonial mounuments have been investigated. They are invariably square in outline, measuring roughly 260-280 metres on each side. (Fig. 24) In the middle is the foundation of a square building, surrounded by a walled enclosure with three gates on each side. There are a series of rooms at the four corners of the wall. Further digging in the immediate neighbourhood have revealed that these eight buildings were enclosed within an outer wall forming a huge compound with four buildings in the north and four in the south. The northern wall of the compound is about 1200 metres from the southern wall of the city of Ch'ang-an. Since the ground plans of these buildings are identical to one another, Foundation no. 3, the third one from the east in the north row may be described below as an example.

In the centre of the building stands a square platform of stamped earth, 4.5 metres high and 55 metres on each side. The structure consists of a main hall in the middle and four smaller ones in the four corners. The former measures 27.5 metres square, occupying about half of the area on the platform. The smaller halls are also square in shape, measuring 7.3 metres on each side. The central hall is further provided with four small chambers on the four sides, each with a small annex on the right and a walled screen on the left. They are separated from the small halls in the four corners each with a passage way. In front of these chambers are three square terraces, and further beyond are a small stretch of brick laid road facing directly the four central gates of the wall. The entire building is surrounded by a pavement of river pebbles bounded by a line of bricks on both sides and slightly inclines for the drainage of rain water. It measures 40.25

metres long on each side and 1.4 metres wide.

On the edge of the building platform 100 post holes have been found in systematic rows, with a pair at each corner. They are each 30 centimetres deep and 40 centimetres wide, larger in the lower part, with a stone pillar base in the bottom which was further supported by a foundation of stamped earth. The building itself was provided with 16 pillar bases, of which four were concealed under the floor like those at the edges of the platform, while the remaining 12 were set on the floor surface. The pillar bases are made of large polished white stone with a circular depression on top measuring 23 centimetres in diameter and 5.5 centimetres deep. In front of the building foundation are 28 large post holes, each measuring 1.3 metres deep and 2.3 metres wide. The stone pillar bases are each 1.1 metres square and 0.74 metre high, also with a circular depression on top measuring 0.5 metre in diameter and 0.1 metre deep, and there is also a stamped earth foundation, 2.7 metres thick, underneath. Most of these stone pillar bases are either badly damaged or missing. Some of them are inscribed, giving the names of the officials in charge of the construction as well as some auspicious phrases. It seems evident that the building was constructed in the traditional fashion with large and small wooden pillars as the main framework.

The square wall enclosing the building was made of layers of stamped earth. It measures 270 metres on each side and 4.5 metres at the foundation. There are three gates on each of the four sides, each leaving a couple of stone bases for the door and 10 pillar bases for the upper structure. The gateway measures 13.6 metres long and 9.4 metres wide. In front of each gate are two stamped earth platforms, 13.6 metres long and 10.5 metres wide and 7 each on the right and left. They are undoubtedly ruins of some minor buildings. In the four corners of the wall there are also building ruins

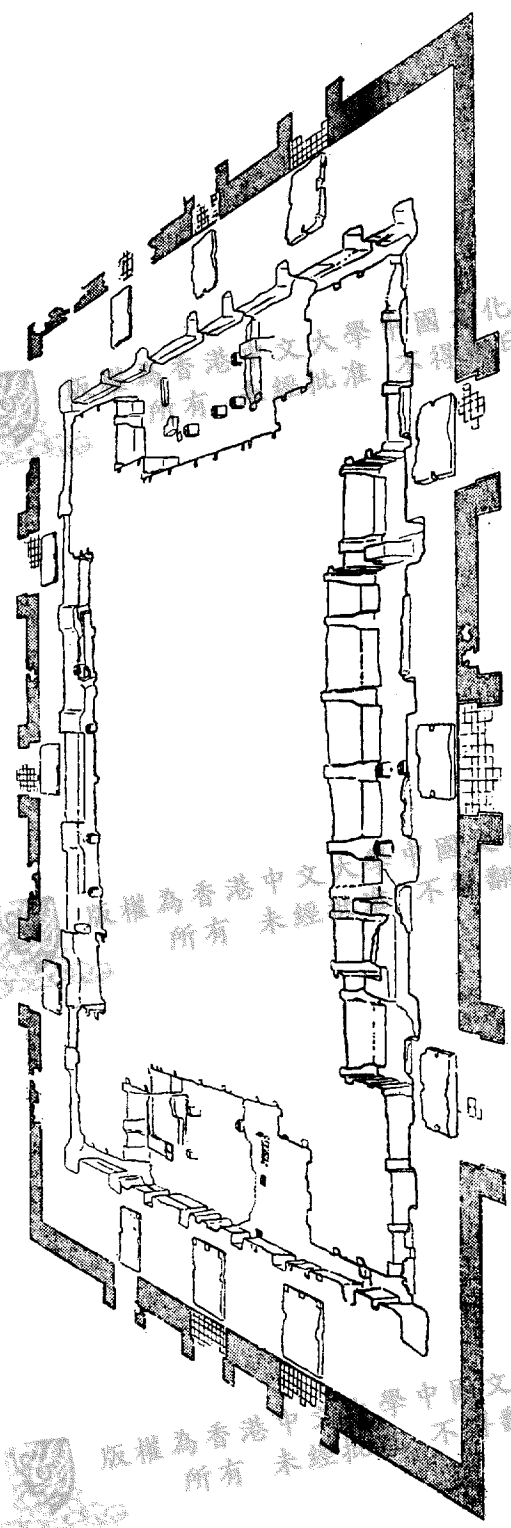


Fig. 24. Ruins of a ceremonial monument, Ch'ang-an — after KG, 60.7.36-37.

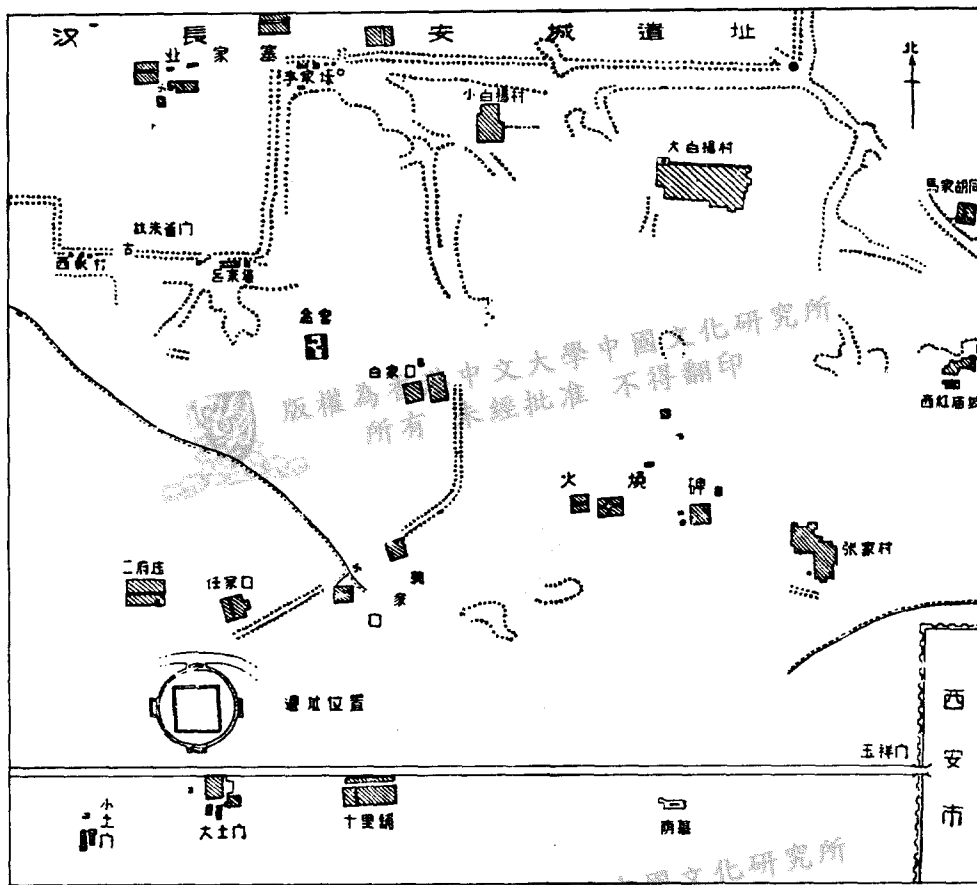
which were probably the porters' lodges or some supplementary structures. Among the entire ruins are large quantities of fragments of tiles, mud bricks, clay plaster and paint and layers of scorched earth, showing that the architecture was destroyed by fire. A few bronze and metal articles, including *wu-shu* and *huo-ch'uan* coins have also been collected.

P'I-YUNG PALACE (*WW*, 57.3.5-12);  
5.57-58; *KX*, 59.2.45-55)

To the south of the large square compound, the ruins of a circular one has been

investigated. It lies about one kilometre south of the Han capital of Ch'ang-an, forming an earth mound about 180 metres from north to south and 60 from east to west (Map. II). Its highest point attained a height of 5-7 metres above the ground level. The excavation of the site, conducted by the Institute of Archaeology, covered a total area of 6,678 square metres. (Fig. 25) A formal report was made by T'ang Chin-yü 唐金裕 with the following summary:

"The excavations revealed that this was an architectural site of the Han dynasty. Its original structure was found to have consisted of three parts: (1) A central



Map II. Architectural ruins to the south of Ch'ang-an -- after *KX*, 59.2.46.

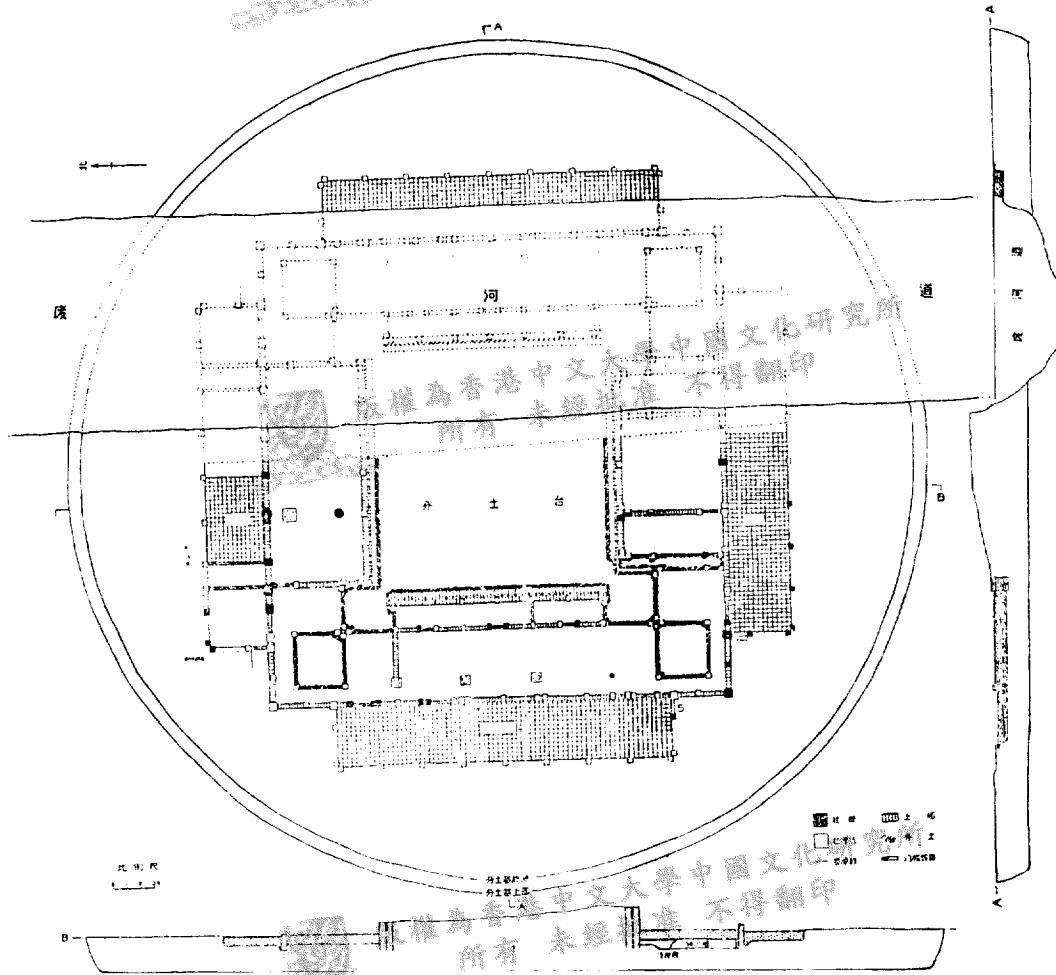


Fig. 25. Ruins of the P'i-yung Palace, Ch'ang-an — after KX, 59.2.47.

structure; (2) An enclosing wall with its four gates and auxiliary buildings; and (3) A long ditch enclosing the walls. (Fig. 26)

“Originally, the central structure stood on a rectangular earthen platform of which the upper part was pounded. And the platform in turn was built on a circular foundation of pounded earth with a diameter of over 60 metres. The plan of this central structure resembled the character 亞 and faced due south and north. In each of the four corners of the large earthen platform were two small rectangular platforms of pounded earth. And around this large earthen platform in the four directions

stood four halls. Of the latter the north hall had only four *pao-hsia* 抱廈 out-buildings while all the other three were provided with eight for each. The main room of all the halls was located inside the *pao-hsia*. Their walls were either of mud bricks or of pounded earth. The construction of the foundation of these halls was a highly complicated process. Taking the north hall for example, the ground was of red earth with very smooth surface. Beneath this layer of red earth were another of fine earth and a layer of mud paste mixed with chopped straw, superimposed on six layers of mud bricks. The stone pillar bases of the

halls were of two kinds, being either oblong or square in shape.

"The enclosing walls, likewise built of pounded earth, were of equal length on all four sides, measuring 235 metres on each side and lying at a distance of 96 metres from the central structure. To facilitate the flowing of rain water, a tiny slope was constructed along the base and below the slope ran a small drainage built of bricks. At the exact centre of the walls on each side a gate, measuring 12.5 metres in length and 4.5 metres in width, was provided. And

in each of the fourth corners of the walls were two rows of auxiliary buildings forming a carpenter's square. Encircling the walls ran a long ditch. On the outside of the sections of this long ditch opposite to the four gates was added a small oblong shaped ditch. All the ditches were built of bricks and covered with slabs. The one on the north was linked with a nearby canal.

"In addition to the discovery of a complete Han dynasty architectural plan which was a rare find, the excavations also yielded a large quantity of tiles with cord

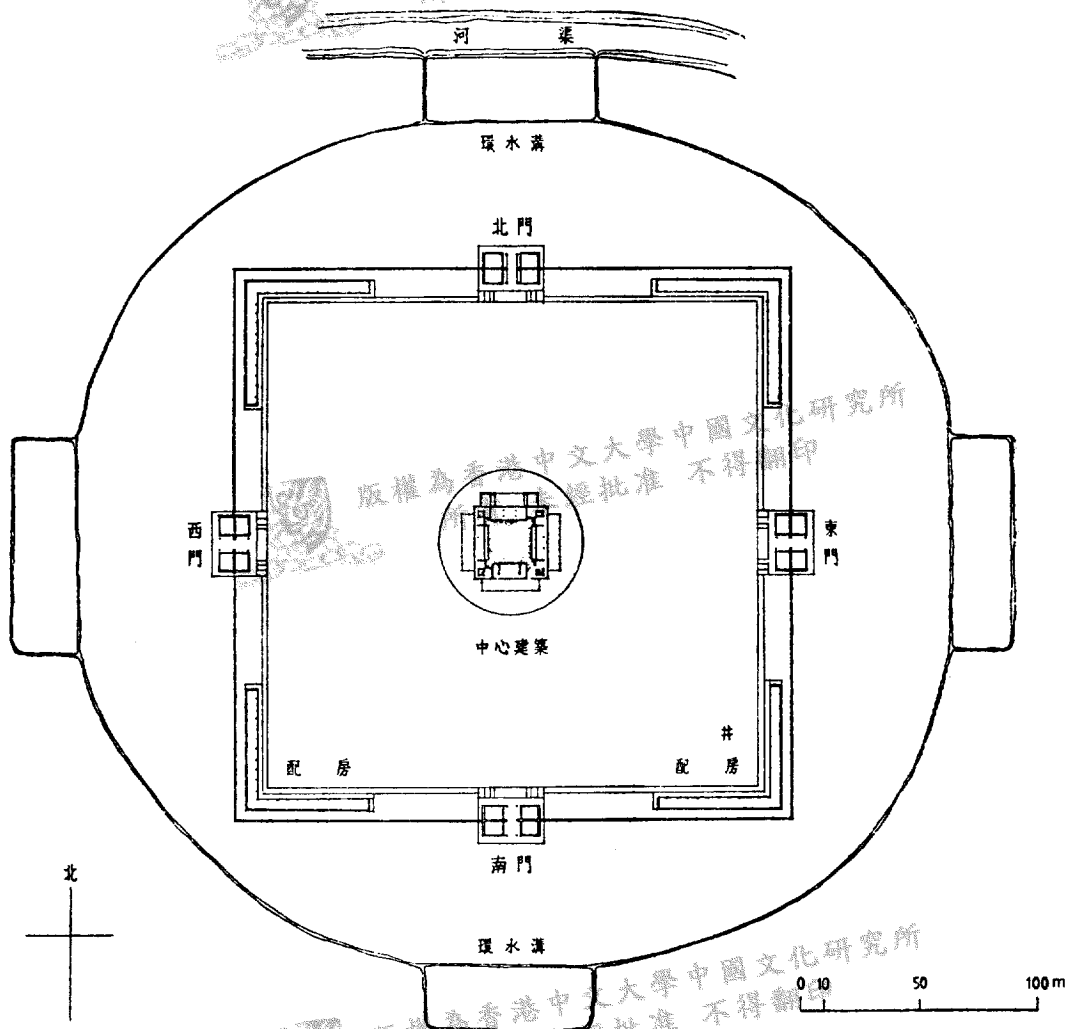


Fig. 26. Plan of the P'i-yung Palace, Ch'ang-an — after KG, 63.9.506.



impression, five *wu-shu* coins, three bronze arrowheads and some iron nails. These objects indicate that the site should be attributed to the Western Han. On the basis of its architectural plan and an initial research into some historical references the structure has been tentatively identified as a *p'i yung*." (KX, 59.2.54-55)

The excavation was so thorough that the foundation structure of every unit in each of the three parts are described in full and their detailed measurements given respectively. It seems reasonable to presume that the main hall in the centre was surrounded by four groups of out-buildings, orientated to the four directions. Each of these was composed of a hall franked by two *pao-hsia* buildings. The four walls formed a square enclosure around the central structure, also orientated to the four directions. There were four towered gates at the centre of each wall and four *p'ieh-fang* 配房 auxiliary buildings in the four corners. (Fig. 27) Beyond the walls, there was four small oblong shaped ditches opposite to the four gates of the wall. The artificial waterway was linked with a nearby canal on the north. The rare and auspicious quality of the architecture may readily be appreciated.

The report inspired a series of discussions about the ceremonial functions and the original structure of the buildings. Literary accounts and a wide variety of ancient pictures and architectural relics have been assembled for the study. Finally, in 1963, Wang Shih-yen 王世仁 came out with a proposed reconstruction of the Han ceremonial complex (Fig. 28) (KG, 63.9.501-515)

The *p'i-yung* was one of the ceremonial buildings built by Wang Mang when he was in power. The Han house was in decline, losing its moral leadership. Wang Mang proposed to restore the authority by claiming to govern by goodness. He pictured himself as another Chou-kung 周公, the model of kingly virtue in the Han mind. This led to

his using architecture as one of his chief instruments. It was in this atmosphere that this series of ceremonial structure associated with the sageking of old was built. History witnessed that Wang Mang's architecture suffered the same fate as most of the Western Han architecture at the end of his reign.

#### INDUSTRIAL CONSTRUCTION (WW, 59.11.12-13)

Wang Mang was also responsible for all sorts of industrial constructions. He nationalized the currency production and issued a wide variety of coins, many of which are common archaeological finds. The remains of a pottery kiln which served the bronze industry, some 400 metres to the west of Ch'ang-an has been investigated. The kiln was found buried under a layer of broken bricks and tiles about 80 centimetres thick and a layer of 70 centimetres of surface soil. In front of the kiln is a slanting passage 2.85 metres long and one metres wide which leads down to the entrance of the fire-pit. The opening, 90 centimetres high and 50 centimetres wide faces south. The firing chamber is placed to the north of the fire pit and is provided with two low platforms of about 30 centimetres high, leaving a fire passage in the middle. It leads to the chimney at the back of the chamber. A large number of pottery moulds and fragments have been found on the platform as well as in the fire passage. Some of these are piled on top of one another as they were in firing. They include moulds for the casting of *ta-ch'uan wu-shih* coins, rings, knives, horse-fittings and others. The *ta-ch'uan-wu-shih* moulds, for instance, are oval in shape and they were found in five piles, each containing 23 sets of two-piece moulds. Six of these are in almost perfect condition showing that they were capable of producing 365 coins in one casting. As this type of coin was circulated only in A.D. 7-19 there seems no reason to doubt that the kiln was a government

workshop during the reign of Wang Mang. been reported from the ruins of Shih-chü-ke  
Other remains of coin moulds have also inside the Han capital.

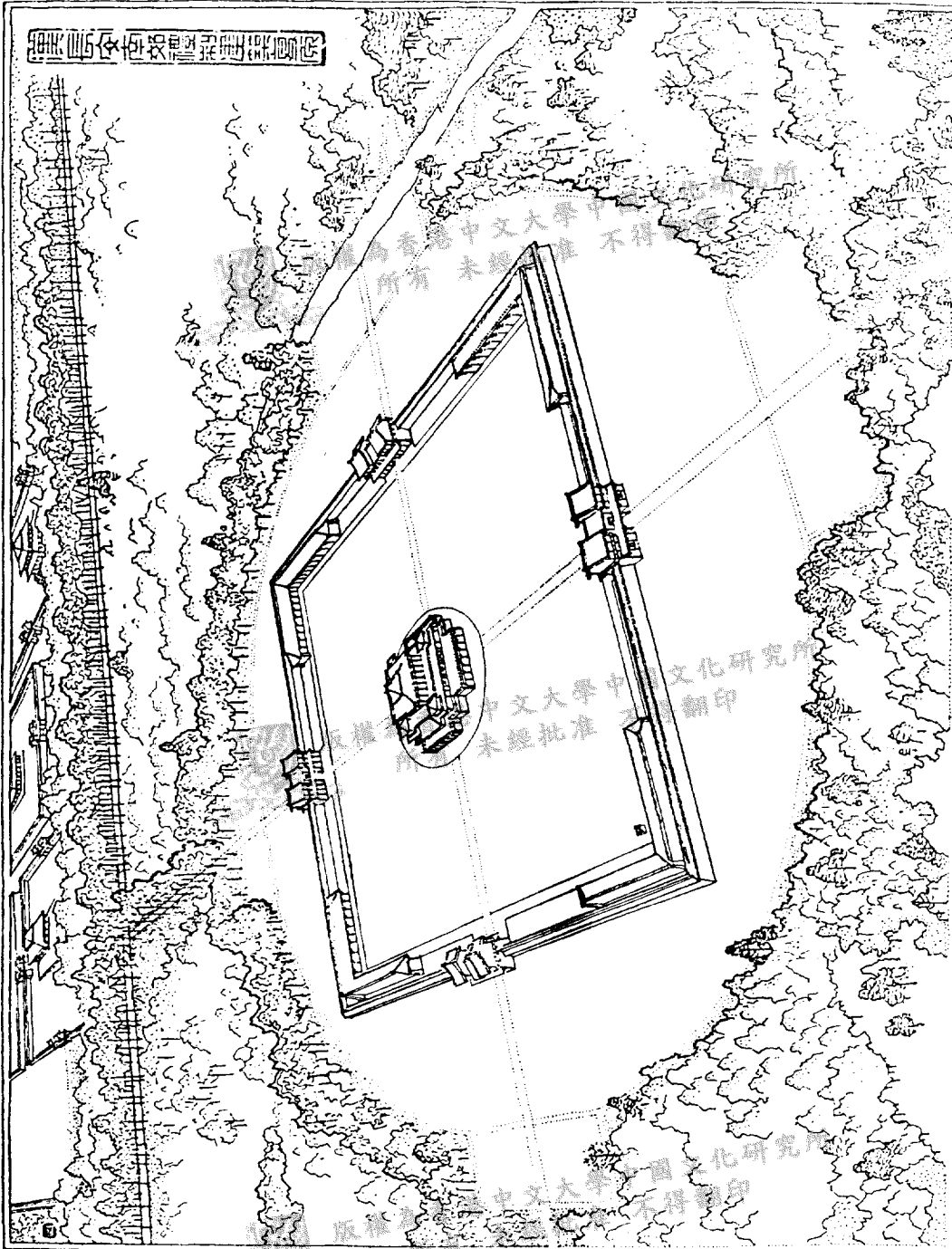


Fig. 27. Reconstruction of the P'iyung Palace — after KG, 63.9.515.

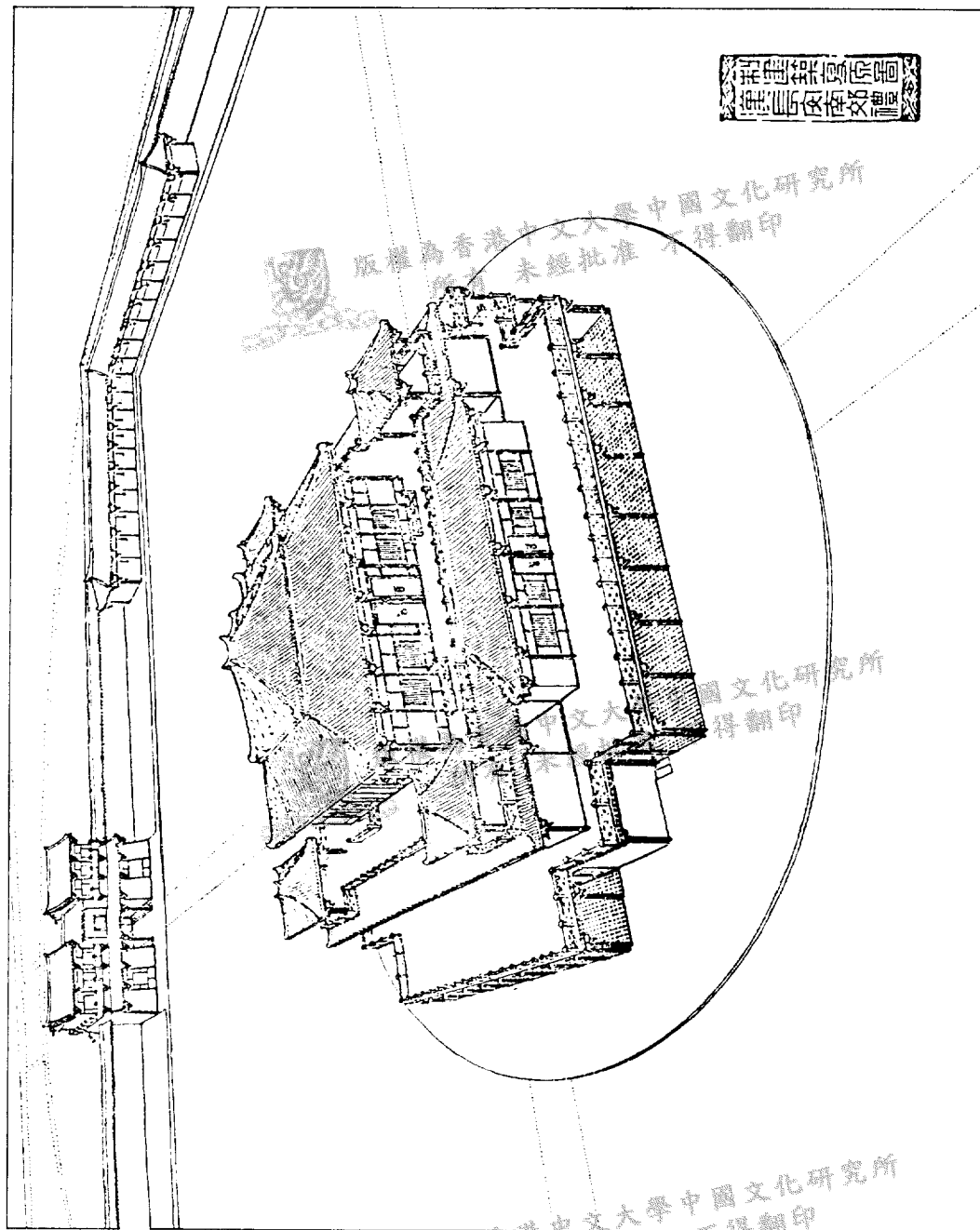


Fig. 28. Reconstruction of the central building of P'i-yung Palace — after KC, 63.9.514.

HOUSE OF PRINCESS YUN 雲 IN  
ABAKAN, SIBERIA (KX, 56.4.55-66)

Another interesting piece of architecture of the Wang Mang period has been reported way beyond the northern border in Siberia. It was a Han house excavated by Kissélev in 1941-46 at Abakan in the Minussinsk region. Prior to the excavations the site was a large earthen mound situated some 8 kilometres to the south of Abakan. There revealed the ruins of 16 architectural units, a large hall in the centre surrounded by a series of smaller compartments. The central hall itself measures 12 × 12 metres in area and among the remaining walls of stamped earth were large quantities of tile fragments. They show that it was a square building with a double roof sloping on the four sides. Under the building a series of heating tunnels which was constructed with pieces of stone, was found connected to a stove at the corner in the south. This underground heating system was still inadequate for the bitter Siberian winter, so every room was further provided with a fire-place. The roof was constructed with several types of tiles. It was first covered with a layer of slightly curved flat tiles, each with an inscribed eave-tile and the lower end. The inscription in Chinese reads, *T'ien-tzu ch'ien-ch'iu wan-sui ch'ang lo wei yang* 天子千秋萬歲常樂未央, meaning "Long live the Son of Heaven, for thousand autumns and ten thousand years and may he be always happy without end." The wall was roughly 2 metres thick, the door ways were wedge-shaped, wider on the outside and narrower on the inside, and the rooms were connected to one another with doors. The central hall had seven doors which were provided with bronze knockers in the shape of an animal mask with a ring suspended from the nose. (WW, 57.11.23) Three pieces have been found around the door-

ways. Among the ruins are flat pieces of square clay with wavy designs in low-relief, a fragment of green jade oval cup, a ring handled iron knife, a bronze buckle and some potsherds with grooved and wavy designs.

The ruins of the house was damaged by the construction of a modern road which cuts across its southeastern section. But judging from the remaining ground plan it seems clear that it was a rectangular building orientated to the south. In the centre was a large hall which had a lobby in front, measuring about the same width as the hall itself. They were surrounded by the remaining 18 compartments equally divided on the three sides. In the north the six rooms were arranged in a single file, but on the east and west they were grouped respectively in two rows, three on each row. It was quite a well-planned architecture.

The cultural relics recovered from the Abakan ruins prove beyond any possibility of doubt that the Siberian house was a Han architecture. Kissélev believes that it was the residence of Li Ling 李陵, the famous general who surrendered to Hsiung-nu in 99 B.C. But Chinese scholars, notably Kuo Mo-jo 郭沫若, are reluctant to accept his view. After some careful study of the ancient remains Chou Lien-k'uan 周連寬 (KX, 56.4.55-66) comes to the conclusion that the house was built most possibly for Princess Yün 居次云, the eldest daughter of Wang Ch'iang 王嬪, one of the best known women in the Han history who was married to Hu-han-yeh 呼韓耶, the Shan-yü of Hsiung-nu in 33 B.C. Princess Yün was married to Hsü-pu-tang 須卜當, a powerful lord of Hsiung-nu who was probably in control of the Minussinsk region at the beginning of the first century A.D. It was a time when cordial friendship prevailed between Han and Hsiung-nu and Hsü-pu-tang and Princess Yün were great allies of Wang Mang. Princess Yün was known to

have visited the Han court at Ch'ang-an and served for a while as a lady-in-waiting to the Queen Mother. The popularity and power of this couple in the two countries reached its height around A.D. 14-18 in the Hsin dynasty. The house should have been built during this period when Wang Mang was on the throne.

The most substantial evidence may be drawn from the inscriptions on 10 eave-tiles of the building. As mentioned above it reads *T'ien-tzu ch'ien-ch'iu wan sui ch'ang-lo wei yang*, which was a common auspicious blessing, a toast to the emperor in the Han times. In Western Han, the character *ch'ang* means "long", but Wang Mang decreed to have it replaced with another character which has the same pronunciation, but it means "always" instead. (*WW*, 57.11.23; 3, 199-200) The use of the latter character, however was brief. The original one was restored immediately after the fall of Wang Mang in A.D. 23. Now, since the character *ch'ang* used in the Abakan inscriptions is the one decreed by Wang Mang, the date of the Han house in Siberia can only be ascribed to the short Hsin dynasty.

#### MONGOLIA AND SIBERIA (*WW*, 57.11.23)

In this connection it may be noted that a total of 10 Han cities have been reported in Mongolia and Siberia by Kissélev (16). Like most of the ancient ruins in China Proper, the city walls were made of stamped earth and had long been badly eroded. Among the debris, typical Han potsherds and tile fragments are common. Examples of these ceramic wares, together with associated articles in bronze, iron, jade and stone may be seen in the Historical Museum in Moscow. It is evident that the material culture of Hsiung-nu was under the Han influence to some extent. Many of them

lived in walled cities and were not as migratory as some historians would like us to believe.

#### HAI-YEN 海晏 (*WW*, 59.3.73; *KG*, 59.7.380-381)

Wang Mang's activities in the border regions were not limited to the northern frontier. It is well-known that Hsi-hai-chün 西海郡 province was established during his reign, south of the Ho-hsi corridor in Chinghai. The abandoned city, located at Hai-yen, east of Lake Ch'ing-hai has been investigated. It is a square wall of stamped earth, 650 × 600 metres in circumference with four gates on the four sides. Parts of the remaining walls stand about 4 metres high. Inside the enclosure are two mounds, the larger one being triangular and the smaller one rectangular in shape. They are most likely the ruins of some official buildings because among the debris are pottery tile-ends with an inscription of two characters reading *Hsi-hai*, as well as *pan-liang*, *wu-shu*, *huo-pu* 貨布, *huo-ch'uan* and *ta-ch'uan-wu-shih* coins. The most unique discovery, however, was a large granite sculpture in the shape of a tiger crouching on a rectangular stand (Fig. 29). The animal measures 132 centimetres long and 46 centimetres high and the stand, 137 × 115 × 65 centimetres high. There is an inscription of nine characters in three lines in front on the stand, reading *Hsi-hai-chün Shih-chien-kuo kung Ho-nan* 西海郡始建國工河南. The first line given the name of the *chün* province, the second is a reign period of Wang Mang, dating A.D. 9-13 and the third means "by the works of Ho-nan" which was the name of the region south of the Ho river in Chinghai. The two sides of the stand are each provided with three holes, a smaller one in its lower part and a pair of larger ones on top, the

latter measuring  $13 \times 8.5$  centimetres in size. On the top of the stand are four large holes, one at each corner. The animal has an elongated groove on its back, suggesting that the sculpture was probably the pedestal of a monument, such as a stele or tablet. The style of the sculpture is clearly in the Han tradition, simple in execution but forceful and monumental in expression. Among the ancient relics recovered at the site there are pottery and coins, which belonged to later dynasties. One of the

pottery tile-ends has an inscription reading *Yuan-hsing yuan nien* 元興元年 and dating it to A.D. 105 in the Eastern Han dynasty. Another inscription reads *Hai-hsi*, a post-Chin name of the province. The youngest article may be represented by *Ch'ung-ning* 崇寧 coins of the Northern Sung period. All these archaeological finds support the records in history that the city continued to flourish until it was abandoned in the 12th century.

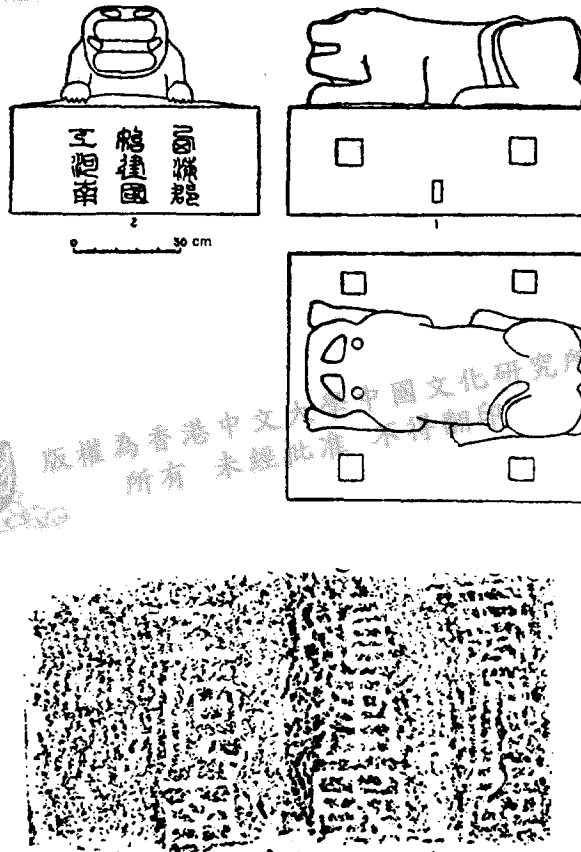


Fig. 29. Inscribed stone sculpture of a tiger.  
Hai-yen — after *KG*, 59.7.381.

## VII. Eastern Han architectural ruins

The importance of the region of Lo-yang in Honan as a political and cultural centre throughout the Chinese history has been mentioned. A whole series of architectural ruins from various dynasties have been found in the neighbourhood. In this chapter the ruins of the Eastern Han capital and the Han city of Ho-nan-hsien will be given first as follows:

LO-YANG, THE CAPITAL (KX, 9(1955). 117-123; KG, 73.4.198-217)

The ruins of the Eastern Han capital of Lo-yang is located to the east of modern Lo-yang. It was erected on the original site of the ancient city of Ch'eng-chou 成周, the eastern capital of the Chou dynasty and continued to be the first or second capital in the following dynasties until the middle of the sixth century. The city was re-built at more occasions than one, but like the Ch'in and Western Han capitals around Sian it was finally destroyed and laid waste only to be reclaimed by some farming villages later on. Apart from the Lung-hai 隴海 Railway line which runs through the middle of the site, the area has reverted to cultivated fields with three modern villages within the ancient enclosure.

The site has been investigated by the Institute of Archaeology in 1954-55. The southern wall of the city was found to have been submerged by the Lo river which has moved some kilometres northward in the past fourteen centuries. The remaining wall of stamped earth range in parts from 5 to 10 metres in height and 9-16.5 in thickness, measuring 3,862.7 metres on the east, 2,600 on the north and 3,811 on the west. The western and eastern walls have each three gateways while the northern wall has one. The ruins of Chin-yung-ch'eng 金甌城 and Lo-yang-hsiao-ch'eng 洛陽小城 are located in the northwestern corner of the city while

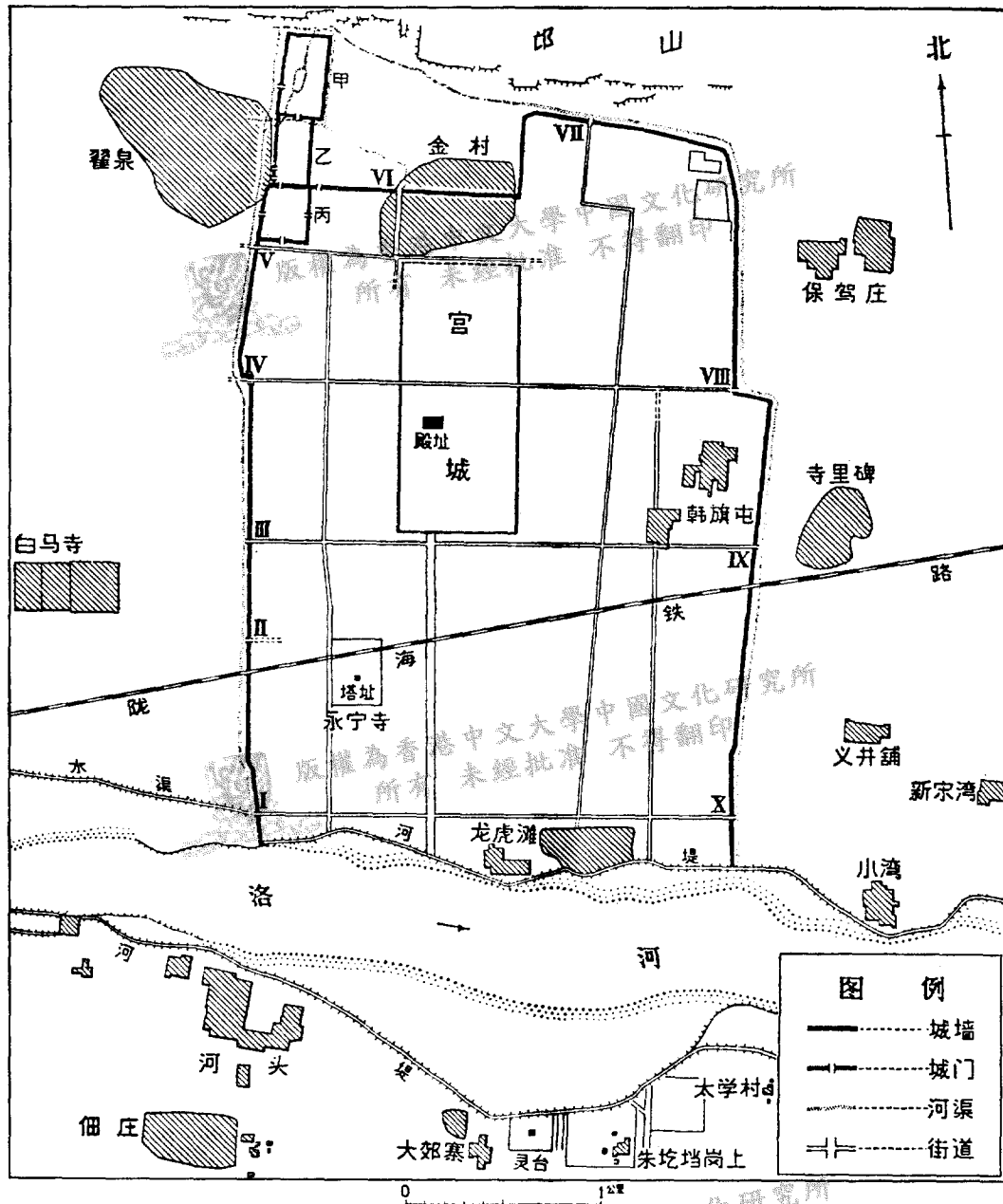
the northern and southern palaces form a low mound in the middle. (Map III)

1,250 metres to the west of the Han city is the famous Pai-ma-ssu 白馬寺 White-horse Temple, the first Buddhist monastery in China. The building was originally the Ch'ing-liang-t'ai 清涼台 which served as a summer resort to the Han emperors, but Emperor Ming-ti 明帝 (58-75) reconstructed it to house the sutras which was brought to the Han court by Pi-lu-fo 毘盧佛 (Shaman Kashiapmandanga). He settled here and began to translate the Buddhist sutras into Chinese. As the ancient building had long been razed to the ground, the present building was re-built in 1333 and repaired many times during the Ming and Ch'ing dynasties. (4,32)

Beyond the southern bank of the Lo river, the remains of two ancient monuments have been noted. A low mound about 1,200 metres to the south of the southern end of the western wall, known as Kang-shang 岡上, is identified as the ruins of the Han T'ai-hsüeh 大學 University. This may be testified not only by the discovery of fragments of the stone classics at the spot in the past but also by a number of stone pedestals of the tablets which are scattered by the road side. (19) Furthermore, another stone tablet, recording the various activities in the University has been unearthed. It is dated A.D. 278 indicating that the institution of higher education of Han continued to function here in the following Chin 晉 dynasty. About 96 metres to the west of this mound is another mound which was a foundation of stamped earth, measuring 42 × 49.8 metres in area. This is probably the ruins of the Han Ling-t'ai 靈台 Observatory, the remaining height being 9 metres.

The ruins of Lo-yang has been so well-cultivated that very few architectural remains are noticed on the surface of the ground. Apart from a few broken stone axes and perforated stone knives, a small number of cord-marked potsherds and tile fragments

with lotus and other geometric designs have been collected along the walls, including some glazed tiles at Chin-yung-ch'eng. They are all Han and Wei artifacts and it seems that glazed tiles were also used in the Eastern Han architecture.



Map III. Ruins of Lo-yang, the Eastern Han capital — after KG, 73.4.199.



It may be of interest to note that Lo-yang has been a happy hunting ground for ancient relics. In the past hundreds of inscribed pottery tiles were recorded. They are either stamped with wooden seals, square or oblong in shape (Fig. 30) or incised freely with a sharp point. (Fig. 31) The inscriptions give not only the date of production but also the name of the potter. Ancient tiles appear either flat with a slight curve or semi-tubular in shape. The former was made by paring a sheet of clay, hence the craftsman was called the Hsioh-wa-jen 削瓦人 clay parer. For the latter, the clay would have to be rolled first into an elongated tube and then sliced into two halves, so the worker came to be known as the Mo-k'un-jen 磨昆人 or "round tile man". A master tile-maker did not hesitate to give the title of his profession with his name. For a large scale construction the industry was usually placed under the supervision of a government agency and the production was done by divisions of labour. Some of the tiles carry more workers' names than one, including the name of the official in charge. As a whole the Lo-yang tiles may be dated from the Han to Ts'ao-Wei 曹魏 and Pei-Wei 北魏 periods.

LO-YANG-HSIEN (KG, 55.1.9-21; 55.5.25-33; 56.1.18-24; KX, 56.2.1-31)

The ruins of the *hsien* city of Lo-yang is located to the west of modern Lo-yang. It was built over the ruins of the Wang-ch'eng 王城 capital of Eastern Chou. Smaller than the Han capital mentioned above, it is roughly square in outline measuring 1,410 metres from north to south and 1,485 from east to west. Following the bend of the Chien 澗 river which flows by the city, the wall curves inward at the northwestern corner, making a total circumference of 5,400 metres. The remaining walls which were built of stamped earth measure about 6.3 metres at the base and range from 0.4 to 2.4 in height.

In investigating the stratigraphical sequence of the site which ranges from the neolithic through Shang and Chou to Han the members of the Institute of Archaeology unearthed a number of Eastern Han architectural remains in the forms of wells, layers of stamped earth, cobbled pavements, water drainage, post holes, granaries and burial tombs. They occupied the eastern section of the ancient site.

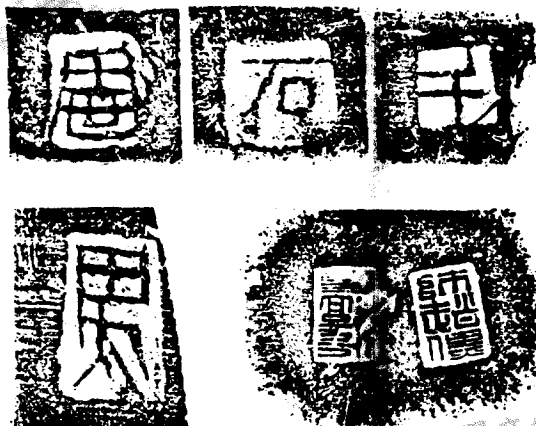


Fig. 30. Some pottery fragments stamped with wooden seal, Lo-yang—after KG, 74.4.216.

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Cheng Te-kun

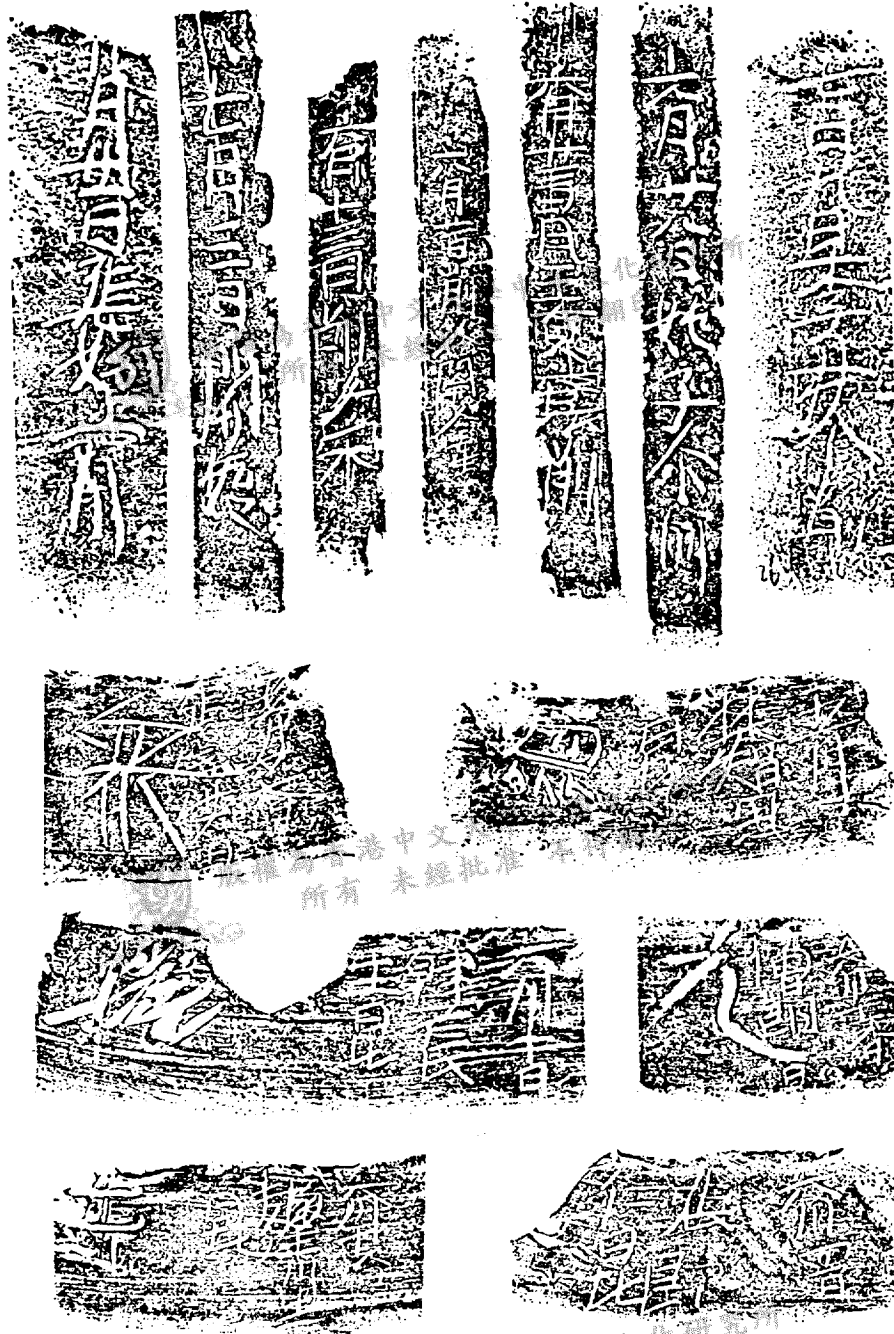


Fig. 31. Inscribed pottery fragments, Lo-yang — after KG, 74.4.212.

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Houses of the common people at the site, mostly independent of one another were simple in structure. Consisting of one or two rooms each they were scattered about at random. Unlike the Western Han houses they were mainly built of elongated bricks and the roof covered with flat and semi-circular tiles. Large hollow bricks were sometimes used for the door way. The wells were also constructed with bricks and provided with pulleys for drawing water. Bricks were also used for building the granaries which were either round or square in shape. Some of the brick works show signs that they had been repaired at various intervals indicating their being in continuous service for a long time.

In the Eastern Han ruins a large number of pottery vessels, bricks, tiles and tile nails and spindle whorls have been found. There are also milling stones including a large mortar which has a capacity for several pints of grains and a wide variety of iron implements, such as spades, hoes and plough-shares; axes, adzes, chisels and saws, as well as coins, bronze and iron arrowheads. One of the houses has yielded a pile of iron slags and quantities of coal and its refuse, showing that coal was in common use at that time.

A number of Eastern Han pottery recovered at the site are inscribed. Some of the fragments are stamped with an oblong seal of two characters, *Ho-nan* 河南, indicating that they were made by the local factory. Inscriptions on some granary bricks

read *ta-chi* 大吉, meaning "great prosperity". Some of the pots are numbered while a *p'ing* 瓶 jar carries a long inscription in red including a magical charm to ward off baleful influences. It is said to have been reproduced in accordance to the lawful command, hence the vessel is called *chieh-chu-p'ing* 解注瓶. (Fig. 32)

PI-YANG KU-CH'ENG 壁陽故城  
(*WW*, 59.9.82)

As it was a common practice in China to have abandoned cities converted into tilled fields in subsequent periods, most of the Eastern Han ruins exist in a similar condition as those of the Western Han. The ancient city of Pi-yang to the southwest of Pao-ting 保定 in Hopei may be taken as an example. Judging from the remaining walls on the east and north of the site, it was originally a square enclosure of stamped earth. The land has long been cultivated into patches of vegetable gardens. In the past bronze coins, arrowheads and potsherds were occasionally turned up by the farmers. The most spectacular discovery was a human skeleton with a bronze arrowhead still embedded in his left eye. It seems that the city had been laid waste by war. In 1959 while digging to construct a cellar for his vegetables the farmer came upon the ruins of a metal work-shop some 70 centimetres below the surface of the ground. A large group of metal objects was discovered including a ploughshare, a spade,

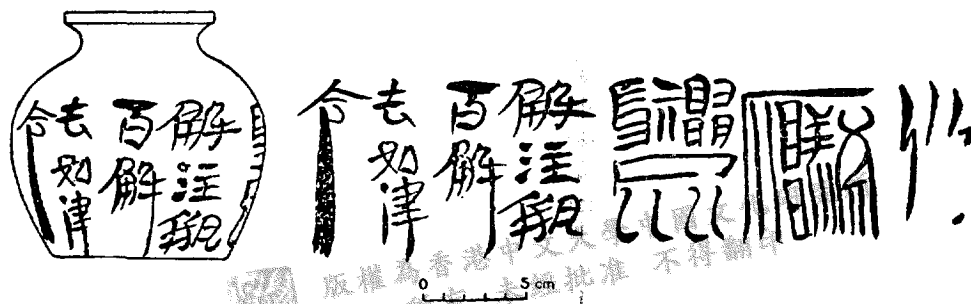


Fig. 32. Inscribed pottery *p'ing* vase, Lo-yang — after *KX*, 56.2.24.

a lamp, two iron pans, a three-pronged hoe and a cogwheel in iron and no less than 740 *pan-liang*, *huo-ch'uan* and *wu-shu* coins and other articles in bronze. Some of the *wu-shu* coins are trimmed around the rim indicating that the workshop was abandoned towards the end of Western Han. A subsequent excavation along the wall at the northwestern corner of the site revealed a cultural stratum beneath a layer of surface soil 40 centimetres thick. The ancient remains comprise potsherds and fragments and tiles as well as some broken well rings. There are also a damaged iron adze, *wu-shu* coins and a large quantity of small mussel shells

CH'EN-CHIA-HO 陳家河  
(*WW*, 54.2.105-1-6; 10.73)

In constructing the railway line in Kansu, another Eastern Han dwelling site was discovered at Ch'en-chia-ho in Ku-lang 古浪. Stretching for about two kilometres north to south along the Ku-lang river, the site had been badly eroded by the river on the west, leaving a width of 110-130 metres east to west. The cultural stratum was strewn with large quantities of tile fragments which are covered with all sorts of cord-marks and textile impressions. Among the bronze artifacts are spearheads, arrowheads, cross-bow mechanisms, axes and various types of Han coins. There are also iron chisels, hoes, axes, spades, plough-shares, fragments of cooking pots and a number of carriage fittings, as well as half-a-dozen millstones and fragments of bone ornaments and sealing clays. The most important finds, however, is a bronze cylindrical corn measure with two handles one on each side. It bears an inscription in the *hsiao-chuan* 小篆 which may be translated as "A standard measure made in the first month of the 11th year of Chien-wu 建武 (A.D. 35) by the Ta-ssu-nung 大司農 Ministry of Agriculture". It measures 32.8 centimetres in diameter and 23.8 centimetres deep on

the inside with a capacity of 19.6 modern *sheng* 升 pints. This has been found associated with a stone weight.

SHAO-CHIA-KOU 邵家溝  
(*KG*, 60.10.18-44)

A richer Eastern Han dwelling site has been located at Shao-chia-kou to the north of Kao-yu 高郵 in Kiangsu. Erosion throughout the ages has obliterated the surrounding walls leaving the ruins with an area of 750-850 square metres in a slanting position, higher in the northwest and lower in the southeast. The excavation which was conducted by the Provincial Cultural Committee and the Museum in 1957, extended over a space of 400 square metres. The western section was better preserved than the rest of the site. Beneath the surface soil two levels and a number of underground pits, cellars and wells and a "tomb" have been encountered. The 387 cultural objects unearthed show that they were of the same period.

The most common remains are various types of pottery, consisting of 82.5% of the common grey pottery, 4.9% *ch'ing-tz'u* 青瓷 celadon wares, 1% of red ware and a few pieces of impressed stoneware. The *ch'ing-tz'u* celadon glaze ranges from pale green to light yellow in colour, the green glaze being thicker than the yellow one. As they were both fired in a low temperature, the glaze had hardly fused with the body and is flaking off readily. The rest of the cultural remains are common articles of daily use, lacquer vessels, wooden objects, iron implements, whetstones, bronze coins, a bamboo mat, a grass sole of a shoe and some peach stones, melon seeds and bones of dogs and fish.

Besides, three rather unusual objects are worth-noting. They were found in an underground pit which could have served as a burial because it contained also some mortuary pottery, mainly glazed wares. The first article is a piece of soft sealing clay,

stamped with a square private seal of a person named Cheng X 鄭口. The second is another sealing clay stamped with an inscription of four characters reading *T'ien-ti shih-che* 天帝使者 which means "Messenger of the Celestial Emperor". (Fig 33)



Fig. 33. Sealing clay with stamped inscription, Shao-chia-kou — after KG, 60.10.20.

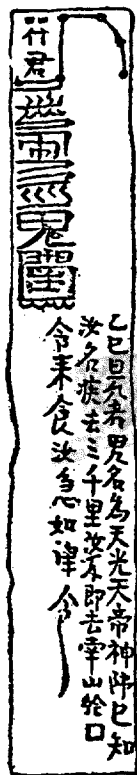


Fig. 34. Inscribed bamboo charm, Shao-chia-kou — after KG, 60.10.21.

The third is a strip of bamboo, 3.8 × 28 centimetres long inscribed with a "seven-star charm" in red. It depicts on the top of

the **strip** a constellation of seven stars, probably the Great Dipper carrying the name of the "Lord of Charms". This is followed by the charm itself which may serve as a pass for entering the gate to the other world. The rest of the strip is devoted to a statement or decree of celestial command giving the date of death and requiring the spirit of the deceased to proceed as quickly as possible to his destination, which is 3,000 *li* away in the southern mountains (Fig. 34). It seems that the occupier of this burial was a Taoist, who was buried according to the rituals of his faith. The practice may be co-related with the *chieh-chu p'ing* jar reported from Lo-yang mentioned above. The funerary rites and customs of the Han Taoist has yet to be investigated. It seems evident that a celestial command was transmitted in confidentiality under the sealing clay.

TS'IN-YANG 沁陽 (KX, 58.4.66-68)

One of the common remains found in the Han dwelling site is the well which was lined on the inside with pottery rings, bricks or tiles (Fig. 35). Many of these materials were designed for the specific purpose. At Ts'in-yang, Honan, for instance, a series of eleven wells together with two water passages have been investigated in 1951. The constructions show how the problem of keeping the circular shaft firm and tidy underground and in the water could be solved in at least six ways as follows —

a. Large circular rings — The rings are simply placed one on top of the other. It was a device widely practised in the Late Chou and Western Han times.

b. Large circular rings in eight sections — Each section is provided with a tenon and a mortise one on each end and they fit into each other to form the ring.

c. Large circular rings also in eight sections — but they have straight ends to fit with each other into a ring.

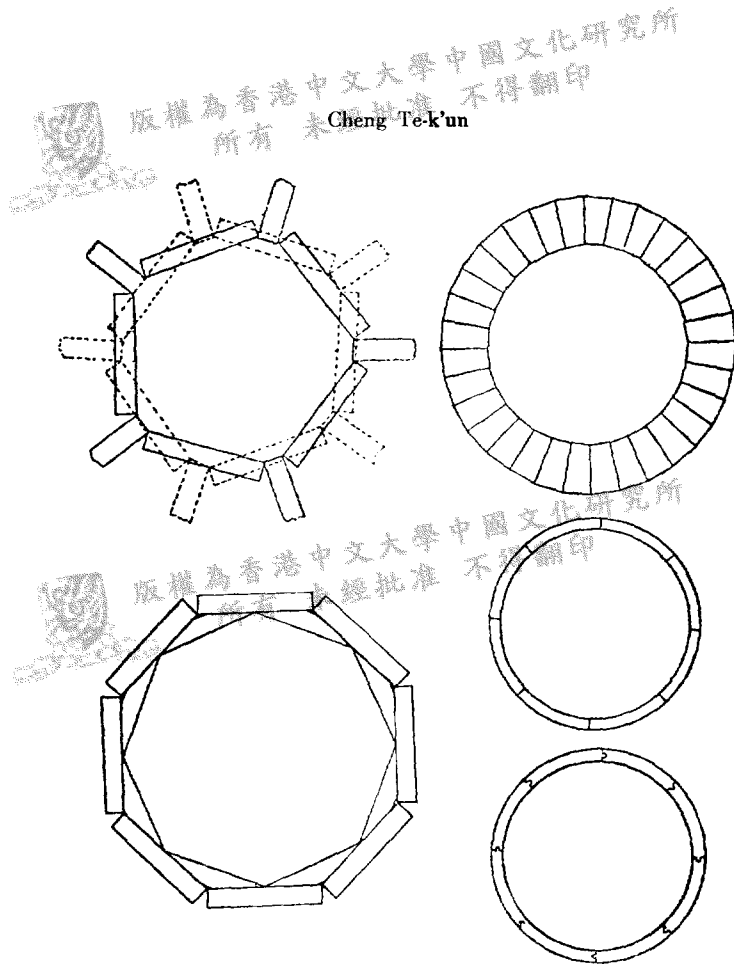


Fig. 35. Types of well construction, Ts'in-yang — after *KX*, 58.4.67.

d. Wedge-shaped brick work — They are designed to fit with each other so that when they are laid with the thicker end on the outside, a ring will be formed. In this case each layer takes 36 pieces making a hole of about one metre in diameter on the inside.

e. Octagonal brick work — For each ring eight rectangular bricks are laid horizontally lengthwise to form an octagonal hole. Each successive layer is moved round half a brick's length so that it is laid with each piece of brick sitting firmly on two others in the layer below. The outside is fortified by broken bricks.

f. Pentagonal brick work — This is also constructed with rectangular bricks. Each layer is composed of five pairs of the material arranged horizontally lengthwise to form a pentagonal hole with five half bricks

inserting in between them. Each layer is moved round half the length of the brick so that each pair would rest on the ends of the bricks in the layer below while the half bricks serve as supports for the bricks at right angles from the outside. This is the most elaborate brick work for the construction of the shaft.

#### STONE GATEWAYS

In spite of the fact that practically all the Han buildings on the surface of the ground had long been razed to the ground, there are still a number of stone works which may be found scattered in the country side. Many of these are known in ancient literature and their inscriptions recorded. Two of these have been investigated in 1951 at P'ing-yi 平邑 in Shantung. (*WW*,

54.5.29-32) The *Huang-sheng-ch'ing chüeh* 皇聖卿闕 stone gateway is complete with two posts still facing each other. Apart from the usual roof construction, there are a series of *tou-kung* 斗拱 brackets under the eaves. It is dated the 3rd year of Yuan-ho 永和 (86 A.D.). The *Kung-ts'ao chüeh* 功曹闕 has only one post left standing alone. It was constructed in the following year, the first year of Chang-ho 章和, hence it was built in the same fashion. They were both originally inscribed and decorated with pictures of human and animal figures and chariots, but erosion throughout the ages have rendered them beyond recognition. However, the dates found in the inscriptions may still be read. They are two of the earliest examples of this type of architecture. It seems that the Han stone gateway was first constructed as a copy of the standard woodwork, complete with the roof fully supported with brackets under the eaves. A number of later examples are slightly simplified by leaving out the elaborate units. A few of these have also been investigated in recent years.

In the eastern suburb of Cheng-yang 正陽 in Honan there stands the remains of a stone gate way. (*WW*, 62.1.57) It was constructed with blocks of green stone in the shape of a roofed wall standing on a pedestal. It measures  $4.75 \times 2.10 \times 0.75$  metres thick. The eastern surface is decorated with various scenes of animal and geometric designs. It is evidently the remains of a gateway at the entrance to an ancient cemetery.

Another example has been found at Shih-ching-shan 石景山 in the western suburb of Peking in 1954. (*WW*, 64.11.13-24) It consists of seventeen pieces of stone carving scattered within a radius of about 30 metres. They are parts of a gateway representing eight different types of structural units as follows —

a. Two round pillars—each measuring 2.25 metres high. They are identical in shape and decoration with an inscribed

rectangular plaque on top supported by a pair of standing tigers. The inscription in three lines reads: *Han ku Yu-chou shu-tso Ch'in-chün chih shen-tao* 漢故幽州書佐秦君之神道, meaning “The ‘spirit way’ of the late Mr. Ch'in, a junior secretary of Yu-chou in the Han dynasty”. They formed originally a pair marking the entrance into the burial ground of the owner. (Fig. 36)

b. Two pillar bases —  $1.13 \times 0.83 \times 0.26$  metres thick. They are also identical, each with a circular hole in the centre and decorated with a pair of tiger in low relief around the hole. It was meant to receive the lower projection of the pillar serving as its foundation or pedestal.

c. A piece of roof-shaped stone —  $85 \times 58 \times 20$  centimetres high. The top ridge had been damaged while the four slanting sides are slightly curve.

d. Three pieces of rectangular posts — measuring  $2.07 \times 45 \times 25$ ,  $1.88 \times 40 \times 23$  and  $92 \times 39 \times 16$  centimetres thick respectively. They are all provided with projections at both ends for fitting with other parts of the structure. The largest specimen decorated with designs in low-relief is quite well preserved. On the front surface which is bordered on the top and left with triangular saw-toothed elements, stands a warrior at attention holding a military weapon in his right hand (Fig. 37). There is a bird flying over his head. The left surface is occupied by an elongated dragon in a racing posture. The second specimen has a long inscription entitled *Wu huan fu mu* 烏還哺母 “The crow returns to feed his mother”. Most of the characters had become rather indistinct by age. But on another side a longer inscription reads *Yung-yuan shih-ch'i nien ssu yueh, mao, kai wei Yuan-hsing yuan nien ch'i shih yueh Lu kung Shih Chü-yi chao* 永元十七年四月卯改爲元興元年其十月魯工石巨宜造. It may be translated as “On the *mao* day of the fourth month in the 17th year of Yung-yuan (A.D. 105) [the emperor gave] order [to

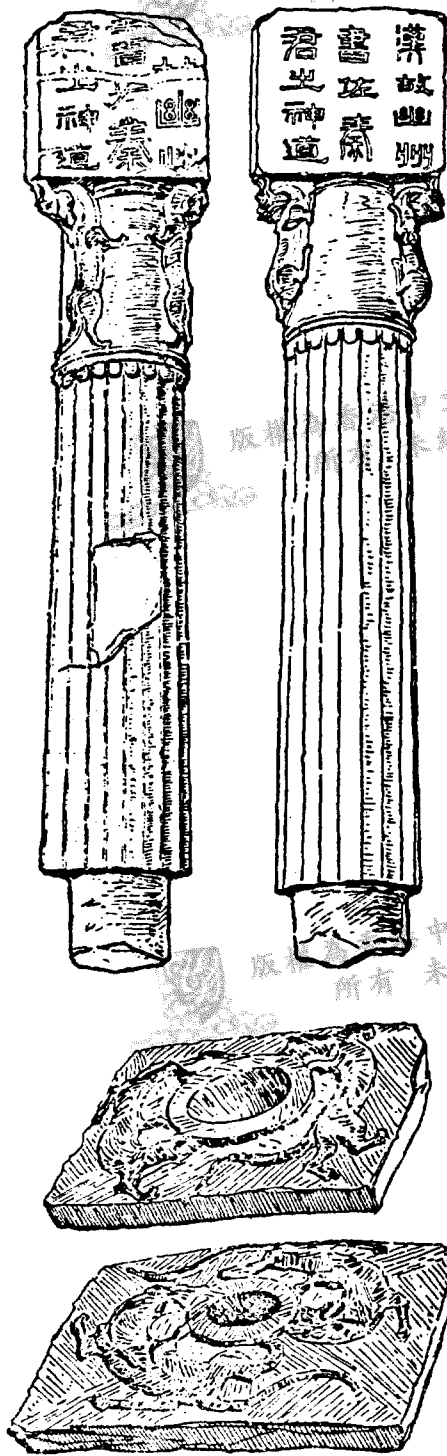


Fig. 36. A pair of stone pillars, Cheng-yang — after *WW*, 64.11.14.

have the name of his reign] changed into the first year of Yuan-hsing. [The gateway] was built on the 10th month by Shih Chü-yi, a mason from Lu.”

e. One square post base —  $63 \times 54 \times 24$  centimetres thick. It is shaped like a flat top roof with incised geometric designs on the four sides. There is a rectangular depression on top to take the lower projection of a post.

f. One top roof piece —  $72 \times 63 \times 28$  centimetres thick, carved with rows of circular tiles on top.

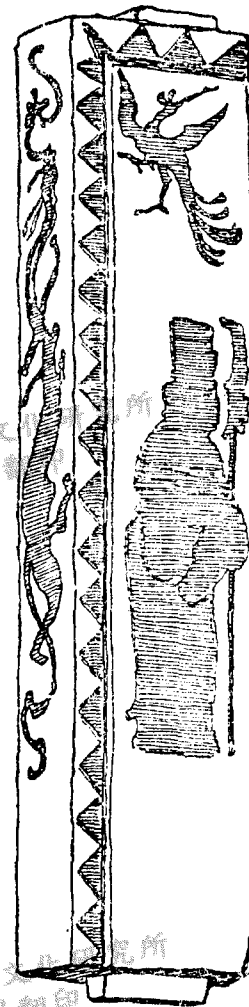


Fig. 37. Decorated stone post, Cheng-yang — after *WW*, 64.11.15.



g. Six roof-shaped pieces — varying from one another in sizes and shapes, also carved with rows of circular tiles. They all have depressions on top and the bottom for fitting with other units to form a multi-storeyed tower. (Fig. 38)

h. One piece of sculpture in the shape of two human figures — 20 centimetres high, but their faces are both damaged.

The stone gateway of Ch'in-chun, the first example to be reported in the Peking region is unique in several respects. The structural style and its decoration are similar to many others found in Shantung, Honan and Szechwan, but the introduction of pillars marked the beginning of a new style which became a prominent feature in the cemeteries of the Six Dynasties. As most of these were tombs of the royal family or high-ranking official, it is rather unusual for an ordinary junior provincial secretary to have his final resting place decorated in such an elaborate manner. The reason for

such a special treatment, however, is not far to seek. As eulogized in the inscription, Ch'in was highly respected for his filial piety, a virtue which has always attracted high approval in China. His life was thus heralded as a shining example for the future generations.

### STONE TABLETS

The discovery of Han stone monuments in recent years is not limited to remnants of the stone gateways. In the spring of 1958, a stone *pei* 碑 tablet was found at Nan-yang 南陽 in Honan. (WW, 63.11. 1-3) It was subsequently moved and installed at Wo-lung-kang 臥龍崗 in the city where a number of Han tablets formerly unearthed in the neighbourhood are preserved. Though badly damaged, the remaining stone measures  $1.25 \times 0.54 \times 0.12$  metres thick and 225 characters of the inscription can still be read. It is a public

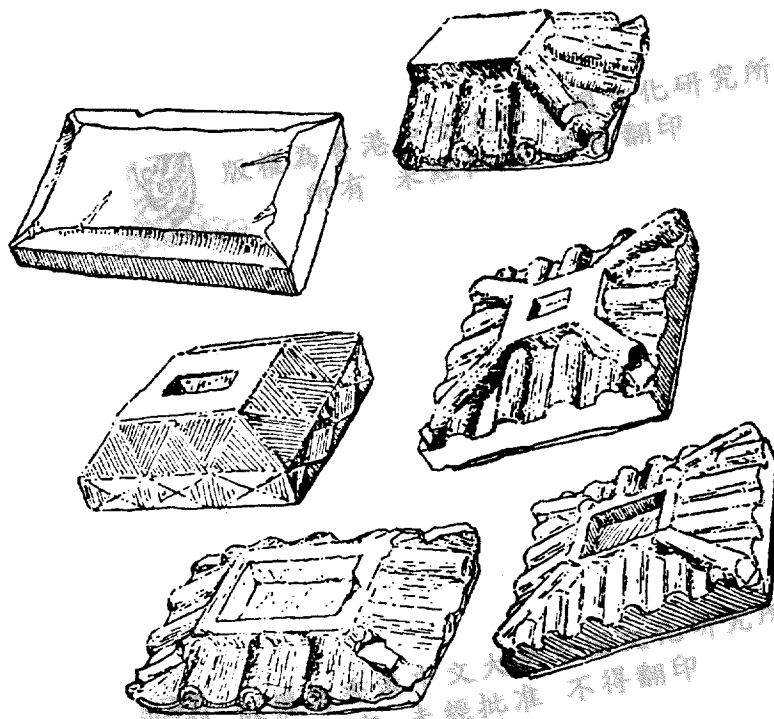


Fig. 38. Some roof-shaped stone blocks, Cheng-yang — after WW, 64.11.20.

proclamation issued by the *T'ao-shou* 太守 Governor of the province in the second year of Yeh-hsi 延熹 (159 A.D.) giving notice that Chang Ching 張景, a prominent citizen who contributed his family fortune to finance the rituals in the spring celebrations and for the contribution his family was to be exempted from the duties in public labour forever. He was further ordered to build two tiled houses each consisting of a framework for the beam in five lengths. The inscription was written in an accomplished *li-shu* 隸書 style, elegant and graceful in calligraphy. It is known as the *Chang Ching pei*. (Fig. 39)

Another type of stone monument has been unearthed in the southern suburb of K'un-ming 昆明 in Yunnan in 1956. (*WW*, 57.9.47-48) It is a rectangular block of yellowish sandstone, 115 × 57 × 13 centimetres thick with an inscription in six lines. Most of the characters are blurred by age, but the remaining text shows that it is a document recording the purchase of a piece of land with five cows. It gives the location of the property with clear specification of its boundaries. Besides, the transaction was made in the fourth year of Yen-kuang 延光 dating it to A.D. 125.

The review of the Han dwelling sites mentioned above is enough to show that the ancient cities and villages were mostly self-sufficient in various respects. Apart from the agricultural implements, industrial tools and all sorts of daily utensils and refuse were found among the architectural ruins of walls, buildings, pits and cellars, the settlements were always provided with wells to ensure the supply of water, draining trenches for irrigation, foundries for making metallic goods and kilns for ceramic production. The last was evidently the most useful industry at the service of the population. To facilitate smooth operation in trade and commerce, coins and standard forms of weights and measures were employed. Finally there were always cemeteries and burials scattered in and around the settlements. All these are common archaeological finds associated with the Han architectural ruins. Their distribution throughout the country from Siberia to Vietnam and Korea to Sinkiang gives concrete evidence that there prevailed a uniform cultural development in East Asia during the Han dynasty. The picture may further be enriched by a wide variety of tomb construction and all sorts of fabulous mortuary goods and furniture which have been excavated in recent years.



Fig. 39. Fragment of an inscribed tablet, Nan-yang—after *WW*, 63.11. Frontpiece.

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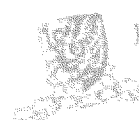


# 秦漢建築遺存

(中文摘要)

鄭德坤

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本文是《中國考古學》第四卷《漢代考古學》的一篇，收集的資料以秦漢建築的遺存殘跡為對象。

漢代的中國版圖廣濶，東起朝鮮，南及越南，西被新疆，北至西伯利亞，無處無漢代遺跡。茲據近數十年來考古調查及田野發掘所得，按時代分區著錄如下：

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三、華北西漢遺存——包括夏縣禹王城、萬泉后土祠、右玉大川村、褒斜道、三門峽、洛陽故城、洛陽中州路、魯國靈光殿、鐵生溝鐵廠、李村陶窯、朱房鄉古城、蔡公庄古井、午汲古城、北利城古城、穿城古城、麻瓦墳遺址及亳縣古城等。

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