東京大学遺跡調査室発掘調査報告書 1

東京大学本郷校内の遺跡

理学部 7 号館地点

1989
Historical map of the Kaga Clan Hongo Property in the 1840's
Frontispiece 1  Old Kutani style porcelain from the No. 7 Science Building area
Plate 1 Distribution of features in the southern part of the No.7 Science Building area
Report of the No.7 Science Building Area Excavation at the Hongo Campus of the University of Tokyo

Chapter 1

The Location of the Site

Throughout most of the Edo Period (1603-1868), a large part of the University of Tokyo was the property of a daimyo (feudal lord) of the Maeda Family, Kaga Clan. Since 1983, members of the excavation committee of the university have been excavating four areas of this property, all of which underlie the present campus grounds (Figure 2). The site under consideration here is one of these areas, where salvage excavation preceded the construction of No.7 Science Building. The excavation, which lasted from February 1, 1985 until October 8, 1985, covered approximately 750 square metres.

Chapter 2

Excavation Methods and Schedule

The Excavation area was divided into a grid consisting of 5 x 5 metre squares. Grids A1 to A5 extend north to south, while A1 to G1 lie east to west (see Figure 3). In this report, we refer to grid line A1 to A5 as grid row A, and so on.

The northern part of the excavation area had been seriously disturbed by the construction of the Old Chemistry Building. We began our work from this disturbed area and continued towards the southern part of the site.

Chapter 3

Site Stratigraphy and Geological Analysis

The site is composed of three strata: a modern stratum dating from the Meiji Period (1868-1912) to the present, a historic stratum dating from the Edo Period, and an underlying, undisturbed loam. The stratum containing the Edo Period remains appears in patches throughout the site.

This chapter also discusses the surface topography and tephra stratigraphy of the site. Criteria used
to make assessments included variations in outcrops, changes in the kinds of mineral composition, and amounts and the shape of the volcanic glass shards. We found that:

1. The oldest stratigraphic level is the Tokyo Formation followed by the Musashino Gravels and the Tachikawa-Musashino Loam Formation.

2. The Hongo Upland is divided into two terraces, an upper one (22–20 metres a. s. l.) and a lower one (16–15 metres a. s. l.). The lower terrace corresponds to Musashino 2 (M2) making the upper terrace younger than M2. The No.7 Science Building area is located on M2.

3. The Aira-Tanzawa volcanic ash (AT) and Tokyo Pumice (TP), both obvious tephra markers, were recognized in the Tachikawa-Musashino Formation. Black Band I (BB I), Black Band II (BB II), scoria and wavy boundaries were also found.

4. All loam strata were weathered. The tephra on the site came mainly from the Older Mt. Fuji Volcano.

Chapter 4

Features and Materials of the Jomon, Yayoi and Kofun Periods

Tsuyoshi Yamaguchi

Although the site is primarily historical, there were some prehistoric remains found. Four pit traps (Figure 11, 12) were excavated from the Jomon Period (10,000–300 BC), and assorted pot sherds from the Jomon, Yayoi and Kofun Periods (Figure 13) were found.

Chapter 5

Features and Materials of the Edo Period

Junko Habu, Tsuyoshi Yamaguchi, Chiyako Akimoto,
Hajime Komiya, Yasutami Nishida, Akira Kato,
Toshiharu Iwase

The excavation uncovered five wells, twenty-one cellars, which were probably located outside the houses, four hundred and ninety-six pits and post molds, one ditch, three pit clusters, and eleven concentrations of rooftiles and ceramics. Their distribution is shown in Figure 4. Most of the features were found in grid rows A–B and E–F.

Porcelain, other glazed and unglazed ceramics and rooftiles were the main categories of artifacts excavated from the site. Also found were other artifacts made from clay, stone, metal, bone, glass and wood (see Figure 14 to 204).

Faunal remains consisted primarily of fish bones (see pp. 396–415). Floral materials were also recovered. This chapter contains a reconstruction of the diet of the site inhabitants.
Chapter 6

Scientific and Chemical analyses of Artifacts and Materials

Section 1  Provenance Studies of Old Kutani Style Porcelain

Junko Habu, Shinya Nagasako, Shuji Ninomiya, Masumi Osawa, Koji Ohashi

Four pieces of Old Kutani (Ko Kutani) style porcelain were uncovered from the No.7 Science Building area (Figure 36-1, 66-4, 137-16 and 197-23, see Frontispiece 1). Old Kutani is one of the styles of porcelain made in Japan during the 17th century. Its provenance had been thought to be Kutani in the Daishoji subprovince, which was part of the Kaga province. However, some art historians and archaeologists suggest that it was actually made in Hizen (Arita or its adjacent areas) in Kyushu.

X-ray fluorescence and instrumental neutron activation analyses were applied to the four Old Kutani style pieces to identify their provenance. Six other pieces from the No.7 Science Building area and forty-four pieces from Hizen kiln sites were also analyzed to provide comparative data.

The results indicate a strong similarity between the four Old Kutani pieces and samples from Hizen kiln sites. Since the Old Kutani style can be divided into several sub-types according to minor stylistic differences, these results should not be interpreted to mean that all of the Old Kutani style porcelain was made in Hizen. These results suggest, however, a strong possibility that at least some of the Old Kutani ware was actually produced in Hizen.

Section 2  Chemical Analyses of Glass Materials

Yasutami Nishida, Yoshinobu Koizumi, Takeshi Tomizawa, Koichi Kobayashi, Hiroshi Yamashita

Eighteenth and 19th century glass fragments found at the site were examined. The possibilities and limitations of various techniques used for the analyses of the compositions of glass are discussed.

Chemical analyses were aided by new approaches such as the PIXE (particle induced X-ray emission) method. Energy dispersive X-ray fluorescence analysis (XRF) and instrumental neutron activation analysis (INAA) were used to determine the concentrations of four major and fifteen trace elements of glass. Glass fragments were classified into two groups of the lead-lime-silica and soda-lime-silica type by chemical composition.

Based on glass density, the concentration of lead oxide in lead-lime-silica type glass was estimated to be about fifty percent. The results show that Pb, Na, Ag and Ba are the most useful elements to distinguish glass types.
Section 3  Identification of Wood Artifacts

Yasumichi Chino

Samples of wood artifacts, boards and carbonized lumber from eight Edo Period features (Wells No. 1, 3, 4, Cellars No.6, 7, 8, 10, and Pit No.75) were investigated. Forty-one containers were examined. Non-carbonized samples were examined with a microscope using slide sections. Carbonized samples were first analyzed with a stereoscopic microscope, and some were further examined using a scanning electron microscope.

The analysis identified Abies (2 samples), cf. Abies (2), Cryptomeria japonica D. Don (4), cf. Cryptomeria japonica D. Don (3), Chamaecyparis (7), Thuya standishii Carr. (2), other coniferous samples (17), Castanea crenata Sieb. et Zucc. (1), Castanopsis (1), Quercus cf. acutissima Carr. (5), Quercus cf. serrata Thunb. (2), Celtis sinensis pers. var. japonica Nakai (2), Zerkova serrata Makino (1), diffuse-porous wood (3), and a kind of bamboo (14). Coniferous samples were included in thirty-eight out of forty-one containers. The broad leaf tree samples all came from carbonized lumber samples. They probably had been used for fuel because many of them were identified as Quercus cf. acutissima Carr, and Quercus cf. serrata Thunb.

Section 4  Plant Remains and Carbonized Wood Remains

Akiko Matsutani

Uncarbonized seeds and carbonized plant remains found in the No.7 Science Building area, with the exception of those already analyzed in Section 3, were examined with the aid of binocular and scanning electron microscope.

As for the six samples of uncarbonized seeds, four samples were identified as a kind of white gourd and one fragment sample might have been the fruit stone of ume (Prunus mume) or momo (Prunus Persica). The remaining sample was identified as the seed of the tree, mukunoki (Aphananthe aspera). This fruit is edible.

Four lumps of carbonized grains were identified as rice grains without husks.

Carbonized wood remains were comprised of conifers such as goyomatsu (Chamaecyparis obtusa) and togasawara (Pseudotsuga japonica), and deciduous trees such as kuri (Castanea crenata), shii (Castanopsis cuspidata) and kunugi (Quercus acutissima). Several samples of bamboo were also identified.

Carbonized fragments of rope and carbonized materials which might have been a latami mat and a piece of paper were also observed under the microscope.

Section 5  Clothing and Rope

Setsuko Nakada

Small bunches of clothing material, gold thread and rope were found in the No.7 Science Building area. The clothing was made of silk and cotton. Although the quantity of the excavated samples is small, both the clothing and the gold thread are of fine quality.
Chapter 7

Hizen Porcelain of the 17th Century

Koji Ohashi

Much of the Hizen porcelain excavated from the No.7 Science Building area was probably made after 1630. Most of the samples were blue and white. Some, however, were overglazed enamel. The majority of the samples were probably made in the Arita-Sarayama (present-day Arita-cho, Nishi Arita-cho, and Yamauchi Cho in Saga Prefecture). Some samples, however, must have been made in a kiln at Mitsunomata (Hasami-cho in Nagasaki Prefecture). Most of the pieces were well-made and must have been relatively expensive. This indicates that these artifacts were used by fairly rich people.

Chapter 8

A Study Based on Historical Documents and Excavation

Section 1 A Study of Historical Documents and Maps

Tadashi Hosokawa

This section presents a discussion of historical documents and old maps relating to the No.7 Science Building area. It is known that much of the campus of the University of Tokyo was the property of the Maeda Family, Kaga Clan during most of the Edo Period. The head of the Maeda Family was the daimyo, or feudal lord, who ruled the Kaga area (present-day Ishikawa Prefecture and part of Toyama Prefecture). The Kaga Clan was one of the most influential clans during the Edo Period, second only in size to that of the Tokugawa Shogun.

The history of the property can be divided into two periods: the earlier period is from 1616 or 1617 to 1682 when the property was used as the shimo-yashiki (lower property) of the Maeda Family. The later period is from 1683 to 1688 when it functioned as the kami-yashiki (upper property) where the daimyo himself lived. Little is known about the first period from historical records. On the other hand abundant historical documents were available from the latter period.

Based on studies of maps dating from 1688 to 1688, the No.7 Science Building area was identified as part of the nagaya (long or terrace houses) where vassals of the Maeda Family lived during the kami-yashiki period. Studies of historical documents from about 1800 show that five vassals, each of whom had eight or nine retainers or servants as well as a horse, were living in these houses at that time.

Section 2 A Study of the Distribution of Features

Tsuyoshi Yamaguchi, Junko Habu

In this section, Edo Period features are classified into three stages using the artifact chronology of
objects which were excavated from each feature. The first stage dates to the 17th century; it includes Wells No. 1, 2, 5, Cellar No.9, Pits No.1, 2, 51, 85, 89, 90, 129 and 135. The second stage dates to the 18th century; Wells No.3 and 4, Cellars No.3 to 8, 10 to 13, 15 to 17,19 to 21 and many pits were identified in this stage. The third stage dates from the end of the 18th century to the 19th century; Cellar No.14, Pits No.30, 48, 63, 75, 113, 119, 122, 141 and 142 were classified in this category. It was suggested that the features of the 18th and 19th century were distributed mainly in grid rows A-B and E-F, with their axes pointed either north-south or east-west. In contrast, the features of the 17th century were distributed randomly over the excavation area, and their axes do not correspond with those of the 18th and 19th century features.

Section 3  
Comparison between Historical Maps and Archaeological Evidence

Tsuyoshi Yamaguchi, Junko Habu, Tadashi Hosokawa

Based on the results of Section 1 and 2, we tried to identify the excavation area on two historical maps during the kami-yashiki period. The first map was drawn in 1688; the second one is believed to have been made during the 1840's.

Our study suggests that the grid rows A-B and E-F, where most of the 18th to 19th century features were located, correspond to the garden area of the nagaya drawn on these maps. In addition, Wells No.3 and 4 are probably the two identifiable wells shown on the map of 1688.

Chapter 9

Conclusion

Junko Habu

The excavation and analyses of the No.7 Science Building area produced three main results. First, the ceramic samples provided data which can be used to reconstruct the circulation and consumption of ceramics during the Edo Period. Second, the analyses of faunal remains helped with the reconstruction of Edo Period dietary patterns. Third, the distribution of features corresponded to patterns shown on historical maps. Thus, we were able to check the accuracy of documents from the Edo Period and hypothesize the function of features.

Edo Period historical archaeology is a new field. The excavation results show that systematic archaeological excavation can provide information not available from the study of documents. Knowledge of Edo Period dietary habits and information about the circulation and consumption of materials such as porcelain can be revealed using archaeological techniques. Such research will add to our understanding of Edo Period society and culture.