Paleolithic

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Overlooking research trends of fiscal 2015 Paleolithic study, results of projects to indicate a new direction of Japanese Paleolithic study have been presented in the past few years. For example, there are the results of the 4th Meeting of the Asian Paleolithic Association (APA) and a symposium published as *Emergence and Diversity of Modern Human Behavior in Paleolithic Asia* (Texas A&M Univ. Press 2015), a project for "replacement" of primitive humans with modern humans ("Replacement of Neanderthal by Modern Humans: Testing Evolutionary Models of Learning," study representative: AKAZAWA Takeru), an excavation report by Center for Obsidian and Lithic Studies, Meiji University [*Naganoken Chubukochi ni Okeru Senshi Jidai Jinruishi: Hiroppara Isekigun Daiichiji – Daisanji Chosa Hokokusho (Prehistoric Human History in Central Highlands of Nagano Prefecture: 1st to 3rd Excavation Researches of Hiroppara Sites)*], Japan Association for Quaternary Research ("Special Issue: Natural Resource Environment and Humans in the Pleistocene and Holocene" *Daiyonki Kenkyu* 54), and so on. Thus, the purpose and role of Japanese Paleolithic study is getting clear in cooperation with scientific fields of Quaternary research regarding projects on the spread of modern humanity or the natural environment and human adaptation.

Study on the origin of modern humanity in Japan is pursued from new viewpoints of paleoanthropology and genetics in the Nansei Islands where many fossilized human bones were found. There is a thesis on fossilized human bones from Shirahosonetabaru Cave site in Okinawa Prefecture that includes the excavated situation, as well as a report of shell beads excavated from Sakitari Cave site where fossilized human bones were excavated. As data from the Nansei Islands are increasing, it is necessary to compare them with Paleolithic culture of other parts of Japan, with an understanding on diversity of modern human adaptation. The study on the origin of Japanese Paleolithic culture is conducted and verified in various forms, combined with limited excavation of "oldest stone tools."

There is high interest in stone tool material, and there are many studies including chemical analysis [Center for Obsidian and Lithic Studies, Meiji University ed. Natural

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Resource Environment and Humans No. 6, Japanese Paleolithic Research Association ed. *Dai 13kai Kenkyu Happyo Symposium Yokoshu (Proceedings for the 13th Research Presentation Symposium)*]. In recent years, survey and analysis of obsidian quarries in West Japan are active, such as obsidian quarries at Okidogo Island in Shimane Prefecture and Mt. Koshigatake in Saga Prefecture. In the future, accumulation and comparison of archaeological information is important in how to apply such study results to surrounding sites.

Another active topic is discussion focusing on environmental changes and behavioral adaptation of humanity around the transitional period between the Paleolithic and the Jomon period. Excavation reports on important microlith culture sites which became a large turning point in the transitional period study were published in succession. These were Yadegawa site in Nagano Prefecture (TSUTSUMI Takashi and Yatsugatake Kyusekki Group Yadegawa), the 3rd excavation of Fukui Cave in Nagano Prefecture [Department of Archaeology, Tohoku University and Tohoku University Museum "Kyushu Chiho ni Okeru Doketsu Iseki no Kenkyu: Nagasakiken Fukui Doketsu Daisanji Hakkutsu Chosa Hokokusho (Cave Site Study in Kyushu Region: Report of the 3rd Excavation at Fukui Cave in Nagasaki Prefecture)" *Bulletin of the Tohoku University Museum* No. 14, 2015], and an excavation by Sasebo City due to the organization of historic sites [Sasebo Kyoiku Iinkai *Shiseki Fukui Dokutsu Hakkutsu Chosa Hokokusho (Excavation Report of Historic Site Fukui Cave)*]. There was a featured article searching for the cultural significance of the late glacial stage (15,000 to 11,700 years ago) on human adaptation which showed much diversity after the period [SATO Hiroyki ed. "Tokushu: Kyusekki—Jomon Ikoki wo Kangaeru (Featured Article: Thoughts on Transitional Period between the Paleolithic to the Jomon Period)" *Archaeology Quarterly* 132]. Such topics should be discussed again based on periodization of Incipient Jomon and study history, to locate it among issues of today's Japanese archaeology.

Recent lithic study also shows diversity. Discussion was held at Iwajuku Museum on manufacturing techniques of stone tools from archaeological viewpoints, lithic technique study using chain operation, and the possibility of manufacturing experiment study [*Sekki Seisakugijutsu: Seisaku Jikken to Kokogaku (Lithic Manufacturing Technique: Manufacturing Experiment and Archaeology, Iwajuku Museum)*]. Other than these, there were verification on chemical surface change of use marks on obsidian tools under sedimentary environments, a verification experiment of "effective hydration speed" in obsidian hydrated layer method, and examination of running water effects in distribution of excavated stone tools and pebbles. Also, there was study on formation process of stone blades and tools in central Japan and relation with regions of Eurasia, and comparative study of flake points between northwestern Kyushu and the Korean Peninsula.

A problem in today's Japanese Paleolithic study is the decline of researchers who

support regional study in interdisciplinary activities. Although this situation had been predicted by recent changes in social conditions, it was accelerated more than expected and shortage of staff in regional municipalities is quite serious. There is a need to discuss ways for Japanese Paleolithic study to be rooted in the local community.