Rethinking the Iron Historical View in the Yayoi Culture

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Starting to use iron implements at the same time as the initiation of the wet rice cultivation, the Yayoi culture has been considered as the only prehistoric culture in the World that started using iron implements before bronze implements. According to the long chronology of the Yayoi culture, however, iron implements are considered to have appeared 600 years after the initiation of the wet rice cultivation, at the almost same time as the appearance of bronze implements. This article examines changes in the iron historical view of the Yayoi culture (the historical view of the iron culture) to reveal how the development of iron as assumed above affects the perspective of the Yayoi culture.

Previous studies did not consider that iron implements in the early Yayoi had any substantial influences on the Yayoi society because of their limited use such as for delicate work on wood containers. Therefore, there are no significant differences when assuming that the first 600 years of the Yayoi period did not have iron implements.

The new historical view, however, makes profound differences in the place of origin of iron materials and in the iron manufacturing techniques of Yayoi people. With regard to iron implements in the Yayoi culture, the conventional view suggested that there were two types of iron appearing at the same time as the initiation of rice cultivation: cast iron (malleable cast iron) originated from the Yan State and tempered iron (wrought iron) originated from the Chu State. Previously, Yayoi people were considered to have had advanced techniques to make iron implements, such as decarbonizing cast iron and forging tempered iron, in the latter half of the Early Yayoi period.

According to the long chronology of the Yayoi culture, however, cast iron originated from the Yan State first appeared in the early forth century B.C., and then tempered iron originated from the Korean Peninsula followed in the third century B.C., resulting in the coexistence of both types of iron. Moreover, decarbonized-cast-iron steel originated from the Chinese northeast region appeared before the birth of the Former Han Dynasty. In the end, the wrought iron from the Korean Peninsula gradually went mainstream.

In addition, the iron manufacturing technology of Yayoi people started with edging small iron implements by sharpening and grinding malleable cast iron in the same way as making stone tools. The forging of tempered iron started with Korean-origin wrought iron after the third century B.C.,
and the decarbonizing of cast iron commenced after the Late Yayoi period.

In summary, it is necessary to change the perspective of the Yayoi iron culture. Yayoi people did not make their own iron implements from two types of iron, cast and tempered iron, by using their advanced technology at an early stage. Instead, they started with making small implements of cast iron pieces by using conventional fireless techniques to produce stone tools at first and then developed their techniques to forge tempered iron.

Key words: Yayoi, Long chronology, Calibrated date, Cast iron, Tempered iron