The Origins of Village Life in China: From Hunting and Gathering to Early Farming

Research Project supported by Harvard China Fund

Report

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Ofer Bar-Yosef

Department of Anthropology
Peabody Museum
11 Divinity Ave
Harvard University
Results of the Harvard China Fund grant (2009/10- 2012)

My original Harvard China Fund grant had three goals as indicated below, and my accomplishments in each is briefly reported in these pages. In addition, the published results are attached as pdf’s.

1. The study of the Paleolithic of China

One part of the project was to study Paleolithic stone tools in order to produce a bi-lingual manual on the evolution of stone tool industries of China from the Paleolithic through the Neolithic. In particular I was interested in the Late Paleolithic and early Neolithic as the two are being studied in the Chinese schools of archaeology, as separate subjects. The unfortunate result is that in a survey of all known and published sites there is a chronological gap of 3000-4000 years. I had the opportunity to indicate this difficulty to a large crowd of archaeologists during the 60th anniversary of the School of Archaeology and Museology of Peking University, that took place in Beijing, April 28, 2012.

For achieving the original purpose of this study I needed to assemble with Prof. Wang Youping (School of Archaeology and Museology of Peking University) technological and typological information from different Paleolithic assemblages in museums and universities across the country. To reach this goal we arranged joint visits to collections of stone tools kept in various provinces (e.g., Yunnan, Sichuan, Hunan, Jiangxi, Zhejiang, Jiangsu, Hebei, Jilin and Inner Mongolia) and took notes concerning the way the tools were made and their final forms. We already wrote the first draft of the introduction in English and parts of a few other chapters. We plan to continue our joint work and hope to visit in the future additional collections (e.g., in Xinjiang, Ningxia, Gansu, Guizho). Meanwhile the visits to the collections and continuous discussions with Prof. Wang Youping facilitated my work in two other projects in China and led to the publication of a paper in Annual Review of Anthropology 2012. In addition we cooperated with his former student, DR. Qu Tongli, in a major paper summarizing the Upper Paleolithic period in China. The paper is now in press in the Journal of Archaeological Research (Qu et al. 2012)

In addition to collection studies, I have been involved in two other field projects that have direct bearing on the Late Paleolithic period in China- one in Jiangxi Province (A) and the other in Shanxi Province (B).

A. Xianrendong Cave (Jiangxi)
The first project was re-dating the earliest occurrences of pottery making in the cave of Xiaonrendong (Jiangxi Province) with Profs. Wu Xiaohong and Zhang Chi (School of Archaeology and Museology of Peking University), Prof. P. Goldberg morphological analysis and Dr. D. Cohen from Boston University). The paper demonstrating that the currently earliest pottery is 20-19,000 years ago was published in Science 2012.

B. Shizitan (Shanxi Province)

The aim of this project is to assist the team from the Museum of Shanxi in Taiyuan, directed by Prof. Shi Jinmin and Dr. Song YanHua, to publish the results of a series of excavations conducted along a small tributary of the Yellow River. The cluster of sites is known as Shizitan. Among these we selected the earliest one for detailed environmental study. The site of Shizitan 29 dates to the critical period of the Late Glacial Maximum (24-19,000 years ago) a time when continental glaciers expanded. During this period of harsh climatic conditions, major parts of the loess plateau were abandoned by groups of hunter-gatherers who survived in this region, but several communities continued their previous way of life in protected valleys, formed as deep cuts in the thick loess deposits, and watered by rivers draining into the Yellow River.

For this project I recruited Dr. Eliso Kvavadze (Institute of Paleobiology, Georgain State Museum, Tbilisi, Georgia) who worked with me in the past and conducts a special analytical technique (Non-pollen Palynomorph) not used in archaeology in the USA, but is employed in continental Europe. This particular analysis is an elaboration of the traditional procedures of pollen analysis. On the same glass slides, when placed under the microscope, one can see not only pollen grains and spores but also a sort of “garbage”. It was by sorting this “garbage” that during the early 1980’s Dr. Van Gel from (University of Amsterdam, Holland) discovered that these additional remains include plant fibers, wood cells and bark, bee’s hair, tick residues and more. Until now Dr. Kvavadze performed the analysis of samples from Shiztan 29 and Shizitan 9 of the current project, as well as the cave site of Xianrendong (where the early pottery was discovered).

Currently the analysis of samples form the site of Shizitan 29, a site characterized culturally by its microblade tool-kit was completed. In addition Prof. Paul Goldberg is analyzing 15 sediment samples that represent the seven occupational horizons of this site. Together with Dr. Song YanHua, Prof. Shi Jinmin and Prof. Wu Xiaohong (School of Archaeology and
Museology at Peking University) who conducted the radiocarbon dating of this site, we are in the course of writing a paper centered on the environmental aspects and raising questions concerning the survival of prehistoric foragers in the Loess Plateau during the Late Glacial Maximum.

2. Teaching a major Harvard course in Peking University

I already reported the teaching of my Harvard course “The Archaeology of Human Evolution” during the Fall semester of 2010/11. The expenses involved, as suggested by the committee of the China Fund, were provided by the School of Archaeology and Museology. About 20 graduate students and professors (mainly from Peking University, IVPP and the Normal University of Beijing) took this class. I was also able to provide advice to several graduate students (from Peking University and the IVPP) concerning their Ph.D.’s. One of these students is constantly in touch with me concerning his Ph.D. on the Middle Stone age in the loess plateau.

As a result the School of Archaeology applied for getting me the Yangtze Professorship that will require a stay of two months in China every year during the five years in order to deliver a few lectures and conduct field research. I assume that I will hear the results during the course of Fall 2012.

3. Seed grant for an excavation of an early Neolithic site in Hunan Province.

Current models suggest that the original area where wild rice cultivation began and eventually became domesticated was in the basin of Lake Dongting in Hunan Province. Due to lack of carbonized plant remains from the earliest known occupations of the Pengtoushan culture we conducted a joint excavation in Shalonggang, a low Neolithic mound in Linli County. We obtained the permit for the proposed project after a year and half since we applied, and the fieldwork was carried in November through early December 2011.

The field work in Shalonggang was jointly sponsored by China Fund and the Institute of Archaeology of Hunan Province. The permit obtained from the Bureau of Cultural Relics in the Central Government was issued for the three partners and includes the School of Archaeology and Museology of Peking University whose students took part in the field work. The excavations, using modern technique, exposed an area of a 100 square meter and the recording of pottery fragments, stone tools and carbonized grains, was done in 1 x1 meter squares. In addition the registration of finds for the bulk of the excavated material was completed during this season. The preliminary analysis of the
archaeobotanical remains is being done by Dr. Gu Haibin (Archaeological Institute of Hunan).

Excavations in this site and two others will continue in the Fall of 2012 and 2013 and preliminary reports will be published, as planned by Prof. Guo Weimin, the Director of the Hunan institute, every year.

**Preliminary Conclusions**

The transition from hunting and gathering to cultivation of wild plants supported by hunting and gathering, also known as “low level food production”, was initiated by semi-sedentary and sedentary communities, some 11,000 years ago, probably in north China (Bar-Yosef 2011 and references therein). The incipient millet cultivation is attributed to the impact of the Younger Dryas, a cold and dry millennium that affected North China more than the South. The explanation of the process is theoretically couched in several behavioral options that foragers had when trying to minimize risks to their survival and create economic buffer conditions. Particular areas, where the advantageous of sedentism provided a successful adaption based on cultivation formed the core areas for the change. Other groups adopted the strategy of increased mobility to ensure survival. Within one or two millennia the annually cultivated millet became domesticated and was joined by tending and eventual domestication of pigs. Stable food production and storage allowed for a rapid demographic increase and the spread of villages to the periphery of core areas. This viable option of rapidly growing agricultural communities to move to other peoples’ territories within a vast region was facilitated by the rivers - the prehistoric highways of China. In the current interpretation the natural richness of plant and animal resources in South China resulted in the delayed cultivation and domestication of the rice. This hypothesis will be tested through new field projects.

Indeed, in the context of uncovering the evidence for the transition from foraging to farming in China, the building of a comprehensive model that will facilitate a better understanding, and possibly the reasons for this critical socio-economic change, is essential. The scanty archaeobotanical and archaeozoological evidence already available ties the northern China where millet cultivation began to southern China where early traces of rice cultivation were found. The predictive model is explained in several publications (Bar-Yosef 2011a,b, 2012) that hopefully can be tested through further field work and analysis.

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References


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