Observations of Pottery Excavated from the Kawarada Site in Nagano Prefecture Using a Polarizing Microscope

MIZUSAWA Kyoko

It is necessary to undertake a comparison of the three attributes of soil, pottery type and the techniques used at the time of their manufacture in order to estimate the region of manufacture of pottery. For the research described in this paper, soil analysis using a polarizing microscope was made of 43 items of Middle Jomon pottery excavated from the Miyota-machi Kawarada Site that comprised 19 items of Yakemachi pottery (old stage and new stage), 11 items of Katsusaka type pottery (main sites and minor sites), four items of Atamadai type pottery (main sites and minor sites) and nine other items. A geological study of the area surrounding the site was also conducted. These investigations resulted in the classification of these items into one of two main categories. Namely, Category One containing was much of plagioclase and pyroxene group and a comparatively large amount of volcanic rock and Category Two, which in contrast contained a large amount of black mica (biotite) and quartz. Items belonging to Category One were further classified into three types and six sub-types according to the quantitative ratios and types of individual rocks and minerals, while items in Category Two were classified into three types on the basis of the same criteria. A comparison made of each of the sites believed to be mains site and minor sites owing to the types of these pottery items and specific details of their techniques confirmed that the soil of Yakemachi type pottery was found in four sub-types of both main categories. Category one soil can be extracted from the foot of Mount Asama. But category Two soil may lie in old tephra that was carried through the air from the Northern Alps, because it contains a large quantity of black mica that does not originate from the foot of Mount Asama. It is clear from this that the potters of Yakemachi-type pottery used two types of soil that were possibly produced in different areas from the Aramichi to Idojiri period. Some items of Katsusaka pottery were made from soil that resembles that used in Yakemachi type pottery while other items contain different soils, which suggests that the former were manufactured locally while the latter were brought to the site from other areas. There are items of Atamadai pottery that are also highly likely to have been brought to the Kawarada Site in the same way.

This soil analysis and typological study provides evidence of the movement of pottery and the manufacture of imitations. Accordingly, we may assume that the movement of pottery is a precondition for the transmission of information on types of pottery. It is therefore possible that the continuation of these kinds of studies may provide clues that are useful when examining certain aspects of the social structure of that period.