

Interdisciplinary Research

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In this article, trends of “interdisciplinary study” in fiscal 2016 for Japanese archaeology are discussed on several characteristic topics.

For “prehistoric subsistence,” development was seen from “subsistence” study to “foodways” study as a field of social study, due to development of various new analysis methods. For lipid analysis, analysis of organic matter adhering to pottery was conducted on two representative Jomon period sites: Torihama shell midden and Sannai Maruyama site, and a possibility was indicated at both sites that Jomon pottery specialized in processing aquatic resources. (A. Lucquin *et al.*, “Ancient Lipids Document Continuity in the Use of Early Hunter-gatherer Pottery through 9,000 Years of Japanese Prehistory” *Proceedings of National Academy of Sciences* Vol. 113 No.15, pp. 3991–3996) (C. Heron *et al.*, “Molecular and Isotopic Investigations of Pottery and ‘Charred Remains’ from Sannai Maruyama and Sannai Maruyama No.9, Aomori Prefecture, Japan” *Japanese Journal of Archaeology* 4, pp. 29–52) In the latter paper, analysis results suggested a possibility of processing starchy food like nuts in baskets. These results are epoch-making as they urge us to reconsider prehistoric foodways fundamentally, for we tend to think pottery as the center of cookware since it is an easy-to-be-found artifact. These results also match ethnography of native North Americas who mostly used baskets to process nuts, their staple food, by leaching them in water for efficiency. (L.A. Hosoya “Processing, Storage and Symbolism of Wild Nuts in the Past and Present” *SEAA7: 7th Worldwide Conference of the Society for East Asian Archaeology*)

There is a shift of interest in Japanese pottery study “from typology to usage theory,” including lipid analysis. For reconstruction of cooking methods by analyzing soot and burns left on pottery, *Archaeological Journal* No. 682 had a featured article “Pottery as a Tool.”

For starch residue analysis, which has been established as an analysis method of organic matter left on stone tools and pottery, SHIBUTANI Ayako published a thesis on “the significance of starch residue analysis” as a compilation of past studies. (Zanzon Denpun-tsubu Bunseki no Igi “Significance of Starch Residue Analysis” National

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TRENDS IN ARCHAEOLOGY IN JAPAN

Museum of Japanese History Ed. *Challenge for “Integrated Studies of Cultural and Research Resources”* Yoshikawa Kobunkan)

As for other food culture study, there was “Shokubunka to Kokogaku: Jomon Jidai no Dobutsu Itai” (Foodways and Archaeology: Animal Remains in the Jomon Period)” from the viewpoint of zooarchaeology (*Archaeological Journal* No. 694, 2017). Also, there was discussion from various viewpoints including theoretical archaeology at a symposium ‘*Dokomade Wakaru “Shoku no Kokogaku” Sono Riron to Jissen (How Much Do We Know about “Archaeology and Food”: its Theory and Practice)*’, held on March 2 and 3, 2017 at Tohoku University.

As for “initial cultivation study,” *Archaeology Quarterly* 138 had a special feature article, “Yayoi Bunka no Hajimari (Beginning of Yayoi Culture)” and there were research results published using replica methodology, isotope ratio analysis, and so on. Focus on regional diversity was characteristic in the article, discussing not only rice but other grains like millet. On DNA analysis of plant remains, KUMAGAI Masahiro *et al.* (Kumagai *et al.* “Rice Varieties in Archaic East Asia: Reduction of Diversity from Past to Present Times” *Molecular Biology and Evolution* 33(10), pp. 2496–2505) and TANAKA Katsunori *et al.* [Tanaka *et al.* “Morphological and Molecular Genetics of Ancient Remains and Modern Rice (*Oryza sativa*) Confirm Diversity in Ancient Japan” *Genetic Resources and Crop Evolution* 63, pp. 447–464] both pointed out that genetic diversity of rice decreased from the prehistoric period to medieval. “Diversity” seems to be the keyword for fiscal 2016 initial cultivation study.

In addition, interdisciplinary research saw new development in discussion of “environmental change and social problems.” As for “disaster archaeology” that drew attention due to the Great East Japan Earthquake in 2011 and Kumamoto Earthquake in 2016, effects of natural disasters in the past on human society were able to be reconstructed quite accurately by oxygen isotope ratio analysis of tree-ring cellulose that was developed in recent years. Examination became possible to compare a society susceptible to influences of disaster and a society that is not susceptible, and that knowledge could be used for today’s disaster prevention education. (NAKATSUKA Takeshi “Directions in New Historical Disaster Studies Based on High Resolution Paleoclimate Data” *Bulletin of the National Museum of Japanese History* No. 203, pp. 9–26).

Society of Archaeological Studies held its 62nd general meeting/study meeting (April 2016) under the theme “Environmental Change and Social Change,” and HABU Junko (“Food Diversity and Climate Change” *Kokogaku Kenkyu* 250, pp. 38–50) and OBATA Hiroaki (“Environment Change and Utilization Strategies for Plant Resources during the Jomon Period” *Kokogaku Kenkyu* 251) discussed Jomon period environments reconstructed using new analysis methods such as pollen analysis on ocean floor core

samples, alkenone paleothermometry analysis, replica methodology, and so on.

As for activities of international academic societies, many interdisciplinary research results were presented at international conferences held in fiscal 2016: Society for East Asian Archaeology (SEAA), International Work-Group for Palaeoethnobotany (IWGP), and the World Archaeological Conference (WAC).