Archaeological Excavation of the Araumi Shell Mound in Chiba Prefecture

Research Group of the Araumi Shell Mound

1

The Araumi Shell Mound is geographically located on the northern part of the Shimousa Upland, south of the Tone River: the address is Neda, Araumi, Narita City, Chiba Prefecture. A paddy field called Naganuma lying on the west of the site is formerly a cove in the warmer Jōmon Period. The shell mound is situated on the hilltop facing Naganuma paddy field, 28 meters high from the paddy field, and 30 to 33 meters above sea level. There are 4 exposures of shells atop the hill, A to D, compound a horseshoe-shaped shell mound approximately 100 to 150 meters wide.

The site was excavated in the 1960s by Professor Masae Nishimura of the Waseda University, reported as the shell mound toward the end of Jōmon Period according to the unearthed potteries of the end of the Final Jōmon Period. These potteries were classified and named Araumi type, formed under the strong influence of Ōhora A′ type of Tōhoku region.

2

About 30 years later, in 1989 and 1990, the National Museum of Japanese History conducted anew excavation of the site as part of the research project by the museum, intending to investigate aspects of transitions from Jōmon to Yayoi applying contemporary perspectives and methods, on the basis of technical development of Archaeological excavations of shell mounds and accumulated knowledge of the early stage of Yayoi Period.

The excavated area by the Waseda University extends from the western part of the hill to the valley. Shell layers including Araumi type potteries were found mainly in the valley. Most of those locations were thoroughly excavated then and became thick cedar forest nowadays. We planned a central trench of 12 by 8 meters in the adjacent area, a north to south trench of 2 by 36 meters, and an east to west trench of 2 by 18 meters; totaling 200 square meters were excavated.

3

The Araumi shell mound is comprised mainly of Japanese basket clams deposited 70 centimeters thick at the thickest shell layer in the central trench. Disposal units of shells are important to

comprehend the formation of this amount of shell mound. We observed uniformity of size of shells and inclination of shells so as to demarcate each disposal unit. We also paid attention to the presence and conditions of animal bones in shell layers. Size of shells and growth lines of shells are analyzed so as to confirm that shell layers were formed in years or not.

4

We have succeeded to demarcate disposal units to some extent. The thick shell layer of Japanese basket clams up to 70 centimeters were estimated to be formed in 2 years. According to the analysis of growth lines, shells were gathered all year round but mainly from the beginning of summer to the beginning of winter, and selectively triennial or quadrennial shells. Animal bones were not dispersed in layers around but clustered in some layers which appears in dozens of centimeters interval. Those bone layers are sandwiched between pure shell layers which were formed mainly from spring to fall, so that we infer huntings were done in winter.

Impression of rice hulls was found on sherds from the excavation by the Waseda University. In 1990s around when we excavated the site, rice farming in the Late and/or the Final Jōmon Period was considered plausible. As expected, plant opal was detected from the soil of shell layers by our excavation. Also, charred rice and wheat were found by water separation of the soil. Thus, the possibility of rice farming around the Araumi shell mound in the Final Jōmon Period is to be considered.

Replica method (resin casting of seed impressions on sherds and microscopic observation so as to identify species of seeds) had been progressed since late 1990s. Since then, the emergence of cereal crops such as rice or millet is estimated in the end of the Final Jōmon even in the western Japan. We applied carbon-14 dating to charred cereals unearthed from the Araumi shell mound; they were dated Early Modern. Replica method on unearthed sherds from the site failed to detect any impression of cereals. There are no affirmative evidence of rice farming or so around the Araumi shell mound in the end of the Final Jōmon Period. Plant opal detected in soil may be infiltrated from upper soil, so that nowadays it is preferred not to treat plant opal as an evidence of rice farming.

There are no evidence of cereal cultivation found in the excavation, therefore the Araumi shell mound is concluded that it is a remain of hunter-gatherer in the end of the Final Jōmon Period.

5

The north/south trench across the hilltop was planned to find pit-dwellings and the settlement area of Araumi type epoch. Some depressions were found but were, contrary to expectations, considered to be pit-dwellings of the Late or the former half of the Final Jōmon Period and/or Kofun Period. By the unearthed various artifacts throughout the trench, we got a clue to comprehend and

reconstruct the lives of the ancient people. Unintermitted succession of pottery types from the former half of the Late Jōmon to the end of the Final Jōmon denotes that the Araumi shell mound was a major settlement sustained for a long time. The northernmost shell layers of the north/south trench belong to Chiami type, just before Araumi type. Southern shell layers of the central trench belong to the latter half of the Araumi 1 type and northern shell layers of the same trench belong to Araumi 2 type. Shell layers were formed in places within a relatively short period of time, and they are getting newer towards the valley. These are the results of the analysis of pottery types.

Stone tools of the Final Jōmon Period are 4 hammerstones for plant food preparation, 2 whetstones, and 1 stone rod. Other 2 large stone rods unearthed belong to the Late Jōmon Period. A surface collection of massive bladed polished stone axe from the adjacent crop field is possibly of Yayoi, so-called Futogata-Hamaguriha-Sekifu. This might be a remnant of Yayoi culture that came to the site.

Bone/antler wares are such as fishery spearheads and leisters. Shell wares are such as shell bracelets and small ornaments made of shell with a hole. A noteworthy artifact is the carved antler rod (dagger-like), a kind of ornament derived from waist decoration, with carved patterns specific to Chiami type pottery. This is the 7th finding from the Araumi shell mound. Similar ornaments were found widely from Toyama and Aichi to Miyagi Prefectures. Interaction with Tōhoku region that is also known by potteries, and interaction with Central Highlands and Tōkai regions suggest a hub character of the Araumi shell mound.

Thus, the Archaeological research of the Araumi shell mound concluded that the site was mostly formed by Jōmon culture such as livelihood and cultural artifacts. In Chiami type and Araumi type epochs, influence of Yayoi culture is rare. Formation of extensive several shell mounds and thick shell deposits bear eloquent testimony to Jōmon characteristics of the site.

(translation by Akihiro Mizuyama)