Classification of Tempering Materials on Jomon pottery from the Kawarada Site

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It is a distinctive feature of Jomon pottery that many kinds of fragments of rocks and minerals are mixed in the body paste. These non-plastic grains in the plastic clay body can be easily shaped during forming operations and will shrink minimally during drying and firing. In addition, there are mineral inclusions selected intentionally for ornamental purposes, for example, biotite grains contained in the Otamadai type pottery on the Kanto and Chubu districts, and talc grains in several types of pottery during the Early and Middle Jomon period on the northwestern part of Kyusyu, and so forth.

It may be regarded that most of tempers are sands from efflorescence of rocks in and around the site, but in the case of pottery imported from a great distant site, sands of pottery differ from these tempers in property generally. Although it is not easy to recognize the relation between the location of pottery making and the constituent of tempering materials, this consideration may go ahead by comparing the petrological feature of sands in the pottery with the geological feature in and around the site.

Jomon pottery from Kawarada site in Nagano Prefecture were analysed by petrological method with these points of view. As a result, it came to light that tempers of many pottery were classified into 4 groups on the basis of the geological origins of sands, namely volcanic rock fragments and plutonic rock fragments, moreover a small number of pottery had characteristic factors, including a large quantity of biotite grains and metamorphic rock fragments.

It is required further examination if the result of this classification are connected with difference of the pottery provenance or not, but the same analytical research on tempers of pottery will give some suggestions as to the interpretation of provenance on pottery from sites in Tyuubu and Kanto districts.