

Excavation Report on the Building Remains of the No. 2 Site of Changle Palace from Han Period Chang'an City

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Western Han and Northern Zhou

From the fall of 2002 to spring 2003, our team carried out excavations on building remains at the No. 2 site that is attributed to the Han period Changle Palace 长乐宫 (Palace of Eternal Happiness), which is situated in the Luojiashai 罗家寨 Village within the Weiyang 未央 district, Xi'an 西安 city. The western and northern palace walls measure 472 m and 380 m respectively, and the site covers some 4,500 sq m. The excavated area spreads over 1,500 sq m and sample-drilling and test excavations covered 3,000 sq m. The remains excavated in the site can be divided into two periods. The earlier period is characterized by Han period building remains, and the later period, by Northern Zhou period kiln sites (Fig. 1).

I. Early Han Period Building Remains

1. Archaeological remains

These include foundations of palace halls and that of associated buildings found on this building platform. Spanning 96 m in the north-south axis and 45.3 m east-west, the platform was made from rammed earth presently at 0.1–0.4 m in height. The platform does not appear to be regular shape but most of it is surrounded by corridors and drains. On top of the platform are additional build-



Fig. 1 Panorama view of No. 2 site of Changle Palace in the Han Chang'an City (photo taken from west to east)

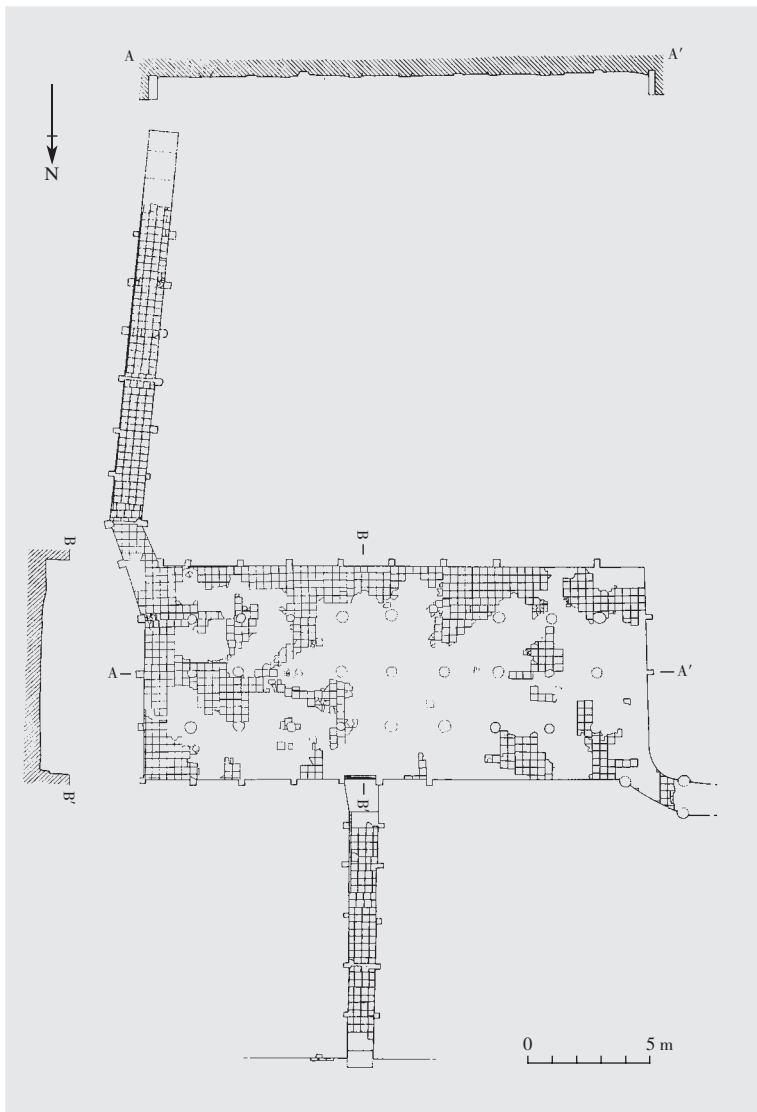


Fig. 2 Plan and cross-section of the early period site F1



Fig. 3 The early period site F1 (photo taken from northeast to southwest)

ing remains labeled F1, F2 and F3.

Situated at the southwestern part, F1 is a semi-subterranean structure consisting of a main room and 3 ventilating tunnels. The main room has a rectangular plan spanning 23.83 m east-west and 10 m north-south. The four walls of this structure were constructed by laying clay blocks of rammed earth, the surface of which was smoothed with a mixture of grass and clay and then covered by a layer of white plaster; the current height of the walls ranges between 0.95–1.44 m. The floor is laid with bricks. At the corners of the room are 4 pillars and more are lined along the walls; there are in total 27 pillars distributed within the room (Figs. 2 and 3).

The southern wall is 22.73 m wide and 0.95–0.98 m high. This section of the wall, built with molded earthen blocks covered in a grass-and-clay mixture, is fairly well preserved. The wall is 3.5 cm thick and has a plaster layer of 0.05 cm. It is lined with 9 pillars spaced at intervals ranging between 2.27–2.46 m, with most of their stone bases still intact. The northern wall is 23.75 m wide and 1.17–1.45 m high. The interior layer of grass-clay mixture is 2.5 cm thick while the exterior measures 1 cm; the exterior plaster layer is 0.05 cm thick. The 9 pillars along this wall are spaced at intervals of 1.76–2.36 m, and most of the stone bases remain intact. Situated between the fifth and sixth pillars (counting from the western side) was originally the northern ventilating tunnel that was sealed up at a later stage. The eastern wall, measuring 10 m wide and 0.97–1.15 m high, is also fairly well preserved. Along this wall are 3 pillars, with surviving stone bases, spaced at intervals of 2.42–2.58 m. The western wall is 8.62 m long and 0.18–0.97 m high. This wall is fairly well preserved with its white plaster surface. Three pillars are spaced along this wall at intervals of 2.58 m, but the pillar bases are no longer extant. Some of the 27 wooden pillars have been carbonized, and remnants of black ash appear in circular shape with diameters of 0.24–0.3 m, which

are taken to indicate the diameter of the original pillars.

F1 has 3 ventilating shafts situated at the southwestern, northwestern and northern part of the structure, built with pillars along their walls and paved with a brick floor. The excavated portion of F1 should be the lower portion of the structure under the floor, the pillars taking on a supporting function. Assuming the pillars' diameter to be 0.24–0.3 m, there appears to have been two uses for them: as a support structure for the building's roof, and as a structural support of the wooden floor that rested on wooden beams. Furthermore, considering that the portion below the floor is 1.5 m deep in addition to the existence of 3 ventilating tunnels, it is possible that this lower portion was used for storage purposes.

F2 is located at the northeastern part of the platform and, like F1, is half-sunken into the platform. However, only the lower portion, comprising a main room and a ventilating tunnel, remained intact. The structure has a rectangular plan 3.2–3.42 m north-south and a maximum east-west length of 6.03 m. The 4 walls are made from rammed earth now measuring 0.67–0.97 m high. The layer of grass and clay mixture has been stripped off, leaving only a shadow of its existence. The surface of the walls is covered with a layer of blackened wood ash 2 cm thick. The structure has a pillar each at its 4 corners and the floor is laid with 10 rows of bricks. There are remains of 26 pillars of a diameter in the range of 0.15–0.22 m, and they must have been the supporting elements of the structure. A ventilating tunnel situated at the western portion of the northern wall measures 4.55 m by 0.96 m, with a height of 0.9–0.95 m. The southeastern and southwestern corners of the ventilating shaft have remains of pillars. The floor of the shaft is laid with bricks in a 6 by 3 m matrix (Figs. 4 and 5).

F3, also located at the northeastern part of the platform, is a subterranean structure. The dimensions are 13.5 m north-south and

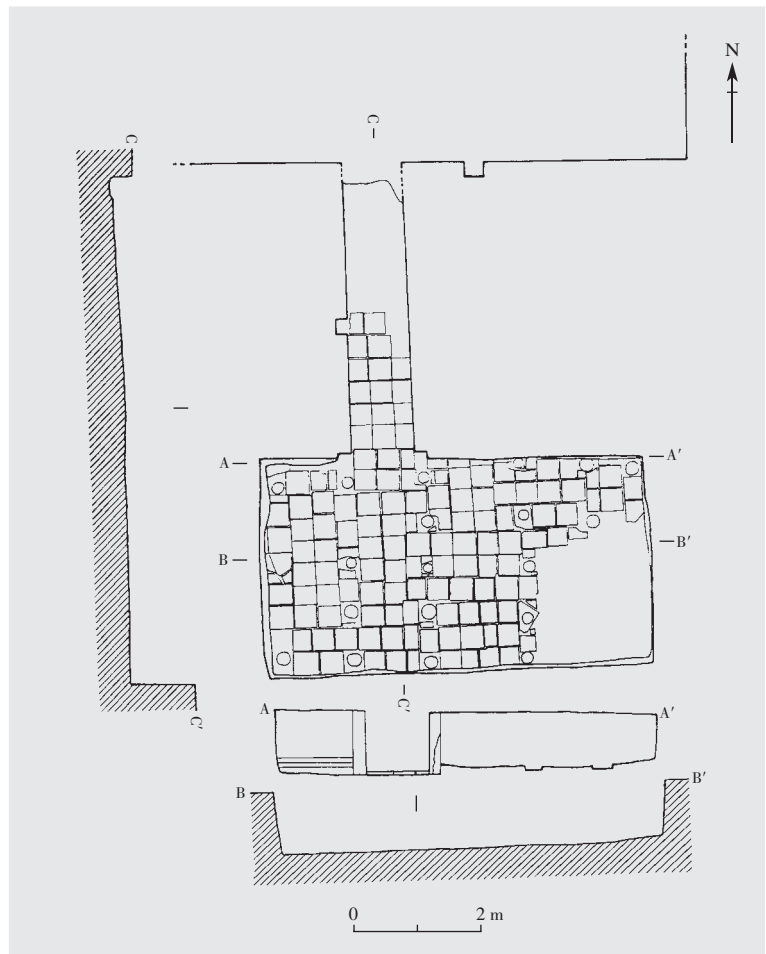


Fig. 4 Plan and cross-section of the early period site F2



Fig. 5 The early period site F2 (photo taken from south to north)

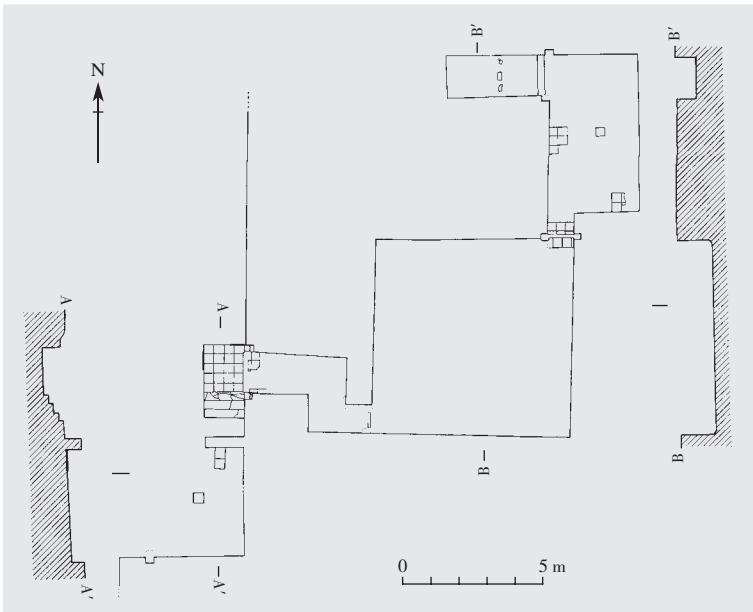


Fig. 6 Plan and cross-section of the early period site F3



Fig. 7 The early period site F3 (photo taken from east to west)

15.35 m east-west, and it is a mini-complex made up of an entrance tunnel, connecting tunnels, southern building, northern building, and western building.

The entrance tunnel, built at the western end of the southern portion of the southern building, comprises three steps at the south (made out of hollow bricks with geometric-patterned motifs) and a level tunnel at the northern section. The entrance tunnel measures 1.66 m north-south and 1.46 m east-west. The connecting tunnel is situated to the eastern side of the level tunnel, and connects eastward to the southern building. This connecting tunnel has a dimension of 4.5 m east-west and 2.66 m north-south, and the existing walls at the north and south are 1.3–1.33 m high. The floor is laid with

plain bricks.

The southern building is linked to the connecting tunnel at its southwestern corner, while its northeastern corner is joined to the northern building. The southern building, with its square plan 6.95 m in length, faces west. The existing walls measure 1–1.3 m high, and are made of rammed earth under a layer of white plaster. The floor is covered with a grass-and-clay mixture about 2.5 cm thick. The surface is smooth and hard from having been burnt in a fire.

The northern building is located to the northern side of the southern building's northeast corner, and is made up of an entrance, connecting tunnel, and main room. The entrance is at the eastern side of the southern part of the western wall, and there only exists remains of the wooden threshold. The connecting tunnel is rectangular, measuring 0.92 m east-west and 0.87 m north-south, with the eastern and western walls 0.97 m high. The northern building faces west, and its northwestern corner is linked to the western house. The building's dimensions are 3.2 m by 5.65 m, and the existing 4 walls range from 0.9–1.06 m in height. The walls are made from rammed earth covered by a layer of grass-and-clay mixture under a white plaster surface. The floor is laid with plain square bricks.

The western building, with a rectangular plan, faces east. It spans 1.45–1.51 m by 3.43 m, and the existing walls are 0.52–0.73 m high. The western, northern, and southern walls are made from rammed earth covered by grass-and-clay mixture under white plaster. There are pillar remains at the southeastern and northeastern corners of this building. The floor, covered with a layer of grass-and-clay mixture 2 cm thick, is higher than the northern building's floor by 0.4 m (Figs. 6 and 7).

2. Artifacts

The majority of artifacts recovered from this site are flat and semi-circular ceramic tiles, roof tile ends (Fig. 8), and other architectural materials. Among the iron artifacts found are nails, knives, lamps and other items of daily use. Additionally, bronze currency such as the



1



2



3



4



5



6

Fig. 8 Tile-ends unearthed from the early sites

1. cloud pattern type B (T8 ③:44) 2. cloud pattern type CII (T8 ③:22) 3. cloud pattern type CIV (T8 ③:23) 4. character pattern type A (T8 ③:4) 5. character pattern type B (T9 ③:1) 6. character pattern type C (T8 ③:41)

wu zhu 五铢, bu quan 布泉, and huo quan 货泉 were salvaged. Judging from the stratigraphy (the building remains being just under that of the level of Han period culture) and the archaeological finds, this structure should be dated to the Western Han period, but not before the early Western Han. The design of this palace hall's platform does not appear to be regular, as it does not have neatly constructed corridors or drains, and the structures within the platform do not conform to a pattern but are somewhat loosely organized. We believe that this site was a section of Changle Palace in which social activities, repose, and informal banquets took place.

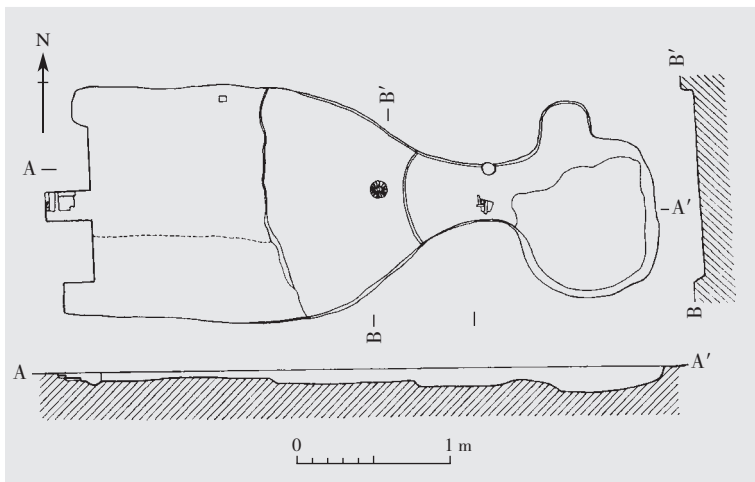


Fig. 9 Plan and cross-section of the late period site Y5

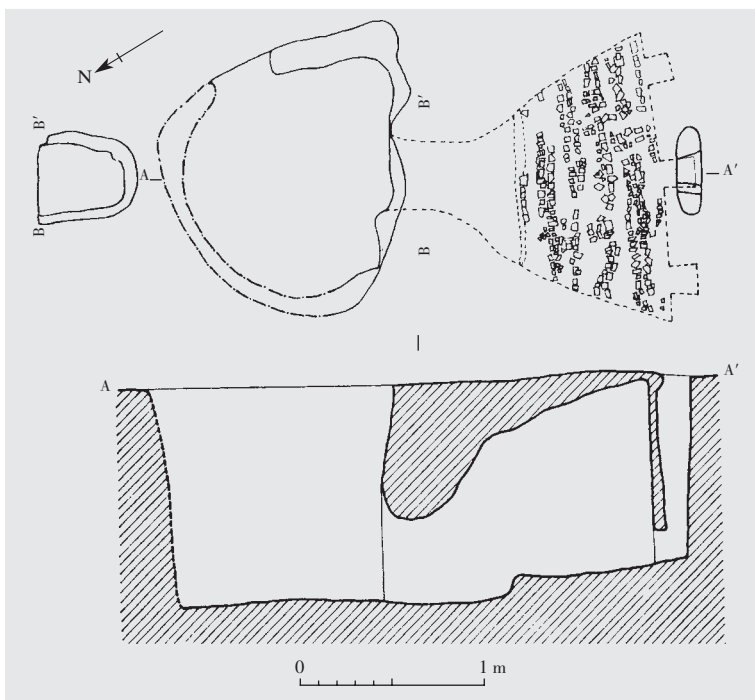


Fig. 10 Plan and cross-section of the late period site Y11

II. Later Period Northern Zhou Kiln Sites

1. Archaeological remains

Thirteen kiln sites were found within the No. 2 site of Changle Palace. The opening for every kiln was under a disturbed stratum, penetrating the remains of the Han period buildings. The kiln remains were all made up of five parts: front room, fire door, fuel chamber, firing chamber and smoke vents. There are three types of kiln designs.

Type I: two kilns (Y5 and Y6).

This design is characterized by a large firing chamber with a vertical retaining wall. The plan of the kiln that encompasses the fire door, fuel chamber and firing chamber is bottle-shaped (see Y5). Y5 is sited to the west and faces east, its front room is shaped like an inverted T, and measures 3.05 m north-south, 2.15 m east-west, and 0.4 m deep. The plan of the lower section of the fire door is trapezoid—built up 0.2 m higher than the front room—and the existing wall is 0.31 m high. The fuel chamber is also trapezoid and it is built up higher than the fire door by about 8 cm. The lower portion of the fuel chamber has a hard layer of greenish plaster 4 cm thick. The firing chamber has a rectangular plan measuring 3.7 m east-west and 3.7–3.8 m north-south, and it is built up higher than the fuel chamber by 7 cm. Three smoke vents (left, right and center) are situated at the rear retaining wall, and the center vent is fairly well preserved (Fig. 9).

Type II: five kilns (Y2, Y3, Y9–Y11).

The firing chamber, with a relatively larger floor area, has a sloping retaining wall. The fire door, fuel chamber and firing chamber together form a trumpet-shaped floor plan. Y11 has a southern location and faces north. The front room has a roughly circular plan. The diameter of the room at its widest spans 2.9 m and it is equally deep. The fire door is 1.15–1.35 m high, the area around it is rectangular, and it is built lower than the front room by about 0.1 m. The fire door is made up of 10 tiers of earthen blocks neatly stacked up to seal up the rest of the kiln. The fuel chamber is 1.25–2.2 m high, has a trapezoid plan with the southern section higher than that of the northern,

and it is also built slightly lower than the fire door. The firing chamber's ceiling is similarly sloping down from the southern section towards the northern section, with a height of 1.9–2.4 m. The kiln's stacking platform is stair-shaped, measuring 1.85 m north-south, 4.05 m wide at the south, and 2.1 m wide at the north. The platform has a sloping design, higher in the southern section, and it is built up higher than the fuel chamber by 30 cm. Six strips of flat ceramic tiles were found stacked up on the platform and served as a wall that separated the pottery from the fire. The tiles had 1 to 2 layers, with the inner side positioned downwards. Three smoke vents (left, right and center) are situated at the rear retaining wall with the center vent serving as the main shaft. The smoke entryway of the shaft, measuring 0.3 m high, 0.35 m wide, and 0.45 m deep, is blocked by 2 pieces of brick placed in the manner of an inverted Y-shape. The existing smoke vent is 2.35 m high (Fig. 10).

Type III: six kilns (Y1, Y4, Y7, Y8, Y12, Y13).

In the relatively small firing chamber is a wall that is crescent-shaped. The fire door, fuel chamber and firing chamber together form a plug-shaped plan. Y4 is located west and faces east, but its front room has yet to be fully surveyed. The part that has been covered is L-shaped, measuring 4.64 m north-south, 1.32 m east-west, and 0.76 m deep. The wall of the fire door is 0.86–0.9 m high and its base, made up of fairly hard red-colored fired clay, is level with the front room. The fuel chamber has a trapezoid plan with the wall measuring 0.78–0.8 m high; its base is higher than both the fire door and front room by approximately 6 cm. The firing chamber has a stair-shaped plan, measuring 1.74 m east-west, 2.16 m wide on the west, and 1.36 m wide on the east. The kiln's stacking platform is at least 11 cm thick; at its western section are two layers of unfired flat ceramic tiles. Three smoke vents (left, right and center)



Fig. 11 The late period site Y4 (photo taken from south to north)

are situated at the rear retaining wall of the firing chamber (Fig. 11).

2. Artifacts

Ceramic items make up the majority of artifacts from these kiln sites, while iron objects and currency constitute a smaller proportion. The ceramic finds are predominantly building materials, with flat tiles numbering the most. Based on the stratigraphy, the kiln remains had penetrated the level of the Western Han building remains, undoubtedly giving them a post-Western Han attribution. Further, taking into consideration the organization of the kilns, the recovery of lotus-motif tile-ends, damaged ceramic bottles, ceramic bowls, as well as the *wu zhu* currency similar to those found in Western Wei and Northern Zhou tombs, and the *wu xing da bu* 五行大布 of the Northern Zhou, the kilns are most likely dateable to the Northern Dynasties of Western Wei and Northern Zhou. Judging from the inventory of artifacts, these 13 kilns most likely served to produce ceramic flat tiles and, to a lesser extent, semi-circular tiles and roof tile ends.

Note: The original report, published in *Kaogu Xuebao* 考古学报 2004.1: 55–85, with 21 illustrations, and 16 plates, is written by Li Yufang 李毓芳, Liu Zhendong 刘振东, and Zhang Jianfeng 张建锋. This summary is prepared by the first author and English-translated by Han-Peng Ho 何汉平.