The Upper Palaeolithic of North China — Chaisi Locality 7701

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1 LOCATION

The site of Chaisi is located at the bank of Fenhe river valley, south of Xiangfen County in Shanxi Province (Fig. 1). Both the east and west parts of Xiangfen County are high, forming a low basin area in the centre, with very little mountainous area. Fenhe flows from the northeast towards southwest through the Xiangfen County (Fig. 2). This area belongs to temperate zone with continental monsoon climate. The average annual temperature is 12.3℃, average January temperature -3℃, and average July temperature 25.7℃. The annual rainfall is 546.5 mm and there are 186.3 frost-free days yearly.

2 SITE HISTORY

In the autumn of 1977, Jian Wang from the Shanxi Province Historical Remains Committee, Xi-gong Xie, Fu-hai Tao and others from the Linfen Region, discovered chipped stone implements from the gravel stratum of the second terrace on the south Fenhe river bank in Chaisi Village. Initial excavations were then carried out and the site was named Chaisi locality 7701.
Between April and May of 1978, the first excavation was carried out at the Chaisi site.

Between April and May of 1985, the Institute of Archaeology, Shanxi Province and the Dingcun Archaeological Team of the Linfen Region conducted a second excavation at Chaisi. Both excavation reports on the Chaisi Locality 7701 were already published (J. Wang et al. 1994, Q. Xiang and Y. Zhan 1986). In 1991, when this author was visiting the Institute of Archaeology, Shanxi Province, out of the goodwill of Professors Jian Wang and Xiang-qian Wang, he was given the opportunity to examine and measure a number of the stone implements excavated from the Chaisi locality 7701.

3 SITE DEPOSITS

The Chaisi site was located at the second terrace of the west bank of Fenhe. According to the cross section gathered from the first excavation at locality 7701 in 1978, there were five strata to be found, from top to bottom:

1st stratum: Greyish Yellow Sandy Clay, of 8 m thick.

2nd stratum: Greyish Yellow/Greyish White Powdery Sandy Clay, of 6 m thick.

3rd stratum: Greyish Yellow Powdery Sandy Clay, of 3 m thick.

4th stratum: Greyish Yellow Fine Sand, of 2.4 m thick.

5th stratum: Gravel Layer composed mainly of sandstone, containing Late Pleistocene fossils and stone implements. This cultural layer is of 0.3 to 0.6 m thick.
The animal fossils found at this layer were determined to be horses (*Equus cf. przewalskyi*), cattle (*Bos sp.*), antelope (*Gazella sp.*), and deer (*Cervus sp.*), etc. Also, according to the excavation report on Chaisi locality 7701 in 1985, the cultural layer was relatively thicker, of 0.2 to 1.5 meters thick.

The carbon 14 dating results of the 5th stratum samples dated the Chaisi 7701 locality to be earlier than 40,000 years ago, while those of the mussel shells from the same stratum dated the site to be 26,400±800 years ago. Professors Jian Wang tends to agree to the latter dating. Nevertheless, the Chaisi stone implements belonged to Upper Palaeolithic age.

### 4 CULTURAL REMAINS

The first excavation report on the Chaisi 7701 locality contained very detailed analyses of the site. According to the studies of Jian Wang and the others, the stone implements discovered from locality 7701 in 1978 could be classified into two groups. The first group were of large crude stone implements made by having been struck out of hornfels and limestones, while the other group were of typical microlithic made out of chiefly cherts.

a. Large Crude Stone Implements

   (a) cores, flakes anddebitages

   (b) Various kinds of stone implements include: choppers, large triangular points, axe-shaped implements, cleavers, scrapers, backed knives, denticulates, spheres, and hammers (Fig. 3).

b. Microlithic Assemblages (Fig. 4)
(a) cores and flakes

Microblade cores: A total of six pieces which could be categorized into three types, namely cone-shaped, wedge-shaped and boat-shaped (Fig. 8: 12, 15, 17, 19; Table 1).

Microblades: A total of 53 pieces, the largest being 3cm in length, 0.7 cm in width and 0.2 cm in thickness; the smallest being 0.8 cm in length, 0.3 cm in width and 0.1 cm in thickness (Fig. 8: 1—7, 11).

Blades: A total of 33 pieces, the largest being 4.5 cm in length, 0.9 cm in width and 0.6 cm in thickness; the smallest being 1.5 cm in length, 0.9cm in width and 0.1cm in thickness.

Stone implements: A total of 61 pieces include core tools, burins, end-scrapers, scrapers, small backed knives, back-polished microblades, points, arrowheads, borers and splinters (Fig. 5).

The second excavation of the Chaisi 7701 locality in 1985 was on the whole similar to the first one. According to Xiang-qian Wang's report, the stone implements discovered in 1985 could be classified into two groups, one including large crude stone implements such as choppers, scrapers and large triangular pointed implements, all made of hornfels. A great amount of stone spheres were also discovered. The other group included blade implements made of cherts such as awl-shaped cores, wedge-shaped cores, microblades, core-styled scrapers, end-scrapers, scrapers, stone backed knives and burins.

After examining and measuring the stone implements of the Chaisi 7701 locality, this author made the following categorization:
a. Microblade cores

Type 1: A total of four pieces were found with relatively smaller flakes as blank, and with the primarily ventral face being the platform, they were retouched on the top and the bottom of the two sides of the cores (Fig. 9: 1—4; Table 2).

Type 2: One piece was found with blank unidentified. The body of the core was trimmed into wedge-shaped and it had a faceted platform (Fig. 9:5).

b. Burins (Fig. 6, 10; Table 3)

A total of four pieces were found with blade as blank and were retouched all along the lateral edges. The ones shown in Fig. 10 nos. 1, 3, 5 and 6 revealed clear platform preparation on one side before the burin blows were struck off. Fig. 10 no. 5 burin indicated that the distal end of the burin had been trimmed on both sides into a borer. It was evident that the borer portion had been used with developed microwears.

c. Spears and Points (Table 4: 1—2)

Both pieces were processed on only one side, with flakes as basic material. The base part had secondary retouch to be made into handles. (Fig. 11: 8)

d. End-scrapers (Fig. 7, 11:1—4, 6—7, 9; Table 4: 3—12)

A total of seven pieces were found with flakes as blanks, and had secondary retouch along the lateral edges.

e. Side-scrapers
A total of three pieces were found with blades as the blanks, and chipped on one side or two sides.

5 REVIEW

a. Relatively detailed reports were published on the 1978 excavation of the Chaisi 7701 site. Jian Wang and others classified the stone assemblages into heavy stone industry and microlithic assemblage. According to this author's observation, the styles of the heavy stone implements were rather inconsistent, reflecting a strong contrast to the consistent styles of the microlithic assemblage of Upper Palaeolithic tradition. Nevertheless, this author did not regard these heavy stone implements to be implements. A great majority of those might very well have been some raw materials, to be further processed into stone artifact such as cores or stone axes. Again, some of the stone spheres found among the heavy stone implements might have been stone hammers.

b. Jian Wang proposed that the microlithic composition discovered in 1978 included: core, tool, burin, end-scaper, scraper, backed knife, backed microblade, awl and splinted pieces. According to this author's observation, the blanks of these two pieces of backed knives were not on blades. Further information still have to be waited in order to ascertain the backed knives within the microblade assemblage of this site. Moreover, the core-scrapers (Fig. 8: 8—10, 13, 16, 18) might have been microblade cores.

c. However, the burins among all the other stone implements discovered in 1985 were mostly on blades, share similar characteristic to the Araya burins. Also, all the three pieces of side scrapers found were blade blanks. It could be said that the blade technology played a relatively more important role in the
production of the stone implements discovered in the collection of 1985. The author wishes to express his gratitude to Professors Jian Wang and Xiang-qian Wang for his great kindness to allow me to approach the stone artifacts from Chaisi.

References
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