THE NEOLITHIC FISHERMEN IN COASTAL SOUTH CHINA

Qiao Xiaoqin

Henry Clay Frick Department of the History of Art and Architecture, University of Pittsburgh, PA 15260, USA

ABSTRACT

The pre-1980 archaeological literature dealing with the prehistory of southern coastal China, especially southern Guangdong Province, Hong Kong and Macao, gives a fragmented view with little detailed discussion of the exact processes of peopling and cultural adaptation. Fortunately, some field reports have been published in recent years that partially redress this situation. These refer to sites which contain remains from the Middle Neolithic to Early Bronze Age - approximately the last four millennia before the Christian Era. I will focus on a number of these sites in order to discuss adaptation strategies and patterns of communication between these populations. The sites include Tung Wan (Dongwan), Tai Wan (Dawan) and Sham Wan (Shenwan) in Hong Kong; Dahuangsha and Xiantouling near Shenzhen; and Houshawan and Caotangwan near Zhuhai (Wen et al.*1990; Tang 1986-88; Meacham ed. 1978; Li 1991).*

The earliest Holocene remains in South China have been discovered in the limestone area of northwest Guangdong. A series of radiocarbon dates from cave sites trace the regional prehistory back to c.8000 BC (Zhang 1993). The major assemblages of artifacts from these caves include a variety of pebble and bone tools, perforated pebbles, partly polished stones and low-fired potsherds. The people exploited a wide range of food resources indicative of intensive gathering and perhaps also primary horticulture by the sixth millennium BC (He 1985). We may also note cultural similarities shared with other limestone areas in Southeast Asia. The concept of a Hoabinhian Culture has been used to refer to those traditions, especially the pebble industry, in mainland Southeast Asia since the 1930s. In South China, we witness gradual population growth after the Hoabinhian cultural stage. Basically people seem to have moved from caves to settle along rivers into the delta areas.

By the beginning of the fifth millennium BC, Neolithic populations were already in occupation in coastal areas (for a map of sites discussed, see the preceding article by Li Guo, Figure 2). A number of cultural elements, such as painted pottery, indicate the diffusion of certain traits of the Tangjiagong culture in Hunan Province which is dated approximately to 5000 BC. The white pottery with stamped designs found here shares certain similarities with the white pottery found in the coastal areas one thousand years later. Links with other traditions are also seen crossing the Nanling Mountains (He 1982), but we still do not have enough evidence to recover the complete process of peopling the coast and islands from the inland regions.

Information about environmental and climatic changes through the time span under consideration is also important. Sea level in southern China rose at a rapid rate of up to 21.6 mm per year between 6000 and 5400 (uncal.) BC and then stabilized between 5400 and 5100 (uncal.) BC. It then rose again dramatically from 5100 to 3900 (uncal.) BC when the highest Holocene local sea level, of about 1 meter above present level, was attained (Li *et al.* 1991). The overall rise of sea level during this period caused marine resources to increase in availability and developing means of water transportation improved mobility. On the other hand, coastal populations had to choose their settlements more carefully in order to avoid inundation.

The excavation and survey of coastal sites has already provided data from over 70 localities in coastal South China. Most are sand bar (*shaqiu*) sites, usually located at the heads of small bays on the rear parts of sand bars formed during the period of transgression. These sandbars also encouraged lagoon formation by blocking drainage. Such environments were rich in fish, molluscs

and plants, as well as fresh water. Small hills located nearby are considered ideal places for hunting and gathering (Zhao 1991).

THE CULTURAL SEQUENCE

The chronological sequence of prehistoric coastal sites can be divided into three major phases. The remains of Phase I (approximately 5th millennium BC) can only be found in the Tung Wan site on Lantau island, Hong Kong. In the lower layer of Tung Wan an assemblage of pebble tools has been identified. The major items include single and double edge choppers, scrapers, hammerstones, grinding stones, and small flakes of tuff and rhyolite. An assemblage of similar pebble implements has been recognized in the Baxiandong site in Taiwan, where the pebble tools were found with marine fish bones and fish hooks (Tang 1991). This phase has no pottery.

Phase II, which is usually referred to as Late Neolithic (3000-1500 uncal. BC), may be considered as the most important cultural stage of the region. Remains are found widely among coastal sites across the whole area. This period probably should be divided into two substages. The early one contains artifacts characterized by chipped stone tools and coarse corded wares. Alongside the choppers, scrapers and grinding stones found in the lower layer of the Tung Wan site, chipped awls, mortars, pestles, flakes and some polished axes were unearthed from cultural layer IV and in the lower part of layer III. Signs of use have been defined on some implements.

The basic types of pottery in Phase II include round-bottomed jars and covers, bowls, round-bottomed cookers (*fu*) and globular bodied containers (*weng*) as well as potstands. Cord marking made by a cord-wrapped paddle dominates the surface patterns of the pottery. Paddle and anvil methods were used to form the pot shapes. Incised designs and perforations can be observed on some vessels as well. Hand made coarse corded wares were usually tempered with a large amount of quartz-sand. Due to the low firing temperature and method of manufacture, most of the pottery has a black surface color and only a small number are oxidised to orange-red.

It is hard to give an exact duration for this sub-stage, but some elements, such as the appearance of pottery and the complexity of the stone tool assemblage, indicate it might belong to a period of transformation of local prehistory. The appearance of pottery vessels shows that the coastal populations had sedentary camps or settlements. The use of cord wrapped paddles to shape and decorate pottery is considered a common element shared by contemporary Neolithic people from the northeast coast of Taiwan (Tapenkeng site) to the shell mounds of northern Vietnam (Bi Dang site). The emergence of the mortar and pestle suggests that those coastal groups probably relied partly on plant resources while they exploited marine products.

More visible cultural changes occurred in the later stage of the local Late Neolithic (c.2500-1500 uncal. BC) Almost every site we referred to previously contains remains from this stage. The typical artifacts of the period include polished stone tools in regular shapes and pottery assemblages which consist of fine corded cooking vessels and painted basins with foot rings. The appearance of various processing tools for making sea-going boats is quite impressive. In the Xiantouling site, for instance, polished stone axes, adzes, hammer stones, knives and chisels have been found associated with a small number of flaked choppers and grinding stones. The improvement of means of sailing significantly expanded the mobility of those coastal populations. Indirect evidence of sea travel is provided by the rock carvings found in Baojingwan of Gaolan Island, Zhuhai (Xu *et al.* 1990). The images of people and boats appear together to show the activities of fishing or certain kind of religious practices.

Round-bottomed vessels and vessels with foot rings dominate the pottery in this complex and tripods are not found. The motifs on painted pottery include parallel lines, waves, dots, and circles in a dark red color. Incised curved lines often are combined with perforations on the footrings. White slip is sometimes used on the surface of painted pottery. Jars, pots, bowls, dishes, basins and cups are all found in the Xiantouling site to complete the whole set of daily utensils used by sedentary residents. Besides cord marks, the second most important type of decoration is incised or stamped patterns made by a shell.

The features of these late Neolithic sites clearly demonstrate permanent settlements in southern coastal of China by 2000 uncal. BC. Two house floors and 12 postholes have been identified at Xiantouling. The floors were covered with dark-gray earth; one of them is irregular in shape, 7.7 m in length and 4.8 m. in width. The postholes usually are 8-24 cm in diameter and 14-40 cm deep. Close to these features are a number of burned-red soil blocks, smooth on one side and tempered with sticks of bamboo and wood on the other side. Some writers think that they were remains of the fallen walls of the houses near by (Peng 1990).

In the Dongaowan site of Zhuhai a number of hearths have been identified in the bottom layer. They comprise large pebbles surrounding rectangular, circular and irregular hearths and are of a type widely reported among

the late Neolithic coastal sites such as Dongaowan in Zhuhai, Tung Wan and Tai Wan in Hong Kong. They are almost surely the remains of some kind of residential structures. Although pile dwellings are considered perfectly suited to a coastal environment, archaeologists still have not found such remains in this area.

Direct evidence of the subsistence strategy of Neolithic fishermen in coastal areas of South China should be supplied by the remains of their food, the tools used to access this food as well as features related to both. Unfortunately, food remains of the period are not so easily recovered because of the frequently changing coastlines in most sites. The only site which contains the remains of fish bones and shells, as well as land animals and plants, is the Sham Wan site in Hong Kong. A large number of bones of marine catfish (*Arius leiotetocephalus*) have been unearthed from the late Neolithic layer of the site. Catfish usually can be found in 20 to 70 meters of water on the South China shelf, over a predominantly muddy seabed. During spring and early summer the fish migrate shoreward to spawn, when they are readily accessible in shallow inshore waters. The spawning schools of catfish are likely to move just beneath the sea surface, causing a characteristic wave movement easily identifiable from the shore (Chan 1978).

The shell samples found in the 'Pre-Bronze Age' natural layer of the Sham Wan site have been classified into 15 species. Seven are gastropods (including *Monodonta australis*, *Trochus maculatus* and *Patella aspera*). Others are bivalves (including *Excellichlamys cf. spectabilis*, *Saccostrea cucullata* and *Atactodea striata*). The prehistoric populations clearly benefitted from access to both sand bar environments and lagoons for purposes of shellfish collection.

The reconstruction of fishing methods suggests that net fishing might have been practised; stone net sinkers have been found in Houshawan and other sites. Most sinkers are side-notched and made of sedimentary rocks that are oval in shape and rather flat. Cord, for which there is evidence in the cord marking on pottery, might have served as fishing line. The bronze fishhooks that appear widely in Bronze Age sites represent a technological improvement in later stages. Certain chipped stone tools such as points or pointed hand axes might have been used as special tools to extract shellfish meat (Xu *et al.* 1980).

The next major cultural phase is the early Bronze Age (c. 1500-1000 uncal. BC). Sites that contain artifacts of this stage are scattered widely throughout the region. The most significant event was the appearance of the so-called 'soft geometric' pottery, and burials that contain bronze objects as well as jade ornaments. Layers 2 and 4 of the Houshawan site provide us with a typical assemblage of the period. Compared to the Late Neolithic sites, painted pottery is seldom seen and the firing temperature of pottery was higher. Common forms include cooking pots, pot stands, bowls and cups. Signs of slow-wheel manufacture can be observed on some rims. The geometric impressed patterns which appear on the pottery derive perhaps from woven bamboo or wooden articles, and include squares, multi-arranged lines, chevrons, curvilinear patterns, waves, lattices with dots and cloud (*yunlei*) motifs. Round-bottomed vessels and vessels with foot-rings still dominate. Most stone tools in this stage were small processing tools such as adzes, chisels, axes, net-sinkers, stone balls and grooved polishing stones. Bone and shell tools appear for the first time and include projectile points made from cattle or deer bones and shell knives (*Meretrix meretrix)*, some with cutting edges showing signs of use (Meacham 1989-92)

Features of Bronze Age sites include residential areas and burials. Several hearths in the Dongaowan site were constructed with irregular pebbles. Others were built up with rectangular slabs. The high-temperature fired red soil found concentrated in a small area of the site might be the remains of a pottery kiln. It is hard for archaeologists to locate burials in sand bar sites since the soft sand layers are quite easily disturbed and the color changes between layers or features are hard to determine. However, a small cemetery has been excavated at the Tai Wan site with as many as a dozen identified Bronze Age burials associated with polished stone adzes and small axes, jade or stone rings, a *yazhang* (a ceremonial blade or dagger-like implement), bronze knives and bronze fragments. Usually each tomb contains 3-8 artifacts but a few have more than 10, which might suggest the presence of some degree of ranking among these coastal populations.

COMMUNICATON IN THE PEARL RIVER ESTUARY

Distances between the major islands in the estuary of the Pearl River range from 5-15 km but this was no barrier to communication. Some archaeologists argue for the necessity of distinguishing between internal exchange taking place within a society and external trade involving goods traded over much greater distances, moving from one social unit to another (Renfrew and Bahn 1992). Evidence of such external trade, or at least contact, can be traced over a large area of South China. The coastal South Chinese distinctive painted pottery is similar to that found in the Tangjiagang site in Hunan Province,

which belongs to a stage of the Daxi culture, a widely distributed Neolithic culture in the middle Yangzi River valley. The main decorative patterns on the Tangjiagang painted pottery include parallel lines, broad cord impressions, waves, circles, dots and nets (He 1982) which are comparable to the patterns found on the coastal painted pottery. Even the coating of white slip and the incised designs on foot-rings are closely paralleled in both areas. It is difficult to identify the route of this apparent transfer of items of material culture from the Yangzi valley to southern coastal China, but one cannot imagine that such identity could have been independently invented in the two areas.

Before finishing the discussion of communications within the area, I must mention the discovery of a *yazhang* in the Tai Wan site in Hong Kong; a piece which closely resembles ritual objects found in Early Shang sites in the Central Plain of China. Two similar blades have also been found as far south as Vietnam. When we attempt to explain how and why these items appeared thousands of kilometers away from their original centre of origin, the answer seems to be neither simple nor direct.

SUMMARY

Several large settlement sites have been excavated in the last two decades in the Pearl River Delta, some of them with remains of pile dwellings and large cemeteries. The sites contain stone tools and pottery and demonstrate a mixed economy that included cultivation, hunting, gathering and fishing. In this coastal area the availability of food resources was seasonally variable.

One of the major concerns of this paper has been to examine communications between these prehistoric fishermen in coastal South China and their contemporaries. As discussed above, it seems that the peopling of the south coastal region was the result of a series of migrations from the inland area down to the lower reaches of the major rivers, finally reaching the coast in the fifth millennium BC. The ecosystem of coastal South China has changed since the middle Holocene, especially in terms of sea level. The direct impact of such changes on human populations seems to have been to encourage water transportation connecting the mainland and islands and between the islands themselves.

As noted earlier, most prehistoric sand bar sites in southern coastal China are located on small bays that faced south or southeast. The preference for such locations might have related to the need to protect settlements from the effects of the dry winter monsoons which came from the north. Furthermore, the seasonal camps located further inland could have been used by populations wishing to shelter themselves from summer typhoons. Such seasonal movement also contributed to contact between groups.

REFERENCES

Chan, W. 1978. Identification and analysis of excavated fish remains. In Meacham, W. (ed.) 1978, 248-56.

He, J. 1982. Lun Daxi wen hua. In *Zhongguo Kaogu Xuehui Dierci Nianhui Lunwenji,* pp. 116-23. Beijing: Cultural Relics Press.

He, N. 1985. Shi lun Lingnan Zhongshiqi Shidai. *Journal of Anthropology* 4(4): 308-13.

Li, P. et al. 1991. *Yiwannianlai Zhujiangsanjiazhou de Huanjing Yanbian.* Beijing: Ocean Press.

Li, Z. 1991. Qiao dao Houshawan yi zhi fa jue jian bao. In *Discovey and Research of Archaeology in Zhuhai.* Guangzhou: Guangdong People's Press.

Meacham, W. (ed.) 1978. *Sham Wan, Lamma Island: an Archaeological Site Study.* Journal Monograph 3, Hong Kong Archaeological Society.

Meacham, W.1989-92. Sha Po Tsuen. *Journal of the Hong Kong Archaeology Society* 13: 33-54.

Peng, Q. 1990. Shenzhen dapeng xiantouling shaqiu yizhi fajue jianbao. *Wenwu* 11: 1-11.

Renfrew, C. and Bahn, P. 1992. *Archaeology: Theories, Methods, and Practice.* New York: Thames and Hudson.

Tang, C. *et al.* 1986-88. The Neolithic site at Tung Wan, Shih Pik, Hong Kong. *Journal of the Hong Kong Archaeology Society* 12: 45-69.

Tang, C. 1991. Xianggang he Aomen jingshinianlai de kaogu shouhuo. In *The Ten Years of Cultural Relics and Archaeological Work:1979-1989,* pp. 364-73, Beijing: Cultural Relics Press.

Wen, B. *et al.* 1990. Guangdong Shenzhen Dahuangsha Sha qiu yi zhi fa jue jian bao. *Wenwu* 11: 12-20.

Xu, H. *et al.* 1979. Guangdong kaogu jie shuoguo, Lingnan lishi kaixinpian. In *The Thirty Years of Cultural Relics and Archaeological Work: 1949-1979,* p. 326, Beijing: Cultural Relics Press.

Zhang, Z. 1993. Study on the Pebble Tool Culture of Xijiang Valley, with relevance to the origin of prehistoric culture of ancient Yue. In *Collected Essays on the Culture of the Ancient Yue People in South China,* pp. 23-32. Hong Kong Urban Council and Hong Kong Museum of History.

Zhao, S. 1991. Zhuhai sha di yi zhi yan ju. In *Discovery and Researches of Archaeology in Zhuhai.* Guangzhou: Guangdong People's Press.