Interdisciplinary Research

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In today's Japanese archaeology, an interdisciplinary approach is actively used to acquire new viewpoints in analysis of sites and artifacts. Thus, cooperation with different fields is increasing and one needs to pay attention to multiple fields regardless, academic and administrative, not only in individual study but also in the in case of excavation research. In this article, trends of interdisciplinary archaeological research limited to natural scientific approaches were summarized under six themes based on representative societies such as the Japanese Archaeological Association and Japan Society for Scientific Studies on Cultural Properties (JSSSCP), as well as theses published in related academic journals and conventions. However, the XIX INQUA (International Union for Quaternary Research) Congress with the main theme "Quaternary Perspectives on Climate Change, Natural Hazards and Civilization" had to be omitted since the number of sessions was enormous.

1. Paleoenvironment/Paleoclimate and the Humanity, went over studies that covered humanity's responses to environmental fluctuation, such as a special issue "Natural Resource Environment and Humans in the Pleistocene and Holocene" [*The Quaternary Research* 54 (5)].
2. Dating handled AMS C-14 dating on mostly carbonized materials adhering to pottery, such as study on Incipient and Early Jomon, as well as KISHIMOTO Naofumi's work that discussed AMS C-14 measurements and chronological dates on transition from the Yayoi period to the Kofun period [*Koukogaku Kenkyu (Archaeological Study)* Vol. 62, No. 3]. Also mentioned were HITOKI Eri, TSUJI Seiichiro and others who discussed calculating local deviations of marine reservoir effects in analysis of shellfish from Early Jomon [*The Quaternary Research* 54 (5)], and KOBAYASHI Kenichi and SAKAMOTO Minoru who made a wide area comparison of carbon and nitrogen isotope ratios for materials adhering to pottery from Late Jomon [*Bulletin of the National Museum of Japanese History 196*]. In addition, dendrochronology with oxygen isotope ratios that uses cellulose contained in tree rings was introduced.
3. Subsistence discussed dog burials excavated from Kamikuroiwa-iwakage site in Ehime

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Prefecture [*Anthropological Science* 123-2], and study by Satoshi who reconstructed shellfish gathering activity from the end of Early Jomon to the end of Middle Jomon using shellfish growth line analysis methodology [*Nihon Ajia Kenkyu (Japanese Asian Study)* 13]. On plant utilization study, OBATA Hiroki, *Taneo Maku Jomonjin (Jomon People Who Sow Seeds)* (Yoshikawa Kobunkan) should be mentioned. This discussed the origin of farming in the Japanese archipelago based on replication methodology. On diet analysis using carbon/nitrogen stable isotope ratios, study by ABE Akinori, KUNIKITA Dai and others on carbonized material adhering to pottery and clay objects from the latter half of the Jomon Period was mentioned. Also on starch residue analysis, a thesis by SHIBUTANI Ayako had a deep discussion from starch grains to the use of pebble tools [*Cultura Antiqua* Vol. 67-I].

4. Place of Origin/Material/Technique discussed obsidian quarry analysis in Natural Resource Environment and Humans: Bulletin of the Center for Obsidian and Lithic Studies, Meiji University 6, clay analysis methods that focused on volcanic glass, and a study by MIZUSAWA Kyoko who compared Jomon and Yayoi pottery excavated from Yashiro site, Nagano Prefecture [*Quaternary International* Vol. 397]. Other than these, mentioned were the location of production sites for bronze tools using lead isotope ratios (SAITO Tsutomu *Archaeology and Natural Science* Vol. 69), non-destructive analysis of ancient glass by X-ray fluorescence (MURAKUSHI Madoka *et al. The 32nd Annual meeting of the Japan Society for Scientific Studies on Cultural Property Abstracts*), and sulfur/mercury/lead isotope analysis on vermilion (cinnabar) by MINAMI Takeshi, KAWANO Maya et al.
5. Anthropology (Including Physical/DNA) discussed the 69th Annual Meeting of the Anthropological Society of Nippon that had sessions "DNA Analysis of the Japanese" and "New Viewpoints of Cave Sites," as well as *Archaeological Journal* 671 that had a special featured article "Kotsugaku kara Kodomo no Itai wo Miru (Children's Body Seen from Osteology)."
6. Site Research Method discussed a special article on archaeological study of remains of tsunami and earthquakes [*Miyagi Kokogaku (Miyagi Archaeology)* 17], research methods for rice paddy features, as well as the present states and reorganization of problems for volcano disaster research by MARUYAMA Koji, who presented achievements of a case study of two 10th-century widespread areas of tephra in the northern Tohoku region [*Kokogaku Kenkyu* 62-2].