

Chapter VII

THE MIDDLE HAN PHASE

In order to discuss the sites of the Chulmun Period along the middle Han river as a group, it is necessary to demonstrate that the sites do indeed comprise a closely related series. Since ceramic types have been used for sensitive dating in many other areas, it was hoped that types could be discriminated for this purpose within the Han River sites of the Chulmun Period, creating subtypes of Misari Incised, or "Classic Chulmun." An additional goal was to differentiate between contemporaneous and sequential relationships. The pottery will be described in detail in the following section.

Hand sorting was not possible since collections were studied which belong to different institutions and, therefore, could not all be sorted at one time and place. It was therefore deemed most practical to record as many attributes as possible for each sherd and to sort them into types by means of statistical analysis. Collections were used from the Anthropology Museum of Seoul National University, the History Museum of Soong Sil College in Seoul, Chase's type collection borrowed from the Texas Archaeological Research Laboratory of the University of Texas at Austin, and surface collections made by the survey crew.

Several of the attributes which were originally measured and recorded were omitted in the final studies. Hue, value, and chroma were recorded from the Munsell color chart for about 200 sherds. The variations in each were slight, and none of the color variables correlated with any other variable. Therefore color variables were

not recorded for the remainder of the sherds nor used in the final analysis.

Some of the incised patterns were executed in a very precise manner, and others were done less carefully. Therefore a category crude/fine was originally included. It was found, however, that most of the sherds fell into an intermediate category, making discrimination arbitrary. Eventually this category was also dropped.

Distance between the lines of the pattern on both the band and the body was measured on the first two groups of sherds. The distance, however, was rarely constant on a single sherd and often diverged widely. This attribute was also omitted as unreliable.

Some of the lines were made with a wider implement than others, and a category of wide lines versus narrow lines was included. Again the problem of discrimination arose, as most of the sherds fell into a middle range.

The final attributes punched on data cards included three variables of rim diameter, reflecting the trimodal distribution, five variables of thickness, the number of band rows (five variables), four variables of body motif, and seven variables of band motif. These are shown in Appendix D. The intention was to use only rim sherds which included some of the body pattern; therefore, no provision was made for missing data.

The Whallon method (Whallon 1971, 1972) for the discovery of pottery types by monothetic subdivisive classification was used. Several runs were made with the data to see which of the program options produced the most reasonable types for these data.

For the results shown in Figure 17, most of the options available with the program were not used. Simple sum of chi-squares was used for division, without the Yates correction. The stopping rule used was the $\alpha = .05$ level of significance of chi-square at 1 df

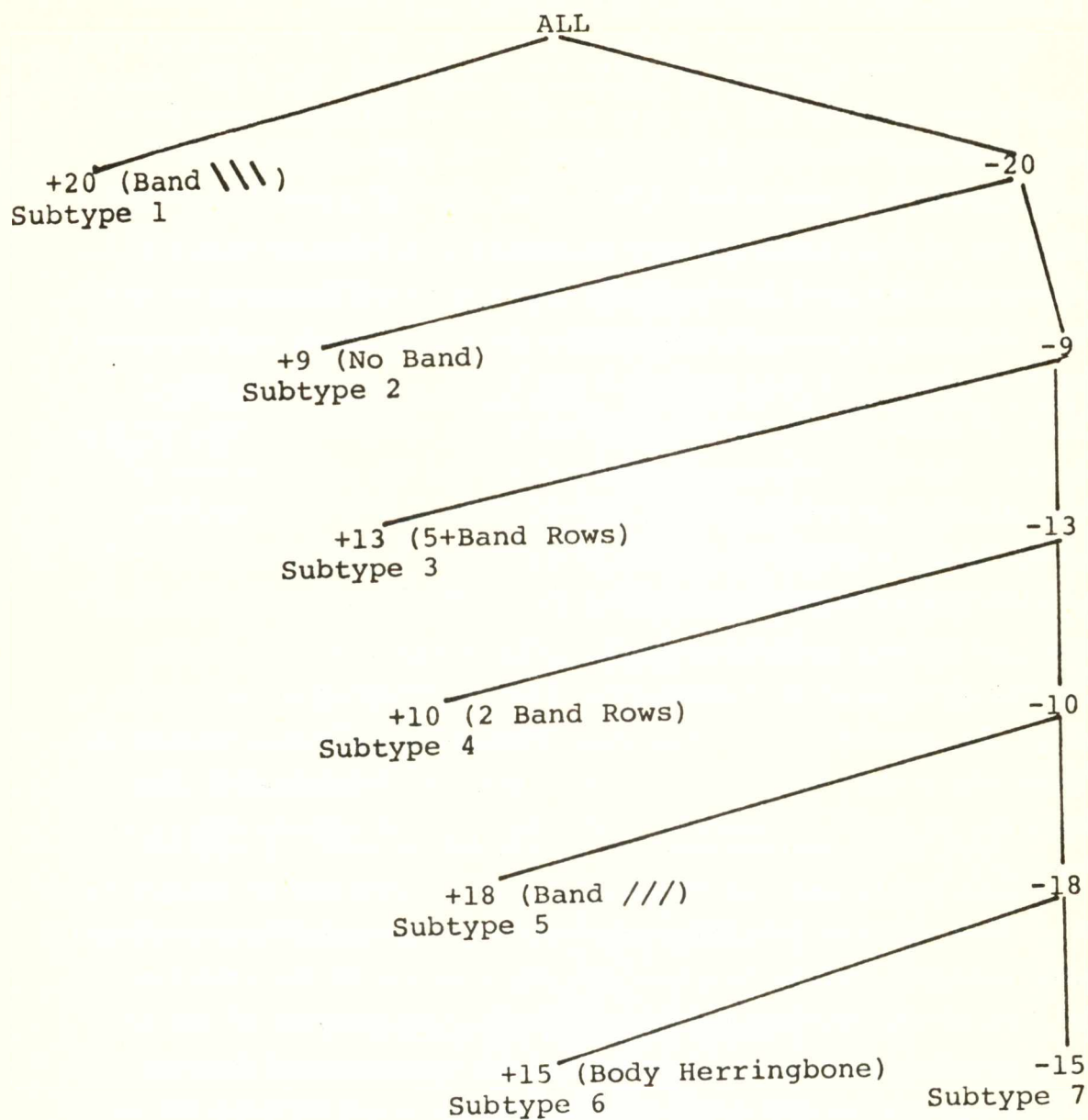


Fig. 17. Subtypes created by monothetic subdivisive classification. Sherds from Amsari, Misari, Tongmak, Naepyung, and Western Islands. For the number and percentage of sherds from each site in each subtype, see Appendix F.

(3.84), and the minimum expected value was set to 0.5.

After several trial runs with all the punched variables, a consistent tendency for the data to divide on thickness attributes was observed. This was seen to derive from the redundancy of thickness with diameter, since both are size characteristics. The division of thickness into five categories had followed from the incidental fact that thickness was recorded in millimeters, as if the measurements were discrete rather than continuous, and happened to fall almost entirely between 4 and 8 mm. In fact, the underlying distribution is normal, peaking quite sharply at 7 mm. for all sites. The first attempt to suppress the "noise" from mechanical associations of thickness with diameter was not to allow division on Variables 4-8, but to include them. Another series of runs without the thickness variables at all, however, produced divisions that split the sherds more evenly and more definitively. Figure 17 therefore shows this final run, without thickness variables at all. The original variable numbers have been retained. Appendix E shows the sites and numbers of sherds used in the analysis. The data may be found in Appendix A and the first chi-square matrix in Appendix B.

Nine subtypes were generated in the final run. These results, when analyzed, called into question the accuracy of the recording of some of the Naepyeong and island sherds. No examples of two of the supposed subtypes could be found. It was concluded that not all the sherds in this group included both rim and body motifs. As re-recording of the attributes was impossible, these two divisions of the data were suppressed, leaving seven subtypes.

The final seven subtypes are shown, along with the number of sherds from each site and the percentages of sherds from each site, in Appendix F. The subtypes can be characterized as follows:

Subtype 1: Band with rows of short backward slanting lines. Only Naepyeong (72.8 per cent of the sherds from the site) and the islands (14.7 per cent) were represented (Figure 18).

Subtype 2: No band, body pattern to the rim. Some in each site, but including 64.7 per cent of the island sherds (Figure 19).

Subtype 3: Band with five rows. Thirty-seven per cent of the sherds from Amsari and 33 per cent of those from Misari, along with a single sherd from Tongmak and two from islands (Figure 20).

Subtype 4: Band with two rows. Scattered throughout the sites (Figure 21).

Subtype 5: Three or four rows of forward slanting lines in the band. Again well represented at Misari and Tongmak (24 per cent and 23 per cent, respectively), and two island sherds (Figure 22).

Subtype 6: Herringbone on the body, with three or four rows of either punctates or fingernail impressions. Only found at Middle Han sites. Amsari 15 per cent, Misari 28 per cent, and Tongmak 35 per cent (Figure 23).

Subtype 7: Same as Subtype 6, but with pattern other than herringbone on the body. This included 14 per cent of the Amsari sherds, all of which were brushed (Figure 24).

Differences Among the Sites

Three different tests for similarity were run between pairs of sites for each of the final nineteen variables and for all twenty-four variables in two of the tests. The t Test, a test of the significance of proportion (Dixon and Massey 1957:232), and chi-squares were performed. The results are summarized in Appendixes G, H, and J. All show the same trend, with few differences among the Middle Han sites, and a great many significant differences between the Middle Han sites as a whole and either Naepyeong or the

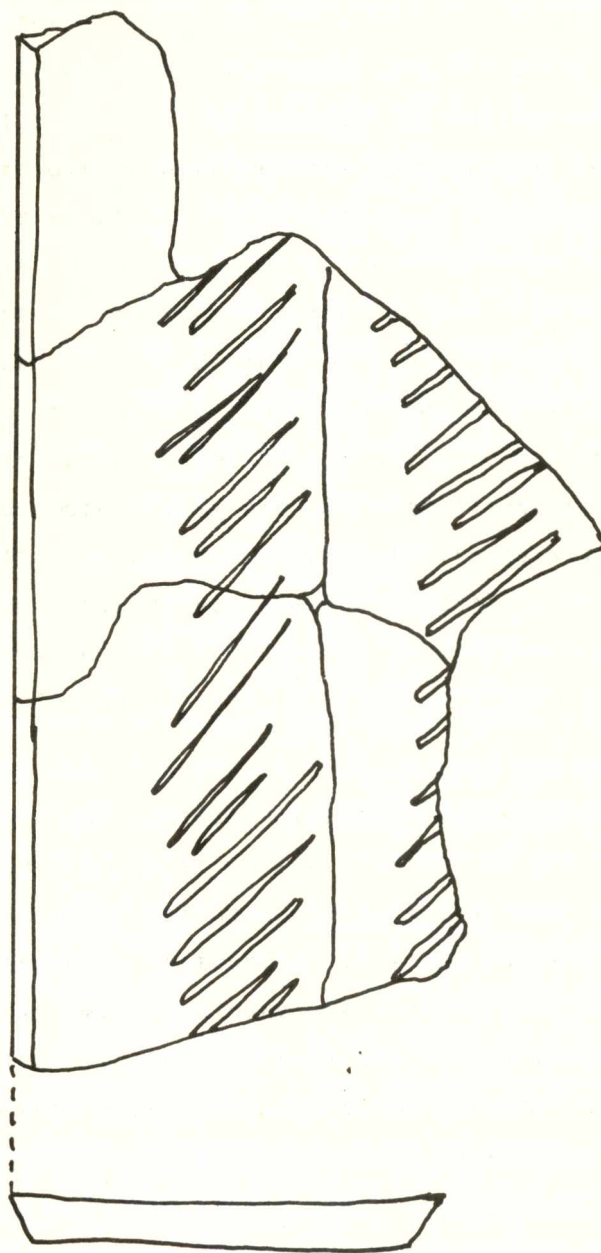


Fig. 18. Subtype 1 From Naepyung Surface. Actual Size.

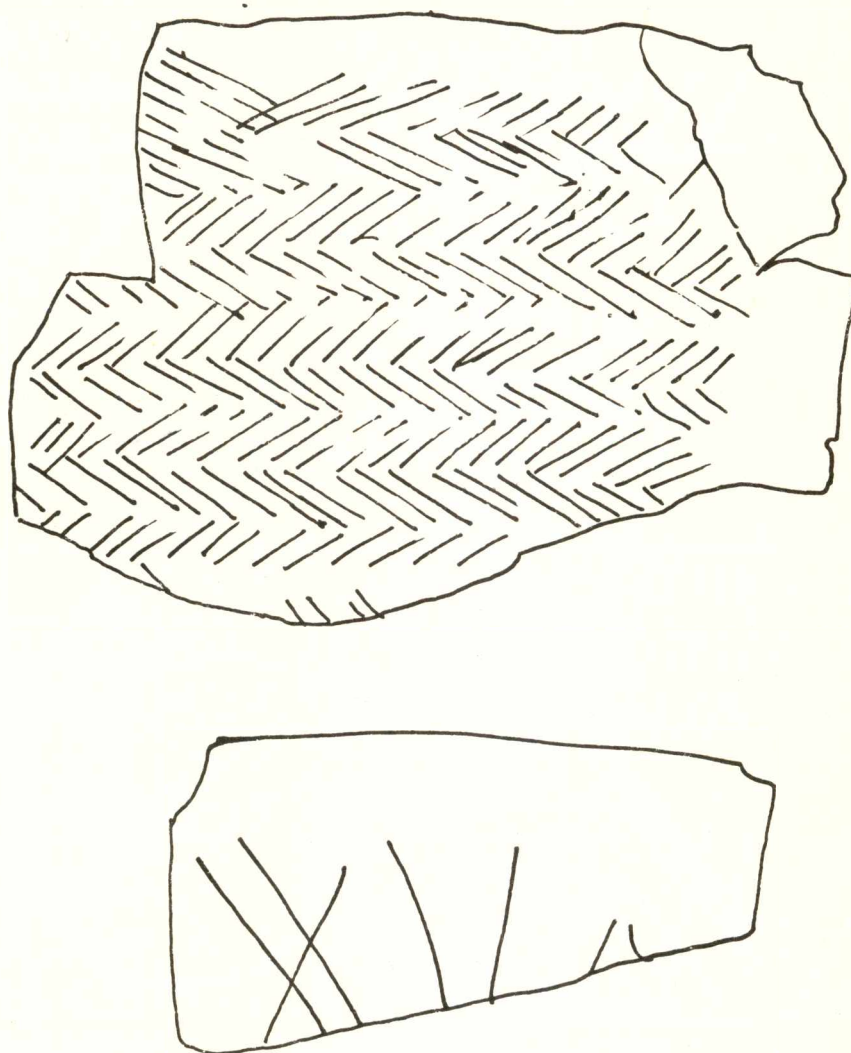


Fig. 19. Subtype 2 from Yonpyung Do, Western Islands.
Drawn from Photographs in Im 1969, Figs. 7 and 8.
Size unknown.

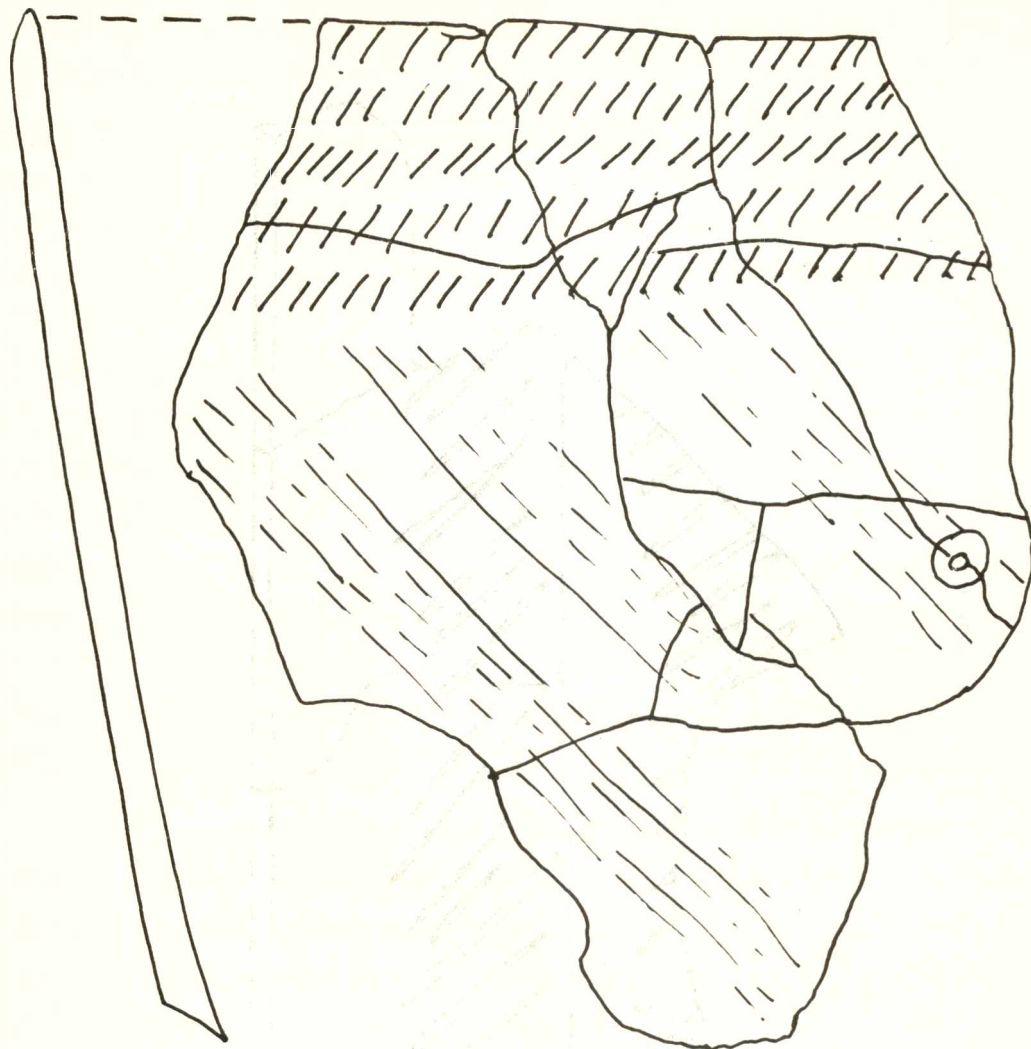


Fig. 20. Subtype 3 from Misari Chase Collection.
Actual size.

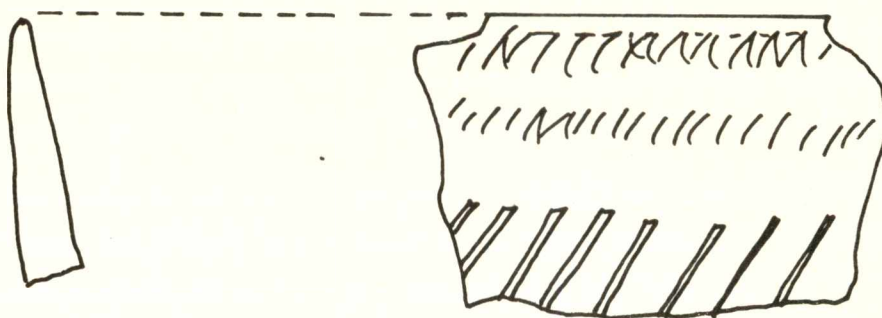


Fig. 21
 Subtype 4 From Chagyak Do
 Seoul National University Collection
 Actual size.

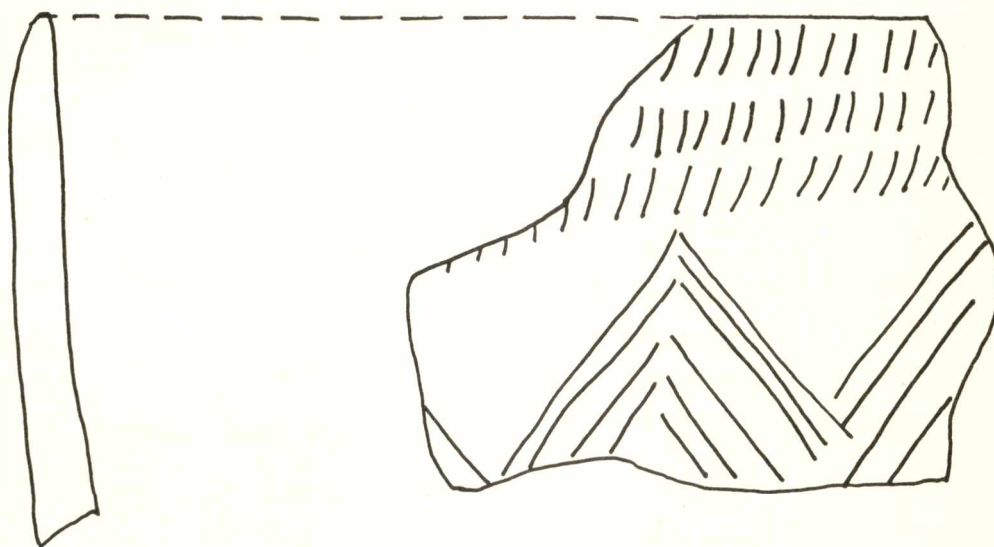


Fig. 22
 Subtype 5 From Misari
 Seoul National University Collection.
 Actual size.

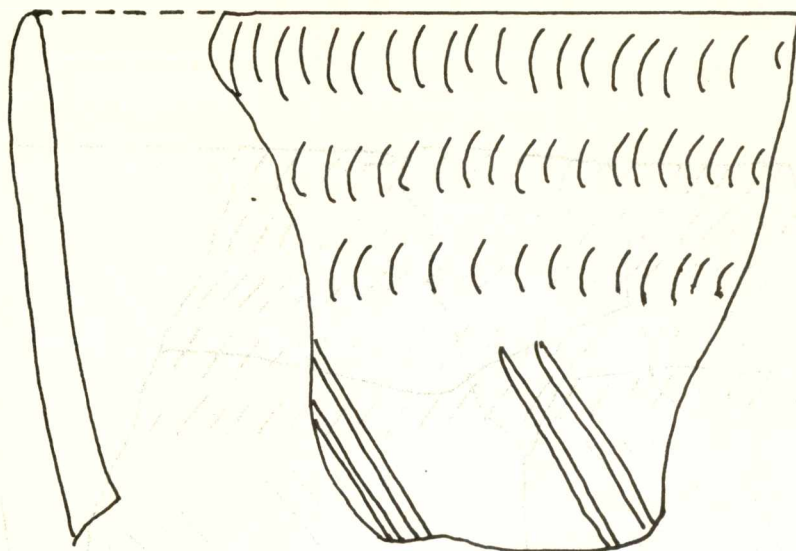


Fig. 23. Subtype 6 From Amsari. Surface. Actual size.

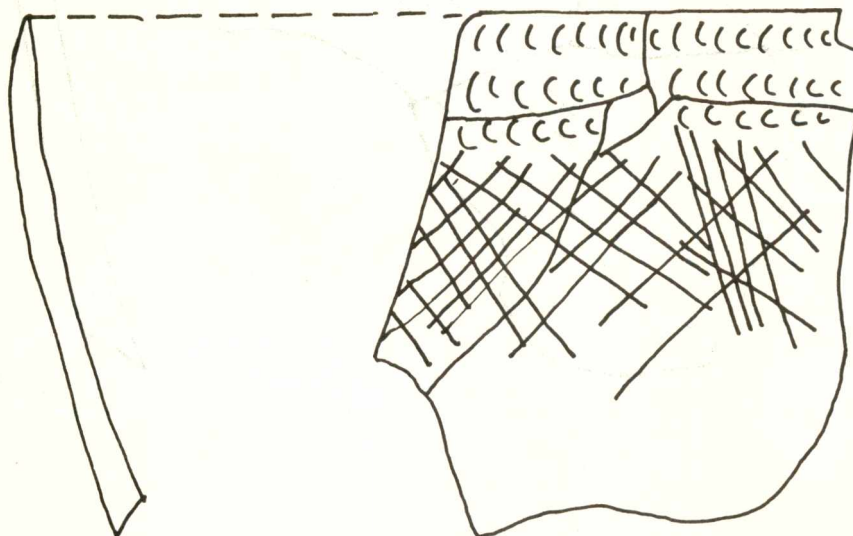


Fig. 24. Subtype 7 From Tongmak. Surface. Actual size.

islands. Although a suspicion of incommensurate data for some of the Naepyung and island sites exists, the trend toward differences is so marked (see especially the cumulative chi-squares) that the margin for error is probably not exceeded.

The results of all three tests strengthen the inference that the Middle Han sites are a meaningful unit which can be contrasted with other such units farther inland and off the coast.