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THE CERAMICS OF GODIN II: CERAMIC VARIABILITY IN THE
ARCHAEOLOGICAL RECORD

by

Hilary Gopnik

A thesis submitted in conformity with the requirements
for the degree of Doctor of Philosophy
Graduate Department of Near and Middle Eastern Civilizations
University of Toronto

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The Ceramics of Godin II: Ceramic Variability in the Archaeological Record

by Hilary Gopnik

Ph.D. Dissertation, Department of Near and Middle Eastern Civilizations,

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Abstract

This thesis examines the ceramics from the Iron Age occupation of the site of Godin in the Kangavar Valley of northwestern Iran. The work begins with a stratigraphic analysis of the Iron Age strata at the site that delineates two main phases of occupation: the manor phase, consisting of a well-built manor house, and the squatter phase, represented by a number of poorly-constructed secondary rooms built within the ruins of the manor house after its abandonment. A statistical analysis of the ceramic lots at the site is then presented with the goal of elucidating the cultural and archaeological formation processes that produced these deposits. This analysis includes an examination of the distribution of functional types, concluding that, with the exception of cooking pots, the proportion of functional types remains relatively stable between phases. This is followed by a review of the ethnoarchaeological literature on stylistic variability that generates some theoretical models of stylistic change to be applied to the data from Godin. The ceramics from Godin II are then divided into discrete stylistic types, and the frequency of occurrence of each type within the two

main phases at the site is analysed. It is found that, although most stylistic types span the two occupational levels at Godin II, certain types appear in much higher proportions in each of the two phases at the site. In addition, a limited number of types occur in statistically greater proportions in the mixed lots that are found outside the main walls of the manor house, and it is suggested that these types derive from the earliest occupation of the manor. The ceramic typology and phasing thus generated is then compared to the ceramics from other late Iron Age sites in western Iran. It is shown that the parallels between these sites create a consistent stylistic sequence for the Iron III/Achaemenid period in the region, and a revised comparative chronology for the late Iron Age in western Iran is presented. The thesis concludes with some suggestions about the possible cultural-historical events that may have produced these stylistic patterns.

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Introduction

The archaeological record of late Iron Age Iran is characterized by the appearance of a widespread series of related buff-ware assemblages. Following Dyson's (1965) synthetic analysis of the Iron Age sequence, in central- and north-western Iran, this ceramic-based period is known as the Iron III horizon. In Khuzistan and Fars, where these ceramics are best known from the Achaemenid capitals at Pasargadae and Persepolis, these assemblages take their name from the historically prominent Achaemenid empire. Although this long-lived horizon is generally accepted as falling somewhere in the 8th to 4th centuries, the exact dating and cultural/historical significance of these assemblages is still poorly understood.

In central-western Iran, the Iron III horizon is best known from the archaeological remains at three sites, all excavated in the 1960s and 70s: Baba Jan, Nush-i Jan, and Godin. This thesis will examine the Iron Age ceramics from Godin with the goals of elucidating the nature of the Iron III ceramic deposits at Godin, refining our knowledge of the archaeological sequence in central western Iran, and placing this sequence within the broader archaeological and historic context of Iran in the late Iron Age.

Godin, located in the Kangavar valley of the Zagros mountains, is a multi-period site, with a sequence that stretches from the fifth to the first millennium B.C. The last major occupation at the site, Godin II is a

single, large, fortified structure, placed for strategic reasons on top of the then abandoned tell, with a commanding view of the surrounding valley. Measuring about 120 meters by 50 meters in dimensions, the structure, which was evidently used as a residence as well as a storehouse, seemed to fulfill a function somewhere between a fort, a house, and a palace for a local elite. The excavators called it a "manor house," and this term is retained in this thesis.

The architecture of the Godin II manor house clearly indicates that the structure underwent a number of renovations and additions over an extended period of time. There is no archaeological stratigraphy to be associated with much of this phasing because, during most of its history, refuse was not allowed to accumulate within or around the structure. Most of the architecture of Godin belongs to the manor house, but after the building was abandoned there was a later period of occupation in which squatters took advantage of some standing walls to construct a small house within the ruins of the manor. This thesis presents a detailed stratigraphic analysis of the Period II remains at the site in order to sort out any recoverable phasing of the ceramic material of the manor and squatter occupations.

There are few deposits at Godin that can be interpreted as representing material in its original functional context. The ceramics from Godin II derive primarily from a series of discrete dumps that accumulated in various locations inside the manor house, probably during its final period

of occupation when certain rooms had gone out of use, as well as during the squatter phase. Understanding the nature of these deposits is imperative both for a reconstruction of the phasing at the site as well as for understanding the nature of the ceramic variability of the assemblage. A single episode of dumping, for example, will result in a much more homogeneous assemblage than a slow accumulation of material over time. For this reason, this thesis attempts to reconstruct the source of the ceramic lots from the site, drawing on some of the research conducted by behavioral archaeologists about the nature of depositional processes and artifact variability.

Although ceramics are by far the most numerous class of artifacts found in the Near Eastern archaeological record, and stylistic changes in pottery form the basis for most archaeological periodizations of the region, relatively little is understood about the socio-cultural implications of ceramic style. In the past few decades, archaeologists have begun to explore this issue more intensively, most notably through the investigation of ceramics in modern ethnographic contexts. This thesis will examine these ethnoarchaeological studies in order to generate theoretical models about the nature of stylistic variability. These models will then be applied to the patterns of stylistic variation that are detected in the ceramic typology of Godin II.

Finally, this thesis will place the ceramics from Godin II into the broader context of Iron Age Iran, through a comparative analysis of the

ceramics from the site with other excavated assemblages. The models generated by the review of the ethnoarchaeological data will also be applied to this material. Although the emphasis of this work is primarily archaeological, some hypotheses will be offered to correlate the archaeological data with the known historical record.

The results of this thesis will be critical to the archaeological knowledge of western Iran in the late Iron Age. They will refine the typological sequence of the ceramics of the Iron III/Achaemenid horizon as well as elucidate the nature of the socio-economic systems that might have created this material culture pattern.

Chapter 1

Stratigraphy and Phasing of Godin II

It became clear upon excavation that the manor house of Godin II had several architectural phases. These have been described in detail in the second Godin progress report (Young and Levine 1973). The sequence of architectural construction can be derived from the identification of original outer walls by their niches and arrow slots. It is assumed that any construction that has been added on to these walls is secondary. In this way the excavators were able to identify four phases of large scale construction (figure 1.1). First the large columned hall (room 9) and the adjoining room 6 were built. The North magazines (rooms 19-24) were then added to this original building. The south magazines were constructed at a later date to be followed finally by rooms 40-49 and towers 33, 36 and 37. At some undeterminable point in this construction activity columned hall 16 was also added to the west wing of the building. In addition to this sequence of major construction a certain amount of rebuilding and renovation of older walls also took place, including the rebuilding of towers 4, 5 and 17, renovations to wall 6 and the laying of two consecutive floors in room 46.

While the sequence of the architectural features of the original manor house is clear, the time span involved in their construction is impossible to determine. There is no stratigraphy associated with these

architectural renovations and therefore no way to associate discrete assemblages of artifacts with any one phase. Any artifacts found associated with the original floors of these rooms most probably belong to the latest phase of occupation of the original manor house, although older sherds might be present in small numbers in a very limited number of areas.

In their preliminary publication the excavators describe a fifth and final phase of construction which they called the squatter phase. The existence of this phase was not recognized until the the 1969 field season and, as will be discussed more fully in the next chapter¹, the recording system in use in the early years of excavation at the site caused lots from this phase to be lumped with lots from the original manor occupation. The squatter phase consists of the construction of secondary walls in rooms 6, 44, and 40, the in filling of stairway 42 and ramp 43 and the blocking off of the doorway from room 39 into the south magazines. The construction of secondary walls in rooms 6 and 44 can be distinguished from the other so-called squatter features because they are quite clearly stratigraphically distinct from the architecture of the original manor house. As will be discussed in more detail below, there is reason to believe that the roof of the original building had collapsed and erosion of the wall material occurred before the construction of the

¹ Lots were numbered with a running numbering system per grid square. A typical lot number would be AA2 3. Appendix A includes a complete list of all lots containing ceramics that were kept and recorded. For a further discussion of the lot system at Godin see p.48-49.

squatter walls in these areas. Within the squatter occupation of these rooms there is also some evidence to suggest that two stratigraphically distinct occupational phases can be distinguished. Unlike the construction in rooms 6 and 44, the construction of the secondary walls of rooms 39 and 40 and the in filling of stairway 42 and ramp 43 are not distinguished stratigraphically from the original occupation levels, although they may also have occurred during the squatter occupation.

To summarize, although five architectural phases are present in the Godin II manor, there are only two stratigraphically recoverable occupation levels: Phase 2, the manor phase, which in a very limited number of areas can be divided into an earlier (2a) and later (2b) sub-phase; and Phase 3, the squatter phase, which can also be sub-divided (3a & 3b) in a small number of areas².

The following is a stratigraphic summary by room of the Godin Manor house. Since the rooms do not share a common depositional sequence the strata are not directly comparable between rooms. It was felt that it would be misleading and confusing to create an overall composite stratigraphic sequence since very few rooms are stratigraphically similar. A composite phasing of these rooms will, however, be outlined at the end of the chapter.

Area 1: Strata: 1 - surface

² The term Phase 1 was reserved for the very limited pre-manor Iron Age occupation at Godin, which is outside the scope of this thesis.

2 - bricky collapse

3 - occupational debris (Phase 3)

4 - mixed occupational debris and bricky collapse (Phase 2)

This is an exterior area, north of wall 1 between towers 4 and 17. The stratigraphy is recorded in the north section of the east baulk of BB1 (figure 1.6). In the section drawing wall 1 has 3 superimposed plaster faces, all of which extend to the same point below the level of bricky collapse and wash that accumulated outside the wall. This would imply that the exterior debris was deposited after the final plastering of this wall and thus is probably late in the original occupation or in the squatter period. This is in contrast to a section further east along wall 1 in which a good deal of debris accumulated between plasterings. Here, there is an apparent occupation surface dividing the levels of bricky collapse and wash into two chronologically distinct phases of deposition. Because it overlies a stratum of bricky collapse, this occupation surface probably belongs to the squatter period, after the original structure had already undergone some decay. It is also possible that it lies within the phase of original occupation since architectural evidence suggests that there was a major collapse and rebuilding of some of the towers during the manor's primary occupation. Given that this debris accumulated against the latest plaster faces this latter possibility seems unlikely.

Area 2:

Strata: 1 - surface

2 - bricky collapse

3 - material in pit dug into wall 1 (phase 3)

This is the exterior area North of wall 1, between towers 4 and 5. This area was excavated during the early seasons at the site when lots were recorded only by stratum and before the phasing of Godin II was understood. Although it is poorly described, there appears to have been a pit dug into wall 1, presumably after it had already collapsed after the original abandonment of the original occupation.

Rooms 3, 6-8: (figure 1.2)

strata: 1-surface

2-bricky collapse

3-soft fill / occupational debris (Phase 3b)

4-soft fill / occupational debris (Phase 3a)

5-mixed ashy fill with bricky collapse (Phase 2b)

floors: 1- packed dirt (in BB1, BB2 and AA2)(Phase 3b)

2- packed dirt, green plaster in A2 (Phase 3a)

3- packed dirt (Phase 2b)

Room 6 was probably built during the first construction phase of the Godin II manor house and continued to be occupied through the squatter phases. The stratigraphy of this room is by far the most complex of any within the Godin II building and is crucial for establishing the sequence of occupation at the site. The room was excavated in a series of test trenches and larger scale excavations in successive seasons so that the correspondence between the stratigraphy of adjoining areas is not always clear. Two formal sections (BB1, south part of west baulk [figure 1.10] and AA2 west baulk [figure 1.7]) both drawn in the '67 season, and some sketch sections from the '69 and '73 field notes are the only good evidence for the stratigraphy of this area.

Since the excavation of this area was carried out for the most part along the grid system of the site, the stratigraphy will be discussed by excavation square.

1. Square BB1 - The 1967 excavation of BB1 revealed 3 floors as recorded in the BB1 baulk and in the field notes. The lowest of these (floor 3) is associated with the original occupation. The next floor (floor 2) is laid on what is described as a 25 cm layer of wash (Stratum 5) with some ash lenses and the third (floor 1) on another 25 cm thick stratum of "wash" (Stratum 4). There is no detailed description of these strata so it is impossible to determine whether this wash is occupational debris or the result of mud brick erosion. Here, as elsewhere in room six, it is difficult to determine if there was an extended period of abandonment

before the squatter occupation. There were no squatter walls in this area so that there is no correlation between architectural features and the three floors.

2. Square A2 - Square A2, excavated in 1967, also revealed evidence for three occupational phases. The original manor floor (floor 3) is again overlain by a stratum (5) of debris (called "material" in the field notes). This stratum was covered by a greenish plaster floor (floor 2), probably to be associated with the first squatter floor in BB1. This floor sloped gradually to the east and was then connected by a step to the slightly lower early squatter floor in AA2. The sloping of this floor was caused by the varying depth of accumulation of stratum (5), indicating that processes of wall erosion had created a thicker deposit near the major north-south wall 4. No late squatter floor was recovered in this area but walls-81-83 were set into a thin deposit (stratum 4) that ran over the green plaster floor of the early squatter phase. The clear association of a second squatter phase with architectural features is important because it provides confirmation for the interpretation of the smoothed surface in AA2 and BB2 as a late squatter floor. Presumably the green plaster floor in A2 was still in sufficiently good enough condition to be reused when the late squatter walls were built. This indicates that the two squatter occupations were probably more or less continuous and that the accumulation between the squatter floors in AA2 and BB2 was

occupation rather than erosion debris.

To the south of A2 was an area, room 8, enclosed by walls 79, 84 and 85 during the squatter phase. The stratigraphic interpretation of this area is difficult but provides an important clue as to the state of the original building during the squatter occupation. During the 1967 excavation of this area an odd wall, then labeled wall K, was uncovered that, because of its width, was thought to be associated with the original manor construction. This "wall" is said to be unusually wide and is at one point in the field notes thought to have been a platform. The field notes also remark that the bricks appear to have been set sideways. This wall runs through the A2/A3 baulk and therefore appears in the master section in the second progress report. It also appears in the plan published in the progress report but was not included in later working plans. In the late 70's when the walls and lots were all assigned separate numbers for the purpose of computerization this "wall-K" was mistakenly thought to have been referring directly to wall 3, the major East-West exterior wall of the first construction phase, leading to confusion in the subsequent stratigraphic interpretations of this area. It is clear, instead, that this "wall" is in fact a large portion of wall 3 that had fallen over more or less intact during the collapse of the building. Significantly, in the field notes all of the squatter strata are said to run up against this collapsed wall and a portion of the latest squatter occupation debris runs over it. This clearly demonstrates that significant degrees of collapse of

the original building had occurred before the squatters settled at the site.

3. Square AA2 - Operation D, a sounding dug in 1965, cut through Square AA2 but recorded little about the stratigraphy of the area. The portion of AA2 west of the 1965 sounding was excavated in 1967 during the excavation of A2. There are few field notes from this excavation but the description of lot 3, as "a brown occupational surface with an artificially smoothed surface in the middle, above floor 1" (the Early Squatter floor in A2, here designated floor 2) indicates that a second squatter floor probably did exist in this area. The green plaster on the early squatter floor (floor 2) from A2 peters out in this area but a recognizable dirt floor was recovered leading to a stone step that led down to a lower level in AA2. The sloping of the erosion debris underlying floor 2 that was noted in A2 obviously continued into this area. Again, this is consistent with what would be expected from the process of erosion of the major manor walls.³

³During the 1967 season a section, (AA2 Extra West Baulk, July 12, 1967) (Figure 1.7) was also drawn of the west baulk of Operation D. Unfortunately this section is problematic in that it associates wall 87 with the original occupation and has stratum 4, that elsewhere is the post-original erosion level, underlying the original citadel wall. The association of wall 87 with the original manor phase makes little sense architecturally given that this room was originally a columned hall nor does it correlate with the stratigraphic positioning of walls 88-91 with which it is associated. The position of stratum 4 is also extremely unlikely since it would leave no floor to be associated with the original occupation and also does not correspond with all other accounts of the stratigraphy. Both internal and external evidence therefore suggests that the complex stratigraphy that marked this area of the site was simply not understood when this section was drawn and the distinction between various strata was missed.

The Eastern portion of AA2 was excavated in 1973. Once again one original floor and two squatter floors were recovered. Walls 88-91 were built during the initial squatter phase as evidenced by their position above the original manor floor (floor 3). The positioning of the upper courses of brick indicates that they were apparently rebuilt at a later date, probably at the time of the laying of the second squatter floor (floor 1). Unlike A2, here there was considerable (up to 40 cm) accumulation of material between the two squatter floors. The field notes describe this deposit (lots 306, 309, 312, 313) variously as yellowish bricky fill, yellowish soft fill and soft ashy fill. It generally appears to be softer and contains more pottery than the strata above and below the first squatter floor (floor 2). These lots also included few 2nd millennium sherds, an indication that they were not the result of mud-brick erosion, the chief source for the deposition of older sherds. It seems likely that this fill was at least partly the result of occupation rather than erosion processes and that there was therefore no major period of abandonment between the two squatter phases.

Test trenches dug in this area encountered a hard-packed earth surface that presumably was equivalent to the early floor (floor 3) encountered in A2. Here, as in the rest of the room, the stratum between the original and early squatter floor was described as "grey ashy material, sometimes rather bricky". Wherever sherd counts are available, the percentage of 2nd millennium sherds recorded for lots from this

stratum (stratum 5) is always very high (50-85%), indicating that mud-brick erosion played an important role in the formation of this deposit.

4. BB2 - The field notes for the 1969 excavation of BB2 are unfortunately only very sketchy. There is mention of two difficult-to-follow hard-packed surfaces at various points in the notes but these surfaces are never well defined or correlated between different areas in the square. The lots from the 1969 excavation were grouped into strata in the field and sherds recorded only by these strata. BB2 was divided into 4 strata (surface, bricky collapse, ashy debris, grey bricky debris) but the exact correlation between these strata and occupation floors is unclear. Three important pieces of information can be derived from this square nonetheless. Walls 94, 95, 96 and 100 were removed and were found to be set on a layer of grey bricky debris (called stratum 4 by the excavator, here labeled 5) under which lay a hard-packed dirt floor, presumably the original manor floor (floor 3). This confirms other stratigraphic findings that placed the construction of the secondary walls well after the original use of the building. Even more significantly, under wall 94 was found a column base clearly belonging to the original use of room 6 as a columned hall⁴. This would suggest that by the time the squatter walls were built the columns, and presumably also the roof that

⁴A total of six column bases were found on the floor of this room.

they supported, were no longer functional. This again indicates that there was a period of abandonment with a significant degree of collapse before the re-use of the structure by squatters. Finally, stratum 5, the pre-squatter abandonment level, is described in the field notes as hard, bricky collapse in the easternmost portion of the square and as ashy fill in the lots further to the center of the room. This is exactly the kind of pattern to be expected if the substantial original wall 2 had undergone a period of erosion before the squatters settled at the site.

Summary: There are two major phases in the occupation of room six. The first belongs to the original manor structure. It represents the last pre-abandonment occupation of the manor which, as will be seen below, had already been greatly reduced in extent and status. Following the abandonment of the original structure, a period of time elapsed during which the roof collapsed and the major walls underwent significant erosion. The second phase of occupation occurred when a group of squatters settled on the ruins of the structure, taking advantage of what remained of the original walls and constructing new ones. There are two sub-phases within this squatter occupation but they appear to have been continuous rather than separate occurrences.

Tower 5: (figure 1.2)

strata: 1 - surface

- 2 - bricky collapse
- 3 - occupational debris over floor 2 (Phase 2 or 3)
- 4 - occupational debris/fill over floor 1 (Phase 2)
- 5 - rubble fill under floor 2 (Phase 1)

floors: 1 - packed dirt (Phase 2 or 3)

- 2 - packed dirt laid on brick platform (Phase 2)

The walls of this tower were constructed on a brick platform, which was used to level the surface of the mound in this area. On this platform was a dirt floor (floor 2) on which there was a thin accumulation of what is called "occupational debris" (stratum 4) in the field notes. Over this stratum was another dirt floor with an associated hearth. Just inside the doorway, lay a moderate-sized pile of sherds, apparently the result of dumping either during the use of floor 1 or after its abandonment. The presence of two floors in this tower corresponds partially to the stratigraphy in the adjoining room 7, which also lacked a second squatter floor. The stratum between the original and squatter floors is described differently, however, from that found in rooms 6 and 7. Although there are no exact measures or levels given, it would appear that in tower 5 the accumulation of material between the two floors was fairly insubstantial and is described as occupational debris rather than bricky collapse. Unfortunately the pottery from these levels in the tower were

all grouped together and labeled stratum 3 in the field so that it is impossible to determine the number of sherds or percentage of 2nd millennium sherds in any one stratum. It is possible that the much smaller roof span in this room meant that the roof had not collapsed before the squatters arrived at the site and that there was therefore far less erosion and accumulation of decayed mud-brick. It is also possible, however, that occupational material accumulated during the occupation of the original manor given that this room might not have been as well maintained as the columned halls. The possibility exists that the pottery dumped in this room might therefore belong to the original final abandonment period (phase 2).

Tower 4: (figure 1.2)

strata: 1 - surface

2 - bricky collapse

3 - mixed fill (phase 2 or 3)

4 - ashy material (only in doorway)(Phase 2)

floors: 1 - greenish paving (only in doorway) (Phase 3)

2 - yellow clay overlying brick platform (Phase 2)

Tower 4 was built on a brick platform used to level the slope of the mound in this area. Lying on this platform within room 4 and running up

against walls 18-20 was a thick layer of what is called variously in the field notes "clay" or "plaster" (floor 2). This was apparently not a typical plaster floor but rather a clayey surface some 10 cm thick. Whether this was a degraded surface or a sub-floor leveling fill (with the floor not having been recovered) is unclear. Overlying this surface within the room was a mixed fill (stratum 3), sometimes described as occupational debris or ashy surfaces and at others as bricky collapse. It seems likely that various strata boundaries, and possibly even a floor, were missed in the excavation of this room. The high degree of erosion towards the edge of the mound might have contributed to the mixing of strata in this area. The stratigraphy within the doorway to this room was better preserved. Here it was possible to isolate two surfaces. The first was a step up from the clay surface in the tower, resting on a brick threshold. It is described as "a good surface", presumably of packed earth. Overlying this was a layer of "ashy debris" thought by the excavator to be equivalent to the ashy debris (stratum 5) that lay on the original floor (floor 3) in room 6. Placed on this stratum were some greenish stones that seem to have formed a surface. The excavator suggested that this stone flooring was to be related to the green plaster squatter floor in room 7, although it is unclear if this conclusion is based on the stratigraphic position or the physical description of this surface. It seems reasonable to suppose that this level is equivalent to the early squatter occupation in rooms 6-8 since it lays on a stratum which by all

accounts is very similar to the immediate pre-squatter stratum (5) in the larger rooms. Wall 112, which blocked the entrance to the tower, was placed directly on top of this floor, indicating that the room was sealed off sometime during the squatter occupation. That this occurred during the early squatter occupation, or at latest at the beginning of the late squatter period, seems likely since there was no accumulation of debris between the early squatter floor and wall 112. The pottery from this area should therefore predate the latest squatter period. Unfortunately the material from all strata found in this room was grouped together in the field so that there may be some contamination from sherds from near the surface of the site.

Rooms 9-12, 15-16, 50 and 52: (figure 1.1)

Strata: 1 - surface

2 - Bricky collapse

3 - Bricky collapse above floor (Phase 2)

4 - Ashy fill below floor (Phase 1)

Floors: 1 - packed dirt (Phase 2)

This is the large columned hall and surrounding towers of the original manor. There was very little Godin II pottery recovered from these rooms. The great majority of sherds dated to the second millennium and

came from the decomposed mud-brick. Although there is architectural evidence for phasing within the original occupation, of this area there is no stratigraphic correlation for these phases. Only one floor was found associated with this area. A test trench excavated through the floor in the main hall (room 9) found second-millennium architectural remains directly underlying the period II hall, although some Godin II sherds were recorded as deriving from a stratum of ashy fill directly below the floor. Whether these were sherds that had worked their way into the floor during the occupation of the manor, sherds that had been deposited with fill dirt during the construction of the manor or sherds that had inadvertently fallen into the test trench during excavation is difficult to determine. Although during excavation the material above this floor was divided into 3 strata, these were more or less arbitrary divisions as there was apparently little physical change in the debris from these levels. The first two strata (here grouped as stratum 3) of bricky collapse were more highly eroded and compact than the wall collapse lying directly above the floor, but otherwise the composition of the material was identical. There was no discernible occupational debris overlying the floor of the hall. After the collapse of the roof and walls in these rooms there was no further use of the area. There was no squatter occupation at all in this portion of the site.

North Magazines (rooms 19-24): (figure 1.4)

- strata: 1 - surface
- 2 - bricky collapse
- 3 - bricky collapse with reed impressions (Phase 2)
- 4 - occupational debris (Phase 2)
- 5 - pre-collapse secondary refuse (Phase 2)

- floors: 1 - packed dirt (Phase 2)

Although all of the north magazines were completely excavated, only the excavation of rooms 19 and 20 and room 26 (the north magazines' corridor) were recorded in a systematic fashion. It was reasoned that, since the depositional sequence in the remaining magazines mirrored that in the first two rooms and the fill was very deep and time-consuming to clear, it was reasonable to excavate them in a more cursory manner. Some very large ceramic lots were labeled "Mg 5"(room 23) and "Mg 6"(room 24), but there are no records for the excavation of these lots and therefore no information about the stratigraphy of these magazines. Tower 17, to the north of room 24, was also excavated at this time, but again, although there is a great quantity of pottery recorded as coming from these lots⁵, there is no information on the actual excavation or

⁵The sherds from these lots were actually labeled Gd '73, TR 5. Since Tower 5 had been completely removed for the deep sounding by the 1973 season, it is clear that these sherds could not have come from that tower. Tower 17 is in fact the *fifth* tower along the north wall (although the seventeenth tower to be excavated) and it would appear that the excavator simply counted the extant towers and labeled his lots accordingly. My thanks to Prof. Young for deciphering this mystery.

stratigraphy. The only indication that the stratigraphy in the tower might have been different from the magazines is a group of sherds labeled TR 5 (read 17), 3rd floor. The lots themselves will be discussed further in the next chapter.

Like rooms 9-12, only one floor was recovered in the North Magazines. There is architectural evidence to suggest that the dividing walls (24, 26, 28, 30, 32) were added after the construction of wall 21, but no floor runs under these walls suggesting that this was a construction rather than occupational sequence. The wall (wall 25) partitioning the western magazine (rm 19) from the corridor (rm 26) was apparently added after the magazines had been occupied as the floor ran under this wall. Unlike columned hall 9, which had apparently been swept clean when the site was abandoned, occupational debris and garbage was found on the floor of the North magazines.

A deposit of clean clay fill (lot CC2 16) (stratum 5) that contained a number of sherds was found lying on the floor in the southern part of magazine 19, tapering out and disappearing in the northern end of the room. The extent and exact vertical location of this deposit is unfortunately unclear. In the lot sheet it is said to lie "over surface below doorway, near doorway". It is not clear from this if the deposit lay below the doorway or if it merely lay on the floor that ran under the door sill. The latter explanation seems much more likely since in order for this

deposit to have predated wall 25 we would have to assume that either these sherds lay on the floor during the post-wall-25 occupation of the room or that an upper floor had been missed during excavation, neither of which seems a likely occurrence. A similar deposit of sherds (lot CC2 15) was found lying just outside of the doorway to rm. 19 in the magazine corridor (room 26). A join was found between a sherd from each lot, indicating that they were most probably part of the same depositional process. The descriptions of the fill as "clean clay" would suggest that this is a waterlain deposit, probably the result of puddling after this magazine was no longer actively being used as a storage area.

At the eastern end of the magazines corridor and into room 24 (Mg 6) was a much larger deposit of sherds (lots EE1 2 and Mg6 2, stratum 5) running up against the eastern wall 22. This appears to have been a large dump that included organic material and a good deal of bone. Because of the high organic content of the deposit the excavators suggested that this far corner of the magazines had been used as a toilet (and the sherds as toilet paper) in the last days of the occupation of the manor. While it is likely that this area was used as a toilet after or at the same time as the dumping of the sherds, given the large size and number of the sherds it is extremely unlikely that this was the primary cause for the deposition of the sherds. In any event, it would appear that this dump accumulated after at least the easternmost magazine (rm 24) had gone out of use. It seems reasonable to suggest that this deposit should be

generally contemporaneous with the waterlain sherds in rm. 19.

Lying directly over the floor in rooms 19 and 20 for a depth of approximately 20 cm was bricky fill with a high component of bone and fine ceramic sherds (stratum 4). This may have been caused by a post-depositional mixing of bricky collapse and occupational debris that was lying on the floor when the room collapsed. It is not entirely clear from the field notes if this stratum also ran over the waterlain lots (CC2 15 and 16) or if the two strata were contiguous.

Stratum 4 (and possibly 5) were covered with a 70 cm thick stratum (stratum 3) of bricky collapse that contained many reed impressions and fragments of large pithoi. The excavator quite reasonably interpreted this stratum as the result of second-story collapse, the substantial walls of the complex and large amounts of bricky collapse both being consistent with the existence of a second floor in this area. Neither stratum 3 nor 4 was delineated in the excavation of the magazines' corridor (rm 26) but it is quite possible that they were missed or mixed with the excavation of the large pottery dump. On top of the levels of second story collapse in rooms 19 and 20 and directly overlying the floor and dump in room 26 was undifferentiated bricky collapse to the surface of the site.

South Magazines (rooms 27-32,34) (figure 1.5)

strata: 1 - surface

2 - bricky collapse

3 - primary and secondary refuse (Phase 2)

floors: 1 - packed dirt (Phase 2)

Unfortunately there are no extant field notes for the excavation of most of this area. The stratigraphy must be reconstructed from the lot sheets which usually bore only very brief descriptions of the deposits. Only one floor was recovered in this area. Like the north magazines, this floor had apparently not been swept clean when the manor was abandoned. In rooms 27 & 28 was found one of the few apparently primary deposits in the entire building. This consisted of a whole cookpot and some burnt sherds in association with a cooking area in room 27 and a whole bowl on the floor in room 28. Also on the floor in room 28 was a large pile of sherds (DD2 lot 2) which the excavators thought might also be in primary context. The absence of any reconstructable vessels, however, indicates that these were secondary refuse like the large dump in the northern magazine corridor. Tower 34, connected to the south magazines through room 27, contained the largest deposit of fine ware sherds to be recovered from the site. Unfortunately the context of these sherds is not clear, particularly since the only extant description of their excavation comes from some very sketchy lot sheets. Unlike the dumps in rooms 26 and 28, which clearly lay on the floor of the building before it collapsed, the fine sherds from tower 34 seem to have been

more broadly dispersed in a "loose wash", that was not clearly distinguishable from the bricky collapse that surrounded it. This wash is said to be lying "on floor over bricks", but the nature of the bricks is not described. Like towers 4 and 5, tower 34 had a brick subflooring or platform to help support the heavy walls of the tower and it is presumably over these bricks that the sherds are said to lie. Sherds that joined with sherds from this lot and therefore must have come from this same depositional event were found not only in tower 34 (DD3 lot 6) but also in the small corridor leading to the tower (DD3 lot 7) and in the southern half of room 27 (DD3 lot 8). The stratigraphic positioning of this deposit could be consistent with either secondary dumping of refuse on the floor of an unused tower or with the collapse of a second-story pottery storage area. The nature of this deposit will be discussed further in the next chapter with reference to sherd distributions. Overlying these primary and secondary refuse deposits was again undifferentiated bricky collapse (stratum 2).

Room 33: (figure 1.5)

strata: 1 - surface

2 - bricky collapse

floors: 1 - green stone floor (Phase 2)

Room 33 was one of the last architectural additions to the Godin II complex, clearly added after the construction of the south magazines. The excavation of this room began with a test trench next to its northern wall (wall 49). This test trench identified two possible floors but only one good floor was recovered in the rest of the room, the extra "floor" in the test trench presumably having been merely a weathered erosion surface. The remaining "good" floor is described as being made of "green stone" and is related by the excavator to the green plaster floor in room 7, presumably on the basis of its appearance. Unlike the green plaster floor in room 7, which overlies a significant deposit of collapsed mud brick and is clearly associated with squatter walls, this floor appears to be the original and only floor of room 33. In order to relate the room 33 floor to the squatter floor in room 7, we would have to suppose either that the "squatters" built this room, which seems entirely inconsistent with their other architectural enterprises, or that the roof of the room had not yet collapsed when the squatters arrived and that they were able to lay a new floor, immediately above an original dirt floor, in this greenish stone. Although the latter explanation is possible, and will be examined further below in the discussion of the overall phasing of the site, the physical resemblance of the squatter and room 33 floors need not entail their contemporaneity. Presumably the stone used to make this flooring and plaster was locally derived and was no doubt available in both periods.

The floor of room 33 lies *below* the level of the walls. This

phenomenon was found elsewhere at the site and was apparently caused by the builders' attempts to build a level floor on an uneven surface. Instead of leveling the ground prior to building the walls, they built the walls on the uneven surface and then dug down into the earlier mound to level the floor, plastering over the exposed dirt as if it were part of the wall.

Although the bricky collapse immediately above the floor was excavated as a separate lot there was no apparent distinction between this material and the bricky collapse that overlay it. The very low count of Godin II sherds (4) and high percentage of second-millennium sherds (50%) from this lot suggests that there was no appreciable occupation debris on the floor of room 33.

Southeast Tower (Rooms 36-37): (figure 1.5)

Strata: 1 - surface

2 - bricky collapse

3 - occupational debris (Phase 2)

Floors: 1 - plaster floor with brick sub-flooring (Phase 2)

Like towers 4, 5 and possibly 34, these side rooms appear to have been built on a brick platform or at least to have had a brick subflooring, presumably to accommodate their unusually thick exterior walls. A test

trench through the brick sub-floor revealed second-millennium remains immediately underlying the bricks, indicating that whatever original Godin II surface had lain outside the south magazines before the construction of these rooms had been destroyed when the brick was laid. There were traces of plaster with impressions of reed matting over the bricks which were presumably part of a plaster floor. Lying on the floor of room 37 was one of the few truly primary deposits in the Godin II manor. It consisted of a small cooking pot associated with a circular oven. A number of sherds were also found lying on the floor. This material was covered with the bricky collapse from the walls and roof.

Areas 35 and 38: (figure 1.5)

Strata: 1 - surface

2 - bricky collapse

Floors: 1 - tan surface (possibly Phase 1)

These exterior areas were excavated in 1971 in a series of test trenches along the exterior of walls 52-54. The first of these trenches uncovered a tan "surface" some 75 cm below the surface, lower than the lowest brick course of these walls. This surface was then traced in a meter-wide trench along the exterior surface of walls 52-54. A sketch section in the field notes shows a single stratum of bricky collapse,

presumably from these massive walls, actually running under the wall, indicating that some kind of stratigraphic division was missed. It is possible that like room 33 and the room 9 floors the exterior surface had been leveled to below wall level after the construction of the walls but this seems less likely for an exterior surface than an interior floor. An alternative explanation would be that this tan surface was, in fact, the original exterior surface before the construction of rooms 36 and 37 and that debris had accumulated on it before the construction of these rooms. If this were true, it would provide a very valuable context since it would include a sample of the earlier manor occupants ceramics. Unfortunately the material from directly above this surface was recorded with the overlying bricky collapse so that the ceramic lot probably includes some contamination from surface debris.

Rooms 39-40: (figure 1.3)

strata: 1 - surface

2 - bricky collapse/mixed fill

floors: 1 - packed dirt (Phase 2)

There are few records for the excavations of these rooms. It would appear that the single dirt floor was overlain by undifferentiated bricky collapse referred to in the lot sheets as "mixed fill". Architectural

additions to these rooms such as the blocking of the doorway into the magazines, the construction of small secondary walls and the conversion of a wall niche into an animal manger, seem to indicate that the function of these rooms changed towards the end of the occupation of the building. These alterations were originally interpreted as belonging to the squatter phase of occupation but, unlike squatter (phase 3) architecture in rooms 6-8 and 43-46, there is no good stratigraphic evidence to suggest that these alterations were made after a period of abandonment and wall collapse. It remains possible that the stratigraphy was either missed or unrecorded and that these anachronistic features belong to the post-collapse occupation phase (phase 3), or that this area was occupied during phase 3 but that here the original roof and walls had remained intact.

Room 41: (figure 1.3)

strata: 1 - surface

2 - bricky collapse

3 - soft fill above floor

Floors: 1 - packed dirt (phase 2b)

2 - packed dirt (phase 2a)

3 - packed dirt (phase 2a)

Field notes from the 1969 season that record the excavation of

this room make no mention of the excavation of the upper levels of bricky collapse. Notes begin with the description of three superimposed floors that are associated with the original manor walls. These floors are labeled floor 3a, 3b and 3c raising the possibility that two later floors (1 and 2?) were also uncovered in this area. It is also possible that these original manor (phase 2) floors were called "floor 3" in a successive numbering system that began with the two floors in room 44 in the other half of BB3. The only ceramic lot from this room, BB3 16, is described as "soft fill above the floor" but it is not specified which floor it lies above. The three floors are all associated with stairway 42. Floor 3c, the earliest floor, runs up to the base of the first step. Floor 3b, some 5 cm higher than 3c, runs over the first step to the base of the second step and floor 3a, some 5 cm over 3b, runs over all three steps, creating a ramp up to a blocking of brick that was laid after the staircase went out of use. Floor 3a is clearly shown in sketch sections to run up to, and not under, this blocking, indicating that it was laid after the blocking had been put in place. Although there is a small amount of deposit between these floors it is clearly not consistent with the period of abandonment and wall collapse that had occurred before the squatter occupation in rooms 6-8 and 44-45. Instead these three superimposed floors resemble the three floors in room 46 to be discussed below. The laying of these three floors as well as the blocking of the staircase all occurred at some point during the occupation of the original manor house.

Area 43: (figure 1.3)

strata: 1 - surface

2 - bricky collapse

3 - brick and rubble packing (Phase 2 or 3)

floors: 1 - undescribed

Area 43 was actually a ramp leading up to a landing in room 44 which itself probably led to a stairway up to the second floor of the building.

The original floor of this ramp was uncovered but is undescribed in the field notes. Lying over this floor was a packing made of bricks and rubble that included 24 ceramic sherds. The regularity in the placement of the bricks indicates that this fill was deliberately laid, perhaps in an attempt to block off a no longer functional, and probably hazardous, stairway.

There is no mud brick collapse recorded as underlying this packing, indicating that it was laid while the roof and walls of the room were still functional.

Rooms 44-45: (figure 1.3)

strata: 1 - surface

2 - bricky collapse

3 - occupation debris over floor 2 (Phase 3)

4 - bricky collapse over floor 1 (Phase 2)

floors: 1 - stone and dirt (Phase 3)

2 - packed dirt (stone paving in area 44)(Phase 2)

Although this area was divided into two rooms in plans of the site, there is no good architectural basis to distinguish the two areas.

Although it was not reached throughout the room, the original floor (floor 2) of this area appears to have been made of packed dirt and is at approximately the same level as the upper floor in room 46. No features or discernible occupational debris could be associated with this floor. In area 44 to the east of the room was a stone paving, which the excavators felt might have been the foundation for a stairway to the second floor.

Overlying floor 2 is a stratum of debris variously referred to as "fill" or "hard wash". The compact nature of this deposit and the very high proportion (50%) of second-millennium sherds that were found in it suggests that it was composed primarily of eroded mud brick. This stratum probably corresponds to stratum 3 in room 46.

Floor 1, a pebble-and-dirt floor, was laid on top of this layer of bricky collapse. A large stone wall foundation in the southern portion of the room and a large hearth with accompanying ashy debris in the north western corner (labeled room 45) are both associated with this upper floor. It was also during this phase that the thick wall 105 was hollowed out to form a very small room in which lay a small hearth area. This

undermining of what was clearly a major wall in the original construction phase is important because it suggests that this wall no longer functioned as a roof or second-story support. This supports the hypothesis that major wall and roof collapse had occurred before the squatters arrived at the site.

Room 46: (figure 1.3)

Strata: 1- surface

2- soft ashy bricky fill with many sherds (Phase 3)

3- harder bricky fill

4- ashy lenses on floor 1 (Phase 2)

5- below floor 1 (Phase 1)

Floors: 1 - packed dirt (Phase 2)

2 - packed dirt (Phase 1)

3 - packed dirt (Phase 1)

Room 46 is one of the few rooms in the Godin II manor that has more than one superimposed floor. The earliest floor was of hard packed dirt and although it was not cleared in its entirety, was encountered in all soundings dug in the room. No features can be securely associated with this floor, although it is possible that the two large hearths (features 11 and 13) were originally built on this floor. Directly overlying it was a second dirt floor. Although, again, this floor was not cleared throughout

the room, two large hearths, one against the north wall (wall 64) of the room and the other against the west wall (wall 8), were clearly associated with this floor. Tumbled bricks, ash and other hearth debris were found on floor 2 in the areas directly around the hearths. This debris was covered by floor 1 but the hearths themselves, probably renovated and rebuilt, continued to be used during the entire occupation of the room. Except in the immediate vicinity of the hearths, floor 1 was laid directly on top of floor 2 with no intervening occupational or abandonment debris.

Overlying floor 1 was a stratum of hard bricky collapse ranging in depth from approximately 40 cm near the walls to only a thin wash in the center of the room. This stratum contained a high proportion of second-millennium sherds and relatively little Godin II pottery, and was in every way consistent with eroded mud-brick from the walls of an abandoned room.

Over the bricky collapse throughout this room was a stratum variously described as "greyish ashy fill", "soft wash", "loose bricky wash" and "not very compact bricky wash with reed inclusions". Three different excavators over the course of two seasons (69 and 73) all remark that this "fill" is much less compact and bricky than the bricky collapse underlying it and has a much lower proportion of second-millennium sherds. Miller also notes, in her field notes for her excavation in room 6, that the upper bricky collapse in room 6 is "much harder, browner and brickier" than this upper fill in room 46 that she had excavated earlier in

the season. In a sketch section from the '73 field notes this stratum is shown running *over* the wall stubs of the room. The largest single collection of Godin II pottery at the site derives from this deposit (371 sherds) so that it is crucial to try to understand the nature of the stratigraphy in this area.

The original excavator of the area suggested that this large collection of pottery derived from a ceramic storage area on the upper floor of the room and that this fill was second-story and roof collapse. The presence of reed inclusions in the fill would suggest that roofing material might indeed have formed one component of this deposit. There are two difficulties, however, in this explanation for the provenience of this fill. The first is that roof and second-story collapse occurs before or simultaneous to wall collapse and normally fills the room below the walls, the tops of the walls then eroding to form a level of hard bricky collapse over the roof fill. This does not appear to be the pattern here as the upper soft fill is clearly said to run over the wall stubs. The second problem is that in other areas of the site that probably originally had an upper story, such as the magazines, the overlying bricky collapse was more or less uniform down to the floor. Certainly in none of the other rooms without post-collapse occupation was there the equivalent of this sequence of hard bricky collapse followed by soft fill. It would appear that the upper post-collapse debris of this area was in some way altered by later processes. The nature of the ceramic lots themselves and their

implication for the source of this deposit will be discussed in the next chapter.

Rooms 47-49: (figure 1.3)

- strata:
- 1 - surface
 - 2 - ashy fill (Phase 3)
 - 3 - bricky collapse
 - 4 - occupation debris on floor 1 (Phase 2)

- floors:
- 1 - packed dirt (Phase 2)

Unlike room 46, rooms 47-49 had only one floor. On this floor in room 48 near wall 65 was found one whole pot and one quern. Overlying the floor was hard bricky collapse followed by soft fill. Field notes state that this deposit is similar to those found in room 46, although the upper fill is lacking the ceramic component of that in room 46.

Stratigraphic phasing

The foregoing stratigraphic analysis can be grouped into two broad stratigraphic phases with a very limited third phase. These stratigraphic phases are not equivalent to the architectural phases originally outlined by the excavators although there are architectural features that can be

assigned to each phase. It goes without saying that the artifacts found within the strata of any one phase might have been manufactured either during this phase or in any preceding one, particularly since Godin II is singularly lacking in primary contexts. The implications of this for the ceramic analysis will be discussed more fully in the next chapter.

The first of these phases (phase 1) is by far the most limited, and consists of material made after Godin III but before the actual construction of the manor. Possible ceramic remains belonging to this period were found below tower 5 and room 9 and might also be present on the slope of the mound. This phase has no definite architecture associated with it and is distinguished here only to establish the theoretical possibility of assigning a ceramic component to the pre-manor phase.

Phase 2 (manor phase) corresponds to the main occupation of the Godin II manor house as it originally stood. In a limited number of instances, most notably in rooms 41, 42, 43 and 45, two sub-phases can be distinguished within this occupation. Phase 2a (early manor) consists of a number of earlier floors in these rooms as well as the careful packing of ramp 43 which most probably occurred at some time prior to the abandonment of the manor by its original occupants. With the exception of these rooms, only one floor was in use up until the final abandonment of the building and we must assume that material on this floor belongs to the last phase of original occupation, phase 2b (late manor). There is

considerable evidence to suggest that by the time of its abandonment many of the rooms of the manor no longer served their original function. The garbage heap in the north magazine corridor, the pile of sherds in room 34, the hearth and associated cook pot in the south magazines and ultimately the blocking off of the doorway from room 40 into the magazines all indicate that the magazines area was no longer being used extensively for storage. Also possibly indicative of a change in the functioning of the building during this final pre-abandonment phase are the flimsy walls and animal manger in room 40, although the lack of good stratigraphic evidence from this area leaves open the possibility that these features actually belong to a later phase of occupation. Again, although it is impossible to distinguish the material stratigraphically, it is likely that some of the material lying on the phase 2b floor was actually deposited during an earlier phase. Although the main rooms in the building appear to have been very well maintained and little material accumulated on living floors, several large ceramic dumps were found in the back areas of the magazines and many of these pots may well have been broken and discarded well before the final abandonment by the original occupants and may be contemporaneous with phase 2a material elsewhere at the site. In other words, there may well be stylistic phasing at the site that would not be reflected in the stratigraphically recoverable phases.

Phase 3 (squatter phase): It is quite clear that the secondary walls and floors in rooms 6-8 and 44-45 were built after a period of

abandonment with associated wall and roof collapse. The stratum of decayed mud brick underlying these features, the association of squatter floors with the *collapsed* wall 3 in A2, the construction of a wall over the base for a column in BB2 and the hollowing out of wall 105 in room 44 all support this reconstruction. It is only in these areas (rms 6-8 and 44-45) that there is stratigraphic evidence for a post-collapse occupation of the site, but here the evidence is both convincing and consistent.

In rooms 6-8 the post-collapse occupation can be divided into two sub-phases (3a and 3b). While in some areas of room 6 there were stratigraphic divisions between these sub-phases, in room 7 the 3b walls were laid directly on the 3a floor. The post-collapse occupation in rooms 44-45 cannot be divided into these sub-phases but it can be assumed that it was contemporaneous with at least some portion of the room 6-8 squatter phase.

While it is clear that the squatter occupation of rooms 6-8 and 44-45 occurred after the walls and roof of the original building had undergone considerable erosion, it remains possible, although not likely, that in other areas of the building the erosion was not as severe and the squatters were able to use the rooms as they originally stood. There is, however, no evidence for any extensive domestic activity (ovens, hearths etc.) in the magazines or columned hall area as there is in the phase 3 occupation of rooms 6-8. If the occupants who built the post-collapse features in rooms 6-8 and 44-45 also occupied areas of the site where the roof was

still standing, they did little more than dump their garbage there. It seems highly unlikely that squatters arrived at the building, built new walls in a collapsed portion of the building to live in and used the standing area of the building to dump their garbage.

In summary, it is possible to delineate two broad phases within the Godin II occupation: phase 2, the main occupation of the manor itself, and phase 3, the post collapse secondary occupation amongst the crumbled manor walls. The time span of either of these phases, or the abandonment period between them, is impossible to determine, although major construction and repairs during the main occupation indicate that the manor must have been occupied over a relatively extended period of time. Although presumably much of the ceramic corpus recovered within the original manor itself dates to the later years of its occupation, considerable dumping activity within the walls may have preserved some ceramics from the earlier periods as well. This hypothesis as well as the proposed stratigraphic phasing will be tested by a stylistic analysis of the ceramics from the site.

Chapter 2

Cultural and Depositional Variability in Ceramic Lots at Godin

Depositional Processes

All reconstructions of ceramic sequences rely heavily on the nature of the depositional processes by which sherds are deposited. Ideally an archaeologist seeks a situation in which it is possible to use only those pots that have been found in the context of use. This ensures that all pots found together are more or less contemporaneous and that they can be correlated to the last phase of use of the archaeological feature (usually a floor) on which they are found. These primary contexts are unfortunately few and far between at most sites, and virtually non-existent at Godin II. It is therefore necessary to make as much sense as possible of the large number of secondarily deposited sherds that are almost always present at Near Eastern sites. A number of researchers have attempted to develop classification systems to deal with the bewilderingly large number of possible depositional contexts that can be found at a typical Near Eastern site. The system developed by William Sumner for his excavations at the site of Malyan is relatively complete and has been used here with some minor modifications (see Appendix A).

Identifying the presumed context of deposition does not necessarily mean that similarly classified deposits will contain comparable ceramics.

To take an example from Godin, a garbage dump may be the result of a limited number of banquet room sweepings or it may be the result of a long accumulation of refuse thrown over a wall. Clearly the size, homogeneity and typological consistency of the sherds will be vastly different in these two deposits. What is worse, the same typological pattern can result from very different cultural processes. A high degree of heterogeneity of types, for instance, can result either from a long period of accumulation or from a heterogeneity of ceramic sources. Any analysis that is trying to determine the source and nature of the stylistic variability of a ceramic assemblage must necessarily attempt to take these depositional factors into account.

Unfortunately there are virtually no primary deposits in the Godin II manor house. The large reception rooms of the manor occupation (phase 2) were apparently swept clean before the building was abandoned and the storage rooms either never contained whole pots or were also emptied when the occupants departed. The remains associated with the squatter occupation (phase 3) identified in the previous chapter also do not seem to contain any primary deposits. In this case, however, the absence of primary material seems to be related more to post-depositional and excavation factors than the fastidiousness of the inhabitants. The nature of the squatter remains were so flimsy that, not only did post-depositional events such as roof collapse and erosion seriously disturb the deposits, but the excavators, unaware of the

presence of the squatter occupation in the early seasons, treated most of this material as undifferentiated "debris." The few seemingly primary deposits at Godin II are related only to the very last stage of occupation of the manor house, possibly deposited on the day or two before the house was abandoned by servants doing the final packing up. The few whole pots found in primary context consist of cooking wares with limited value for typological comparison. It is clear that in order to unravel the complexity of Godin II ceramic remains it is crucial to attempt a further understanding of the abundant secondary and tertiary deposits.

Surprisingly few studies have been conducted on the nature of archaeological deposits in Near Eastern tells. The pioneering work of the early Syro-Palestinian archaeologists on tell stratigraphy has not been followed up by extensive ethnoarchaeological or statistical studies on the depositional and post-depositional processes that lead to the formation of this stratigraphy. It has often been assumed that a good, thorough, archaeologist should be able to distinguish the source of the deposit during excavation and that post-excavation analyses to determine this source are therefore unnecessary. A number of geoarchaeological studies have been conducted on Near Eastern sites (Kirkby and Kirkby 1976, Davidson 1976, Gifford 1978) with the aim of elucidating the relationship between natural factors (rain, wind, animal activity etc.) and artifact distributions. The process of mud-brick erosion in the formation of a tell has also been explored by a number of researchers both through

excavated remains (Torraca et. al. 1972) and ethnographic observation (McIntosh 1974, Watson 1979). Although ceramic remains are by far the most prevalent artifact type in Near Eastern sites, little work has been done to determine how ceramics are deposited in the archaeological record of the Ancient Near East.

Schiffer (1987) has undertaken one of the only large-scale, systematic, studies of archaeological formation processes. Working primarily on American archaeological data, Schiffer has attempted to elucidate the various processes through which material becomes deposited at an archaeological site. Although Schiffer rarely refers to Near Eastern tell sites, many of his findings can be applied to a habitation site like Godin.

When excavation began at Godin in 1965, deposits were divided into lots, which were then grouped into strata. Artifacts were then recorded according to these stratum designations. By mid-1967 it had become clear that the stratigraphy at Godin was so complex that excavators were not able to distinguish clear strata during the process of excavation. Simple stratum designations might fail to distinguish between different deposits. In the middle of the 1967 season the dig directors decided to use their lot system to record all artifacts. Each deposit that could be distinguished in some fashion by the excavator would be assigned a distinct lot number. Each lot was then described in a lot sheet, which recorded color, consistency, location and artifactual contents. While this

system meant that important distinctions were maintained that might otherwise have been overlooked, it also created a number of analytical problems. The major drawback to the lot system was that each lot did not directly reflect equivalent phenomena. A lot could be created out of a puddle of clay, the contents of a pit or the debris over the floor in one corner of a room. Divisions were sometimes based on stratigraphic criteria but more often they were the by-product of excavation procedures. Lots most often began and ended at the borders of an excavation unit and the same deposit in an adjacent square was given a distinct lot number. Different area supervisors also often used very different criteria for distinguishing lots. The lumpers vs. splitters dichotomy that is so prevalent in archaeology thereby became ensconced in the recording system. Some excavators defined lots by the dozens, others used only the broadest possible divisions. It was clearly felt, however, that the careful recording of lots would make it possible to rectify these inconsistencies in the lab back home. This was considered preferable to the previously used stratum system in which inevitable errors in field interpretation would, and did, remain forever fixed in the written record of the excavation.

It is clear that before any stylistic analysis can be performed on the ceramics from these lots it is necessary to understand, as far as possible, the depositional context of the material. I have recorded and tabulated a number of factors for each lot in an attempt to derive these

contexts (see Appendix A for a complete list of ceramic lots).¹

Lot Matrix

Although lots at Godin could include any discrete unit of deposition including a pile of sherds or an oven, most lots consisted of an earthy matrix containing a variety of archaeological artifacts. The texture and composition of this matrix was generally described in lot sheets where these were used. All deposits from Godin II are the product, in one way or another, of the decomposition of mud brick architecture. Although surprisingly few detailed studies have been made of the processes involved in mud brick decomposition, the probable sequence of events in the deterioration of a mud brick structure are known (Watson 1979, McIntosh 1974, Schiffer 1987). The first step in the process usually occurs in the first few months after abandonment and consists of the slow erosion of wall material or plaster coating. This erosion leaves a hard, relatively fine and compact layer on the floors of structures that tapers off as it reaches the center of the room.

The second phase depends heavily on roofing material and cultural patterns. In Northwestern Iran, where wooden roof beams are relatively difficult to obtain, Watson has observed the scavenging of roof beams on a regular basis from abandoned houses. At Godin II, we know from stratigraphic evidence in the columned rooms (see previous chapter) that

¹ Lots were numbered with a running list of lot numbers per grid square. A typical lot number would be AA2 3. Only lots containing ceramics that were kept and recorded are listed in Appendix A.

wooden columns were removed before the squatters settled at the site. If the hiatus between the manor occupation and the squatter occupation was extended, it is possible that these columns simply deteriorated and collapsed leaving insufficient remains in the record to detect them. It seems more probable however, that the valuable, straight, wooden columns were removed for re-use elsewhere. If wooden roofing material and supporting columns were removed we would expect to find a layer of decomposed roofing material overlaying the thin level of eroded mud brick and plaster on the floor of the structure. This material should be characterized by a high organic component and less compact texture. A second story would also collapse at this time. If artifactual material was stored on a second floor or roof it would be recovered amongst this debris.

After the collapse of the roof, mud brick walls remain standing only for a short period of time. As rain and wind quickly deteriorate this material, the walls, already undercut from erosion, tend to collapse quickly. This collapse leaves a thick, bricky layer with relatively little organic component and few artifacts. When artifactual material like small pot sherds have been incorporated into the brick at the time of manufacture, as certainly occurred at Godin, they will be found indiscriminately mixed with the bricky collapse. Unlike the first dense layer of eroded mud-brick which should be uniform, collapsed wall material is likely to contain large chunks or even whole bricks of the original

building material. Although a whole wall may collapse suddenly and remain relatively intact, as happened to wall 3 in room 6 (see previous chapter), a slower tumbling of bricks would result in a greater accumulation of debris near walls and a tapering off towards the center of the room. Later erosional processes at the site will normally compact the top portion of this material, which may then appear harder and more uniform than underlying tumble. Typically these processes cause the bricky collapse to run over the stubs of the walls from which they derive.

Although many lots at Godin are described only as "fill" or "wash" the predicted pattern of deposition can be detected in a number of areas. The north magazines (lots CC1 5, 9, 10, 12, 2043; CC2 4, 5, 15, 16) clearly display this pattern. Lot CC1 5 is described as compact bricky collapse near the surface of the site and most likely corresponds to the final collapse and erosion of the thick magazine walls. This very thick stratum (stratum 2) ran over the well preserved wall stubs, extended for some 2.5 m as would be expected for the erosion from tall, probably two-story, walls and consisted of collapse with sizable bits of brick. Ceramics consisted almost exclusively of second-millennium sherds that had been incorporated into the bricks when they were made. CC1 5 was underlain by a thinner .75 m stratum (stratum 3), CC1 12, with many reed inclusions, large pithos fragments and a complete pithos rim, probably all part of the same large jar. This stratum directly corresponds to the expected remains of roof and second-story collapse. Underlying CC1 12

was a thin stratum (stratum 4, lots CC1 2043, CC2 16) that is described variously as "material" and "clean clay" with some bone remains and ceramic sherds. This appears to be a water-laid deposit and was probably the result of initial erosion after the site was abandoned but before the roof and walls had collapsed. This typical depositional sequence was most probably repeated in the south magazines. The scarcity of field notes for this area makes it more difficult to reconstruct the exact nature of the lots. There is no clear delineation of a layer of roof collapse in the south magazines but both the extensive bricky collapse (DD3 5) and the layer of waterlain "wash" (DD2 2, DD3 6, 7) overlying the floor are present.

Three large ceramic deposits were found in the magazines. Lot EE1 2 was a huge pile of sherds and bone in what was apparently a clearly organic greenish matrix, lying up against the east wall of the north magazines corridor and sloping down to the floor of the corridor. The nature of the matrix surrounding these sherds led excavators to suggest that the area had been used as a toilet and the sherds as toilet paper. The large quantity (n=128) and size of some of these sherds as well as the presence of a large quantity of bone would suggest, however, that the primary source of this material was refuse dumping and that human waste disposal was a secondary, opportunistic, use of the area. Although there are no records for the 1973 excavations of magazine 6 (room 24), lots MG6 3 and 5 also appear to form part of this deposit as they both contained many sherds and a number of joins were found between these

lots and EE1 2.

DD2 2 was another large collection of sherds (n=49) found on the floor of the south magazines (room 28). This lot is specifically described as lying on the floor of the room but the nature of the matrix surrounding it is not recorded. Like EE1 2 in room 19, this lot is presumably the result of refuse dumping. Also on the floor of this room was one complete large bowl associated with a hearth against wall 43 (lot DD2 3), but it is not clear if DD2 2 and DD2 3 are related deposits.

Lot DD3 6 was the largest collection of fine-ware sherds from the site. Unlike EE1 2 and DD2 2, this lot was not clearly piled up on the floor of room 34 in which it was found but instead seems to have been more dispersed in a matrix of "loose wash" or "striated occupational trash." This deposit lay under a level of typical bricky collapse and seems to correspond to stratum 4 in the North magazines. If the "wash" in which these sherds were found was the result of pre-wall-collapse brick erosion, it is possible that the dispersion of these sherds occurred as the result of natural forces (i.e. water or small animal activity) and that their small size simply made them more susceptible to this type of post-depositional disturbance. It is also possible, however, that the source of this deposit was different from the other refuse dumps at the site. One excavator proposed that this material might be the result of the collapse of a ceramic store room on the second floor, although in this case one would expect that the sherds would have been intermixed with reedy roof

collapse rather than "loose wash". Alternatively these ceramics might have been associated with the dumping of a quantity of organic material, the decomposition of which might have resulted in the mixed matrix in which the sherds were found.

The columned hall area (rooms 9, 10, 13, 15, 16) seems to have had a slightly different post-abandonment depositional history as here a top layer of hard eroded mud brick is underlain exclusively by undifferentiated bricky collapse, which included many large brickbats (lot B2 4) and extended to directly above the floor. Both the stratum of reedy roof collapse and waterlain eroded material over the floor appear to be missing. It is possible that these strata were either missed or disregarded during excavation as this material was all considered "sterile" (i.e. without any first-millennium artifacts). It is also possible, however, that along with the valuable wood columns that held up the roof, much of the roofing material was simply removed for re-use very shortly after the manor house was deserted, leaving no time for the accumulation of water-eroded mud and little remains of the roof itself.

The fact that a more-or-less recognizable collapse sequence was recovered from portions of the site makes it all the more clear that the mixed lots overlying rooms 6-8 and 44-49 were the product of later squatter disturbances. Lots filling rooms 6-8 (AA1 10, AA1 14, AA1 23, AA1 2010, AA2 3, AA2 4, AA2 301-316, BB1 3, 11, 12, 14, 16, 22, 28, BB2 22-4, 29, 37, 38, CC2 2, A2 3, 4, 6, 7) were characterized by soft

organic fill, ashy lenses and smoothed areas interpreted as squatter floors. There was little clear overall patterning to these lots but certain consistencies can be detected. Lots overlying the latest squatter floor to the surface of the site (stratum 2) were described as "bricky debris" (AA1 2010), "hard and garbagy bricky collapse" (AA2 301, 303) and "brown bricky collapse" (AA2 302, 303, CC2 2, A2 2) and appear to correspond to the final collapse of squatter walls. Lots between the two squatter floors (strata 3 & 4) seem to have varied considerably in different areas of the room. In AA1 they are described as "soft occupational debris" (AA1 23), in AA2 as "soft ashy fill" (AA2 306), "yellowish soft soil sometimes mixed with soft bricky collapse" (AA2 309, 312, 313) and "soft brown soil" (AA2 311), and in A2 merely as "soft fill" (A2 3). In some areas these lots are clearly connected to occupational debris as in the ashy material in and around the squatter bread oven (AA2 310, 314) but in others they appear to be a mix of occupational and abandonment debris.

The material directly below the earliest squatter floor (phase 3) and above the original manor floor (stratum 5) was fairly consistently described. These lots were recorded as "grey ashy material, sometimes rather bricky (AA2 316)" "wash with ash lenses (BB1 16)" and "ashy deposits (BB2 4, 29)". The source of this ash is unclear. There is no evidence for any large scale burning after the abandonment of the site here or elsewhere. While in neighboring room 45 there was considerable

cooking activity during the manor phase which could account for the accumulation of some ash, the remains in room 6 show no evidence for such activity. In addition there is considerable evidence to suggest that the roof of room 6 was no longer present when squatters settled at the site and that considerable wall collapse had already occurred. A column base was found buried under the squatter floor, indicating that roof supporting columns had either been removed or had collapsed before the squatters arrived and a squatter floor was built up against the collapsed remains of wall 3. Although the stratum 5 lots do include some bricky collapse, they do not resemble the deep deposits of roof and wall collapse found in the magazine or columned hall areas. It is possible that there was some localized burning of roofing material in this area that caused the build-up of ash before the squatters arrived at the site. The secondary occupiers of the site would then have arrived after some wall collapse had occurred but were nonetheless able to shore up remaining brickwork in order to build their secondary structures, thereby reducing the amount of eroded mudbrick present in the intermediate stratum. It is also possible, however, that there was squatter activity at the site before the formation of the first phase 3 floor and that the ashy deposits of stratum 5 were related to this phase of occupation.

Lots from rooms 44 and 45 are similar to those from adjoining rooms 6-8. Lots forming stratum 2 (AA3 8, BB3 6, BB3 8) from immediately beneath the surface of the site to immediately above

squatter pebble floor 1, are described as "hard wash," presumably the final collapse of squatter and manor walls. Between the squatter floor (floor 1) and the original manor floor (floor 2) was a stratum (3) described as "hard wash and fill with many stones" (BB3 26, 29, 32, 37). The source of these stones is not clear, but they appear to have been reused in the stone paving and walls of phase 3. These lots are probably formed of mud brick erosion similar to stratum 3 in rooms 46-49 and stratum 4 in rooms 6-8. The presence of a large number of stones in these lots, however, also raises the possibility that this fill was deliberately laid when the phase 3 stone walls (H and J) were built.

There are few records of the excavation of rooms 39-43 but it would appear that, although there were a number of pre-collapse (phase 2b) alterations to this room, there was no post-collapse (phase 3) occupation in this area of the site. Lot CC3 18 was described as "mixed fill to floor" and presumably consists of undifferentiated roof and wall collapse. The building of a manger in what had been a niche in the originally exterior wall 4, the blocking off of corridor 39, and the in-filling of ramp 43 all occurred before the accumulation of this material. Lot CC3 13 consists of the brick and rubble fill used to fill in ramp 43. This packing was reportedly fairly evenly and deliberately laid directly on top of the surface of the ramp before any wall erosion had occurred. The relatively large (n=24) number of ceramic sherds from this lot presumably were incorporated into the fill when it was laid and therefore

must predate the latest pre-collapse occupation at the site.

In spite of having been excavated over the course of two seasons by three different excavators, the description of lots from rooms 46-49 is consistent and forms a clear pattern. Directly beneath the surface of the site was a stratum (2) of soft fill described first as "soft bricky wash with many reed inclusions" (AA3 10, 11), but later the same excavator as well as two subsequent excavators consistently describe what was apparently the same deposit as "grayish ashy fill" (AA3 17, 19, 25, 28, 34, A3 2, 5). All of these lots contained an extremely large quantity of first-millennium ceramic sherds. Underlying this stratum was a much harder, brickier layer of eroded mud-brick that contained many second-millennium sherds (from brick erosion) but few first-millennium ceramics (stratum 3, lots AA3 12, 21, 22, 23, 24, 27, 29, 31, 35, A3 3, 4,6, 7). This stratum was thicker near the walls of the room (AA3 12 [20 cm], AA3 17 [30 cm]), and thinned out to a wash in the center of the room (part of AA3 29). It is crucial to understand these two groups of lots as together they make up by far the largest provenience of ceramics from the site. While the lower stratum of hard eroded mud-brick corresponds exactly to the expected pattern of pre-roof collapse erosion, the upper ashy fill is more difficult to interpret.

Because of the presence of reeds in the lot matrix, the original excavator concluded that the upper soft fill (stratum 2) in room 46 was the result of roof collapse and suggested that the large quantity of

ceramic sherds derived from a ceramic storage area on the roof of the manor-house. Unlike the roof collapse that was identified in the north magazines, however, this ashy stratum is clearly shown in field notes as running over the eroded wall stubs of the room and is not overlain by a level of bricky wall collapse. Even if there was some burning of roofing material in this area, as was suggested by one excavator, this extensive mixing of roof and wall collapse would not be expected. There was certainly no large-scale conflagration of the roof while ceramics were stored there as none of the recovered sherds bears any sign of having been in a fire. While there is clearly squatter occupation per se in this room (i.e. there are no post-manor floors or features) the neighboring rooms 44 and 45 were occupied by the squatters after at least some of the manor walls were no longer viable as shown by the hollowing out of wall 107. It is clear that the most likely source for the ashy upper fill in room 46 is squatter dumping after the room had gone out of use entirely. This would account for both the large quantity of ceramics as well as the ash component of the fill as there were a number of squatter ovens recovered in rooms 6 and 44. If this area had been used as a dump by the squatters the mixing of roof and wall collapse along with ash and ceramics is more easily accounted for.

Sherd Preservation and Size

A number of ethnographic studies have concluded that artifact size

and degree of preservation can be a very useful indication of the nature of archaeological deposits (Bradley and Fulford 1980, Hayden and Cannon 1983, Deal 1985, Schiffer 1987). In the context of Godin II, only ceramics are found in large enough quantities to allow for size comparison between lots. Depositional processes will affect the size of the artifacts in deposits in a number of different ways. Two distinct but closely related phenomena contribute to this effect. The first is preservation and the second absolute sherd size.

It is an axiom of archaeology, and, indeed, of life in general, that the more times a breakable artifact like pottery is moved the greater the likelihood of its being broken (Sinopoli 1991). It is assumed that a whole pot is likely to be either in or near its location of use or of storage. Once this pot is discarded (because of breakage, damage, ritual or social pollution, or social display), the more steps it goes through in the waste stream, the less likely it is to remain intact. Hayden and Cannon's (1983) study of refuse disposal has shown that provisional discard (i.e., waste that is temporarily placed in or near living areas to perhaps be recycled at a later date) may contribute very heavily to a site's assemblage. Ceramics in such provisional discard are likely to be much better preserved than pots that are deposited into a permanent dumping place. Ceramics that have been through one or more provisional discard piles and are then transferred to a dump are the least likely to be well preserved. This factor usually affects the absolute size of sherds but can be

independent of them. A very large pithos, for instance, can be broken into multiple fragments, but each sherd might still be much larger than a whole fine ware bowl. Absolute size of sherds has a slightly different effect on sherd distribution than degree of preservation. Depositional and post-depositional factors directly affect the absolute size of recovered sherds independent of the proportion of the pot that they represent. Very small sherds, whether they be a tiny bit of a broken pithos or a quarter of a fine ware bowl, can be trampled into dirt floors where they might escape even fairly efficient housekeepers. In well maintained dwellings like the Godin II manor during its original occupation phase (phase 2), very small sherds found in this context are the best candidates as indicators of activity areas. In less well maintained habitation sites, such as the squatter occupation at Godin, sherds left after the abandonment of the dwelling may be much larger and reflect the final activity in a given area. Hayden and Cannon (1983) have shown that sweeping activity can leave a pattern of size-sorted debris in which smaller remains are distributed on the furthest periphery of a swept area, slightly larger artifacts remain closer to the activity area and only the very smallest artifacts escape the broom and are left behind on the floor itself. Trampling by animals or humans can cause a marked reduction in sherd size as well as vertical dispersion within the stratigraphy of a site (Gifford-Gonzales et. al. 1985). At the other extreme, very large sherds are unlikely to have moved very far from their

context of breakage without being further broken but they are also unlikely to remain within a living context while it is in use. Intact large storage jars are often the only complete artifacts to be found at living sites as they are too heavy or bulky to transport when the inhabitants desert the site (Sinopoli 1991).

The proportion of a pot represented by a given sherd is almost impossible to reconstruct without knowledge of the complete pot type. At Godin II, where almost no complete pots were found, it was necessary to use the percent of the preserved rim, easily calculated with a diameter chart, as the indicator of preservation. Because of the irregular shape of most ceramic sherds, sherd size can be a difficult and time consuming variable to measure. Since both rim diameters and the percent of preserved rims were recorded for all drawings of Godin sherds (and remeasured by myself for all sherds brought back to Canada) an estimation of sherd size was derived by multiplying the reconstructed rim circumference by the degree of preservation, thereby obtaining an approximation of the extant rim measurement. While these measures do not reflect the degree of preservation of the body of the sherd or the overall shape of the pot and are therefore not comparable to other sites, they are used here as an estimate of sherd size and preservation for comparison between lots only. These estimates rely on the assumption that the overall excavation procedures were approximately equivalent from lot to lot and season to season.

Figure 2.1 shows the distribution of preserved rim size at Godin. It clearly shows that most sherds have preserved rims between 2 and 10 cm long with a peak at about 7 cm. A number of rims lie outside this basic distribution and range in size from 11 to 28 cm. The question then is are these preserved rim sizes evenly distributed throughout Godin lots or do some lots contain a concentration of small or large sherds? Figure 2.2 records the average (mean) rim size of sherds for all lots and figure 2.3 shows the average size of sherds in lots with 15 or more sherds. Figure 2.4 lists these larger lots in order of average rim sherd size. Figure 2.3 shows a distinct bell-shaped curve between 4 and 12 cm with a peak at about 8 cm and a secondary distribution of lots with average sherd size of more than 10 cm which includes lots AA2 312, AA3 8, CC3 13, EW 503, TR5 3 and MG6 2. While these lots all have higher than normal average sherd sizes, a t-test for significance² (with a probability of Type II error of .025) indicates that only Mg6 2, and TR5 3, each of which have an average sherd size of 14.8 cm, have statistically significantly larger sherds on the whole than the universe of Godin sherds. At the other extreme is lot SE 7 which has statistically smaller mean sherd size than the average at the site as a whole.

Figure 2.5 displays the distribution of the preservation of rim sherds at the site. Preservation is distributed with a peak at 10%, a long

²The Student's t statistic evaluates the significance of obtaining a sample with a given mean given the size and variance of the universe and of the sample.

tail past 45%, and a slight increase between 95 and 100% which represents the small number of complete rims found at the site. Average preservation by lot (figure 2.6) displays a similar distribution with a slightly larger proportion of lots with an average preservation of 95-100% than would be expected by the overall distribution of sherds. This concentration is the by-product of lot recording which often assigned a distinct lot number to complete vessels. Lots CC3 13, MG6 2, and TR5 3 all have statistically larger means of preservation ($p=.025$) than the totality of Godin II sherds and the average preservation of SE 8 is significantly smaller than other lots (figure 2.8).

Lots with large mean sherd size and preservation

The excavation of Lot Mg6 2 was unfortunately not recorded, but, as discussed above, it would appear that the large dump from corridor 26 (lot EE1 2) extended into room 24 (Mg 6). Only lot 2 from Mg 6, however, has higher than average preservation and sherd size. It contained two complete bowls and one complete jar rim in addition to a number of nearly complete rim sherds.³ This lot also has a significantly higher number (8%) of within lot joins than either EE1 2, the other MG6 lots, or the site as a whole. Interestingly, TR5 3, another lot whose description was not recorded, has a very similar pattern to MG6 2 to which it might very well

³Body sherds were not kept so that it is impossible to determine if whole reconstructable vessels might have been present.

have been related. If Tower 5 lots do, in fact, refer to the excavation of Tower 17, as was suggested in the previous chapter, then MG6 2 and TR5 3 may have lain very close to one another. TR5 3 also has higher than average sherd size, preservation and within-lot joins (20%). It is possible that both of these lots were the result of the collapse of a ceramic storage area on the second floor of the magazines, although the still large number of fragmentary vessels would be puzzling in this case. Also unexplained are the two joins between TR5 3 and DD3 6, the very distinctive fine-ware dump in Tower 34 some 40 m to the south of Tower 17. It is possible that all three of these lots were formed by a specialized form of dumping, perhaps a limited number of cleaning episodes from banqueting activity in the Godin II manor. All are tucked away in the back recesses of the building, where their accumulation would not interfere with daily activities, particularly since, by the last stage of manor occupation, the towers no longer served an important defensive role. The higher degree of preservation could then be accounted for by the small number of steps in the discard stream (probably only one) that this material would have undergone.

DD3 6 does not share the elevated sherd preservation and size of MG6 2 and TR5 3, but the distribution of its sherds is nonetheless atypical of lots at Godin. In addition to, and in part because of, its unusually high proportion of fine ware sherds, the distribution of mean sherd size and preservation in this lot is unique. While the shape of the histogram of

sherd size for most lots at Godin approximates the bell-shaped curve of a normal distribution, DD3 6 has a very elevated kurtosis (36, compared to an average of 3.3 for other large lots at Godin), a measure of the degree of peakedness of this curve. While the average sherd size of this lot is 6.9 cm (compared to a mean of 8.8 for all lots) it has both many more small sherds and large sherds than other lots such that its distribution curve is much more peaked than other Godin II lots. While many of the sherds from the smaller end of this scale are fine wares, and therefore would be expected to break more easily, over 50% are normal wares including cooking and coarse wares. The larger end of this scale is also made up of fine and coarse wares, including an almost complete bowl and jar. If this lot does indeed represent a limited number of cleaning episodes, and is related to TR5 3 as the joins between the lots would suggest, then the large number of small sherds might be the result of sweeping debris.

CC3 13 has a significantly higher average preservation of sherds (23%) than sherds at the site as a whole (14%), but its average sherd size (11 cm), while high, is not significantly different than the average for the site as a whole (8.8 cm). This lot is comprised of sherds found within the deliberate and careful blocking material of ramp 43. A closer look at the distribution of sherds within this lot reveals that although preservation is very high and includes a number of semi-complete bowls, the average reconstructed diameter of these vessels is significantly lower (18.8 cm

vs. 24 cm for the site as a whole, Z-test significant at $p=.05$) than most Godin II sherds. In other words the larger bowls and jars do not appear in this sample which is comprised mainly of small bowls. The high degree of preservation of this material would seem to indicate that like MG6 2 and TR5 3, these sherds were closer in the waste stream to their context of use than other ceramic collections at the site. Either the remains of smaller bowls were chosen to be included in this deliberate fill because they would fit nicely into the chinks between the brick blocking, or these ceramics were used and discarded in a single or limited number of episodes that involved only the use of smaller vessels.

Lots with small mean sherd size and preservation

Lots SE 7 and SE 8 both have small average preservation and size although a t-test is significant ($p=.025$) for sherd size only for SE 7 and for sherd preservation only for SE 8. Since both of these lots however, were derived from test trenches along the outside of wall 53 in exterior areas 35 and 38 and seem to have been distinguished only because they were dug on two different days, it seems reasonable to group them together in order to raise the sample size and thereby decrease the probability of a false acceptance of the hypothesis that that these lots are drawn from the same size and preservation population as the sherds from the rest of the site. This joint sample meets the criterion for both significantly small average sherd size and preservation. Unlike the areas

outside wall 1, in which a sizable amount of debris built up, probably from garbage dumping over the wall and down the slope of the tell, areas 35 and 38 seem to have been kept relatively clean before and after the construction of rooms 36 and 37.⁴ The small size and preservation of sherds from these areas are indicative of trampled courtyard debris, probably accumulated throughout the occupation of the manor house. These lots are the only good candidates for sherds from the early manor (phase 2a) occupation of the manor.

Finally, sherds from lot A3 6 are significantly less well preserved (7% average) than those from other large lots. They are also, on average, among the smaller groups of sherds from large lots (6cm). This lot was found directly over the floor in room 49 among the hard eroded mud brick that covered the floor to this room and may consist of occupation debris from the manor phase. The reduced preservation and size of this material is in keeping with expected distributions for occupation debris left on the floor of a well maintained dwelling like the Godin manor. Alternatively this material may have been incorporated into the mud brick during manufacture along with the abundant second-millennium sherds that were found in this lot. If this is the case, then these sherds should date to the earliest phase of Godin II (phase 1) before the construction of this part of the manor.

⁴A sounding dug below the floor of room 36 revealed no accumulation of earlier Godin II material.

Identification of functional types

The analysis of the function of ceramic vessels within past cultural systems has played an increasingly large role in ceramic studies (Braun 1983, Smith 1988, Henrickson and McDonald 1983, Hally 1983, 1986). These analyses have, on the whole, addressed the reconstruction of activity areas at the site level and subsistence-related economic patterns at the broader socio-cultural level. While the present analysis of Godin ceramics does not attempt such reconstructions, the functional identification of ceramics is nonetheless essential in understanding stylistic variation. At a site like Godin, where almost all deposits are secondary, identifying functional variability is an important step in reconstructing the probable source of ceramic lots. Moreover, as will be discussed in Chapter 3, ethnographic studies suggest that stylistic change rarely occurs uniformly across an entire ceramic repertoire but tends to change at differential rates for different vessel types. Although function is not necessarily the sole defining characteristic for vessel types, it very often plays an important role in these cultural definitions. At Godin II the identification of functional types is particularly important given the very different nature of the manor and squatter occupations. It has been argued (Ingraham 1986) that stylistic changes between the ceramics from these two phases might very well be the result of functional rather than cultural or chronological factors. This hypothesis

must also be evaluated before proceeding further with the stylistic analysis.

Hally's work on the identification of vessel function from the Little Egypt and King sites in Northwestern Georgia (Hally 1983, 1986) forms one of the most thorough attempts at reconstructing vessel function from vessel morphology. Hally identifies seventeen morphological variables and their possible effect on vessel function. Most of these variables apply most directly to closed forms (jars and pots) as open forms (bowls and plates) vary almost exclusively with size ratios (i.e. diameter and depth). Unfortunately many of these variables are measurable only on complete vessels which are very rare at Godin II. From Hally's seventeen variables, only three can be derived from most rim sherds.

Orifice diameter, or the diameter at the most restricted point in the vessel's top half, is likely to vary with a number of functional factors. These include the relative ease of manipulation of vessel contents (i.e. stirring, sorting, removing), the avoidance of spillage, the ease of sealing or covering the vessel, the evaporation of vessel contents, and the heat or cold loss of vessel contents. In addition, in Hally's sample, orifice diameter is directly related to the overall size of the vessel. The angle of expansion of the neck from the orifice to the exterior rim diameter (i.e., the slope along which liquid contents would be poured from the vessel) is likely to be affected by how often and how cleanly vessel contents must

be poured from the vessel. Finally, the angle of constriction of the orifice, that is the angle between the vertical plane of the vessel and the inward sloping interior vessel surface as it constricts to the orifice, is likely to be high when volume is at a premium but spillage is a concern (a portable water jar for example). Two additional variables, not used by Hally, have been added here as possibly being related to vessel function. Neck length, the length from the orifice to the rim, is likely to be reduced when contents manipulation is important and to be increased when liquid vessel contents need to be poured for removal. Longer necks also avoid accidental spillage of liquid contents and reduce heat or cold loss. Vessel wall thickness affects the mechanical strength of the vessel as well as the ability of the vessel wall to conduct heat.

Most of the morphological variables discussed above are most easily measured from a profile drawing of the sherd, assuming that it has been properly stanced and measured during drawing (figure 2.9). Of the 711 drawn closed forms (jars and pots), 345 were well enough preserved to measure the orifice diameter, angle of expansion, neck length and wall thickness. Angle of constriction was measurable on only 43 sherds and was therefore dropped from the analysis. Histograms of these variables reveals no distinct grouping on single variables (figures 2.9-2.11).

Orifice diameter has a strong peak between 8 and 9 cm and two other possible peaks between 14 and 15 cm and 23 and 25 cm but these are not well enough distinguished to conclude that this is a multimodal

distribution (i.e. that jars should be divided into more than one size class based on any one of these variables alone). Angle of expansion, neck length and wall thickness all display unimodal distributions. Plots of these variables against one another also reveal no strong associations between variables that would suggest definite functional groupings (figures 2.13-2.15).

A cluster analysis of these variables was undertaken in order to determine if any underlying interaction between all four variables would reveal clusters that were not evident from single variables.⁵ A cluster analysis calculates a coefficient of dissimilarity for each pair of observations (in this case sherds) based on the given variables and then attempts to place those observations in groups based on the relative proximity of these coefficients. This procedure inevitably involves a degree of distortion as the complexity of the data rarely allows for a single best grouping. One way of minimizing this distortion is to perform this analysis using a range of numbers of clusters and then to examine goodness-of-fit statistics to determine the number of clusters that produce the most internally consistent and externally bounded clusters. In this case, local peaks of a number of different statistics (CCC, pseudo F, and pseudo t) indicated that the best fit of the data was found with three clusters. A canonical discriminant analysis⁶ was then performed on

⁵The method used was two-stage density linkage from the SAS CLUSTER Procedure, with transformation through the SAS ACECLUS Procedure ($p=.02$) (SAS Institute Inc. 1985).

⁶The method used was the SAS CANDISC Procedure (SAS Institute Inc. 1985).

the clusters to help evaluate the relative impact of each variable on the formation of the clusters, and thus to determine the possible functional correlate of the sherds assigned to each cluster. This procedure attempts to find one or more linear combinations of the variables among a group of classes, in this case the clusters produced by the cluster analysis, that best summarizes the differences between these classes. If more than one canonical variable is produced then all subsequent variables will be uncorrelated to any other. Figure 2.16 shows the clusters plotted against these canonical variables.

The canonical coefficients derived from this analysis (figure 2.17) indicate that the first canonical variable (Can 1) which, as can be seen from the plot in figure 2.16, contributes approximately 80% of the variation in the clusters, is described by a large increase in neck length and a moderate increase in orifice diameter as wall thickness and angle of expansion decrease. This is surprising given that among closed vessels generally orifice diameter tends to decrease when neck length increases, and orifice diameter is negatively associated with neck length both within and between clusters. As can be seen from the correlation coefficients in figure 2.17, however, between clusters there is a strong positive correlation between angle of expansion and orifice diameter and a negative association between angle of expansion and neck length. In this clustering, and subsequent canonical discriminant analysis, orifice diameter functions as a suppressor variable as the distinction between

neck length and angle of expansion is enhanced. Cluster 1 has a slightly negative mean score on this variable indicating that its members tend to have small to moderate neck lengths and larger angle of expansion. Most members of Cluster 2 have even stronger negative scores on Canonical variable 1 consistent with very short necks and flaring rims, and Cluster 3 has a strong positive class mean on this variable indicating that this group tends to have long, perpendicular necks. Canonical variable 2, which accounts for the remaining 20% of the variability among the clusters, is best described by a function in which high values of angle of expansion are accompanied by moderate values of orifice diameter and neck length but small values of wall thickness. Only Cluster 1 is clearly distinguished by this variable as most of its members have negative values on this axis, whereas clusters 2 and 3 have very similar mean scores on canonical variable 2.

In order better to understand and define these clusters, both the nature of the vessel surface and the vessel ware were plotted against the canonical variables (figures 2.18 & 2.19). An examination of figure 2.18 reveals that cluster 2, with its moderate orifice diameters, short necks, flaring rims, and relatively thick walls, also contains almost all smoke blackened vessels (coded as 5, 6 and 8). This cluster quite clearly corresponds to cooking pots, in which a low flaring neck maximizes access to vessel contents and a moderately thick ware decreases breakage from

thermal shock while allowing heat to be efficiently absorbed.⁷ The distribution of ware types is not as well defined by cluster, although, not surprisingly, only one sherd of fine ware (3 and 5) occurs in cluster 2. Morphologically, Cluster 1 should consist of moderate measures on all variables, with the strongest contrast with cluster 3 lying in its shorter neck lengths. Stronger scores on canonical variable 2 indicates that Cluster 1 tends towards thicker vessel walls and reduced angle of expansion than most members of cluster 3. Although this cluster analysis revealed a clear division between the morphology of cooking pots and other jars, the distinction between the remaining forms was not as clear cut, in part because the cooking pot distinction of neck length and angle of expansion caused a suppression of the weight of other variables.

A secondary cluster analysis was performed on clusters 1 and 3 to determine if more clearly defined groups could be distinguished once cooking pots had been removed from the analysis. Because vessel wall thickness contributed very little variability to the clustering, this variable was eliminated from the secondary cluster analysis. This secondary analysis achieved an acceptable fit with two clusters. The canonical discriminant analysis of these clusters found that clusters differed most widely on the linear combination: 1.51 orifice diameter, - 0.32 neck length,

⁷Although the distinction of ceramic wares in the initial coding of ceramics at Godin did not distinguish a separate cooking ware, subsequent visual inspection and microscopic thin section analysis revealed that these smoke blackened cooking pots almost invariably had a distinctive ware type as well.

0.24 angle of expansion. For Cluster 1, whose class mean on this canonical variable is high, orifice diameter is large, neck length tends to be smaller and angle of expansion tends to be moderately larger (see figures 2.20-2.22). Cluster 2 has generally smaller diameters, longer necks, and somewhat smaller angle of expansion. It is interesting to note that, although between clusters orifice diameter and neck length vary inversely, within clusters orifice diameter and neck length tend to vary together, probably reflecting a measure of overall size. Referring back to the suggested functional correlates of morphological variables, it can be suggested that Cluster 1 might be formed of vessels for which access to contents is important and occurs on a fairly regular basis, but for which spillage of liquid contents is not a major concern. Members of Cluster 2, with their higher necks and restricted orifice diameter might have been used for long-term storage of either liquids or pourable solids such as grain. The number of vessels assigned to Cluster 1 is less than half that assigned to Cluster 2 (98 vs. 229) although part of the reason for this is that Cluster 2 had many more outliers (i.e., members that lay more than the radius of the largest cluster away from the centroid of the clusters).

This series of multivariate cluster analyses essentially recovered three groups of vessels; cooking pots, other food preparation or short-term storage pots, and storage or water jars. These groupings are not very different from traditional Near Eastern archaeological typologies. It is important to stress, however, that these cluster analysed did not

attempt to recover all possible variation among these vessels or even all functional variation among these vessels. Nor does it suggest that all members of a particular cluster necessarily served the same function. In a certain sense, this procedure serves as a dissection of the data rather than as a typology. The analysis does demonstrate, however, that there is no significant degree of functional variability within the Godin assemblage of closed forms as a whole that might severely distort our understanding of the stylistic variability between phases presented in chapter 4.

Distribution of functional types

Because of the relatively small numbers of sherds (n=303 exclusive of cooking pot sherds) that were complete enough to assign to a cluster, the secondary jar/pot clusters (i.e., after cooking pots were removed from the sample) were not found in large enough quantities in individual lots to permit statistical tests of their distribution between lots. There is some indication that certain lots may have contained more Cluster 1 (pot) sherds than would be expected given the relatively small number of this type. DD3 6, the unusual fine-ware lot in tower 34, discussed above, contained 4 Cluster 1 sherds and no Cluster 2 sherds. These numbers are consistent with the suggestions that Cluster 1 vessels were used in food preparation or short-term storage and that DD3 6 was the result of a limited number of cleaning episodes following a feast. The only other lot

where such a concentration of Cluster 1 pots is found is AA3 313, but unfortunately, this lot appears to be mislabeled and its provenience is uncertain (see Appendix A).

The numbers of members of each of the secondary clusters, when grouped by phase, are sufficient for statistical testing. A Chi-Square test for association reveals no significant association between Cluster 1 and Cluster 2 ($p=.01$) and the phases at the site. It is therefore reasonable to group these clusters together to permit larger sample sizes for further analysis of the functional variation between lots and phases. In all subsequent discussion in this chapter these two clusters will be grouped under the heading "jar" to distinguish them from cooking pots.

One of the distinctive features of Iron Age ceramic repertoires is the large proportion and variety of bowls that appear at most sites. Godin II, in particular, contained a wide variety and large number of bowl types. In spite of this variety, there is no clear division of these bowls into discrete size categories based on their diameters (figure 2.23). It is possible that if bowl depth could be measured as well, discrete size classes would be uncovered, but few bowls are well enough preserved to allow depth to be measured. For the sake of this functional analysis bowls will be grouped into a single category in the absence of quantitative evidence to suggest a likely grouping into sub-classes.

One of the problems in discerning the spatial distribution of functional types is that variable depositional processes can seriously alter the numbers of sherds of a functional type found in a given lot. This is primarily because breakage rates are not consistent from type to type. A large bowl, for instance, is likely to break into many more rim fragments in deposits where preservation is low (a garbage dump for instance) than is a narrow necked storage jar. In addition, vessel types do not break with the same frequency while in use and thus do not get deposited in the archaeological record with the same frequency as they are used. Food-serving vessels that are frequently moved, for instance, tend to break much more frequently than long-term storage vessels. This means that, although at any one point in time in a habitation site a specific proportion of serving and storage vessels will be in use, a garbage dump is likely to contain a much higher proportion of serving vessels. A living floor, on the other hand, is more likely to contain a proportion of functional classes representative of the proportion actually used at the site. One study showed that this effect could be very marked with living floors from one site containing a ratio of bowls to jars of 1.16:1 while surface dumps from the same site had a proportion of 3.29:1 (Montgomery and Reid 1990). Since, as discussed above, not all lots at Godin have equal preservation of ceramic sherds, two sets of analyses were performed on the distribution of functional types; the first used a traditional count of sherds the other used the sum of the percent

preserved of the rim of each functional type to estimate the proportion of any one functional type possibly present in the lot. This estimate, which Orton and Tyers (1992) have dubbed e.v.e.s (estimated vessel equivalents), allows for more accurate comparison between lots with variable breakage rates because a vessel broken into many pieces will contribute the same amount to the total proportion as will a whole vessel.

A grouping of the ceramics from Godin into broad functional types (bowl, cooking vessel, jar) cross-tabulated with the phases at the site (manor, squatter, and mixed) reveals a significant association between phase and functional types ($p=.001$)(figure 2.24). At first glance this would seem to indicate that, as expected, there was a significant difference between the distribution of functional types in the two phases at the site but further analysis reveals that the pattern is not as clear cut as this grouping would make it seem. As shown in figure 2.25, a contingency table of types vs. lots (for lots with more than 20 sherds) using absolute numbers of sherds produces a Chi Square value that is significant at the .01 level. This indicates that there is also a significant association in the proportion of types between individual lots. That is, it is not only the grouping by phase that varies by functional type, but significant differences also exist between the functional distribution of sherds between the individual lots themselves. Breaking this table down into phases (figure 2.26-2.28) reveals that this variation occurs between lots within phases as well as between phases. In both the manor and

squatter phases the proportion of functional types differs significantly from lot to lot, indicating that it is problematic to group these lots together and speak of an overall "phase" distribution.

As discussed above, it is clear that the lots at Godin do not represent equivalent disposal patterns. Some lots were probably the result of a long-term accumulation of refuse, while others were possibly the result of a limited number of dumping episodes, and still others were formed from deliberate filling activities. While a grouping by phase indicates that the manor occupation phase (phase 2) included proportionally more bowls to jars than did the later squatter phase (phase 3), an examination of the distribution of these types within lots reveals that these bowls were concentrated in a specific group of lots (A2 4, CC3 13, DD2 2, DD3 6 and DD3 8) while other lots tended towards a percentage of bowls that is similar to the overall phase 3 proportion. Lots DD3 6, DD3 8 and CC3 13 have already been isolated as unusual on the basis of sherd size and preservation. DD3 6 & 8 are both part of the unique fine-ware dump in tower 34, which was probably the result of a limited number of housekeeping episodes including sweeping debris. CC3 13 consists of the filling of ramp 43 with a number of small bowls. The remaining lots with large proportions of bowls, A2 4 and DD2 2, fell into the standard distribution of sherd size and preservation. They are both among the few large lots from a living floor (floor 3, room 7 and floor 1, room 28). Although it is fairly clear that the sherds in these lots were

not primary refuse (i.e., still in their location of use) they may nonetheless be the remnants of a last cleaning or meal. A join between a sherd in DD2 2 and one in DD3 6 might indicate that these two lots were the result of a related episode of dumping. The only squatter (phase 3) lot with a high proportion of bowls, lot A2 3, was also formed of occupation debris on a floor (floor 2, room 7).

A number of the large lots from the manor occupation probably formed part of the large dump in the corridor of the North Magazines. These lots (EE1 2, MG6 2, MG6 3, MG6 5) all share a similar proportion of functional types, although EE1 2 has a larger percentage of cooking vessels (11%) than the other lots. This proportion (approx 60:4:35) of bowls: cooking vessels: jars) is also quite close to that of the large phase 3 lots from the dump over room 46 (AA3 10, AA3 13, AA3 28). The only major difference between the proportions of the phase 2 and 3 lots from these two major dumps is in the relative number of cooking vessels which is significantly larger ($p=.01$) in the phase 3 lots.

The major exception to the pattern of functional types is the consistently atypical lot, TR5 3. As discussed above, this lot also has unusually high preservation and sherd size and it was suggested that it was perhaps the result of a special episode of cleaning related to the fine-ware dump in Tower 34. The distribution of functional types, however, is completely different in these two deposits. Where lots from Tower 34 have high proportions of bowls, few cooking vessels and relatively few

jars, TR5 3 has almost equal proportions of bowls to jars and the highest percentage of cooking vessels amongst phase 2 lots. This pattern becomes even more atypical if estimated vessel equivalents are used to calculate proportions.

Results using estimated vessel equivalents (i.e. the sum of the percent of rim preserved for each functional class) are listed in figures 2.28-32. Unfortunately, since this calculation produces a transformed data set Chi Square tests of significance are not applicable. It is nonetheless useful to examine the relative frequencies produced using this method. Almost invariably, the proportion of bowls declines relative to jars since bowl rims, with their wide diameters, tend to break into more pieces when discarded than do the more restricted jar rims. The proportion of cooking vessels tends to remain fairly stable. In general using e.v.e.s tends to reduce the variability between functional type proportions within lots, that is the proportion of bowl to jars tends to become less marked. Between lots, however, variability remains high, indicating that the inter-lot variability in functional types is a reflection of cultural patterns of deposition rather than merely a by-product of different patterns of preservation. When the lots are grouped by phase (figure 2.32) the higher proportion of bowls in the manor period actually increases when e.v.e.s are used instead of counts. This is because the average preservation of sherds is higher in the manor phase than in the squatter phase (16% vs. 12%). Since in less well preserved assemblages,

bowls, which tend to break into more pieces than jars, are overrepresented when counts are used, the proportion of bowls in the squatter assemblage decreases when preservation is accounted for with the use of e.v.e.s. This decrease is less marked in the manor phase lots where average preservation is higher.

Once again, the only exception to this pattern is seen in lot TR5 3. Here, the proportion of bowls actually rises when e.v.e.s are used instead of absolute numbers of sherds. Although only 43% of sherds are bowl rims, these represent 61% of the preserved total rims in the lot. The proportion of jar rims declines in turn from 39% to only 23% of total preserved rims. A further examination of the composition of this lot reveals that the high degree of preservation noted above lies predominately in the bowl rims, which include two complete rims, one three-quarter complete rim and two semi-complete rims in addition to a number of less well preserved sherds. This raises the possibility that TR5 3 in fact included more than one component, one a fairly typical dump and the other from a single cleaning episode related to the lots in Tower 34.

There can be no doubt that the function of the architecture of Godin II underwent profound changes between the manor and squatter occupations at the site, and that the activities undertaken there must also have changed dramatically. In spite of this indisputable change in the function of the site, the basic distribution of functional ceramic types is similar in the two phases, suggesting that basic domestic activities

(eating, drinking, cooking, storing and transporting food) involved a similar distribution of functional types in the two phases, although individual lots varied strongly within this distribution. The one functional type distribution that is consistently different between phases is the cooking vessel which occurs more frequently in all types of lots in the squatter phase. This must reflect a change in the cooking patterns at the site, presumably involving the shift from the communal cooking of the elite manor house to the individual family cooking of the squatters.

The distribution of fine wares at the site can be used as a secondary measure of function in the sense that it can be expected that fine ware ceramics might be used in connection with ceremonial or formal occasions.⁸ The distribution of fine ware ceramics, both bowls and jars, is, indeed, very different in the two main phases at the site (figure 2.32). While 17% of all sherds in Manor lots were made of fine ware, fine ware sherds constituted only 7% of Squatter phase sherds. In addition, while all but one (MG6 5) of the 13 large lots ($n > 15$) of phase 2 included fine ware sherds, less than half of the nine large lots from the Squatter phase included any fine-ware sherds at all. This skewed distribution is fairly consistent between lot types within the phases and, unlike functional type distributions, does not seem to be reserved only for certain special-

⁸The division of the Godin II ceramics into ware types was made by a series of analysts over the years. Although there was some disagreement over gradations in ware types in the coarser wares, the identification of fine wares was more or less straightforward and universally accepted. The ware designations used here are derived from the computer coding of ceramics that was undertaken in the early 1980's.

purpose lots (figures 2.33-2.34). While DD3 6, the fine ware dump in tower 34, contains the highest proportion of fine sherds at the site (25%), EE1 2 the large dump in the North Magazines corridor also contained a fairly high proportion of fine ware sherds (13%) even though the distribution of functional types and sherd size in these two large Manor phase lots was quite different. Of the 9 large Squatter lots only one (A2 3) included more than 6% fine wares (figure 2.34). This lot, an accumulation of debris on floor 2 of room 7, also had an unusually high proportion of bowls and only two jar rims, suggesting that it was perhaps the remains of a single meal.

In summary, it is clear that ceramic lots at Godin are the result of a variety of depositional processes. Lot matrix, sherd size, sherd preservation and functional distributions all indicate that variability between ceramic lots is high both between and within phases. The stylistic and comparative analyses of the ceramics from these lots, to be presented in Chapters 4 and 5, will take this variability into account in assigning stylistic types to phases of Godin II.

Chapter 3

Ethnoarchaeological Evidence for the Source of Stylistic Variation in Ceramics

Our archaeological analysis of the prehistory and history of Western Iran has relied heavily on ceramics. Ceramic typologies have formed the basis for almost all chronological and geographic divisions of the archaeological record for the region. Attempts have often been made to correlate these ceramic sequences with the textually derived history of the region, but, in most cases, it has been difficult to make straightforward links between ceramic variation and the sociopolitical landscape known from texts.

With a few notable exceptions (Kramer 1977, Henrickson and McDonald 1983) most archaeologists of Western Iran have made use of traditional, though usually unstated, assumptions about the nature of ceramic style variation. Above all, these include two sets of assumptions that have been fundamental to twentieth-century archaeological analysis.

The first of these is the notion that, in some sense, well defined ceramic horizons are equivalent to ethnic or linguistic groups. The use of this model has gone in and out of scholarly fashion a number of times over the past century (it is now essentially back in again as will be discussed below) but the reasoning behind this equation was seldom explicitly discussed until the past two decades (see Kramer 1977, 1985).

Attempts at identifying Medes and Persians in the archaeological record of Iron Age Iran (Levine 1987, Brown 1979) are based on this model.

The second set of assumptions treats ceramic assemblages essentially as "cultures" themselves, allowing archaeologists to trace the movement of individual traits or artifact types through time and space, without specific reference to the movement or interaction of the makers of the artifact type. Traditional diffusion-based explanations make extensive use of this model and as a consequence the assumptions implicit in it, have been widely discussed in archaeological theory for many years (Childe 1929, Clarke 1968, Trigger 1978). A set of expectations about the diffusion of artifact traits has been developed that includes the premise that diffusion occurs relatively slowly and can be traced by the decreasing frequency of the appearance of the trait or artifact type from its place of origin to surrounding areas. In his detailed summary of the Iron Age archaeology of Western Iran, Levine (1987) makes frequent use of this model as he writes of "source" and "secondary" areas for certain ceramic types. It is clear that archaeologists like Levine now make use of this model more as a matter of practical convenience than as a theoretical position. It is taken as understood that the relationship between the makers of these ceramics and the distribution of types is present but is simply too complex to delineate in any but the most cursory fashion.

Unfortunately, even though stylistic variation in ceramics forms one

of the most fundamental tools for archaeological reconstruction, the nature and cause of this variation remain elusive. In this chapter I will evaluate some of the general models that have been proposed to explain stylistic variation in ceramics in the light of ethnographic observations of ceramic producing societies and will propose some modifications to these explanatory frameworks.

The Nature of Stylistic Variation

The past few years have witnessed an increasing interest in the explanation of the mechanisms of stylistic variation. The majority of such studies have made use of ethnographic data in the hope that general principles could be derived from these fully observable societies that could then be applied to the incomplete archaeological record (Hodder 1982a, 1977, Graves 1994, Thompson 1991). A few analyses have attempted to apply hypotheses derived from these ethnographic studies to archaeological materials with varying degrees of success (Plog 1980, 1990, Kintigh 1984, Macdonald 1990). Some research has also sought to synthesize some of the results of these analyses into more general models of stylistic variation (Wobst 1977, Hill 1985, Graves 1981, Kintigh 1984, Wiessner 1984, Sackett 1985). To date, most of these models essentially identify two possible sources for the production of stylistic variability; the nature of craft traditions and information exchange. Although these are sometimes viewed as competing theories (Plog 1980,

Wobst 1977) some analysts have attempted to amalgamate the two into a unified model of stylistic variation (Wiessner 1985, 1990, Hodder 1990).

Isochrestic Style

The first of these explanations for stylistic change is based on the premise that style is that aspect of material culture that is essentially non-adaptive and as such is free to vary without affecting the normal functioning of the community. Sackett (1985) has coined the term "isochrestic" style to describe this type of stylistic variation. He defines "isochrestic" style as the choice made by artisans among a wide range of functionally equivalent options. Although Sackett never specifies the exact locus for the transmission of this source for style, he suggests in a general way that it is the result of the artisan being enculturated within a given craft tradition. In this view style is diagnostic of ethnicity only because craft traditions are likely to be part of a larger cultural or ethnic system. "This is of course style in the passive voice, not so much a force that acts as a latent quality that can be invoked" (Sackett 1985 p.157). Sackett acknowledges the possibility that stylistic attributes can be used as purposeful "iconographic signals", but he considers this to be a relatively rare phenomenon that should display distinct stylistic patterns.

A corollary to this theory is that style will be transmitted from one group to another in direct proportion to the amount of interaction that

occurs between these two groups. The nature of this interaction is generally not specified but presumably must include regular visual inspection of the material culture of one group by the artisans of the other. This is the assumption behind traditional diffusion-based explanations although it is usually not explicitly stated. The major theoretical problem with this model is that the mechanism by which stylistic patterns are transferred from one artisan to another is not specified. The amount of contact that must occur before a stylistic attribute is borrowed is also not clear. More importantly, ethnographic analyses that were specifically designed to test the validity of this model indicate that groups that display a high level of interaction, including inter-marriage and trade, will sometimes preserve marked boundaries in their material culture (Hodder 1978, 1980, Graves 1994).

In the 1960's a series of archaeological studies were conducted that attempted to reconstruct the marital patterns of prehistoric groups based on the distribution of pottery styles within a site (Hill 1970, Longacre 1970). These analyses were based on the assumption that the major vehicle for the transmission of stylistic patterns in ceramics was the mother-daughter learning relationship, which had been documented in ethnographic societies. Although these analyses are usually included as examples of the "isochrestic" paradigm they, in fact, differ from this more general theory in that they specify that the locus of transmission of style is to be found in the specific teacher-student relationship and not in

other types of more casual interactive relationships. Unfortunately, although this hypothesis is attractive in its specificity, ethnographic studies have again shown that in many cases learning to produce pottery is not the formalized activity that this hypothesis would suggest (Stanislawski and Stanislawski 1978). There are some societies in which learning the techniques of ceramic manufacture is very formalized, older women even adopting young girls for the sole purpose of teaching them how to make pottery, but even in these groups the teacher-student diad does not always produce the most similar stylistic results (Lathrap 1983, DeBoer 1990). Instead, the student will often produce stylistically distinct pots with the specific intention of differentiating herself from her teacher or other students (London 1991).

Information Exchange

The suggestion that style functioned to convey information between groups, and was not simply a neutral product of cultural interaction, was first introduced into the archaeological theory in a seminal article by Wobst (1977). This proposition spread rapidly through the archaeological literature and it is now almost axiomatic to speak of style as a conveyor of cultural information. Even those researchers who support the isochrestic model for style suggest that style does sometimes serve to transmit messages about certain aspects of the cultural system (Washburn and Matson 1985, Sackett 1985, 1990). Wobst initially

stressed the role of style in the maintenance of inter-group boundaries but the theory has since been extended to account for inter-personal and intra-group identification (Graves 1981, 1994, Hill 1985, Lathrap 1983, Wiessner 1986). Ethnographic evidence firmly supports the notion that style is used to identify its users as members of a certain group (Hodder 1978, 1981, 1982, Lathrap 1983). The implication of this hypothesis is that stylistic distributions will tend to display distinct boundaries.

Although certain ethnographic and archaeological studies have shown that such sharply bounded distributions can occur (Plog 1980, Kintigh 1985), others indicate that gradual and fuzzy distributions are also possible (Washburn and Matson 1985). Ethnographic studies also indicate that, even within an artifact class such as ceramics, different types can display different distributions (Hodder 1981, Crossland and Posnansky 1978).

Sackett (1985, 1986, 1990) and Wiessner (1984, 1985, 1990) have engaged in an ongoing written debate about the nature of style. While the emphasis each author places on "iconic" vs. "isochrestic" causes for stylistic variability is quite different, both authors agree that this dichotomy is valid. Wiessner reserves the term "style" for those attributes of variability that are actively used by members of a society to compare themselves to other members of that society and to outsiders. She maintains that active stylistic signaling plays a crucial role in the maintenance of systems of group and personal identity and that iconic

variability of this type makes up a large portion of the morphological-decorative variation within a society. In spite of her emphasis on the relative importance of iconic style, Wiessner accepts Sackett's description of isochrestic variability as a separate phenomenon resulting from enculturation within a given craft tradition and the notion that this type of variation communicates information only in a "passive" sense. She suggests that "stylistic" attributes (i.e., those directly involved in non-verbal communication) should be archaeologically distinguishable from isochrestic variability. As an active tool in social relations, style should be highly susceptible to relatively sudden change. Since isochrestic behavior, on the other hand, is the result of inherited craft traditions it should be fairly conservative in nature and accept innovation only if it entails a significant improvement in the utilitarian value of the artifact. Wiessner believes that isochrestic variability and iconographic "style" are tied in the sense that isochrestic variables can be adopted to meet the goals of "style" and "stylistic" variables can lapse into mere isochrestic behavior, but at any given moment in a society *isochrestism* and *style* are independent and separable phenomena. I will argue below, however, that the dichotomy between isochrestic and iconic (or passive and active) style is not as clear-cut as these researchers would propose.

If, for the purpose of argument, we accept the proposition that there are two factors (isochrestic and iconic) operating to produce stylistic variability, the problem remains to attempt to identify those

stylistic variables that are most likely to serve as vehicles for information exchange and the source of change in those that are not tied to the symbolic system of the society. Wobst originally proposed that those artifacts that are most visible to other communities will be most likely to serve as conveyors of information, whereas those that are restricted to intra-community use will tend to remain neutral in terms of their symbolic content. This suggestion has been taken up by a number of researchers (Kintigh 1984, Braun 1985, Brunson 1985, Plog 1980, Hally 1986) even though it is both theoretically and empirically questionable. A variety of ethnographic studies have revealed patterns directly contradicting Wobst's hypotheses about likely patterns of stylistic variation. There are both ethnographic (Arnold 1985, Sterner 1989) and archaeological examples of cultures in which every vessel category, including large storage jars and other domestic forms, displays the same proportion of painted and unpainted vessels regardless of their degree of visibility to members of other groups. A study of the distribution of corrugated wares of the American Southwest (Brunson 1985), a type that is generally agreed to be utilitarian, reveals distinct decorative boundaries instead of the clinal distribution predicted for utilitarian vessels by Wobst's (1977) hypothesis.

On a theoretical level Wobst's assumptions are flawed in that they fail to account for the importance of both individual vs. group differentiation and for processes of intra-group identification. Social

comparison of individuals within groups is clearly a major determinant of style and can account for a great deal of stylistic variation within communities (Wiessner 1989, Hodder 1991). Artifacts that are involved in this symbolic system may have a relatively restricted accessibility to members outside the group and yet nonetheless bear complex messages about the identity of their owner. Furthermore, demands of internal cohesion make it necessary to identify oneself as a member of a group not only to outsiders but also to fellow group members. Even artifacts that serve to signal group membership may therefore function without ever being seen by outsiders. Thus, contrary to expectations, high visibility is not a reliable predictor of the degree of symbolic content in an artifact type.

The failure of ethnographic and archaeological analysis to identify "stylistic" vs. "isochrestic" variables may be related as much to flaws within the model itself as to difficulties in its application. The notion that there are two separate phenomena operating to create formal variation in material culture, one the result of craft traditions and the other of active information transfer, is problematic. Although it is undoubtedly the case that certain items of material culture bear very specific and intentional messages (uniforms, badges, objects used in ritual etc.), while others convey much more generalized information (household goods, clothing, tools, etc.) it is not as clear that one group of artifacts functions actively and the other passively or that generalized expectations can be derived

for the appearance and longevity of each type of style.

Sackett uses a Paris hotel room as an example of "passive" style (Sackett 1990 p.37). He suggests that distinctive "French" furnishings (an armoire, shutters, a bolster pillow) might indicate to an American tourist that this is a foreign environment but that the manufacturers of these items never intended them to have a communicative function. "Instead they constitute passive style and are simply the product of French artisans doing things the way they have learned is the proper manner of doing them" (Sackett 1990 p. 37). Even if we accept the notion that French furniture manufacturers have been producing these items for years in a certain way simply because it is the accepted way of doing it, an unlikely assumption to begin with given the highly competitive nature of the European furniture industry, the owner of the hotel must certainly have made very deliberate choices about the way he wanted his hotel to look and what that look would signal to his customers. If he was catering to a certain brand of American tourist he might well have chosen antiquating "Old French" style furniture. If, on the other hand, his clientele consisted of French traveling salesmen he might have chosen solidly middle class, respectable, furnishings. Any of these choices must be seen as actively communicating a range of social information. Even a mundane object like a hammer that might be considered to be purely functional and not subject to "regular stylistic and social comparison" (Weissner 1990) may be designed to convey active stylistic messaging. A

perusal of a specialist inventory like the Lee Valley Tools catalogue reveals innumerable variations on this tool, each with a slightly different handle, head, cover, and overall form. A highly experienced carpenter assures me that many of these variations have little to do with functional differentiation and are associated, instead, with a range of status and professional identifications, often with a sizable price differential. The different intended functions of these tools may be closely tied to their social and cultural contexts but this does not mean that their appearance, or "style" in Weissner's terms, whatever its source, does not involve the communication of certain associations.

One of the basic assumptions of both "isochrestic" and "information transfer" theorists is that it is desirable, if not always possible, to distinguish between "functional" and "stylistic" characteristics of an artifact. In the isochrestic view style is defined as that aspect of artifact form that does not effect the functioning of the artifact. In "information transfer" models style serves a function, that of communication, but this role is usually considered separable from the immediate economic function of the artifact type (i.e., cooking, storage, protection from sun etc.). There are two fundamental problems with this notion of a recoverable dichotomy between "stylistic" and "functional" variables. The first stems largely from archaeology's close ties to cultural ecology in that it assumes that there will be a high degree of optimization in the production of material items. While it is clear that

attributes that directly preclude the use of the artifact for its intended function (i.e., a blunt arrowhead) will not be incorporated into artifact design, the notion that producers will make use of the most efficient possible model within their technological repertoire in the production of a given type has not been upheld by the ethnographic evidence (Miller 1985, Lemonnier 1986). The reasons for this apparent functional inefficiency are not always clear but are sometimes related to the "iconic" role of style itself. Since, as will be discussed below, morphological variables can participate in the symbol system of the society, a change in morphology that may increase the "utilitarian" efficiency of a type might interfere with the role of the artifact within the society.¹

The second problem with the notion that style and function are distinct properties is that the utilitarian function of the artifact and the technological system that produces them are themselves intimately involved in social representation. One of the characteristic features of Iron III pottery in Iran, for instance, is a dramatic increase from the Iron II period in the number and variety of bowl forms. While this might be interpreted as the result of a "functional" shift in eating patterns, it is more than likely that such a shift was the result of changing patterns of

¹I have personally possessed a succession of very beautiful but very dribbly teapots. Clearly aesthetic considerations (and the whole set of social messages that accompanies them) were more important to me, and to the manufacturers of the vessels, than was the efficiency of serving hot tea without spilling.

cultural behavior that went far beyond simply a change in diet. It is not at all clear that a shift, for instance, in painted motifs should be interpreted as more "stylistic" (i.e., involved in information exchange) than a shift from eating from communal pots to eating from individual bowls, even though the latter is in strict terms tied to the "function" of the artifact.

Lemonnier (1986) has described a variety of technological systems in use among the 30 groups of the Anga in New Guinea. Ranging from pig traps to bark clothing, these technologies differ from group to group even though each group is familiar with and can describe the technology of the other groups and all groups share a similar ecosystem. Lemonnier argues that this is not simply "isochrestic" variation (i.e., variation in those aspects of an artifact with no utilitarian value) but variation that directly affects the artifact's action on the material world. Although Lemonnier believes that ethnic identification is only one of the social factors involved in this patterning, it is clear that an "iconic" view of style must acknowledge that entire technological systems can convey information between and within societies.

Although the dichotomy between utilitarian and stylistic variation is not as straightforward as most researchers have implied, there is a sense that, by isolating variables that by their nature are purely "stylistic", it should be possible to eliminate variation caused by economic or technological factors unrelated to the social context under study. In an effort to retain this distinction, most studies of stylistic variation

have focused only on clearly decorative variables, such as painting or incising, to the exclusion of general shape characteristics. The emphasis on decoration in the work of most ceramic style ethnoarchaeology is also dictated by theories of information exchange that specify that the more visible an attribute is the more likely it will be to participate in information exchange (Wobst 1977). Although, as will be addressed more fully below, this assumption is in itself problematic, there is an intuitive sense in which decoration is considered more "visible" than is shape.

Even among studies restricted to surface decoration, however, there is considerable debate about which, if any, aspects of decoration are likely to be most informative for the investigation of archaeological style. Friedrich (1970) has identified a series of hierarchical levels akin to a grammar of language, within which stylistic variation could occur. These include design elements, configurations of design elements and configurations of these configurations. A set of rules governs what choices can be made by the artisan at each step in the decorative process. Ethnographic observations of potters (Hardin 1983, Graves 1981, 1994) indicate that the rules that govern the structural arrangement of the design, the syntax in grammatical terms, are generally applied at the first decision-making level in the decoration process. As a result of this sequence, structural rules will tend to constrain the potters' subsequent choices of design element. It has been suggested that a consequence of this pattern will be that foreign design

elements are more readily introduced into a decorative tradition than are structural rules, which would require more major modifications of the design system as a whole (Washburn and Matson 1985, Graves 1985).

Ethnographic studies have revealed that, while the structural division of the vessel preceded the choice of decorative elements during the production of vessels, the reverse sequence was used in decoding the manufactured vessel (Hardin 1983). When asked to pick out the most different vessel of a triad, a group of potters from the village of San Jose, Mexico consistently grouped together those vessels that shared a decorative motif regardless of their design structure. It is to be noted, however, that, while these vessels displayed different decorative syntax, they were presumably all within the acceptable range for that stylistic community. It is possible that, given an example with a design structure that broke the syntactic rules, they would have separated it out regardless of any motif similarities. While it would appear, then, that changes in decorative syntax may be less easily adopted than those in design elements, it is not clear that design structure conveys more information than do motif types. Some researchers have suggested that different levels in the design hierarchy should transmit different kinds of information (Hill 1985, Braun 1983) but there is as yet no ethnographic evidence to support this claim.

Since shape is certainly constrained by the utilitarian function of the artifact, there may be less scope for variation in this variable than in

decoration, and it has been suggested therefore, that shape is less useful in conveying information than is decoration (Wobst 1977). There is evidence, however, to suggest that shape is often used to identify social and ethnic groups. When asked to identify the pottery from different villages, Kalinga informants made use of the variables of the thickness of the vessel wall and the curvature of the lip in addition to the complexity of decoration (Longacre 1981). The Kalinga living in the Pasil river valley differentiate their pots from those produced by Kalinga of the Tanudan River Valley on the basis of a distinctive shoulder, which always occurs on Tanudan area pots and never occurs on Pasil area pots (Longacre 1991a). The Lozi of Zambia differentiate themselves from the neighboring Mbunda through the proportions of their reed baskets. This pattern is consistent even when the Mbunda are actually producing this artifact type (Hodder 1982). Similarly each tribe living in the Baringo district in Kenya uses wooden eating bowls with different formal characteristics including shape, depth, presence or absence of handles and the length of handles when present (Hodder 1982). In the one case in which the Luo potters of Western Kenya produce a different pottery type for a specific ethnic group, it is the form rather than the decoration that differentiates it (Dietler and Herbich 1989). Again, among the Bulahay of Cameroon it is the overall morphology of water jars and not their decoration that signals ethnicity to neighboring groups (Sterner 1989). The Tarascan potters of Mexico themselves classified their pottery primarily according to shape.

While the names for these shapes had utilitarian referents (e.g., *comal* or cooking pot), when manufactured in different wares or sizes these vessels could be used for very different functions and yet retain their shape designation (Hardin 1979).

It would appear, then, that even fairly small variations in shape can be used to indicate social or ethnic group membership. The available evidence indicates that both overall shape (Hodder 1978, 1982) and specific attributes, such as rim angle (Longacre 1978, 1991), can be used to differentiate pottery styles. In the case of the Kalinga from the Pasil and Tanudan river valleys (Longacre 1991) as well as the Bulahay of Cameroon, vessel profile is the major source of the identification of a vessel's location of manufacture, even though decoration is also present on the vessels.

Change Through Time

The nature of ethnographic research is such that it is very difficult to obtain data about long-term change. This is particularly true of ethnoarchaeological research which has only been taking place for the past few years. Nonetheless it is possible to derive some hypotheses from the limited evidence available. Hodder's (1982) ethnographic studies of artifact variation demonstrate two clear changes in the patterning of material culture through time. The first of these involves the introduction of a new pottery form, a type of water jar, which was

produced in a center a considerable distance from the study area, the Baringo district, Kenya. Methods of production allowed this form to be sold at much less cost than the local pottery. Even though the production locus of this vessel type was removed from the normal distribution network for Baringo artifacts, community members were able to obtain these jars when they traveled to the regional trading center on various social occasions. Archaeologically, this would produce the sudden advent of a new pottery form with a widespread distribution. Hodder (1982) suggests that, even though locally produced pottery had distinct tribal affiliations, this ceramic form was removed from this social context, and was therefore neutral in terms of the symbolic system surrounding the identification of tribes. This allowed the jar to be accepted by all tribes in the area. This does not mean that the style of the water jar was removed from the information network of the society or can be seen as an example of "isochrestic" variation. On the contrary, its very stylistic neutrality was presumably very much a part of its morphology and decoration, and it was this particular style that allowed it to be widely accepted.

The second documented example of diachronic stylistic variation is much more complex and involves changes in the larger sociopolitical context (Hodder 1982). The Lozi are a group of tribes in western Zambia united under a single state. This state had expanded at the beginning of the 20th century by annexing a wide network of tribute-paying tribes that had gradually become incorporated into the Lozi state system. Although

many different ethnic groups were included in this expansion the major tribal group was the Mbunda. In an apparent attempt to retain their position of power and reduce conflict, the Lozi elite encouraged these peripheral tribes to become full members of the Lozi state. The Mbunda chiefs were given the same status as Lozi princes, and groups of Mbunda moved into the Lozi core area. Although they were symbolically incorporated into the Lozi state, the Mbunda had access to only the less productive grazing and agricultural land. With the establishment of a British protectorate over the area in the early part of the 20th century, the power of the Lozi king declined and the conflict between the Lozi and disadvantaged Mbunda reasserted itself.

This historical sequence could be detected in the distribution of material culture. The Mbunda who had moved into the area when the central power was still strong displayed very little cultural differentiation from the surrounding Lozi. Newly arrived Mbunda, on the other hand, used distinctive artifact forms. This pattern would manifest itself archaeologically as the arrival of a new material culture inventory in select sites in a region which would otherwise display a continuous artifact tradition.

Both of these changes in the material inventory of a region are the result of distinct shifts in the socioeconomic system. They would both result in relatively rapid distinguishable changes in one or more artifact types. With a few minor differences in detail, these shifts actually are

relatively well provided for in traditional archaeological explanations. They involve the introduction of a foreign influence in an area that is otherwise culturally quite homogeneous. Although archaeologically it would be impossible to detect the presence of the earlier Mbunda immigration, the later Mbunda-Lozi dichotomy as an example of ethnicity reflected in the material culture assemblage of an area is amply provided for by traditional archaeological explanation.

Unfortunately, the theory of style as information exchange generates few mechanisms for the explanation of the local evolution of artifact assemblages. Ethnographic studies of Kalinga pottery production have provided some interesting data that might help to explain how local artifact styles change through time (Graves 1985, 1994). In a study of the pottery of the village of Dangtalan it was found that the major source of variation in the decorative repertoire could be traced to the age cohort to which the potter belonged. Age surpassed both kin affiliation and work groups in determining the number of bands, the prime decorative component of the repertoire, which were placed on the necks of jars. While older potters consistently placed more bands on larger vessels than on smaller ones, the younger age cohort tended to use more bands on all vessel sizes than did their elders. The author of the study hypothesizes that this pattern is the result of learning processes, such that all women who learned to pot at a given time will produce similar-looking vessels. He further suggests that, since the number of bands on a vessel is a

structural decorative component, it would be relatively difficult for individual potters to change their use of it during the course of their lives.

It is difficult to determine how Graves envisions the operation of this design acquisition process. Apparently Kalinga girls learn to pot by working with their mothers and other female relatives until proficiency is obtained. It is unclear what role age cohort membership would play in this process. Graves states: "structural designs may be expected to vary randomly or unsystematically across social groups within a village, as they appear to do with respect to Kalinga kin groups. Constraints imposed by vessel size and the general conditions surrounding each birth cohort's acquisition of design information at different points in time provide the systematic effects observed in this study."(Graves 1985:30). What the general conditions might be that would cause a group of potters, learning to pot during the course of some ten years (the range of Graves cohorts), to alter the design system that was used by their teachers, is not stated.

Research in historical linguistics offers some models that might help to clarify some of these issues. The first of these makes use of the same principles as do theories of information exchange in material culture studies. A long-term study of dialect changes in Martha's Vineyard, U.S.A (Labov 1994) revealed that, in spite of ever-increasing contact between the mainland and the island, the dialect of the island was becoming increasingly differentiated from that of the surrounding mainland

communities. Detailed examination of this pattern showed that this trend was reflected most strongly in the youngest generation's language. The language of their parents had, in fact, been moving closer to the mainland. This pattern was interpreted as resulting from the second generation's feelings of conflict with mainlanders, on whom, as a result of tourism, they relied heavily for economic prosperity. As a result of this antagonism they exaggerated already-existing dialect differences in an attempt to clearly differentiate themselves from the alien tourists.

From this study and an investigation of language change in New York City Labov (1994) outlines a series of processes that result in the production of sound change. He specifies that the community need not be aware of these changes as they are occurring, but that the process of generational succession can exaggerate and extend certain phonological traits that have been used as indicators of group membership. The importance of this formulation to archaeology is that changes are internally generated, rather than being imposed from outside, yet they are nonetheless the result of the information exchange system.

The importance of generational replacement for the production of change is supported by the Kalinga data, which indicates that age cohort membership was the major determinant of stylistic variation.² I would offer two possible explanations for this pattern. The first model relies on

²For another example of stylistic change through age cohort replacement see London 1991.

internally directed information exchange and the second on patterns of design acquisition.

Hodder (1982) observes that a major source of conflict within Baringo district communities is the tension between the political power of the elders and the quasi-military organizations of the young men. This is expressed through a set of artifact types which are used to indicate and reinforce the power of each age group (spears for the young men and staves for the elders). In this case there is no evidence to indicate that these differences initiate stylistic changes through time, since every individual is expected to adopt the appropriate artifact types when he reaches a given age. It is possible, however, that if these symbols of generational membership become involved in other information systems, such as occurred in Martha's Vineyard, they might be maintained and even amplified through time. Graves (1985) provides no evidence to indicate that this type of conflict existed within Kalinga society, but without intensive social analysis such a pattern might not be easily uncovered. Hill (1985) argues that the distribution of bands on Kalinga vessels cannot be meant to communicate information about generational membership since it consists of different ranges of variation rather than absolute rules of stylistic design. Although this would seem to make intuitive sense, it is contradicted by ethnographic observations. These indicate that differences in ranges of continuous variables rather than absolute values can be used to express group identities (see above under discussion of

shape variables for examples).

Historical linguistics provides another model that might explain the Kalinga pattern. This model suggests that changes in structural components of language can be caused by a reanalysis of structural rules by successive generations. This occurs because these rules are not explicitly formulated but, rather, younger generations infer them by observing the products of their elders. In a situation in which these products are, for some reason, incomplete, mistakes can be made in the interpretation of these rules and this reanalysis leads to the creation of new structural rules (Kiparsky 1968). In the case of Kalinga pottery, the decorative rule of the older generation states that most small and medium jars should have zero or one band but can have up to two, while large jars should be given more bands than small jars and could have up to three bands. The much longer use-life of large jars means that while younger potters have ample opportunity to observe older large jars in use within the village, they rarely observe them being produced. The dearth of direct information about size variability in the production process forces the younger generation of potters to produce the decorative rule through an analysis of the pottery visible in the community. Since the decorative rule that governs the number of bands placed on jars tolerates a range of variation, a reanalysis of the visible material might group all jar sizes and produce a rule that states that the range overlap (2 bands) is the most "normal" decorative pattern, although one and three bands are also

permissible. The younger generation thereby reinterprets the decorative rule and produces the distribution outlined by Graves (1985). This model provides a specific mechanism to account for stylistic change that is internally generated.

A similar generational shift was observed in the pottery classification scheme in Tlaxcala, Mexico. In a complex study of the semantic range of a variety of ceramic categories, Kempton (1981) shows that the introduction of imported American pitchers caused a shift in the overall classification scheme of locally manufactured Mexican ceramics. This shift was inter-generational such that older informants consistently classified certain forms differently than did their sons and daughters. In the older classification scheme terms for liquid-containing vessels (pitchers, mugs, cups) were consistently applied to spouted forms with different body shapes. The widespread introduction of the American pitcher (Spanish *jarra*), caused the younger generation to extend the term *jarra* to a much wider range of body shapes than did the previous generation and then to use the presence of a spout to distinguish it from other forms. The spout, which had previously been of equal weight in the classification of liquid-bearing forms, now began to contribute much more strongly to a *jarra* categorization and was consequently a negative factor in the classification of mug and cup forms. While Kempton does not indicate that this reclassification caused a shift in pottery production, he does recount in a footnote that, in traditional villages, little mugs with

spouts used for serving hot drinks caused consternation to American tourists who were not sure how to drink from them. Presumably these spouted mugs were no longer being made in villages with greater contact with American *jarra* forms.

Production and Distribution

Both "isochrestic" and "iconic" theories of style are highly dependent on an understanding of the pottery production system. If ceramic style is the result of potters being trained in given production techniques, and thus only a passive indicator of cultural identity, then we would expect that as production became centralized the degree of standardization would increase. Unfortunately, most studies of ethnographic ceramic production have focused on local part-time producers, either producing ceramics for their own use or for a limited distribution network. There are some indications, however, that contrary to expectations, centralized specialist production does not produce widespread, uniform artifact styles unless there is already a high level of cultural integration operating within the society. In the Begho region, Ghana, pottery is produced in a series of highly specialized centres, each of which produces a separate functional type (Crossland and Posnansky 1978). The potters, however, report that they tailor their stylistic production to suit the demands of their customers, and usually make a variety of styles to cater to different communities. Similarly, although the Lozi are the

manufacturers of reed baskets for the region, they produce both the smaller baskets that they prefer and the larger baskets favoured by the Mbunda (Hodder 1981). Amongst the Nuba centralized pottery production, again, does not produce widespread uniformity (Hodder 1982).

Certain artifacts do share both a widespread stylistic distribution and a centralized locus of production. The spears of the younger members of the Njemps, Tugen and Pokot tribes of the Baringo district, Kenya, are produced by specialists in a limited number of locations within the district. Unlike most artifact types within this region, spear types are not correlated with tribal identification. Hodder (1982) suggests that this is because spears are used by young men to assert their unity and strength to the elders, who maintain control of the economic resources of the community. This symbol system crosscuts tribal boundaries as young men from different tribes imitate each other in an attempt to demonstrate their strength and warrior ability.

The centrally produced water jars of this district also crosscut tribal boundaries, as discussed above (stylistic change through time). In this case, however, it is because their low cost makes them attractive and, since they are produced in a location far away from the sources of inter-tribal conflict, they have remained outside the tribal identification symbol system. This does not necessarily mean, however, that variation in the morphological or decorative aspects of these pots is "isochrestic". While the Baringo district water jars may not bear information about tribal

identification, they very well might include variables that differentiate them from the product of other workshops or production regions.

In a study of potters in Western Kenya, Dietler and Herbich (1989) report that ceramic style seems to play only a very small role in ethnic identification for the users of the pots. The potters themselves, however, use a variety of attributes, including the shape of the rim, overall morphology and decoration, to distinguish the work of different potting communities. These micro-styles are the result of local manufacturing traditions conditioned by learning patterns and personal interaction between potters within a community. Although Dietler and Herbich interpret these data as supporting an "isochrestic" notion of style, it would appear that the potters feel that the maintenance of these distinctions is important both to their sense of identity in belonging to a given potting community and to the marketability of their products. Whether variability was introduced as a self-conscious device to communicate social information or was the product of various potting traditions, it is clear that here style functions to communicate social information between potting communities. The pottery production system, like other technological systems (Lemonnier 1989), is itself part of the way members of a society define themselves for other members.

Conclusion

Extensive ethnographic studies of pottery production and use have

failed to confirm the expectations of both information exchange and isochrestic theories of style change. Even more importantly, they have shown that, while this division may be heuristically useful, it does not accurately reflect the complexity involved in cultural systems.

It is clear that morphological and decorative variables in ceramics not only communicate information about social, ethnic and individual identity but are often specifically manufactured with this information in mind. It is also clear that this information is communicated both to non-group members for purposes of differentiation and to the users of the artifacts in order to reaffirm their own sense of identity. Unfortunately specific expectations about those attributes that would be most likely to communicate this information are not confirmed by ethnographic observation. Humans are capable of recognizing and acknowledging very small differences in morphological and decorative variables and of making use of these in communicating social messages. Furthermore, although the craft tradition of a society is not exclusively responsible for style it is clearly through the learning process that the production of style is passed from generation to generation. The complexity in both the goal and means of stylistic communication has meant that, in spite of early optimistic predictions, it has proven very difficult to extend the work of ceramic ethnoarchaeology to the archaeological record in which very little other evidence exists for socio-cultural reconstruction. To date ethnoarchaeological research has produced a set of "cautionary tales"

(Kramer 1985) that have discounted much earlier theorizing, but have not produced a consistent theoretical model to explain stylistic variation and change (Arnold 1992).

There have been a number of reactions to the failure of ethnoarchaeology to produce a clear set of generalizable principles about ceramic style. The first has been to retreat from the notion that the social aspects of ceramic style are recoverable and to encourage, instead, the development of "middle-range theory," that can directly tie reconstructable conditions (distance from clay sources, seasonal precipitation, availability of fuel etc.) into patterns of ceramic manufacture (Deal 1998). While this research has produced some extremely useful models about the scheduling and spatial distribution of ceramic manufacture, it has contributed little to an understanding of stylistic variation.

The second reaction has stemmed largely from the broader intellectual movement of post-structuralism and stresses the contextuality of all symbolic behavior (Hodder 1991, 1993, Van der Leeuw 1991). Since post-structuralism eschews the whole notion of an appeal to law-like generalization in the reconstruction of history, post-structuralist archaeology is not concerned with the failure of ethnoarchaeology to produce such laws.

Although it has become clear that the simplistic assumptions of the original information-transfer theories are not upheld by ethnographic

data, researchers have begun to attempt to modify these theories and to suggest that more sophisticated principles of stylistic variability should be developed. Wiessner (1990) has proposed that an example of such a principle would be that the role of style is "identification through comparison". She suggests that such a general principle should escape the problems of over-specific ethnographic analogies yet should still provide a guideline with which to build archaeological reconstructions. She proposes that this type of general principle is most useful in the investigation of style change within well defined and continuous cultural contexts. Within these specific boundaries it is more likely that there will be fewer variations in the socio-cultural role of an artifact assemblage across time and space and it will therefore be easier to reconstruct patterns of stylistic change. She also stresses the importance of using independent sources of data, such as historical texts, to support any social reconstruction based on archaeological evidence alone.

The main source for stylistic change in Wiessner's model is social change, which she suggests can "turn on" high levels of stylistic behavior of an individual nature and hence produce greater degrees of intra-community stylistic variability. The notion that style is something that is switched on in response to social change or other pressures requires us to assume that when these conditions are not present morphological or decorative variation (style in the broader sense) is caused by other forces that remain to be described. The main problem with her model is

that, while it purports to explain stylistic change, it provides no mechanism for such change beyond the *deus ex machina* of social or economic change. This deterministic approach in fact contradicts her earlier ethnographic work (Wiessner 1984), which clearly showed that style played an active role in forming social relationships and thus could itself cause changes in these relationships. She also fails to account for the dual role of style in terms of a social definition of both the producers and eventual users of the ceramics, as was discussed above.

If Wiessner's suggested "universal" principle of style is incorporated into a broader model, I believe that it can prove very useful in explaining stylistic change. Many researchers have suggested that the most informative way of viewing craft production is as a system of rules that govern the production process. The main criticism of such models has been that they tend to be static and have no provision for explaining how innovation is introduced into the system. If it is accepted that rules of craft manufacture include rules for accepting and integrating innovations (whether derived from other cultures or independently invented) then stylistic change can be accounted for from within this system. These rules are necessarily constrained by a set of factors including the physical properties of ceramic manufacture (clay sources, forming techniques, firing temperatures, etc.), the physical properties of ceramic use (thermal expansion, porosity for cooling, accessibility, transportability, etc.), the role of style in the social identification of the

producers (individual and group), and the role of style in the social identification of the consumers. As we have seen, these constraints operate on all levels of ceramic manufacture in such a way that it is very difficult to isolate one particular conditioning factor as responsible for a particular facet of variation. Moreover these factors are in constant operation in the sense that the entire technological system of pottery production always operates within societal constraints. Instead of style being viewed only as a means of identification through comparison, it is seen as the outcome of this set of rules, which in turn plays an active role in the functioning of many levels of the cultural system (technological, economic, social). In this sense style is not turned on or off depending on the symbolic role of the artifact within society, as Wiessner would maintain. Rather it is always present but operates differently in different contexts. The role of craft tradition and design acquisition is crucial in this model but it is not seen as a separate process from information exchange. The notion that it is possible to isolate "functionally equivalent choices," which are removed from the social context of manufacture and use, presumes that it is possible to isolate "functional" from "non-functional" attributes, a division that is not upheld by the ethnographic evidence.

The rules that determine the production of style tend not to be absolute but rather can tolerate a certain degree of variation such that ranges of variables can be as significant as absolute features (Hodder

1982). These rules also clearly can not only incorporate innovation, but in certain contexts limited innovation is considered an integral and desirable feature of selected aspects of the production process (DeBoer 1990). All of the conditioning factors discussed above act as constraints on the degree and kind of innovation that the system can accept. Certain kinds of innovation, such as the introduction of American pitcher forms in the Mexican example discussed above, can lead to a reanalysis of other morphological rules so that features (or ranges in continuous variables) can undergo changes beyond those directly implicated by the new form. This kind of reanalysis can also occur purely from within the system when the rules of production are not explicitly taught and the younger generation reinterprets the rules from a distorted data set. Interestingly, it would appear from the ethnographic evidence presently available that reanalysis occurs primarily between generations and is the product of the design-acquisition process (Graves 1994, London 1991). If this hypothesis is upheld by further ethnographic studies, reanalysis may prove to be a major source of stylistic change through time.

Ethnographic studies have failed to provide a set of laws establishing one-to-one correspondences between behavior and patterning of material culture, as researchers committed to the Hempelian deductive-nomological model (Hempel 1965) of explanation had originally hoped. Ethnoarchaeology can, however, go beyond the production of a series of cautionary tales about the enormous complexity of human

cultures. The observation of contemporary societies has shown that there are certain general principles that shape the production of style within a community, even though the specifics of the interrelationships between these principles and the patterns of material culture depends on historical and cultural particulars. The use of this explanatory framework will not produce "definitive" interpretations of the archaeological record but will greatly increase the possibility of evaluating alternative hypotheses about the nature of stylistic variability in specific culture-historical contexts.

The relationship between the Iron III ceramics in Western Iran and the sociopolitical situation as interpreted from texts has not been easily explained by treating each assemblage as a whole ceramic "culture" in which similarities to other assemblages are taken together to indicate "interaction" or "association" with other ceramic cultures. The complexity of ceramic stylistic variability, as outlined above, and its tendency not to vary uniformly across all ceramic types, seems to demand a more complex model. By dissecting the Godin II assemblage on stratigraphic, depositional, functional and stylistic grounds I hope to allow more detailed stylistic patterns to emerge. These patterns can then be compared to the material from other sites to determine the nature of the ceramic similarities and discontinuities across the region and through time. The explanatory framework outlined above will be used to lend structure to this analysis.

Chapter 4

Ceramic Typology of Godin II

Since its excavation, the Godin II ceramic assemblage has been resistant to typological analysis. From the preliminary reports in which the excavators, despite being self-avowed "lumpers," were able to identify 100 different bowl types, through a variety of later attempts at classifying this material, it has become clear that the Godin ceramics do not fit easily into a set of discrete formal "types." Each researcher to approach this material, at least six to date, has taken a different approach to classification. These have ranged from overall formal types, through ware-based classifications, to variable clustering, but each has suffered from problems in their application to the data.

The most thorough and systematic classification of this material was undertaken in the late 1980's by a technician at the Royal Ontario Museum, Robert Finnie. Finnie used both drawings and actual sherds and tried to create types that were as discrete as possible. He used rim form, wall shape, and overall size as criteria for classification and only assigned sherds to a type when all of these variables matched the type sherd exactly. This procedure resulted in the creation of some 1600 types for the classification of about 2500 sherds. On average each type had fewer than two sherds assigned to it, and many sherds that were later found to join had been assigned to different types. Clearly, the Godin II assemblage

was much too variable to use a typology with such strictly bounded types (see Adams & Adams 1991).

In his doctoral dissertation, which was written at about the same time as Finnie's analysis, Michael Ingraham (1986) attempted to classify the Godin material by using an attribute-clustering technique. Ingraham sought to define each surface of the sherd through a set of discrete variables. The rim top, slope and vessel walls were each recorded as convex, concave or straight and the rim was classified as either lipped or unlipped. The co-occurrence of values for these variables then formed the basis for Ingraham's types. Ingraham chose not to use any statistical clustering or measures of association to test the coherence of these types and the lack of illustration in his dissertation makes it difficult to determine if the types thus created were either consistent or well bounded. Again, however, many sherds that were later found to join had been assigned different values in his typing system. Ingraham's attribute-clustering system was also unable to produce a typology that could be used either for descriptive or comparative purposes.

The nature of ceramic typologies has been the subject of considerable discussion over the past twenty years, but little consensus has developed among either theoreticians or practitioners about the best procedure for archaeological classification. Much of this debate has focused on two separate but often confused issues; the subjectivity of typologies and the relationship between "types" and the past cultural

systems from which they are derived (Adams and Adams 1991).

It has long been recognized that the process of classification is extremely subjective such that individual analysts seldom produce identical classifications. This subjectivity was one of the prime concerns of the "New Archaeology" of the 1960's as Binford (1983) complained of long frustrating sessions trying to learn the midwestern taxonomic system. The development of complex statistical clustering techniques, and the advent of easily accessible computer packages to perform these techniques, was looked to as a possible solution to this problem (Brown 1982). Attribute-clustering techniques in which variables were classified according to their attribute states and the statistically significant co-occurrence of these was used to create types, were touted as being more easily replicable than traditional, object-based typologies (Doran and Hodson 1975, Clarke 1968). This position became the subject of considerable and robust philosophical debate (Whallon and Brown 1982) but, in the long run, few ceramic typologies have been developed exclusively by attribute clustering.

The reasons for this are complex and, in part, are the result of a lack of suitable computer packages, but one often overlooked factor in the failure of this methodology is the very subjectivity that these techniques were hoping to overcome. By breaking complex shapes down into component parts the typologist is forced to make a judgment not only once about the type as a whole but about each component separately.

Although such variables as rim diameter are relatively straightforward to measure, many descriptive characteristics like rim slope or lip shape, are highly susceptible to analyst subjectivity and error (Beck and Jones 1989). When this error is multiplied by the number of variables under consideration, attribute-clustering techniques can create typologies with many types defined on the basis of multiple levels of subjectively based attribute assignments. Rather than adding to the accuracy of a typology, as had been hoped, the proliferation of variables increases the likelihood of analyst-caused error. Compounding this problem is the nature of computer clustering programs which often lack the means to assign weights to the variables being used. This means that each variable is given equal weight in the creation of all clusters. Variables that tend to be inconsistently assigned values are as influential in the formation of clusters as those that are relatively clear-cut and unambiguous.

In addition to the problems of analyst subjectivity in the process of attribute assignment for attribute clustering techniques, the choice of variables to be measured necessarily depends on an analyst's judgment about which variables are likely to be relevant or useful to the typology being constructed (Read 1987). This process of attribute selection relies as heavily on an analyst's knowledge of the material, preconceptions about the way the material is likely to cluster, and purely practical considerations like lab space and time constraints, as the traditional so-called "subjective" object clustering typologies. The use of a large variety

of variables only compounds this problem since the addition of variables that do not contribute to patterned variability only serve to distort and confuse the clustering procedure (Read 1987).

Attribute-clustering procedures work best when there is a clear basis for attribute selection and a theoretical framework for the evaluation of clusters created. Like most complex statistical procedures, attribute clustering works to test and evaluate hypotheses about possible structure in the data rather than to find this structure (see Tukey 1977 for a discussion of this phenomenon in the social sciences in general). It was in this way that attribute clustering was used in Chapter 2 to delineate possible functional groupings. In that analysis variables were selected on the basis of both ethnographic and archaeological observations about characteristics of functionally distinct pottery forms. The clusters that were formed could then be evaluated for possible functional correlations. A grouping using more traditional, intuitive, object-clustering techniques would have been more difficult to evaluate, particularly given the large number of vessels that cross-cut or lie outside these very basic groupings.

The typology to be discussed in this chapter was created primarily for two purposes. First, it was to be used to determine if the phasing of lots based on the stratigraphy at Godin was also reflected in the ceramic assemblages from each phase. The types were then to be compared to assemblages from other Iron III sites to determine the relationship

between Godin II and these sites. The assumption behind this procedure was that, beyond the obvious functional changes that occurred at Godin between the manor and squatter phases, stylistic changes in the ceramic assemblages could be detected that would reflect chronological or cultural changes at the site. This typology was, therefore, to be constructed to reflect the ceramic "style" of the ceramic assemblage.

The nature of ceramic style was explored at length in Chapter 3, where it was suggested that, despite the theoretical expectations of information transfer theorists, it was difficult, if not impossible, to predict how stylistic information would be transmitted in a given cultural context. Information about socio-cultural groups can be transmitted through very visible variables like decoration, but it can also effectively be communicated through such subtle qualities as overall vessel proportions. It is therefore difficult, particularly in the absence of decoration, to derive specifically "stylistic" variables for the formation of a stylistic typology. In a general way it is clear that stylistic differences must be perceptible by humans, and that they must in some sense represent patterned variation. We can talk about and recognize the "style" of an individual pot but only in the context of an assemblage. It is these two basic assumptions that have formed the basis for most ceramic typologies used in archaeology.

Since there were very few complete or nearly complete vessels from Godin II, this typology had to be based only on the diagnostic sherds

that were kept or drawn after excavation. These included rims, bases, and features such as handles or spouts. A preliminary analysis of preserved bases revealed little variation and they were dropped from the analysis. Neither handles or spouts were recovered in large enough numbers to permit statistical analysis but, when attached to the rim, the occurrence of such features can add additional information about vessel types and their occurrence with rim types was included in this analysis. The remaining 2180 rim sherds, by far the most abundant group, thus formed the primary basis for this analysis. Of these sherds, 1397 were stored at the Royal Ontario Museum and 783 were known only from drawings. The initial typology was based on the existing sherds. The drawn examples were then incorporated into this typology with some minor modifications made to the typology in the process.

All rim sherds were first divided into open and closed vessel form groups (i.e. bowls and jar/pots). The functional analysis discussed in Chapter 2, as well as differences in vessel fabric, indicated that cooking pots could be clearly differentiated from the remaining closed vessel forms and cooking pots were therefore considered as a separate vessel category. Within these three basic categories (jar/pots, cooking pots and bowls) vessels were then classified based on the morphological similarity of their rims. For jars, the rim was defined broadly as the area from the rim edge to the shoulder of the vessel, or as much of this area as was preserved. For bowls it was much more difficult to differentiate the rim

from the body of the vessel. It was originally felt that the presence or absence of a carination in the body of the vessel should be regarded as a distinct variable whose distribution among rim types could be computed separately. In practice, this distinction became very difficult to maintain as the presence of a carination, particularly when it was very close to the top of the vessel, could so alter the nature and orientation of a rim as to make it very difficult to compare it to a rim on a noncarinated vessel. Preliminary sorting indicated that rim shape was in fact closely correlated with the presence of a carination and that any attempt to exclude carination from the consideration of rim form was likely to confuse the determination of rim types and unlikely to reveal any additional information about stylistic variation amongst the Godin II assemblage. In its final form, the rim typology used separate type designations for carinated and uncarinated bowl forms.

As was discussed in Chapter 3, ethnographic studies of style revealed that size could be a determining factor in the recognition of stylistic similarity and that this variable could be distinct from other stylistic markers. Otherwise identical vessels could be made larger or smaller to suit ethnic, socio-cultural or other groupings. Since most sherds from Godin were very fragmentary, size could only be estimated based on rim diameter. For bowls this measure probably gives a relatively reliable estimate of overall size but jars with very small rim diameters (i.e., narrow orifices) can often have very large volumes and vice versa.

Rim diameter was therefore retained as a separate variable whose distribution amongst rim types could be determined independently.

Rim types were based on the overall similarity in morphology between at least two sherds. Since this was a closed typology that did not have to accommodate new material, it was possible to define types only on the basis of their relationship to each other. In this sense this typology was created solely by object clustering. Variables that were considered in this classification included the interior and exterior rim angles relative to the vessel wall, the shape of the top of the rim, shape of the interior and exterior edges of the rim, the extent of protrusion of the rim beyond the vessel wall and the relative acuity or definition of all rim angles (i.e., sharply defined or rounded). Not all of these variables were necessarily relevant for all types. Type 81, for instance, was a well bounded and clearly recognizable type but as it consisted of simple rounded rims, most of these variables would be irrelevant or missing. Type 1, on the other hand, was also clearly bounded and recognizable but differed significantly from type 6 only in the protrusion of the rim from the vessel wall. As is generally the case with typologies based on object clustering, some of these types were very internally consistent and bounded, while some included a greater range of variation and graded into other types.

The distribution of the rim types per form and overall phase are found in figures 4.1-4.12. By great good luck the number of sherds in

lots assigned to the squatter and manor periods was almost equal (600 and 547) so that it is possible to compare actual counts instead of percentages, thus avoiding some of the pitfalls of percentage-based bar graphs (see Tukey 1977). Overall, it is clear that, as expected, there are differences in the distribution of rim types per phase. Most obviously, the squatter phase lots have a high number of jar rim type 1, cooking pot rim type 117 and bowl rim types 45, 72 and 92 and 93. The manor phase lots have many sherds of jar rim type 24 and bowl rim type 81 and 89. Also as expected, mixed phase lots contain a larger range and more even distribution of all rim types. As was discussed in Chapter 2, squatter lots also contain more cooking pots overall than do manor phase lots. Certain rim types occur exclusively in one phase (most notably jar rim type 1 and bowl rim types 76 and 93) but most are found in differing proportions in both main phases. A chi-square test of the distribution of types between phases indicates that there is a significant difference in the distribution of rim types between phases.

While overall there is a differential distribution of types between lots grouped by phase the inter-lot differences in rim types cannot be discerned. As with the functional type distributions discussed in Chapter 2, it remains possible that intra-phase lot distributions are as variable (or even more variable) than those between phases. The number of examples of each rim type per lot is not sufficient to permit chi square testing. Graphically comparing even only the 25 largest lots to determine variable

rim type distributions would involve exploring 300 different stylistic relationships each involving 140 different types. It is clear that it is necessary to reduce these relationships to a set of overall measures of similarity in order to compare them. Unfortunately most standard statistical correlation coefficients are not suitable for archaeological data because archaeological samples do not meet the distribution requirements needed for these statistical manipulations (Cowgill 1990). The very simple Brainerd-Robinson similarity coefficient does not have such stringent requirements and as such is more suitable for archaeological data. This measure of similarity consists simply of taking percentages of totals for each type, subtracting the smaller from the larger for each pair of types, summing these percent differences for all types and subtracting the sum from 200 (the total of all percentages). With complete agreement between percentages of all types in the pair of assemblages the Brainerd Robinson coefficient equals 200 and if no types are shared the coefficient equals 0.

Brainerd-Robinson similarity coefficients were calculated between all Godin II lots with 20 or more sherds. Incorporating the 783 sherds known only from drawings into the sample has the advantage of increasing the sample size but since the process of classifying these sherds was different from the original typology the results may be less consistent. Separate analyses were therefore performed on the data with and without the drawn examples. A multi-dimensional scaling technique was then

applied to these coefficients in order to view the relationship between the largest lots at Godin. Multi-dimensional scaling is a statistical technique that treats measures of similarity (or dissimilarity) as if they were distances and attempts to graphically plot the multi-dimensional distances in a two or three-dimensional space. A measure of stress indicates how good a fit has been made between the original data and the resultant plot.¹ Generally, the level of stress increases with the number of distances being plotted. Increasing the number of dimensions used decreases the degree of stress but the greater the number of dimensions the more difficult it is to interpret the results in a meaningful fashion. Three-dimensional graphs have become very fashionable in the social science literature, particularly since standard statistical packages have made them fast and easy to produce, and the 3-D effect looks very impressive. Unfortunately, these graphs are surprisingly difficult to interpret and can be subject to an alarming degree of analyst manipulation. Simply changing the order of the axes can produce very different-looking graphs, primarily because it is very difficult for readers to truly interpret more than two dimensions at a time and also because the "z" axis, that generally produces an effect of "height", tends to be given greater weight by most viewers. Three-dimensional scaling was performed on all sets of data used here but the reduction in stress was

¹The multi-dimensional scaling technique used here was from the Systat statistical program (1990)

not dramatic and the resultant graphs did not provide any information that was not present in the more easily interpretable two-dimensional figures discussed below.

Figure 4.13 shows the results of the multi-dimensional scaling of similarity coefficients between lots with more than 20 sherds based on the occurrence of types derived from existing sherds (i.e., not from drawings). All phase 2 (manor phase) lots (DD2 2, DD3 6, EE1 2, MG6 2, and MG6 3) form a cluster in the centre of this distribution in spite of the fact that, as was discussed in Chapter 2, the distribution of basic functional types (bowls, jars, cooking pots) is quite different amongst these lots. Lot BB2 38, which most probably also belongs to the manor phase of occupation (see appendix A), also lies very close to this cluster.

Squatter lots AA3 10, AA3 12 and AA3 28 also form a group in the top right hand corner of the diagram. Lot A2 3 is the only large lot that can be assigned to a definite phase that lies outside these two basic groups. As seen in Chapter 2, this lot also had an exceptional distribution of functional types, with a very high proportion (92%) of bowls. As a probable living floor, the source for the ceramics from A2 3 is quite different from the large squatter dump, accounting for this varying distribution of stylistic types.

The addition of the drawn sherds to the sample increased the sample size and the number of lots that contained more than 20 sherds grew from 18 to 25 lots. Figure 4.14 shows the multi-dimensional scaling

of the similarity coefficients between these lots. While the increase in sample size allows us to consider more lots, the greater number of lots increases the stress of the scaling, which has been forced to distort more distances in order to accommodate all relationships. Nonetheless, it is clear that lots from the same phase do tend to be grouped together. In addition to A2 3, which once again lies at some distance from the other squatter lots, the exceptions to this are TR5 3 and CC3 13 which fall outside the main distribution of the other lots from their phase (phase 2). Like A2 3 however, both of these lots had been identified in Chapter 2 as unusual for other reasons.

TR5 3 is probably a ceramic dump from tower 17, perhaps related to the dump in magazine 6, but every measure of lot composition revealed that this lot was quantifiably different from all other large lots at the site. It was found that sherds from TR5 3 were both larger and better preserved than the average at the site and that the functional distribution of vessel types was unique. The proportion of bowls (43 %) (see figure 4.15) was the lowest of any large lot at the site and, at 17%, the proportion of cooking pots was amongst the highest. Although the numbers are too small to permit a conclusive evaluation, a more detailed examination of rim-type distributions for this lot (figure 4.15) reveals a closer resemblance to overall manor phase distributions than to squatter phase distributions (figures 4.1-4.12) (see for example the proportionally large numbers of rim types 41 and 24 and absence of rim type 1). The

exact source of this lot, however, is anything but certain. As discussed in Chapter 2, its identification with tower 17 is purely conjectural as no lot sheets or field notes exist describing the excavation of this material. It remains possible, therefore, that this is a mixed or squatter lot. In any event, the unusual composition of TR5 3 clearly distorted its stylistic relationships.

CC3 13 contains sherds from the blocking of ramp 43. Again, this lot had already been flagged as unusual both for its sherd size and overall vessel proportions. It was suggested that medium-sized bowl sherds may have been specifically selected to fit snugly in the chinks of the packing. In fact CC3 13 has fairly low similarity coefficients with all lots. Shepard diagrams of the scaling process give an indication of the distortion between the measure of similarity between a pair of variables and the eventual fitted distance between them. CC3 13 is found at the edge of these diagrams more than any other lot indicating that the scaling process had difficulty accommodating the combined similarities of this lot with all others.

Although CC3 13 lies outside the main concentration of manor phase lots, it nonetheless forms a loose cluster with a group of mixed lots (BB3 26, A3 3, BB1 3 and BB3 37). With the exception of BB1 3, a mixed lot of unknown provenience, all of these lots are from the southern "kitchen" area of the original manor house (i.e., rooms 40-48). All probably belong to the latest phase of pre-abandonment occupation and

were designated as "mixed" only because the incomplete recording of their excavation left open the possibility that they were contaminated by overlying squatter material. These lots do not share high percentages of particular types, as would be expected if they were part of one depositional episode. Instead, they share a common relationship to other large lots at the site, suggesting that they might belong to a distinct depositional phase. The blocking of the doorway between room 39 and the magazines indicates that there was a period of time after the deposition of the large dumps in the magazines, but before the decay of the manor walls and roof that marks the hiatus between the manor and squatter periods, when at least room 40 and possibly the whole central area of the manor was occupied. It is possible that it was at this time that the animal manger and small walls were built in room 40. The unique stylistic relationship between these kitchen area lots may be the result of this period of occupation.

A second tighter cluster is formed by lots AA3 29, TR5 3, AA3 10, AA3 28 and AA3 12. With the exception of the problematic TR5 3, discussed above, all of these lots are part of the large squatter dump overlying room 46. Unfortunately, these lots are the only squatter lots at the site with enough sherds to perform this type of analysis.

The largest cluster of lots in this scaling consists of both mixed and manor phase lots. With the exception of BB2 2 and AA9 14, which are both essentially unstratified lots, all of the mixed lots in this group are

more likely to have belonged to the manor than to the squatter phase and were labelled as mixed only because their exact depositional context was unclear or raised the possibility of mixture from later levels (see Appendix A).

Although the merging of lots has been avoided whenever possible in this analysis in order to avoid possible distortions, it seemed desirable to attempt to see if this very close stylistic similarity was a characteristic of many squatter lots or if it was a phenomenon associated only with the large squatter dump.

A group of squatter lots from room 6, square AA2, all excavated by a single excavator within a relatively short time and all relatively well delineated, were therefore merged into one group and a third multi-dimensional scaling was performed that included this merged lot (figure 4.16). This scaling did not produce the tight groupings of the previous analysis. An examination of the similarity coefficients from which the scaling is derived reveals a possible explanation for this. The grouped squatter lot from AA2 displayed a high degree of similarity with the squatter dump lots (AA3 10, AA3 12, AA3 28), AA9 14 (sherds from the slope of the mound), and the manor dump lot MG6 2. In fact, with the exception of the problematic TR5 3, MG6 2 itself consistently had higher similarity coefficients with the squatter phase lots than did other manor phase lots, as demonstrated by its position at the edge of the manor phase group in figure 4.14. The inclusion of AA2 with its high similarity to

both squatter lots and MG6 2, has the effect of drawing both groups together in the scaled space, thus lessening the distinction between them. Nevertheless, the grouped AA2 deposits lie closer to the other squatter lots than do the manor phase lots.

The multi-dimensional scaling of large lots from Godin II confirmed that stylistic differences exist between the two main phases at the site and raised the possibility that a third, intermediate, stylistic phase may also be present. Closer examination of the nature of these similarities and differences is necessary to determine what factors may have affected the observed stylistic distribution.

Bowl Types (figures 4.4-4.9, plates 3-9)

A number of bowl rim types are clearly found predominantly in only one phase at Godin. Types 45, 72, 83, 84, 92, 93 and 98 are found most often in squatter lots and types 76, 80, 81, 89, 90, 94 and 96 are more prevalent in manor phase lots. Of these types, 81 and 92 dominate their respective phases and are found only in small numbers in lots from other phases.

Type 81 is a simple rounded rim, sometimes with a horizontal handle (13%) (figure 4.44), most often manufactured in fine ware (71%). Type 81 is the rim type most often manufactured in fine ware and makes up the largest category of fine-ware sherds from the site (27% of all fine ware sherds, 42% of manor-phase fine-ware sherds)(figure 4.17). It is

similar to type 80, although the latter type has a thickened rim and is rarely manufactured in fine ware (7%). As was discussed in Chapter 2, fine ware-sherds as a whole are found more than twice as often in manor phase lots than in squatter lots and this distribution is consistent across lots that have otherwise quite different functional types. While this clear functional difference between the relatively wealthy original manor occupants and the squatters partially explains the predominance of type 81 in manor phase lots, it would appear that other factors are also involved in this distribution.

Figures 4.18-4.20, which show the distribution of fine wares per rim type broken down by phase, indicate that, although fine wares in general are much more common in the manor phase, rim types 83 and 84 which are most often manufactured in fine ware (100% and 80% respectively), are found more commonly in squatter than in manor phase lots and type 84 is the most common fine ware type in the squatter phase. These two rim types, which are distinguished only by the angle of expansion of the rim, belong to a type of carinated bowl with a simple but flaring rim, as opposed to type 81, whose rim is either straight or incurved and whose body is generally uncarinated. The diameter range of rim types 81 and 84 is almost identical while type 83 is consistently smaller than either of them (figures 4.23 & 4.24). Although types 83 and 84 are found in much smaller numbers overall than type 81, this is very likely due to the nature of the squatter occupation in which fine-ware bowls were not widely used.

Types 83 and 84 may therefore be a later stylistic variant of a common fine-ware bowl type.

Bowl-rim types 76, 79 and 109 are found in significantly ($p=.05$) larger numbers in mixed lots than in manor or squatter phase lots. In addition to their frequent occurrence in mixed lots, types 79 and 109 also appear in small numbers in both manor and squatter lots. Type 76 appears in small numbers in the manor phase but does not occur at all in the squatter phase. These are all fairly consistent and bounded types with relatively limited diameter ranges (figure 4.23). Type 76, made in fairly heavy common ware, has a small lip and an interior protruding rim on a non-carinated vessel wall. Vessels of this type often included a horizontal handle below the rim (13% of sherds) (figure 4.44). Type 79 is found on bowls with a similar range of diameters as type 76, also uncarinated, but this rim type curves inward and has a less pronounced lip. Handles also occur on 13% of sherds. Type 109 is also similar to type 76 but the rim does not have as pronounced a lip and does not tend to protrude on the interior. The average diameter of this type is also somewhat smaller and the vessel wall tends to be thinner. Handles also occur on type 109 but not as frequently (6% of sherds) (figure 4.44).

The predominance of types 76, 79 and 109 in mixed lots and their almost complete absence in squatter lots is intriguing. Many of the so-called mixed lots at Godin consist of lots from outside the manor walls, where it is likely that garbage accumulated throughout the life of the

building. Overall, 41% of sherds assigned to mixed lots derive from these exterior areas. An even larger percentage of mixed-lot sherds of types 76, 79 and 109 are from outside the manor walls (56%, 60% and 58% respectively). Given the absence of any significant accumulations of pottery in sealed deposits of the early manor phase, these mixed lots are probably the most likely source for ceramics from the earlier phases of the manor period. This raises the possibility that the prevalence of these rim types in mixed lots indicates that these were primarily early manor forms that survived in smaller quantities, or maybe only in sherds, in the latest manor phase from which the great bulk of the manor occupation pottery must belong. By the squatter phase type 76 had disappeared entirely and types 109 and 79 occurred only in very small numbers, probably also only as surviving sherds.

The dominant rim type in the squatter phase at Godin is type 92. This is a common-ware bowl type with a slight carination and an everted angled rim. It is similar to types 91, 94 and 96 (all found predominately in manor phase lots) but is distinguished by its less well defined angles and in-sloping rim top. In general these bowls appear to be less precisely made than the manor-phase types that they resemble. Although this rim type is not as well bounded as type 81, in that it grades more gradually into these other types, it is nonetheless internally a fairly consistent type. In spite of the fact that this is one of the most numerous bowl-rim types, its diameter range is much more restricted than other rim types, with the

majority of examples measuring between 13 and 16 cm in diameter (figure 4.25). It is tempting to regard this type as the basic squatter-phase eating vessel, equivalent to types 91, 94 and 96 of the manor phase although the latter types have larger size ranges as will be examined below.

Box plots of diameters² (figures 4.21-4.27) reveal a marked difference in the diameter range of types 45 to 72, which measure between 30 and 50 cm in diameter and types 73 to 111, which all have median diameters between 10 and 20 cm. This distribution indicates that there is a division between large and small bowls that was not reflected in the overall histogram of diameters presented in Chapter 2. In other words, while overall bowl diameters have a unimodal, or continuous, distribution, specific rim types are made in a more limited range of sizes. While it seems probable that there is a functional component to this bipartite grouping, possibly involving food preparation vs. food serving, the overlapping of outlying diameters at the limits of these size distributions suggests that this is not a unidimensional distinction.

Returning to the distribution of rim types by phase (figures 4.7-4.9) it is clear that the larger rim types (45-72) are more prevalent in the squatter phase than in the original manor occupation. A chi-square test for significance confirms that there are indeed comparatively more large

² Box plots illustrate the median (central horizontal line), 25 and 75 percentiles (ends of box), and range (extended vertical lines) of a set of measures. Asterisks indicate outliers and circles extreme outliers.

bowl types (rim types 45-72) in squatter lots than in manor phase lots (figure 4.28). Although counts are too small for statistical testing by lot, unlike the relative proportion of functional types explored in Chapter 2, the ratio of large to small bowls in the two phases extends to all large lots of these phases, including both living and garbage dump deposits. This can be seen even more clearly in a histogram of the distribution of diameters in both phases (figures 4.29 & 4.30). If these larger bowl types were used in food preparation, then their prevalence in squatter lots may be parallel to the large numbers of cooking pots also found in this phase. It was suggested in Chapter 2 that the increase in the relative number of cooking pots in the later phase at the site may have been due to a shift from the communal food preparation of the original manor occupation to the individual family cooking patterns of the later squatters. It is possible that the large numbers of large bowl types may also be the product of this shift in the nature of the site.

The overlap in bowl sizes that masked the division into size categories in the overall distribution of diameters still remains to be explained, however. The relative size of small bowl types in each phase may provide a partial explanation of this phenomenon.

It was noted above that the predominant bowl type in the squatter period, type 92, had a much narrower range of diameters than small bowl types of the manor period. In fact, the mean size of small bowl types is significantly larger in the manor phase than in the squatter phase (19.5

cm vs. 18 cm, t-test significant at .01). Stem-and-leaf plots of small bowl types from both phases further elucidate this pattern (figures 4.31 and 4.32). While the squatter bowls have a very strong peak between 14 and 17 cm and then dwindle in a fairly even curve as diameters increase (kurtosis=.7), manor phase bowls have a wider range of sizes at the peak of their distribution, a higher median (18 cm), and much more drawn out "tails" at either end of their distribution (kurtosis=7.6). Even more significantly, manor phase bowls have a secondary, small but significant peak at 30-31 cm that is absent in the squatter phase. Returning to the diameter ranges per type (figure 4.21-4.27) it can be seen that these larger diameters are not concentrated in a single type but are found in the outlying values in a number of types. It was these larger "small" bowls that created the unimodal distribution when bowls from all phases were grouped to determine size distributions in Chapter 2.

Although these bowls do not occur in as large numbers in the manor phase as the large bowl types (45-72) do in the squatter phase, it is possible that there was some overlap in the function of the two forms that might partially explain the relative lack of large bowl types (types 45-72) in the manor phase. If the large bowls were partially used for serving food at meals, then it is possible that during the original manor occupation, when serving meals undoubtedly involved a degree of ceremony lacking in the everyday meals of the later occupants of the site, larger versions of the more finely made small bowl types were used

as serving vessels instead of the bulkier large bowl types. A specialized vessel form for food presentation, represented by the large versions of small bowl types in the manor period, might simply have been absent altogether in the squatter phase.

The ethnographic data discussed in Chapter 3 indicates that the relationship between style and function cannot be looked on as a straightforward dichotomy but involves, instead, a complex network of socio-cultural interactions. Godin II bowls demonstrate the archaeological consequences of this complexity as function and style are inextricably mixed. While the same general sets of activities (food preparation and consumption) were the primary contributors of ceramic remains in both occupation phases, the manner of performing these activities was probably quite different. By dividing this material based on "stylistic" criteria that were presumably not directly tied to functional optimization it was possible to detect functional variation that was not evident based exclusively on purely functional criteria.

Jar Types (figures 4.1-4.3, plates 1-2)

The only jar-rim type to meet statistical tests of significance for occurrence in greater numbers in one phase is rim type 1 which occurs 19 times in squatter lots and not at all in manor-phase lots. This very consistent and well bounded rim type is found on jars with a restricted range of rim-diameters (between 8 and 11 cm), although the body of the

jar itself might have been very large. Thirty percent of all sherds have vertical handles (figure 4.44) which, given the level of preservation at the site, probably indicates that handles were standard on this rim type. The rims of these jars are tightly folded over, usually have an impression where the rim was pressed down, and have a thin gap between the vessel wall and the rim. This type is similar to rim type 6 but the pronounced fold of the rim distinguishes it from the latter type.

Although rim type 1 is the only rim type for which numbers permit statistical evaluation of significance, rim types 9, 22 and 35 are also found in considerably larger numbers in the squatter phase and rim types 6, 24, 28 are found in larger numbers in manor-phase lots. Of note is rim type 24 which is made predominately in fine ware (60% of sherds), thus explaining its predominance in manor-phase lots.

The diameters of jar-rim types (figure 4.33 & 4.34) are both more variable between types and generally have wider ranges within types than bowl-rim types. In spite of this variability, it is possible to isolate three broad categories of sizes of jar-rim types. The first is a group of types (1, 4, 6, 11, 22, 24, 27) with median diameters of about 10 to 12 cm and fairly restricted diameter ranges. The second group made up of types 7, 9, 10, 14, 18, 20, 26, 31, 33, 36 and 38, has medians between 10 and 20 cm and a much wider range of diameters. Finally, types 29 and 44 tend to be very large with diameters between 20 and 40 cm.

The means (13 vs. 18 cm) and standard deviations of diameters of

jar rims is significantly higher in the squatter phase than in the manor phase. Stem and leaf plots of jar diameters per phase (figure 4.35 and 4.36) also reveal substantially different distributions of rim diameters in the two phases at the site. In the manor phase the distribution of diameters is bimodal, with one peak at 12 cm and a second at 20 cm. The squatter phase distribution is more diffuse with the same peak at about 12 cm but then a more or less continuous distribution of vessels between 13 and 22 cm. Going back to the box plots of diameters by type, but now broken down into phases (figure 4.37 - 4.40), it can be seen that a number of types (9, 10, 14, 24, 26) have much narrower ranges of diameters in the manor phase lots than in the squatter phase in spite of the fact that overall numbers of vessels are not significantly different. In other words, the second group of types identified above, with overall ranges between 10 and 20 cm, tend to be found only in a restricted range of diameters, usually at the smaller end of the distribution, in the manor phase. In fact, a closer look at the only rim types that fall in the intermediate range in the manor phase (7 and 32) indicates that they also have bi-modal distributions, measuring either between 12 and 14 cm or between 18 and 20 cm. With the exception of these two relatively rare types, the manor phase jars show a strong association between rim type and diameter with all types except 18 and 28 belonging to a group of vessels with small orifices and types 18 and 28 found on vessels with larger rim diameters.

Four of the six spouts found associated with rims at the site were on rim type 18 (20% of type 18 sherds) (figure 4.45), indicating that this rim type was used pretty much exclusively for spouted vessels. Rim type 28 is very similar to type 18, the only difference being that type 18 has a greater angle of expansion, but this type is not associated with spouts. It is possible, though very conjectural, that both of these types were used for the pouring of liquids and that the type 28 rimmed vessels simply used the sloping rim instead of a spout.

There is no obvious or compelling explanation for the flat distribution and wide ranges of squatter-phase jar-rim diameters. It is possible that an additional functional type with diameters of around 15-17 cm was introduced in the squatter phase and that the overlap with smaller mouthed (storage?) jars and larger mouthed (water?) jars partially masks the distribution of these vessels. If this is the case, however, then rim types used for smaller jars in the manor phase were extended to this form in the squatter phase. The larger mean size of rim diameters in the squatter phase is also caused by the presence of a number of very large, open pots (type 29) in the squatter phase. If we remove these pots from the analysis the average rim size of squatter jars drops to 14 cm, only slightly larger than the 13 cm mean of the manor phase jars.

Cooking Pot Types (figures 4.10-4.12)

Although there are significantly more cooking pot sherds in the

squatter phase than in the manor phase (83 vs. 48) only one cooking pot rim type, type 117, is found in significantly larger numbers in squatter lots. It was conjectured in Chapter 2 that one reason for the relatively large number of cooking pots in the squatter phase was a shift in cooking patterns from the communal cooking of the manor phase to the individual family cooking of the squatter occupation. If this is the case then it would be expected that the average size of cooking pots would decrease in the later phase. The mean diameter of cooking pots from the squatter phase at 25 cm, however, is significantly larger than that of the manor phase at 22 cm.

Box plots of diameters for cooking pot rim types (figure 4.41) reveal two distinct size classes of cooking pots, one, consisting of rim types 112, 113 and 115, with diameters between 10 and 18 cm and another made up of the remaining rim types with diameters between 20 and 40 cm. Rim types 124 and 126 overlap these two classes. The proportion of small to large types in the two phases is almost identical with about 25% of each assemblage made up of small cooking pots. An examination of stem-and-leaf plots for each phase (figure 4.42 & 4.43) also shows a similar distribution of diameter ranges in each phase but each class tends to be slightly larger in the squatter phase. Like jars, the main cause of the higher average rim size in the squatter phase is the presence of a number of very large pots (type 120) that are absent in the manor phase. If these are removed from the analysis the difference in

mean diameters decreases to only 1 cm. The function of these vary large pots remains unexplained, but may be related to a kind of food or hide processing that was not performed by the elite inhabitants of the manor house.

Conclusion

The typological analysis presented in this chapter had two main goals. The first was to determine if the phases that were identified stratigraphically also contained significantly different ceramic assemblages. The second was to discover the nature of these differences. It has been shown that, on the whole, squatter lots contained a different collection of ceramic types than did manor phase lots. The only exceptions to this pattern, lots TR5 3 and A2 3, had already been identified as unusual based on the size and preservation of the sherds found in them. A possible third group of lots from rooms 40-48 was identified that may represent an intermediate phase at the site, although numbers of sherds are too small to permit a separate analysis on this assemblage.

In addition, bowl types 76, 79, and 109 are found in significantly greater numbers in mixed lots from outside the walls of the manor. Although these lots cannot be stratigraphically isolated, and almost certainly contain some sherds from all phases at the site, the concentration of certain types in these lots strongly suggests a distinct

depositional history for this material. The most likely source for these types is from the earlier occupation of the manor, when refuse was not allowed to accumulate within the living area of the structure but probably did collect outside the manor walls. The isolation of this earlier material will be critical to the comparative analysis to be presented in Chapter 5.

As was predicted from the examination of ethnographically known ceramic variation in Chapter 3, the changes between the manor and squatter phases are complex. The shift from the ceremonial manor occupation to the purely domestic squatter phase involved a profound change in the function of the site. The analysis of lots in Chapter 2, however, demonstrated that, with the exception of an increase in the number of cooking pots and a decrease in the number of fine wares, the differences between the ceramics of the two phases could not be accounted for simply on the basis of this shift. The typological examination presented here confirms this conclusion but finds that stylistic changes were nonetheless intertwined with the functional shift in the site. Some changes in the style of vessels between the two phases at Godin II may have been directly related to the functional changes at the site. The disappearance of the larger variety of small-bowl types (73-111) and the proliferation of specifically large-bowl types (45-72) in the squatter phase at Godin II, was probably related to a shift in the patterns of food preparation and serving at the site and may therefore be unique to the situation at Godin. It is possible, however, that this shift occurred

as part of an overall cultural pattern and may be reflected at other sites in the region as well.

The decline in numbers of fine-ware bowl type 81 in the squatter phase may also be related to the change in the nature of the occupation at the site although the appearance, albeit in small numbers, of fine-ware bowl type 84 in the same phase at the site might indicate that a stylistic change accompanied this shift. Similarly the proliferation of common-ware bowl type 92 in the squatter phase at the site may simply have resulted from the replacement of more finely-made bowl types and may therefore be a purely local phenomenon.

Certain changes in the ceramic assemblages of the two phases at Godin II, most notably the introduction of jar-rim type 1, bowl type 92, and cooking-pot-rim type 117 in the later phase and possibly also the disappearance of bowl type 76, did not seem to be related to functional changes. Vessel types with identical functional characteristics to these types were found in similar numbers in each phase. Each of these types seemed to be a "stylistic" variant on vessel types in use in the other phase at the site. The reasons for their introduction or disappearance remain unexplained. As was discussed in Chapter 3, these changes may be the result of a cultural or ethnic preference, of a new source for pottery manufacture, of a generational preference amongst the potters themselves or amongst the consumers of the pots, or the result of the kind of stylistic drift that can occur through reanalysis of stylistic rules.

It is to be expected, although not necessary, that some of these same stylistic changes occurred at other sites in the region that we know shared a similar stylistic repertoire. The next chapter will explore these relationships and help to clarify possible reasons for these stylistic changes.

Chapter 5

Godin II and the Iron III-IV Ceramics of Western Iran

The ceramics from the manor and squatter periods at Godin clearly belong to the widespread series of related buff-ware assemblages that characterize Late Iron Age Iran. These assemblages are found throughout western Iran, from Azerbaijan to Fars, but neither the relationship between these assemblages nor the date that should be assigned to each of them is fully understood.

Some three decades ago, Young (1965) and Dyson (1965) both published definitive analyses of the archaeology of Iron Age Iran. While the two treatments differed slightly in approach and nomenclature, both agreed that the artifact assemblages from the region could be divided into three basic periods. Levine (1987) subsequently incorporated more recently excavated material into this schema. He divided the Iron Age into three basic periods: Iron I, the grey-and buff-ware ceramics (Early Western Grey Ware) characterized by pedestal base goblets in the north and Middle Elamite pottery in Khuzistan; Iron II, the grey-ware ceramics found at Hasanlu IV (Late Western Grey Ware) as well as Genre Luristan ware in the central west, and Neo-Elamite I ceramics in Khuzistan; and Iron III, Urartian red-slipped wares in the north, cream-slipped wares in Kurdistan, micaceous buff wares in the central west, Neo-Elamite II and Achaemenid coarse wares in Khuzistan, and Achaemenid buff wares in

Fars. Levine also adopts the term Iron IV, a periodization coined by Young (1975) to refer to the post-Godin but pre-Parthian (as identified by the absence of clinky ware) assemblage found on survey in the Kangavar valley, as a label for the assemblages typified by Jameh Shuran and Pasargadae that include a late painted tradition, dubbed Festoon Ware by Stronach (1974). Although the exact identification and dating of these four main groups of Iranian Iron Age ceramics is still a matter of debate, the general schema has become widely accepted. It is clear that Godin II belongs to the Iron III late buff-ware tradition, albeit with some stylistic ties to the earlier Iron II and later Iron IV assemblages.

Traditionally, Near Eastern archaeology has made use of index fossils to attempt to cross-date and place individual assemblages within a broader tradition. The find of a particular type of painted ware or a distinctive shape, even if it makes up only a very small part of the assemblage as a whole, is used to define chronological or cultural groupings. In the absence of well published examples of the pottery from excavated sites, this is, in fact, often the only kind of inter-site comparisons that can be made. The buff-ware assemblages of the Iron III-IV periods have proved particularly resistant to this kind of index fossil definition. The predominance of unpainted wares and the extremely long life of certain types has made it difficult to place individual sites within the very long time range of this phase, which historically must span the Median, Achaemenid and early Parthian periods. The ceramics from Godin

are a case in point as the distinction between the late manor and squatter assemblages, with the exception of jar type 1, are made on the basis of the relative frequency of types rather than their absolute presence or absence.

Over the course of the past 20 years, as the modern political situation in Iran has made excavation by foreign scholars impossible, researchers have turned to publishing the material excavated during the 1960s and 70s, making it feasible to begin quantitative comparisons of the excavated assemblages. For this analysis it was possible to assemble a group of seven western Iranian sites (Nush-i Jan, Baba Jan, Jameh Shuran, Pasargadae, Susa, Chogha Mish, and Bastam) with a geographical range from Azerbaijan to Fars, that have sample sizes large enough to perform simple quantitative comparisons.

Unfortunately there is no single statistic that fully represents the relationship between two groups of types. Standard correlation coefficients like Pearson's r are not generally suitable for archaeological assemblages (Cowgill 1990) and the Brainerd-Robinson coefficient, which has been widely used, is appropriate only when it is possible to consider not only the relative frequency of the appearance of types but also the proportion of each type represented. Because of the great variation in the nature of the published samples from the sites considered here it was possible only to record the presence of a given Godin II type rather than the frequency of the type within the compared assemblage. Jacquard's

simple matching similarity coefficient (S_j) (Doran and Hodson 1975) was deemed the most appropriate tool for comparing these sites given the limitations of the published data. This statistic divides the number of shared types by the number of types present at both sites, thus calculating the percentage of the occurrence of shared types among the aggregate from both sites. This effectively removes discrepancies in sample size from directly affecting the strength of association, as happens when simple counts are used. Unfortunately, although the similarity coefficient is designed to take sample size into account, it is only the aggregate size that is considered. The statistic will be the same for a given number of shared types from two medium-sized assemblages as from one small and one large assemblage, even though the shared types might represent a very large percentage of the small assemblage if considered alone. This drawback becomes significant in relation to the very small, early manor assemblage which has a depressed similarity coefficient with all sites. This possible discrepancy will be considered in the discussion of the results of the analysis.

Although the ceramics from the manor and squatter phases at Godin exhibit distinct distributions, most types are present in both phases, albeit in differing proportions. For the following comparative investigation, a type was assigned to a phase if the majority of its

members were found in that phase¹. The results of this analysis are tabulated in figures 5.1-5.4.

Baba Jan

Situated in Luristan in the eastern Pish-i-Kuh, Baba Jan is a multi-period site excavated in the 1960s and 70s by Clare Goff (Goff 1969, 1970, 1978, 1985). The site consists of a large central mound and a smaller mound to the east separated from the central mound by a flat saddle. The earliest Iron Age phase at the site, phase III, was found in both mounds, but the later phases, I and II, of interest here, were concentrated on the eastern mound and in the saddle.

Phase III, the most impressive at the site, was found in the eastern mound in the form of a fortress and well-built hall that was dubbed the Painted Chamber because of its colorful interior decoration. In the central mound, the same phase extended to the surface of the site and was represented by two large, fortified houses. Goff believes that the origins of the phase III pottery, consisting of painted Genre Luristan wares, lies firmly within the Iron II tradition of Hasanlu IV but it is uncertain how late this phase extends at Baba Jan.

The Phase III buildings of the eastern mound were destroyed by a fire that marks the transition to the succeeding phase II levels. The Fort

¹ While the late manor and squatter deposits are delineated stratigraphically as presented in Chapter 2, the early manor corpus was identified in Chapter 4 by the occurrence of a number of types in significantly larger quantities outside the walls of the manor house than in any other group of lots.

and Painted Chamber were partially rebuilt in this later period, towards the end of which the Painted Chamber apparently fell into disuse and a stable was built over its remains. On the Phase II floors was found a collection of pottery that included both painted, Genre Luristan wares similar to that found in Phase III, as well as a collection of unpainted mica-tempered pottery that Goff called "imported ware," primarily because of its marked resemblance to the ware found at the site of Nush-i Jan.

After the abandonment of the Phase II buildings there was a hiatus of unknown duration followed by the digging of a number of burials (Phase IB) into the then summit of the eastern mound. Over the burials, along the slope of the mound, and extending into the saddle between the two mounds, was built a series of terraced houses with thin walls on stone foundations (Phase I). There is evidence for some phasing in the construction of this domestic architecture, but the site had undergone considerable erosion and it was therefore impossible to distinguish discrete strata. By all appearances these houses formed part of a small village of agriculturalists or pastoralists.

Goff dates Baba Jan II to the 8th-7th centuries B.C., primarily on the basis of its ceramic parallels to Nush-i Jan. She dates Phase I to the 6th-5th centuries, citing parallels to Godin II, which she believes could have been founded no earlier than the late 7th century, as well as ceramic parallels to Persepolis, Pasargadae and Susa's Achaemenid Village II. Goff's date for Godin II rests on her assumption that, even though the

bulk of the pottery at Godin must date to its latest occupation, at least some sherds should have survived of an earlier phase. She found, however, that none of the published material bore any close resemblance to Baba Jan II or III pottery. As was discussed above, the analysis of the complete ceramic corpus from Godin does reveal the presence of an assemblage of earlier sherds with parallels to Nush-i Jan but the relationship of this pottery to the earlier phases at Baba Jan is not as obvious. There are few parallels between Baba Jan II and Godin II, and the few that do occur, such as the round-rimmed bowl with horizontal handles (type 80) and the doubled-handled jar (type 18), are too long-lived to have much significance.

The close parallels between the Baba Jan II so-called "imported ware" and Nush-i Jan pottery are undeniable. The published material, however, would seem to indicate that, while almost every Baba Jan II form has a close parallel at Nush-i Jan, there are many types at the latter site that do not occur at Baba Jan. More particularly, the small-to-medium bowls that are found in quantity at both sites appear always to have markedly inturned rims at Baba Jan, to the extent that a number of examples form an acute angle with the vessel wall. This exaggerated form of the inturned rim does occur at Nush-i Jan but only as a variant on the more usual gently curving type.² In addition, all published bowls from Baba Jan appear

² It is interesting to note that, according to the preliminary typology of the Nush-i Jan pottery, this variant appears to occur most often at Nush-i Jan in room 1 of the Fire Temple, a building that was most probably filled in before the arrival of the squatters at the site, and therefore may represent an earlier phase at the site.

to be relatively deep with steeply sloping vessel sides, a form that again occurs at Nush-i Jan only rarely. Neither the sharply incurved rim nor the steep vessel wall occurs at Godin II at all. Although Goff suggests that the plain wares from Baba Jan II might be imported from Nush-i Jan, given the absence of any evidence for pottery manufacture at either site, it seems more likely that both populations were obtaining their pottery from a similar source. Whether this source was operating earlier than the founding of the Godin manor house or was simply not exploited by the early inhabitants of Godin II cannot be determined based on the available evidence, but further publication of the Nush-i Jan pottery should help to clarify this issue.

The parallels between phase I at Baba Jan and the bulk of the pottery of Godin II are extensive. Overall, 46 published rim sherds from Baba Jan I have close parallels at Godin. The resulting similarity coefficient of 0.14 is the highest of any of the sites considered here. More of these parallels (22, $S_j=0.078$) are with types that occur predominantly in the squatter phase, although parallels to the late manor (14, $S_j=0.051$) and early manor phase (8, $S_j=0.031$) are also numerous. In spite of the overall similarity with the squatter phase, the distinctive squatter types, jar type 1 and bowl type 92, are not present at Baba Jan.

The functional distribution of the Baba Jan-squatter parallels reveals part of the reason for the high correlation between the two occupations. As was discussed in the last chapter, one of the few

significant differences in the distribution of functional types in the two main periods at Godin II is the proportion of large bowl types, which is much higher in the squatter period at the site (39 percent of all bowls as opposed to 17 percent in the original period). It was suggested that this difference might have been due to a shift in the food preparation patterns of the occupants of the two periods at Godin, a shift that might also have been reflected in the larger number of cooking pots during the squatter period. The proportion of large bowls published from Baba Jan I is very similar to that of the squatter occupation at Godin (41 percent of all bowls). Assuming that the published drawings reflect the actual proportion of vessels at the site, this distribution may result from the similar functional nature of the two sites in these phases as simple agricultural or pastoral residences. Forty percent (8 of 20) of the parallels between Baba Jan and the squatter period at Godin are found in these large bowl forms, representing 53 percent of the 15 squatter phase large bowl types. This is the highest concentration of parallels in one functional type in the comparative analysis, suggesting that there may be factors other than stylistic variation through time operating here.

Squatter jar types are also present in substantial numbers at Baba Jan I (7 of 20 squatter types) although, as will be discussed below, these jar types occur more frequently at all sites in the analysis. The small bowls at Baba Jan are paralleled primarily by forms that occur most

frequently in the late manor period at Godin, with 9 of the 21 late manor small bowl types found at the site. This is the highest occurrence of late manor period small bowls at any of the sites under consideration.

Overall, it is clear that there is a close relationship between the ceramics of Baba Jan I and Godin II. The large number of parallels to the squatter phase would seem to suggest a later date for this material but the complete absence of the most distinctive squatter types (jar type 1 and bowl type 92), the dominance of large bowl forms among these parallels, and the high number of late manor small bowl forms might indicate a more complex relationship, with a date for Baba Jan I perhaps between the late manor and squatter occupations at Godin.

Nush-i Jan

Nush-i Jan, located in the Malayer plain, is a special-purpose site consisting of two temples, a columned hall, and a fort (D. Stronach 1969, D. Stronach and Roaf 1978, R. Stronach 1978.)³ The site was occupied over a period of time and several renovations and additions were made to the architecture. As at Godin II, there appear to be two main occupations at the site, the original occupation associated with the use of the special-purpose buildings and a settlement of squatters who made use of the substantial walls of the abandoned columned hall to construct small domestic installations. There is some stratigraphic evidence to allow for

³ David Stronach has graciously allowed me to use the unpublished preliminary typology of the Nush-i Jan pottery for this analysis.

the reconstruction of a ceramic sequence for the site as the careful infilling of the Central Temple with shale, the blocking of a tunnel dug into the columned hall, and the sealing off of a portion of the columned hall may have isolated some earlier material. The stratigraphy from the squatter occupation of the columned hall might also allow for the isolation of a discrete assemblage associated with this later phase. Unfortunately the ceramic analysis of the site has not been completed and the pottery assemblage must therefore be dealt with as a whole. In any event, the published material suggests that, unlike Godin where there was a large variety of ceramic types, Nush-i Jan has only a limited range of forms at the site as a whole in spite of the evident chronological sequence. It is possible that the entire occupation span of the site, including the squatters, was relatively short.

The site's excavators date Nush-i Jan to 750-600 B.C. based on some small finds with general parallels in that time period. The pottery clearly predates assemblages that are known to belong to the Achaemenid period and the architecture, with strong parallels to Godin II, seems to belong within a Median-Achaemenid tradition. The geographic position of Nush-i Jan, the nature of the specialized architecture, and the apparent time frame for the occupation of the site all point to the identification of the site as a Median installation. The close parallels between some of the Nush-i Jan pottery and the plain wares from Baba Jan II, as discussed above, places at least the earliest occupation of Nush-i Jan at the same

general time as, or slightly later than, the late Genre Luristan wares.

Nush-i Jan has the second-largest number of parallels to Godin II (44 parallels, $S_j=0.13$) of any of the sites in this analysis. These parallels cluster in the late manor period (16 parallels, $S_j=0.067$) and similarities to this phase are distributed proportionally among all functional types. These include a number of everted-rim bowls on both plain and carinated bodies (types 90, 91, 95 and 96). Interestingly, in the preliminary typology from Nush-i Jan these bowl forms all come under the heading of "miscellaneous rims" (i.e., rim types that occur only occasionally), whereas the more typical Nush-i Jan bowl types occur more frequently in the early manor phase at Godin. Of the two Nush-i Jan large bowl types that occur in the late manor phase at Godin, one is an everted-rim type (type 50) that, again, is only infrequently found at Nush-i Jan. The other is a thickened-rim bowl with a carination just below the rim (type 60), which is illustrated as a rare variant of a more common thickened-rim type. This latter type, given a separate type heading at Godin (type 71), is found most often in the early manor phase at Godin.

Parallels also exist between the Nush-i Jan assemblage and squatter forms at Godin but these are concentrated in a number of long-lived jar forms including simple flaring rims (types 12, 18, and 26) and club rims (types 22, 35 and 36 [occurring only once at Nush-i Jan]). Neither the distinctive common-ware Godin squatter forms (types 1 and 92) nor the only fine-ware squatter form (type 84) are present at Nush-i Jan.

Although the absolute number of similarities to the early manor phase are fewer than to the late manor phase, Nush-i Jan has more parallels to the earlier phase than does any other site in the analysis. In fact, 50 percent of the Godin types that occur most frequently outside the walls of the manor are also found at Nush-i Jan. This includes a number of simple, thickened, club and incurved-rim small bowls (types 76, 78, 79 and 109), thickened, incurved-rim large bowls (types 69 and 71) as well as long-necked jar types 4 and 43, and a distinctive, notched bowl rim (type 108) that seems to be designed to accommodate a lid.

In summary, it is clear that the manor phase as a whole at Godin shares many ceramic forms with the assemblage at Nush-i Jan. The counting of parallels on a simple presence/absence basis, however, probably has the effect of inflating the similarity coefficient between Nush-i Jan and the late manor phase because of the appearance of many rare Nush-i Jan types in that assemblage. Nush-i Jan pottery might display a closer relationship to the early manor phase than to the late manor phase at Godin if it were possible to consider frequencies of types.

Jameh Shuran

Jameh Shuran is a large site in the Mahidasht valley near the town of Mahidasht. Two small soundings (labeled Operation 1 and Operation 2) were excavated into the east slope of the mound in 1978. Drawings of the pottery from these soundings have not been published but Levine

included a description of the ceramic sequence in his comprehensive synthesis of the archaeology of Iron Age Iran (Levine 1987).⁴ Levine divides the ceramics from the soundings into three assemblages. The earliest of these (Jameh Shuran III), found only in a restricted area in Operation 2, included Kassite and Elamite goblets and can therefore be dated to the end of the second millennium. This small area of the site was then apparently left unused for a period of time, but the appearance of Genre Luristan ware on the surface of the site indicates that some portion of the site was occupied in the early first millennium. Occupation of the east slope resumed with a buff-ware assemblage (Jameh Shuran II) with clear shape and ware parallels to the other Iron III buff-ware ceramic corpora discussed here. In Operation 2, a distinctive painted ware, consisting primarily of flat, painted-rim bowls, accompanied the unpainted buff wares, in the Jameh Shuran II levels. This painted ware, with its triangle, bow-tie, and radial line motifs, is clearly part of the Triangle Ware tradition that extends in various forms from Lake Van in the north to Pasargadae in the south. In Operation 1 this painted component was absent, suggesting that the assemblage could be divided into two phases: Jameh Shuran IIa (the ceramic lots from Operation 2 that includes the painted ware), and Jameh Shuran IIb (the unpainted assemblage from Operation 1). Levine (1987) suggests that general shape parallels indicate

⁴ Jameh Shuran was excavated as part of the Mahidasht Project of the Royal Ontario Museum under the direction of Louis D. Levine, with major funding provided by the Social Sciences and Humanities Research Council of Canada. Dr. Levine has graciously allowed me to use the unpublished drawings from the site for this analysis.

that Jameh Shuran IIb may be contemporaneous with the Baba Jan II and Nush-i Jan buff-ware assemblages, and Jameh Shuran IIa with the later Godin II and Baba Jan I ceramics.

In both operations the Jameh Shuran II levels were overlain by an markedly different buff-ware assemblage, Jameh Shuran I, that displays many parallels to Pasargadae, including fish plates, tulip bowls, and canteens. Jameh Shuran I also includes a large painted component belonging to the Festoon Ware tradition of the late to post-Achaemenid period.

The earliest late Iron Age assemblage from the Jameh Shuran soundings, Jameh Shuran IIb, was found only in a very limited area in Operation 1 and is therefore one of the smallest comparative assemblages considered here ($n=60$). This assemblage, nonetheless, has a large percentage of parallels to Godin II, generating the fourth highest similarity coefficient (16, $S_j=0.086$). These parallels are concentrated in the squatter period at Godin, with which phase Jameh Shuran IIb shares the second largest similarity coefficient behind Baba Jan. Shared types include the typical squatter forms jar type 1 and bowl types 92 and 93, as well as a number of other rolled-rim jar types (types 7, 9, 12, 19). Jameh Shuran IIb does not include the high percentage of large bowls seen in the squatter period at Godin and at Baba Jan I, with only one squatter large bowl type found at the site, but this is probably due to the very small, restricted sample rather than any functional or cultural difference

between the two sites. There are also a number of late manor period everted-rim bowl forms at Jameh Shuran IIb. In spite of Levine's suggestion that this phase may be contemporaneous with Baba Jan II and Nush-i Jan, the carinated everted-rim bowls and rolled-rim jars found at the site are more typical of the later period at Baba Jan, and Jameh Shuran IIb lacks the thickened, incurved-rim bowls that are the most common form at Nush-i Jan. Only one type that is found most frequently in the early manor phase at Godin is present at Jameh Shuran IIb.

Jameh Shuran IIa, the buff-ware assemblage that was found with painted-rim bowls in Operation 2, has a much larger sample size ($n=205$) but proportionally fewer parallels to Godin II (21 parallels, $S_j=0.064$). Like Jameh Shuran IIb, the majority of these parallels are with the squatter phase at Godin. The distinctive squatter phase types 1 and 92 are present as well as a number of rolled and everted-rim jars (types 9, 12, 18, 22 and 35) that are found predominately in the squatter period. Small bowl forms, however, are paralleled principally by types found in larger numbers in the late manor phase at Godin, including everted-rim bowl types 86, 87, 88 and 103, and round-rim type 81. Although the differences in the nature of the samples have prevented the use of frequencies in this analysis, it is worth noting that these bowl types occur only rarely in the Jameh Shuran IIa assemblage, which is dominated by painted, flat-rim bowls.

Jameh Shuran I, the largest assemblage at the site ($n=381$) has the

smallest proportion of parallels to Godin II (21, $S_j=0.041$). These parallels are distributed evenly among the squatter and late manor period and include a proportionally large number (5 parallels, $S_j=0.12$) of early manor types as well. This may be the result of the nature of the Jameh Shuran I deposit which, in Operation 2, derived from a series of amorphous pits dug into the earlier levels. It is probable that some mixing of material occurred (Levine 1985), possibly accounting for the range in types. Unlike other sites that share numerous types with squatter period Godin, Jameh Shuran I has only one jar type in common with this phase, the distinctive folded-rim jar type 1. This is a common type at Jameh Shuran where, unlike at Godin, a large range of variants on the folded, pressed-in rim are found, almost to the exclusion of any other jar type. As will be discussed below, many of these variants are also found at Pasargadae, the site to which Jameh Shuran I clearly has the closest affinity, but at Pasargadae a number of other squatter jar rim types are also present.

In summary, the small soundings at Jameh Shuran seem to have uncovered a relatively late Iron III-IV assemblage although earlier material was found on the surface of the site. Jameh Shuran IIb shares numerous types with the squatter period at Godin whereas Jameh Shuran IIa appears to be a later version of this same tradition, albeit with the addition of painted wares. Although some types from Godin are found at Jameh Shuran I, it is clear that the bulk of the ceramics from these levels belong to a still later phase of the Iron Age buff-ware tradition, probably

contemporaneous with some of the pottery found at Pasargadae.

Pasargadae

The published ceramics from Pasargadae were all found in the Tall-i Takht, the fortified citadel to the north of the site (Stronach 1978). The occupation of the citadel can be divided into two main phases, Periods II and III, distinguished by a destruction level dated to 280 B.C. A number of superimposed floors within some of the rooms of the citadel further subdivide Period II into three possible phases, although it is not clear that these phases are contemporaneous from room to room of the site (i.e., that the uppermost floor in one room can be dated to the same time period as the uppermost floor of another.) In his publication of the ceramics from the Tall-i Takht, Stronach (1978) assigns a chronological label to each sherd (Achaemenian, Late Achaemenian, Late-Post Achaemenian, and Post-Achaemenian), but it would appear that he uses typological as well as stratigraphic considerations in making these assignments.

Young (n.d.) has used the published stratigraphic information from Pasargadae to isolate lots that could probably be associated with stratified floors and thereby create stratigraphically based subphases within Period II (labelled II:1, 2, and 3, with II:3 being the earliest). There is no evidence to correlate these subphases to historical periods, but it seems reasonable to assume that at least some of the material from the earliest phase should date to the long Achaemenid occupation of the site.

Unfortunately, the exclusion of all but the clearly stratified ceramics has the effect of reducing the sample size to such a degree as to render it unusable for comparison to Godin subphases, but Young's divisions of the Pasargadae ceramics can be considered in terms of how the site relates to Godin II as a whole.

Overall, Pasargadae does not display a close relationship to Godin, although parallels do exist (24, $S_j=0.052$). Eight of these parallels are to Pasargadae II:3 ($S_j=0.046$), 3 are to II:2 ($S_j=0.018$), and 4 are to II:1 ($S_j=0.020$). The remainder are Period II sherds whose provenience cannot be assigned to a specific subphase. The predominance of similarities to the earliest of Young's groupings, Pasargadae II:3, confirms his suggestion that it is possible to isolate some material within the Pasargadae assemblage that significantly predates the 280 B.C. destruction.

Not surprisingly, the Pasargadae ceramics as a whole share more types with the squatter period than with the manor period at Godin. This extends to a number of jar types including folded-rim type 1, the most common jar type in the squatter period, as well as rolled-rim types 7 and 9 and everted-rim types 18, 20 and 30. Large and small squatter bowl types are also found at Pasargadae, including the most typical common ware forms, types 92 and 93, and the most numerous squatter fine ware type, type 84. Carinated, everted-rim bowls that appear most frequently in the late manor phase at Godin, are also present in small numbers at Pasargadae.

Persepolis

Too few ceramics were published from the site of Persepolis to permit statistical analysis. The few sherds that were published (Schmidt 1957) probably date to immediately pre-destruction contexts (c.330 B.C.). Both typical squatter types, jar type 1 and bowl type 92, are present at the site as well as squatter bowl types 98 and 102, and squatter jar types 18 and 32. Late manor bowl types 101 and 103 and long-lived early manor jar type 4 also occur. No painted ware such as was found at Pasargadae was recovered at Persepolis.

Susa

Susa, one of the capitals of the Achaemenid empire, provides only a relatively small assemblage of Achaemenid pottery. The three main sources for this material are the Ville Royale II, levels 5 and 4 (Miroschedji 1987), the Ville Royale Ouest, level 6 (Boucharlat 1987) and the Achaemenid Village (Ghirshman 1954.)

The nature of the Achaemenid Village I deposit has been the subject of debate for many years as the presence of painted ware seemingly in the Festoon ware tradition belies the 7th century date assigned the deposit by its excavator (Stronach 1974). Miroschedji (1981) has argued that these sherds must be intrusive from above, as the bulk of the pottery from the Achaemenid Village I is identical to the Neo-Elamite II

pottery from levels 7 and 6 of the Ville Royale II. He dates the latter levels to c.700-520 B.C. There is little evidence for the end date for this assemblage as there is no stratified transition between the Neo Elamite and Achaemenid levels at the site, but the massive construction project undertaken at Susa by Darius I at the end of the 6th century consistently serves as the stratigraphic benchmark that marks the beginning of Achaemenid deposits at Susa. In spite of their possible contemporaneity, there are no parallels between Godin II and the Neo-Elamite ceramics at Susa⁵.

Because of the problems in the dating and stratigraphy of the Achaemenid Village deposits, this analysis confined itself to the well stratified levels from the Ville Royale. These strata unfortunately have little in the way of architectural remains. In the Ville Royale II the Achaemenid deposits consist of only one very substantial mud-brick wall and the fill built up against it (level 5b), a set of erosion channels overlying the eroded wall (level 5a), and a series of hard dirt, apparently exterior surfaces overlying the period of erosion (level 4), which themselves are cut into by the foundations of a Seleucid period wall. Although there is no solid evidence for a date for these levels, it is assumed that the massive brick wall in level 5b formed part of the construction project of Darius I at Susa, and that levels 5 and 4 belong to the late Achaemenid period. The fill apparently deliberately laid against the wall of level 5b was a mixed

⁵ A possible exception to this in the form of a fine ware bowl has been noted by Young (in press), with reference to de Miroschedji 1981, fig. 33:9.

deposit that included considerable quantities of Elamite pottery as well as a number of sherds of Achaemenid pottery without parallels in the later levels at the site, possibly representing an earlier phase of the Achaemenid period. In the Ville Royale Ouest the Achaemenid ceramic corpus is extremely limited, appearing only as stray sherds in the foundation trenches of later constructions.

Overall the Achaemenid ceramics at Susa have few parallels in the Godin II repertoire (14, $S_j=0.041$). Parallels that do exist are evenly distributed between types that appear most frequently in the squatter and late manor periods. The everted-rim bowl type that is the most common bowl type at Susa, constituting 71 percent of all bowls and 18 percent of all identified forms in the assemblage (Miroschedji 1987:23), appears to be very similar to the most common Godin squatter bowl type, type 92. The range of forms described as well as the relatively restricted size range (diameters between 16-20 cm) is very close to the Godin examples. At Susa, however, the form appears in both common and glazed ware, the latter being, of course, entirely absent from Godin. Squatter jar type 1 is also found at Susa, as is squatter fine-ware bowl type 84. Like most sites in the analysis, parallels to the late manor corpus consist mainly of small, carinated bowl types. There are no parallels between Susa and the early manor period at Godin.

Although sample sizes were too small to permit separate analyses for each level at Susa, it is significant that 5 of the 13 parallels (41%)

between the two sites derive from Susa level 5b, whereas sherds from that level make up only about 1% of the illustrated Achaemenid pottery from the site. This would seem to confirm Miroschedji's suggestion that the ceramics from this level constitute a distinct, earlier, assemblage.

Chogha Mish

Chogha Mish is a predominately neolithic and protoliterate site in eastern Khuzistan. The Iron Age deposits at the site are for the large part fragmentary, consisting of some exterior domestic installations, two graves, and a poorly understood circular building that was originally assigned to the protoliterate period but is now thought to be an Achaemenid granary (Delougaz and Kantor 1996.) The dating of the Chogha Mish Iron Age material to the Achaemenid period is based on a cuneiform tablet, some sealings, and the nature of the ceramics all of which have general parallels to Achaemenid material elsewhere, although all could also be dated to the pre-Achaemenid Iron Age. The excavators, however, also note that a number of vessels are similar to examples found at Godin II and Baba Jan and that the Iron Age occupation of Chogha Mish might therefore have begun before the advent of the Achaemenid dynasty.

In spite of the small size of the published Iron Age ceramic corpus from Chogha Mish (n=64) there are numerous parallels between this pottery and the Godin II ceramics (19, $S_j=0.102$). In fact, Chogha Mish has

the third-largest overall similarity coefficient in the analysis, behind only Baba Jan and Nush-i Jan. Even more strikingly, when the phases at Godin are considered, Chogha Mish shares the highest relative number of types with the late manor phase (12 parallels, $S_j=0.094$) of any of the sites under consideration. These parallels extend to all functional types, and include rolled-rim jars (type 6), flaring-rim jars with vertical handles (type 28), large horizontal-handled bowls (type 50), and a variety of small, round and everted-rim bowls (types 81, 88, 89, 90, 94, 95, 96 and 110). A number of parallels to types that occur most frequently in the squatter period at Godin are also found at Chogha Mish, although the distinctive squatter types 1 and 92, prevalent at Susa, are absent here.

Bastam

Bastam is a large Urartian site north of Lake Urmia (Kleiss 1979). The fortified Urartian structures of Bastam were occupied over the course of more than two centuries, but there is not enough stratification to permit the construction of a detailed ceramic chronology. The bulk of the ceramics from Bastam are relatively homogeneous, consisting of Urartian red-slipped and buff wares. A small assemblage of ceramics with clearly different affinities, however, was found in an upper level of a group of rooms in the *Hallenbau* (Kroll 1979a). Kroll has identified this pottery as Median because of similarities to Nush-i Jan, Godin, and Baba Jan. Only 12 sherds have been published from this assemblage so that it is

impossible to place it within the Iron III sequence, but the horizontal-handled bowls, goblets with tab handles, and trefoil spouts do tie the ceramics into the western-Iranian, Iron III tradition.

In spite of clear differences in ware and surface treatment, there are many shape affinities between the Urartian pottery from Bastam and Godin II. The comprehensively published ceramics from the *Hofhaus* of the lower town at Bastam (Kroll 1979b:203-220) provide a chronologically homogeneous yet functionally diverse sample of Urartian pottery. Kroll suggests that, although Bastam was occupied from the late 9th century, the bulk of this pottery probably dates to the latest Urartian occupation in the late 7th century. Parallels to Godin shapes are fairly numerous (20, $S_j=0.068$) and the similarity coefficient of 0.068 lies at the center of the distribution of similarity coefficients from the sites in this analysis. Most of these parallels are to types found most frequently in the late manor period at Godin, and include a range of functional forms. Simple everted-rim jars are found almost to the exclusion of any other jar type at Bastam, and although it is sometimes difficult to distinguish specific types amongst this general form, the published Bastam examples seem to resemble late manor rather than squatter forms. Carinated bowls with parallels to late manor forms (types 88, 90 and 104) also occur in the Urartian pottery from Bastam. The most frequent bowl types at Bastam, however, are uncarinated with incurving rims, types that occur most frequently at Godin in the early manor period (types 69, 70, 76, 79 and

109) as well as at Nush-i Jan. While there are overall more parallels to the late manor than early manor phase at Godin, Bastam has the third highest correlation coefficient to the latter phase of any of the sites considered here, behind only Nush-i Jan and Baba Jan. There are very few parallels to the squatter phase at Godin, such that Bastam has the lowest similarity coefficient ($S_j=0.013$) with this phase of any of the sites in the analysis.

In conjunction with his analysis of the ceramics from Bastam, Kroll (1976) published a catalogue of vessel shapes found at Urartian sites, including post-Urartian levels at these sites, along with suggested dating for each type. These dates are based on general parallels to non-Urartian sites rather than stratigraphic information. The catalogue is not directly comparable to the sites analysed here in that it is a compendium of types from a variety of contexts from a variety of sites, but it is nonetheless interesting to examine the relationship between Kroll's types and the typology from Godin. Overall, there are 22 parallels between the two typologies ($S_j=0.106$). Like the assemblage from the *Hofhaus* at Bastam, Kroll's types have proportionally more parallels (8, $S_j=0.066$) to the late manor phase at Godin than to the squatter phase. The catalogue, however, includes more types (7 parallels, $S_j=0.050$) that occur in the squatter phase than are found in the *Hofhaus* corpus from Bastam. This is not surprising in that Kroll's catalogue includes types from all deposits at Urartian sites, including those from post-Urartian contexts. A number of parallels (6, $S_j=0.056$) also tie Kroll's catalogue to the early manor

phase at Godin. Kroll's suggested dating for these types do not appear to match closely the typological sequence from Godin. Of the three parallels that Kroll assigned to the Achaemenid or post-Achaemenid periods, two are to the squatter phase at Godin, but parallels to the squatter phase also include three of the six types that are assigned a beginning date in the eighth century. Again, the long life of some vessel shapes and the lack of stratified material from many sites makes it difficult to assign dates to individual types. The data from Godin suggests, instead, that it is the relative frequency and co-occurrence of ceramic types that is indicative of cultural or chronological groupings.

Discussion of Results

The results of this comparative analysis are summarized in figures 5.5-5.9. Overall similarity coefficients (figure 5.5) reveal a clear clustering of sites. Nush-i Jan and Baba Jan lie together at the top of the graph, indicating a close stylistic relationship between these sites and Godin II. Chogha Mish and Jameh Shuran IIb form another group with a somewhat weaker tie to Godin II as a whole but nonetheless closer than the remaining sites. Nush-i Jan, Baba Jan, Chogha Mish, and Jameh Shuran IIb remain grouped at the top of the graph when Godin is broken into phases, although their relative positions change (figure 5.6). Jameh Shuran I and IIa, Susa, and Pasargadae all tend to have a more restricted relationship to Godin in all phases. Urartian Bastam is grouped with the top

four sites during the Early and late manor periods but drops to last place in the squatter period.

Two factors can be considered when analysing the distribution of the similarity coefficients by phase. The first is the absolute value of the coefficient (figure 5.5) and the second is its rank compared to other sites (figure 5.7-5.9). An examination of the absolute value of the correlation coefficients through all three phases reveals a pattern that is consistent with change through time being the controlling factor in the strength of the coefficient (figure 5.6). That is, there is no site whose coefficient declines from the earliest to middle phase and then rises again in the latest phase. The only irregular chronological pattern in terms of the rank of the coefficients relative to the other sites are the positions of Baba Jan and Jameh Shuran I. Both sites drop in rank from the early manor to the late manor phase and then rise again in the squatter distribution, although for both sites the absolute value of the coefficient rises through time. For Baba Jan, the explanation for this lies in the position of Chogha Mish, whose similarity to Godin is heavily concentrated in the late manor period, and which therefore displaces the other top sites in this phase. Both Baba Jan and Nush-i Jan display a more even relationship to all phases at Godin than does Chogha Mish. Jameh Shuran I, however, does seem to have a disproportionate number of parallels to the early manor period given that this assemblage is certainly post-Godin in date, and is probably the latest corpus in this analysis. The probable mixing of

deposits at Jameh Shuran, as discussed above, may well be responsible for this anomaly.

None of the sites in this analysis shares more types with the early manor period than with the other phases at Godin (figure 5.7), but this is most probably due to the very small sample from this phase, which reveals only a small number of the types that must have been used by the inhabitants of the manor at its height. Nush-i Jan has by far the highest connection with this phase. In fact, 50 percent of types that occur most frequently in early manor lots also occur at Nush-i Jan. Nush-i Jan is followed by a group formed of Baba Jan, Bastam, and Chogha Mish. Of these sites only Bastam is ranked highest in the early manor period. Jameh Shuran, Pasargadae and Susa all have relatively few parallels to early manor ceramics.

It is the geographically distant site of Chogha Mish that, somewhat surprisingly, has by far the highest similarity coefficient with the late manor period at Godin II (figure 5.8). Again, the parallels at Chogha Mish are heavily concentrated in this phase, with proportionally few earlier or later types. Nush-i Jan follows Chogha Mish in the late manor distribution, with its largest proportion of parallels with Godin located in this phase. Jameh Shuran IIb, Baba Jan, and Bastam cluster together, although only Bastam displays the most types in common with the late manor assemblage, Jameh Shuran IIb and Baba Jan having greater affinities to the squatter phase. Again, Jameh Shuran IIa and I, Susa, and Pasargadae

lie at the bottom of this distribution.

In the squatter phase (figure 5.9) Baba Jan lies at the top of the distribution followed closely by Jameh Shuran IIb. Both of these sites have the majority of shared types with this phase. Chogha Mish and Nush-i Jan are then in third and fourth position but their similarity coefficients have dropped considerably from the late manor period. Jameh Shuran IIa and Pasargadae remain towards the bottom of the distribution but nonetheless have their highest similarity coefficients in this period.

This pattern of relationships must involve a complex web of cultural, ethnic, functional, and chronological factors. The geographic proximity of Godin II to Nush-i Jan, Baba Jan, and Jameh Shuran and their location within the area controlled by Media by the 7th century, makes the similar ceramic complexes from these sites seem rooted in a single cultural horizon. At the same time, the close relationship of the geographically distant site of Chogha Mish to this tradition and the varying strengths of these ties from phase to phase at Godin indicates that broader cultural/ethnic forces and change through time are also operating to create these relationships.

Even though it is clear that the inhabitants of some of the sites in this analysis must have participated in very different activities than did the occupants of the Godin manor and the squatters who succeeded them, the overall proportion of functional types is about the same in the types shared with other sites as it is in the various phases of Godin itself

(figure 5.10). That is, all functional types⁶ seem to have participated in the cultural-economic forces that created these ceramic horizons.

Breaking this pattern down into phases reveals that these proportions are even closer if we compare sites only to the phase to which they have the highest similarity (figure 5.11). The longevity of certain types, however, results in the appearance of a number of squatter types in sites that are most similar to the late manor phase and vice-versa. Looking only at the functional proportions of these residual types reveals a greater discrepancy between parallels and the distribution in the phases at Godin (figure 5.12). The proportion of late manor small bowls is significantly greater (57% vs. 68%, $p=0.05$) among post-late manor parallels than it is in the late manor period at Godin. That is, it is the late manor small-bowl forms that survive most often into a later period at other sites. An even larger discrepancy exists between the proportion of squatter large-bowl types at Godin and their parallels to earlier sites (Nush-i Jan, Bastam, and Chogha Mish) (32% to 13%, $p=0.05$). This suggests that the large increase in the number of specific large-bowl types that occurred from the late manor to squatter periods at Godin (see chapter 4) might be a more widespread phenomenon, rather than simply a result of the change in function between the two phases at Godin.

Key to the chronological pattern of the relationship between the

⁶ Cookpots were removed from this portion of the analysis because of their uneven publication from site to site.

phases at Godin and the other Iron Age sites is Jameh Shuran, the only site with a stratified sequence used in this analysis. The proportionally high number of parallels between Jameh Shuran IIb and Godin II, specifically with the squatter period at the latter site, and the relative paucity of such parallels with Jameh Shuran IIa and I, contradict Levine's (1985) suggestion that Jameh Shuran IIa may be contemporary with Godin II. It is clear, instead, that the micaceous buff-ware ceramic tradition of central western Iran can be divided into at least two broad periods. The earlier period, which can in turn be sub-divided, is represented by the assemblages at Godin II (manor and squatter), Nush-i Jan, Baba Jan, and Jameh Shuran IIb, and the later period by the assemblage at Jameh Shuran IIa, as well as material found on survey in the Kangavar valley (Young 1975) and Luristan (Levine 1985, 1987, Goff 1968). Jameh Shuran I with its strong connection to the late Pasargadae material belongs to a still later, probably predominately Parthian, ceramic tradition.

Although Levine (1987) reserves the term Iron IV for the late to post-Achaemenid pottery of Jameh Shuran I, Pasargadae, and related assemblages, according to Young's original definition of the Iron IV ceramic horizon as material that was post-Godin II but pre-Parthian-clinky ware, the Jameh Shuran IIa assemblage belongs to the Iron IV period. Given the close connection between Jameh Shuran IIb, Godin II (manor and squatter), Baba Jan, Nush-i Jan, and Chogha Mish, and the apparent discontinuity between these sites and Jameh Shuran IIa-I, Susa, and

Pasargadae, it would seem to make sense to retain Young's point of division and to apply the term Iron III to the former group of assemblages, reserving Iron IV for the post-Godin II pottery of the latter assemblages.

Although this suggested schema effectively removes the Iron IV horizon from the center of consideration in terms of Godin II ceramics, the relative date of this ceramic horizon is important to this discussion in that it provides a *terminus ante quem* for Godin II. Most characteristic of the Jameh Shuran Ila assemblage is the painted pottery from the site. This ware consists primarily of painted-rim bowls with a variety of motifs including triangles, bow ties, and parallel lines. One small, fine-ware jar with pendant, hatched triangles painted immediately below the neck of the vessel was also found in these levels. This painted ware clearly belongs to the Triangle Ware tradition first identified at Hasanlu III. At Hasanlu, Triangle Ware has two components: a very fine, polished ware, which Dyson (1999) calls Classic Triangle Ware, made predominately as small globular jars but also occurring on some flaring-rim bowls; and a coarser, heavier ware, dubbed Western Triangle Ware by Dyson, made almost exclusively as large bowls with flat, painted rims. It is interesting that the same bipartite pattern seems to occur at Jameh Shuran Ila, with its numerous painted-rim bowls and one fine-ware small jar. Chemical analysis has demonstrated that the rare, Classic-Triangle-Ware vessels at Hasanlu were imported to the site, whereas the more numerous vessels of Western Triangle Ware were locally made (Dyson 1999). Although Classic

Triangle Ware was originally assigned to Hasanlu IIIb, a recent reevaluation by Dyson (1999) has placed all Triangle Ware in the IIIa strata at the site. In addition to the corpus from Hasanlu, Classic Triangle Ware has been found on survey in the Bukan area of Azerbaijan (Swiny 1975) and at Qal'eh Khezerlu in northwest Azerbaijan (Kroll 1976). Western Triangle Ware is found over a more widespread area from Altintepe in eastern Turkey (Summers 1993) to Pasargadae in Fars.

Stronach's (1974) suggestion that Triangle Ware and the later Festoon Ware are related traditions is confirmed by the material from Jameh Shuran, the only site where the two wares occur in a stratified sequence. While the Jameh Shuran I painted assemblage sees the introduction of a number of new motifs (festoons, ladders, wavy lines, radial lines forming concentric circles, and possible representational patterns), and new forms, the painted-rim bowls of Jameh Shuran IIa also survive into the later period. Levine (1985) has suggested that these painted sherds may be intrusive from the earlier level, but the appearance of painted-rim bowls at Pasargadae along with Festoon Ware with strong parallels to Jameh Shuran I, indicates that there was a period of overlap between the two wares. Festoon Ware can be firmly dated to the early Parthian period at Nush-i Jan, where it occurs in association with Parthian coins (Haerinck 1983), as well as in Parthian levels at Susa Ville Royale (de

Miroschedji 1987: fig. 24, nos. 1-3),⁷ but the beginning date of this ware is uncertain. No clear sherds of Festoon Ware occur in Pasargadae II:3, the earliest assemblage in Young's (n.d.) reanalysis of the stratigraphy of Pasargadae, but this sample is necessarily so limited that it is difficult to draw any firm conclusions from this absence.

If Festoon Ware is late Achaemenid to early Parthian, then the earlier Triangle Ware to which it is clearly related should belong somewhere within the Achaemenid period. The radiocarbon dates from Hasanlu IIIa, clustering in the 5th to 3rd century (Dyson 1999), suggest that Triangle Ware might best be placed in the mid- to late Achaemenid period. Summers' (1993) identification of Altintepe II, and its associated Triangle Ware, as an Achaemenid columned hall also supports this date.

The plain wares from Jameh Shuran IIa are paralleled by a number of shapes at Achaemenid Susa (Ville Royale levels 5-4) but not present at either Godin II or Pasargadae, including small straight-sided bowls (Miroschedji 1987, fig. 7:4), ridged-rimmed bowls (Miroschedji 1987, fig. 9:10), straight-sided large cups (Miroschedji 1987, fig. 13:16), and flat-rimmed pots (Miroschedji 1987, fig. 12:5). Even more strikingly, virtually every sherd published by Summers (1993) from the sites of Altintepe and Cimin Tepe finds a shape parallel in Jameh Shuran IIa. This, again, supports a mid- to late Achaemenid date for the Jameh Shuran IIa assemblage.

⁷ The Festoon Ware sherds from the Achaemenid Village I are clearly out of context (Miroschedji 1981).

The only major contraindications for a starting date within the Achaemenid period for Triangle Ware, are the few sherds of this ware that were found in the back dirt from commercial excavation at Ziwiye (Young 1965), where the bulk of the pottery appears to date to the 8-7th centuries based on good parallels to Neo-Assyrian Nimrud. A small sounding at the site dug by the University of Pennsylvania in 1964 did not recover any Triangle Ware (Dyson 1999), nor apparently did the more recent Iranian excavations at the site (Mot'tamedi 1997). The Triangle Ware from Ziwiye, published in Young (1965) and Dyson (1999), with its spirals, pothooks, and festoons, appears to resemble motifs from the Festoon Ware from Nush-i Jan, Pasargadae, and Susa more than the Triangle Ware from Hasanlu, even though the fabric of the pottery and color of the paint is apparently similar to Hasanlu Classic Triangle Ware (Dyson 1999). The absence of this ware from stratified contexts and its affinities to Festoon Ware elsewhere, makes it seem reasonable to propose that these sherds belong to the small Parthian occupation of Ziwiye, thus solidifying the Achaemenid date for Classic and Western Triangle Ware. Such a dating would also make much better sense of the very strong and numerous parallels between both the plain and incised wares from Ziwiye and the Zendan-i Suleiman (Boehmer 1961), given the absence of any painted ware at the latter site.

If Jameh Shuran Ila can be dated to the Achaemenid period, and probably to the middle to late phases of that period, then Jameh Shuran

IIb must be early Achaemenid or earlier in date. Unfortunately there is no independently dated, early Achaemenid assemblage that can serve as a comparative typology for Jameh Shuran IIb and the squatter period at Godin II. The survey material collected by Sumner (1986) in Fars is the best candidate for parts of such an assemblage, but the publication almost exclusively of bowl forms from that survey, and the necessary chronological range of the survey types, makes it difficult to compare to the jar-dominated squatter assemblage. Some parallels between Pasargadae II:3, Persepolis, and the squatter period might also point to an Achaemenid date for the latter assemblage, but these shared types form only a small part of their respective assemblages, and there is no compelling reason to believe that these forms are distinctively Achaemenid.

It is clear, however, that the mid- to late Achaemenid assemblages of Pasargadae, Persepolis, Susa and Jameh Shuran IIa are related in some way to the squatter Godin-Jameh Shuran IIb horizon. Folded-rim jar type 1 appears for the first time in this horizon, and then becomes the dominant jar-rim type in the later period. Bowl type 92 also appears in quantity for the first time in the squatter levels at Godin and goes on to become a common type at all late Achaemenid sites and the dominant type at Susa. The only fine-ware type to be found with any frequency in the squatter period, bowl type 84, is also a very widespread fine-ware form in the Achaemenid period (Dusinberre 1999). In addition to these distinctive

types, many other squatter Godin jar and bowl types survive into the later period.

The chronological relationship of Baba Jan I to squatter Godin and Jameh Shuran IIb is problematic. Baba Jan shares proportionally more types with squatter Godin than does any other site, but, as discussed above, these types do not include the most distinctive squatter types, jar type 1 and bowl type 92. Instead, parallels are concentrated in large-bowl forms, a pattern not detected at any other site. It was suggested above that the high correlation between Baba Jan and the squatter phase at Godin might be the result of a close functional rather than chronological relationship. Even if all these large-bowl types are removed from the sample, however, Baba Jan still shares as many types with the squatter phase (14) as it does with the late manor phase. In addition Baba Jan shares at least two types with Jameh Shuran IIb that are not present at Godin; double-handled, low-necked, squat jars (Goff 1985, fig. 6: 15-18) and hole-mouth pots (Goff 1985, fig. 8: 26-28). It remains possible that Baba Jan lies chronologically somewhere between the abandonment of the manor and the arrival of the squatters (the hiatus between the two occupations was long enough for considerable wall collapse to occur), or simply that for one reason or another the potters who supplied the small village of Baba Jan were not yet manufacturing jar type 1 or bowl type 92. If Goff is correct in her dating of Baba Jan to the 6th-5th centuries, although there is no compelling evidence to support such a date, that

would place the squatter phase at Godin in the mid-Achaemenid period, but presumably before the advent of the Jameh Shuran IIA-like assemblages. It is equally possible that the date of Baba Jan I should be moved back to the early 6th or even late 7th century.

If the squatter phase at Godin should be dated to the early Achaemenid period, then the occupation of the Godin manor house ended either earlier in the 6th century or in the late 7th century. Most of the ceramics found in the dumps in the Godin manor, probably date to this terminal occupation. There remains, however, little firm evidence for dating this assemblage.

The closest overall affinity to late manor Godin is found at the site of Chogha Mish in northeastern Khuzistan. The excavators date this pottery to the Achaemenid period, but there is no clear evidence to support this date. While it is true that there are parallels to Persepolis at Chogha Mish, including trefoil spouted jars, narrow-necked, fine-ware jars, and high-necked jars, these forms all also occur at late manor Godin. As we have seen, many of these general types are very long-lived. What is more significant, however, is that a number of types from Chogha Mish, including horizontal-handled large bowls⁸ and a variety of carinated bowls (types 90, 94, 95, 96) have close parallels at late manor Godin but are not found at all at the Achaemenid sites of Susa, Pasargadae, Persepolis or

⁸ One horizontal handle with no associated rim is found at Susa Ville Royale II (de Miroschedji 1987, fig. 11:2), but the form is otherwise absent from any of the identifiable Achaemenid complexes.

Jameh Shuran I-IIa. In addition, the find of a bridge spout, tenuously ties the assemblage into the 7th century, Neo-Elamite I pottery of Susa. A late 7th to early 6th-century date for the late manor phase at Godin is also compatible with the numerous parallels between the late manor assemblage and the late Urartian pottery at Bastam.

The many shared types between late manor Godin and Nush-i Jan are also strongly in keeping with a late 7th-century date for the former site since there are indications that Nush-i Jan was abandoned by the late 7th century. Although the two assemblages have many forms in common, however, there are dozens of types that occur in late manor Godin but are absent from Nush-i Jan. Almost half of the late manor types that do occur at Nush-i Jan are listed as miscellaneous forms in the Nush-i Jan typology (i.e., types with few examples). Unlike Chogha Mish and late manor Godin, which really appear to be members of the same ceramic culture, late manor Godin and Nush-i Jan are overlapping but distinct assemblages.

That at least part of the difference between late manor Godin and Nush-i Jan is chronological is indicated by the strong correlation between the small early manor Godin assemblage and the most common forms at Nush-i Jan. At the same time, as discussed above, a number of rarer variants of Nush-i Jan types appear at Baba Jan II, but do not occur at all at Godin. Thus it appears that Nush-i Jan may span three chronological sub-divisions within the early Iron III horizon: the earliest appears at Baba

Jan along with Genre Luristan wares; the next, to which the bulk of the Nush-i Jan material apparently belongs, is contemporary with early manor Godin; and the last, perhaps represented primarily by the squatters at Nush-i Jan, anticipates late manor forms, although it is possibly chronologically earlier than this material. A confirmation of this suggested sequence must await further publication of the Nush-i Jan ceramics to determine if it is, indeed, possible to assign these sub-groups to stratigraphically distinct phases. Without this confirmation, it remains possible that the shared forms at Nush-i Jan and Baba Jan II are the result of a cultural or economic link between these sites in which the early inhabitants of the Godin manor did not participate, rather than of a chronological sequence. In any event, although the extant assemblage is very fragmentary and must represent only a small portion of types that were in use, the earliest ceramics from Godin appear to be contemporary with the largest part of the assemblage from Nush-i Jan, and can therefore be assigned a date in the early to mid-7th century.

The archaeological data from Godin II indicate that the Iron III period can be divided into at least four identifiable ceramic horizons. The earliest Iron III ceramic assemblage is found at Baba Jan II in association with the Iron II Genre Luristan ware, and at Nush-i Jan, possibly representing this site's primary occupation. This ceramic phase probably dates to the last half of the 8th century. This is followed by a ceramic horizon found in small quantity in lots that accumulated outside the Godin II manor walls

and that probably derive from the primary period of that building's occupation. This style horizon, represented at Godin primarily by uncarinated, simple or incurved-rim bowls, is best represented at the site of Nush-i Jan where the majority of the ceramics, presumably deposited by the last inhabitants of the special purpose buildings, belong to this phase, which should therefore date to the mid- to late 7th century. The next ceramic horizon is best represented by the assemblage used by the last inhabitants of the Godin manor. It is characterized by a large variety of carinated bowls in a range of sizes, as well as rolled-rim and flaring-rim jars. The ceramics from Chogha Mish in Khuzistan share many of these forms and seem to belong firmly within this horizon. Many of these forms are also found at Nush-i Jan, although most parallels appear only as rare types at that site. The date of this ceramic phase can probably be placed in the late 7th to early 6th century. Finally, the assemblages from the squatter period at Godin, Baba Jan I, and Jameh Shuran IIB, form a fourth ceramic horizon characterized by the introduction of distinctive jar forms and some bowl forms that were to remain in use through the mid- to late Achaemenid period. These assemblages can be provisionally dated to the mid-6th to early 5th century.

Although the dating of the Godin II phases, and the sites that can be associated with them, is necessarily provisional, these dates do conform to the known historical data. The construction of the Godin manor, with its clear defensive structures, must have taken place during a time when

there was a considerable threat to the power of the local elite who held court in the columned hall. This threat apparently subsided and the defensive efficacy of the architecture was allowed to lapse before the abandonment of the manor and its reuse by squatters (Young and Levine 1974). Although the sequence of events that led to the unification of the Medes is not completely understood (Brown 1985, Young 1988, Sancisi-Weerdenburg 1994) it would appear that both local military competition within Media and external threats must have been all but eliminated by the late 7th century, and the original construction of the manor almost certainly preceded this date. It was also probably during the late 7th century that the culture of the Medes extended into the foothills of the Zagros in the region of Chogha Mish (de Miroschedji 1987). The almost complete disparity between the ceramics at Susa and the Iron III ceramics at Chogha Mish makes more sense as the result of a reduced Elamite power centered at Susa (Carter and Stolper 1984) and an expanding Median state, than it would if placed within the context of the established Achaemenid empire.⁹

The absence of an identifiable early Achaemenid ceramic assemblage has been a major lacuna in the archaeology of Western Iran. The ceramics from the three major imperial Achaemenid sites of Persepolis, Pasargadae

⁹ The ceramics at Susa, with their ware and shape parallels to Mesopotamia, remain distinct throughout the Achaemenid period but, nonetheless, share many forms with other Iranian Achaemenid sites.

and Susa all derive chiefly from the late or post-Achaemenid period. Both Sumner (1986) and de Miroschedji (1987) have suggested that, since archaeological surveys in the Marv Dasht, Patak and Deh Luran plains failed to reveal distinct early Achaemenid pottery, the late Achaemenid assemblages must be extended back to fill this gap. De Miroschedji (1987:34) further suggests that, because of the stylistic link between the Iron III ceramics from the Zagros and the known Achaemenid assemblages from Fars, the Iron III horizon must also have extended into the Achaemenid period. In his view the marked differences between the Achaemenid assemblages of Susa and Iron Age Chogha Mish are primarily due to a cultural rather than a chronological distinction.

This analysis of the Godin II ceramics has shown that, with more fine-grained, stratified excavation, it is possible to isolate discrete stylistic phases within the very long-lived Iron III-IV ceramic sequence. Most of this variation, however, is the result of differing frequencies of types rather than the introduction of distinctive new forms. Given the nature of this sequence, it is not surprising that surface survey, with its reliance on diagnostics, has failed to recover a discrete, early Achaemenid assemblage. At the same time, it seems that if a discontinuity can be identified, it comes between the early Achaemenid assemblage of Jameh Shuran IIb and the mid-Achaemenid assemblage of Jameh Shuran IIa, with its distinctive triangle ware and parallels to ceramics from Susa and Pasargadae. Given the complex relationship between ceramic style and

political structure outlined earlier in this thesis, it should not be surprising that a change in political dynasty might not have had an immediate impact on the nature of the ceramics produced under the new rulers.

Conclusion

The ceramics from Godin II form one of the most comprehensive corpora of archaeological materials from late Iron Age Iran. The preceding analysis has shown that these ceramics can be divided into three stylistically distinct groups, corresponding to phases of occupation of the Godin manor house. This subdivision of the Godin assemblage not only increases the understanding of the cultural sequence at Godin but also affects possible interpretations of the archaeological record of late Iron Age Iran as a whole.

It has been shown that, although the ceramics from all phases at Godin clearly belong to a single ongoing stylistic tradition, certain forms are found predominately in only one phase at the site. Some of this variation can be attributed to functional differences between the manor and squatter occupations. The proportion of cookpots relative to storage and serving vessels is much higher in the squatter than in the manor period. Clearly the domestic activities of the agriculturalist/pastoralist squatters required relatively less emphasis on storage and serving than those of the occupants of the manor in its hey-day. The much higher proportion of fine ware vessels in the manor dumps is also undoubtedly due to the relative impoverishment of the squatters. At the same time, however, two fine ware types, types 83 and 84, occur most frequently in the squatter levels, indicating that during this period even the comparatively

humble groups who set up house in the ruins of the old manor made use of at least some types of fine bowls. Similar bowls appear over a widespread area of the Achaemenid Empire, and are considered diagnostic of Achaemenid occupation at some sites (Dusinberre 1999). There is evidence to suggest that these bowls were locally made rather than imported from a single source (Dusinberre 1999). This would seem to indicate that these bowls were involved in some kind of cultural or political identification process instead of, or perhaps in addition to, being markers of status. Thus the presence of fine ware in one cultural context, such as the domestic installation of the Godin squatters, may not represent the same cultural phenomena as the use of fine ware in a different historical/cultural environment, such as the original manor house.

If the review of the ethnographic literature presented in Chapter 3 revealed any consistent pattern, it was precisely this potential for functional and stylistic classes to take on a variety of meanings for different groups at different times. Another example of functional-stylistic complexity is seen in the distribution of large bowls at Godin. Although the overall range of bowl diameters was similar in both the late manor and squatter phases, in the earlier phase, single stylistic types spanned the range of diameters whereas in the squatter period large and small bowls formed two distinct stylistic groups.

The identification of this pattern not only reveals valuable information about the material cultures of the two periods at Godin but also has an

impact on the interpretation of regional stylistic patterns. The high similarity coefficient between the latest level at Baba Jan and the squatter occupation is in large part due to parallels in large bowl forms, and, therefore, may have been partly the result of similar cultural practices rather than contemporaneity of occupation. At the same time, the comparative analysis of ceramic types reveals a marked absence of squatter large-bowl types at earlier sites so that the relationship between bowl style and size may have been a widespread phenomenon in the later period.

Notwithstanding the functional disparity between the two main levels at Godin, the analysis of the Godin ceramics uncovered some stylistic patterns that are best explained as the result of change through time. Certain varieties of jar and bowl forms that, while typologically distinct, seem to be stylistic variants of other types, either first appear or become much more frequent in the squatter period. Other forms are either restricted to, or occur in greater numbers in, late manor deposits or in the small lots outside the walls of the manor that probably accumulated earlier in the manor's occupation. The explanation for this kind of small scale stylistic change through time, while one of the most common patterns detected archaeologically, is perhaps the most neglected phenomenon in theoretical discussions of style. It was suggested in Chapter 3 that reanalysis of stylistic variability on the part of successive generations of potters might result in this kind of change,

and that these new types may then become part of the cultural identification system that is inextricably mixed with the production of style. Whatever the source for the changes in style that appear at Godin over the span of the manor and squatter occupations, it is clear that these changes extended to a wider geographic area as well. The comparative analysis presented in Chapter 5 uncovered a consistent pattern of stylistic associations between the Godin sequence and other late Iron Age sites.

The earliest ceramics at Godin II were found in lots that accumulated outside the walls of the manor house during the height of its occupation when all interior rooms were carefully swept. Although this assemblage is not stratigraphically defined and probably includes some later material, the types that are found most frequently in these lots also occur in some quantity at Nush-i Jan and may therefore be dated to the mid- to late 7th century. The bulk of the pottery from the manor phase was found in the large dumps that accumulated in the magazine area, presumably during the final years of the building's use. This assemblage has strong parallels to the site of Chogha Mish in Khuzistan as well as some shared forms with Nush-i Jan and Baba Jan I. It was suggested that this horizon might be placed within the late 7th to early 6th century. Finally, many ceramic types associated with the squatter re-use of the manor structure are also found at Baba Jan I and Jameh Shuran IIb. This horizon was provisionally dated to the mid-6th to early 5th century.

Although the primary focus of this work has been the archaeological record of Iron Age Iran, the fine-tuning of the late Iron Age ceramic sequence provided by the analysis of the pottery from Godin II has several implications for our understanding of the sociopolitical history of the Median and Achaemenid periods. I conclude this thesis with some speculations about how this archaeological data can be interpreted within the known historical framework of late Iron Age Iran.

The isolation of an early manor assemblage that can be linked stylistically with Nush-i Jan suggests that there was some degree of overlap in the primary occupation of both sites (contra Goff 1985). This confirms Brown's suggestion that the existence of fortified elite complexes at Godin and Nush-i Jan in the 7th century "demonstrates that the distribution of wealth and political power in the central Zagros was to some degree polycentric" (Brown 1990 p.72). The nature of this power, however, clearly changed during the long occupation of the Godin manor, as what began as a defensive structure evolved into a place for the display and storage of the wealth of a local elite. This shift was most probably associated with the decline in the threat from Assyria and the consolidation of Media as a political entity.

At the same time, if the abandonment of the Godin elite complex can be dated to the late 7th to early 6th century (i.e., before the defeat of Astyages by Cyrus II in 550 B.C.), as suggested in the previous chapter, then it can be argued that it was the centralization of power by an

expanding Median state, rather than the imposition of Achaemenid rule, that caused the structure to be deserted. The abandonment of the Nush-i Jan elite complex seems to have occurred slightly earlier than that of Godin, such that Nush-i Jan was already reoccupied by squatters when the last inhabitants of the Godin manor were still using a quantity of fine ware to serve their meals, albeit dumping the remains in the magazine hallways. It is nonetheless arguable that the decline of both sites was due to the process of state formation that saw Media emerge as a major power by the early 6th century.

If the last occupation of the Godin manor house can be dated to the late 7th or early 6th century as suggested, then the very similar assemblage at Chogha Mish in Khuzistan should also be pre-Achaemenid in date. Unfortunately, the ceramics from this period in southwestern Iran, the region that was to become the heart of the Achaemenid empire, are even less well understood than those from the highlands to the north. The first millennium in this region is characterized by a dramatic decrease in substantial settlements, probably indicating a shift to a subsistence pattern dominated by nomadic-pastoralism (Sumner 1986, Miroshedji 1990). Partly as a result of this decrease, sites with stratified archaeological sequences, with the exception of Susa, are virtually nonexistent.

Towards the mid-second millennium in Fars, Kaftari-ware assemblages were replaced by Middle Elamite-Qale wares in the west and Shogha-

Teimuran wares in the east (Sumner 1994). The dating of these latter wares is very uncertain but can probably be placed sometime around 1300-900 B.C. Sumner (1994) suggests that the Shogha-Teimuran wares might be associated with the first arrival of Persian ethnic groups in Fars. There is then a gap in the ceramic sequence until the appearance of Achaemenid-like assemblages, known only from surface survey or from mid to late Achaemenid excavated contexts. Sumner (1986) proposes to push the date of this style horizon back to the early Achaemenid period and Young (in press) has suggested that parallels with Iron III assemblages in the Zagros might indicate that some types might be still earlier in date. In Khuzistan, Middle-Elamite ceramics are succeeded by Neo-Elamite I and II ceramics at Susa, but these ceramic types are not widely dispersed in the region as a whole (Miroschedji 1990, 1987, 1985), although they are found in the Ram Hormuz plain some 150 km southeast of Susa (Carter 1994). Ceramics that are said to be "virtually interchangeable" with the Iron Age pottery from Chogha Mish (Miroschedji 1987, p.33) are found in the Patak and Deh Luran plains, but again their date might fall anywhere between the 7th and 5th centuries. Finally, in the Bakhtiari mountains north-east of Khuzistan, survey results revealed a collection of sherds with stylistic ties to the Iron III assemblages (Zagarell 1982).

The historical record for the early first millennium in south-western Iran does not go a long way towards filling in the gaps in the archaeological data. Texts indicate that sometime in the mid-7th century, Neo-Elamite

kings ceased to claim suzerainty over Anshan, but there is no evidence to suggest that Persian kings claimed this title until the late 7th or early 6th centuries when Teispes, the great-grandfather of Cyrus II, is said to have founded the dynasty (see discussion in Young in press, Miroschedji 1985, Briant 1984). It is now apparent that Elamites continued to control a political entity centered at Susa even after its conquest by Ashurbanipal in 646. The geographic limits of this greatly reduced Elamite state are not known, but there is no evidence to suggest that it extended much beyond Susiana. Some administrative documents from late 7th to early 6th century Susa refer to a subordinate state at Hidalu, which Carter (1994) locates in the Behbahan plain region of southeastern Khuzistan.

Miroschedji (1990, p.80) suggests that late 7th/early 6th century Elam may have consisted of a very decentralized kingdom, encompassing Susiana and some of the mountainous region to its southeast, ruled by a set of local rulers bound by kinship ties.

In sum, although it is clear that the mid- to late Achaemenid buff wares found at Pasargadae, Persepolis and Susa are stylistically linked to the earlier Iron III buff wares of the Zagros, there is no evidence to suggest how or why this ceramic tradition was adopted by the occupants of this region. Unless we imagine that Persian nomadic groups arrived *en masse* from the Zagros into Fars in the 7th century, bringing their pottery with them, it is difficult to construct a traditional explanation that associates the new ceramic style with the advent of the new ethnic

group. There is no historical evidence for such a massive, rapid movement of people and most scholars agree that the migration of the Persians into southern Iran took place instead over an extended period of time, probably sometime in the early first millennium (Briant 1984; Carter 1994; Miroschedji 1990, 1987, 1985; Sumner 1994; Young in press, 1988). Miroschedji (1985) suggests that it was the conquest of Media by Cyrus II in 550 B.C. that caused the Persians to adopt Median artistic and ceramic traditions. Although it is plausible, given our understanding of the eclecticism of Achaemenid royal ideology (Root 1979), that Persian leaders would have incorporated Median elite iconography into their stylistic repertoire, the wholesale adoption of a ceramic tradition by a conquering state does not easily fit any model of ceramic style transmission. If the suggested late 7th century dating of Iron Age Chogha Mish and some of the Fars survey material is correct, it is instead possible to create a model whereby the transmission of Median pottery style to the Achaemenid heartland took place during the height of Median power.

Although Herodotus' claim that the Persians were vassals to the Median state under Astyages is probably exaggerated (Young 1988), if there was a dominant political and, perhaps more importantly, economic force during this period that force was certainly Media. With a curtailed Elam clinging to Susa, and the Persian leaders probably controlling only a loosely knit confederacy of what were by all indications still predominately

nomadic pastoralists, Media stood as the only regional power with an extensive economy during this period. Whether operating as a true empire (Brown 1986, 1988, 1990) or as a transient state (Sancisi-Weerdenburg 1988), the demise of Assyria allowed Media to assume control of a far-reaching network of trading routes, possibly stretching from Anatolia to Bactria (Briant 1984).

Nothing is known about where, how or by whom the Iron III pottery of Western Iran was produced, but for the most part it is a well-made, wheel-thrown ware, most likely made by full-time specialists. The high degree of standardization in ceramic form that occurs in this period seems to point to a certain degree of centralization of production, or at least a high level of interaction between specialized itinerant potters. Although there is no reason to believe that pottery distribution was in any way controlled by the state, and it would be very unlikely for such to be the case, it is possible that a growing Median economic sphere within the highlands of Western Iran might produce a situation conducive to the inter-regional trade of a variety of goods, including pottery.

By the end of the 7th century, the process of sedentarization of the Persian pastoral nomads that accompanied the formation of the Achaemenid state (and that may have been precipitated by their relationship with the Medes) would have created intensification of the demand for the broad array of serving and storage vessels represented in all of the Iron III assemblages. Newly liberated trading routes through the

highlands of Iran, as well as new political-economic ties between the highland peoples, may have meant that the mass-produced utilitarian wares, as well as the finer serving wares, of the Median centre to the north were available to fill this need. If it was the locally produced, hand-made, Shogha-Teimuran wares that were in use in Fars up until this time as Sumner (1994) suggests, it is possible that, like the water jar in the Baringo district of Kenya described in Chapter 3, the mass-produced, Median wares functioned outside the established ceramic style system. It is more likely, however, that, like the Lozi style system at the turn of the 19th century, the Median ceramic style was associated with the dominant economic and political power of the region and, as such, was desirable not only for its ceramic qualities, but also as a symbol of the new cultural sphere with which the Persian pastoralists were now aligned.

Both the archaeological and historical data can be interpreted as indicating the existence of two power spheres in central and southwestern Iran in the late 7th and early 6th centuries. The brief resurgence of a decentralized Elamite state or confederacy of states is represented by the Neo-Elamite II wares in Susiana, and in the Ram Hormuz and Beheban plains. The newly established Median state served as the centre for another, probably larger, economic network that may have extended into Anatolia and Central Asia but that, almost certainly, encompassed the highlands of Western Iran from Lake Urmia to Fars. Parallels to the Godin late manor ceramic assemblage found at Bastam, through the central-

western Median sites, at the periphery of Susiana at Chogha Mish, in the Patak and Deh Luran plains, in the Bakhtiari mountains, and in Fars, may represent, not ethnic or political identity, but this Median-based economic network, through which potters were able to distribute their wares over a broad area. This ceramic style-horizon then became the basis for the pottery of the Achaemenid Empire.

The fine-grained analysis of ceramics from Godin II revealed several levels of socio-cultural patterning. As predicted by the ethnoarchaeological data on ceramic style, these patterns were complex and interwoven, and depend on the specific historical context of the Median and Achaemenid states.

Figure 1.1 - Plan of Godin II

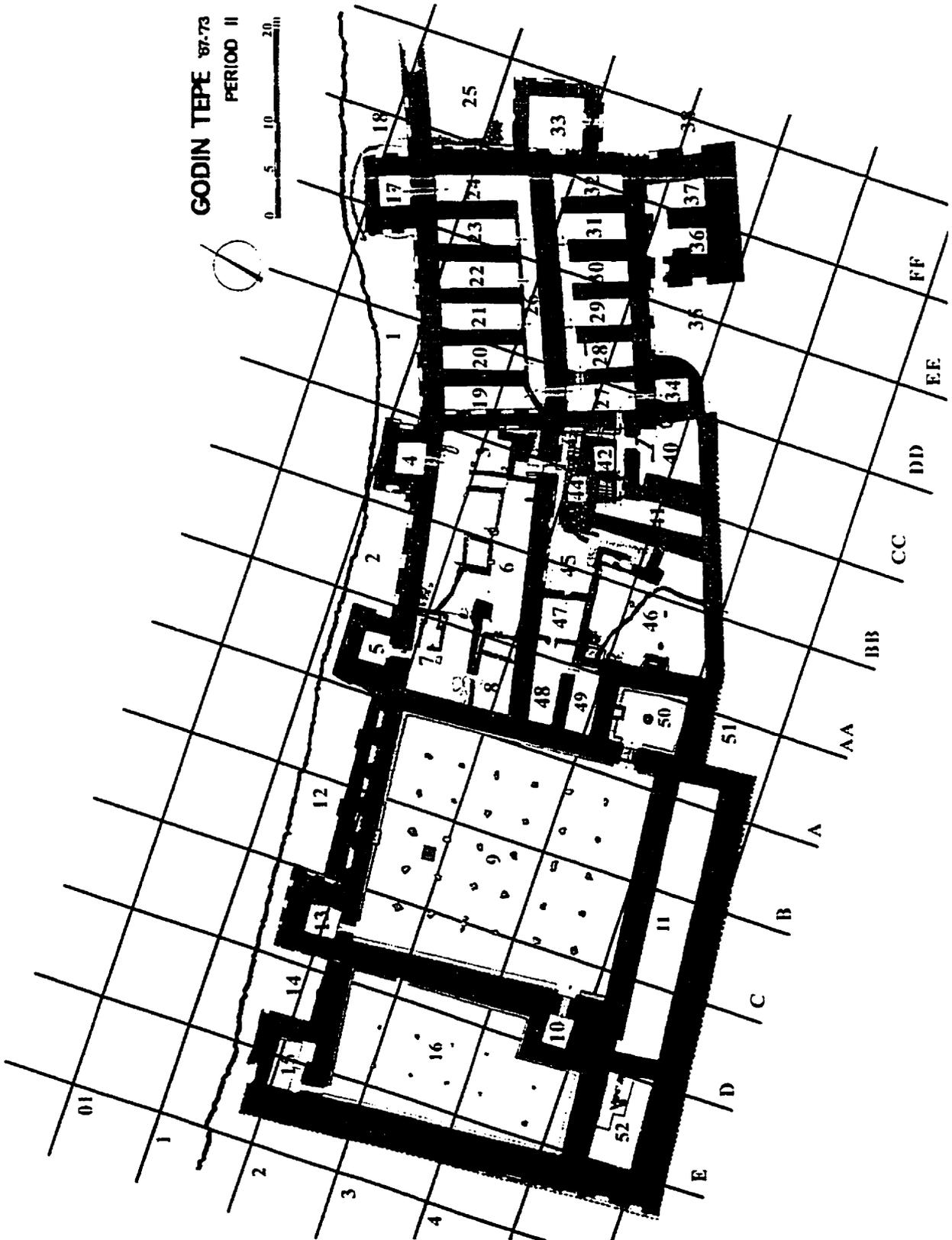


Figure 1.3 - Plan of Rooms 40-50

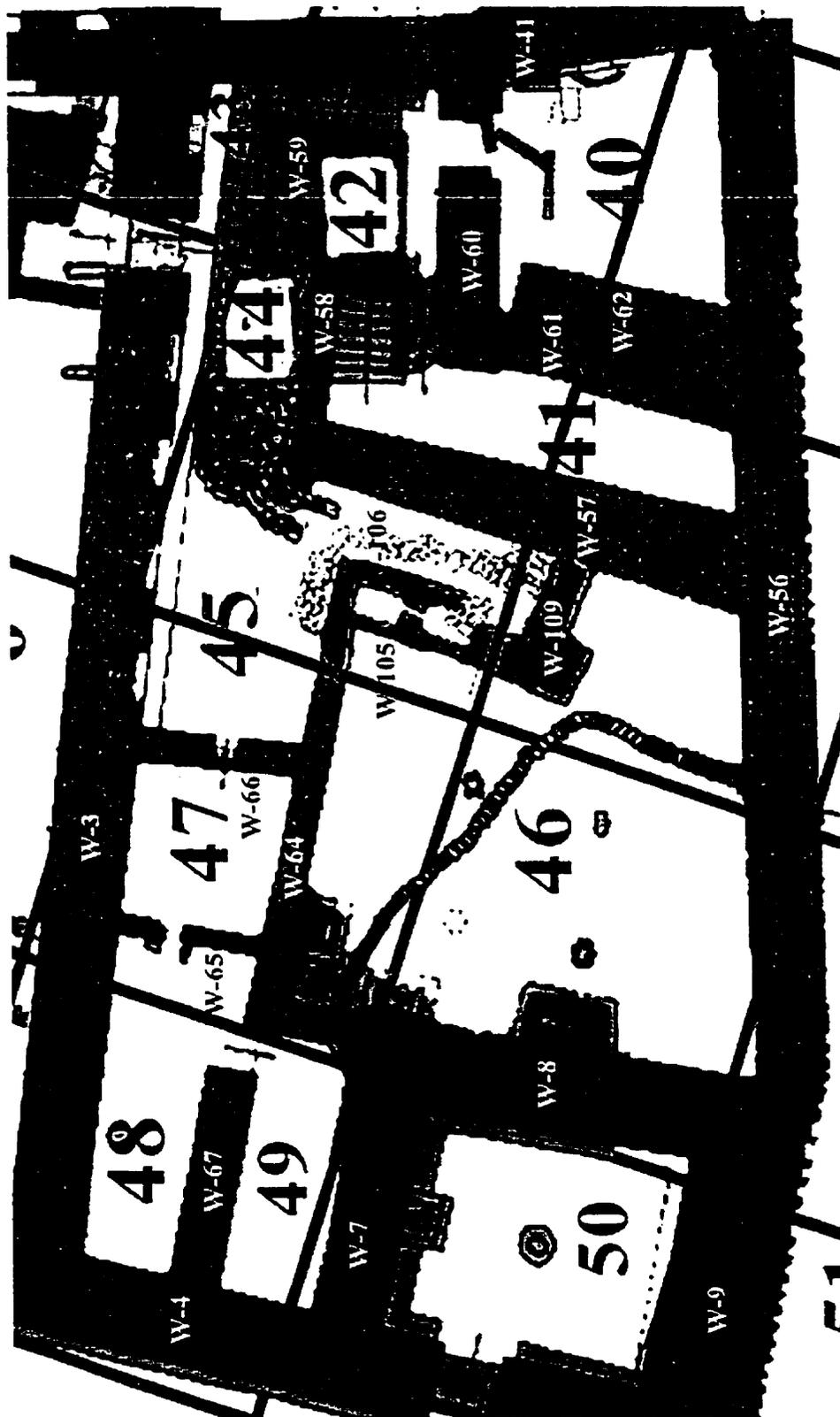


Figure 1.4 - Plan of North Magazines and Tower 17

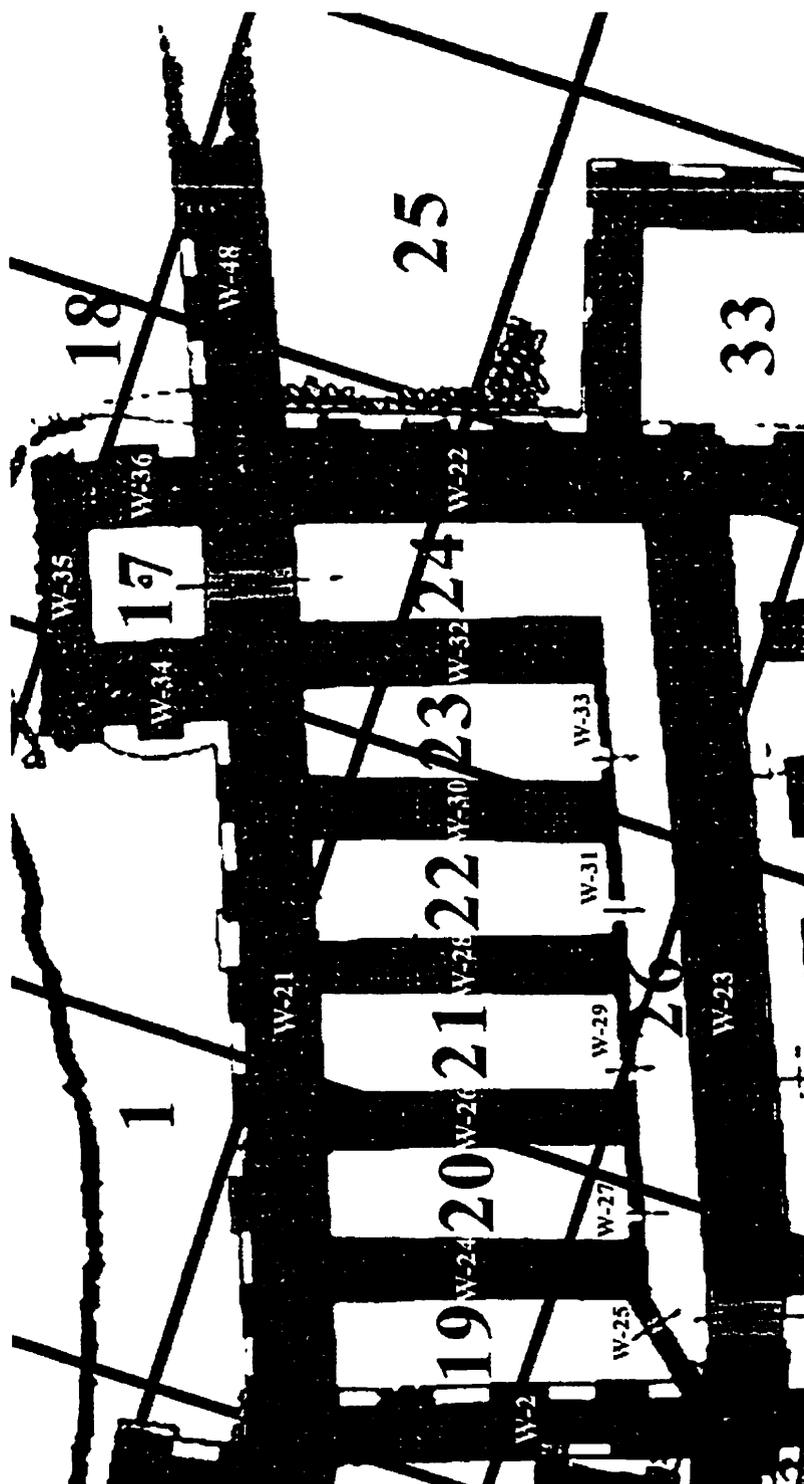


Figure 1.5 - Plan of South Magazines and rooms 33-38

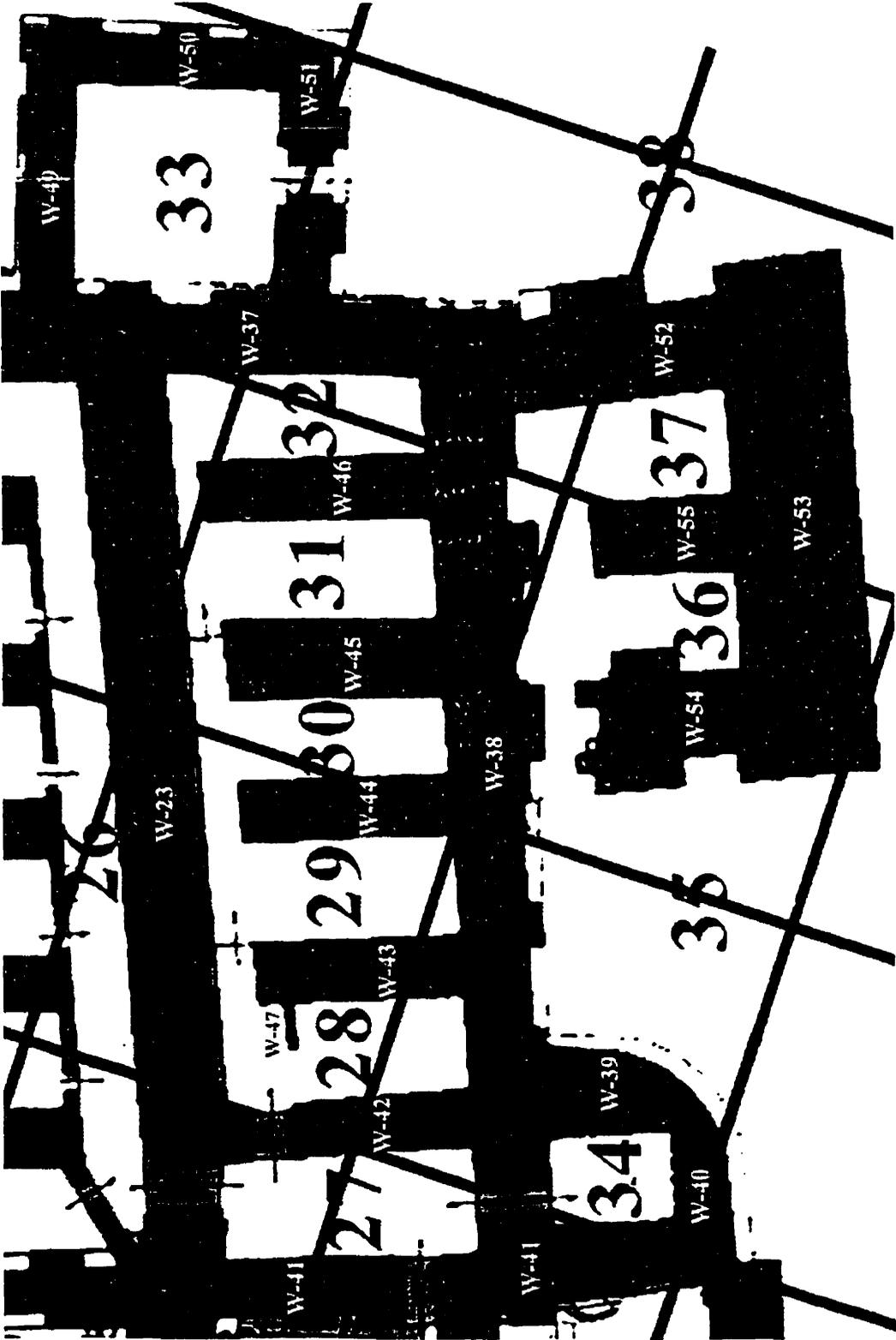


Figure 1.6 - Operation BB1 North Part of East Section

- 1 - Turf
- 2A - Wash with occasional bricks
- 2B - Fine wash
- 2C - Wash, separated from 2b by pebble layer
- 2D - Pebbly wash
- 2E - Fine wash
- 2F - Pebbly wash
- 2G - Ashy debris with occupation surface at bottom
- 3A - Bricky collapse
- 3B - Loose wash
- 3C - Fine wash
- 4A - Bricky tumble - orange brick-bats, grey-green loose wash
- 4B - Solid bricky collapse (?) probably part of 4A but part of it seems to go over the bricks, while 4A clearly extends under them

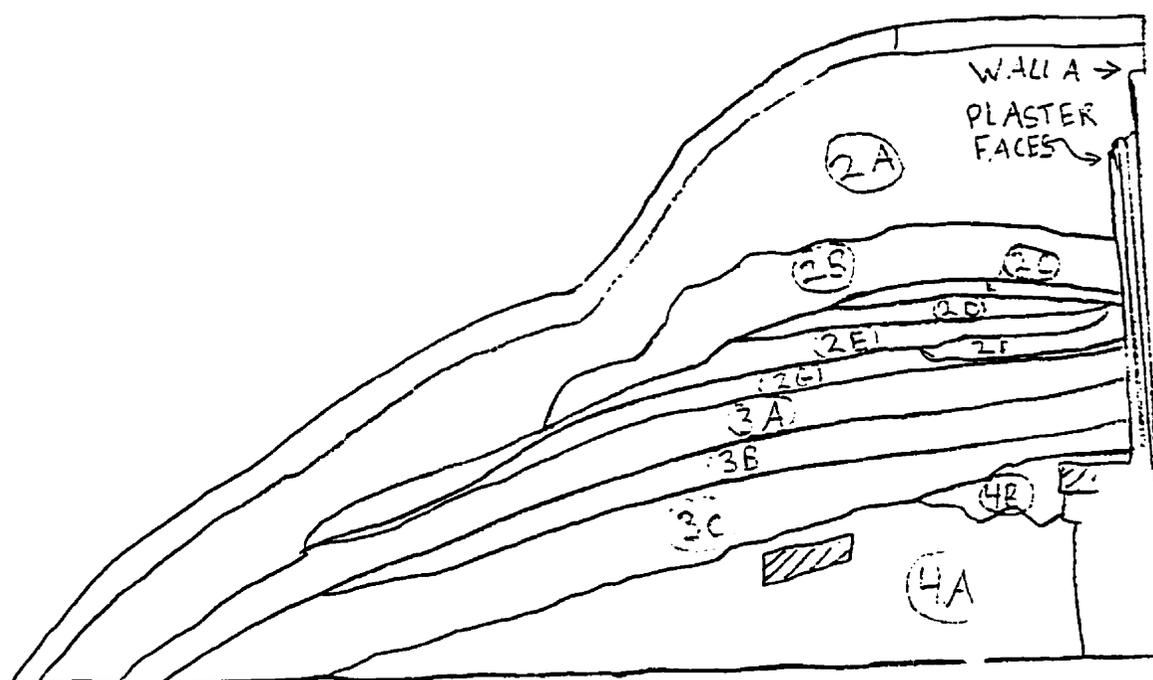


Figure 1.7 - Operation AA2-AA1 - Extra West Balk

- 1 - turf
- 2 - Grey bricky wash with pebbles
- 3 - Trash and floor 1
- 4 - Striated ashy wash
- 5 - Grey hard pack

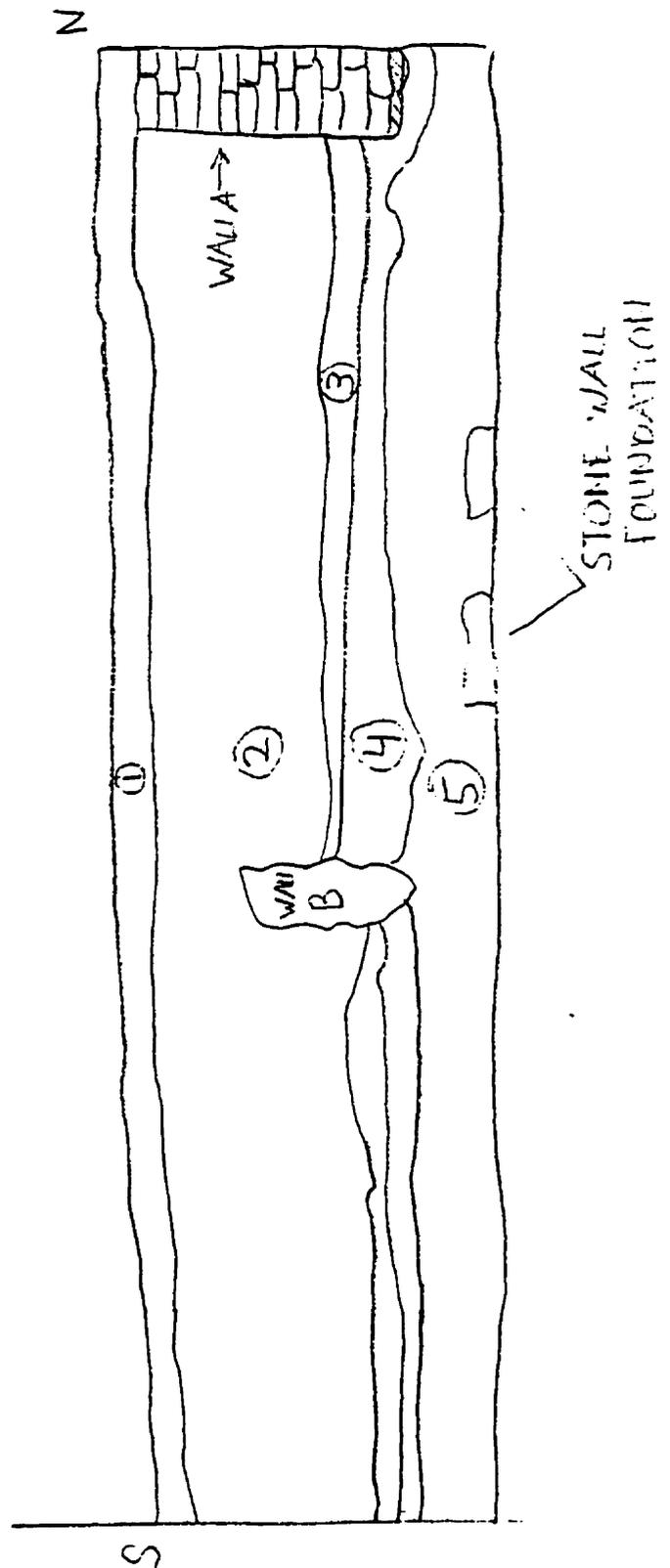


Figure 1. 8 - North-South Section, West of Tower 4

- 1 - Bricky wash and topsoil
- 2 - Major bricky collapse, lower part bricky wash
- 3 - Light tan bricky wash with brickbats (more probably than 4)
- 4 - Ashy grey loose bricky wash with brickbats
- 5 - Bricky collapse and bricky wash, increasingly bricky wash to the north
- 6 - Light tan bricky wash, same as 7 but less ash
- 6a - Surface 1
- 7 - Soft tan, small pebbles & grit, bricky wash
- 7a - Surface 2
- 8 - Soft ashy-grey
- 9 - Medium hard tan earth, striated bricky wash

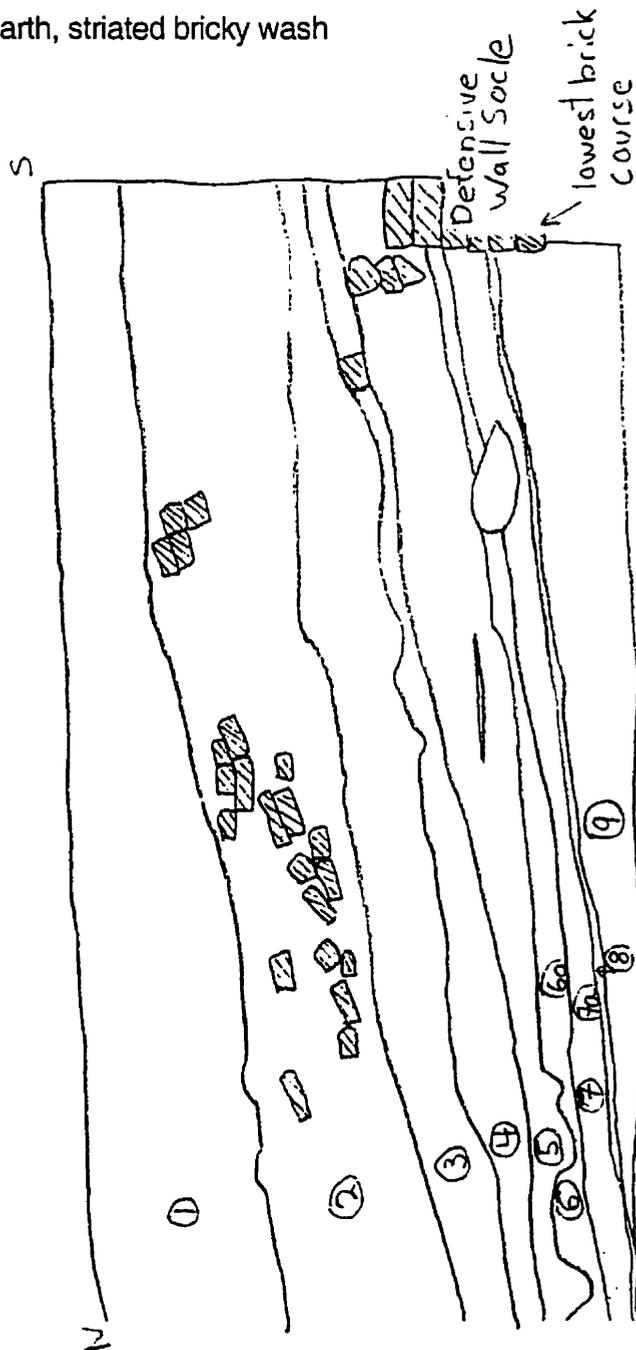


Figure 1.9 - Operation B1, East Section

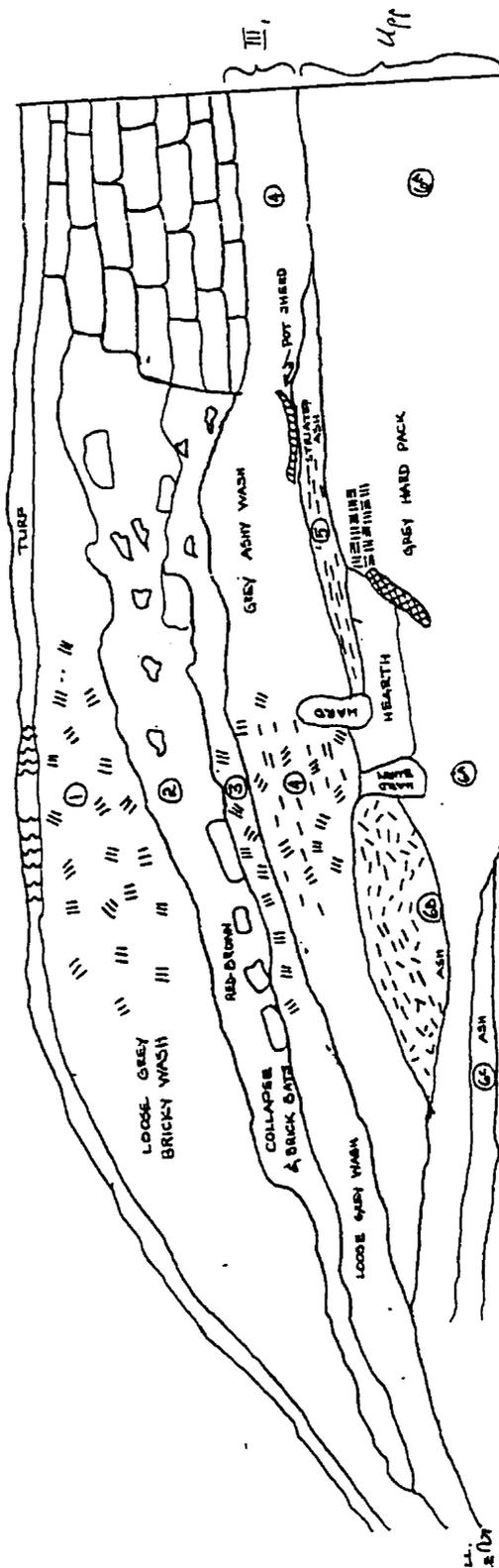


Figure 1.10 - BB1, South Part of West Balk

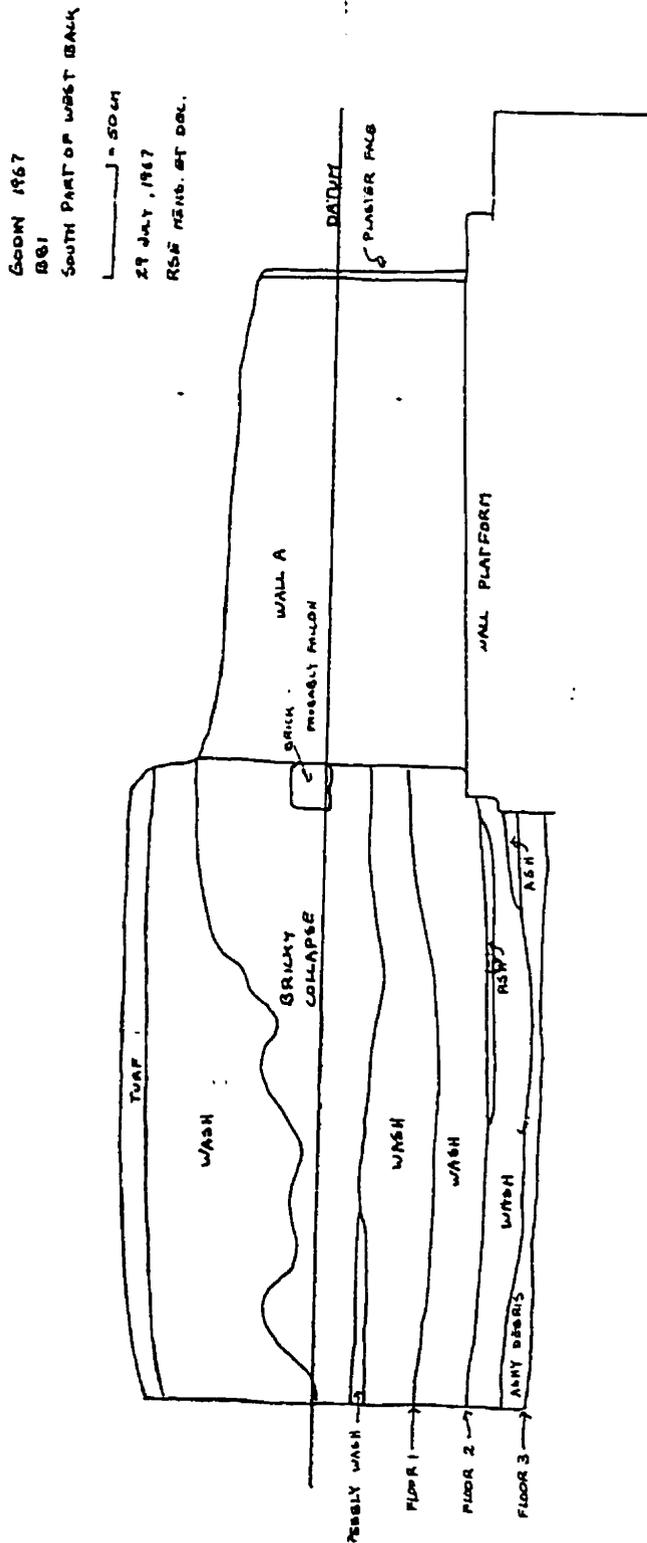


Figure 2.1 - Distribution of Rim Sherd Sizes

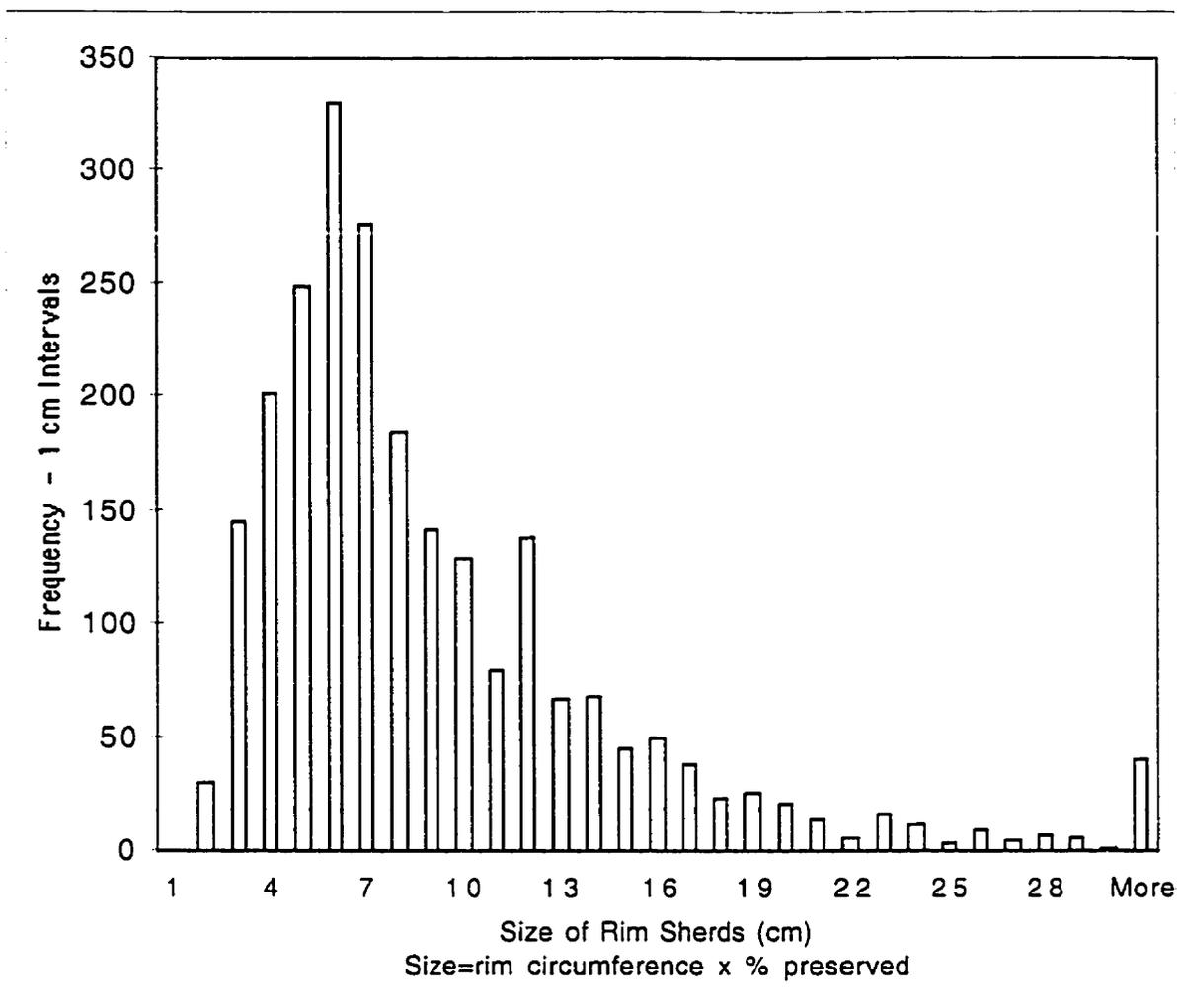


Figure 2.2 - Distribution of Average Rim Sherd Size by Lot

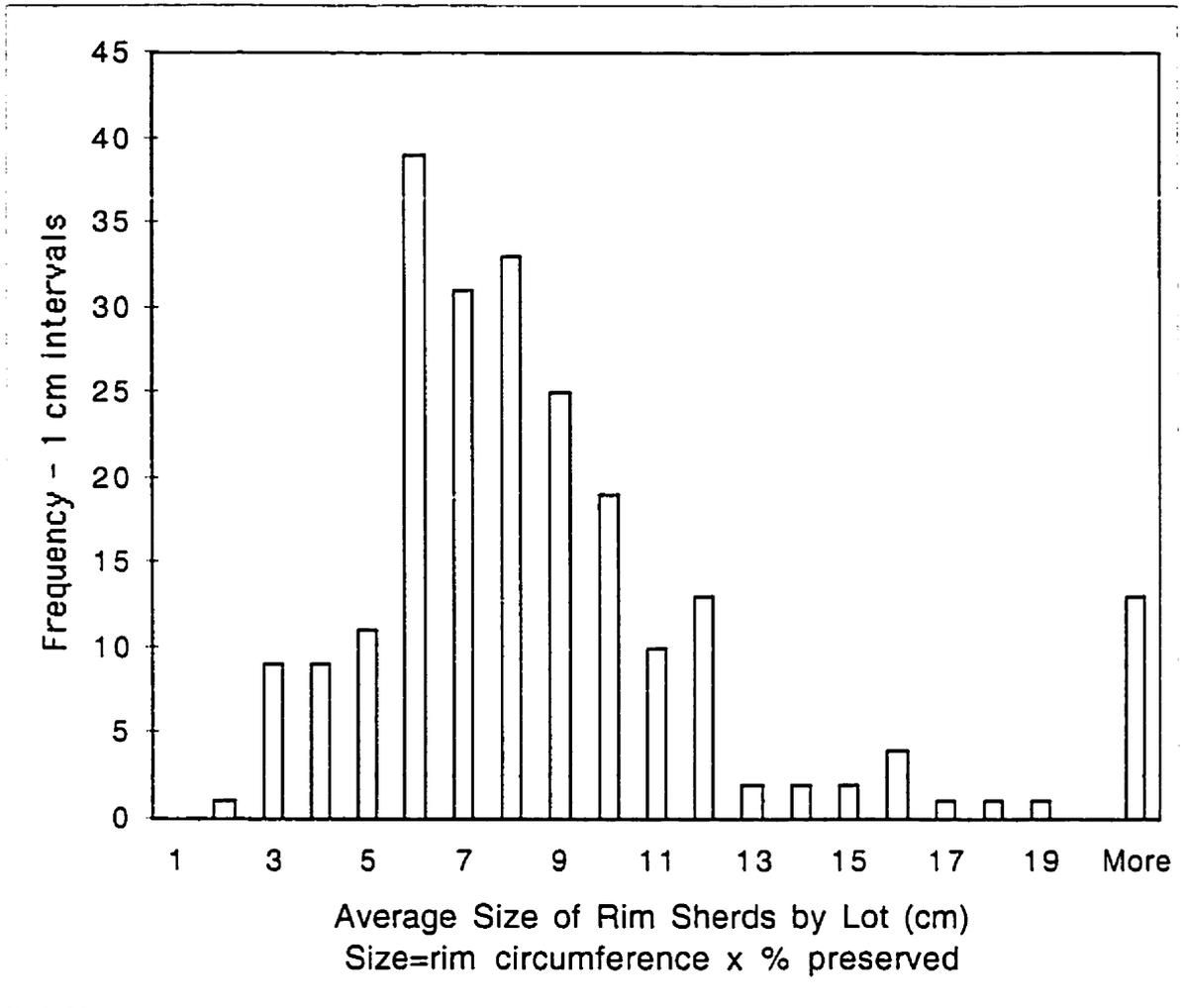


Figure 2.3 - Average Size of Rim Sherds for Large Lots (n>15)

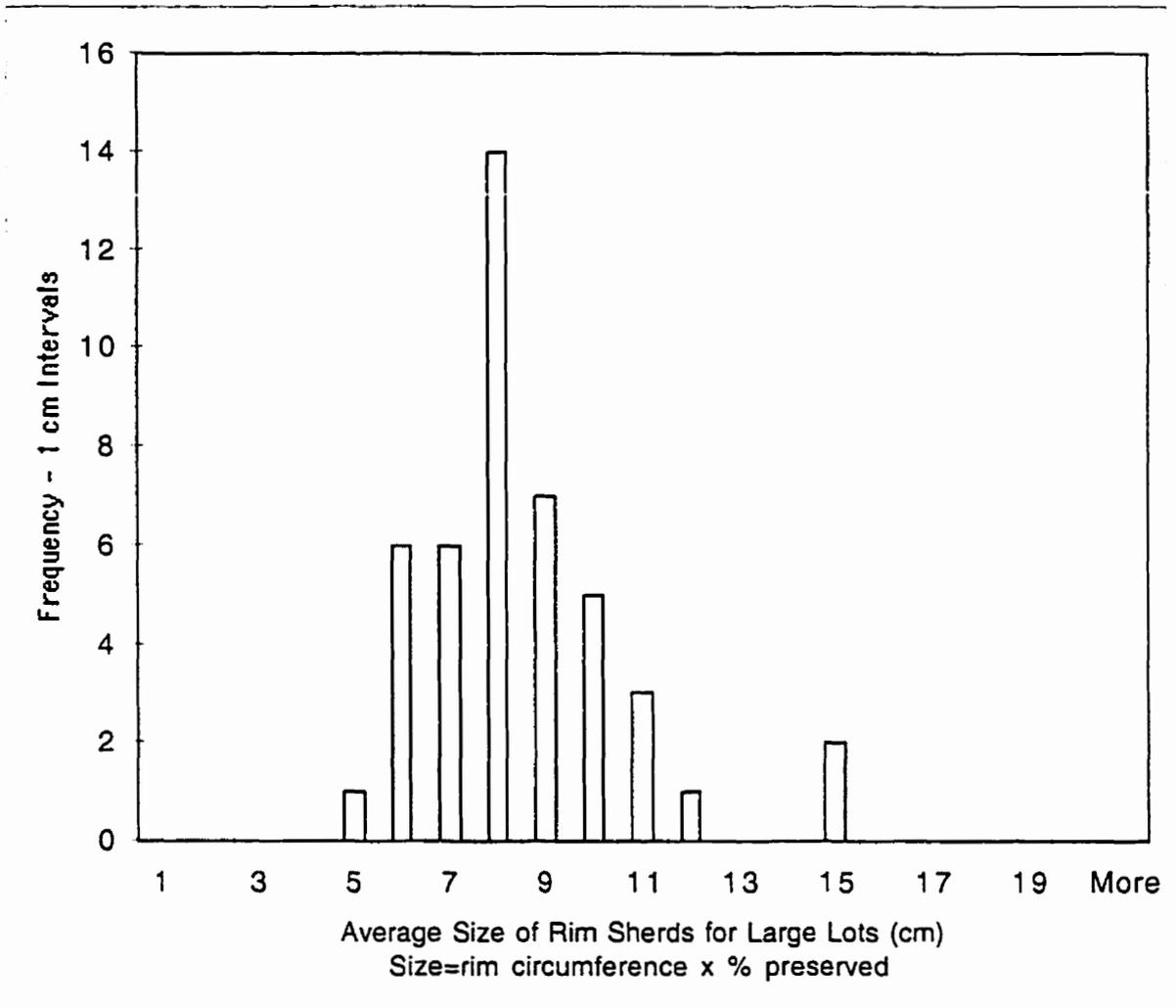


Figure 2.4 - Average Size of Sherds in Large Lots (n>15)
Students T Difference from Overall Population Mean

Lots	No. of Sherds	Average Size	Different from Pop. Mean (p.=025)
SE 7	20	5	X
SE 3	18	5.7	
CC1 2	19	5.7	
A3 6	17	6	
SF 2901	145	6	
AA2 301	16	6.9	
A3 3	21	6.9	
AA3 313	22	6.9	
DD2 2	48	6.9	
SE 8	50	6.9	
DD3 6	75	6.9	
A2 4	20	7.2	
BB2 3	20	7.2	
A2 3	30	7.2	
AA3 18	18	7.6	
BB1 14	16	7.9	
AA2 313	19	7.9	
BB1 16	20	7.9	
CC2 4	21	7.9	
AA3 13	23	7.9	
AA3 29	25	7.9	
BB1 3	26	7.9	
BB3 26	29	7.9	
BB2 38	60	7.9	
AA3 28	74	7.9	
MG6 3	50	8.2	
DD3 8	28	8.5	
BB2 29	34	8.5	
AA9 14	51	8.5	
AA3 10	317	8.5	
EE1 2	45	8.8	
BB2 2	47	8.8	
A1 2	20	9.1	
D2 1	25	9.4	
MG6 5	28	9.4	
AA3 12	30	9.4	
BB3 37	20	9.8	
EW 503	20	10.1	
AA2 312	17	10.7	
AA3 8	22	10.7	
CC3 13	24	11	
TR5 3	23	14.8	X
MG6 2	48	14.8	X

Figure 2.5 - Distribution of Percent Preservation of Sherds

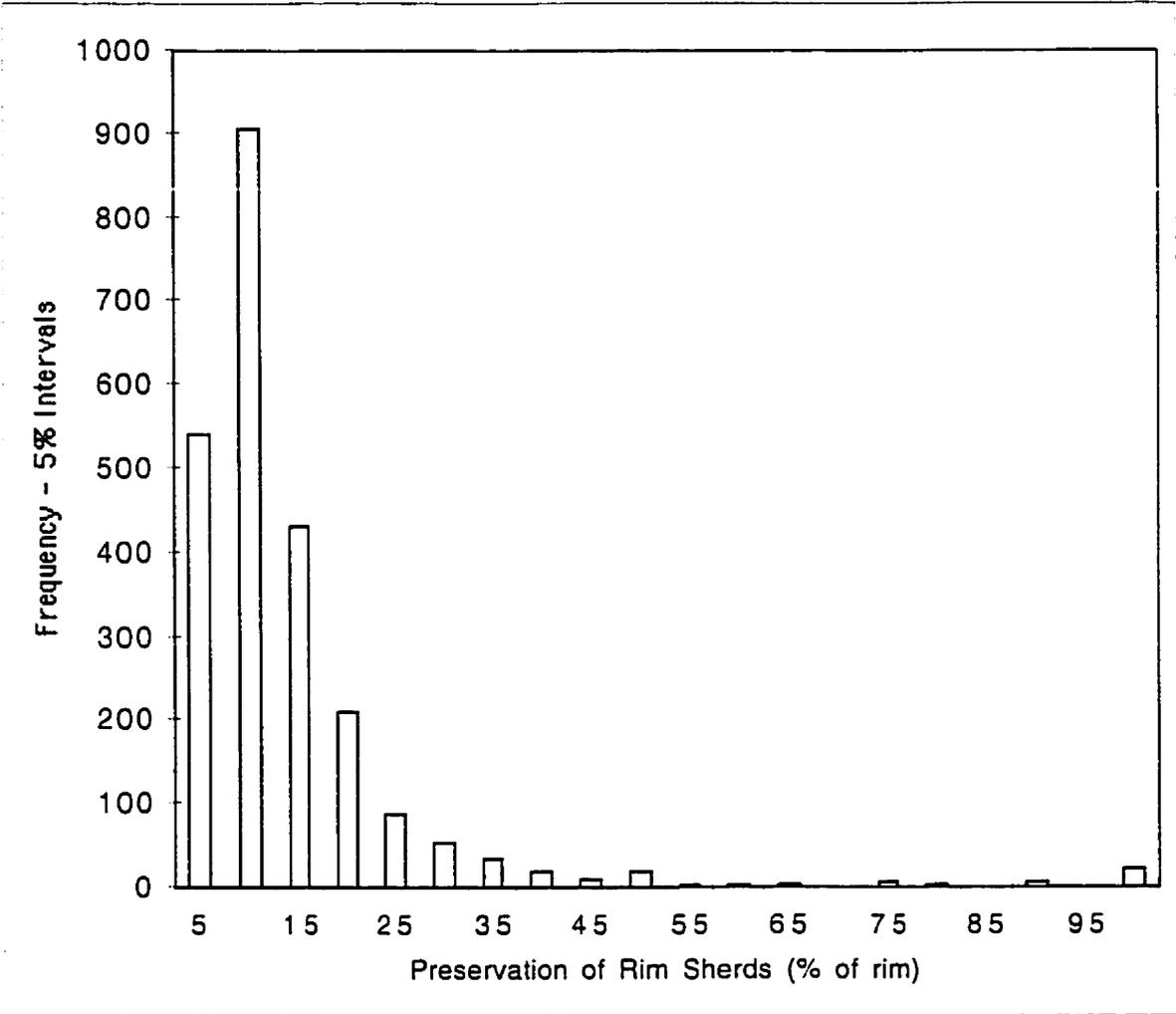


Figure 2.6 - Average Preservation of Sherds by Lot

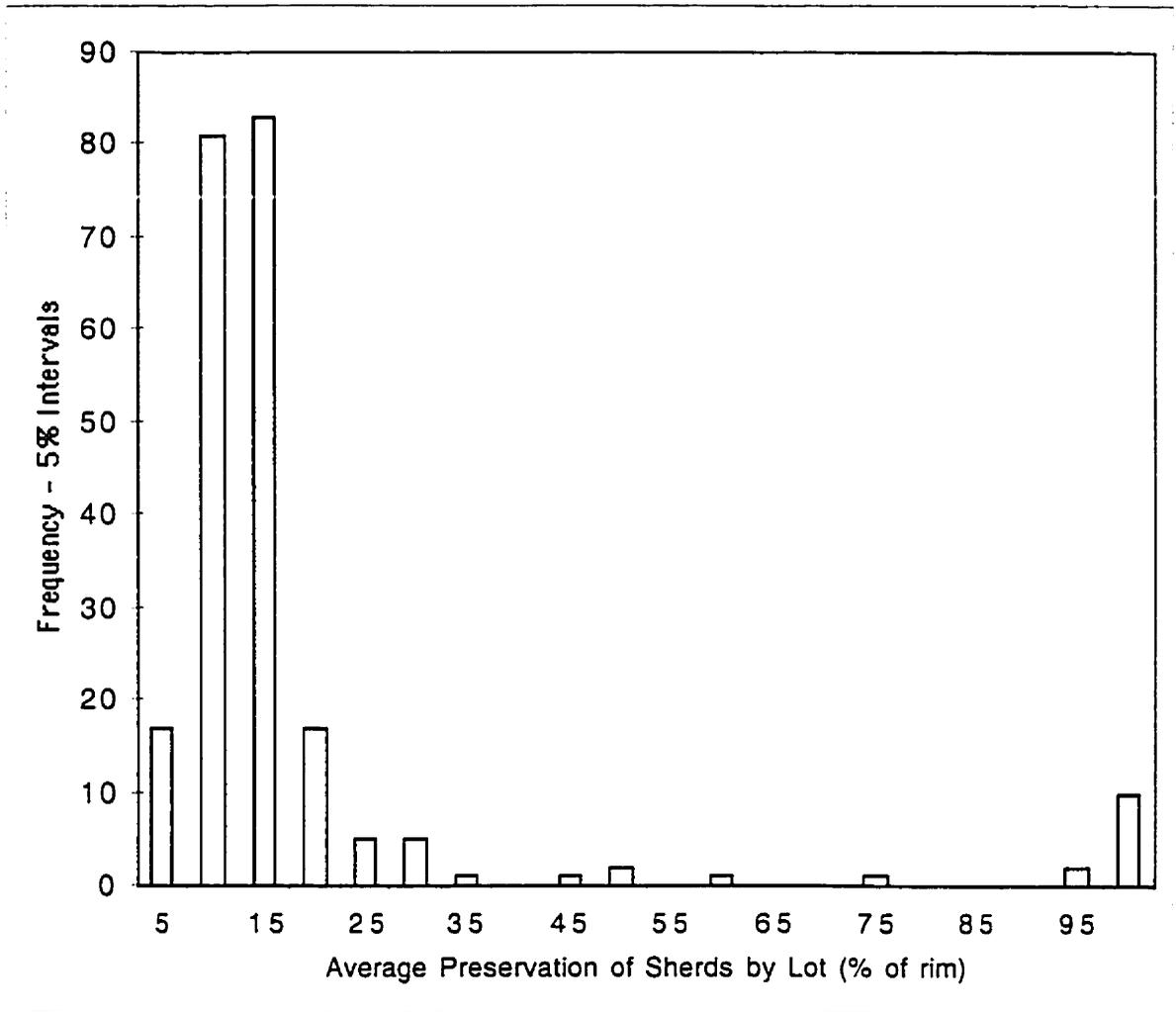


Figure 2.7 - Average Preservation of Rim Sherds for Large Lots (n>15)

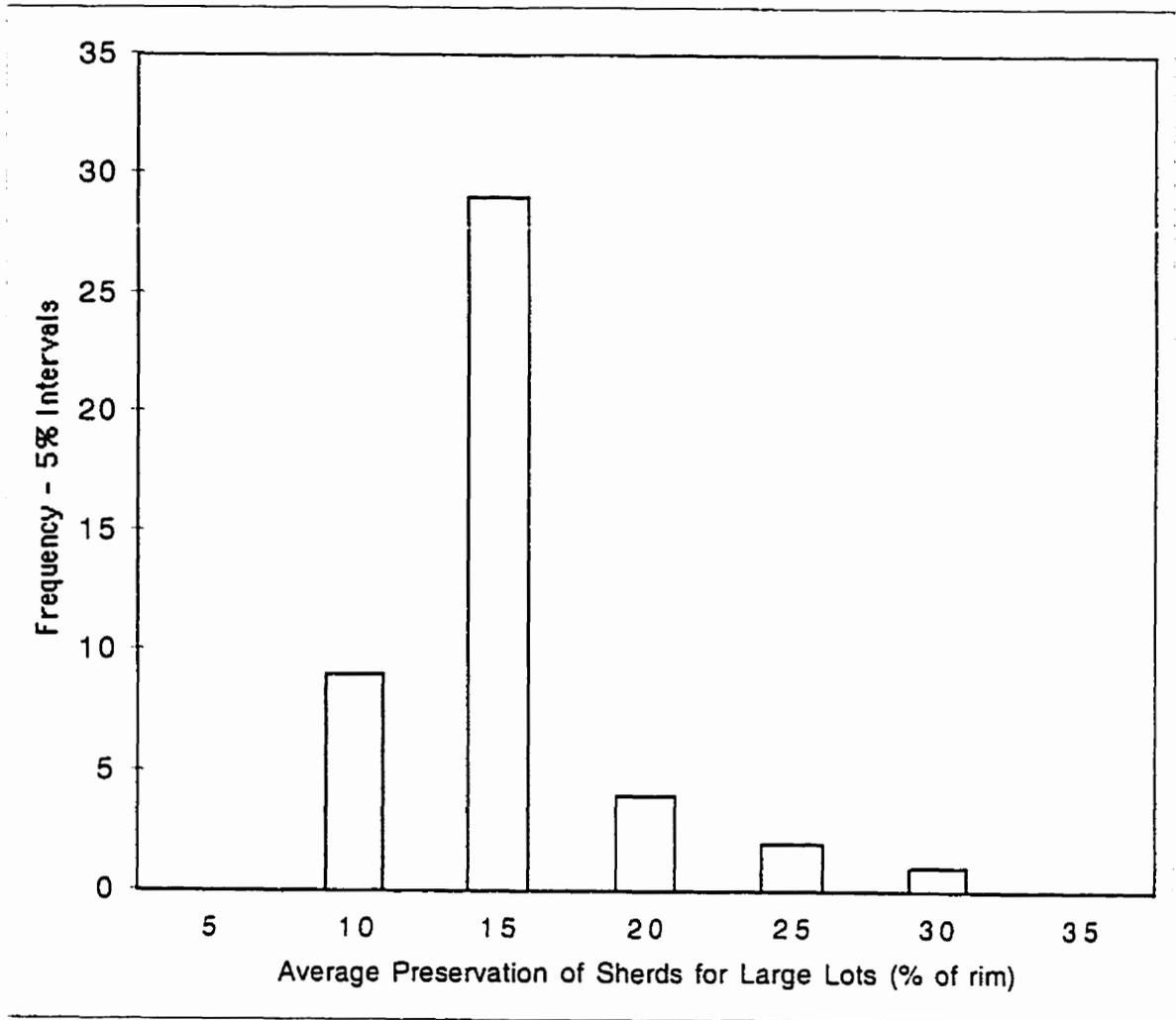
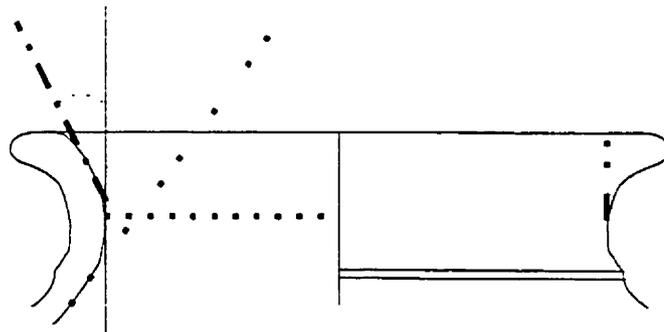
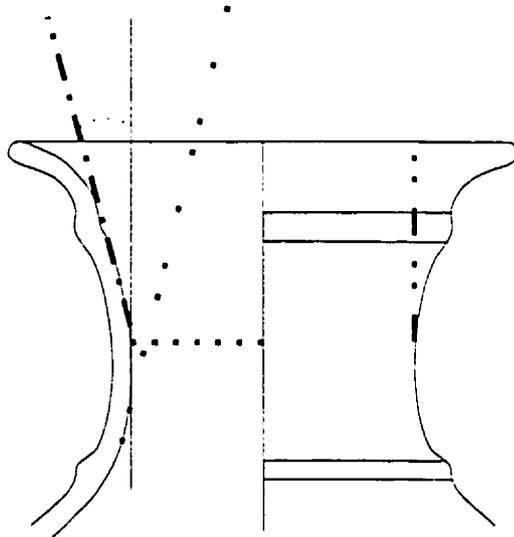
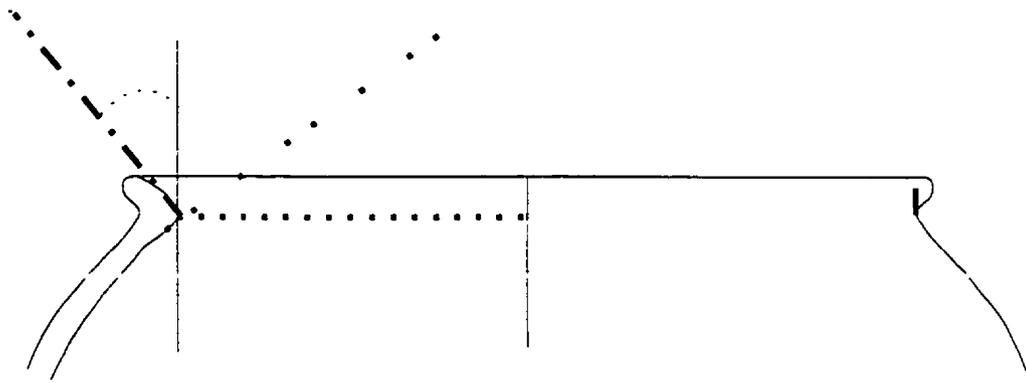


Figure 2.8 - Average Preservation of Sherds in Large Lots (n>15)
Students T Difference from Overall Population Mean

Lots	No. of Sherds	Average Preservation	Different from Pop. Mean (p=.025)
A3 6	17	7	X
SE 3	18	10	
A3 3	21	10	
DD3 4	15	10	
SE 8	50	10	
SF 2901	145	10	
AA3 29	25	10	
BB2 3	20	10	
SE 7	20	11	
DD3 6	75	11	
A2 3	30	11	
BB1 3	26	11	
AA3 313	22	12	
A2 4	20	12	
CC1 2	19	12	
AA2 301	16	12	
AA3 18	18	12	
AA3 15	15	12	
BB3 26	29	12	
AA9 14	51	12	
DD3 8	28	12	
AA2 312	17	12	
DD2 2	48	13	
AA2 313	19	13	
AA3 13	23	13	
AA3 28	74	13	
BB2 38	60	13	
AA3 10	317	13	
AA3 8	22	13	
CC2 4	21	14	
BB1 16	20	14	
BB2 2	47	14	
D2 1	25	14	
EW 503	20	14	
MG6 3	50	15	
AA2 3	15	15	
AA3 12	30	15	
BB3 37	20	15	
EE1 2	45	16	
BB2 29	34	16	
MG6 5	28	17	
CC3 13	24	22	X
MG6 2	48	25	X
TR5 3	23	29	X

Figure 2.9 - Functional Variable Measurements from Vessel Profiles



- . - . - . = Angle of Expansion
- (x2) = Orifice Diameter
- . . - . . = Neck Length
- = Angle of Constriction

————— 10 cm

Figure 2.10 - Distribution of Orifice Diameters of Closed Vessels

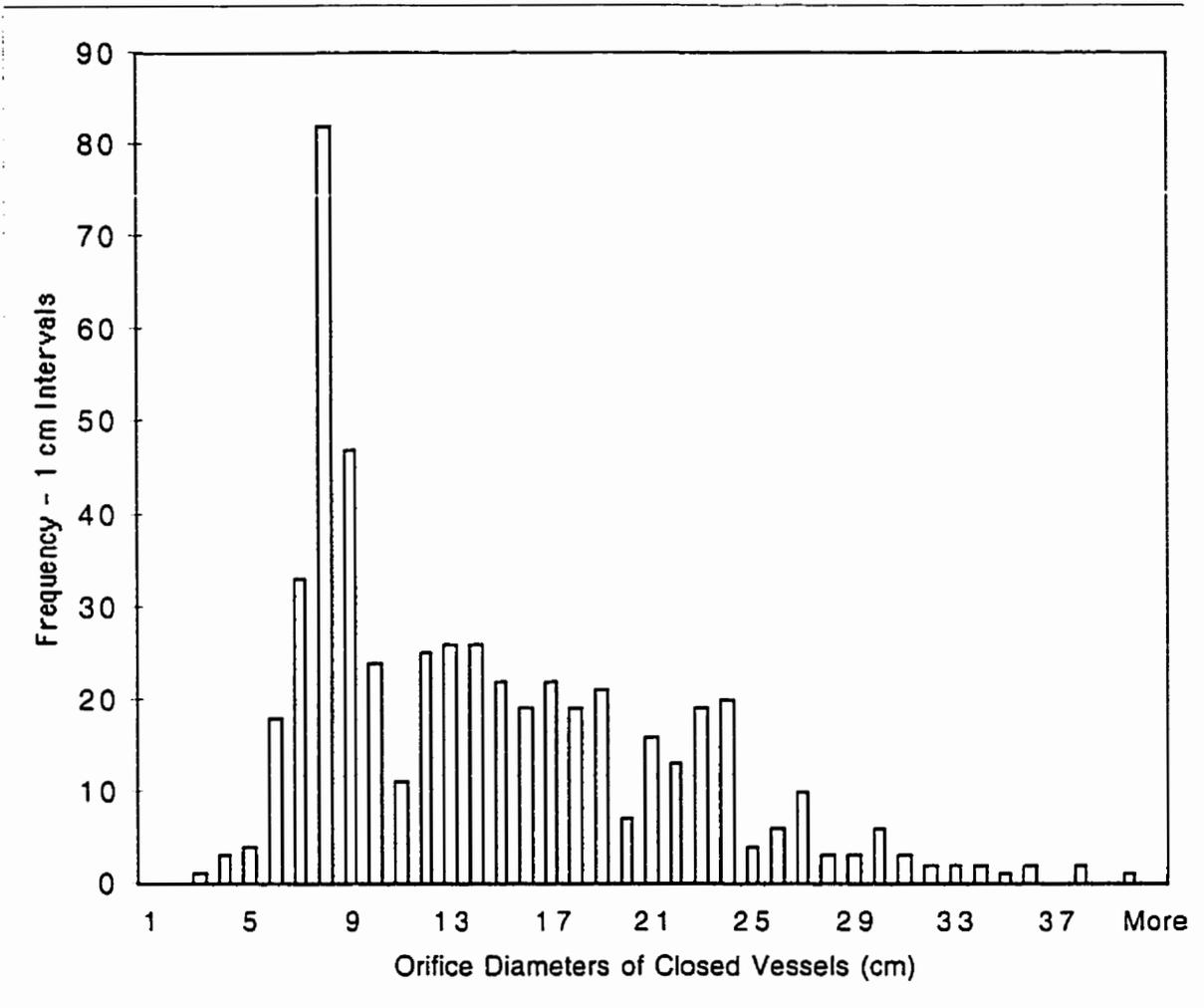


Figure 2.11 - Distribution of Neck Lengths of Closed Vessels

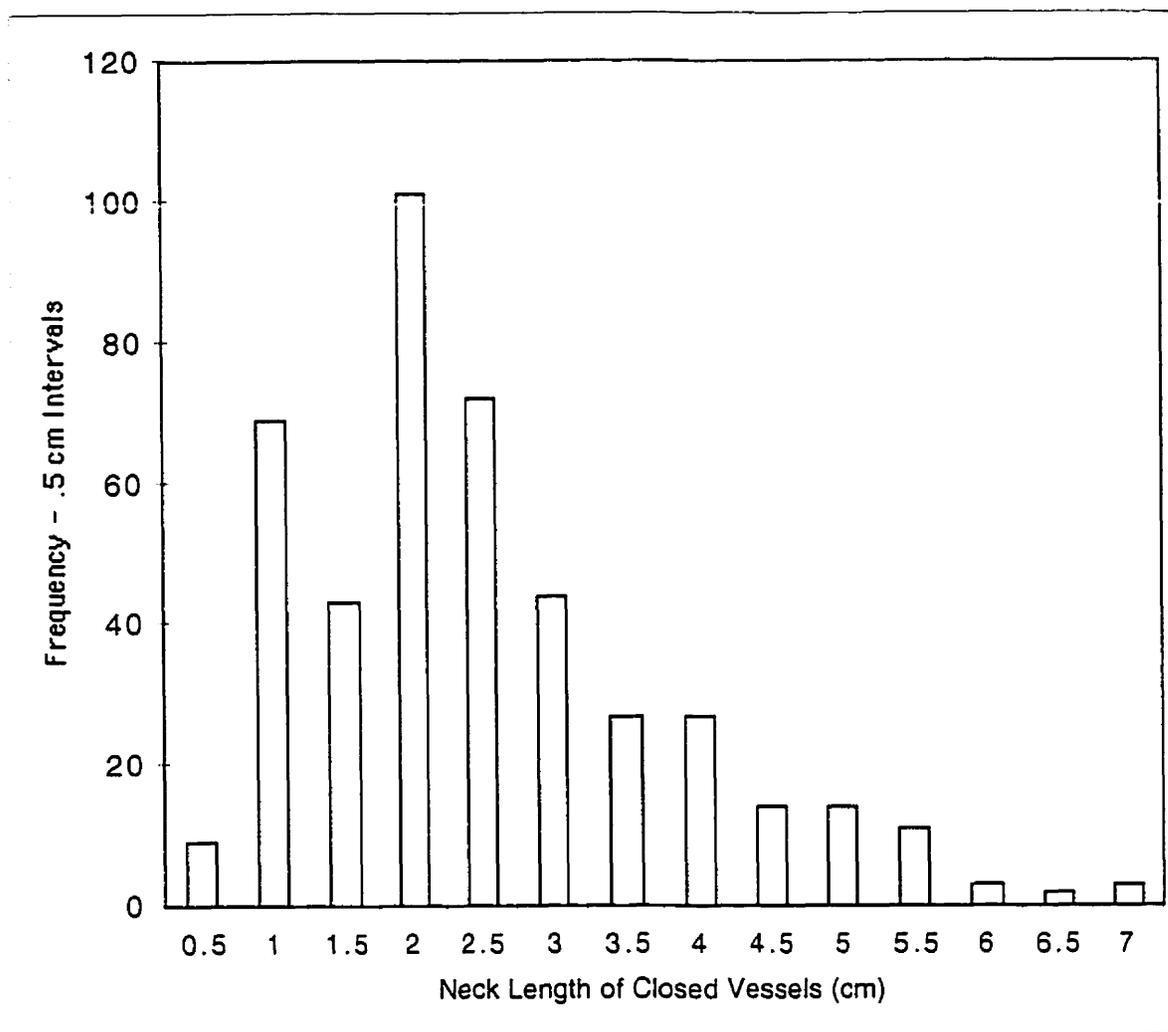


Figure 2.12 - Distribution of Angles of Expansion of Closed Vessels

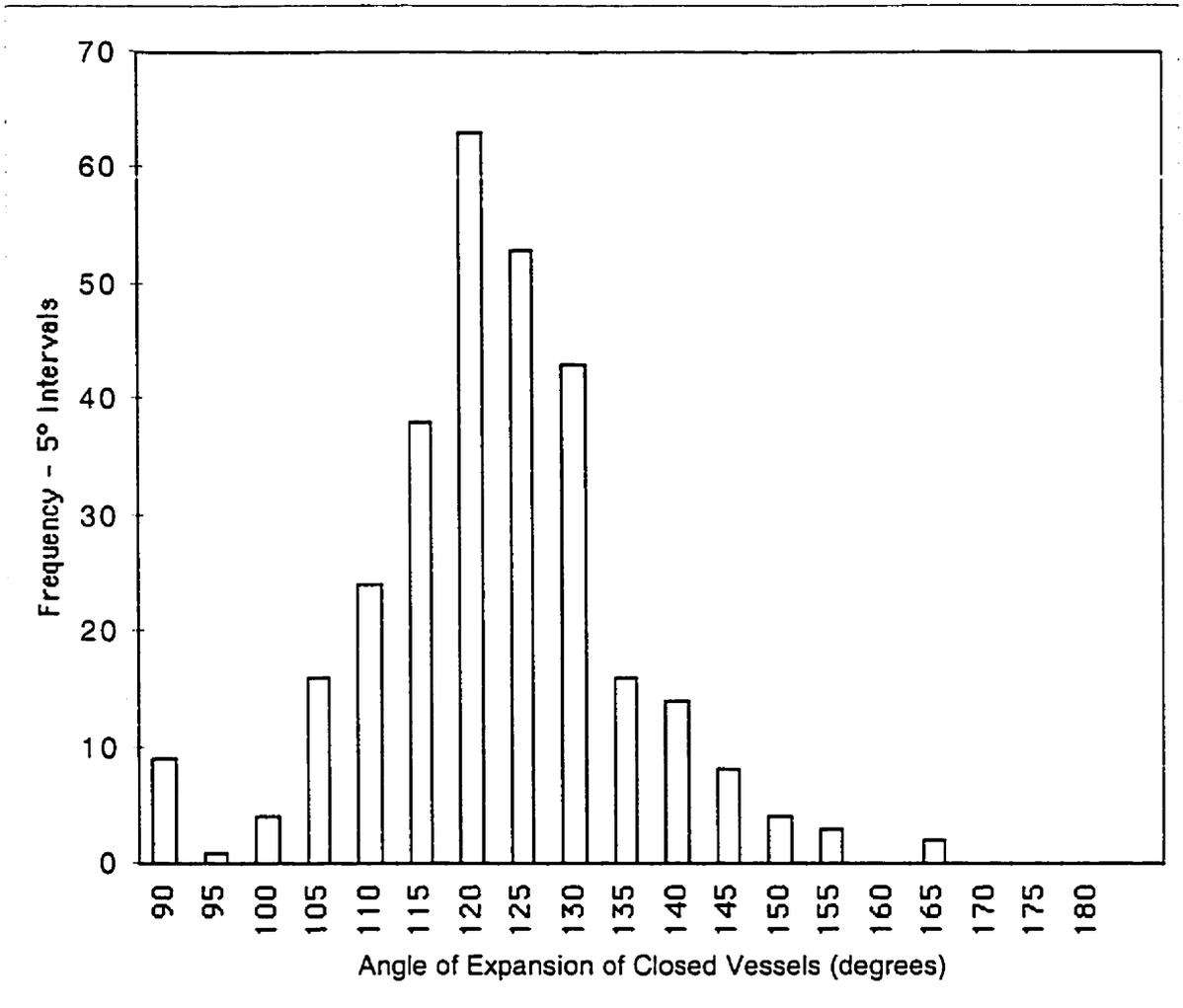


Figure 2.13 - Plot of Orifice Diameter by Neck Length

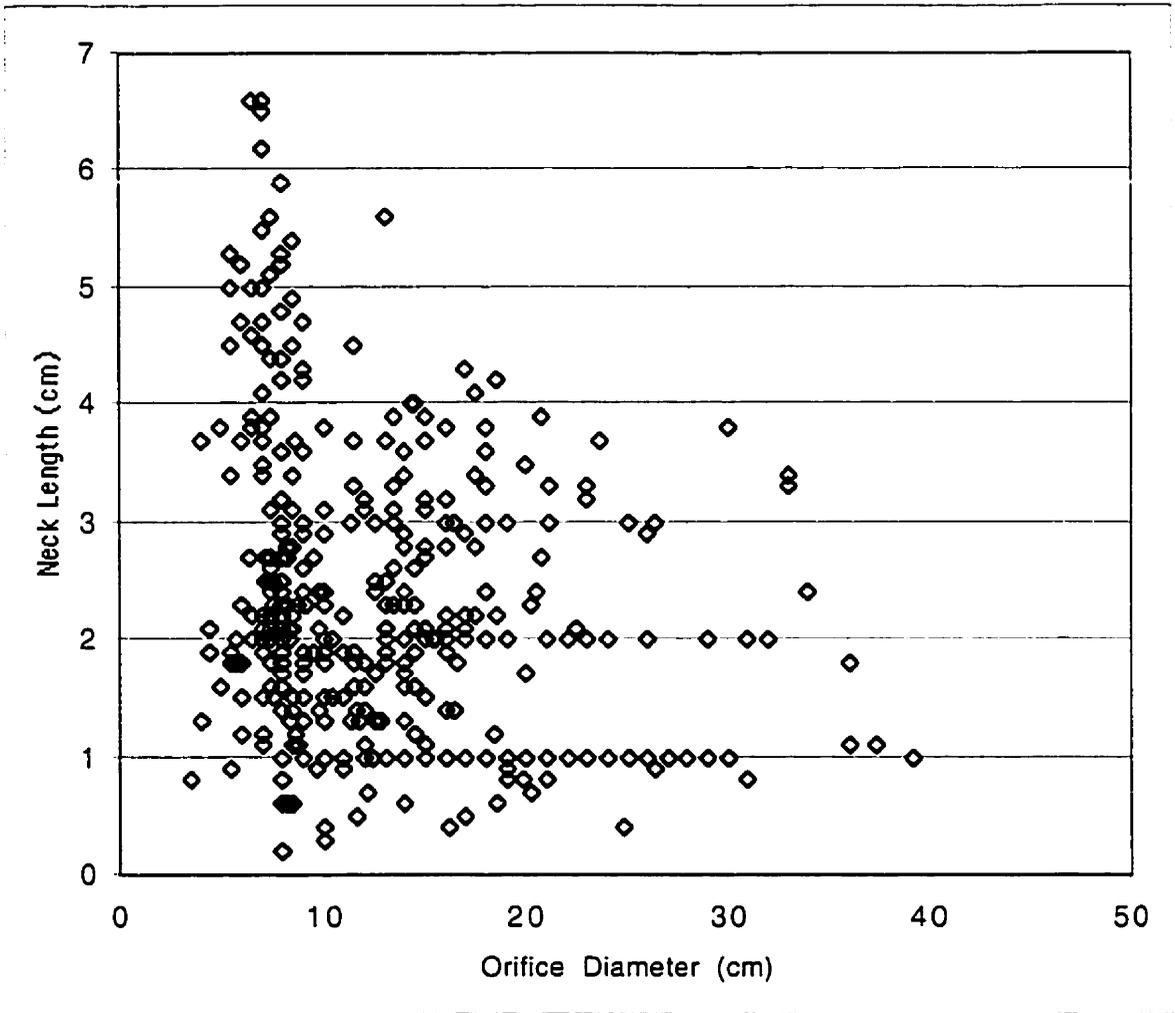


Figure 2.14 - Plot of Orifice Diameter by Angle of Expansion

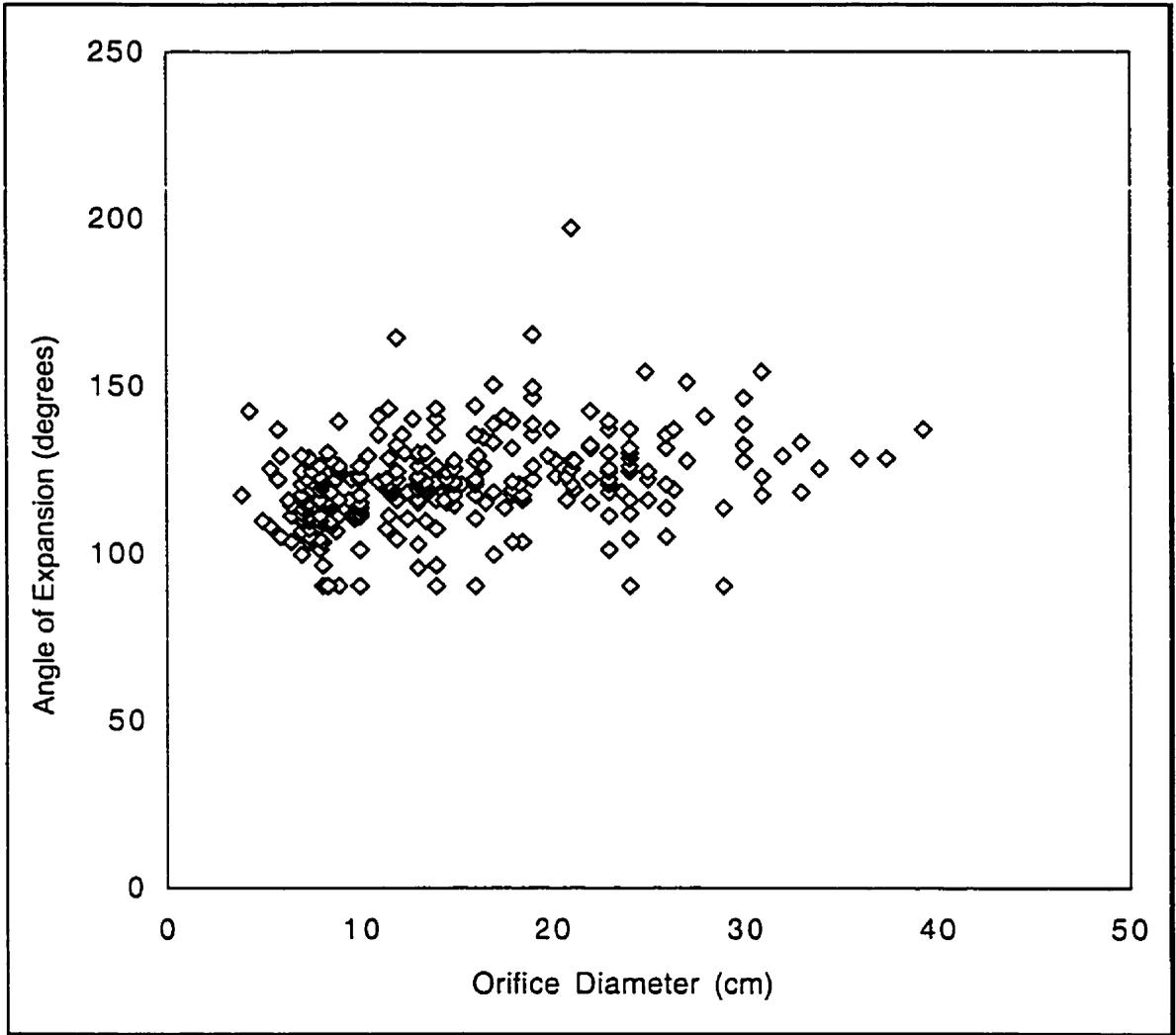


Figure 2.15 - Plot of Neck Length by Angle of Expansion

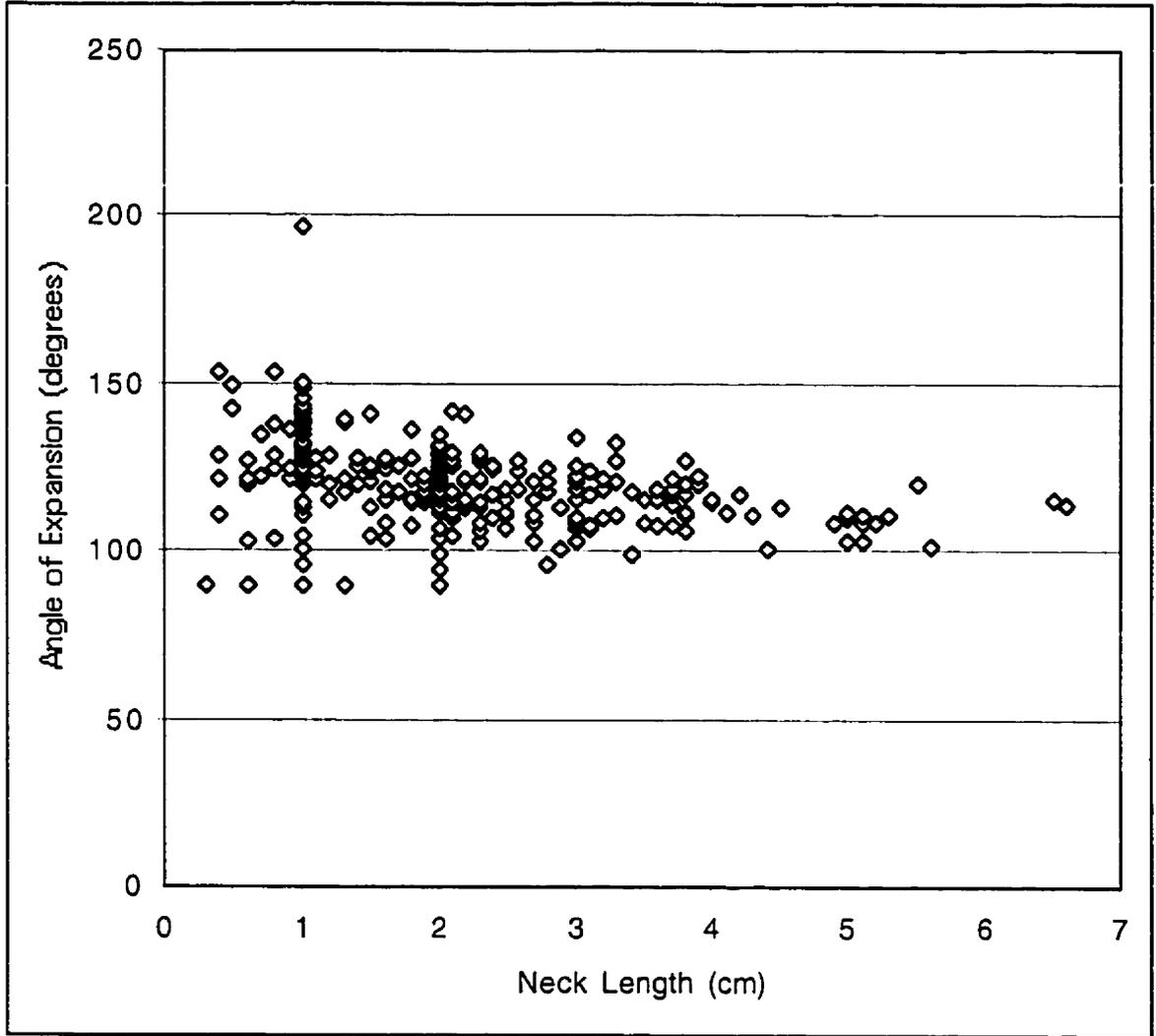


Figure 2.16 - Canonical Discriminant Analysis of Functional Clusters of Closed Vessels
Plot of Canonical Variable 1 by Canonical Variable 2

Symbol is Value of Cluster

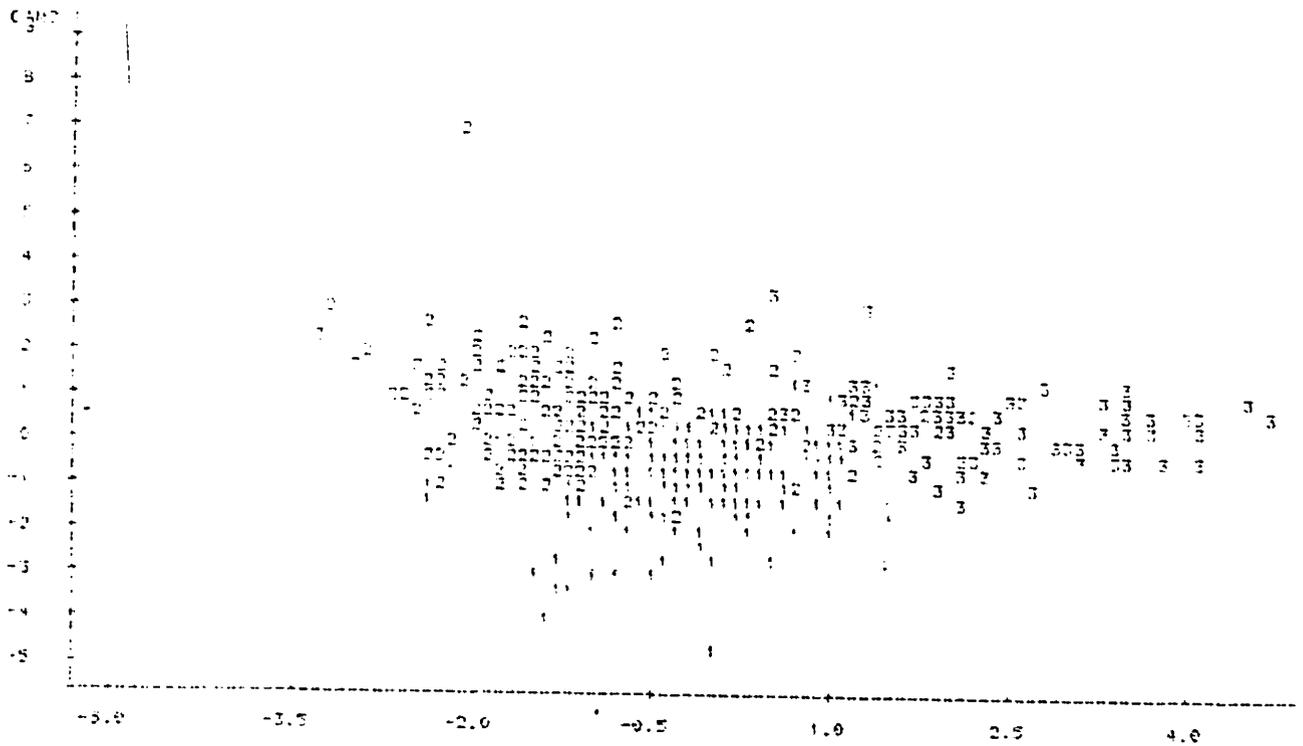


Figure 2.17 - Canonical Discriminant Analysis of Functional Clusters of Closed Vessels

Standardized Canonical Coefficients

	Can 1	Can 2
Orifice Diameter	0.234	0.519
Neck Length	1.5556	0.635
Wall Thickness	-0.1177	-0.522
Angle of Expansion	-0.2863	1.097

Class Means on Canonical Variables

Cluster	Can 1	Can 2
1	-0.1447	-0.7619
2	-1.0533	0.6351
3	2.552	0.4497

Total Sample Correlation Matrix

	Orifice Diameter	Neck Length	Wall Thickness	Angle of Expansion
Orifice Diameter	1	-0.215	0.457	0.283
Neck Length	-0.215	1	0.084	-0.344
Wall Thickness	0.457	0.084	1	0.093
Angle of Expansion	0.283	-0.344	0.093	1

Between-Cluster Correlation Matrix

	Orifice Diameter	Neck Length	Wall Thickness	Angle of Expansion
Orifice Diameter	1	-0.423	-0.988	0.981
Neck Length	-0.423	1	0.556	-0.588
Wall Thickness	-0.988	0.556	1	-0.999
Angle of Expansion	0.981	-0.588	-0.999	1

Pooled Within-Cluster Correlation Matrix

	Orifice Diameter	Neck Length	Wall Thickness	Angle of Expansion
Orifice Diameter	1	-0.222	0.49	0.185
Neck Length	-0.222	1	0.082	-0.15
Wall Thickness	0.49	0.082	1	0.169
Angle of Expansion	0.185	-0.15	0.169	1

Figure 2.18 - Canonical Discriminant Analysis of Functional Clusters of Closed Vessels
Plot of Canonical Variable 1 by Canonical Variable 2

Symbol is Value of Exterior Surface

- 1 - smoothed
- 2 - slight burnish
- 3 - moderate burnish
- 4 - high burnish
- 5 - smoke-blackened
- 6 - smoothed and smoke-blackened
- 7 - obvious wheel marks
- 8 - burnished and smoke blackened

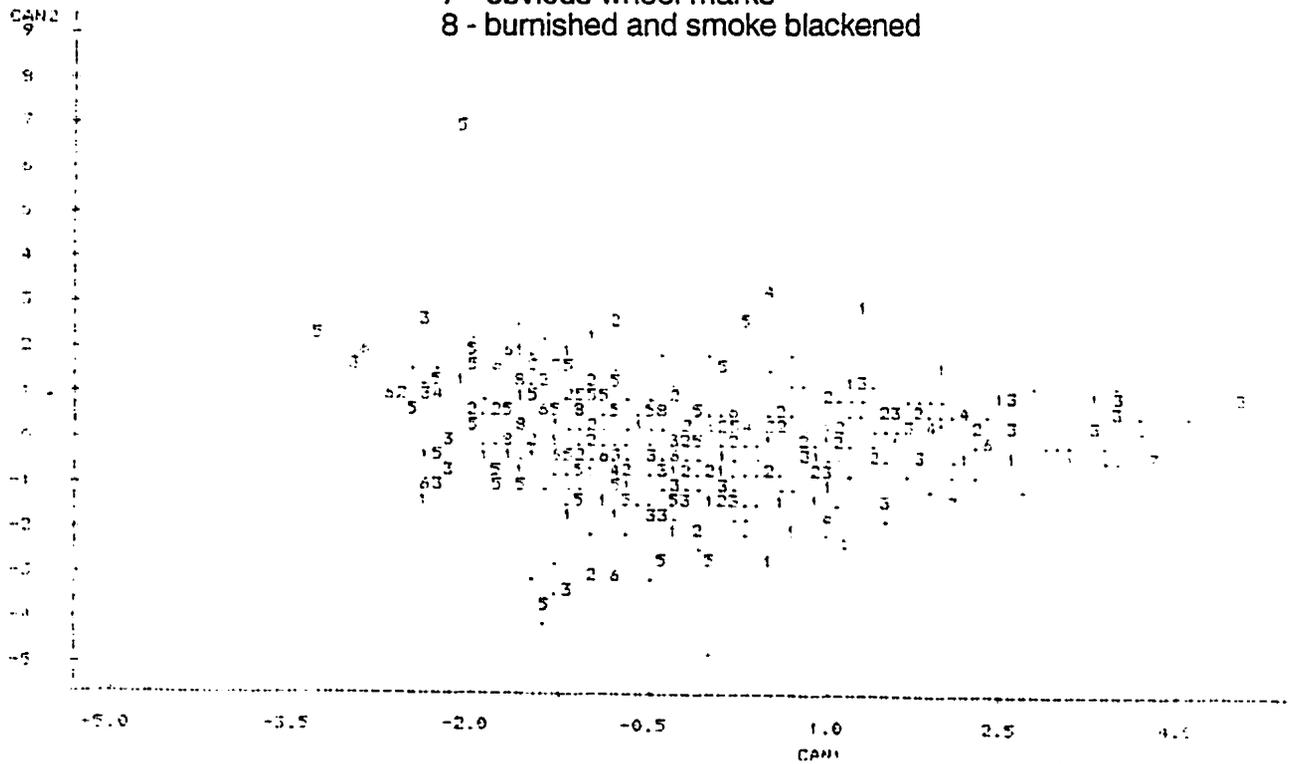


Figure 2.19 - Canonical Discriminant Analysis of Functional Clusters of Closed Vessels
 Plot of Canonical Variable 1 by Canonical Variable 2

Symbol is Value of Ware

- 1 - Coarse
- 2 - Common
- 3 - Fine
- 5 - Grey Wares
- 6 - Overfired

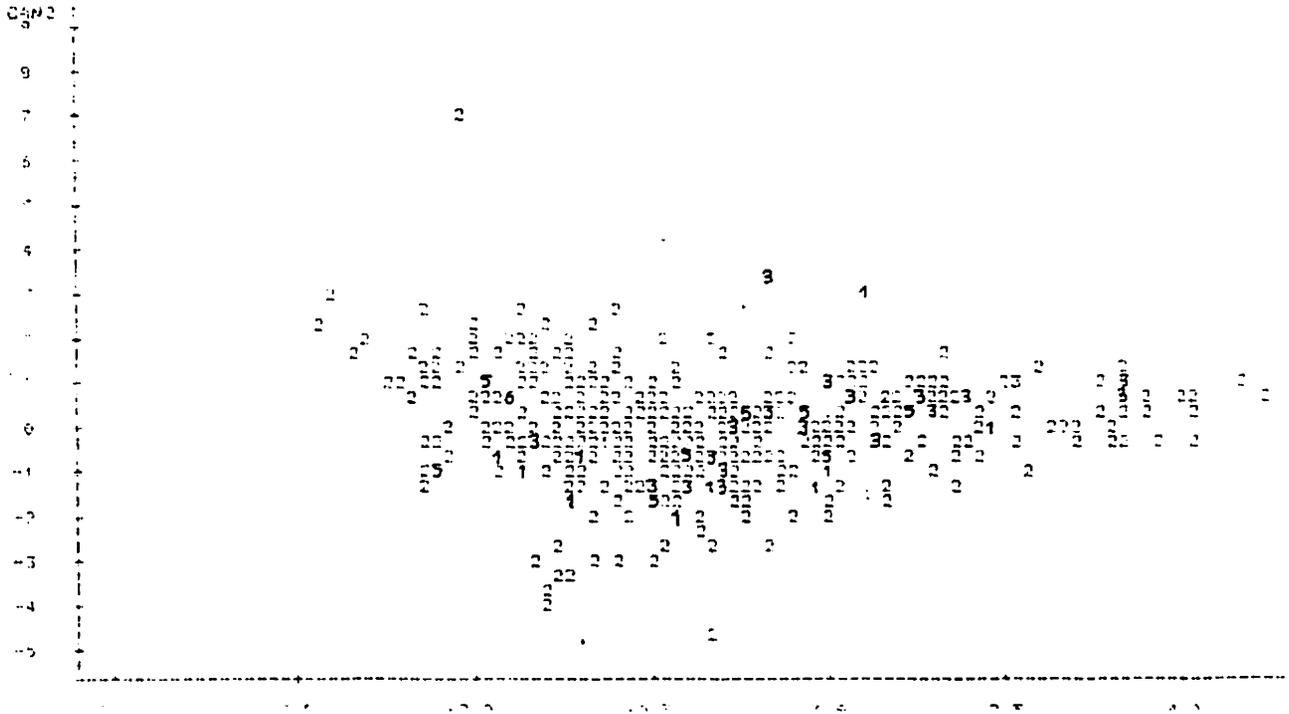


Figure 2.20 - Cluster Analysis of Closed Vessels Excluding Cooking Pots
Plot of Orifice Diameter by Neck Length
Symbol is Value of Cluster

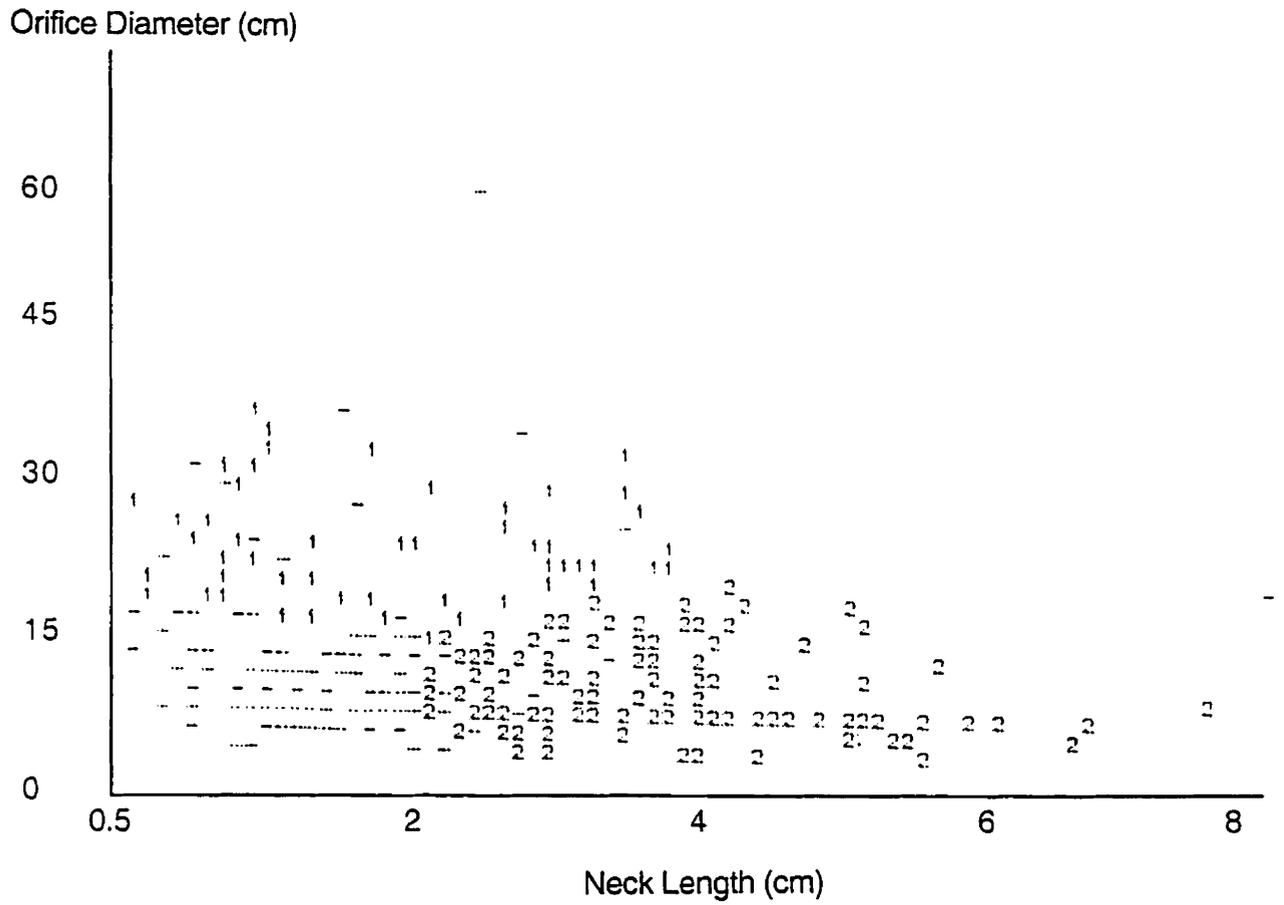


Figure 2.21 - Cluster Analysis of Closed Vessels Excluding Cooking Pots
 Plot of Orifice Diameter by Angle of Expansion
 Symbol is Value of Cluster

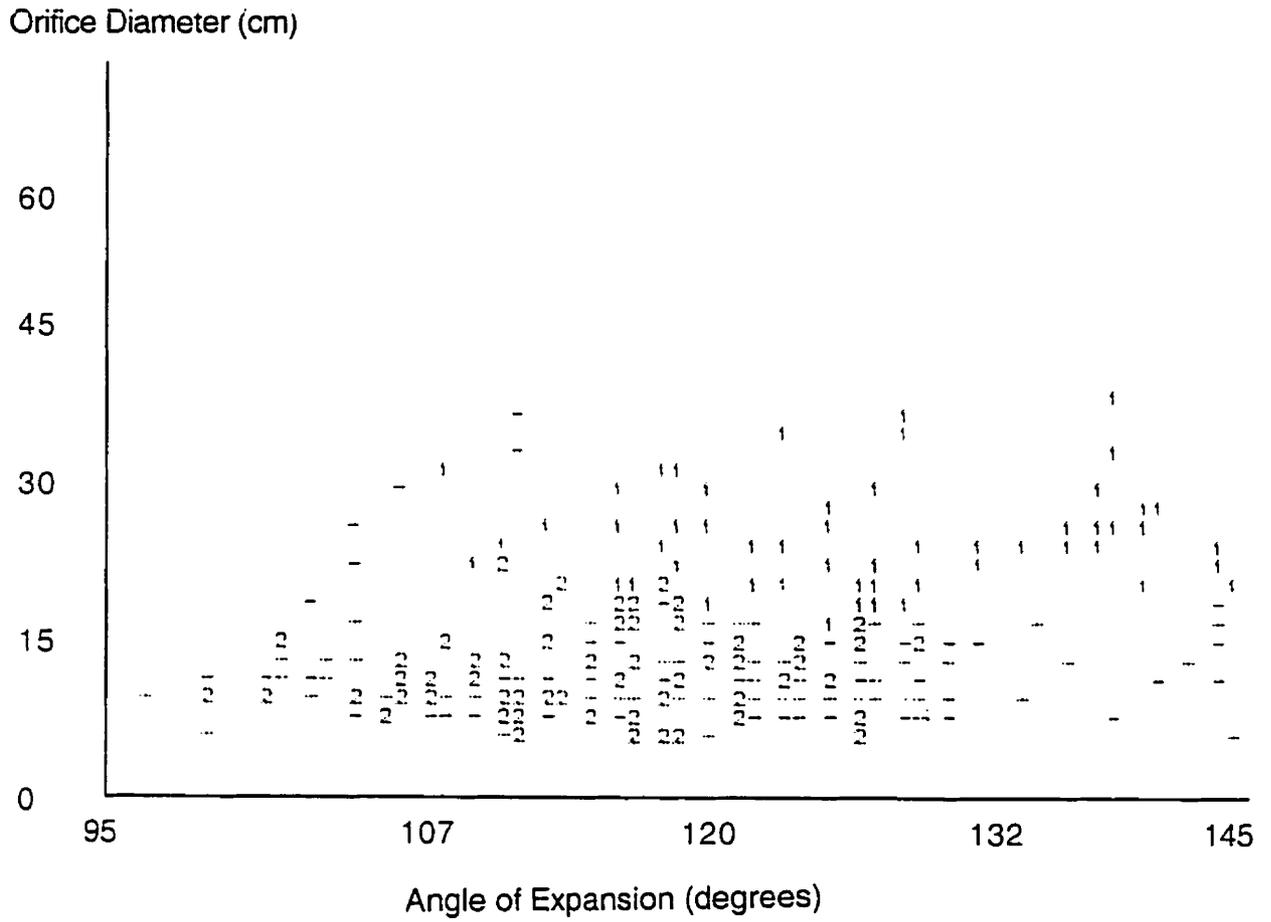


Figure 2.22- Cluster Analysis of Closed Vessels Excluding Cooking Pots
Plot of Neck Length by Angle of Expansion
Symbol is Value of Cluster

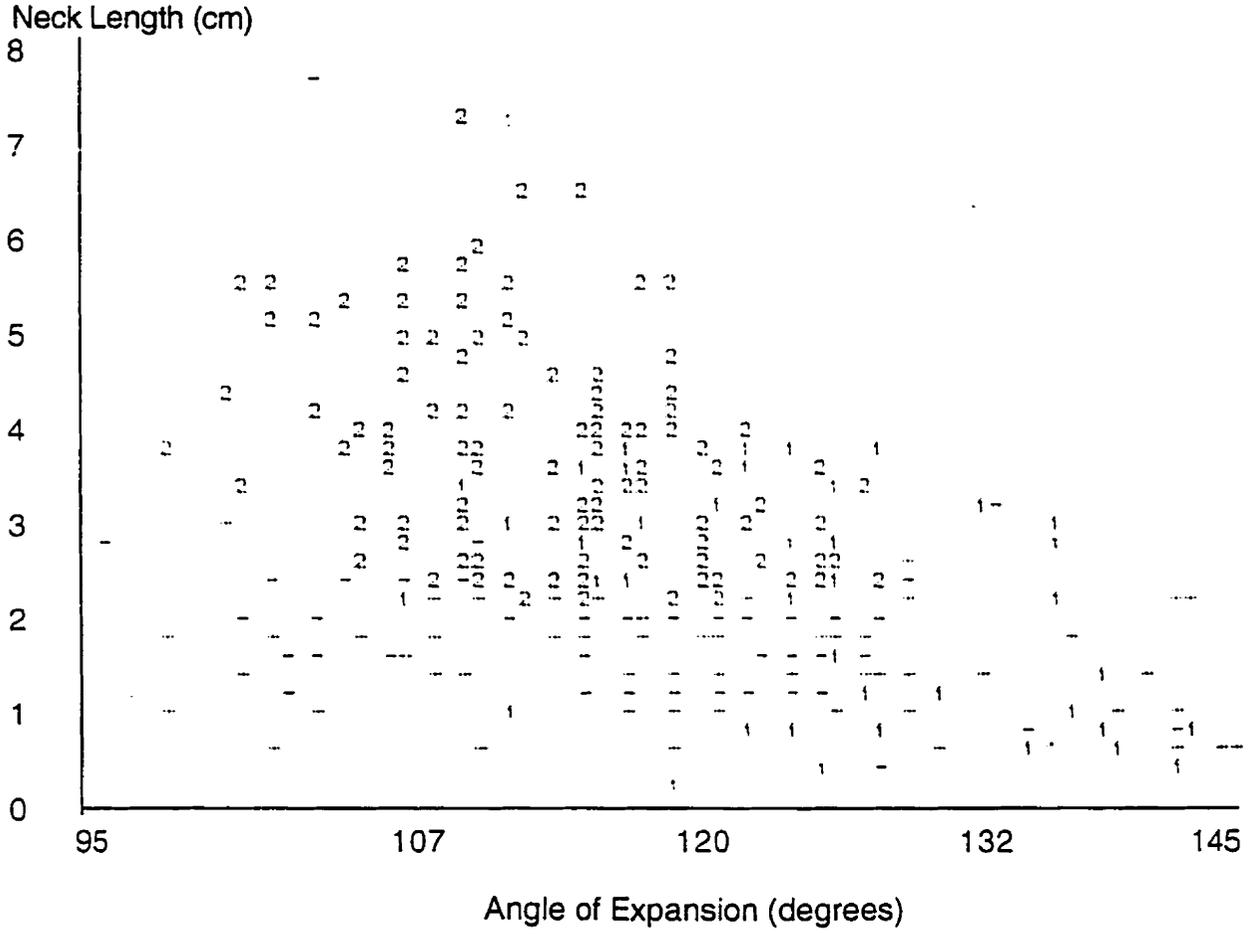


Figure 2.23 - Distribution of Bowl Diameters

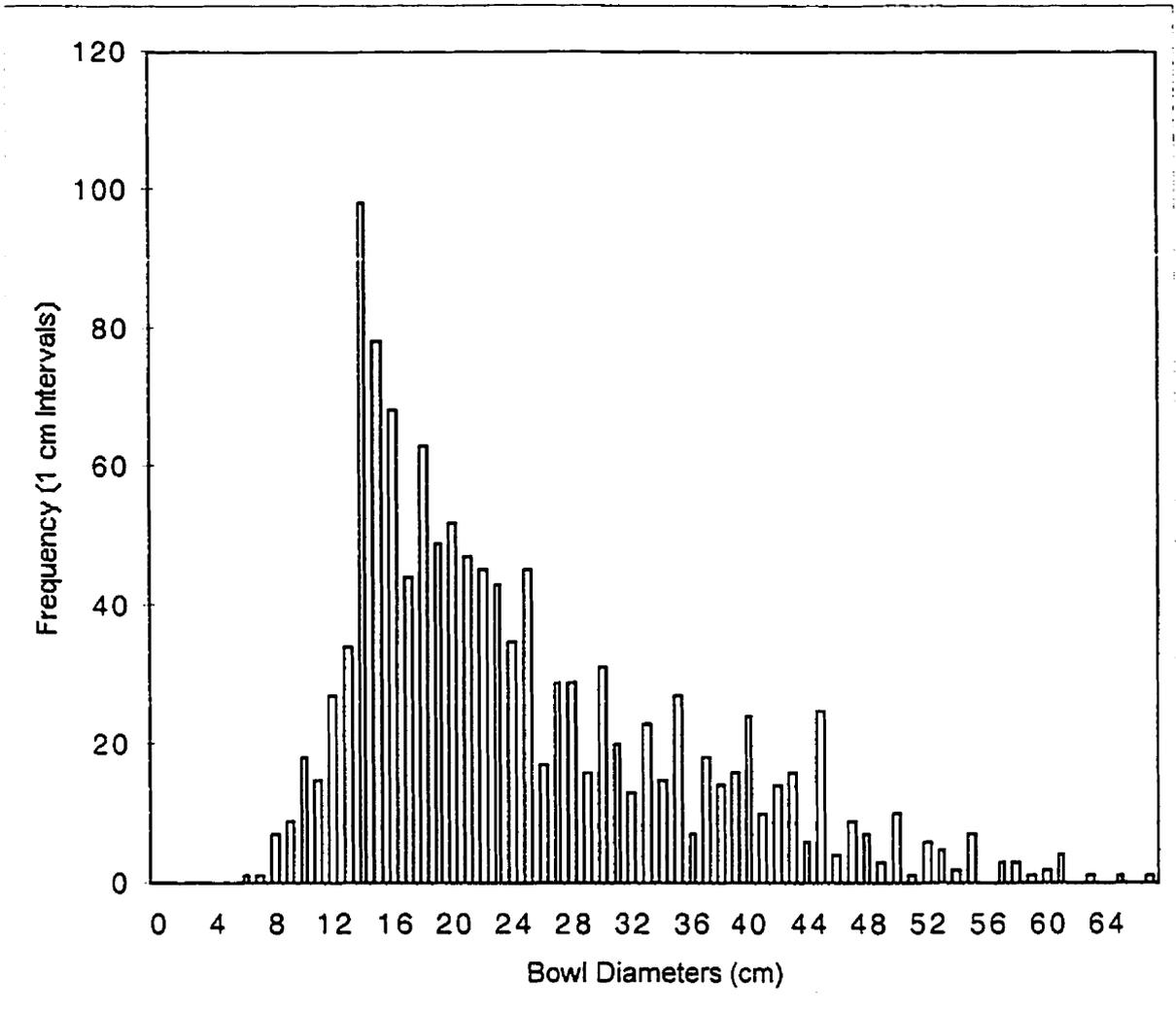


Figure 2.24 - Number of Sherds of Functional Types by Phase

	Bowls	(%)	Cookpots	(%)	Jars	(%)	Total
Mixed	851	(69 %)	84	(7 %)	303	(24 %)	1238
Manor	421	(70 %)	31	(5 %)	152	(25 %)	604
Squatter	418	(60 %)	65	(9 %)	207	(30 %)	690
Total	1690		180		662		2532

Pearson Chi-Square - 19.61 p=.001

Figure 2.25 - Number of Sherds of Functional Types by Large Lots (n>20)

Lots	Bowls	Cookpots	Jars	Total
A1 2	13 65 %	2 10 %	5 25 %	20
A2 3	26 87 %	2 7 %	2 7 %	30
A2 4	17 85 %	0 0 %	3 15 %	20
A3 3	14 67 %	4 19 %	3 14 %	21
AA3 10	181 57 %	43 14 %	93 29 %	317
AA3 12	18 60 %	3 10 %	9 30 %	30
AA3 13	13 57 %	5 22 %	5 22 %	23
AA3 28	46 62 %	5 7 %	23 31 %	74
AA3 29	18 72 %	2 8 %	5 20 %	25
AA3 313	10 45 %	1 5 %	11 50 %	22
AA3 8	16 73 %	2 9 %	4 18 %	22
AA9 14	36 71 %	5 10 %	10 20 %	51
BB1 16	11 55 %	2 10 %	7 35 %	20
BB1 3	13 50 %	6 23 %	7 27 %	26
BB2 2	32 68 %	3 6 %	12 26 %	47
BB2 29	22 65 %	2 6 %	10 29 %	34
BB2 3	15 75 %	0 0 %	5 25 %	20
BB2 38	38 63 %	5 8 %	17 28 %	60
BB3 26	23 79 %	2 7 %	4 14 %	29
BB3 37	13 65 %	2 10 %	5 25 %	20
CC2 4	17 81 %	0 0 %	4 19 %	21
CC3 13	19 79 %	1 4 %	4 17 %	24
D2 1	19 76 %	1 4 %	5 20 %	25
DD2 2	36 75 %	2 4 %	10 21 %	48
DD3 6	58 77 %	3 4 %	14 19 %	75
DD3 8	21 75 %	0 0 %	7 25 %	28
EE1 2	28 62 %	5 11 %	12 27 %	45
EW 503	15 75 %	1 5 %	4 20 %	20
MG6 2	28 58 %	2 4 %	18 38 %	48
MG6 3	33 66 %	0 0 %	17 34 %	50
MG6 5	17 61 %	1 4 %	10 36 %	28
SE 7	13 65 %	1 5 %	6 30 %	20
SE 8	35 70 %	3 6 %	12 24 %	50
SF 2901	108 74 %	11 8 %	26 18 %	145
TR5 3	10 43 %	4 17 %	9 39 %	23

Pearson Chi-Square - 99.74 p=.007

Figure 2.26 - Number of Sherds of Functional Types
by Large (n>20) Mixed Phase Lots

LOTS	BOWLS	COOKPOTS	JARS	TOTAL
A1 2	13 65 %	2 10 %	5 25 %	20
A3 3	14 67 %	4 19 %	3 14 %	21
AA3 12	18 60 %	3 10 %	9 30 %	30
AA3 29	18 72 %	2 8 %	5 20 %	25
AA3 8	16 73 %	2 9 %	4 18 %	22
AA9 14	36 71 %	5 10 %	10 20 %	51
BB1 3	13 50 %	6 23 %	7 27 %	26
BB2 2	32 68 %	3 6 %	12 26 %	47
BB2 29	22 65 %	2 6 %	10 29 %	34
BB2 3	15 75 %	0 0 %	5 25 %	20
BB2 38	38 63 %	5 8 %	17 28 %	60
BB3 26	23 79 %	2 7 %	4 14 %	29
BB3 37	13 65 %	2 10 %	5 25 %	20
CC2 4	17 81 %	0 0 %	4 19 %	21
D2 1	19 76 %	1 4 %	5 20 %	25
EW 503	15 75 %	1 5 %	4 20 %	20
SE 7	13 65 %	1 5 %	6 30 %	20
SE 8	35 70 %	3 6 %	12 24 %	50
SF 2901	108 74 %	11 8 %	26 18 %	145

Pearson Chi-Square - 27.40 p=.85

Figure 2.27 - Number of Sherds of Functional Types
by Large (n>20) Manor Phase Lots

LOTS	BOWLS	COOKPOTS	JARS	TOTAL
A2 4	17 85 %	0 0 %	3 15 %	20
BB1 16	11 55 %	2 10 %	7 35 %	20
CC3 13	19 79 %	1 4 %	4 17 %	24
DD2 2	36 75 %	2 4 %	10 21 %	48
DD3 6	58 77 %	3 4 %	14 19 %	75
DD3 8	21 75 %	0 0 %	7 25 %	28
EE1 2	28 62 %	5 11 %	12 27 %	45
MG6 2	28 58 %	2 4 %	18 38 %	48
MG6 3	33 66 %	0 0 %	17 34 %	50
MG6 5	17 61 %	1 4 %	10 36 %	28
TR5 3	10 43 %	4 17 %	9 39 %	23

Pearson Chi-Square - 33.57 p=.029

Figure 2.28 - Number of Sherds of Functional Types
by Large ($n > 20$) Squatter Lots

LOTS	BOWLS	COOKPOTS	JARS	TOTAL
A2 3	26 87 %	2 7 %	2 7 %	30
AA3 10	181 57 %	43 14 %	93 29 %	317
AA3 13	13 57 %	5 22 %	5 22 %	23
AA3 28	46 62 %	5 7 %	23 31 %	74

Pearson Chi-Square - 19.8 $p = .011$

Figure 2.29 - Estimated Vessel Equivalents (total % preserved) of Functional Types
Large (n>20) Mixed Lots

% of Lot by Estimated Vessel Equivalents			
Lots	Bowls %	Cookpots %	Jars %
A1 2	38.3	11.8	49.9
A3 3	64.3	21.4	14.3
AA3 12	48.3	13.5	38.2
AA3 29	66.7	8.3	25.0
AA3 8	59.6	14.0	26.3
AA9 14	71.0	10.5	18.5
BB1 3	47.4	22.8	29.8
BB2 2	66.1	6.8	27.1
BB2 29	45.5	6.5	48.1
BB2 3	69.2	0	30.8
BB2 38	55.6	11.3	33.1
BB3 26	67.2	4.5	28.4
BB3 37	41.7	6.7	51.7
CC2 4	64.9	0	35.1
D2 1	63.4	2.8	33.8
EW 503	70.9	3.6	25.5
SE 7	45.5	6.8	47.7
SE 8	57.7	6.7	35.6
SF 2901	68.8	8.2	23.0

Figure 2. 30 - Estimated Vessel Equivalents (total % preserved) of Functional Types Large (n>20) Manor Phase Lots

% of Lot by Estimated Vessel Equivalents				
Lots		Bowls %	Cookpots %	Jars %
A2	4	76.1	0	23.9
BB1	16	46.3	11.1	42.6
CC3	13	78.1	1.9	20.0
DD2	2	64.6	5.5	29.9
DD3	6	73.5	1.8	24.7
DD3	8	74.2	0	25.8
EE1	2	50.7	11.8	37.5
MG6	2	54.8	6.7	38.6
MG6	3	66.9	0	33.1
MG6	5	55.9	3.2	40.9
TR5	3	61.4	15.6	23.0

Figure 2.31- Estimated Vessel Equivalents (total % preserved) of Functional Types
Large (n>20) Squatter Phase Lots

% of Lot by Estimated Vessel Equivalents			
Lots	Bowls %	Cookpots %	Jars %
A2 3	81.2	12.5	6.2
AA3 10	46.6	14.2	39.2
AA3 13	50.0	22.4	27.6
AA3 28	52.4	8.6	39.0
AA3 313	32.1	5.7	62.3

Figure 2.32 - Estimated Vessel Equivalents (total % preserved) of Functional Types by Phase

	Bowls (%)		Cookpots (%)		Jars (%)		Total
Mixed	94	(61 %)	10	(6 %)	50	(32 %)	154
Manor	59	(63 %)	5	(5 %)	29	(31 %)	93
Squatter	44	(51 %)	8	(9 %)	34	(40 %)	86
Total	197	(59 %)	23	(7 %)	113	(34 %)	333

Figure 2.33 - Number of Sherds of Fine and Common Wares by Phase

	Common (%)	Fine (%)	Total
Mixed	646 (83 %)	129 (17 %)	775
Manor	389 (83 %)	80 (17 %)	469
Squatter	433 (93 %)	33 (7 %)	466
Total	0	242	242

Pearson Chi-Square - 26.39 p=.0001

Figure 2.34 - Fine and Common Wares in Large (n>15) Manor Phase Lots

Lots	Common %	Fine %
A2 4	88.00	20.00
A3 6	94.12	5.88
BB1 16	95.00	5.00
CC3 13	95.83	4.17
DD2 2	83.33	16.67
DD3 6	74.67	25.33
DD3 8	78.57	21.43
EE1 2	86.67	13.33
MG6 2	93.75	6.25
MG6 3	78.00	22.00
TR5 3	91.30	8.70
TR5 4	93.75	6.25

Figure 2.35 - Fine and Common Wares in Large (n>15) Squatter Phase Lots

Lots	Common %	Fine %
A2 3	83.33	16.67
AA3 10	94.01	5.99
AA3 28	97.30	2.70
CC2 2	93.75	6.25

Figure 4.1

n=286

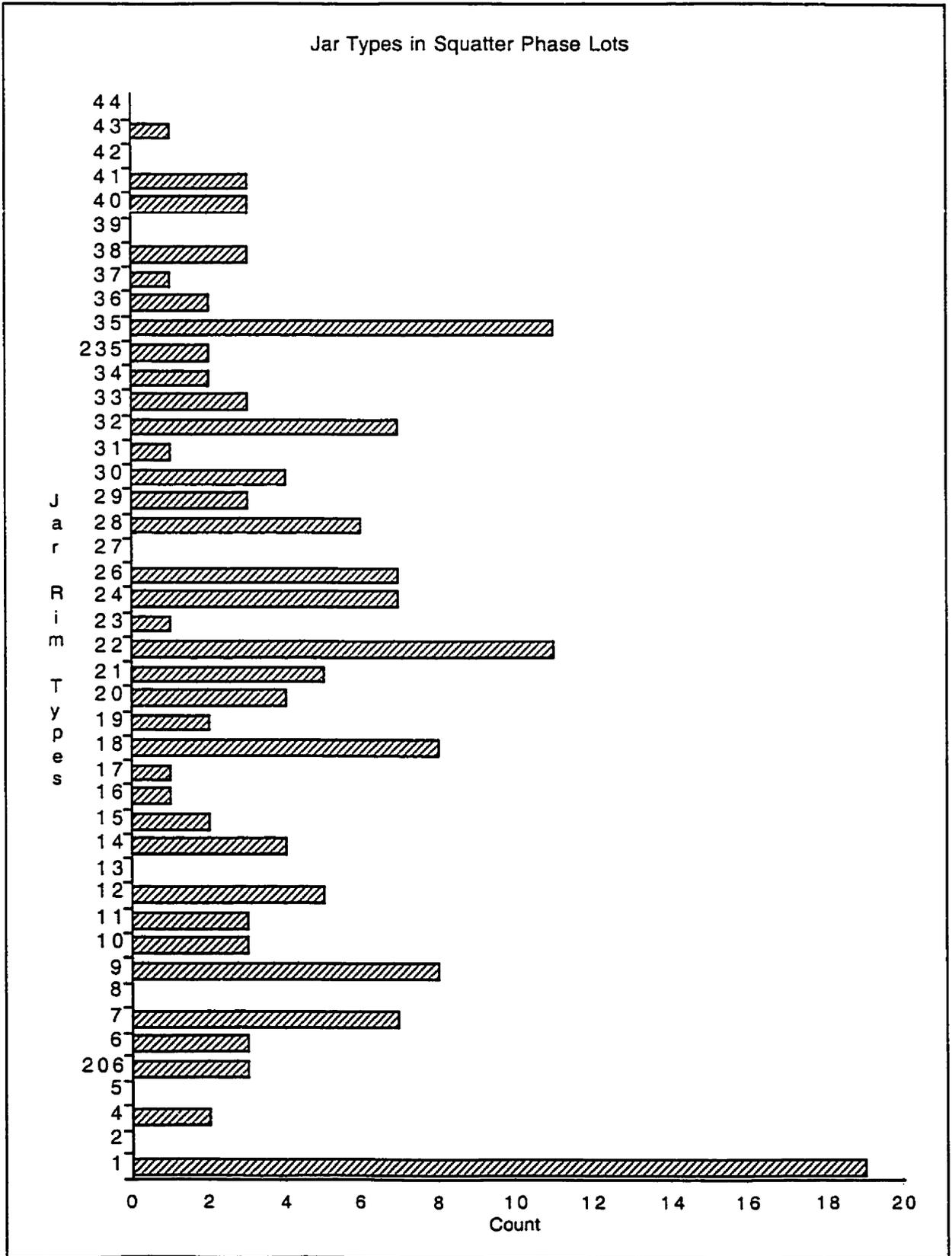


Figure 4.2

n=112

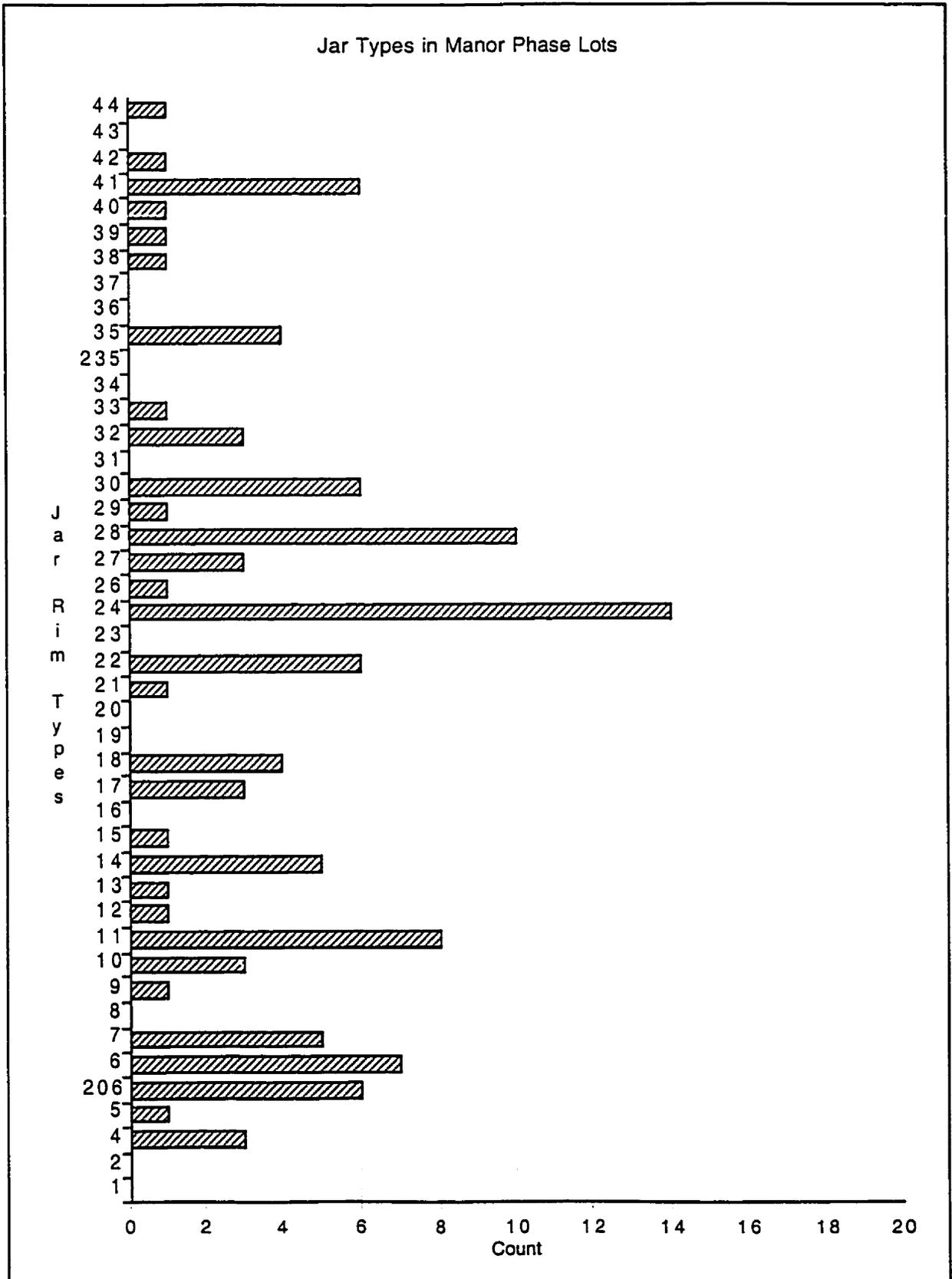


Figure 4.3

n=209

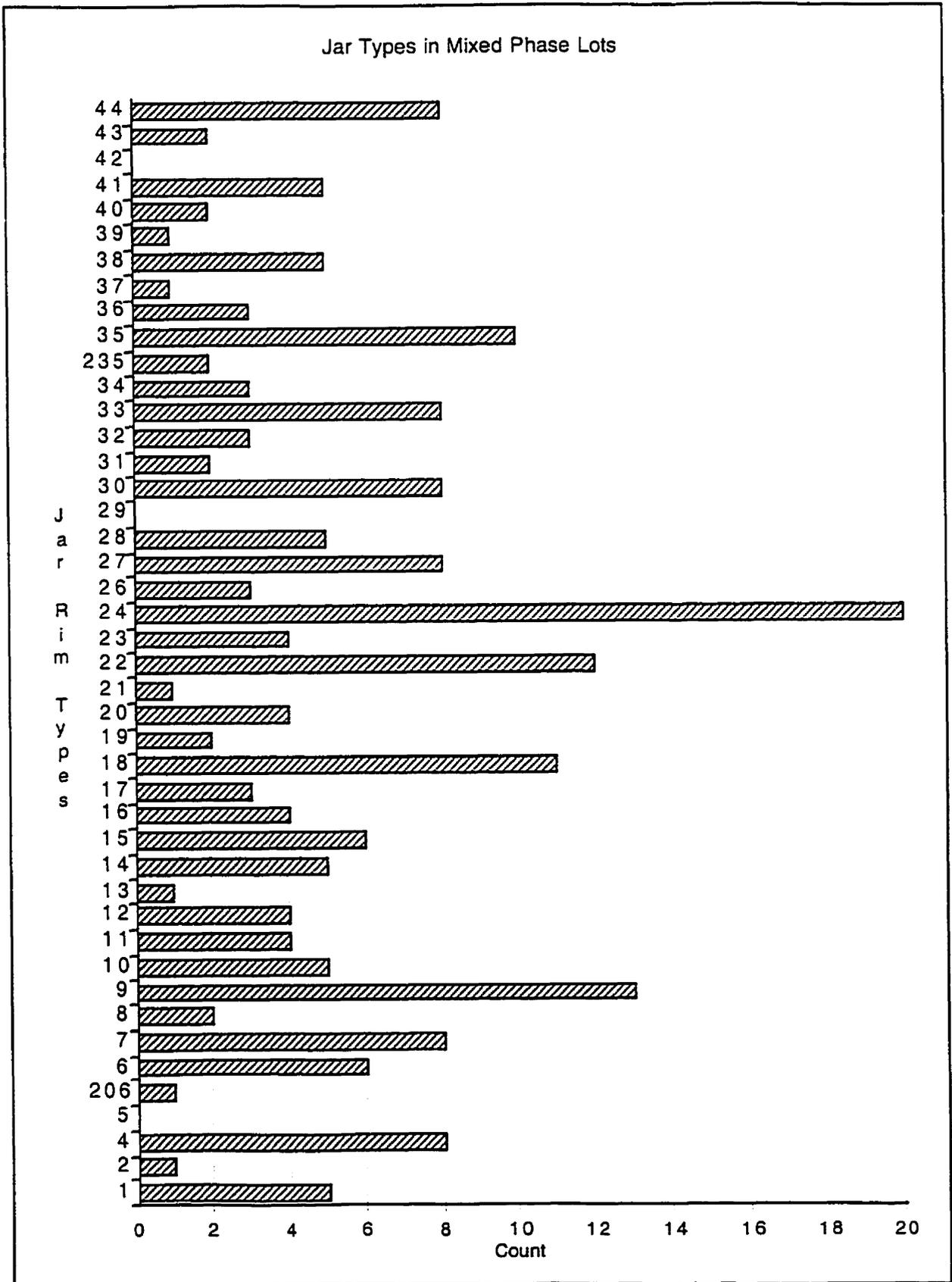


Figure 4.4

n=58

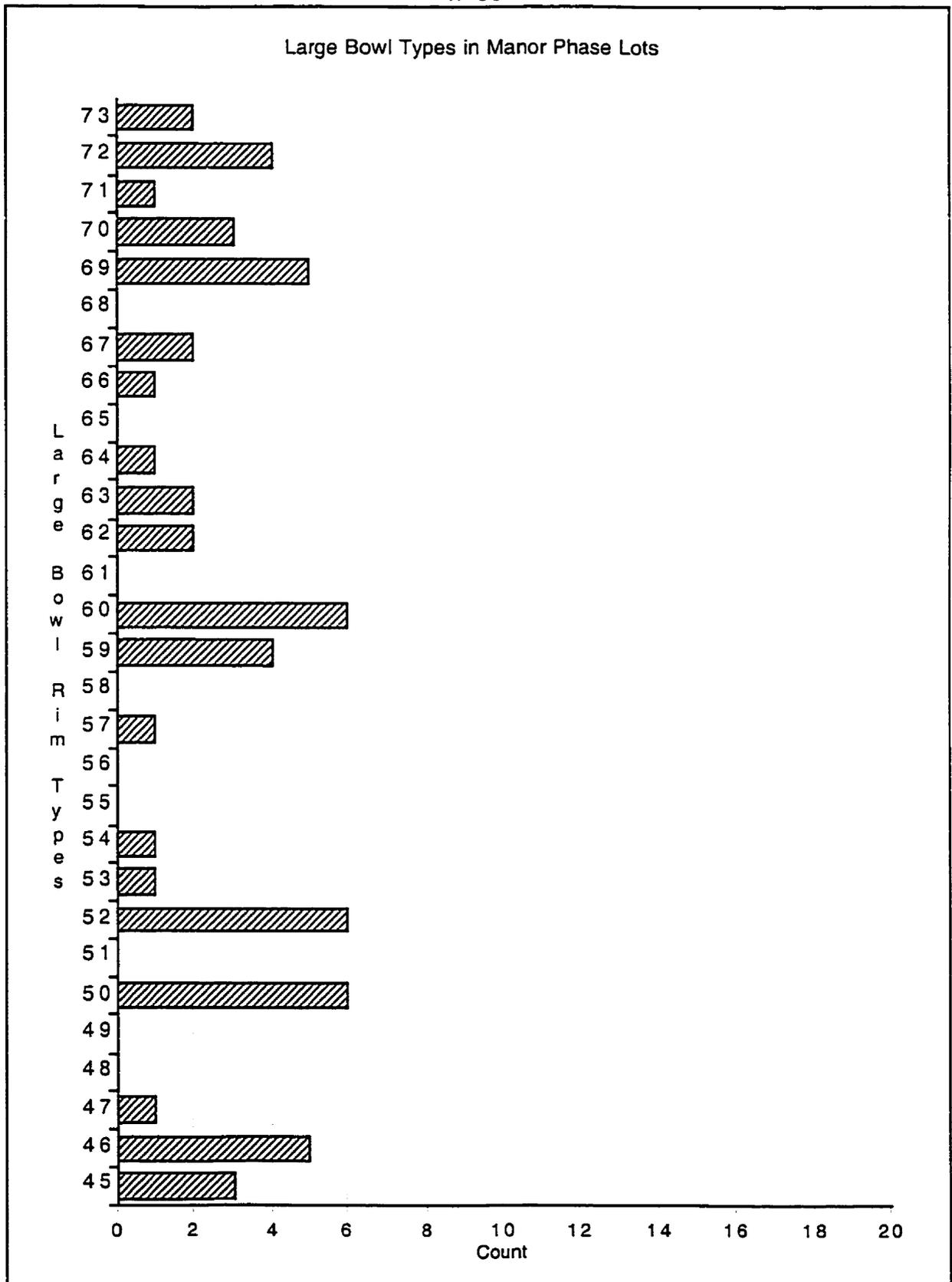


Figure 4.5

n=125

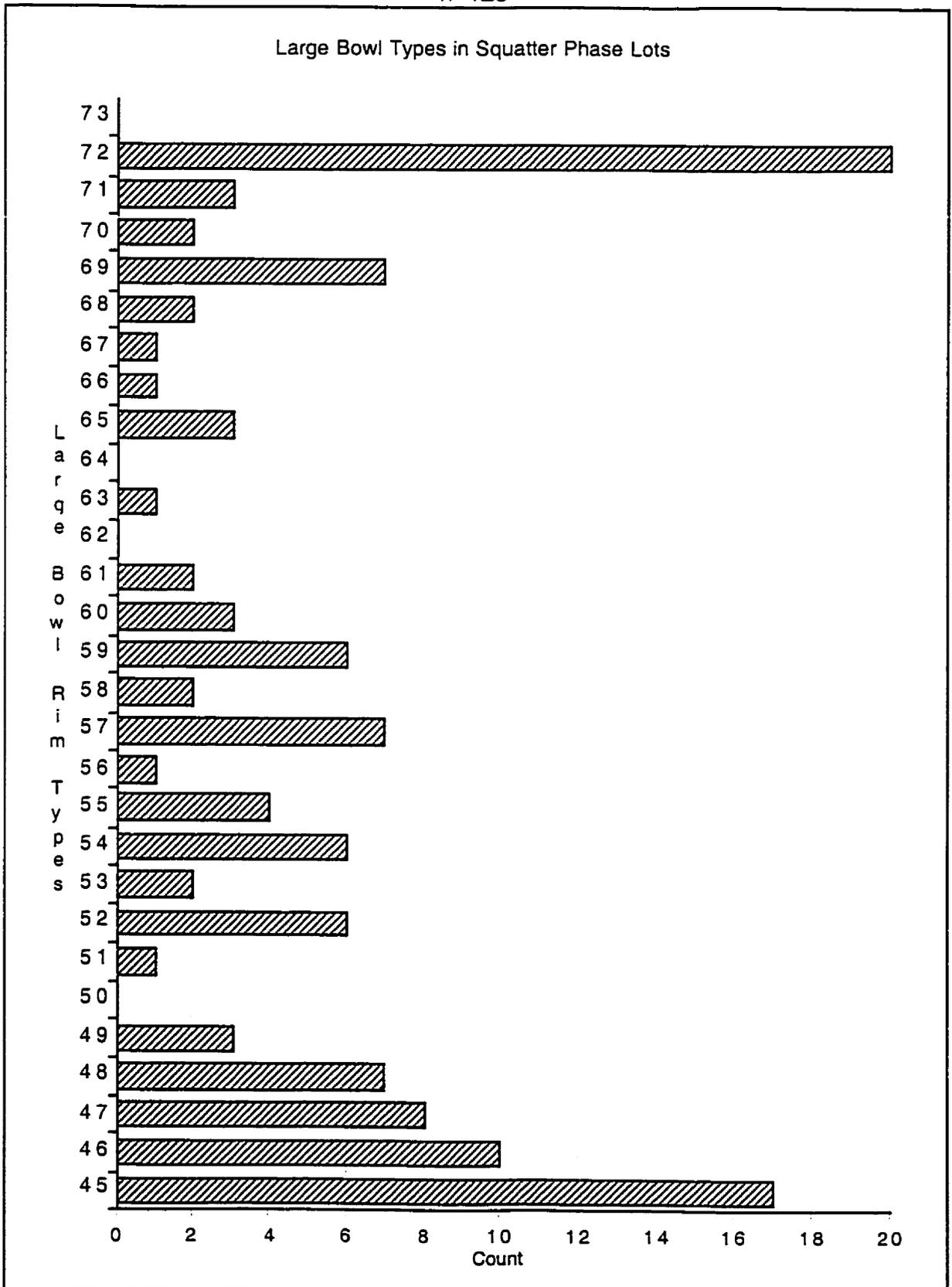


Figure 4.6

n=184

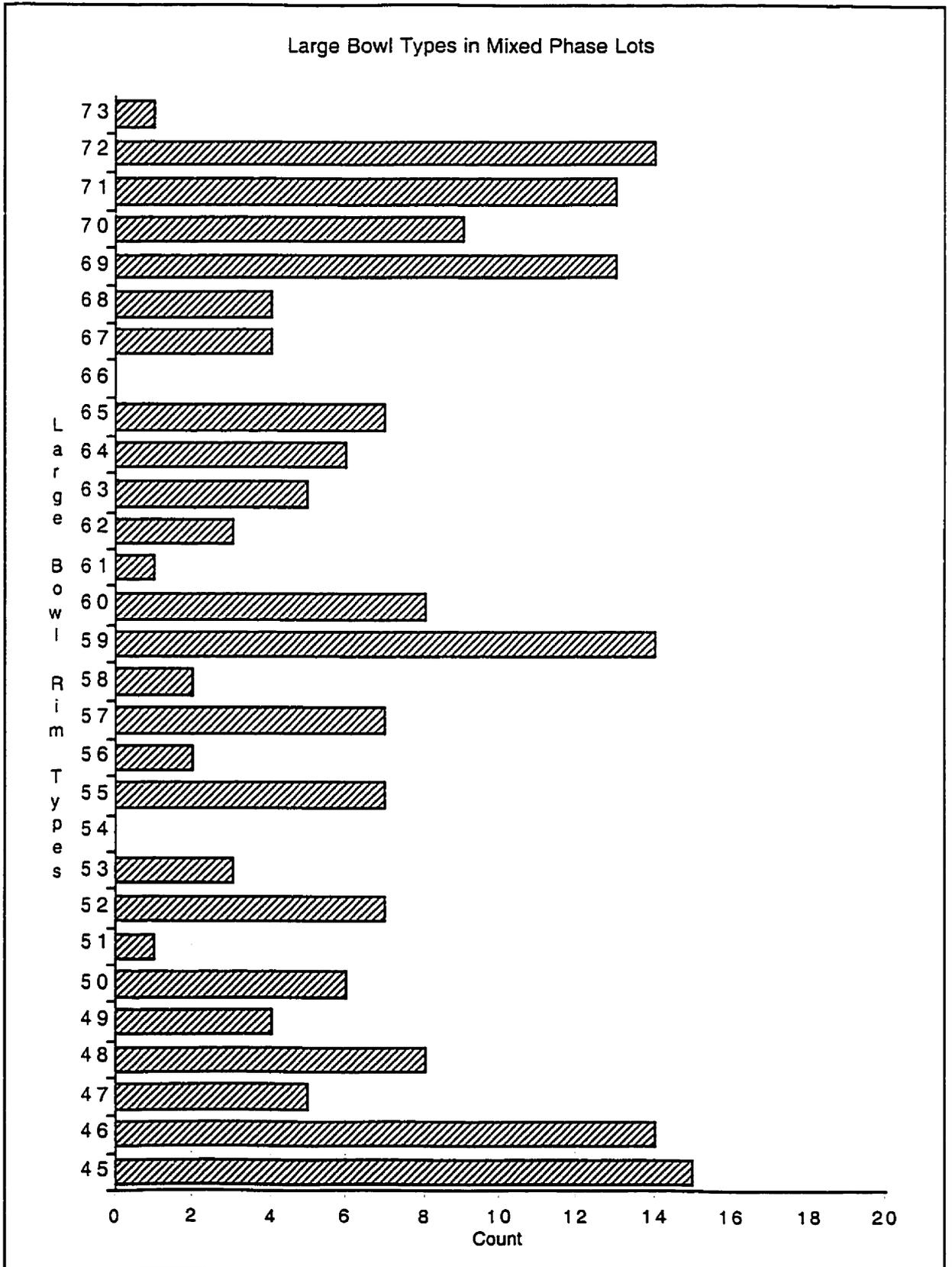


Figure 4.7

n=281

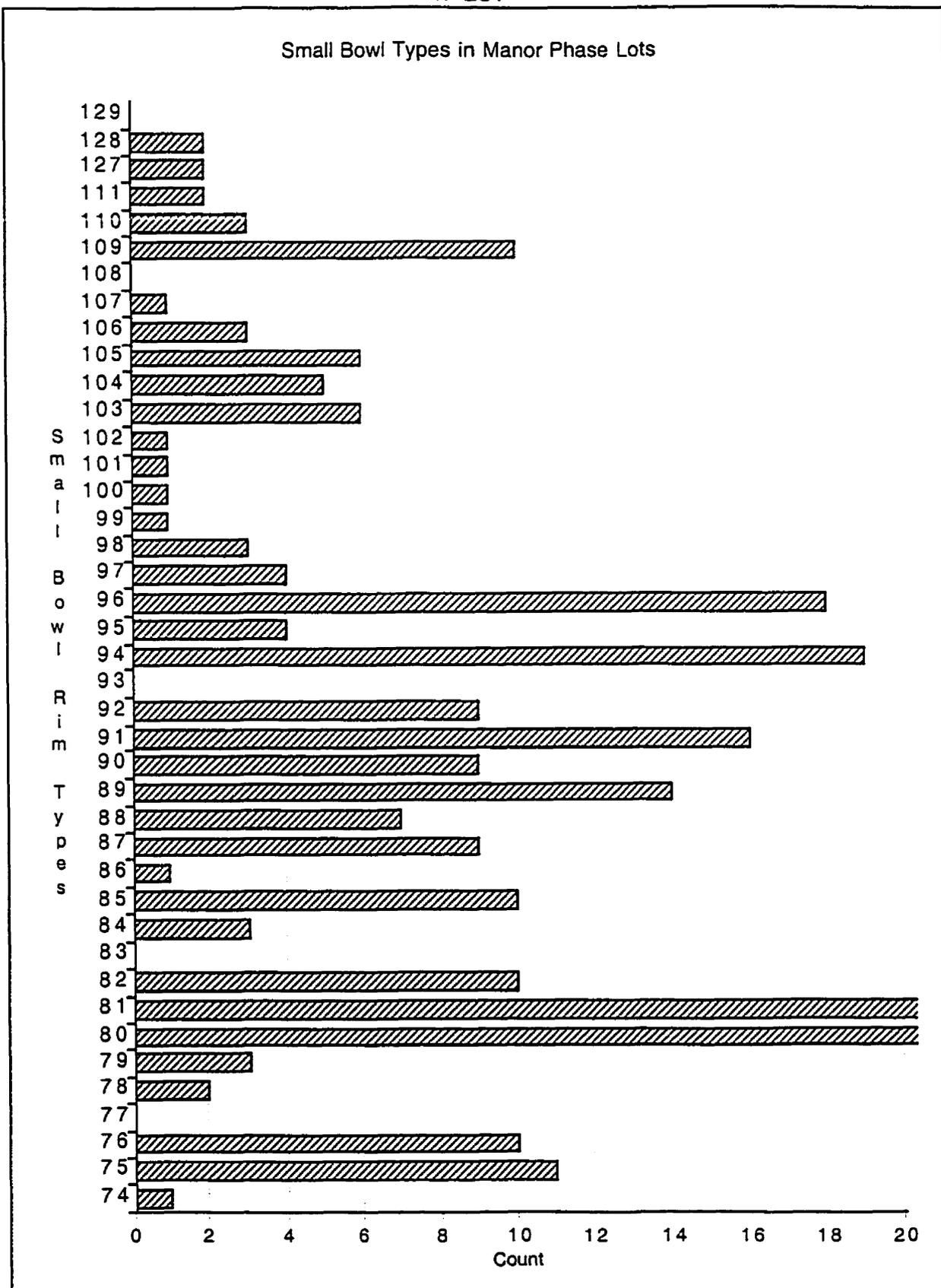


Figure 4.8

n=195

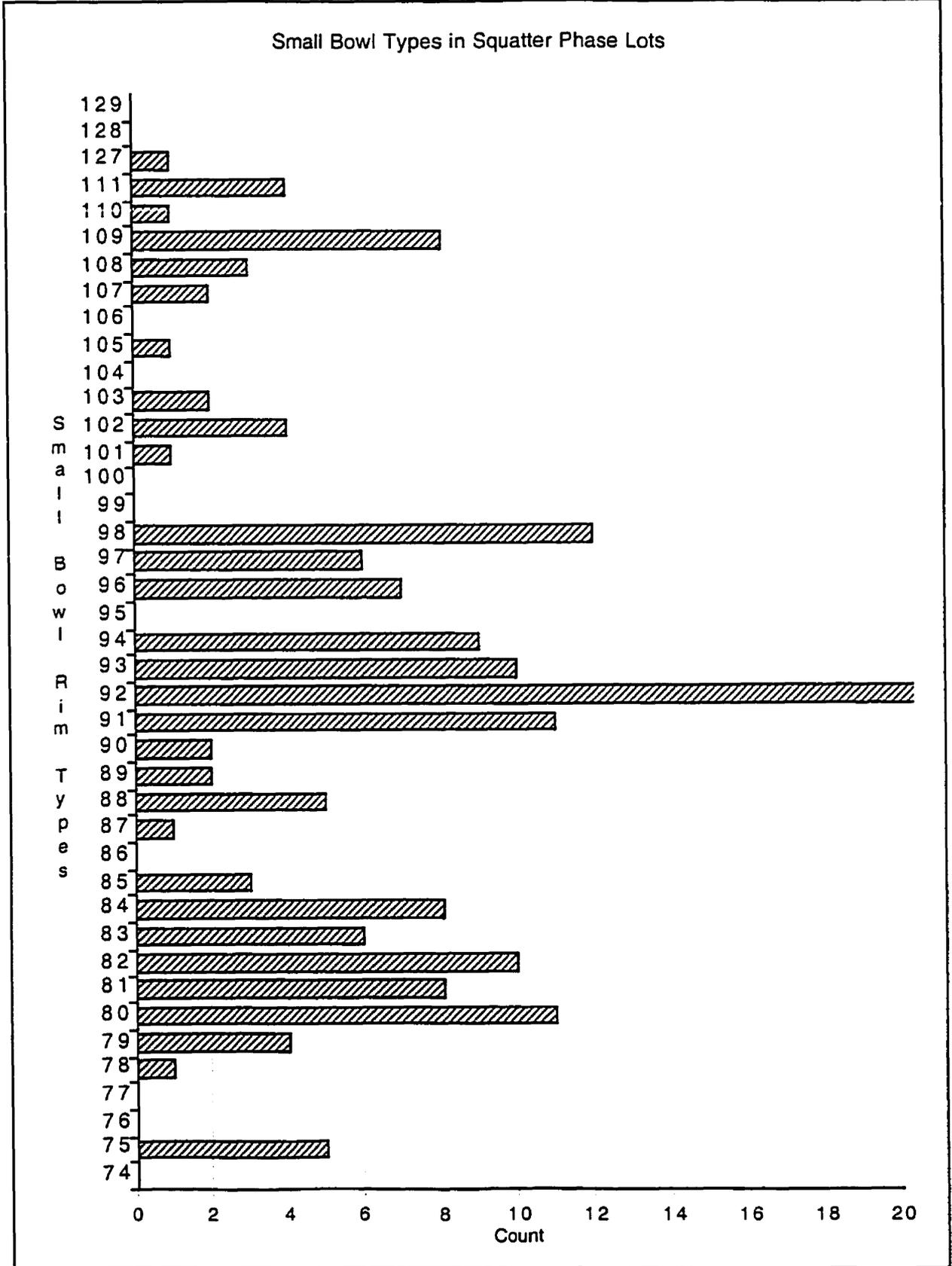


Figure 4.9

n=450

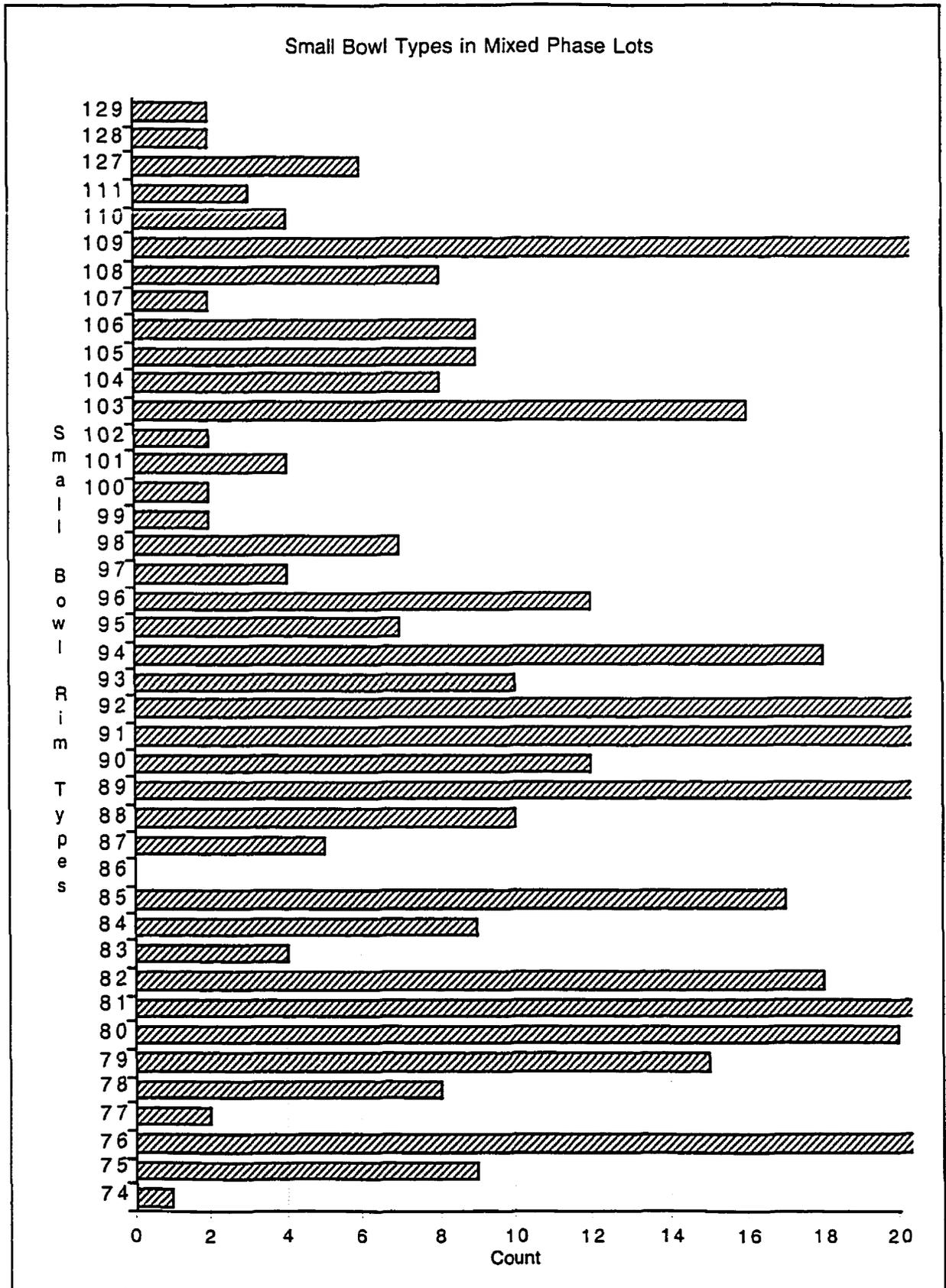


Figure 4.10

n=51

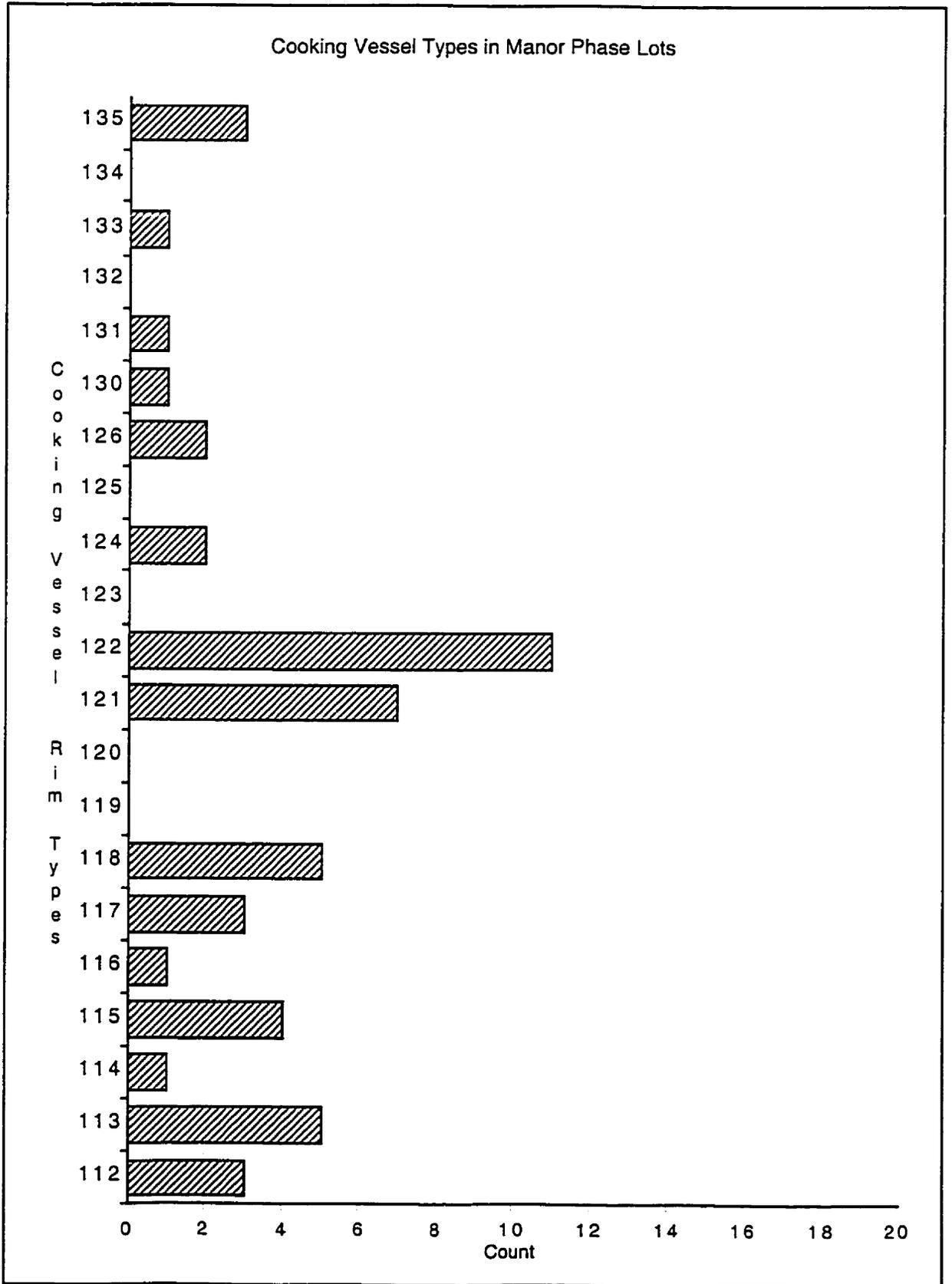


Figure 4.11

n=90

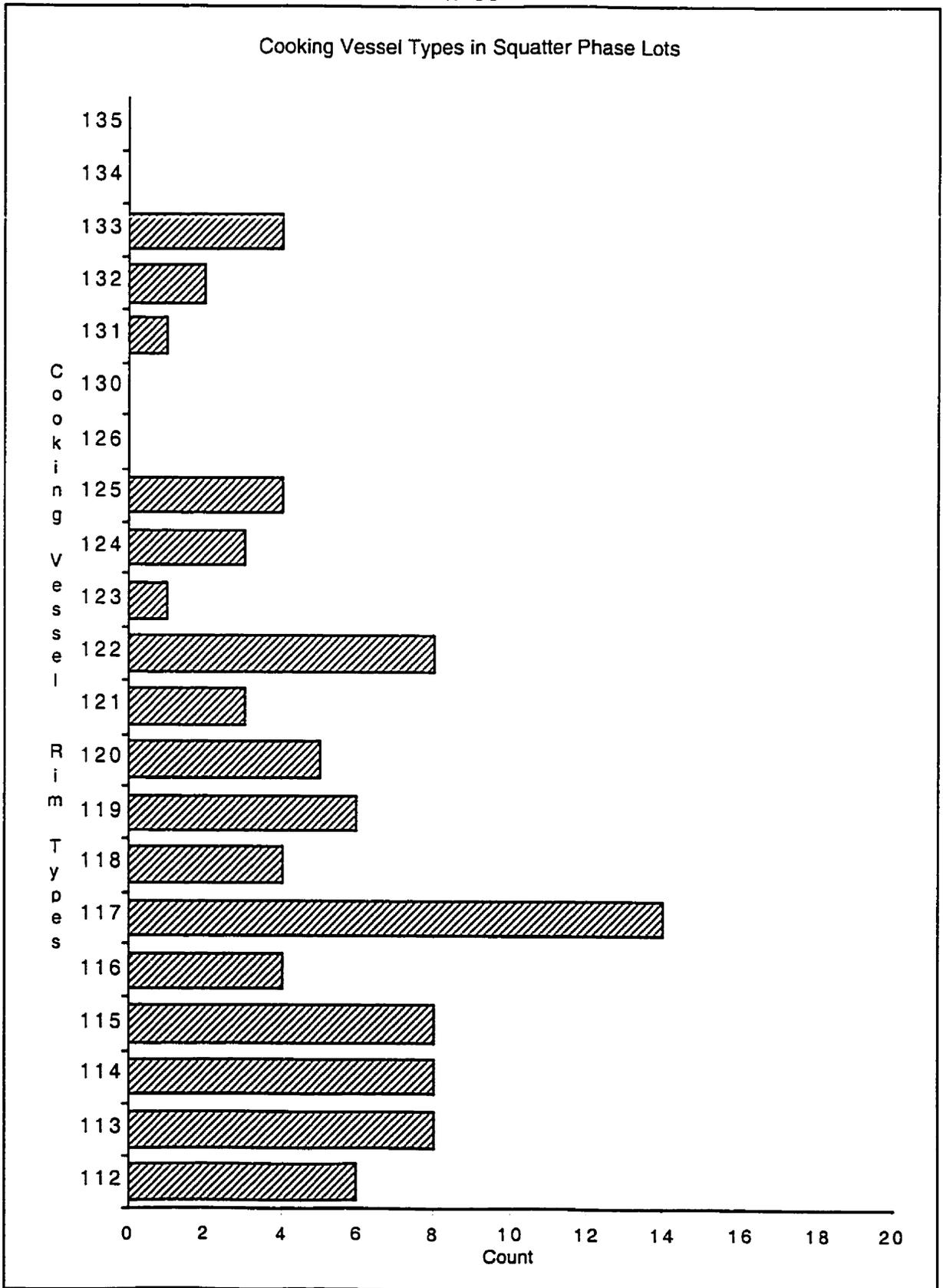


Figure 4.12

n=114

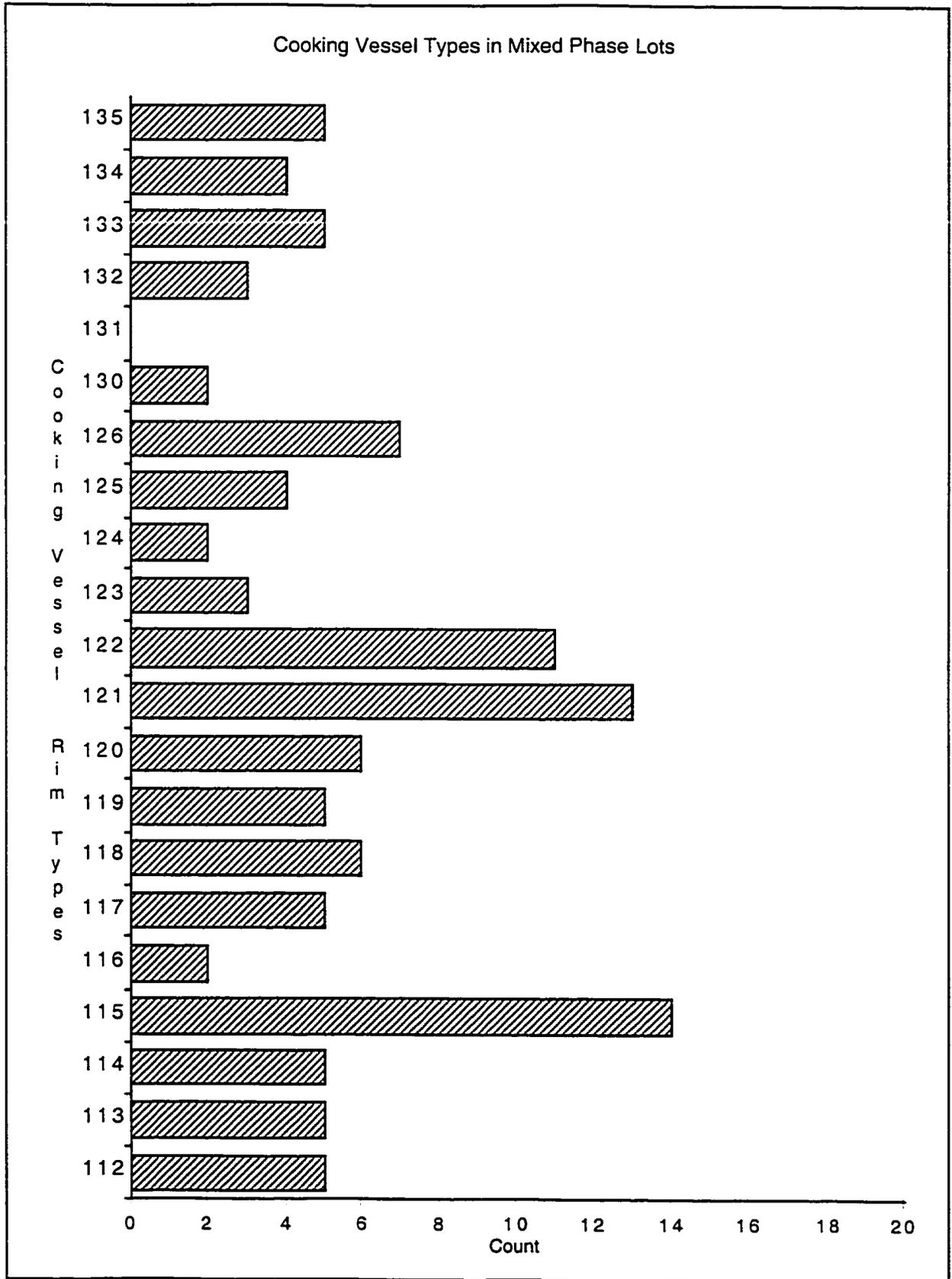
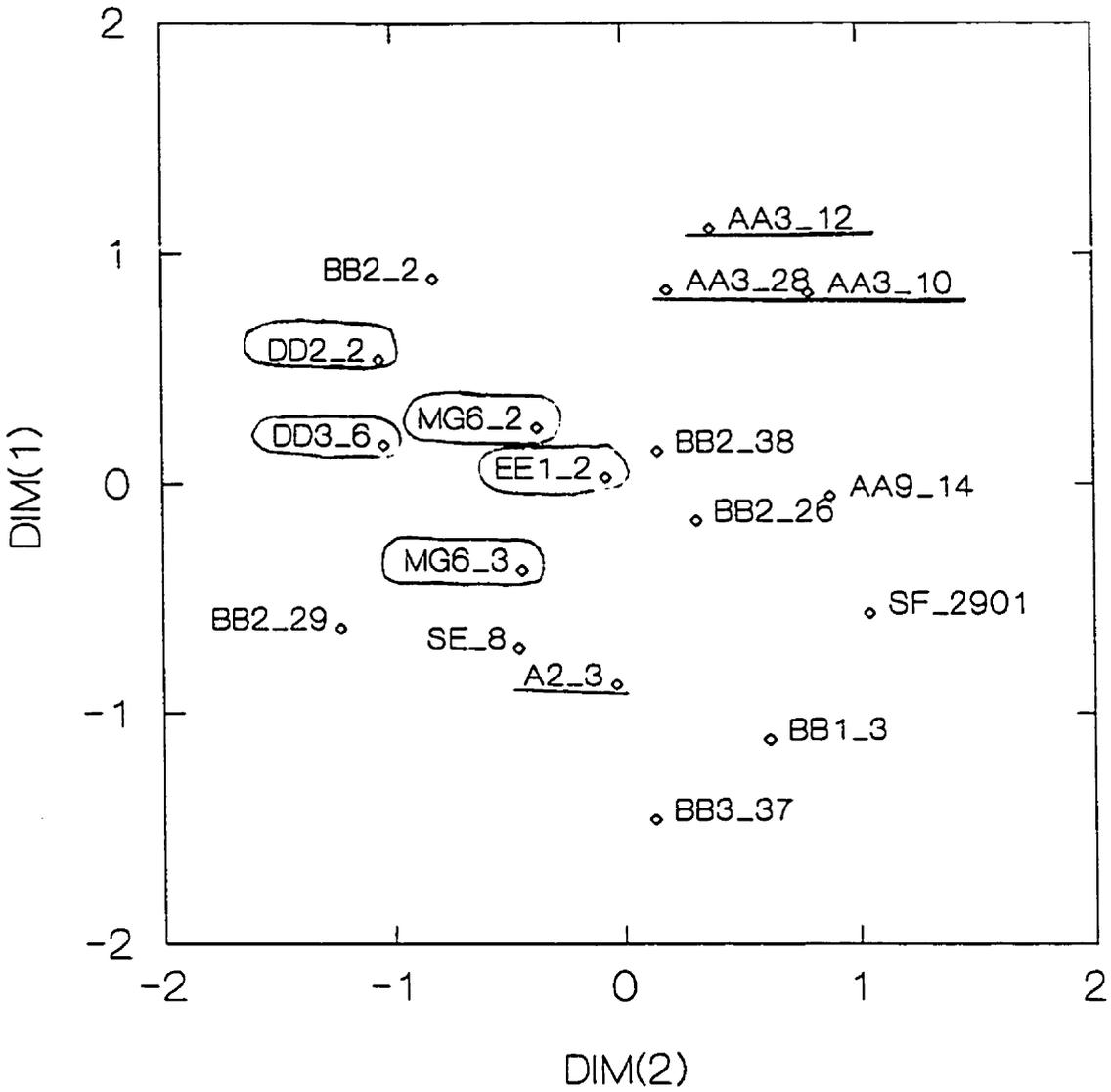


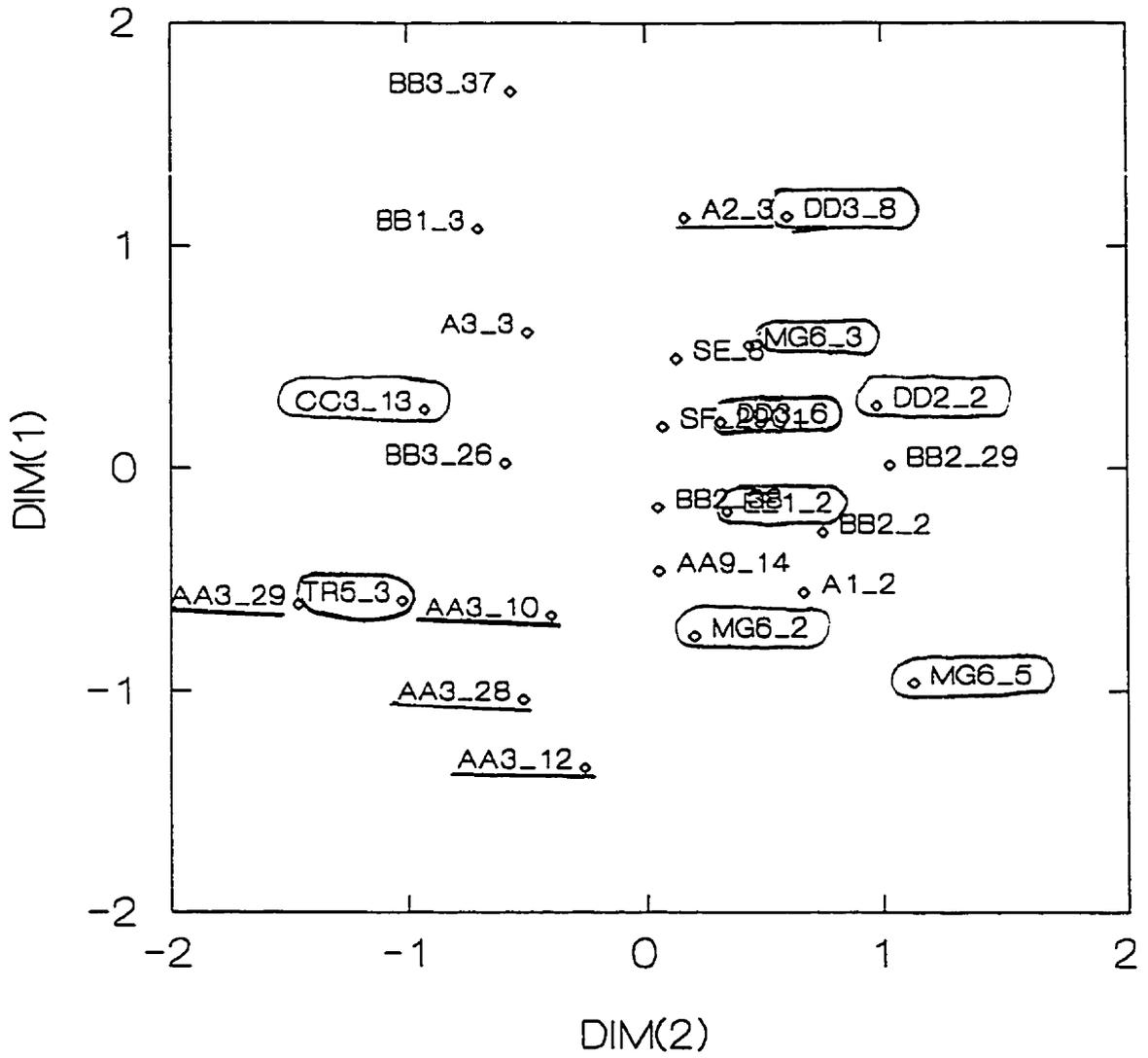
Figure 4.13 - Multi-Dimensional Scaling of Large Lots (n>20) by Rim Types, Preserved Sherds Only



———— = Squatter Lots

○ = Manor Lots

Figure 4.14 - Multi-Dimensional Scaling of Large Lots (n>20) by Rim Types, Including Drawn Sherds



— = Squatter Lots

○ = Manor Lots

Figure 4.15 - Rim Types in Lot TR5 3

Rim Type	Count
22	1
24	2
27	1
28	1
41	3
80	1
82	1
86	1
91	1
92	2
122	5
Total	19

Figure 4.17 - Fine Ware by Rim Type
All Phases

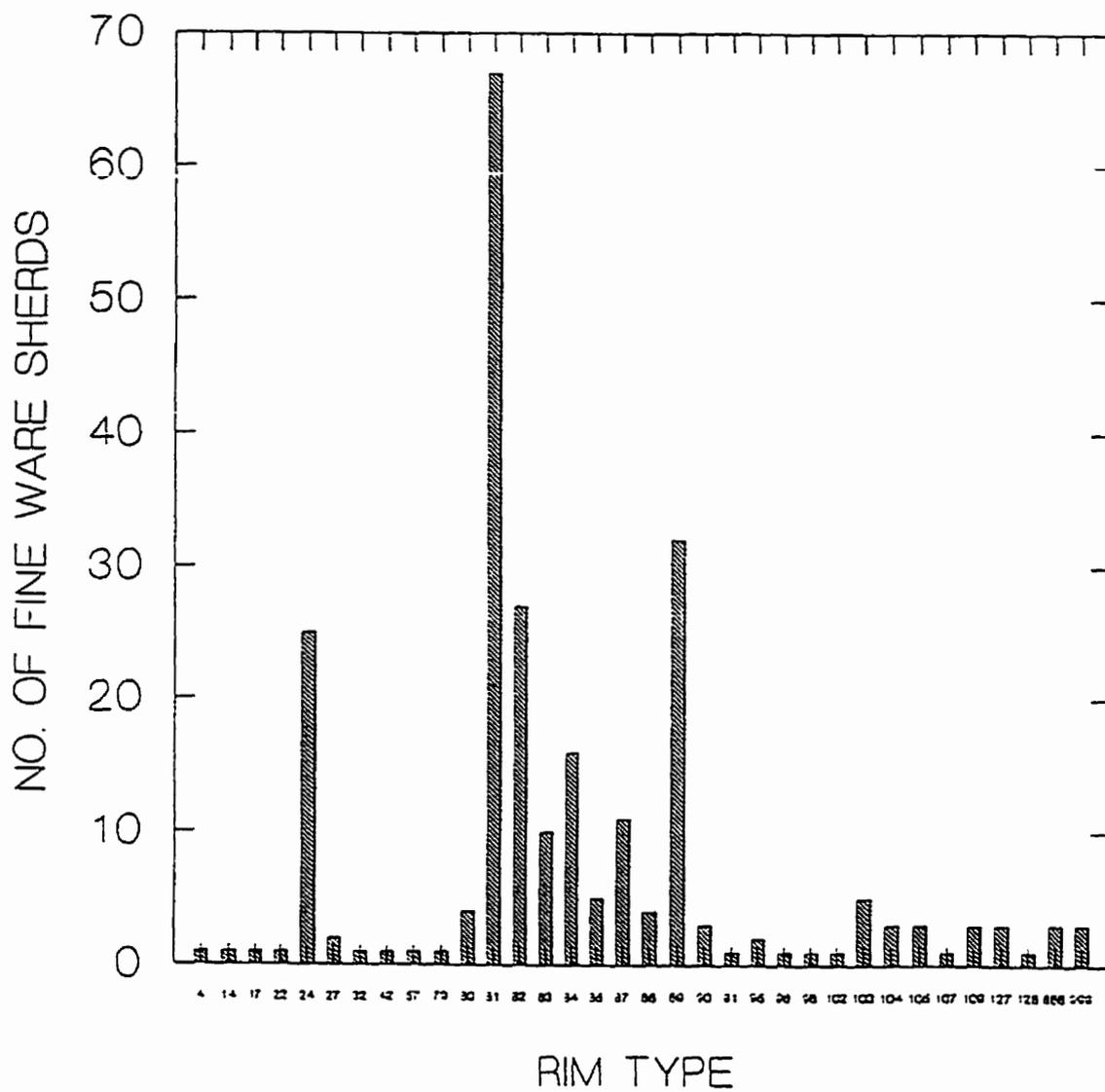


Figure 4.18 - Fine Ware by Rim Type
Squatter Lots

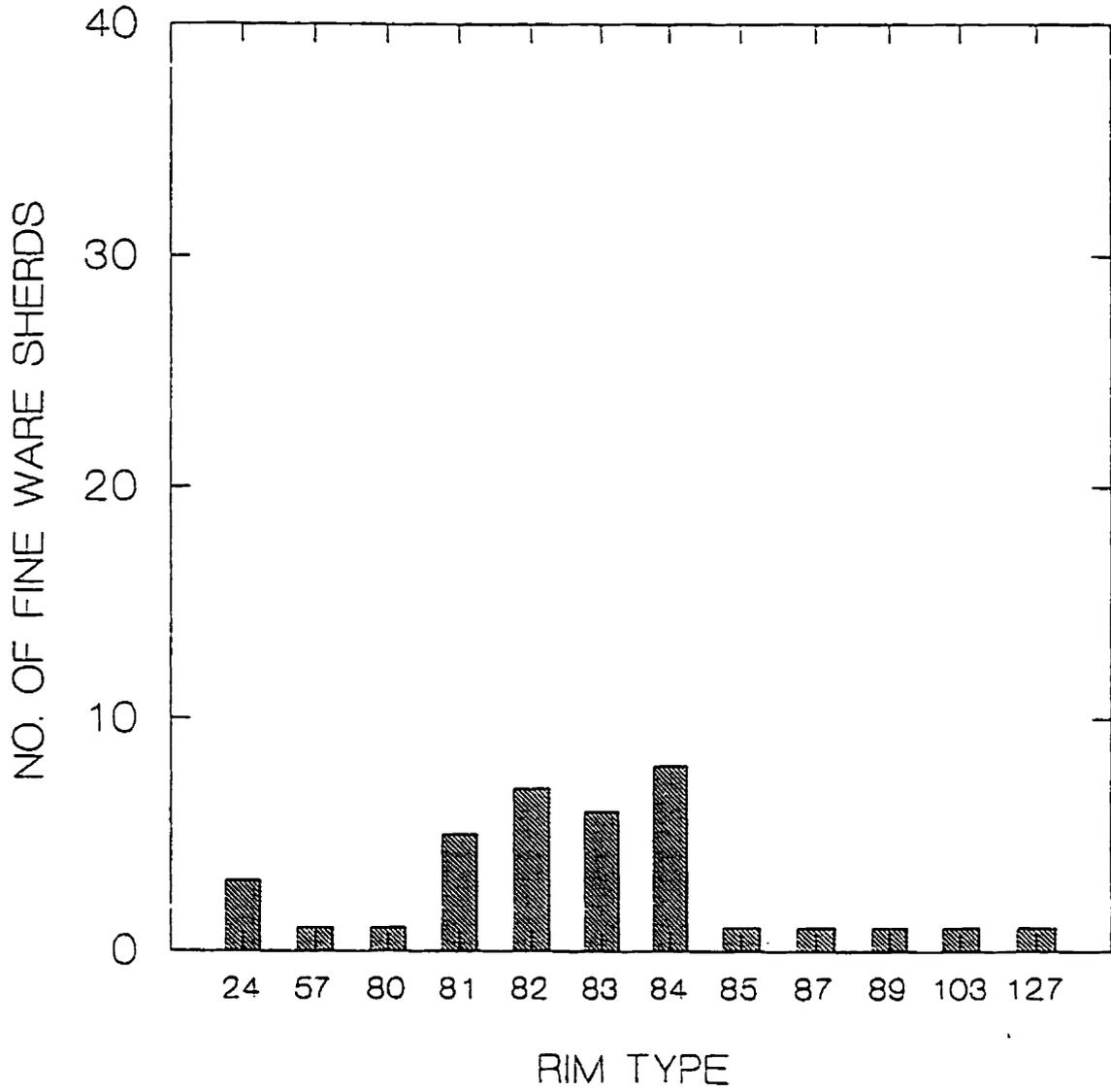


Figure 4.19 - Fine Ware by Rim Type
Manor Lots

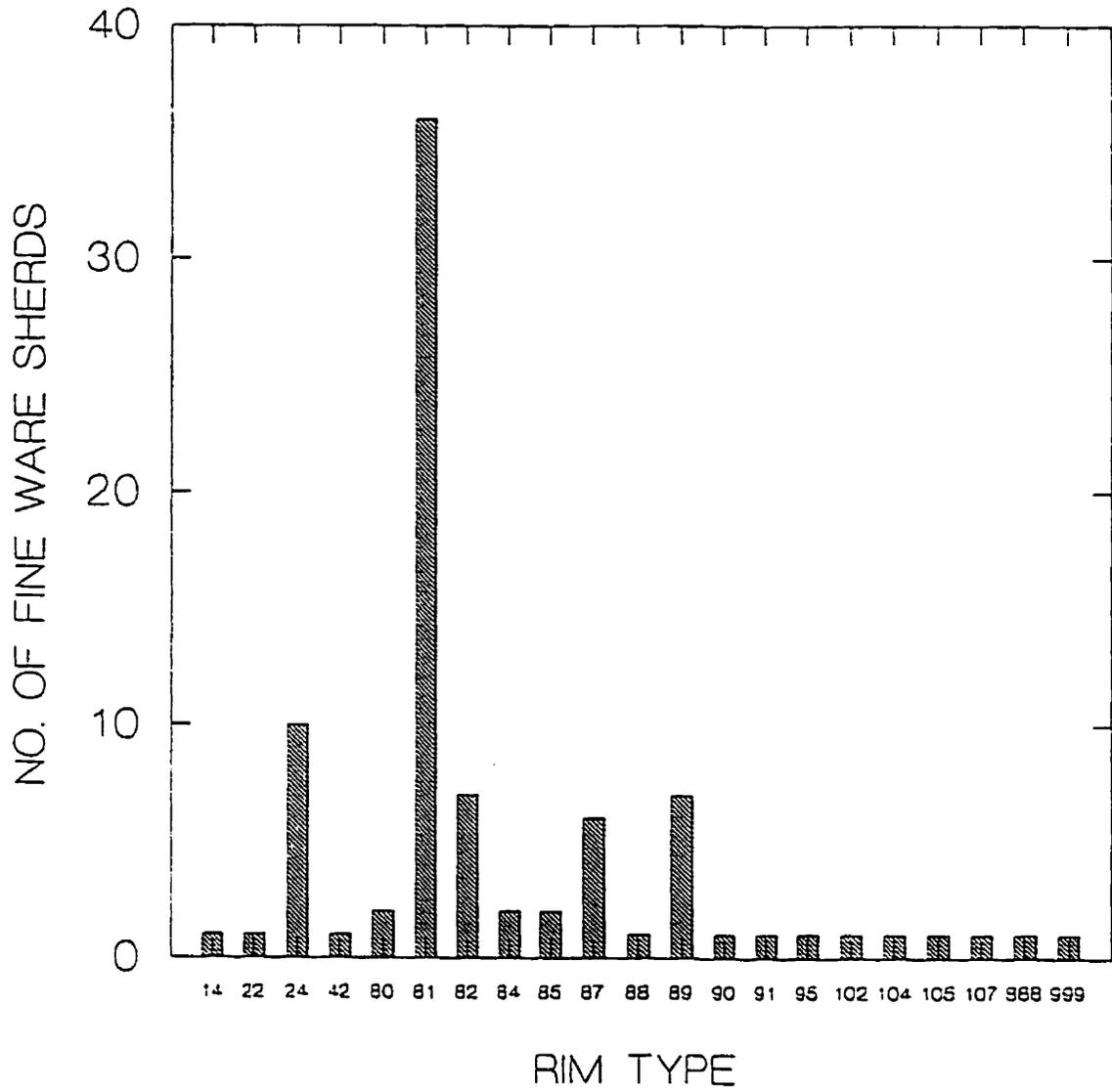


Figure 4.20 - Fine Ware by Rim Type
Mixed Lots

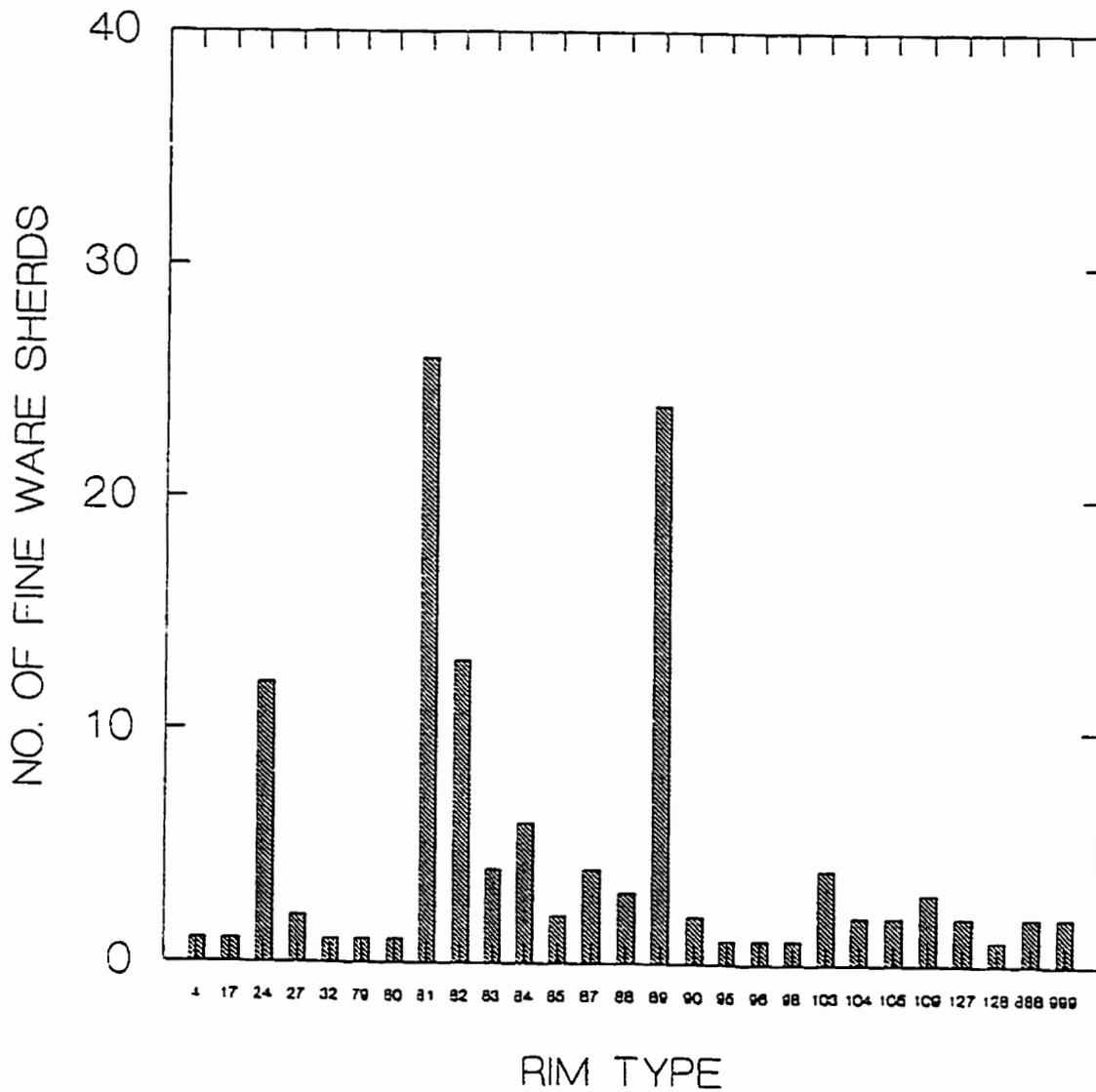


Figure 4.21 - Diameter Ranges, Medians, and Quartiles of Bowl Rim Types 45-60

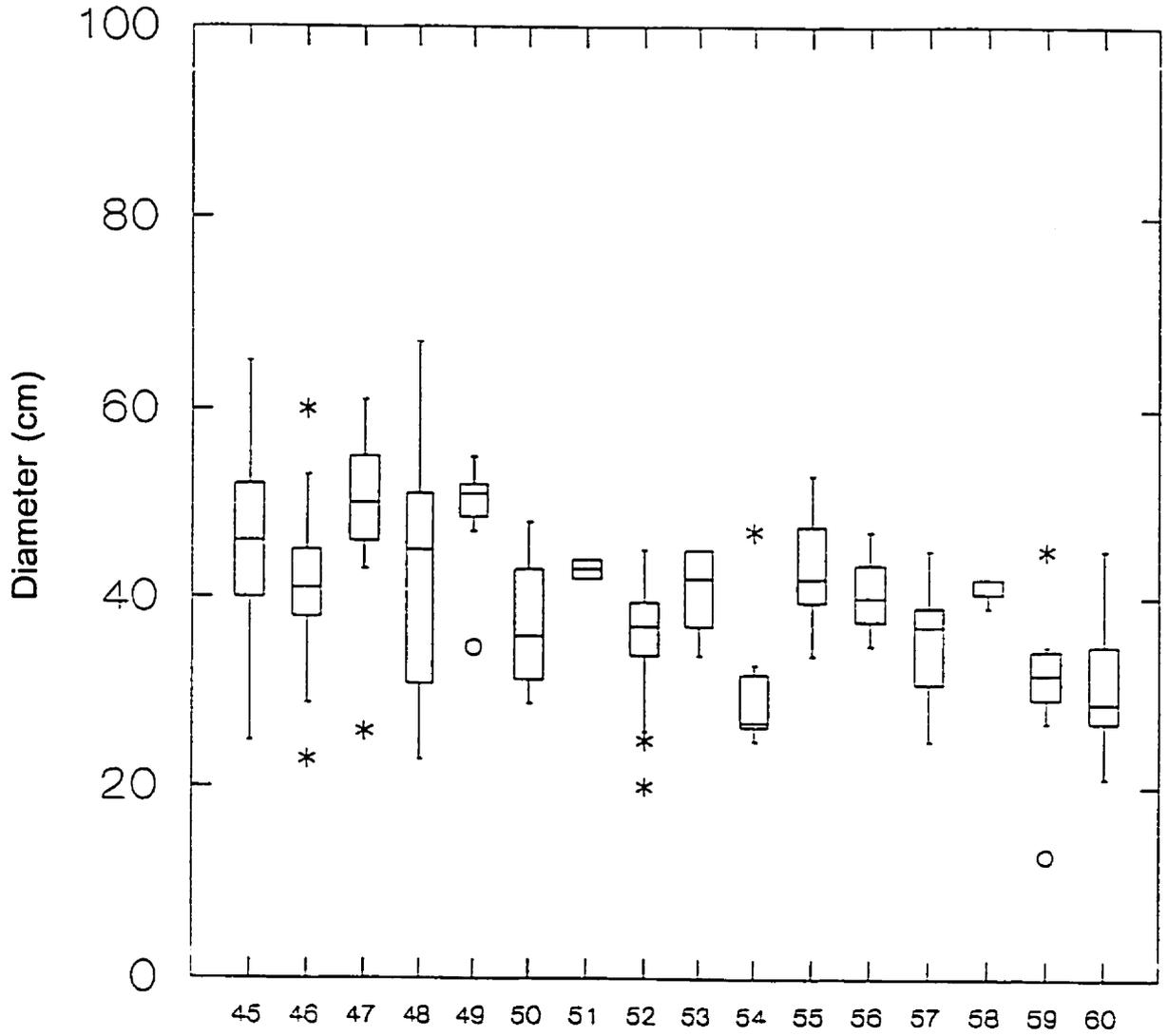


Figure 4.22 - Diameter Ranges, Medians, and Quartiles of Bowl Rim Types 61-72

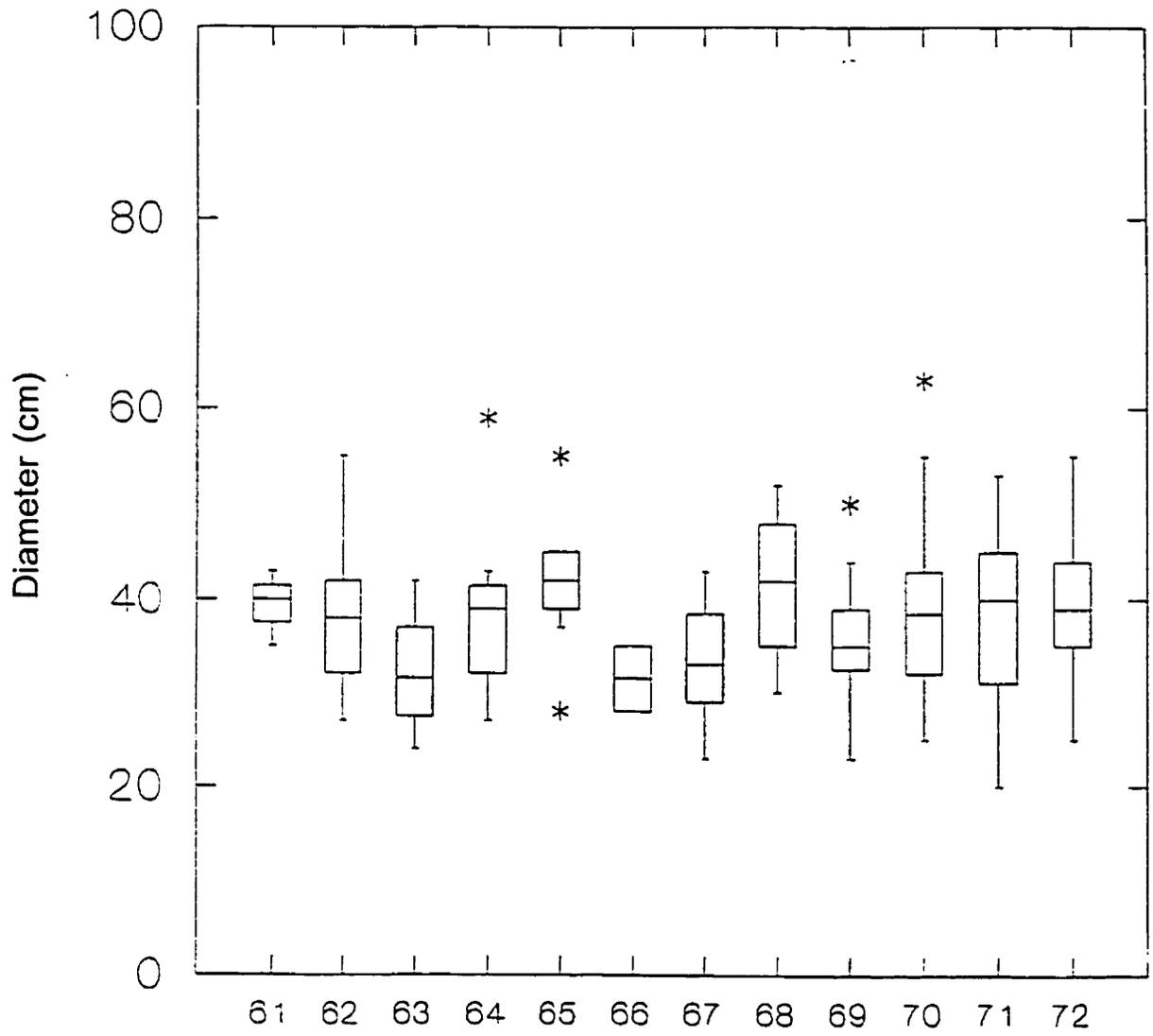


Figure 4.23 - Diameter Ranges, Medians, and Quartiles of Bowl Rim Types 73-81

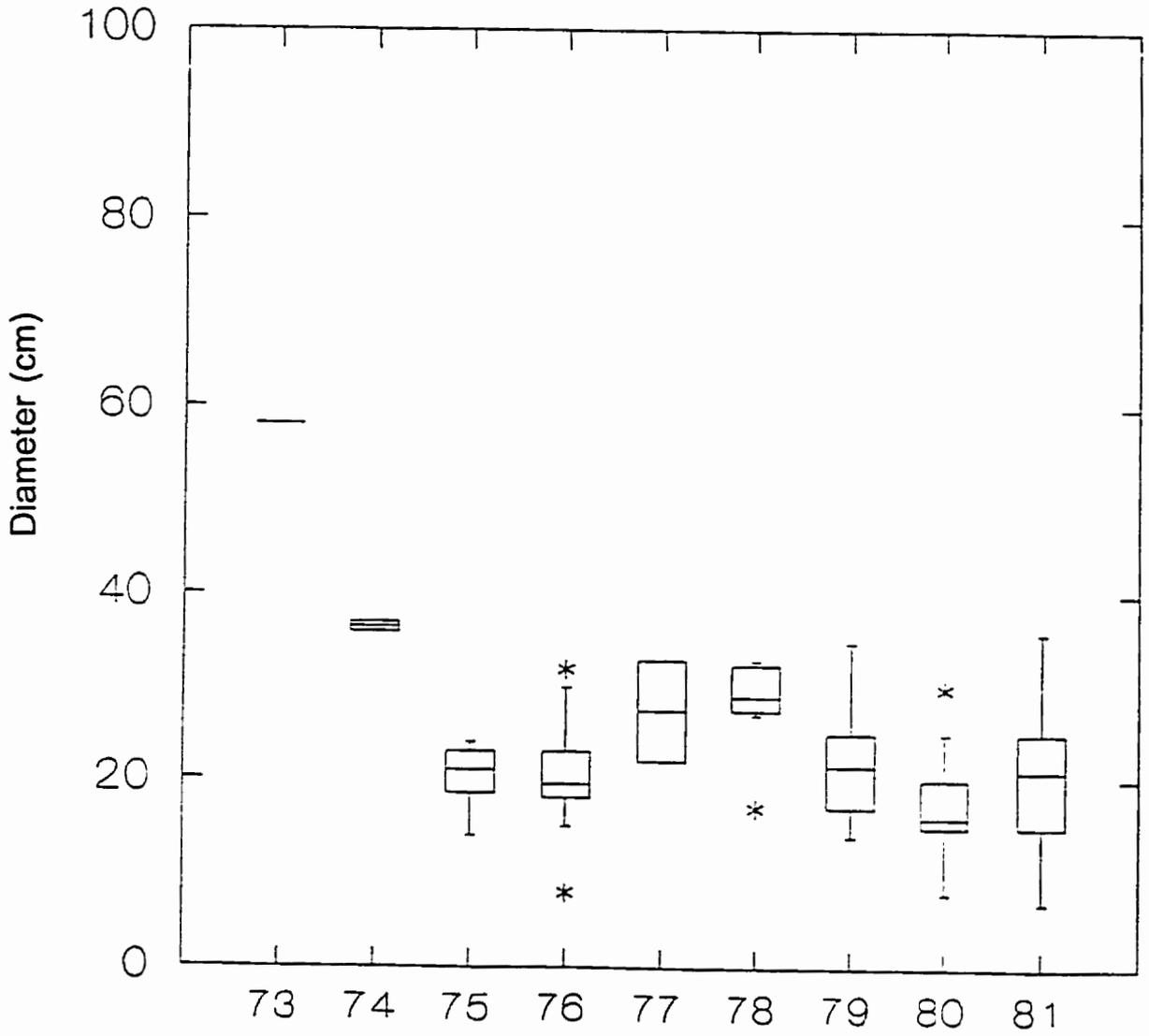


Figure 4.24 - Diameter Ranges, Medians, and Quartiles of Bowl Rim Types 82-89

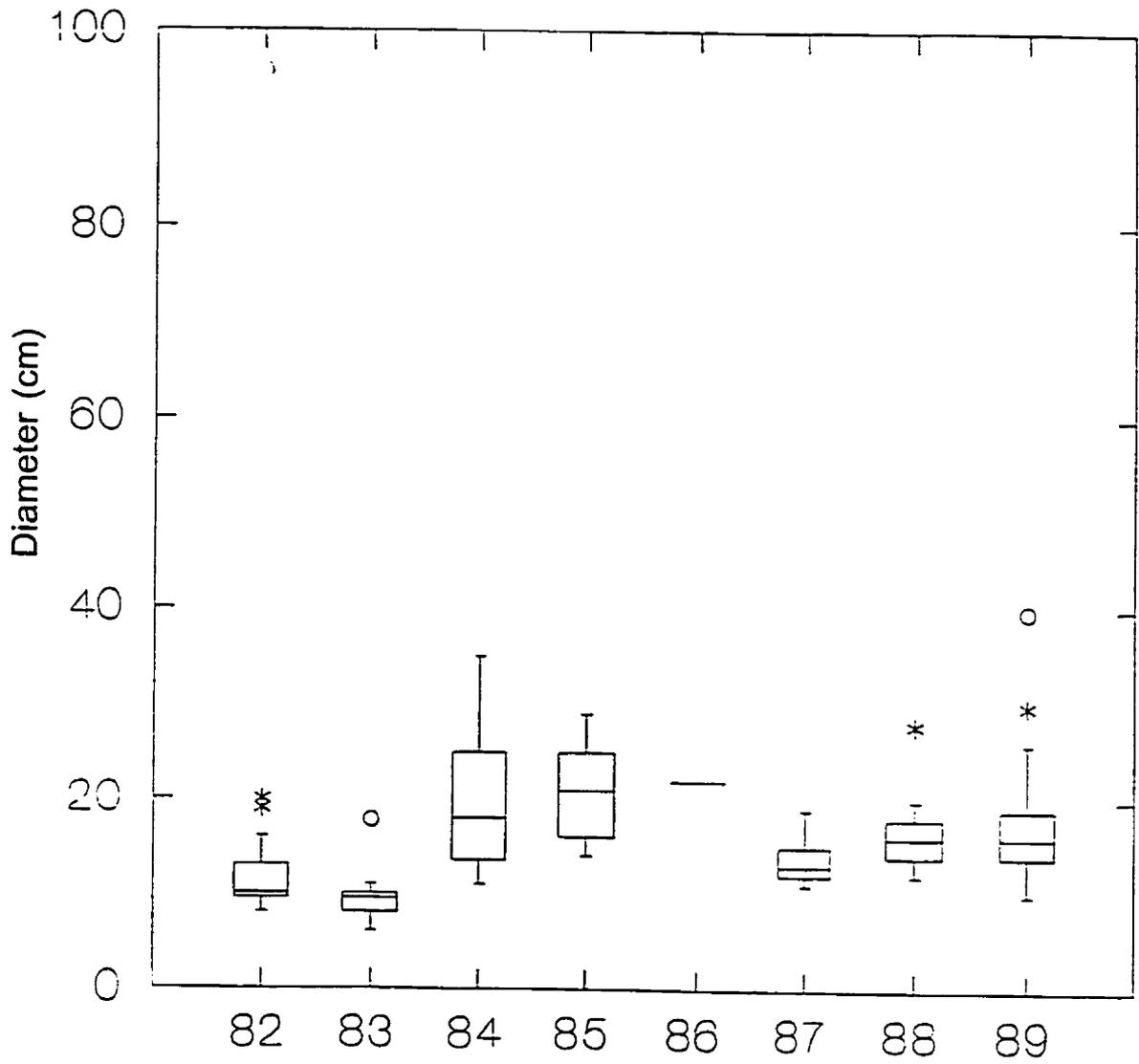


Figure 4.25 - Diameter Ranges, Medians, and Quartiles of Bowl Rim Types 90-93

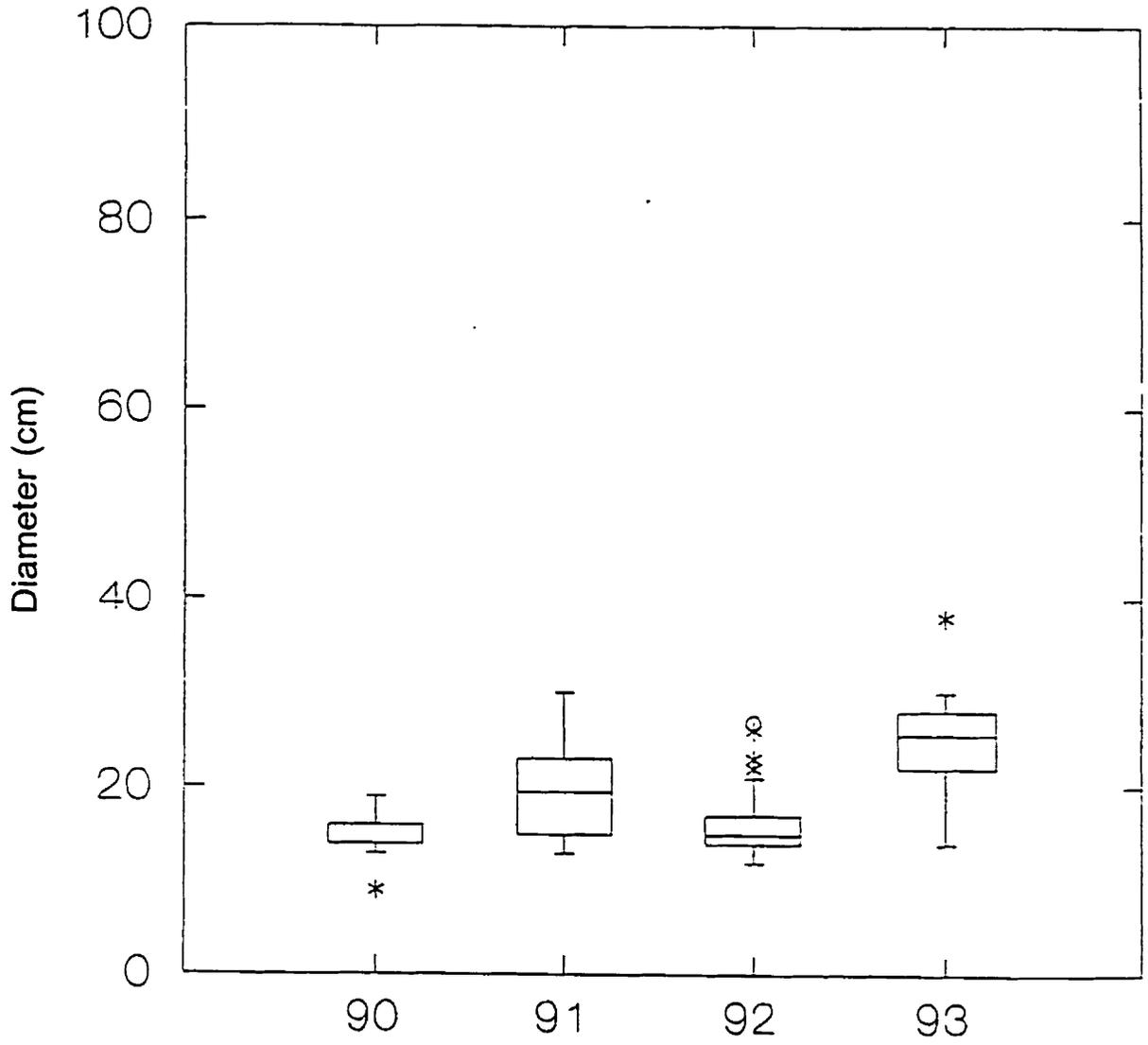


Figure 4.26 - Diameter Ranges, Medians, and Quartiles of Bowl Rim Types 94-99

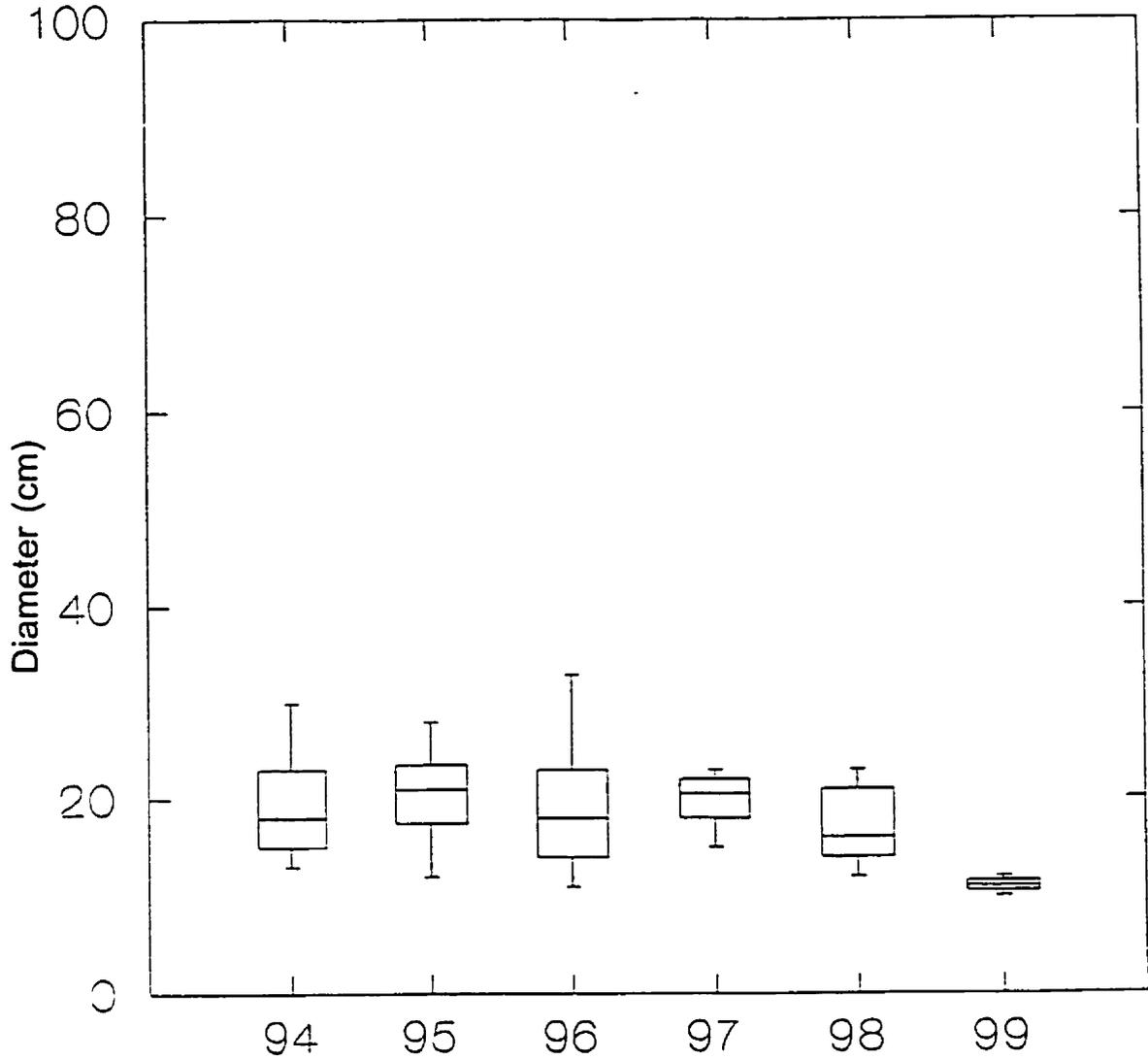


Figure 4.27 - Diameter Ranges, Medians, and Quartiles of Bowl Rim Types 100-111

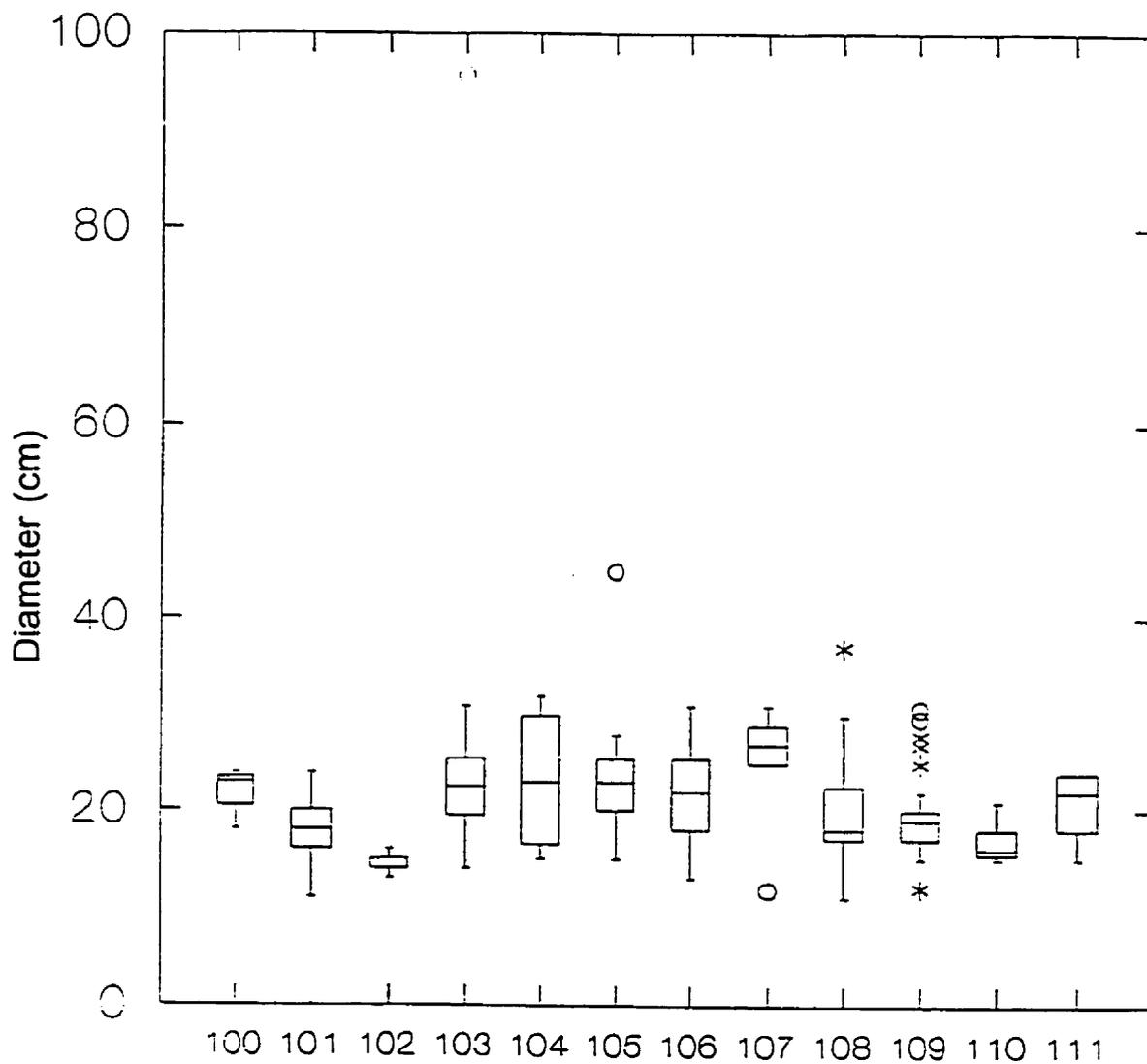


Figure 4.28 - Number of Sherds of Bowl Types by Size and Phase

	Large Bowl Types	Small Bowl Types	Total
Manor	55	277	332
Squatter	125	193	318
Total	180	470	650

Figure 4.29 - Histogram of Bowl Diameters in Squatter Lots

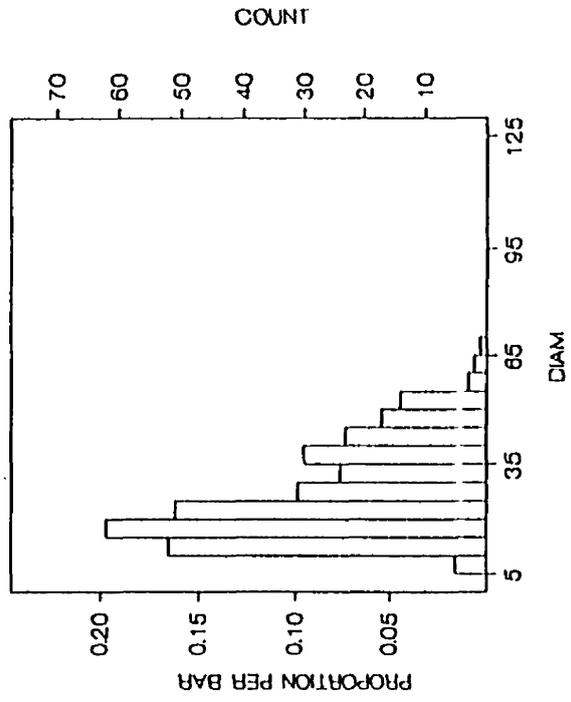


Figure 4.30 - Histogram of Bowl Diameters in Manor Lots

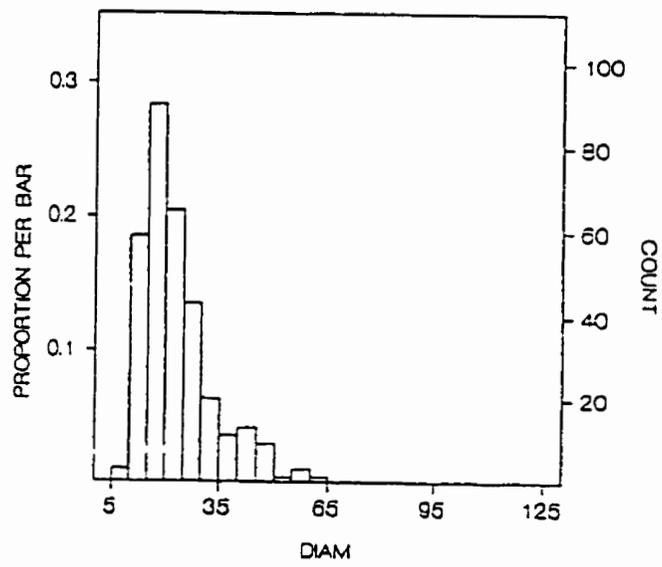


Figure 4.32 - Stem and Leaf Plot of Rim Diameter (cm) of Small Bowls
Manor Lots

```

0 7
0 89
1 0001111111
1 22222222223333333333
1H 444444444444444444444444444455555555555555555555
1 66666666666666666666667777777777777777
1M 88888888888888888888888888889999999999999999999
2 00000000000000001111111111111111
2H 222222222222222233333333333333
2 444444444455555555555555555555
2 66677777777777
2 88889
3 000001111
3 2223
3 4
   ***CUTSIDE VALUES***
3 7
4 5
5 88

```

Figure 4.33 - Diameter Ranges, Medians, and Quartiles of Jar Rim Types 1-22
All Lots

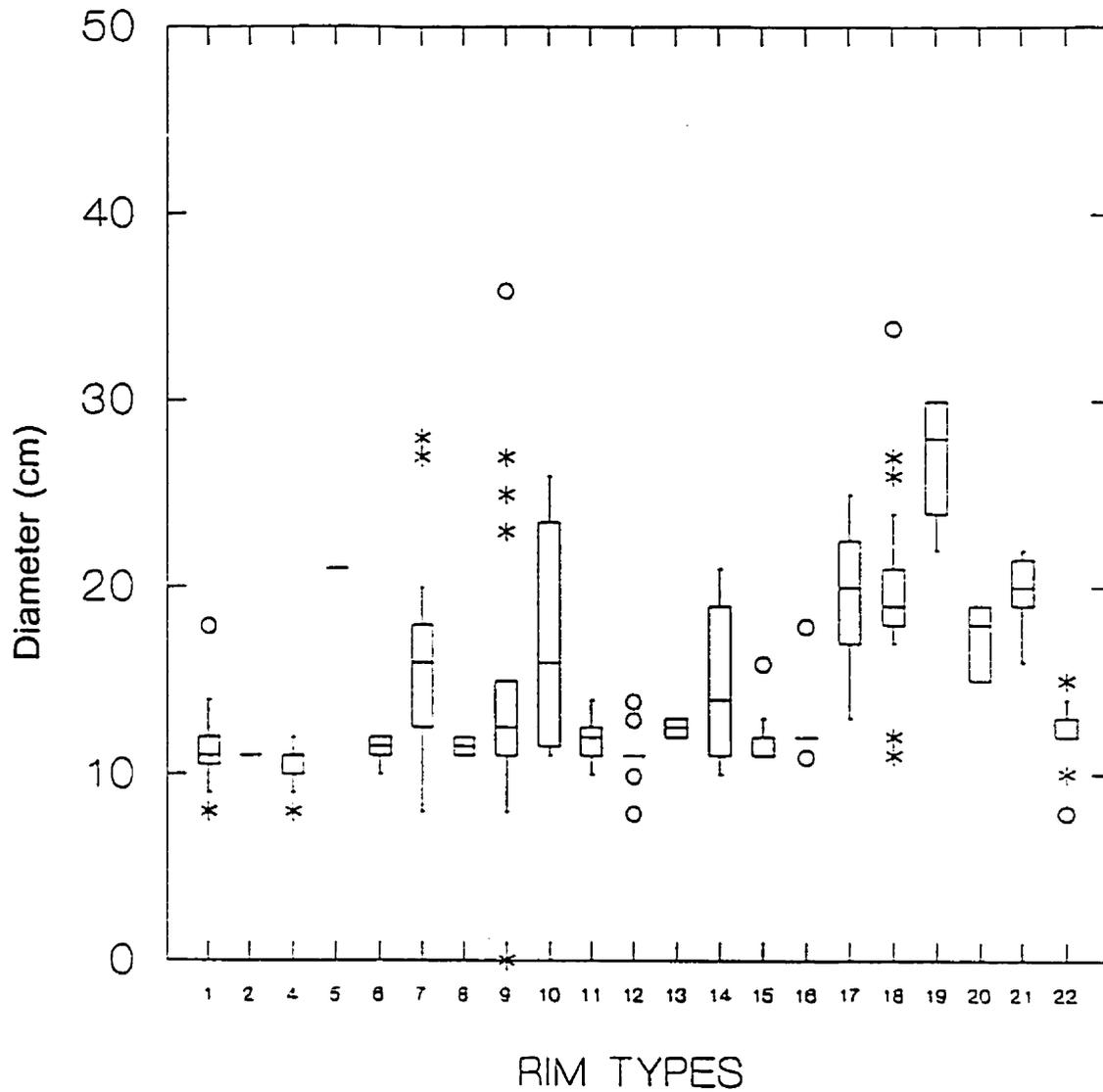


Figure 4.34 - Diameter Ranges, Medians, and Quartiles of Jar Rim Types 23-44
All Lots

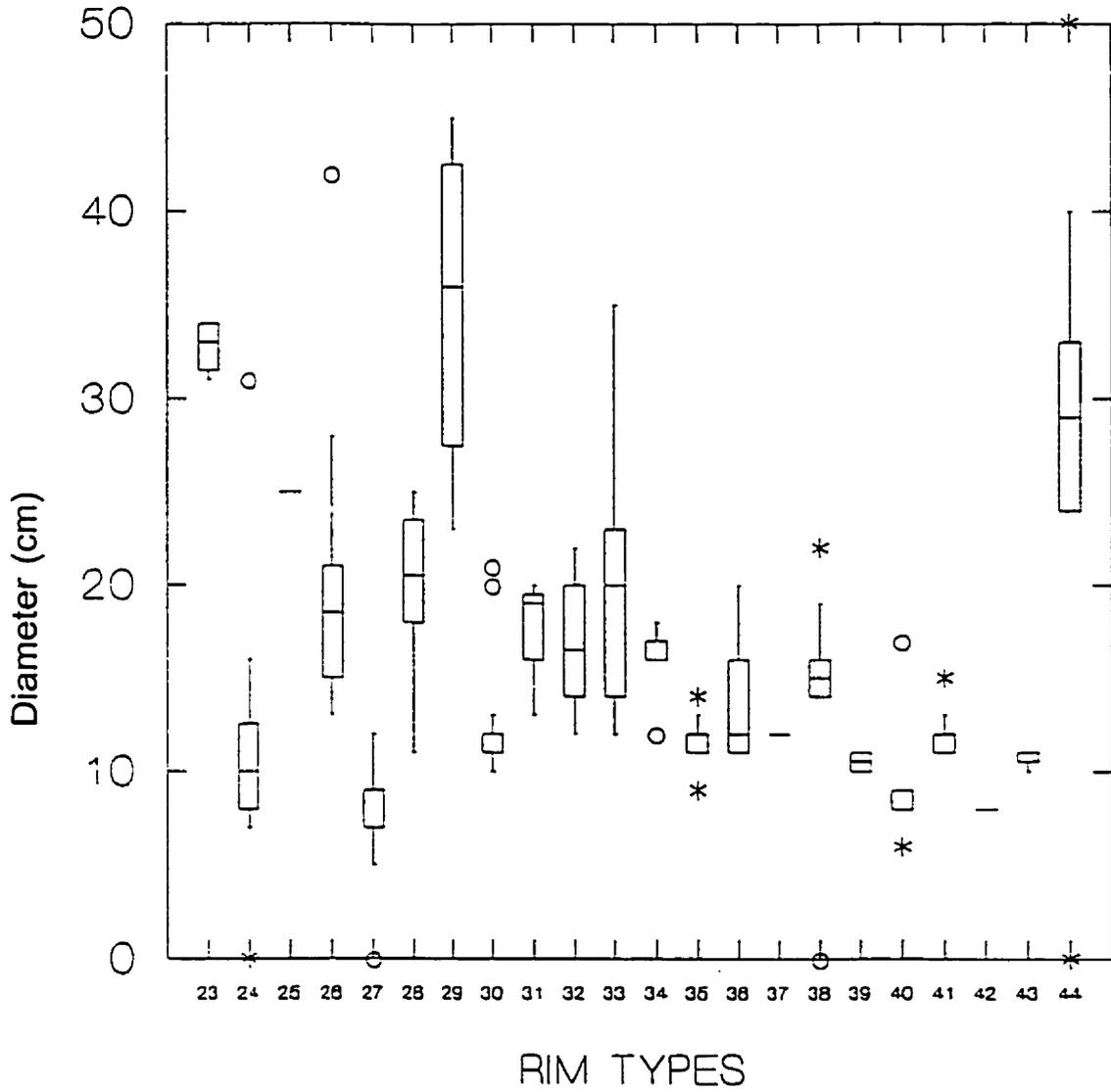


Figure 4.35 - Stem and Leaf Plot of Jar Diameters (cm)
Manor Lots

```

6  0
7  000
8  00000000
9  0000
10 00000000
11H 000000000000000000
12M 000000000000000000000000000000
13  0000000
14H 00000
15  00
16  0
17  00
18  000
    ***OUTSIDE VALUES***
20 00000000
21  0
22  0
23  00
24  000
25  0
27  0
30  0

```


Figure 4.37 - Diameter Ranges, Medians, and Quartiles of Jar Rim Types 1-22 Squatter Lots

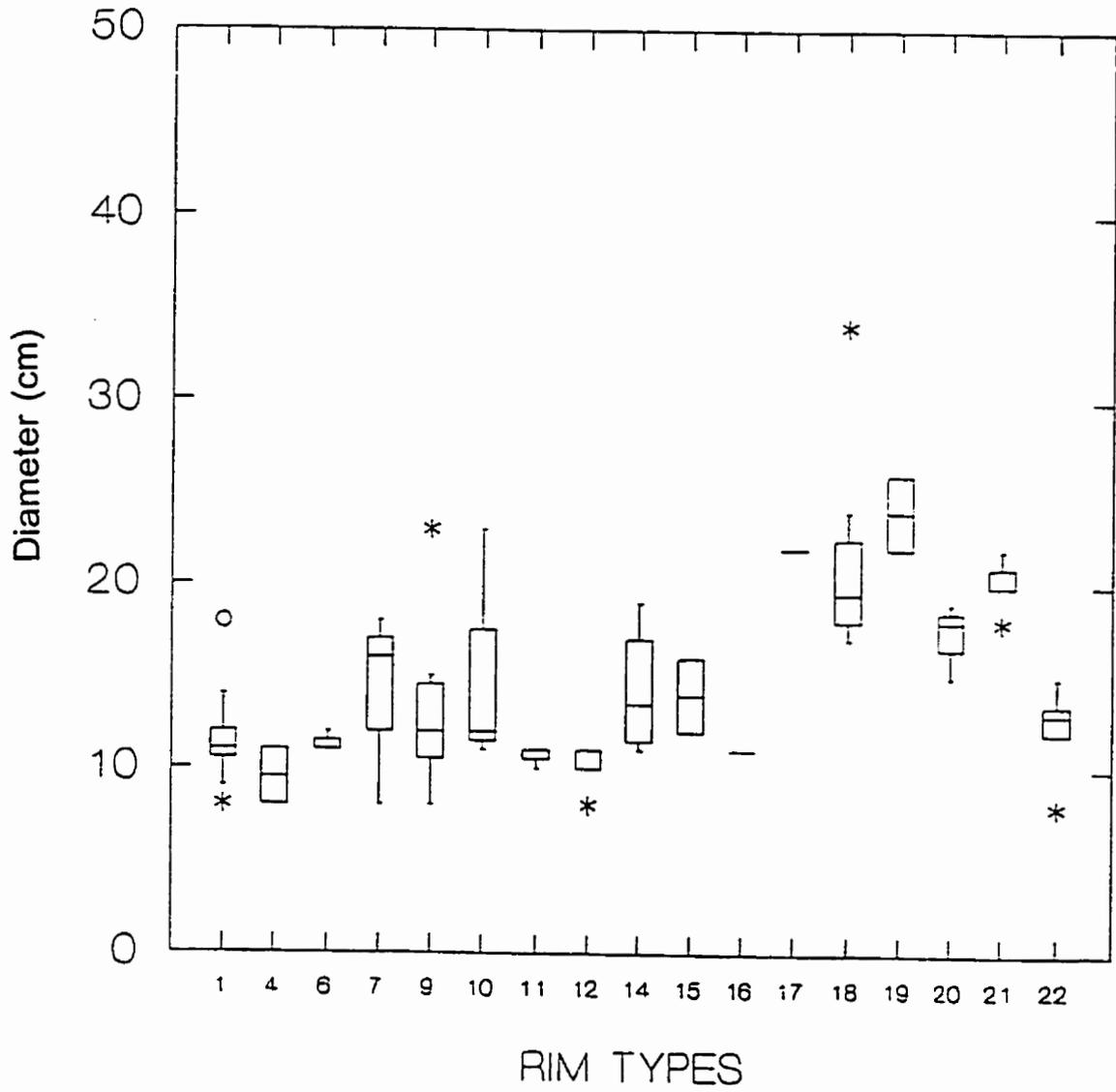


Figure 4.38 - Diameter Ranges, Medians, and Quartiles of Jar Rim Types 23-44 Squatter Lots

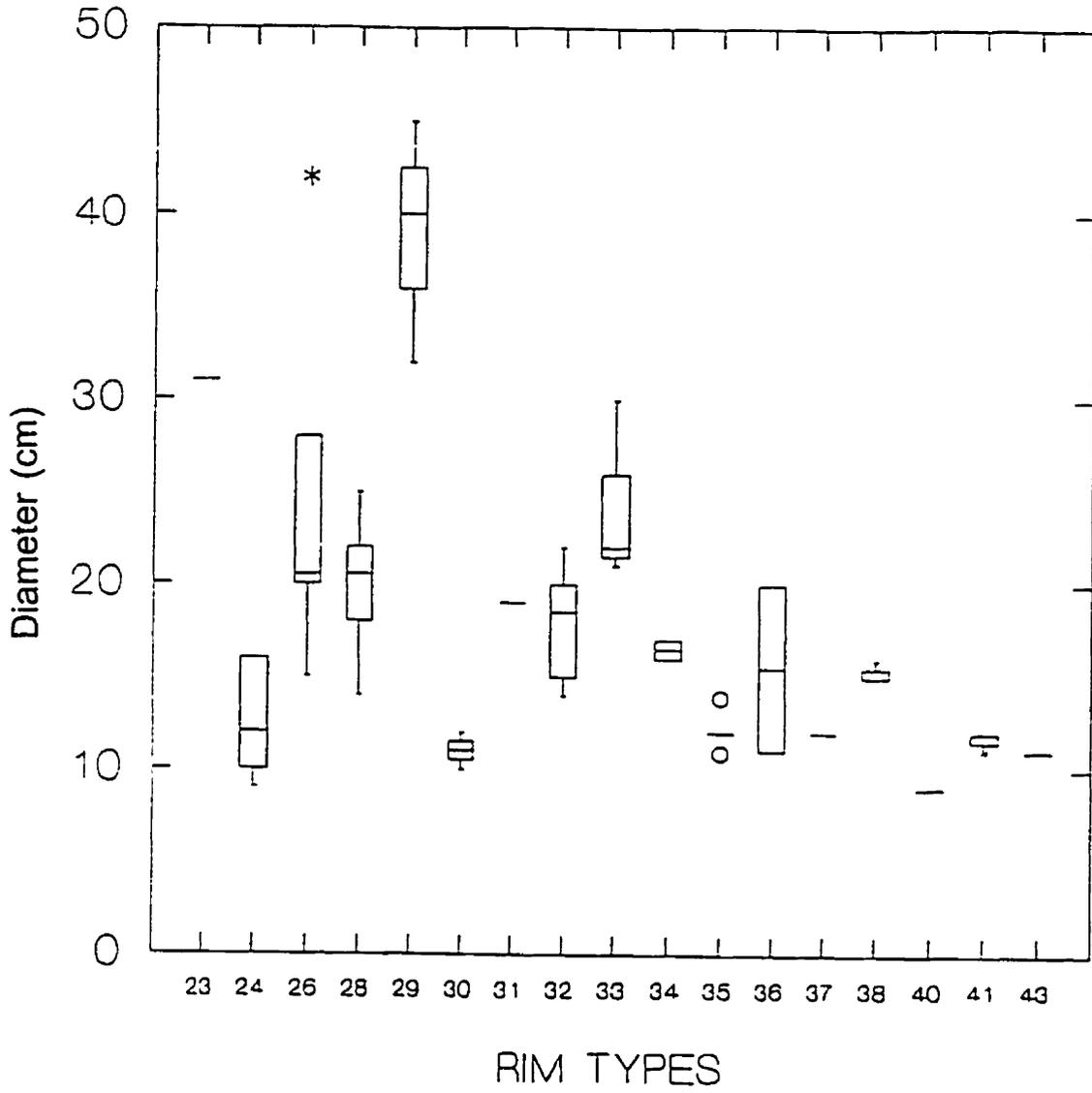


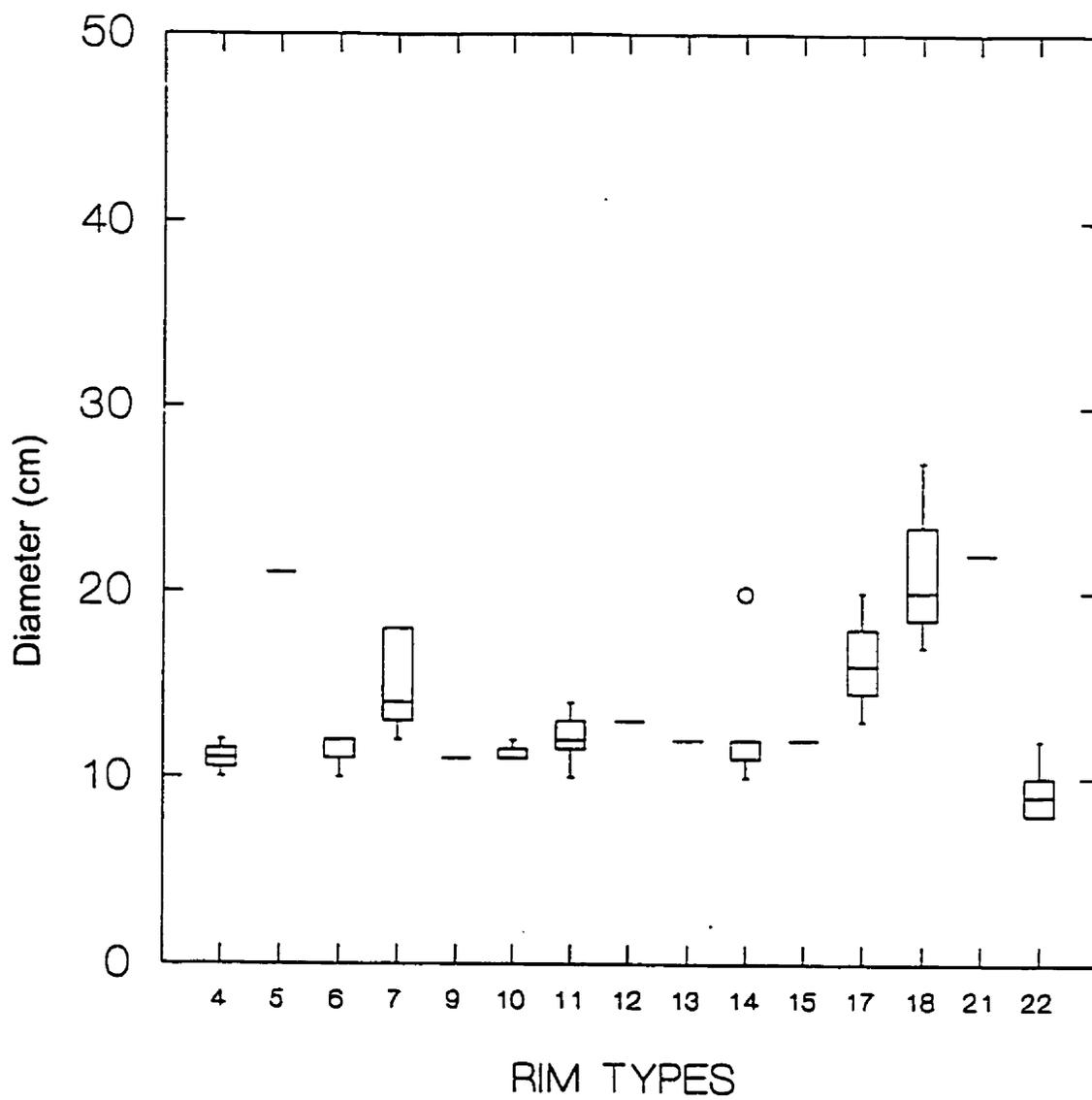
Figure 4.39 - Diameter Ranges, Medians, and Quartiles of Jar Rim Types 1-22
Manor Lots

Figure 4.40 - Diameter Ranges, Medians, and Quartiles of Jar Rim Types 23-44 Manor Lots

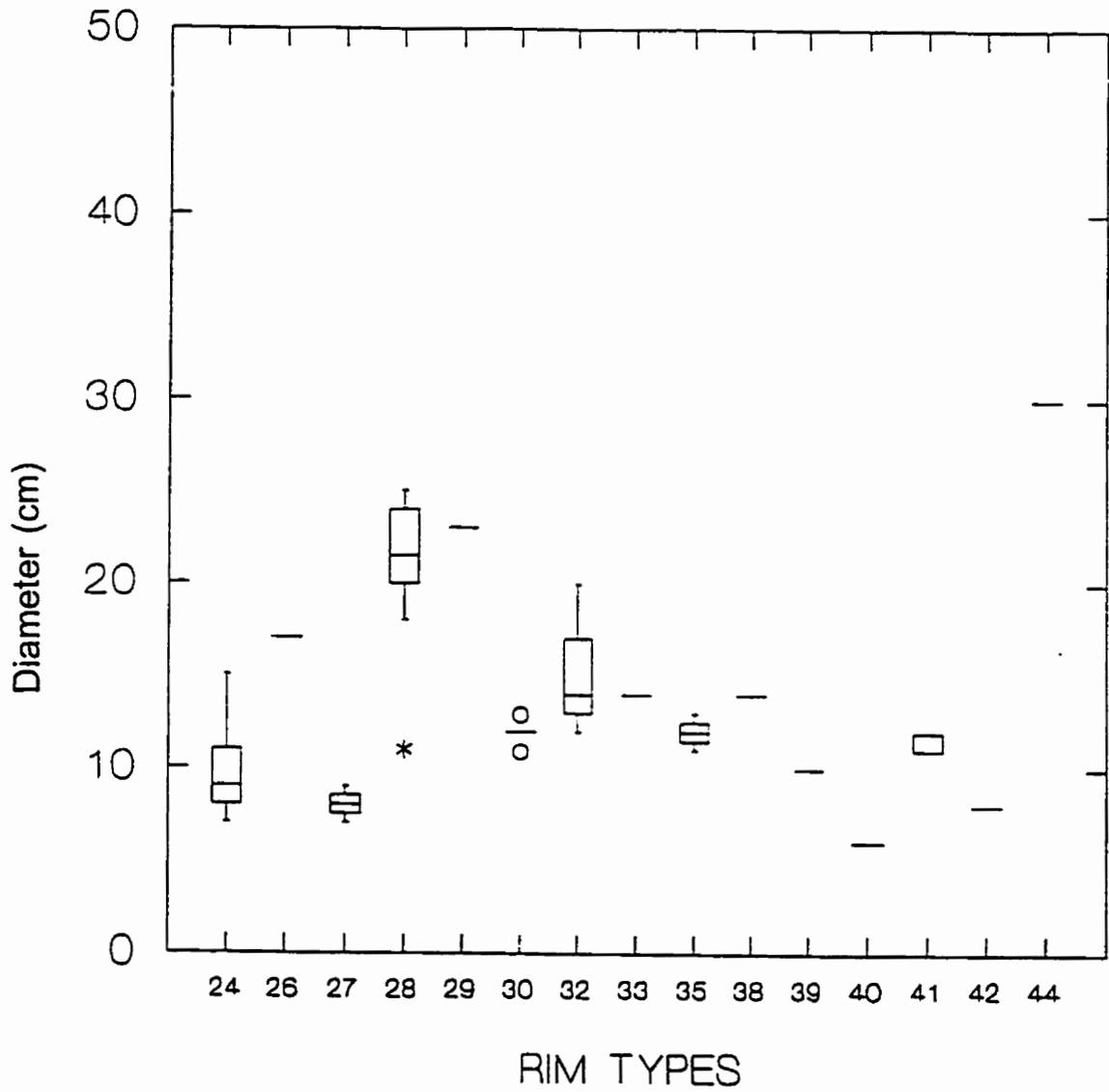


Figure 4.41 - Diameter Ranges, Medians, and Quartiles of Cooking Pot Rim Types
All Lots

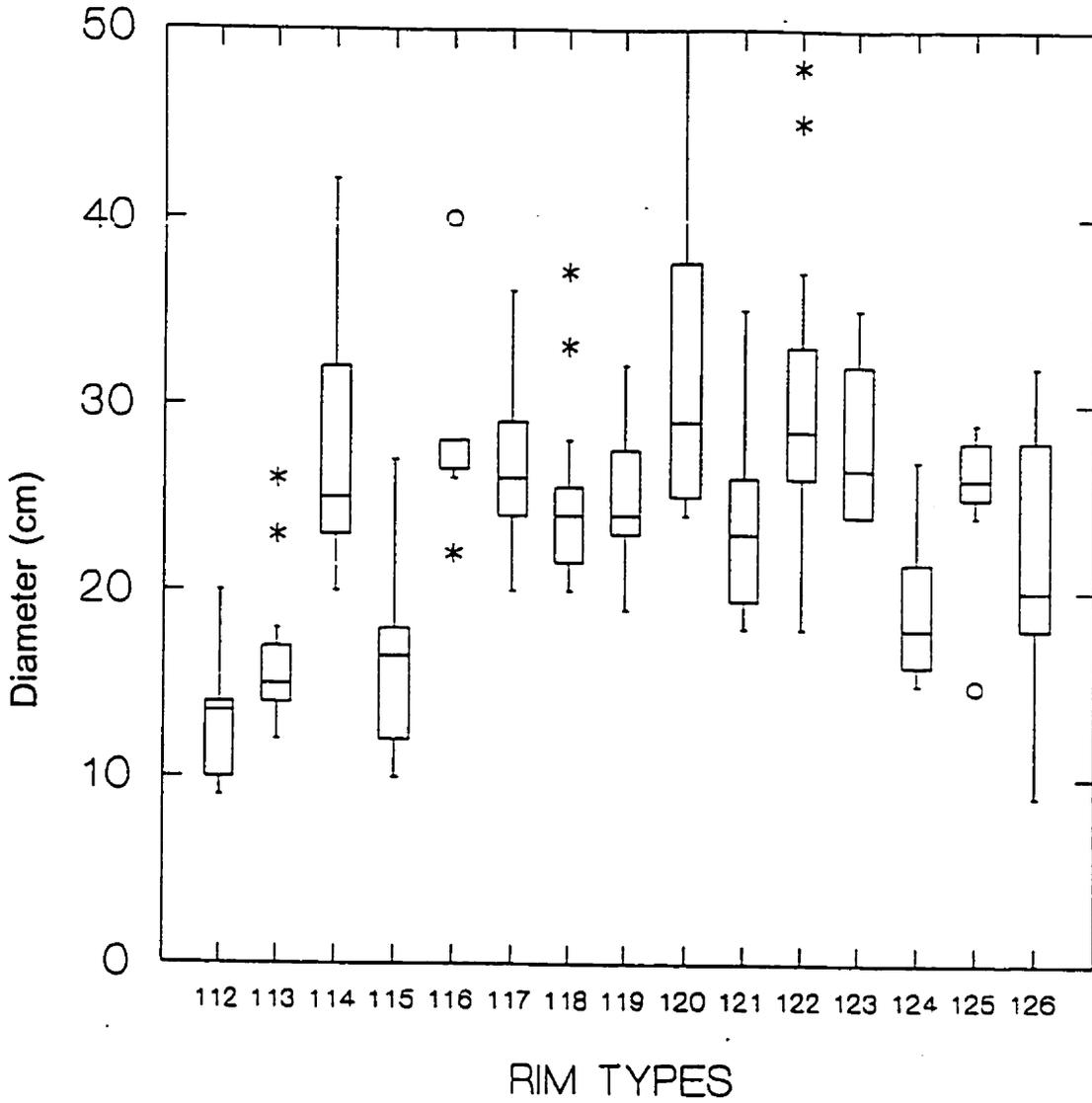


Figure 4.42 - Stem and Leaf Plot of Cooking Pot Diameters (cm)
Manor Lots

```
1  0
1  233333
1  4
1  7
1H 889
2  0000
2  2233
2M 4555
2H 6666666677
2  8889
3  1
3  3
3  45
   ***OUTSIDE VALUES***
4  8
```

Figure 4.43 - Stem and Leaf Plot of Cooking Pot Diameters (cm)
Squatter Lots

```
0 9
1 0001
1
1 444555555
1 6777
1H 8899
2 00111
2 22333333
2M 4444455
2 6666777
2 88888899999
3H 0000
3 222333
3 455
3 67
3
4 0
4 22
4 45
***OUTSIDE VALUES***
5 0
```

Figure 4.44

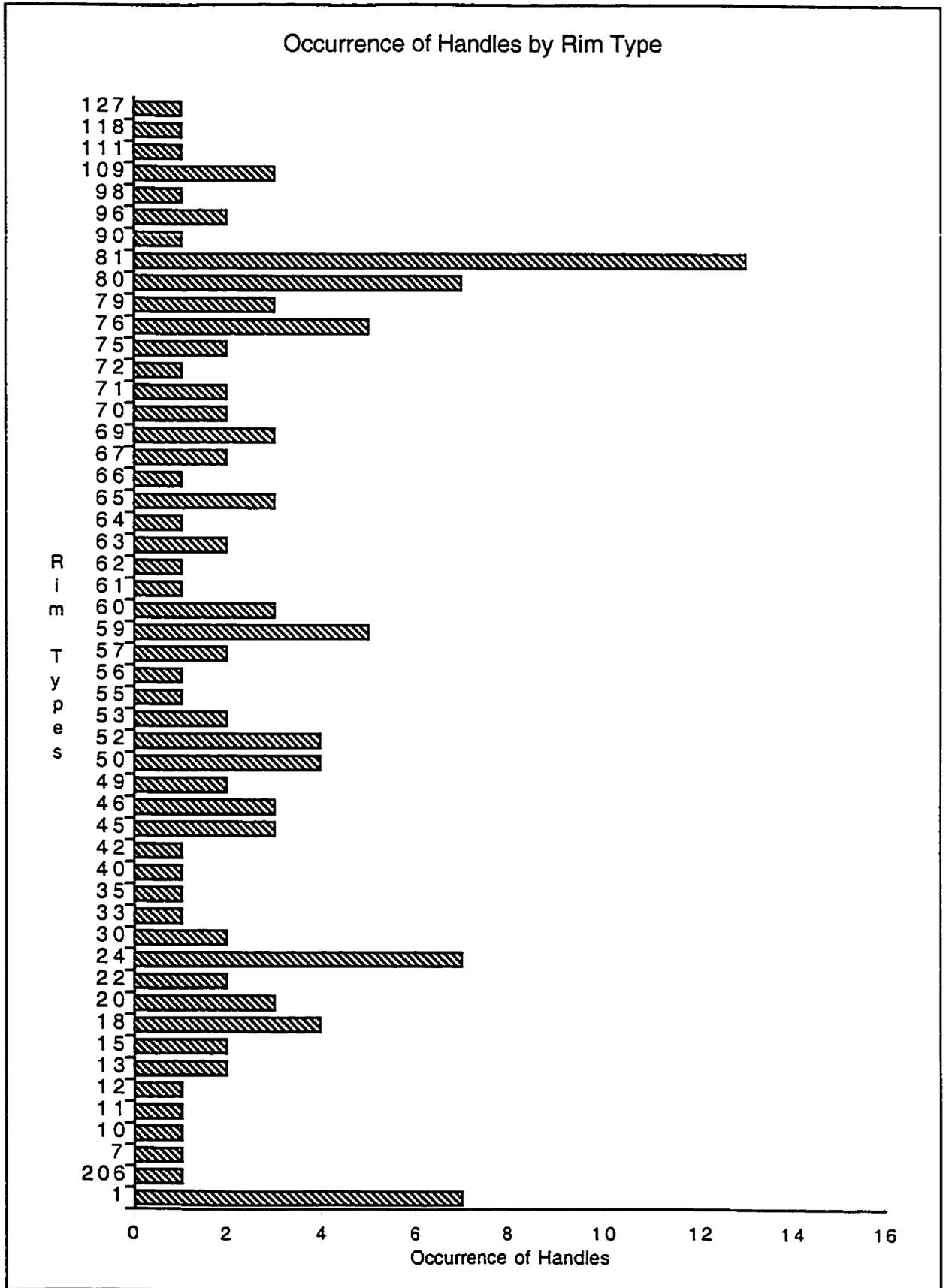


Figure 4.45

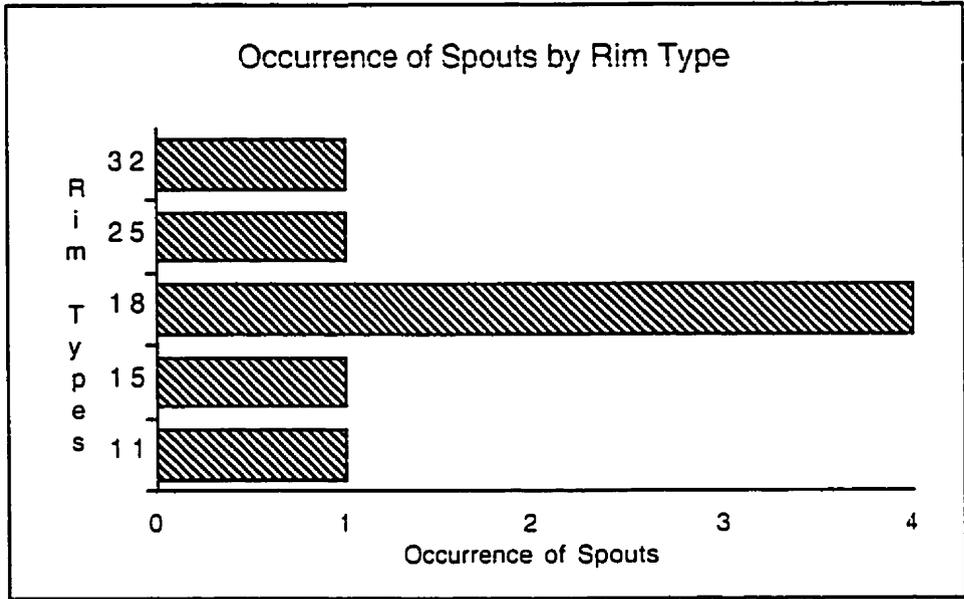


Figure 5.1 - Parallels to Early Manor Godin Types

	<u>TYPE</u>	<u>NJ</u>	<u>BJ</u>	<u>JSIIa</u>	<u>JSIIb</u>	<u>JSI</u>	<u>PAS</u>	<u>SUSA</u>	<u>CM</u>	<u>BASTAM</u>
Jars										
	4	x	x	x	x		x		x	
	43	x	x							
Large Bowls										
	56	x	x							
	64	x	x							
	69	x								x
	70	x				x	x			x
	71	x				x				
Small Bowls										
	76	x	x	x		x				x
	77	x	x							
	78	x				x				
	79	x	x			x				x
	105		x					x		
	108	x							x	
	109	x								x
	129	x								
Early Manor Total		14	8	2	1	5	2	1	2	5

Figure 5.2 - Parallels to Late Manor Godin Types

<u>TYPE</u>	<u>NJ</u>	<u>BJ</u>	<u>JSIIa</u>	<u>JSIIb</u>	<u>JSI</u>	<u>PAS</u>	<u>SUSA</u>	<u>CM</u>	<u>BASTAM</u>
Jars									
6	x	x		x			x	x	
11									x
13					x		x		
17	x	x				x			
24	x	x	x		x			x	
28	x							x	
30	x	x				x			x
39	x								
Large Bowls									
50	x	x						x	
60	x				x				x
63									x
67			x						
Small Bowls									
75		x			x				
80						x			x
81	x	x	x		x	x	x	x	
85	x	x							
86			x	x					
87			x	x					
88	x		x	x		x		x	x
89		x			x	x	x	x	
90	x	x			x			x	x
91	x	x			x		x		
94	x	x						x	
95	x							x	
96	x							x	
103		x	x				x		
104		x							x
110						x		x	
206									x
Late Manor Total	16	14	7	5	7	7	6	12	9

Figure 5.3 - Parallels to Squatter Godin Types

<u>TYPE</u>	<u>NJ</u>	<u>BJ</u>	<u>JSIIa</u>	<u>JSIIb</u>	<u>JSI</u>	<u>PAS</u>	<u>SUSA</u>	<u>CM</u>	<u>BASTAM</u>
Jars									
1			x	x	x	x	x		
7		x		x		x		x	
9			x	x		x	x		
12	x		x	x					
18	x	x	x			x		x	
19				x		x			
20						x			
22	x	x	x						
26									x
31		x							x
32		x							
33	x	x							
35	x	x	x				x		
Large Bowls									
45		x			x				
46		x							
47		x							
49		x			x				
51		x							
53		x			x				
55					x				
57		x				x			
59			x			x			
61	x								
68	x								
72		x	x					x	
Pots									
114		x							
116		x							
117		x							
Small Bowls									
84		x				x	x	x	
92			x	x	x	x	x		
93				x		x			
97		x							
98		x			x	x	x	x	
102		x							
111	x							x	x
Squatter Total	8	22	9	7	7	12	6	6	3

Figure 5.4 - Parallels to Godin Types with Equal Frequencies in More than One Phase

<u>TYPE</u>	<u>NJ</u>	<u>BJ</u>	<u>JSIIa</u>	<u>JSIIb</u>	<u>JSI</u>	<u>PAS</u>	<u>SUSA</u>	<u>CM</u>	<u>BASTAM</u>
Jars									
10			x	x			x		x
15	x			x		x		x	x
34	x								
Large Bowls									
52		x		x	x				
62		x			x				
65									x
66			x						
Small Bowls									
82	x		x						
100	x					x		x	
Unidentified Total	4	2	3	3	2	2	1	2	3

Figure 5.5

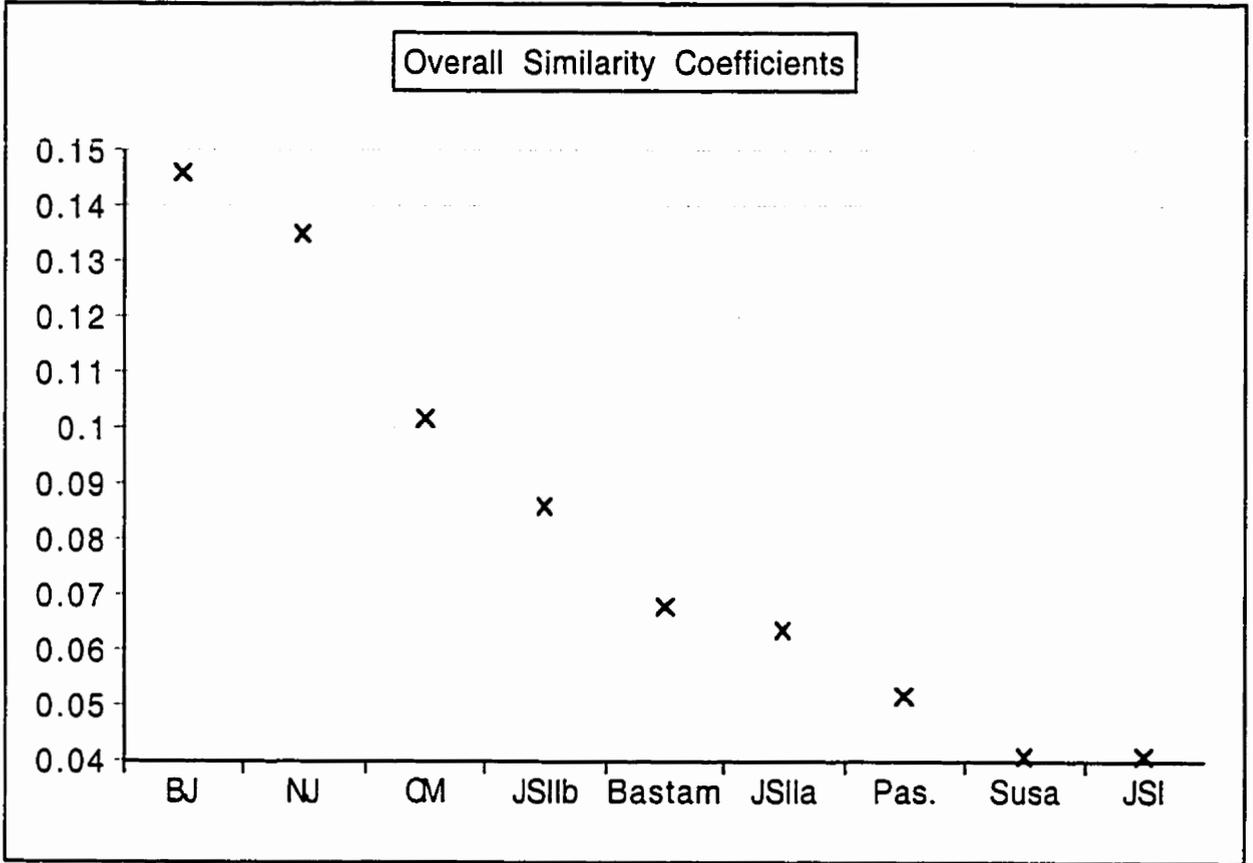


Figure 5.6

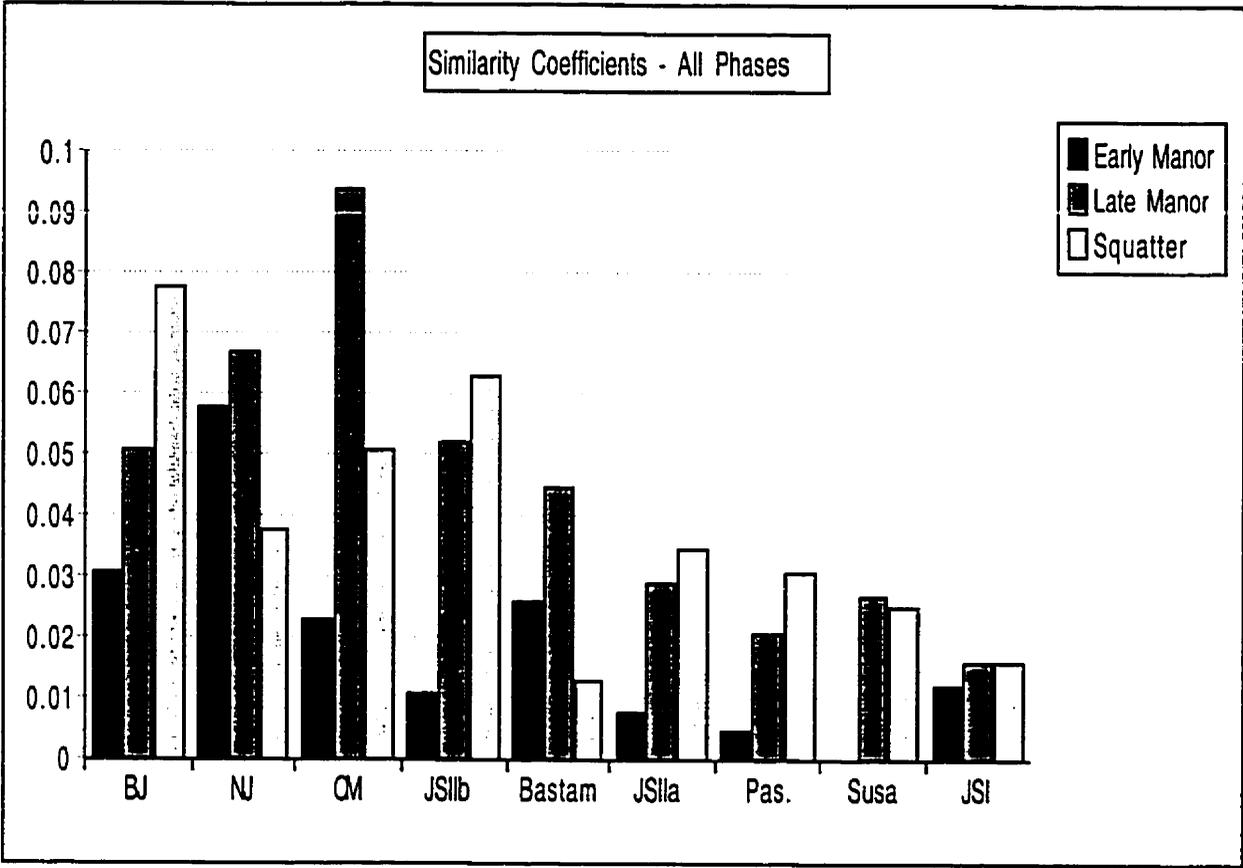


Figure 5.7

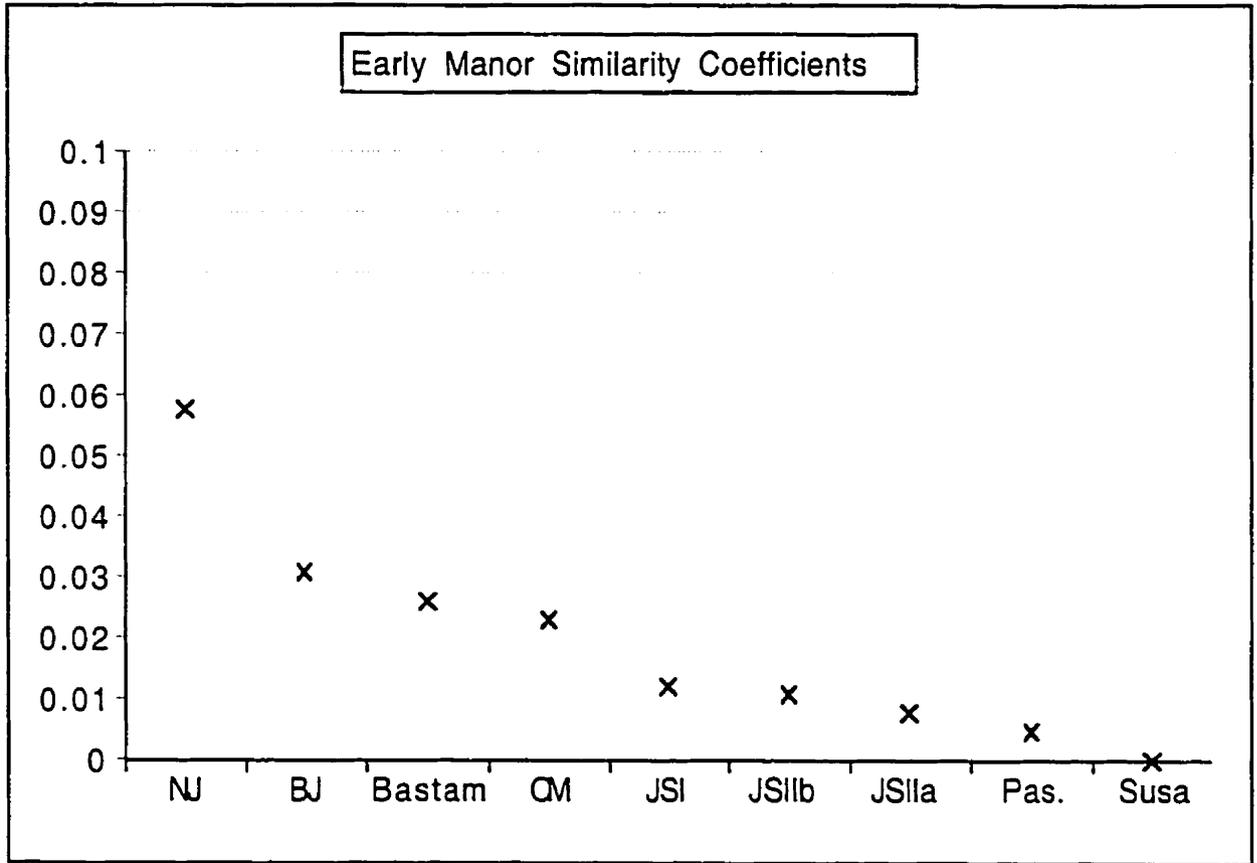


Figure 5.8

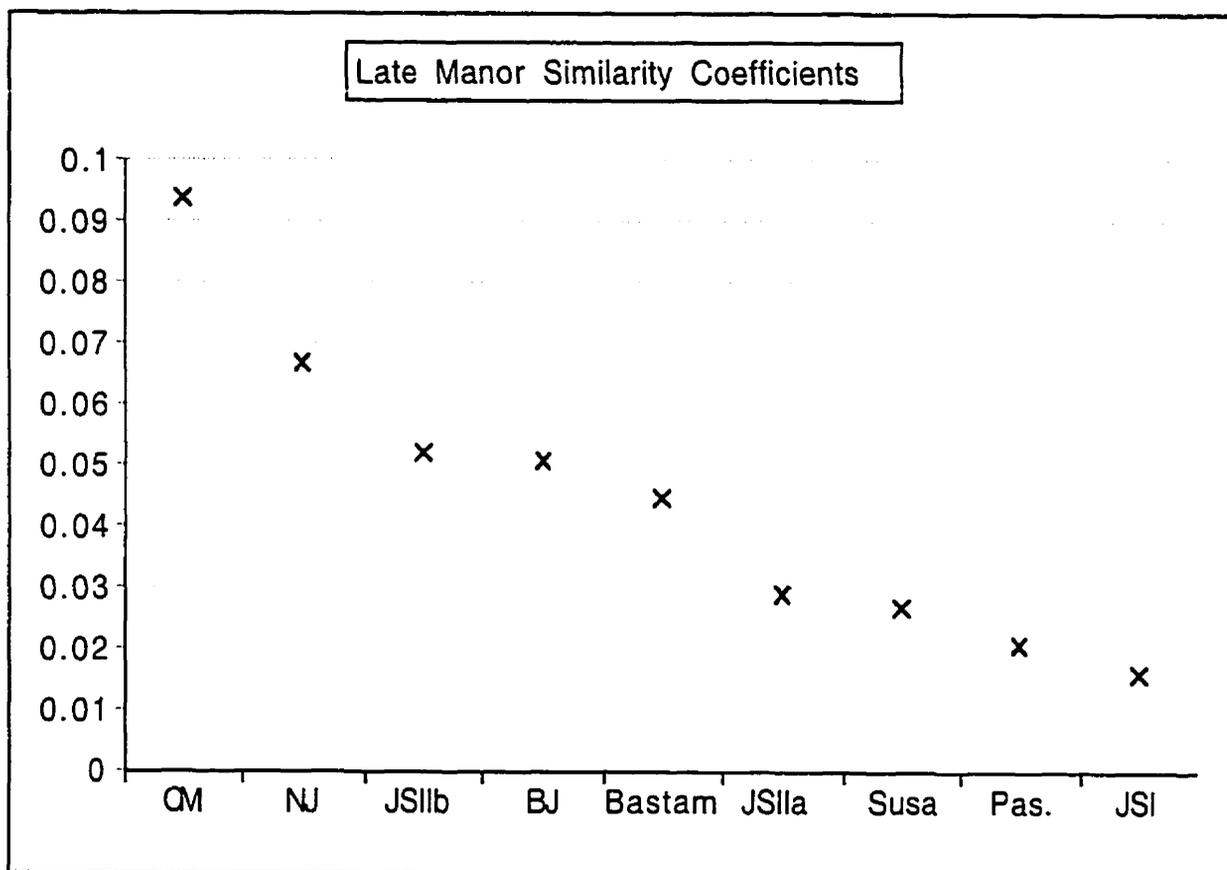


Figure 5.9

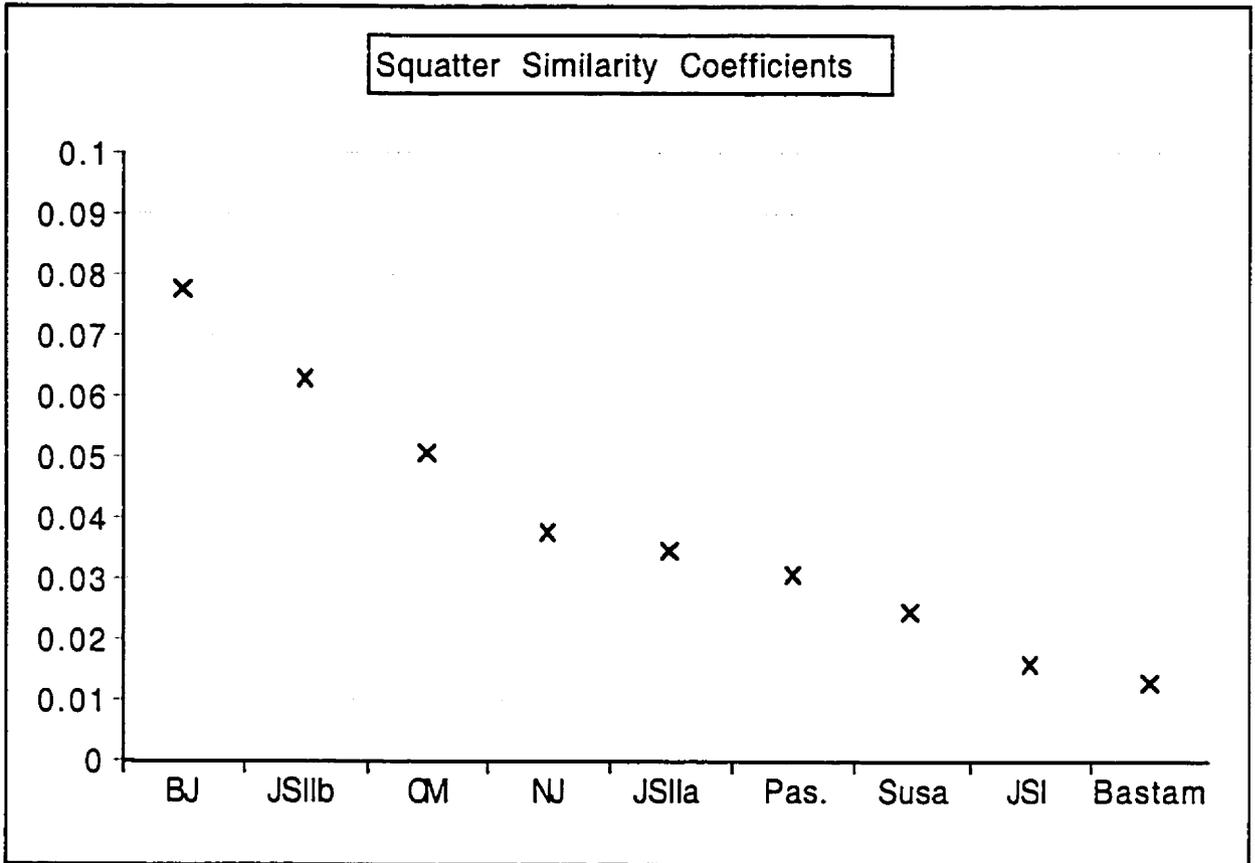


Figure 5.10 - Overall Functional Distribution of Parallels

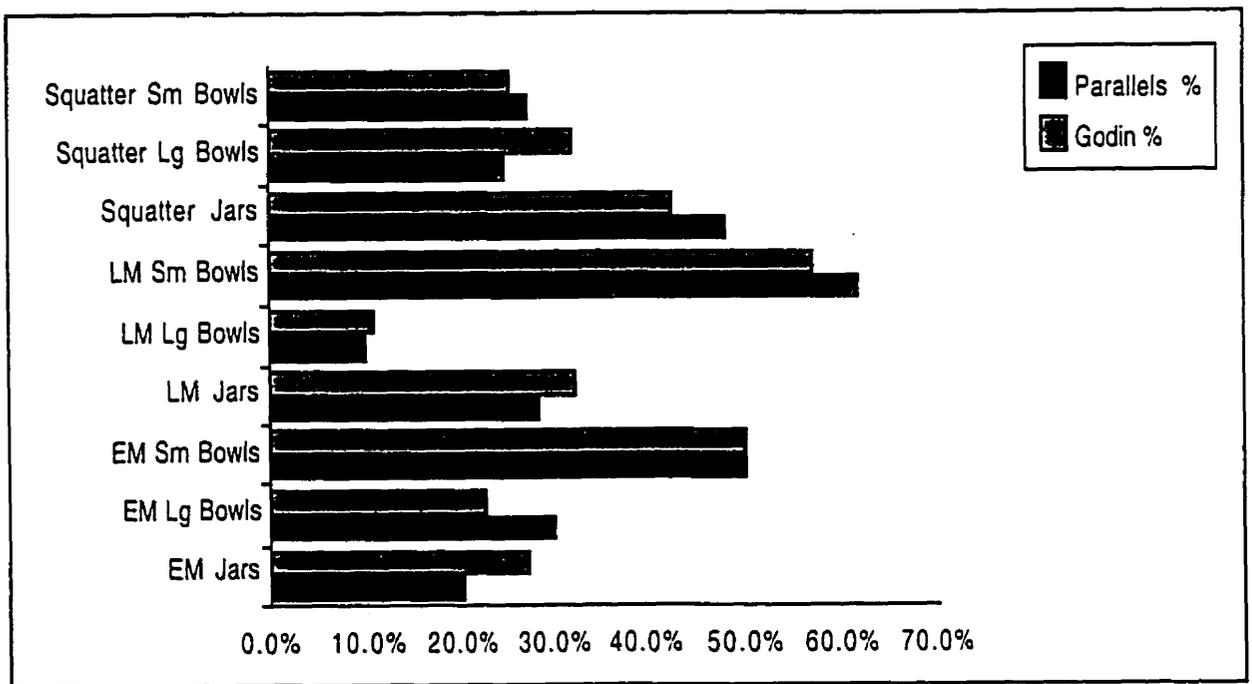


Figure 5.11 - Functional Distribution of Parallels to Most Similar Godin Phase

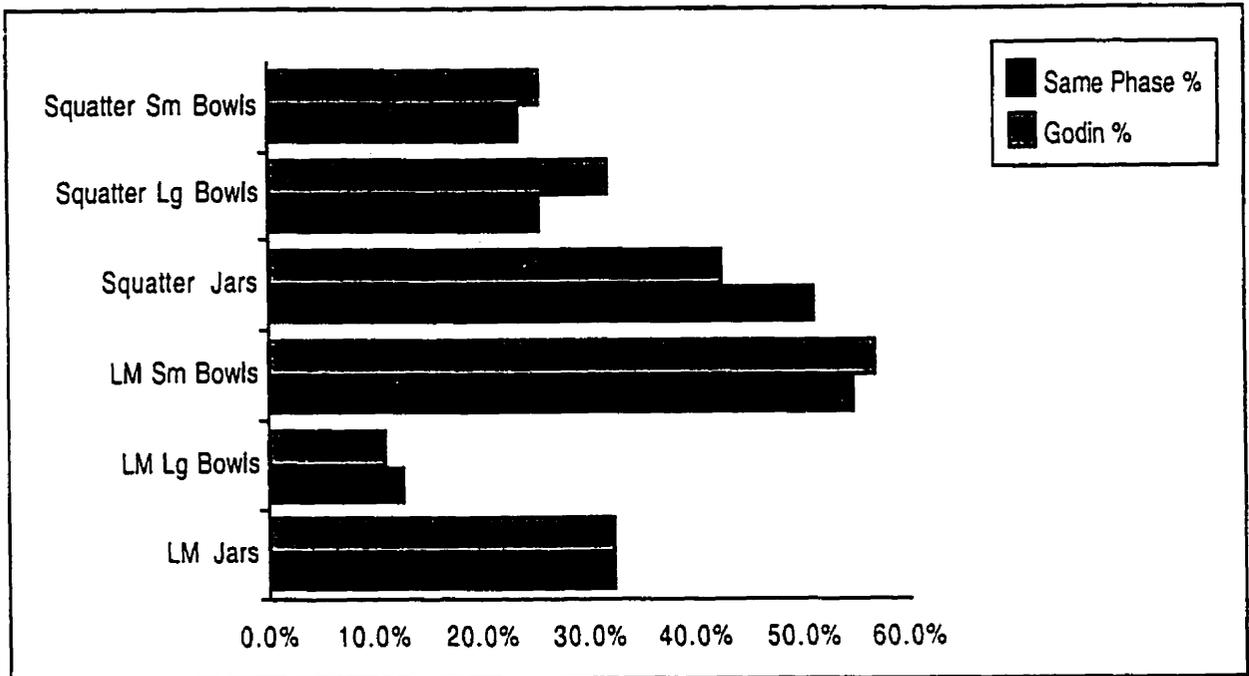


Figure 5.12 - Functional Distribution of Parallels to Less Similar Godin Phases

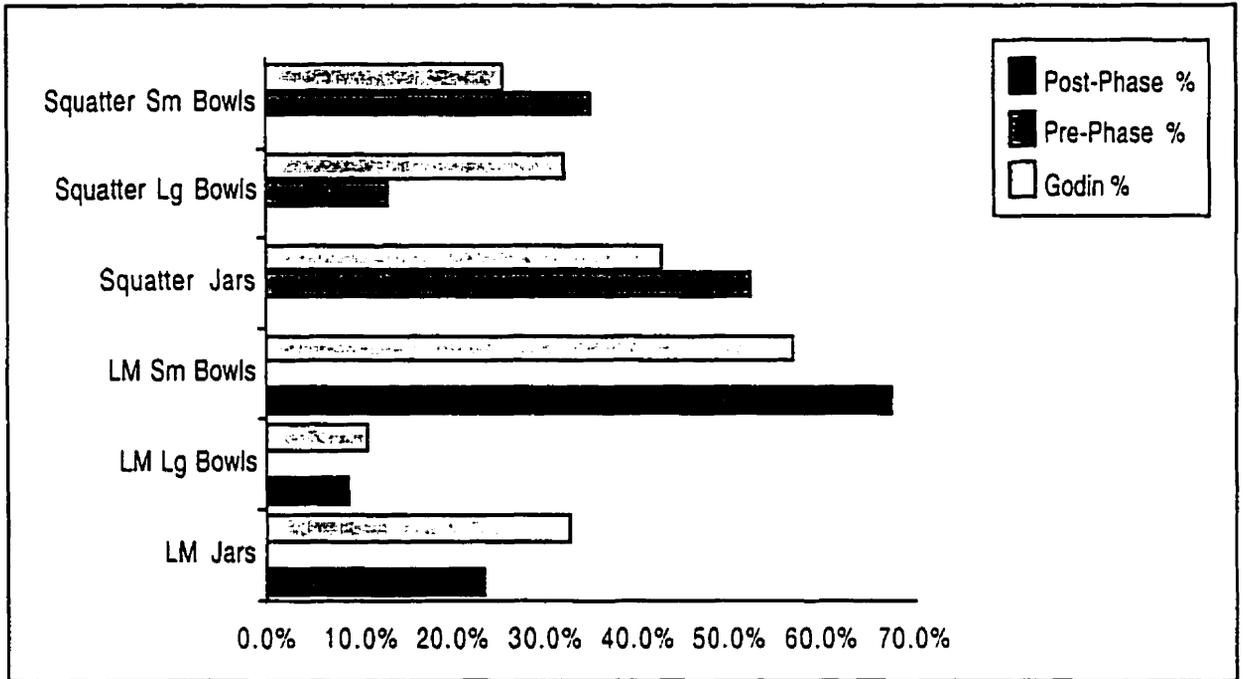


Figure 5.13

Relative Chronology of Iron III/Achaemenid Sites

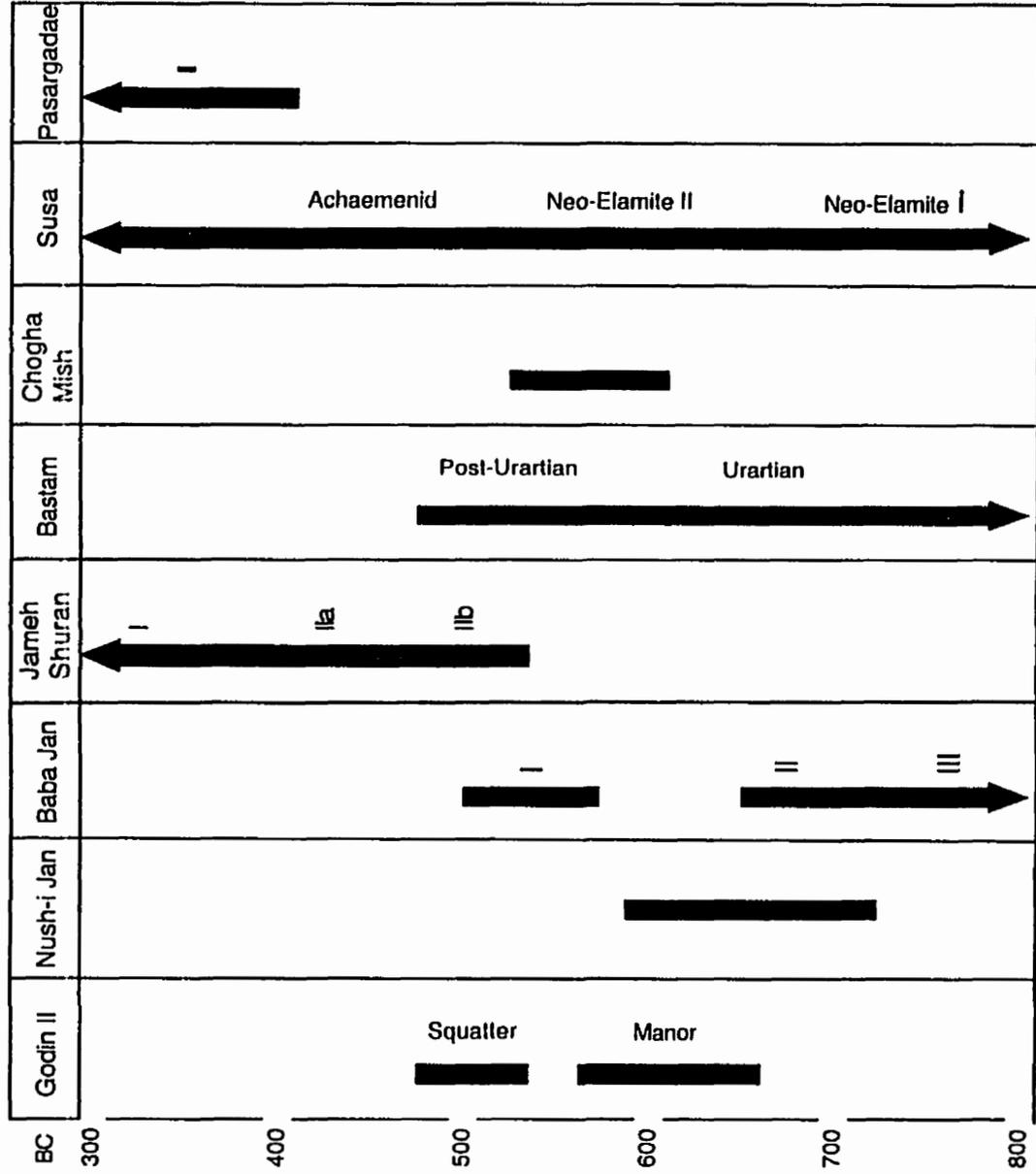


Figure 5.14-Map of Sites Mentioned in the Text



(Adapted from Muscarella 1995)

Key to Plates

Illustrations are listed by type number.

Parallels refer to plates from the following publications:

Baba Jan I - Goff 1985

Pasargadae - Stronach 1978

Susa VRII - Miroshedji 1987

Susa Ap. E. - Boucharlat 1987

Chogha Mish - Delougaz and Kantor 1996

Bastam - Kroll 1979

Kroll - Kroll 1976 (Typology)

Nush-i Jan - Unpublished Nush-i Jan preliminary typology

Jameh Shuran - Unpublished pottery plates

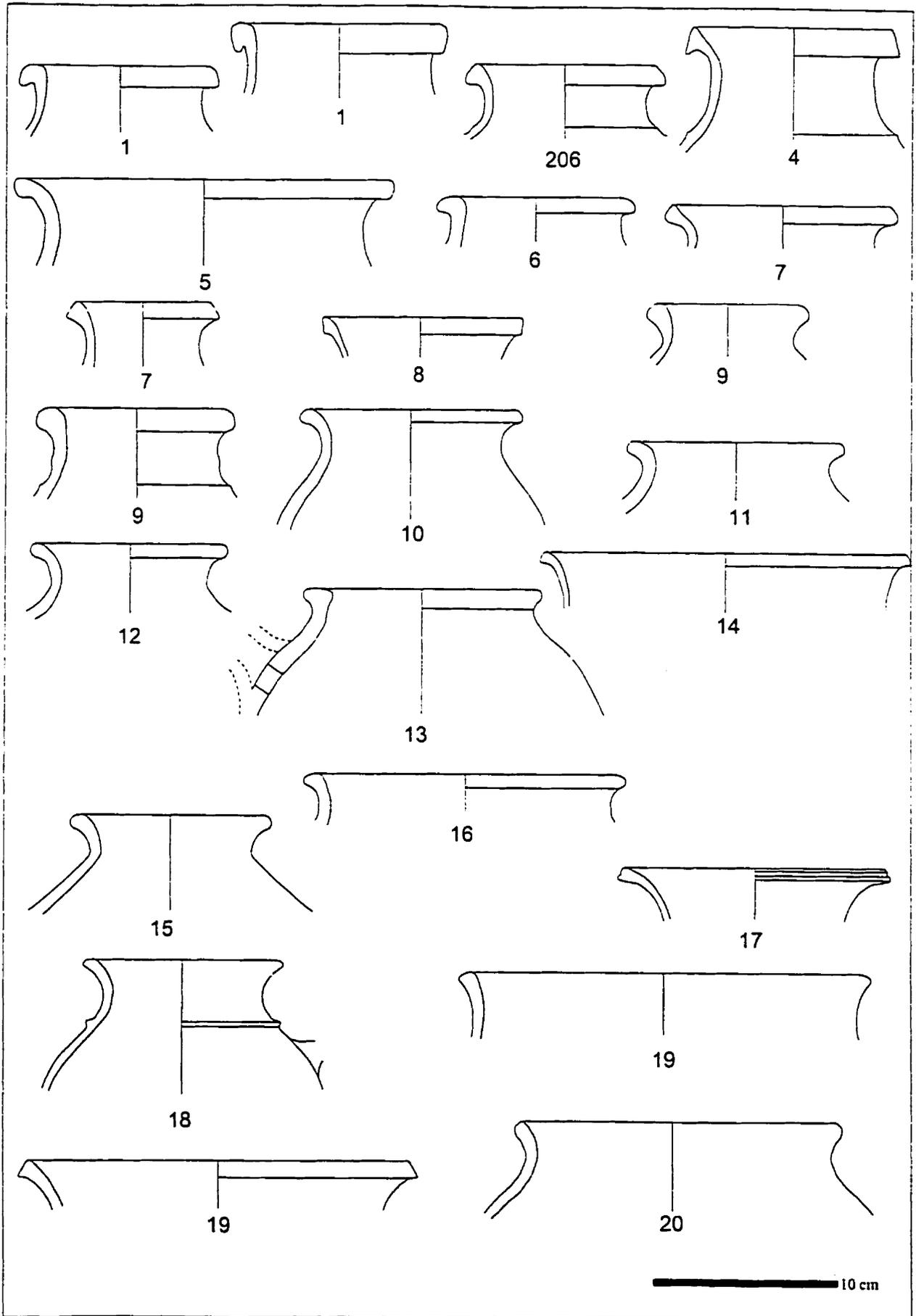


Plate 1

TYPE	SQUATTER (n)	MANOR (n)	MIXED (n)	(OUTSIDE) (n)	PARALLELS
1	19	0	5	0	Jameh Shuran I, Ila, IIb Susa (VR II 5-16: 9; 56:9 Pasargadae 117: 8, 10; 118:15
206	3	6	1	0	Bastam 9: 21 Kroll type 58
4	2	3	8	4	Baba Jan I 5: 2, 6 Nush-i Jan Jameh Shuran Ila, IIb Pasargadae 117: 23 Chogha Mish 75: BB
5	0	1	0	0	
6	3	7	6	1	Baba Jan I 5: 1, 13 Nush-i Jan Jameh Shuran IIb Susa (VR II 5 15: 2 Chogha Mish 75: Y
7	7	5	8	5	Baba Jan I 5: 4 Jameh Shuran IIb Pasargadae 117: 24 Kroll (8-7c.) type 49 Chogha Mish 75: W
8	0	0	2	1	
9	8	1	13	6	Jameh Shuran Ila, IIb Susa (VR II 4) 14: 10 Pasargadae 119: 24, 25
10	3	3	5	2	Jameh Shuran Ila, IIb Susa (VR II 5 15: 10 Bastam 9: 2
11	3	8	4	0	Bastam 9: 10
12	5	1	4	2	Nush-i Jan
				0	Jameh Shuran Ila, IIb
13	0	1	1	0	Jameh Shuran I Susa (VR II 5 15: 6
14	4	5	5	0	Kroll type 57
15	2	1	6	2	Nush-i Jan Jameh Shuran IIb Pasargadae 119: 2 Bastam 9: 22 Chogha Mish 75: V
16	1	0	4	0	
17	1	3	3	1	Baba Jan I 5: 7 Nush-i Jan Pasargadae 118: 2
18	8	4	11	3	Baba Jan I 7: 7 Nush-i Jan Jameh Shuran Ila Pasargadae 120: 7 Chogha Mish 75: CC
19	2	0	2	1	Jameh Shuran IIb Pasargadae 117: 13
20	4	0	4	2	Pasargadae 117: 2 Kroll (8-7c.) type 50

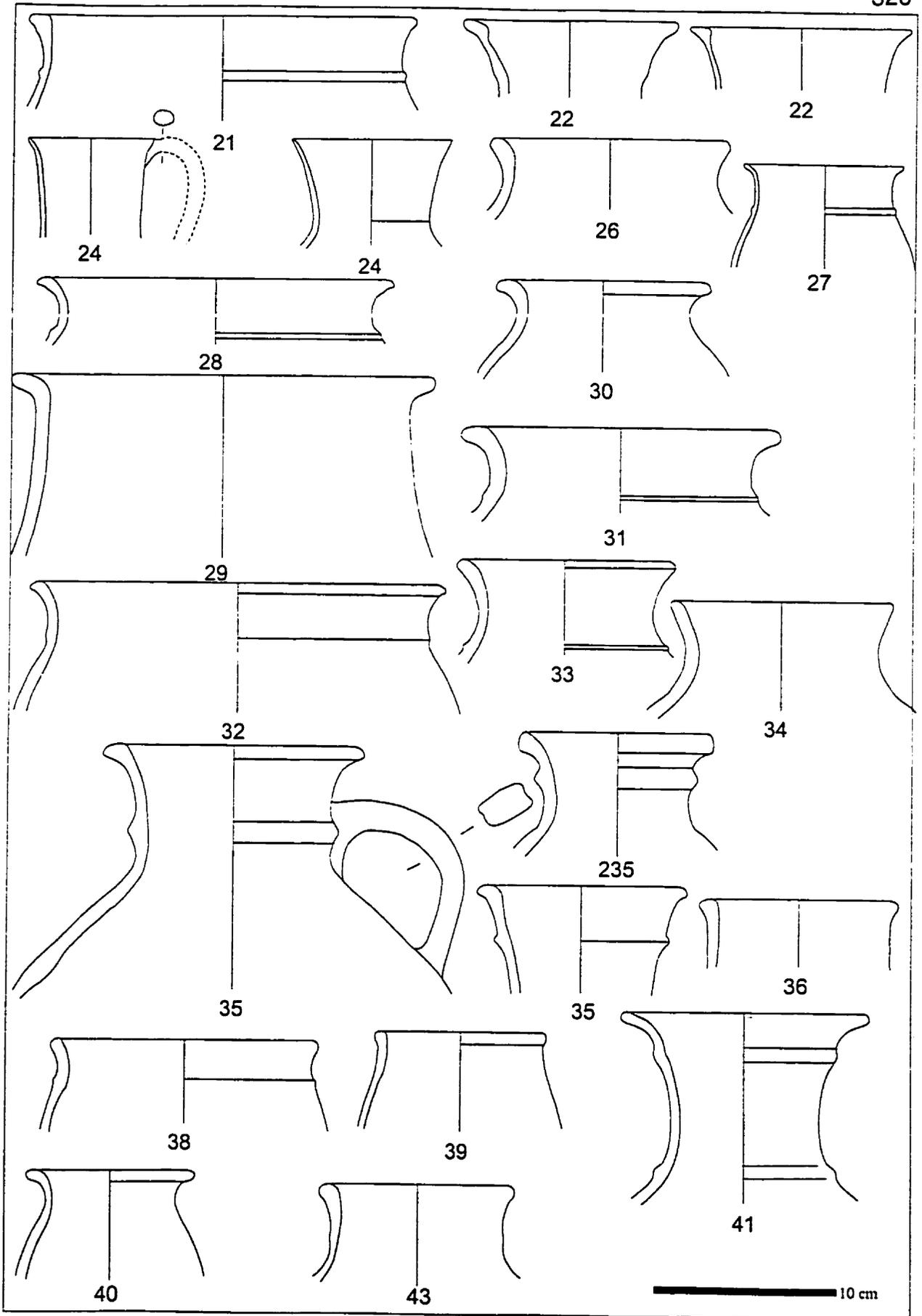


Plate 2

TYPE	SQUATTER (n)	MANOR (n)	MIXED (n)	(OUTSIDE) (n)	PARALLELS
21	5	1	1	0	
22	11	6	12	4	Baba Jan I 5: 9, 11 Nush-i Jan Jameh Shuran Ila
24	7	14	20	5	Baba Jan I 6: 24 Nush-i Jan Jameh Shuran I, Ila Kroll type 83a Chogha Mish 75: B Bastam 9: 12
26	7	1	3	1	
27	0	3	8	3	
28	6	10	5	4	Nush-i Jan Chogha Mish 75: G
29	3	1	0	0	
30	4	6	8	1	Baba Jan I 5: 10 Nush-i Jan Pasargadae 117: 4 Bastam 9: 3
31	1	0	2	0	Baba Jan I 5: 16 Bastam 9: 7
32	7	3	3	1	Baba Jan I 5: 19, 27
33	3	1	8	2	Baba Jan I 5: 22 Nush-i Jan
34	2	0	3	2	Nush-i Jan Kroll type 56
235	2	0	2	1	
35	11	4	10	3	Baba Jan I 5: 17, 18 Nush-i Jan Jameh Shuran Ila Susa (VR!! 5-4) 14: 4; 16: 2, 3 Nush-i Jan
36	2	0	3	1	
38	3	1	5	0	
39	0	1	1	0	Nush-i Jan
40	3	1	2	0	
41	3	6	5	2	
43	1	0	2	2	Baba Jan I 5: 21 Nush-i Jan

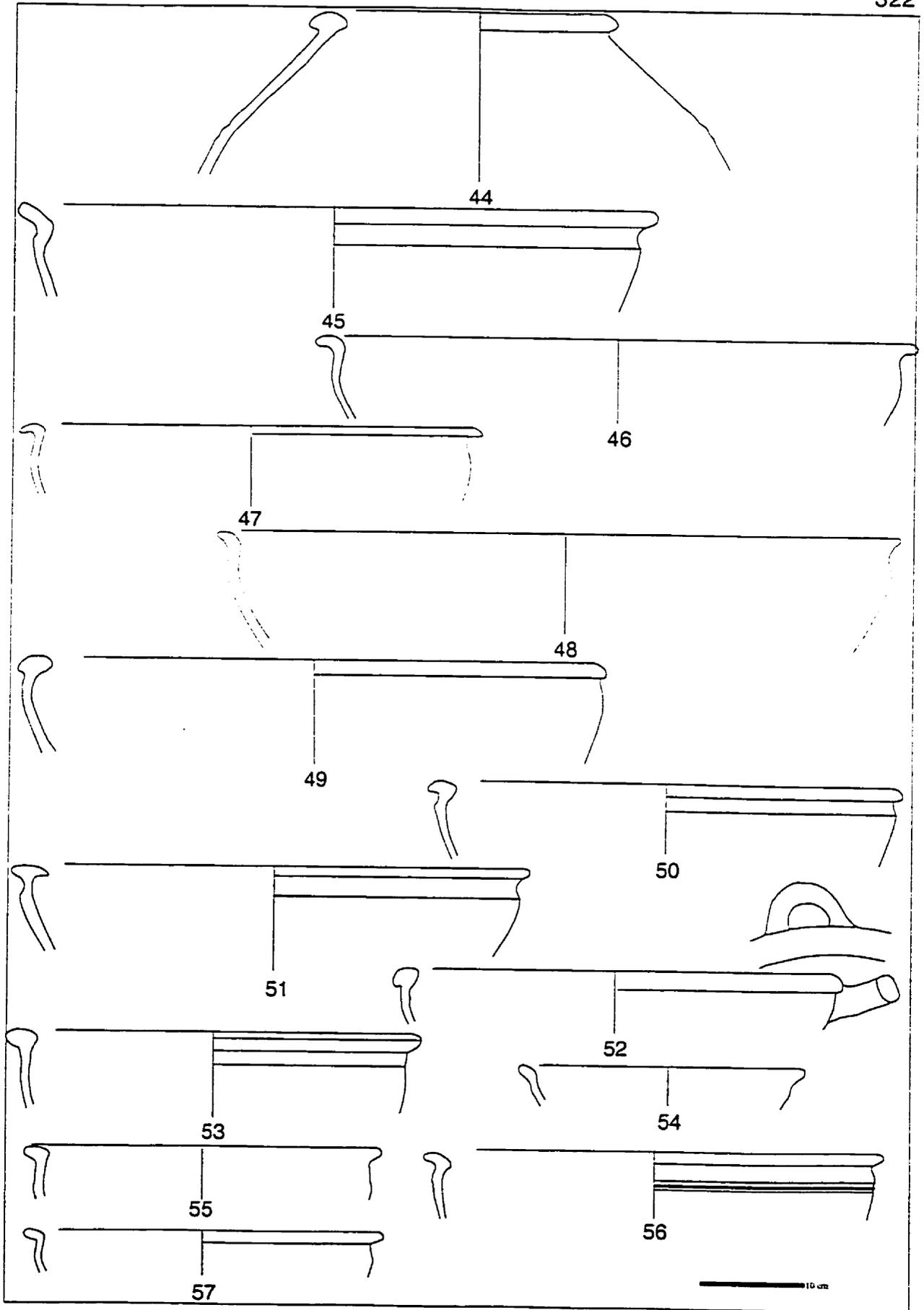


Plate 3

TYPE	SQUATTER (n)	MANOR (n)	MIXED (n)	(OUTSIDE) (n)	PARALLELS
44	0	1	8	4	Jameh Shuran II
45	17	3	15	4	Baba Jan I Jameh Shuran I
46	10	5	14	1	Baba Jan I
47	8	1	5	1	Baba Jan I
48	7	0	8	4	
49	3	0	4	0	Baba Jan I
50	0	6	6	5	Jameh Shuran I Baba Jan I Nush-i Jan Chogha Mish
51	1	0	1	0	Baba Jan I
52	6	6	7	2	Baba Jan I Jameh Shuran I, IIb
53	2	1	3	0	Baba Jan I Jameh Shuran I
54	6	1	0	0	
55	4	0	7	2	Jameh Shuran I
56	1	0	2	2	Baba Jan I Nush-i Jan
57	7	1	7	1	Baba Jan I Pasargadae

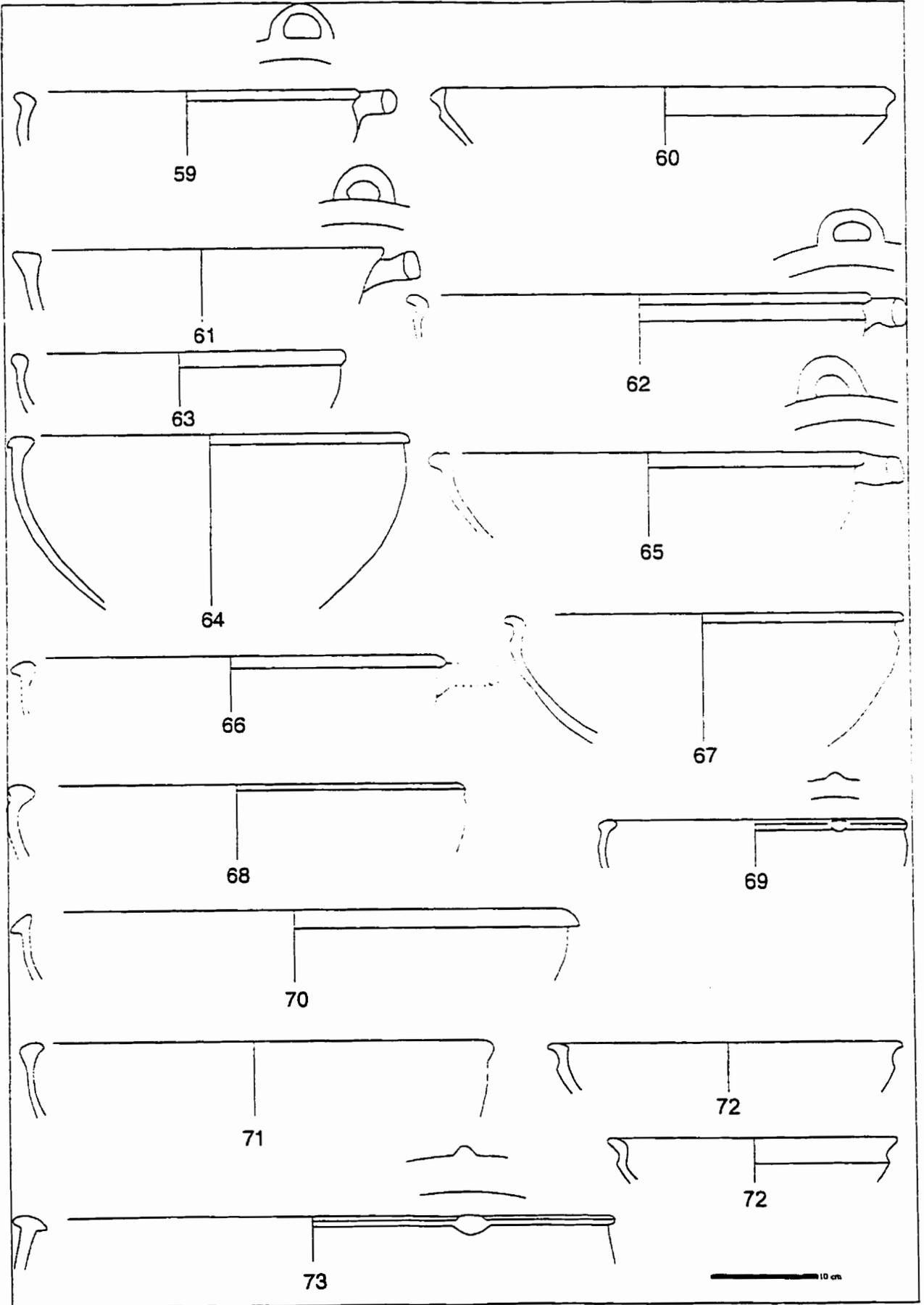
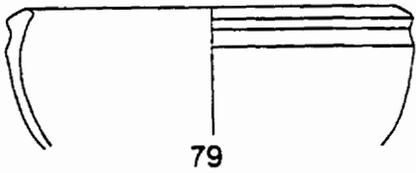
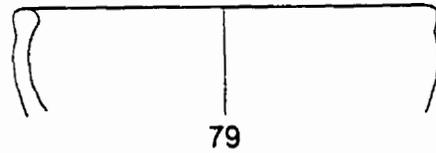
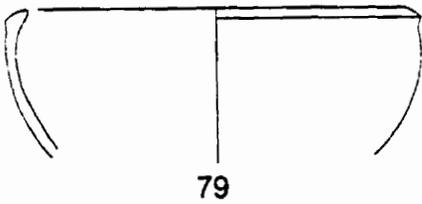
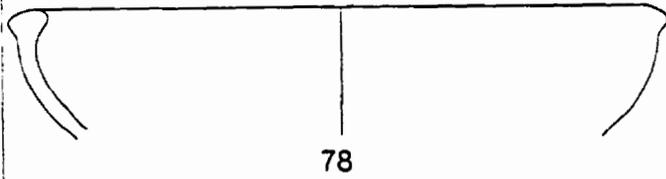
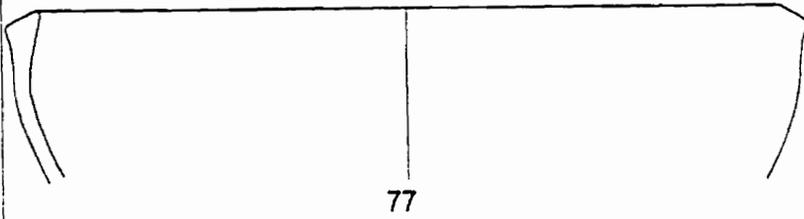
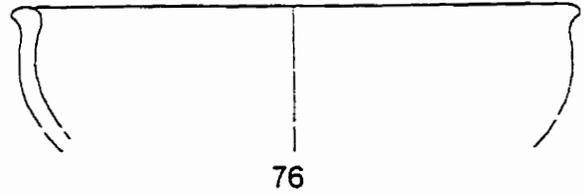
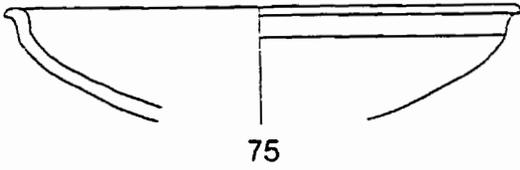


Plate 4

TYPE	SQUATTER (n)	MANOR (n)	MIXED (n)	(OUTSIDE) (n)	PARALLELS
59	6	4	14	4	Jameh Shuran Ila Pasargadae 111: 20
60	3	6	8	3	Nush-i Jan Jameh Shuran Ila Bastam 6: 13
61	2	0	1	1	Nush-i Jan
62	0	2	3	2	Baba Jan I 3: 6 Jameh Shuran I
63	1	2	5	1	Bastam 6: 3
64	0	1	6	5	Baba Jan I 2: 10 Nush-i Jan
65	3	0	7	3	Bastam 6: 8
66	1	1	0	0	Jameh Shuran Ila
67	1	2	4	0	Jameh Shuran Ila
68	2	0	4	1	Baba Jan I 4: 24 Nush-i Jan Kroll (7c-ac) type 44
69	7	5	13	9	Nush-i Jan Bastam 6: 12 Kroll (7c.) type 32
70	2	3	9	5	Nush-i Jan Jameh Shuran I Pasargadae 108: 12 Bastam 6: 5 Kroll (7c.) type 42
71	3	1	13	5	Nush-i Jan Jameh Shuran I Kroll (8-7c.) type 29
72	20	4	14	2	Baba Jan I 4: 17 Jameh Shuran Ila Kroll (ach.) type 27 Chogha Mish 75: R
73	0	2	1	0	



10 cm

Plate 5

TYPE	SQUATTER (n)	MANOR (n)	MIXED (n)	(OUTSIDE) (n)	PARALLELS
75	5	11	9	3	Baba Jan I Jameh Shuran I 2: 3, 6, 9
76	0	10	26	13	Baba Jan I Nush-i Jan Jameh Shuran I, Ila Bastam 4: 1 4: 37
77	0	0	2	1	Kroll (ur-ac) Baba Jan I Nush-i Jan 2: 27 type 26
78	1	2	8	3	Kroll (7c.) Nush-i Jan Jameh Shuran I type 42
79	4	3	15	9	Baba Jan I Nush-i Jan Jameh Shuran I Bastam Kroll (7c.) 2: 11; 3: 10 4: 20 type 33

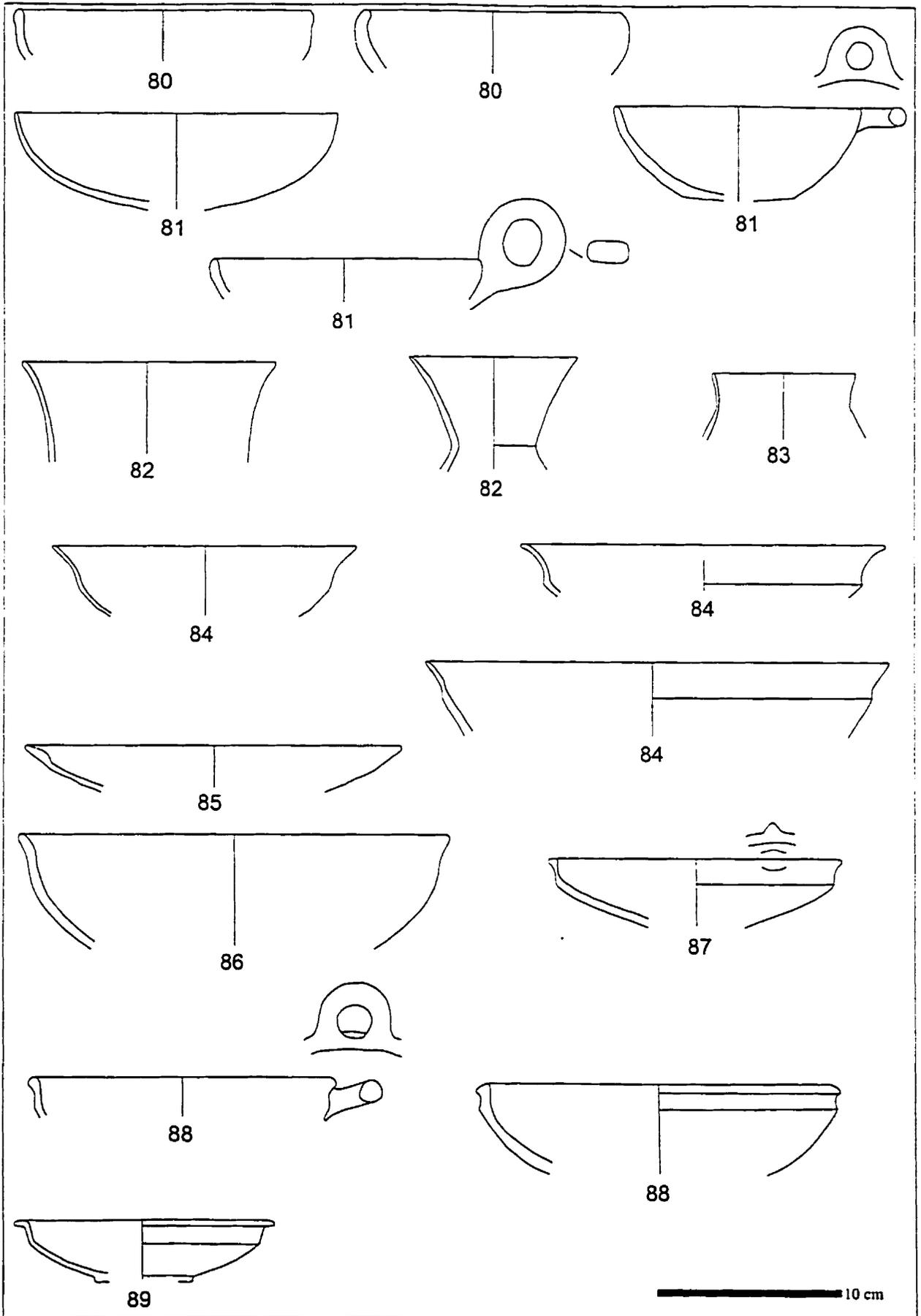
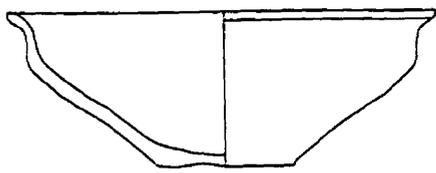
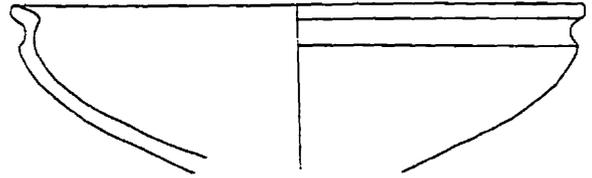


Plate 6

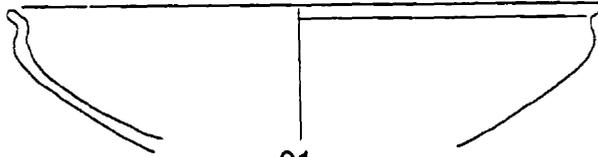
TYPE	SQUATTER (n)	MANOR (n)	MIXED (n)	(OUTSIDE) (n)	PARALLELS	
80	11	23	20	7	Pasargadae Bastam	110: 10 4: 5
81	8	49	37	18	Baba Jan I Nush-i Jan Jameh Shuran I, IIa Susa (VR II 5-4) Pasargadae Kroll (ur-ac) Chogha Mish	2: 19-21; 4: 3-4 7: 16 110: 6, 9 type 2a, 3, 8 73: I
82	10	10	18	5	Nush-i Jan Jameh Shuran IIa	
83	6	0	4	1		
84	8	3	9	2	Baba Jan I Susa (VR II 5-4) Pasargadae Kroll (ach.) Chogha Mish	2: 51 7: 8 106: 9, 12, 17 type 11 74: F
85	3	10	17	4	Baba Jan I Nush-i Jan Kroll (ac-pa)	2: 17 type 22
86	0	1	0	0	Jameh Shuran IIa, IIb Kroll (8c.)	type 17
87	1	9	5	2	Jameh Shuran IIa, IIb	
88	5	7	10	3	Nush-i Jan Jameh Shuran IIa, IIb Pasargadae Bastam Kroll (8-7c+) Chogha Mish	107: 6 4: 15, 41 type 23 73: L
89	2	14	31	12	Baba Jan I Jameh Shuran I Susa (VR II 5-4) Pasargadae Chogha Mish	3: 16 8: 8 108: 2 74: H



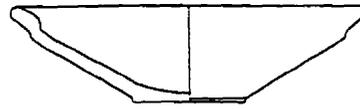
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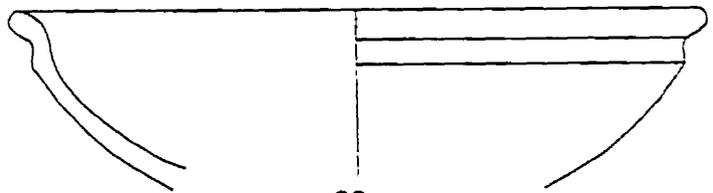
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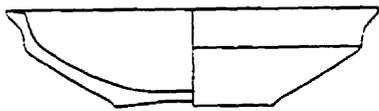
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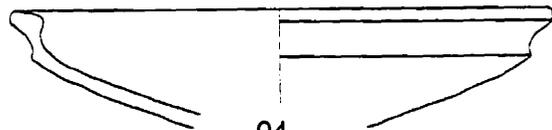
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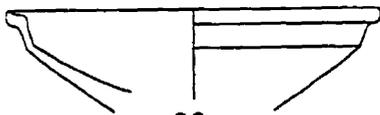
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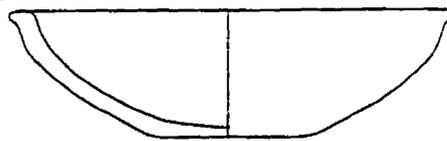
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96



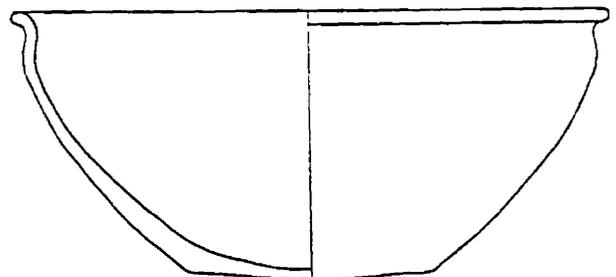
96



97



98



100



10 cm

Plate 7

TYPE	SQUATTER (n)	MANOR (n)	MIXED (n)	(OUTSIDE) (n)	PARALLELS
90	2	9	12	3	Baba Jan I Nush-i Jan Jameh Shuran I Bastam Chogha Mish 5: 8 74: C
91	11	16	33	12	Baba Jan I Nush-i Jan Jameh Shuran I Susa (VR II 5-4) 8: 9
92	46	9	25	3	Jameh Shuran I, IIa, IIb Susa (VR II 5-4, Ap. E. 6) Pasargadae Kroll (7c.+) 8: 5, 6; 55:20 108: 11; 110: 13 type 5b
93	10	0	10	1	Jameh Shuran IIb Pasargadae 107: 14
94	9	19	18	4	Baba Jan I Nush-i Jan Chogha Mish 73: K ; 75: B
95	0	4	7	3	Nush-i Jan Chogha Mish 73: J
96	7	18	12	2	Nush-i Jan Pasargadae Chogha Mish 107: 2 74: I
97	6	4	4	0	Baba Jan I 2: 2
98	12	3	7	2	Baba Jan I Jameh Shuran I Susa (VR II 5-4) Pasargadae Kroll (8c.) 7: 14 107: 4; 108: 3 type 12
100	0	1	2	1	Nush-i Jan Pasargadae Chogha Mish 108: 7 74: D

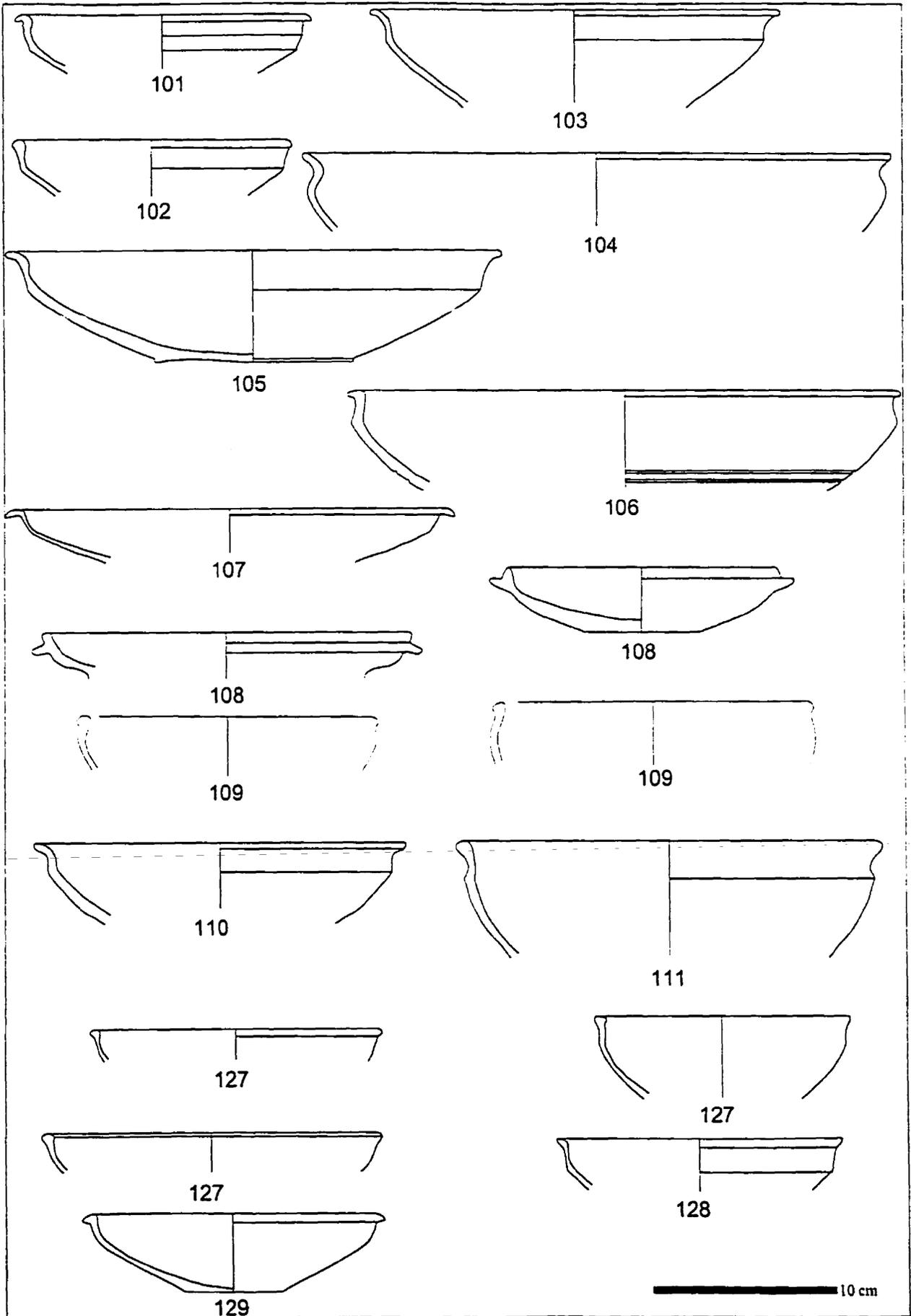


Plate 8

TYPE	SQUATTER (n)	MANOR (n)	MIXED (n)	(OUTSIDE) (n)	PARALLELS
101	1	1	4	1	
102	4	1	2	0	Baba Jan I 2: 57
103	2	6	16	4	Baba Jan I 2: 8 Jameh Shuran Ila Susa (VRil 5-4) 9: 4
104	0	5	8	4	Baba Jan I 2: 12 Bastam 5: 11 Kroll (me-ac) type 14
105	1	6	9	7	Baba Jan I 2: 15 Susa (VRil 5-4) 9: 1
106	0	3	9	3	
107	2	1	2	1	
108	3	0	8	4	Nush-i Jan Chogha Mish 73: A, G
109	8	10	29	14	Nush-i Jan Bastam 4: 36
110	1	3	4	0	Pasargadae 107: 10 Chogha Mish 75: N
111	4	2	3	1	Nush-i Jan Bastam 4: 38 Chogha Mish 75: O
127	1	2	6	2	
128	0	2	2	0	
129	0	0	2	1	Nush-i Jan

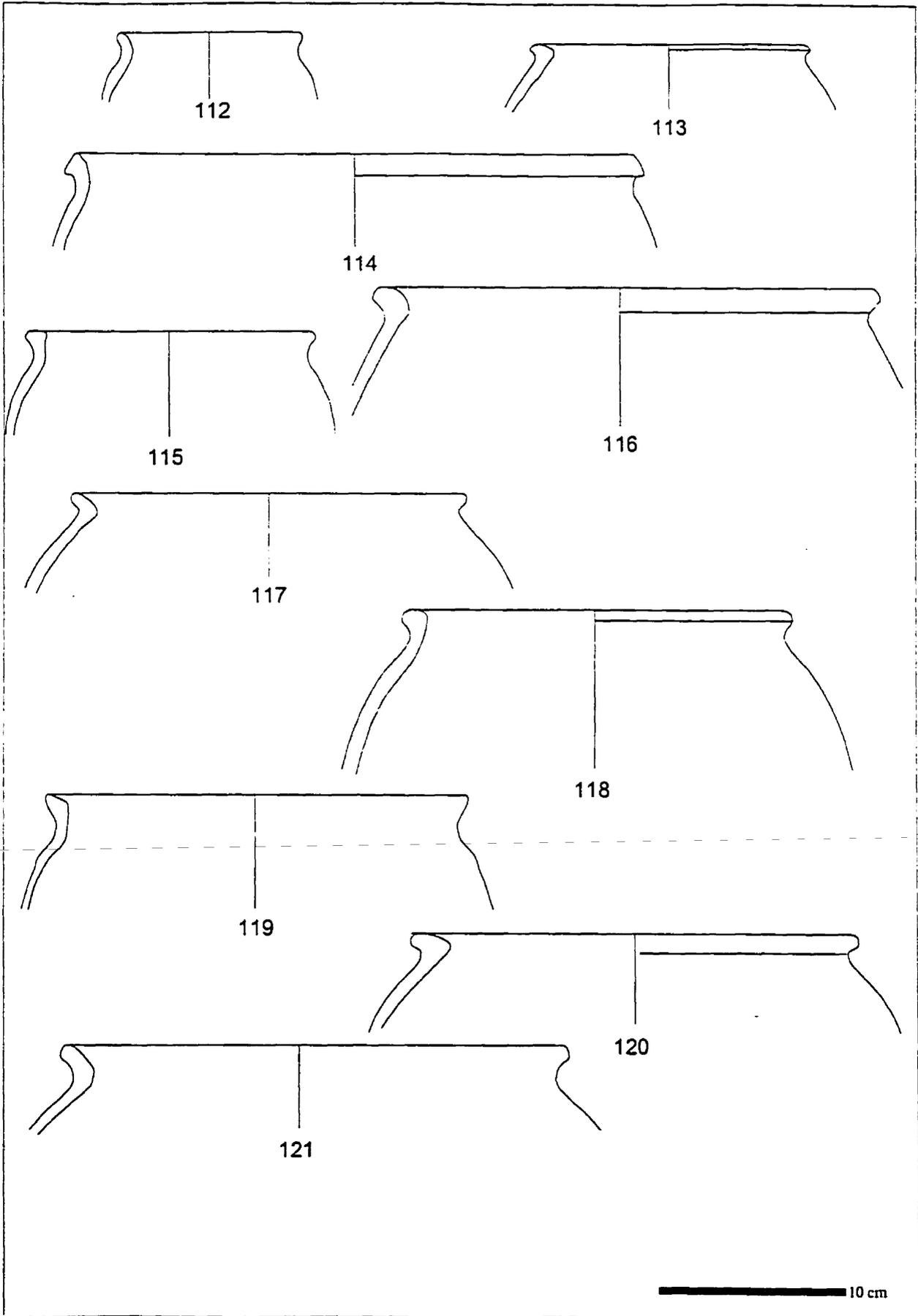


Plate 9

TYPE	SQUATTER (n)	MANOR (n)	MIXED (n)	(OUTSIDE) (n)	PARALLELS	
112	6	3	5	4		
113	8	5	5	0		
114	8	1	5	2	Baba Jan I	5: 29
115	8	4	14	3		
116	4	1	2	0	Baba Jan I	5: 28
117	14	3	5	2	Baba Jan I	4: 35
118	4	5	6	3		
119	6	0	5	1		
120	5	0	6	4		
121	3	7	13	1		

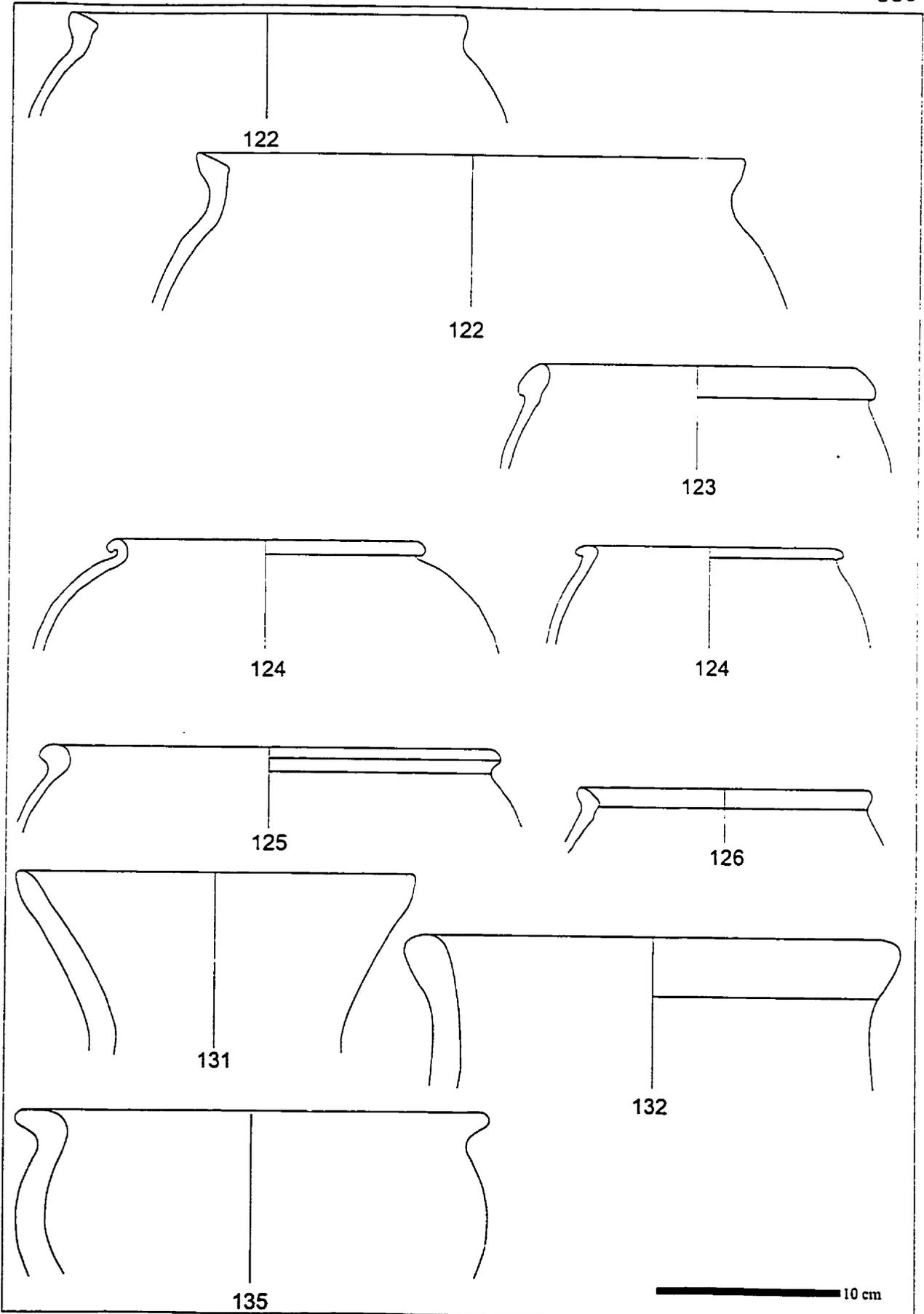
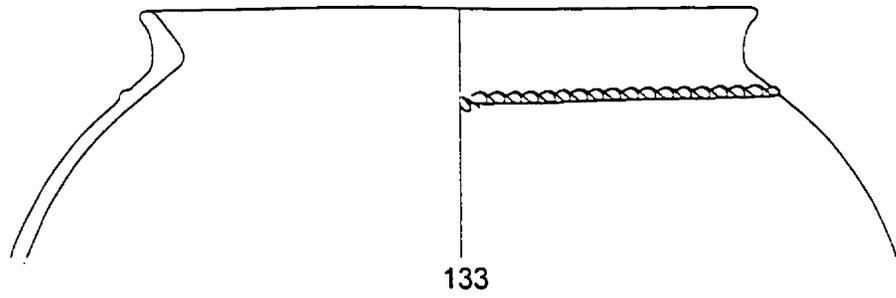


Plate 10

TYPE	SQUATTER (n)	MANOR (n)	MIXED (n)	(OUTSIDE) (n)	PARALLELS
122	8	11	11	3	
123	1	0	3	1	
124	3	2	2	0	
125	4	0	4	3	
126	0	2	7	3	
131	1	1	0	0	
132	2	0	3	4	
134	0	0	4	3	
135	0	3	5	1	



10 cm

Plate 11

TYPE	SQUATTER (n)	MANOR (n)	MIXED (n)	(OUTSIDE) (n)	PARALLELS
133	4	1	5	1	

APPENDIX A

GODIN II LOTS

The following is a list of all Godin II lots with ceramics either in the sherd collection or in the collection of pottery drawings. Although the lot system only began to be used for recording purposes in 1969, each grouping of square, area and stratum numbers was assigned a distinct lot number in the mid 1980's. I have used the lot designations here but for pre-'69 lots, descriptions of deposits refer to stratum and area descriptions in field notes.

Stratum and phase designations listed here are derived from my analysis of the stratigraphy at Godin II (see chapters 1-2). Grade designations are based on an emended version of William Sumner's deposit coding from the site of Malyan. "Average preservation" is the mean preservation of rim sherds in the lot and "Average size" is the mean size of preserved rims. Functional categories are based on the percent of each category preserved in the lot rather than an absolute count of each type of vessel to avoid the misleading dominance of one large vessel broken into many sherds. Functional categories are listed only for those lots with 10 or more sherds.

Phase Designations (see chapter 1)

Phase 1 = very limited pre-manor occupation

Phase 2a = Manor occupation stratigraphically prior to the last abandonment of the manor.

Phase 2b = Manor occupation at the time of or directly before the final abandonment of the manor.

Phase 3 = Squatter occupation after the manor was abandoned and marked wall collapse had occurred (two sub phases, a and b, distinguishable in rooms 6, 7 and 8)

Deposit Grade Codes

- 11 - undisturbed floor deposit
- 12 - undisturbed surface deposit (courtyard, open area)
- 13 - burial deposit
- 14 - cache
- 15 - cluster of objects deposited together
- 16 - collapsed second story floor deposit
- 17 - artificially deposited pebble/cobble layer
- 21 - trash deposit on a floor or surface
- 22 - trash in a pit or well
- 23 - amorphous trashy deposit
- 24 - disturbed burial
- 25 - disturbed floor or surface deposit
- 26 - trash deposit accumulated on a surface in an abandoned structure

- 27 - ceiling collapse
- 28 - kiln, hearth or oven contents
- 29 - removal of floor or living surface

- 31 - surface pickup
- 32 - disturbed top soil
- 33 - rodent burrow
- 34 - amorphous bricky fill, associated wall not identified
- 35 - bricky fill below tops of identified walls
- 36 - feature removal
- 37 - arbitrary floor cleaning lot (bricky fill which cannot be identified as having a trash component)
- 38 - balk removed unstratigraphically
- 39 - dump
- 40 - unknown
- 41 - clean-up
- 42 - non-bricky fill within identified walls
- 43 - rocky fill not associated with identified walls
- 44 - surface wash
- 45 - sandy fill
- 46 - ashy lens not contained in hearth or oven
- 47 - mixed fill with some brick component not within identified walls
- 48 - mixed fill with some brick component within identified walls
- 49 - material redeposited in antiquity
- 50 - sterile natural soil
- 51 - brick packing
- 52 - contents of pot, drain or other container
- 60 - mixed lots
- 62 - test trench removed unstratigraphically

LOTS

LOT: A 2
 Room: 2
 Stratum: 1-3
 Grade: 35
 Season: '65
 Phase: 1-3b
 Number of Sherds: 3
 Average sherd preservation: 5%
 Average size: 1cm

Notes: From sounding A. Outside wall-1. May contain sherds from early manor from garbage accumulation outside wall-1 (phase 2a).

LOT: A 3
 Room: 2
 Stratum: 2
 Grade: 35
 Season: '65

Phase: 1-3b
 Number of Sherds: 3
 Average sherd preservation: 17%
 Average size: 4cm

Notes: From sounding A. Outside wall-1. May contain sherds from early manor from garbage accumulation outside wall-1 (phase 2a).

LOT: A 8

Room: 2
 Stratum: 1
 Grade: 40
 Season: '65
 Phase: 1-3b

Number of Sherds: 6
 Average sherd preservation: 10%
 Average size: 3cm

Notes: From stratum 1. Surface.

LOT: A 9

Room: 2
 Stratum: 3
 Grade: 38
 Season: '65
 Phase: 2a-3b

Number of Sherds: 9
 Average sherd preservation: 10%
 Average size: 2cm
 Bowls (% preserved): 33%
 Jars (% preserved): 67%
 Cook pots (% preserved): 0%

Notes: Pit dug partially into wall-1. Probably squatter (phase 3) but could be original (phase 2a).

LOT: A 13

Room: 2
 Stratum: 3
 Grade: 38
 Season: '65
 Phase: 1-3b

Number of Sherds: 2
 Average sherd preservation: 10%
 Average size: 2cm

Notes: Unknown provenience.

LOT: A 2901

Room: 2
 Stratum: 1-2
 Grade: 40
 Season: '65

Equivalent Lots: A 8, A 3
 Phase: 1-3b

Number of Sherds: 1
 Average size: 13cm
 Notes: Unknown provenience.

LOT: A1 2
 Room: 5
 Stratum: 2-4
 Grade: 40
 Season: '67
 Phase: 2b-3a
 Number of Sherds: 20
 Average sherd preservation: 17%
 Average size: 4cm
 Within lot joins: 1 (5%)
 Bowls (% preserved): 38%
 Jars (% preserved): 50%
 Cook pots (% preserved): 12%

Notes: Mixed lots. Includes bricky fill, occupation debris on floor 1 (phase 3a or 2b) and occupation debris on floor 2 (phase 2). Both the average size and average preservation of sherds is high, indicating either initial discard or abandonment debris.

LOT: A1 8
 Room: 2
 Stratum: 2
 Grade: 40
 Season: '67
 Equivalent Lots: A1 10
 Phase: 1-3b
 Number of Sherds: 3
 Average sherd preservation: 10%
 Average size: 1cm

Notes: From outside Wall-1 and therefore may include early manor (phase 2a) debris.

LOT: A1 26
 Room: 5
 Stratum: 5
 Grade: 40
 Season: '67
 Equivalent Lots: A1 30-35
 Phase: 1
 Number of Sherds: 1
 Average sherd preservation: 18%
 Average size: 3cm

Notes: Variety of lots grouped together as area 1, stratum 5. Seem to belong to strata below tower 5 and wall 1 and are therefore pre-manor (phase 1).

LOT: A1 31
 Room: 5*

Stratum: 5
 Grade: 21
 Season: '67
 Equivalent Lots: A1 26
 Phase: 1
 Number of Sherds: 2
 Average sherd preservation: 94%
 Average size: 18cm

Notes: From "floor" of pre-manor Godin II occupation. Exact nature of this occupation not well described. A hearth and two almost complete jars (Gd. '67 #142, Gd. '67 #364) were found under the rubble fill of tower 5.

LOT: A1 1012
 Room: ?
 Stratum: ?
 Grade: 40
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 2cm
 Notes: Unknown provenience.

LOT: A1 1060
 Room: ?
 Stratum: ?
 Grade: 40
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 5%
 Average size: 1cm
 Notes: Unknown provenience.

LOT: A2 2
 Room: 7
 Stratum: 2
 Grade: 35
 Season: '67
 Phase: 3
 Number of Sherds: 7
 Average sherd preservation: 14%
 Average size: 3cm
 Notes: Bricky collapse over squatter remains.

LOT: A2 3
 Room: 7
 Stratum: 3-4
 Grade: 42
 Season: '67

Phase: 3
 Lots with sherd joins: AA3 12 (phase 2b-3b)
 Number of Sherds: 30
 Average sherd preservation: 11%
 Average size: 2cm
 Within lot joins: 0(%)
 Bowls (% preserved): 81%
 Jars (% preserved): 6%
 Cook pots (% preserved): 12%

Notes: Soft fill over floor 2 (phase 3a).
 No late squatter (phase 3b) floor recovered in this area. This floor may have been used into the late squatter period.

LOT: A2 4
 Room: 7
 Stratum: 5
 Grade: 48
 Season: '67
 Phase: 2b
 Number of Sherds: 20
 Average sherd preservation: 12%
 Average size: 2cm
 Bowls (% preserved): 76%
 Jars (% preserved): 24%
 Cook pots (% preserved): 0%

Notes: Material below floor 2 (phase 3a).
 Abandonment debris of last manor occupation (phase 2b).

LOT: A2 6
 Room: 8
 Stratum: 3-4
 Grade: 42
 Season: '67
 Phase: 3
 Number of Sherds: 0

Notes: Debris above floor 2 (phase 3a).
 Runs over collapsed portion of wall-3 and is therefore squatter (phase 3)

LOT: A2 7
 Room: 8
 Stratum: 1-2
 Grade: 35
 Season: '67
 Phase: 1-3b
 Number of Sherds: 0

Notes: Bricky collapse from final abandonment.

LOT: A2 12
 Room: 7
 Stratum: ?
 Grade: 40

Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 15%
 Average size: 2cm
 Notes: Unknown provenience.

LOT: A2 1009
 Room: 7
 Stratam: ?
 Grade: 40
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 1cm
 Notes: Unknown provenience.

LOT: A3 1
 Room: 48
 Stratam: 1
 Grade: 32
 Season: '73
 Phase: 1-3b
 Number of Sherds: 8
 Average sherd preservation: 10%
 Average size: 2cm
 Notes: Brickly collapse and surface wash.

LOT: A3 2
 Room: 48
 Stratam: 2
 Grade: 48
 Season: '73
 Equivalent lots: A3 5
 Phase: 3
 Number of Sherds: 7
 Average sherd preservation: 9%
 Average size: 2cm

Notes: Ashy grayish soft fill overlying
 brickly collapse of final manor phase (2b). Similar to ashy fill
 in room 46 (lot AA3 10) but with less ceramics. No evidence of
 squatter occupation in this area but may be squatter dumping.

LOT: A3 3
 Room: 48
 Stratam: 3
 Grade: 35
 Season: '73
 Phase: 2b-3b
 Number of Sherds: 21
 Average sherd preservation: 10%

Average size: 2cm
 Bowls (% preserved): 64%
 Jars (% preserved): 14%
 Cook pots (% preserved): 21%

Notes: Bricky collapse overlying floor 1 (phase 2). May include some squatter material from later dumping.

LOT: A3 4
 Room: 48
 Stratum: 4
 Grade: 37
 Season: '73
 Phase: 2b
 Number of Sherds: 4
 Average sherd preservation: 12%
 Average size: 2cm

Notes: Bricky collapse from 10 cm above floor 1 (phase 2). Should include occupation or abandonment debris from phase 2b.

LOT: A3 5
 Room: 49
 Stratum: 2
 Grade: 48
 Season: '73
 Equivalent Lots: A3 2
 Phase: 3
 Number of Sherds: 3
 Average sherd preservation: 15%
 Average size: 2cm

Notes: Ashy grey fill overlying bricky collapse of final manor abandonment (phase 2b). May be the result of squatter (phase 3) dumping.

LOT: A3 6
 Room: 49
 Stratum: 4
 Grade: 37
 Season: '73
 Equivalent Lots: A3 4
 Phase: 2b
 Number of Sherds: 17
 Average sherd preservation: 7%
 Average size: 2cm
 Bowls (% preserved): 56%
 Jars (% preserved): 44%
 Cook pots (% preserved): 0%

Notes: Bricky collapse from 10 cm above floor 1 (phase 2). Should include occupation or abandonment debris from final manor phase (phase 2b).

LOT: A3 7
 Room: 49
 Stratum: 3
 Grade: 35
 Season: '73
 Equivalent Lots: A3 3
 Phase: 2b-3b
 Number of Sherds: 1
 Average sherd preservation: 35%
 Average size: 6cm
 Within lot joins: 1

Notes: Bricky collapse overlying floor 1 (phase 2). Might include some material from squatter (phase 3) dumping (lot A3 5).

LOT: A3 9
 Room: 49
 Stratum: 4
 Grade: 29
 Season: '73
 Phase: 2b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 3cm

Notes: Gravel patch with some sherds on floor 1 (phase 2). Some kind of paving or installation. May be for drainage as appears to run partially under wall-67.

LOT: A3 12
 Room: 49
 Stratum: 5
 Grade: 29
 Season: '73
 Phase: 2a-2b
 Number of Sherds: 2
 Average sherd preservation: 5%
 Average size: 1cm

Notes: Hard bricky material under lot A3 9. Sub floor fill. Could contain early manor (phase 2a) sherds.

LOT: A3 13
 Room: 8
 Stratum: 2
 Grade:
 Season: '73
 Phase: 3b
 Number of Sherds: 1
 Average sherd preservation: 5%
 Average size: 1cm

Notes: Surface between "wall-K" (collapsed wall-3) and wall-3. May be true late squatter (phase 3b) floor (although none found in rest of square) or compact eroded wash

in
squatter levels.

LOT: A4 2
Room: 50
Stratum: 2
Grade: 35
Season: '73
Phase: 2b
Number of Sherds: 2
Average sherd preservation: 15%
Average size: 2cm
Notes: Bricky collapse.

LOT: A4 3
Room: 50
Stratum: 3
Grade: 35
Season: '73
Phase: 2b
Number of Sherds: 1
Average sherd preservation: 10%
Average size: 4cm
Notes: Bricky collapse from 10 cm above
bench. Otherwise undifferentiated from overlying bricky
collapse (lot A4 2).

LOT: A4 4
Room: 50
Stratum: 3
Grade: 35
Season: '73
Phase: 2b
Number of Sherds: 6
Average sherd preservation: 6%
Average size: 1cm
Notes: Bricky collapse from 10cm above
floor. Otherwise undifferentiated from overlying bricky
collapse (lot A4 2).

LOT: A4 6
Room: 49
Stratum: 1-4
Grade: 48,35
Season: '73
Phase: 2b-3b
Number of Sherds: 2
Average sherd preservation: 8%
Average size: 2cm
Notes: From surface to floor in corner of
room.

LOT: A4 8
 Room: 50
 Stratum: 2
 Grade: 35
 Season: '73
 Phase: 2b
 Number of Sherds: 2
 Average sherd preservation: 10%
 Average size: 1cm
 Notes: Bricky collapse.

LOT: A4 9
 Room: 50
 Stratum: 1
 Grade: 31
 Season: '73
 Phase: 1-3b
 Number of Sherds: 14
 Average sherd preservation: 7%
 Average size: 1cm
 Bowls (% preserved): 50%
 Jars (% preserved): 50%
 Cook pots (% preserved): 0%
 Notes: Surface clearance to define wall-9.

LOT: A4 10
 Room: 50
 Stratum: 1-2
 Grade: 60
 Season: '73
 Equivalent Lots: A4 9
 Phase: 1-3b
 Number of Sherds: 4
 Average sherd preservation: 8%
 Average size: 2cm
 Notes: Surface clearance to define wall-9
 and bricky collapse from 10 cm above floor (double lot sheets).

LOT: A4 11
 Room: 51
 Stratum: 1
 Grade: 31
 Season: '73
 Equivalent Lots: A4 9, 10
 Phase: 1-3b
 Number of Sherds: 2
 Average sherd preservation: 8%
 Average size: 2cm
 Notes: Surface clearance to define walls.

LOT: A4 12
 Room: 51

Stratum: 1
 Grade: 31
 Season: '73
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 3cm
 Notes: Surface.

LOT: A4 14
 Room: 51
 Stratum: 1
 Grade: 31
 Season: '73
 Equivalent Lots: A4 9, 10
 Phase: 1-3b
 Number of Sherds: 2
 Average sherd preservation: 8%
 Average size: 1cm
 Notes: Surface clearance of wall-25.

LOT: A4 15
 Room: 51
 Stratum: 1
 Grade: 31
 Season: '73
 Equivalent Lots: A4 14
 Phase: 1-3b
 Number of Sherds: 3
 Average sherd preservation: 12%
 Average size: 2cm
 Notes: Surface clearance of wall-25.

LOT: A9/10 3
 Room: SLOPE
 Stratum: 1
 Grade: 44
 Season: '69
 Equivalent Lots: A9/10 7
 Phase: 1-3b
 Number of Sherds: 10
 Average sherd preservation: 10%
 Average size: 2cm
 Bowls (% preserved): 30%
 Jars (% preserved): 70%
 Cook pots (% preserved): 0%
 Notes: Miscellaneous Godin II sherds from
 slope of tell.

LOT: A9/10 7
 Room: SLOPE
 Stratum: 1

Grade: 44
 Season: '69
 Equivalent Lots: A9/10 3
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 15%
 Average size: 2cm
 Notes: Miscellaneous Godin II sherds from
 slope of tell.

LOT: AAL 4
 Room: 6
 Stratatum: 1
 Grade: 31
 Season: '67
 Equivalent Lots: 10
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 5%
 Average size: 1cm
 Notes: Surface clearance.

LOT: AAL 10
 Room: 6
 Stratatum: 2
 Grade: 32
 Season: '67
 Phase: 1-3b
 Number of Sherds: 9
 Average sherd preservation: 10%
 Average size: 3cm
 Notes: Ashy bricky fill.

LOT: AAL 14
 Room: 6
 Stratatum: 3
 Grade: 37
 Season: '67
 Phase: 3b
 Number of Sherds: 14
 Average sherd preservation: 9%
 Average size: 3cm
 Bowls (% preserved): 52%
 Jars (% preserved): 36%
 Cook pots (% preserved): 12%
 Notes: Hard bricky fill and underlying ash
 level over floor 1 (phase 3b).

LOT: AAL 23
 Room: 6
 Stratatum: 5
 Grade: 60

Season: '67
 Phase: 3a
 Lots with sherd joins: BB2 2 (phase 1-3b)
 Number of Sherds: 10
 Average sherd preservation: 13%
 Average size: 2cm
 Bowls (% preserved): 58%
 Jars (% preserved): 42%
 Cook pots (% preserved): 0%
 Notes: soft occupational debris underlying
 floor 1 (phase 3b) and overlying bricky debris over floor 3
 (phase 1).

LOT: AA1 25
 Room: 2
 Stratum: 3
 Grade: 22
 Season: '67
 Equivalent Lots: AA1 22
 Phase: 3
 Number of Sherds: 8
 Average sherd preservation: 15%
 Average size: 3cm
 Notes: Pottery intermingled with pile of
 stones in bottom of pit dug into bricky collapse and part of
 wall-1.

LOT: AA1 36
 Room: 2
 Stratum: ?
 Grade: 40
 Season: '67
 Phase: 1-3b
 Number of Sherds: 6
 Average sherd preservation: 18%
 Average size: 3cm
 Notes: Unknown provenience.

LOT: AA1 38
 Room: 2
 Stratum: ?
 Grade: 40
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 5%
 Average size: 1cm
 Notes: Unknown provenience.

LOT: AA1 2010
 Room: 6
 Stratum: 2

Grade: 32
 Season: '67
 Phase: 1-3b
 Number of Sherds: 10
 Average sherd preservation: 20%
 Average size: 3cm
 Bowls (% preserved): 49%
 Jars (% preserved): 51%
 Cook pots (% preserved): 0%
 Notes: Surface.

LOT: AA1 2901
 Room: AA1
 Stratum: 5?
 Grade: 40
 Season: '67
 Phase: 1-2b
 Number of Sherds: 5
 Average sherd preservation: 10%
 Average size: 2cm

Notes: Not well described. Said to be stratum "directly overlying Gd III burials in AA1." May be pre-manor or early manor but stratigraphy was not yet well understood when this lot was excavated.

LOT: AA1 2902
 Room: AA1
 Stratum: ?
 Grade: 40
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 1cm

Notes: Material associated with excavation of Godin III burial. Exact provenience unclear.

LOT: AA1 2903
 Room: AA1
 Stratum: ?
 Grade: 40
 Season: '67
 Equivalent Lots: AA1 2902
 Phase: 1-3b
 Number of Sherds: 3
 Average sherd preservation: 27%
 Average size: 3cm

Notes: Material associated with excavation of Godin III burial. Exact provenience unclear.

LOT: AA10 2
 Room: SLOPE

Stratum: 1
 Grade: 44
 Season: '69
 Equivalent Lots: AA10 3
 Phase: 1-3b

Number of Sherds: 5

Average sherd preservation: 10%

Average size: 2cm

Notes: Miscellaneous Godin II sherds found
 on slope of tell.

LOT: AA10 3
 Room: SLOPE
 Stratum: 1

Grade: 44

Season: '69

Equivalent Lots: AA10 2

Phase: 1-3b

Number of Sherds: 1

Average sherd preservation: 5%

Average size: 1cm

Notes: Miscellaneous Godin II sherds found
 on slope of tell.

LOT: AA2 2
 Room: 6

Stratum: 2

Grade: 40

Season: '67

Phase: 1-3b

Number of Sherds: 10

Average sherd preservation: 8%

Average size: 2cm

Bowls (% preserved): 38%

Jars (% preserved): 62%

Cook pots (% preserved): 0%

Notes: Surface.

LOT: AA2 3
 Room: 6

Stratum: 3

Grade: 37

Season: '67

Phase: 3b

Number of Sherds: 15

Average sherd preservation: 15%

Average size: 3cm

Within lot joins: 1 (6.7%)

Bowls (% preserved): 76%

Jars (% preserved): 20%

Cook pots (% preserved): 4%

Notes: Brown occupational level with an

artificially smoothed surface in the middle (floor 1, phase 3b).

LOT: AA2 4
 Room: 6
 Stratum: 3
 Grade: 28
 Season: '67
 Phase: 3b
 Number of Sherds: 2
 Average sherd preservation: 12%
 Average size: 3cm
 Notes: Rim of chineh surrounding hearth on
 late squatter floor (floor 1, phase 3b)

LOT: AA2 6
 Room: 6
 Stratum: 1
 Grade: 32
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 2cm
 Notes: Surface.

LOT: AA2 301
 Room: 6
 Stratum: 2
 Grade: 35
 Season: '73
 Phase: 1-3b
 Number of Sherds: 16
 Average sherd preservation: 12%
 Average size: 2cm
 Within lot joins: 2 (12%)
 Bowls (% preserved): 49%
 Jars (% preserved): 51%
 Cook pots (% preserved): 0%
 Notes: Bricky collapse just below surface
 in
 AA2.

LOT: AA2 302
 Room: 6
 Stratum: 3
 Grade: 61
 Season: '73
 Phase: 3b
 Number of Sherds: 7
 Average sherd preservation: 14%
 Average size: 2cm
 Notes: Bricky collapse and occupational

debris over floor 1 (phase 3b) north of wall-90. Large amount of bone probably from occupational debris.

LOT: AA2 303
 Room: 6
 Stratum: 2
 Grade: 35
 Season: '73
 Equivalent Lots: AA2 301
 Phase: 1-3b
 Lots with sherd joins: D 4 (phase 3b)
 Number of Sherds: 8
 Average sherd preservation: 8%
 Average size: 2cm
 Notes: Bricky collapse just below surface
 in
 AA2.

LOT: AA2 304
 Room: 6
 Stratum: 3
 Grade: 37
 Season: '73
 Phase: 3b
 Number of Sherds: 2
 Average sherd preservation: 10%
 Average size: 2cm
 Notes: Bricky collapse and occupational debris above floor 1 (phase 3b) south of wall-90.

LOT: AA2 305
 Room: 6
 Stratum: 3
 Grade: 37
 Season: '73
 Phase: 3b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 4cm
 Notes: From on floor 1 (phase 3b), south of wall-90.

LOT: AA2 306
 Room: 6
 Stratum: 4
 Grade: 42
 Season: '73
 Phase: 3a
 Lots with sherd joins: AA2 313 (phase 3a)
 Number of Sherds: 2
 Average sherd preservation: 8%
 Average size: 2cm

Notes: Soft ashy fill and soft bricky collapse overlying floor 2 (phase 3a), between wall-90 and wall-88. Occupation and/or abandonment debris from early squatters (phase 3a).

LOT: AA2 307
 Room: 6
 Stratum: 4
 Grade: 21
 Season: '73
 Phase: 3a
 Number of Sherds: 4
 Average sherd preservation: 8%
 Average size: 1cm

Notes: Material on floor 2 (phase 3a) between wall-90 and wall-88.

LOT: AA2 308
 Room: 6
 Stratum: 2
 Grade: 49
 Season: '73
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 15%
 Average size: 2cm

Notes: Pit dug into floor 2 (phase 3a), south of wall-90.

LOT: AA2 309
 Room: 6
 Stratum: 4
 Grade: 42
 Season: '73
 Equivalent Lots: AA2 306
 Phase: 3a
 Number of Sherds: 7
 Average sherd preservation: 11%
 Average size: 3cm

Notes: Yellowish soft fill beneath floor 1 (phase 3b) and overlying floor 2 (phase 3a), south of wall-90. Occupation and/or abandonment debris from early squatters (phase 3a).

LOT: AA2 310
 Room: 6
 Stratum: 4
 Grade: 28
 Season: '73
 Equivalent Lots: AA2 309
 Phase: 3a
 Number of Sherds: 1

Average sherd preservation: 5%
 Average size: 1cm
 Notes: Ashy material associated with tannur
 below floor 1 (phase 3b) and above floor 2 (phase 3a), south of
 wall-90.

LOT: AA2 311
 Room: 6
 Stratum: 4
 Grade: 42
 Season: '73
 Equivalent Lots: AA2 310
 Phase: 3a
 Number of Sherds: 2
 Average sherd preservation: 12%
 Average size: 2cm
 Notes: Area of soft brown soil surrounding
 ahsy debris of tannur in lot AA2 310.

LOT: AA2 312
 Room: 6
 Stratum: 4
 Grade: 42
 Season: '73
 Equivalent Lots: AA2 306, 309
 Phase: 3a
 Lots with sherd joins: AA3 10 (phase 3)
 Number of Sherds: 17
 Average sherd preservation: 12%
 Average size: 3cm
 Bowls (% preserved): 71%
 Jars (% preserved): 20%
 Cook pots (% preserved): 10%
 Notes: Yellowish soft fill beneath floor 1
 (phase 3b) and above floor 2 (phase 3a), north of wall-88.

LOT: AA2 313
 Room: 6
 Stratum: 4
 Grade: 42
 Season: '73
 Equivalent Lots: AA2 306, 309, 312
 Phase: 3a
 Lots with sherd joins: AA2 306 (phase 3a)
 Number of Sherds: 19
 Average sherd preservation: 13%
 Average size: 2cm
 Bowls (% preserved): 57%
 Jars (% preserved): 37%
 Cook pots (% preserved): 6%
 Notes: Yellowish soft fill below floor 1
 (phase 3b) and above floor 2 (phase 3a), between walls 88 and

90.

LOT: AA2 314
 Room: 6
 Stratum: 4
 Grade: 42
 Season: '73
 Equivalent Lots: AA2 309, 311
 Phase: 3a
 Number of Sherds: 5
 Average sherd preservation: 17%
 Average size: 3cm
 Notes: Ashy layers below floor 1 (phase 3b)
 and above floor 2 (phase 3a), south of wall-90.

LOT: AA2 316
 Room: 6
 Stratum: 5
 Grade: 35
 Season: '73
 Phase: 2b
 Number of Sherds: 4
 Average sherd preservation: 8%
 Average size: 4cm
 Notes: Bricky collapse below floor 2 (phase
 3a) and above manor floor (floor 3, phase 2b).

LOT: AA2 501
 Room: 6
 Stratum: 1-5
 Grade: 38
 Season: '73
 Phase: 1-3b
 Number of Sherds: 3
 Average sherd preservation: 12%
 Average size: 2cm
 Notes: Test trench through baulk.

LOT: AA3 5
 Room: 46
 Stratum: 1-3
 Grade: 38
 Season: '69
 Phase: 1-3b
 Number of Sherds: 10
 Average sherd preservation: 14%
 Average size: 3cm
 Within lot joins: 1 (10%)
 Bowls (% preserved): 52%
 Jars (% preserved): 22%
 Cook pots (% preserved): 26%
 Notes: Test trench west of wall-108.

LOT: AA3 8
 Room: 45
 Stratum: 1-3
 Grade: 48
 Season: '69
 Phase: 2b-3b
 Number of Sherds: 22
 Average sherd preservation: 13%
 Average size: 3cm
 Within lot joins: 0(%)
 Bowls (% preserved): 60%
 Jars (% preserved): 26%
 Cook pots (% preserved): 14%
 Notes: Bricky collapse and soft fill above
 floor 1 (phase 2).

LOT: AA3 10
 Room: 46
 Stratum: 2
 Grade: 48
 Season: '69
 Equivalent Lots: AA3 11, 13, 19, 28
 Phase: 3
 Lots with sherd joins: AA3 13 (x2) (phase 3)
 AA3 28 (x4) (phase 3)
 AA3 29 (phase 2b-3b)
 BB2 37 (phase 3a)
 BB2 38 (phase 1-3b)
 BB3 16 (phase 2a-3b)
 BB3 29 (phase 2b-3a)
 D 4 (phase 1-3b)
 D2 1 (phase 1-3b)
 MG4 1 (phase 1-3b)
 MG6 3 (phase 2b)
 SF 2901 (phase 1-3b)
 Number of Sherds: 317
 Average sherd preservation: 13%
 Average size: 3cm
 Within lot joins: 13 (4%)
 Bowls (% preserved): 47%
 Jars (% preserved): 39%
 Cook pots (% preserved): 14%
 Notes: Soft ashy, bricky, fill with reed
 inclusions overlying hard bricky collapse which in turn overlies
 upper manor floor (floor 1, phase 2b). Very large ceramic
 component. Excavator hypothesized that ceramics derived from
 collapsed roof storage. In sketch sections this stratum runs
 over wall stubs of room and cannot therefore be roof collapse.
 This lot must have been deposited after room 46 had been
 abandoned and walls had collapsed (represented by underlying
 bricky collapse). It should therefore be dated to the squatter

phase (phase 3). It is most probably the result of garbage dumping during squatter occupation.

LOT: AA3 11
 Room: 46
 Stratum: 2
 Grade: 48
 Season: '69
 Equivalent Lots: AA3 10, 13, 19, 28
 Phase: 3
 Number of Sherds: 8
 Average sherd preservation: 9%
 Average size: 2cm
 Notes: Same as lot AA3 10 but in NW corner
 of room.

LOT: AA3 12
 Room: 46
 Stratum: 3
 Grade: 37
 Season: '69
 Equivalent lots: AA3 22, 23, 24, 27
 Phase: 2b-3b
 Lots with sherd joins: A2 3 (phase 3a)
 Number of Sherds: 30
 Average sherd preservation: 15%
 Average size: 3cm
 Within lot joins: 1 (3.3%)
 Bowls (% preserved): 48%
 Jars (% preserved): 38%
 Cook pots (% preserved): 14%
 Notes: Bricky collapse below lot AA3 10
 and overlying late manor floor (floor 1, phase 2b). Contained
 many more Godin III sherds than overlying fill (from mud brick
 erosion). Sometimes difficult to distinguish from overlying
 fill. Should be primarily phase 2 but could contain sherds from
 large overlying pottery deposit (phase 3).

LOT: AA3 13
 Room: 46
 Stratum: 2
 Grade: 48
 Season: '69
 Equivalent Lots: AA3 10, 11, 19, 28
 Phase: 3
 Lots with sherd joins: AA3 10 (phase 3)
 Number of Sherds: 23
 Average sherd preservation: 13%
 Average size: 2cm
 Within lot joins: 1 (4.3%)
 Bowls (% preserved): 50%
 Jars (% preserved): 28%

Cook pots (% preserved): 22%
 Notes: Same as lot AA3 10 but further south in room.

LOT: AA3 15
 Room: 46
 Stratum: 1-2
 Grade: 38
 Season: '69
 Phase: 1-3b
 Number of Sherds: 15
 Average sherd preservation: 12%
 Average size: 3cm
 Bowls (% preserved): 69%
 Jars (% preserved): 31%
 Cook pots (% preserved): 0%
 Notes: Wall tracing.

LOT: AA3 17
 Room: 48
 Stratum: 2-3
 Grade: 48,37
 Season: '73
 Phase: 2b-3b
 Number of Sherds: 6
 Average sherd preservation: 8%
 Average size: 2cm
 Within lot joins: 1(16.7%)
 Notes: Test trench next to walls 64 & 65. Upper 30 cm is greyish ashy fill, lower 30 cm is hard brown bricky collapse. Same pattern as in room 46.

LOT: AA3 18
 Room: 46,47
 Stratum: 1
 Grade: 32
 Season: '73
 Phase: 1-3b
 Lots with sherd joins: BB3 6 (phase 3)
 Number of Sherds: 18
 Average sherd preservation: 12%
 Average size: 2cm
 Bowls (% preserved): 44%
 Jars (% preserved): 56%
 Cook pots (% preserved): 0%
 Notes: Surface.

LOT: AA3 19
 Room: 46,47
 Stratum: 2
 Grade: 48
 Season: '73

Equivalent Lots: AA3 10, 11, 13, 28
 Phase: 3
 Number of Sherds: 13
 Average sherd preservation: 11%
 Average size: 2cm
 Bowls (% preserved): 45%
 Jars (% preserved): 52%
 Cook pots (% preserved): 3%
 Notes: Greyish ashy fill along wall 65.
 Clearly runs over wall stub of wall-65.

LOT: AA3 21
 Room: 46
 Stratum: 2-3
 Grade: 48, 37
 Season: '73
 Phase: 2b-3b
 Number of Sherds: 7
 Average sherd preservation: 9%
 Average size: 2cm
 Notes: Greyish ashy fill and bricky
 collapse below it.

LOT: AA3 22
 Room: 47
 Stratum: 3
 Grade: 37
 Season: '73
 Equivalent Lots: AA3 12, 23, 24, 27
 Phase: 2b-3b
 Number of Sherds: 9
 Average sherd preservation: 11%
 Average size: 2cm
 Notes: Bricky collapse above manor floor
 (floor 1, phase 2b), east of wall-65. Could contain squatter
 sherds from overlying fill which is not always clearly
 distinguishable.

LOT: AA3 23
 Room: 48
 Stratum: 3
 Grade: 37
 Season: '73
 Equivalent Lots: AA3 12, 22, 24, 27
 Phase: 2b-3b
 Number of Sherds: 8
 Average sherd preservation: 8%
 Average size: 2cm
 Notes: Bricky collapse above manor floor
 (floor 1, phase 2b), west of wall-65. See lot AA3 22.

LOT: AA3 24

Room: 48
 Stratum: 3
 Grade: 37
 Season: '73
 Equivalent Lots: AA3 12, 22, 23, 27
 Phase: 2b-3b
 Number of Sherds: 2
 Average sherd preservation: 12%
 Average size: 2cm
 Notes: Same as AA3 23.

LOT: AA3 25
 Room: 46
 Stratum: 2
 Grade: 48
 Season: '73
 Equivalent Lots: AA3 10, 11, 13, 19, 28
 Phase: 3
 Number of Sherds: 4
 Average sherd preservation: 8%
 Average size: 2cm
 Notes: Grey ashy fill above bricky
 collapse.

LOT: AA3 26
 Room: 47, 48
 Stratum: 3
 Grade: 11
 Season: '73
 Phase: 2b
 Number of Sherds: 2
 Average sherd preservation: 57%
 Average size: 7cm
 Notes: One whole pot and one sherd found on
 manor floor 1 (phase 2b), west of wall-65.

LOT: AA3 27
 Room: 46
 Stratum: 3
 Grade: 37
 Season: '73
 Equivalent Lots: AA3 12, 22, 23, 24
 Phase: 2b-3b
 Number of Sherds: 10
 Average sherd preservation: 9%
 Average size: 2cm
 Bowls (% preserved): 78%
 Jars (% preserved): 11%
 Cook pots (% preserved): 11%
 Notes: Bricky collapse over manor floor-1
 (phase 2b), in NW area of room 46.

LOT: AA3 28
 Room: 46
 Stratum: 2
 Grade: 48
 Season: '73
 Equivalent Lots: AA3 10, 11, 13, 19
 Phase: 3
 Lots with sherd joins: AA3 10 (x4) (phase 3)
 Number of Sherds: 74
 Average sherd preservation: 13%
 Average size: 2cm
 Within lot joins: 3 (4%)
 Bowls (% preserved): 52%
 Jars (% preserved): 39%
 Cook pots (% preserved): 9%

Notes: Ashy grey fill lying above bricky collapse (lot AA3 29) over manor floor 1. Although excavated 4 years later, this lot appears identical to AA3 10 and a number of sherd joins confirm this identity.

LOT: AA3 29
 Room: 46
 Stratum: 3
 Grade: 37
 Season: '73
 Equivalent Lots: AA3 12, 22, 23, 24, 27
 Phase: 2b-3b
 Lots with sherd joins: AA3 10 (phase 3)
 Number of Sherds: 25
 Average sherd preservation: 10%
 Average size: 2cm
 Bowls (% preserved): 67%
 Jars (% preserved): 25%
 Cook pots (% preserved): 8%

Notes: Bricky collapse under grey ashy fill (lot AA3 28) and above floor 1 (phase 2b). In sketch section this lot is thicker near wall-8 and thins out towards center of room. This pattern is consistent with wall decay. Join with AA3 10 confirms possibility of mixing of these two deposits.

LOT: AA3 30
 Room: 46
 Stratum: 4
 Grade: 21
 Season: '73
 Phase: 2b
 Lots with sherd joins: AA3 29 (phase 2b-3b)
 Number of Sherds: 2
 Average sherd preservation: 10%
 Average size: 2cm

Notes: Grey ashy lens on floor 1 (phase 2b).

LOT: AA3 31
 Room: 46
 Stratum: 3-4
 Grade: 37,29
 Season: '73
 Phase: 2b
 Number of Sherds: 11
 Average sherd preservation: 10%
 Average size: 2cm
 Bowls (% preserved): 52%
 Jars (% preserved): 48%
 Cook pots (% preserved): 0%
 Notes: Bricky fill from 10 cm above floor 1
 (phase 2b) and material on floor. Very possibly occupational
 debris from final manor phase (phase 2b).

LOT: AA3 34
 Room: 46
 Stratum: 2
 Grade: 48
 Season: '73
 Equivalent Lots: AA3 10, 11, 13, 19
 Phase: 3
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 2cm
 Notes: Greyish fill against wall-64 near
 hearth area in NW of room 46.

LOT: AA3 35
 Room: 46
 Stratum: 3
 Grade: 35
 Season: '73
 Equivalent Lots: AA3 12, 22, 23, 24, 27
 Phase: 2b-3b
 Number of Sherds: 1
 Notes: Bricky collapse above hearth area in
 NW of room 46.

LOT: AA3 37
 Room: 46
 Stratum: 2-4
 Grade: 48,35
 Season: '73
 Phase: 2b-3b
 Number of Sherds: 2
 Average sherd preservation: 2%
 Notes: Clearing of hearth area in NW of
 room 46. Includes fill and bricky collapse covering hearth.

LOT: AA3 38
 Room: 46
 Stratum: 5
 Grade: 37
 Season: '73
 Phase: 2a-2b
 Number of Sherds: 4
 Average sherd preservation: 8%
 Average size: 2cm

Notes: Debris under floor 1 (phase 2b) around hearth in NE corner of room. Presumably occupational debris associated with use of hearth (i.e. kitchen debris) which was in use through 3 successive floors in room 46.

LOT: AA3 39
 Room: 46
 Stratum: 4
 Grade: 28
 Season: '73
 Phase: 2a-2b
 Number of Sherds: 8
 Average sherd preservation: 12%
 Average size: 3cm
 Bowls (% preserved): 25%
 Jars (% preserved): 65%
 Cook pots (% preserved): 10%

Notes: Thick ash deposit associated with hearth in NE corner of room 46.

LOT: AA3 41
 Room: 46
 Stratum: 5
 Grade: 37
 Season: '73
 Phase: 2a-2b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 2cm

Notes: Fill under floor 1 (phase 2b) next to hearth along wall-8. Presumably occupational debris associated with use of hearth (i.e. kitchen debris) which was in use through 3 successive floors in room 46.

LOT: AA3 42
 Room: 46
 Stratum: 4-5
 Grade: 38
 Season: '73
 Phase: 2a-2b
 Number of Sherds: 1
 Average sherd preservation: 75%
 Average size: 6cm

Notes: Test trench through wall-8 to uncover all three floors of room 46.

LOT: AA3 43
 Room: 46
 Stratum: 3-5
 Grade: 28
 Season: '73
 Phase: 2a-3b
 Number of Sherds: 3
 Average sherd preservation: 12%
 Average size: 2cm
 Notes: Tracing of drain in room 46.

LOT: AA3 44
 Room: 46
 Stratum: 1
 Grade: 41
 Season: '73
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 5%
 Average size: 2cm
 Notes: Tracing wall-56.

LOT: AA3 201
 Room: ?
 Equivalent Lots: AA2 201
 Number of Sherds: 1
 Average sherd preservation: 5%
 Average size: 1cm
 Notes: Lot not in field notes. Probably miss-labelled AA2 201.

LOT: AA3 307
 Room: 6?
 Stratum: 3?
 Equivalent Lots: AA2 307
 Phase: 3a
 Number of Sherds: 2
 Average size: 1cm
 Notes: Lot not in field notes. Probably miss-labelled AA2 307.

LOT: AA3 313
 Room: 6?
 Stratum: 4?
 Season: '73
 Equivalent Lots: AA2 313
 Phase: 3a
 Number of Sherds: 22
 Average sherd preservation: 12%

Average size: 2cm
 Within lot joins: 1 (4.5%)
 Bowls (% preserved): 32%
 Jars (% preserved): 62%
 Cook pots (% preserved): 6%

Notes: Lot not in field notes. Probably miss-labelled AA2 313.

LOT: AA4 43
 Room: 46
 Stratum: 1-3
 Grade: 40
 Season: '73
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 2cm
 Notes: Cleaning drain in room 46.

LOT: AA5 3
 Room: SLOPE
 Stratum: 1
 Grade: 40
 Season: '69
 Equivalent Lots: AA5 4,7
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 2cm
 Notes: Miscellaneous Godin II sherds from slope of mound.

LOT: AA5 4
 Room: SLOPE
 Stratum: 1
 Grade: 40
 Season: '69
 Equivalent Lots: AA5 3,7
 Phase: 1-3b
 Number of Sherds: 2
 Average sherd preservation: 10%
 Average size: 3cm
 Notes: Miscellaneous Godin II sherds from slope of mound.

LOT: AA5 7
 Room: SLOPE
 Stratum: 1
 Grade: 40
 Season: '69
 Equivalent Lots: AA5 3,4
 Phase: 1-3b

Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 3cm
 Notes: Miscellaneous Godin II sherds from
 slope of mound.

LOT: AA5 22
 Room: SLOPE
 Stratum: 1
 Grade: 40
 Season: '69
 Equivalent Lots: AA5 3, 4, 7
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 5%
 Average size: 1cm
 Notes: Miscellaneous Godin II sherds from
 slope of mound.

LOT: AA6 3
 Room: SLOPE
 Stratum: 1
 Grade: 40
 Season: '69
 Phase: 1-3b
 Number of Sherds: 2
 Average sherd preservation: 92%
 Average size: 8cm
 Notes: Miscellaneous Godin II sherds from
 slope of mound.

LOT: AA6 6
 Room: SLOPE
 Stratum: 1
 Grade: 40
 Season: '69
 Equivalent Lots: AA6 3
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 99%
 Average size: 9cm
 Notes: Miscellaneous Godin II sherds from
 slope of mound. Complete bowl.

LOT: AA7 1
 Room: SLOPE
 Stratum: 1
 Grade: 40
 Season: '69
 Phase: 1-3b
 Number of Sherds: 3
 Average sherd preservation: 0%

Average size: 2cm

Notes: Miscellaneous Godin II sherds from
slope of mound.

LOT: AA9 3

Room: SLOPE

Stratum: 1

Grade: 44

Season: '69

Phase: 1-3b

Number of Sherds: 5

Average sherd preservation: 7%

Average size: 2cm

Notes: Miscellaneous Godin II sherds from
slope of mound.

LOT: AA9 11

Room: SLOPE

Stratum: 1

Grade: 44

Season: '69

Phase: 1-3b

Number of Sherds: 15

Average sherd preservation: 9%

Average size: 2cm

Bowls (% preserved): 82%

Jars (% preserved): 18%

Cook pots (% preserved): 0%

Notes: Miscellaneous Godin II sherds from
slope of mound.

LOT: AA9 14

Room: SLOPE

Stratum: 1

Grade: 44

Season: '69

Phase: 1-3b

Number of Sherds: 51

Average sherd preservation: 12%

Average size: 3cm

Bowls (% preserved): 71%

Jars (% preserved): 18%

Cook pots (% preserved): 10%

Notes: Miscellaneous Godin II sherds from
slope of mound.

LOT: AA9 27

Room: SLOPE

Stratum: 1

Grade: 44

Season: '69

Phase: 1-3b

Number of Sherds: 10
 Average sherd preservation: 18%
 Average size: 3cm
 Bowls (% preserved): 83%
 Jars (% preserved): 11%
 Cook pots (% preserved): 6%
 Notes: Miscellaneous Godin II sherds from
 slope of mound.

 LOT: AA9106
 Room: SLOPE
 Stratum: ?
 Season: '69
 Phase: 1-3b
 Number of Sherds: 1
 Average size: 18cm
 Notes: Miscellaneous Godin II sherds from
 slope of mound.

 LOT: B1 2
 Room: 12
 Stratum: 1
 Grade: 35
 Season: '67
 Phase: 1-3b
 Number of Sherds: 4
 Average sherd preservation: 14%
 Average size: 3cm
 Notes: Bricky collapse north of wall-1.

 LOT: B1 3
 Room: 12
 Stratum: 1
 Grade: 60
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 3cm
 Notes: Bricky collapse outside wall-1.

 LOT: B2 4
 Room: 9
 Stratum: 3
 Grade: 61
 Season: '67
 Phase: 2b
 Number of Sherds: 3
 Average sherd preservation: 13%
 Average size: 2cm
 Notes: Bricky collapse 1 or 2 inches above
 Apadana floor.

LOT: B2 5
 Room: 9
 Stratum: 2
 Grade: 35
 Season: '67
 Phase: 2b-3b
 Number of Sherds: 11
 Average sherd preservation: 8%
 Average size: 2cm
 Bowls (% preserved): 83%
 Jars (% preserved): 0%
 Cook pots (% preserved): 17%
 Notes: Bricky collapse in room 9. Could contain later squatter sherds in upper portions of deposit.

LOT: B2 2901
 Room: ?
 Stratum: ?
 Grade: 40
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 4cm
 Notes: Unknown provenience.

LOT: B2 2902
 Room: ?
 Stratum: ?
 Grade: 40
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 20%
 Average size: 3cm
 Notes: Unknown provenience.

LOT: B3 1
 Room: 9
 Stratum: 3
 Grade: 38
 Season: '69
 Phase: 1-2b
 Number of Sherds: 2
 Average sherd preservation: 12%
 Average size: 2cm
 Notes: Test trench dug into room 9 floor to remove column bases.

LOT: BB1 2
 Room: 6, 4

Stratum: 2
 Grade: 35
 Season: '67
 Phase: 1-3b
 Lots with sherd joins: BB1 3 (phase 1-3b)
 BB1 14 (phase 1-3b)
 Number of Sherds: 3
 Average sherd preservation: 12%
 Average size: 2cm
 Notes: Bricky collapse near surface in BB1.

LOT: BB1 3
 Room: 1
 Stratum: 3-4
 Grade: 47
 Season: '67
 Phase: 1-3b
 Lots with sherd joins: BB1 2 (phase 1-3b)
 BB1 14 (phase 1-3b)
 Number of Sherds: 26
 Average sherd preservation: 11%
 Average size: 2cm
 Bowls (% preserved): 47%
 Jars (% preserved): 30%
 Cook pots (% preserved): 23%
 Notes: Bricky collapse and fill in BB1.
 Location or context unknown.

LOT: BB1 10
 Room: 6
 Stratum: 2-3
 Grade: 35
 Season: '67
 Phase: 3b
 Number of Sherds: 3
 Average sherd preservation: 30%
 Average size: 4cm
 Notes: Bricky collapse above floor 1(phase
 3b) in SW corner of BB1, room 6.

LOT: BB1 11
 Room: 6
 Stratum: 3
 Grade: 48
 Season: '67
 Phase: 3b
 Number of Sherds: 4
 Average sherd preservation: 12%
 Average size: 3cm
 Notes: Undescribed deposit above floor 1
 (phase 3b) in SW corner of BB1, room 6.

LOT: BB1 12
 Room: 6
 Stratum: 4
 Grade: 48
 Season: '67
 Phase: 3b
 Lots with sherd joins: BB1 28
 Number of Sherds: 3
 Average sherd preservation: 25%
 Average size: 5cm
 Within lot joins: 1(%)
 Notes: Undescribed deposit above floor 1
 (phase 3b) in SE corner of BB1, room 6.

LOT: BB1 13
 Room: 1, 4
 Stratum: ?
 Grade: 60
 Season: '67
 Equivalent Lots: BB1 2901
 Phase: 1-3b
 Number of Sherds: 6
 Average sherd preservation: 5%
 Average size: 1cm
 Notes: Mixed lot. Material from Area 1
 stratum 3-4 (phase 3) and from above brick platform in tower 4
 (phase 1-2b).

LOT: BB1 14
 Room: 1, 6
 Stratum: 5
 Grade: 40
 Season: '67
 Phase: 1-3b
 Lots with sherd joins: BB1 2 (phase 1-3b)
 BB1 3 (phase 1-3b)
 Number of Sherds: 16
 Average sherd preservation: 13%
 Average size: 2cm
 Bowls (% preserved): 66%
 Jars (% preserved): 34%
 Cook pots (% preserved): 0%
 Notes: Mixed lot. Includes material above
 floor 3 (phase 2b) as well as material from area 1 outside
 wall-1.

LOT: BB1 15
 Room: 4
 Stratum: 3-4
 Grade: 48
 Season: '67
 Phase: 2b-3a
 Number of Sherds: 1

Average sherd preservation: 15%
 Average size: 4cm
 Notes: Material overlying floor 2 (phase
 2b). Mixed.

LOT: BB1 16
 Room: 6
 Stratum: 5
 Grade: 37
 Season: '67
 Phase: 2b
 Lots with sherd joins: DD2 2 (phase 2b)
 Number of Sherds: 20
 Average sherd preservation: 14%
 Average size: 2cm
 Within lot joins: 1 (5%)
 Bowls (% preserved): 46%
 Jars (% preserved): 43%
 Cook pots (% preserved): 11%
 Notes: Material from cleaning manor floor
 (floor 3, phase 2b). Described as wash with ash lenses.

LOT: BB1 21
 Room: 2
 Stratum: 1-2
 Grade: 38
 Season: '67
 Phase: 1-3b
 Number of Sherds: 2
 Notes: Removal of baulk between AA1 and
 BB1.

LOT: BB1 22
 Room: 6
 Stratum: 4-5
 Grade: 48
 Season: '67
 Phase: 2b-3a
 Number of Sherds: 2
 Average sherd preservation: 15%
 Average size: 2cm
 Notes: Mixed strata.

LOT: BB1 25
 Room: 1
 Stratum: 1-2
 Grade: 38
 Season: '67
 Phase: 1-3b
 Number of Sherds: 6
 Average sherd preservation: 11%
 Average size: 2cm

Notes: Bricky debris up to an occupation surface outside main manor fortification wall (wall-1). Further East along wall there was accumulation of debris between plasterings (phase 2 debris). Here, all layers of plaster were lain before debris accumulation.

LOT: BB1 26
 Room: 1
 Stratum: 4
 Grade: 38
 Season: '67
 Phase: 2b
 Number of Sherds: 5
 Average sherd preservation: 9%
 Average size: 2cm
 Notes: Material from baulk between BB1 and BB1, below occupation surface (i.e. before phase 3). Alternating bricky and ashy wash.

LOT: BB1 27
 Room: 1
 Stratum: 4
 Grade: 40
 Season: '67
 Phase: 2b
 Number of Sherds: 5
 Notes: No description of lot but stratum 4 in area 1 is shown in section below occupation surface (i.e. before phase 3).

LOT: BB1 28
 Room: 6
 Stratum: 1-5
 Grade: 36
 Season: '67
 Phase: 1-3a
 Lots with sherd joins: BB1 12 (phase 3b)
 Number of Sherds: 7
 Average sherd preservation: 9%
 Average size: 2cm
 Notes: From removal of west baulk of BB1.

LOT: BB1 2901
 Room: 1,4
 Stratum: MIXED
 Grade: 40
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Notes: Mixed lot. From stratum 3 outside fortification wall and in tower 4.

LOT: BB2 2
 Room: 3,6
 Stratum: 2-4
 Grade: 40
 Season: '69
 Phase: 1-3b
 Lots with sherd joins: BB2 4 (phase 3a)
 BB2 38 (phase 1-3b)
 BB3 6 (phase 3)
 BB2 29 (phase 3a-2b)
 AA1 23 (phase 2b-3a)
 Number of Sherds: 47
 Average sherd preservation: 14%
 Average size: 3cm
 Within lot joins: 1 (2%)
 Bowls (% preserved): 66%
 Jars (% preserved): 27%
 Cook pots (% preserved): 7%
 Notes: Mixed lots from BB2.

LOT: BB2 3
 Room: 3,6
 Stratum: 2
 Grade: 35
 Season: '69
 Phase: 3b
 Number of Sherds: 20
 Average sherd preservation: 10%
 Average size: 2cm
 Bowls (% preserved): 69%
 Jars (% preserved): 31%
 Cook pots (% preserved): 0%
 Notes: Bricky collapse over late squatter level (phase 3b).

LOT: BB2 4
 Room: 3,6
 Stratum: 3-5
 Grade: 48
 Season: '69
 Phase: 2b-3a
 Lots with sherd joins: BB2 2 (phase 1-3b)
 Number of Sherds: 11
 Average sherd preservation: 12%
 Average size: 2cm
 Bowls (% preserved): 58%
 Jars (% preserved): 42%
 Cook pots (% preserved): 0%
 Notes: Ashy deposits between late squatter (phase 3b) and manor floor (floor 3, phase 2b).

LOT: BB2 29
 Room: 3,6
 Stratum: 4-5
 Grade: 48
 Season: '69
 Phase: 3a-2b
 Lots with sherd joins: BB2 2 (phase 1-3b)
 Number of Sherds: 34
 Average sherd preservation: 16%
 Average size: 3cm
 Within lot joins: 2 (5.9%)
 Bowls (% preserved): 46%
 Jars (% preserved): 48%
 Cook pots (% preserved): 6%
 Notes: Material above wall (platform) 100
 (phase 2a) as well as ashy deposits over manor floor (floor 3,
 phase 2b).

LOT: BB2 37
 Room: 6
 Stratum: 4
 Grade: 22
 Season: '69
 Phase: 2b-3a
 Lots with sherd joins: AA3 10 (phase 3)
 Number of Sherds: 14
 Average sherd preservation: 18%
 Average size: 3cm
 Bowls (% preserved): 28%
 Jars (% preserved): 66%
 Cook pots (% preserved): 6%
 Notes: Pit dug into stratum 5. From what
 level pit was dug is unclear.

LOT: BB2 38
 Room: 3
 Stratum: 3-5
 Grade: 36
 Season: '69
 Phase: 1-3b
 Lots with sherd joins: AA3 10 (phase 3)
 BB2 2 (phase 1-3b)
 Number of Sherds: 60
 Average sherd preservation: 13%
 Average size: 2cm
 Within lot joins: 1 (1.7%)
 Bowls (% preserved): 56%
 Jars (% preserved): 32%
 Cook pots (% preserved): 11%
 Notes: From dismantling of phase 3 walls
 95, 96, 100. Large number of sherds indicate that this lot
 includes material surrounding these walls. Mixed strata.

LOT: BB3 4
 Room: 44
 Stratum: 2
 Grade: 40
 Season: '69
 Phase: 3
 Number of Sherds: 1
 Average sherd preservation: 15%
 Average size: 2cm
 Notes: Above stone floor (floor 1, phase 3)

LOT: BB3 6
 Room: 44
 Stratum: 2-3
 Grade: 35
 Season: '69
 Phase: 3
 Lots with sherd joins: BB2 2 (phase 1-3b)
 Number of Sherds: 14
 Average sherd preservation: 12%
 Average size: 2cm
 Bowls (% preserved): 37%
 Jars (% preserved): 60%
 Cook pots (% preserved): 3%
 Notes: Above stone floor (floor 1, phase 3).

LOT: BB3 8
 Room: 45
 Stratum: 3
 Grade: 37
 Season: '69
 Phase: 3
 Number of Sherds: 11
 Average sherd preservation: 9%
 Average size: 3cm
 Bowls (% preserved): 74%
 Jars (% preserved): 16%
 Cook pots (% preserved): 10%
 Notes: Above stone floor (floor 1, phase 3)
 in western area of room 45.

LOT: BB3 16
 Room: 41
 Stratum: 3
 Grade: 37
 Season: '69
 Phase: 2b-3
 Lots with sherd joins: AA3 10 (phase 3)
 Number of Sherds: 11
 Average sherd preservation: 13%

Average size: 3cm
 Bowls (% preserved): 83%
 Jars (% preserved): 17%
 Cook pots (% preserved): 0%

Notes: Soft fill above floor 1 (phase 2b).
 Could include squatter (phase 3) material from dumping.

LOT: BB3 26
 Room: 45
 Stratum: 4
 Grade: 37
 Season: '69
 Phase: 2b-3
 Number of Sherds: 29
 Average sherd preservation: 12%
 Average size: 2cm
 Within lot joins: 1 (3.4%)
 Bowls (% preserved): 67%
 Jars (% preserved): 28%
 Cook pots (% preserved): 4%

Notes: Below stone wall-H and stone floor (floor 1). Either deliberate fill before building floor 1 or post abandonment collapse. Most sherds should pre-date phase 3 occupation but some may come from phase 3 fill.

LOT: BB3 29
 Room: 45
 Stratum: 4
 Grade: 37
 Season: '69
 Equivalent Lots: BB3 26, 32
 Phase: 2b-3
 Lots with sherd joins: BB3 32 (phase 2b-3)
 Number of Sherds: 13
 Average sherd preservation: 9%
 Average size: 2cm
 Bowls (% preserved): 42%
 Jars (% preserved): 29%
 Cook pots (% preserved): 29%

Notes: Below stone wall-I & J and stone floor (floor 1). Either deliberate fill before building floor 1 or post abandonment collapse. Most sherds should pre-date phase 3 occupation but some may come from phase 3 fill.

LOT: BB3 32
 Room: 45
 Stratum: 4
 Grade: 37
 Season: '69
 Equivalent Lots: BB3 26, 32 (phase 2b-3)
 Phase: 2b

Lots with sherd joins:
 Number of Sherds: 5
 Average sherd preservation: 11%
 Average size: 2cm
 Within lot joins: 0(%)
 Bowls (% preserved): 100%
 Jars (% preserved): 0%
 Cook pots (% preserved): 0%

Notes: Below stone floor (floor 1) near wall-3 in room 44. Either deliberate fill before building floor 1 or post abandonment collapse. Most sherds should pre-date phase 3 occupation but some may come from phase 3 fill.

LOT: BB3 34
 Room: 45
 Stratum: 2
 Grade: 36
 Season: '69
 Phase: 3
 Number of Sherds: 3
 Average sherd preservation: 15%
 Average size: 2cm
 Notes: Clearing stone wall-K (phase 3)

LOT: BB3 37
 Room: 45
 Stratum: 4
 Grade: 37
 Season: '69
 Phase: 2b-3
 Number of Sherds: 20
 Average sherd preservation: 15%
 Average size: 3cm
 Within lot joins: 1 (5%)
 Bowls (% preserved): 42%
 Jars (% preserved): 52%
 Cook pots (% preserved): 7%
 Notes: From stone floor 1 (phase 3) to floor 2 (phase 2). Either deliberate fill before building floor 1 or post abandonment collapse. Most sherds should pre-date phase 3 occupation but some may come from phase 3 fill.

LOT: BB3 38
 Room: 44
 Stratum: 3-4
 Grade: 36, 37
 Season: '69
 Phase: 2b-3a
 Number of Sherds: 2
 Average sherd preservation: 12%
 Average size: 4cm
 Notes: Stone packing against wall 58 and

fill under floor 1 (phase 3).

LOT: C1 2120
 Room: 12
 Stratum: 1-2
 Grade: 40
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 5%
 Average size: 1cm
 Notes: Bricky wash north of wall 1.

LOT: C1C2 1
 Room: 9,12
 Stratum: 1
 Grade: 40
 Season: '67
 Phase: 1-3b
 Number of Sherds: 4
 Average size: 3cm
 Notes: Surface.

LOT: C1C2 2030
 Room: 9
 Stratum: 1-3
 Grade:
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average size: 4cm
 Notes: From surface to ash deposit on which
 wall 1 was founded.

LOT: C1C2 2230
 Room: 9
 Stratum: 2-3
 Grade:
 Season: '67
 Phase: 1-3b
 Number of Sherds: 1
 Average size: 3cm
 Notes: Bricky collapse over Apadana floor
 and outside wall 1.

LOT: C2 11
 Room: 9
 Stratum: 3-4
 Grade: 37
 Season: '67
 Phase: 2a-2b
 Number of Sherds: 0

Notes: Brickly collapse over Apadana floor
and material below floor.

LOT: C2 12
Room: 9
Stratum: 2-3
Grade:
Season: '67
Phase: 2b

Number of Sherds: 1

Notes: Brickly collapse from clearing around
Apadana walls and floor.

LOT: C2 16
Room: 9
Stratum: 2-3
Grade: 38
Season: '67
Phase: 2b

Number of Sherds: 0

Notes: Expansion of East baulk of C2.

LOT: C2 22
Room: 9
Stratum: 1-3
Grade: 38
Season: '69
Phase: 2a-2b

Number of Sherds: 1

Average sherd preservation: 99%

Average size: 14cm

Notes: Removal of north baulk of C2.

LOT: C2 35
Room: 9*
Stratum: 4
Grade:
Season: '69
Phase: 1-2b

Number of Sherds: 1

Average sherd preservation: 10%

Average size: 2cm

Notes: Material from test trench through
Apadana floor.

LOT: C2 42
Room: 9*
Stratum: 4
Season: '69

Equivalent Lots: C2 43

Phase: 1-2b

Lots with sherd joins: C2 43 (1-2b)

Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 3cm

Notes: Material from test trench through
 Apadana floor.

LOT: C2 43
 Room: 9*
 Stratum: 4
 Season: '69
 Equivalent Lots: C2 42
 Phase: 1-2b
 Lots with sherd joins: C2 42 (1-2b)
 Number of Sherds: 10
 Average sherd preservation: 12%
 Average size: 3cm
 Bowls (% preserved): 42%
 Jars (% preserved): 29%
 Cook pots (% preserved): 29%

Notes: Material from test trench through
 Apadana floor.

LOT: CC1 2
 Room: 1
 Stratum: 2-3
 Grade: 35
 Season: '67
 Phase: 1-3b
 Number of Sherds: 19
 Average sherd preservation: 12%
 Average size: 2cm
 Bowls (% preserved): 48%
 Jars (% preserved): 52%
 Cook pots (% preserved): 0%

Notes: Bricky collapse from outside wall 1.

LOT: CC1 5
 Room: 19
 Stratum: 2
 Grade: 35
 Season: '67
 Phase: 1-3b
 Number of Sherds: 6
 Average sherd preservation: 8%
 Average size: 2cm

Notes: Bricky collapse overlying North
 Magazines. May include squatter (phase 3) sherds from dumping.

LOT: CC1 9
 Room: 19,20
 Stratum: 1-3
 Grade: 40

Season: '69
 Phase: 1-3b
 Number of Sherds: 2
 Average sherd preservation: 15%
 Average size: 2cm
 Notes: Mixed lot. Surface pickings and test
 trench.

LOT: CC1 10
 Room: 20
 Stratum: 4
 Grade: 28
 Season: '69
 Phase: 2a-2b
 Number of Sherds: 1
 Average sherd preservation: 99%
 Average size: 17cm
 Notes: Almost complete bowl found in
 arrowslot of north magazine 1 (room 19).

LOT: CC1 12
 Room: 19
 Stratum: 3
 Grade: 27
 Season: '69
 Phase: 2b
 Number of Sherds: 2
 Average sherd preservation: 99%
 Average size: 16cm
 Notes: Brickly collapse from 70 cms above
 floor. Includes large pithos fragments and reed inclusions
 possibly from second story collapse.

LOT: CC1 2043
 Room: 20
 Stratum: 4
 Grade: 21
 Season: '69
 Phase: 2b
 Number of Sherds: 1
 Average sherd preservation: 50%
 Average size: 2cm
 Notes: Material from 50 cm above floor.
 Includes a quantity of bone. Probably occupation debris..

LOT: CC1 2233
 Room: 19
 Stratum: 2-3
 Season: '67
 Equivalent Lots: CC1 9
 Phase: 2b
 Number of Sherds: 0

Notes: Bricky collapse from surface to floor of room 19.

LOT: CC2 2
 Room: 6
 Stratum: 2-3
 Grade: 35
 Season: '69
 Phase: 3b
 Number of Sherds: 16
 Average sherd preservation: 9%
 Average size: 1cm
 Bowls (% preserved): 32%
 Jars (% preserved): 68%
 Cook pots (% preserved): 0%
 Notes: Bricky collapse to floor 1 (phase 3b).

LOT: CC2 4
 Room: 19
 Stratum: 1-3
 Grade: 35
 Season: '69
 Phase: 1-3b
 Number of Sherds: 21
 Average sherd preservation: 14%
 Average size: 2cm
 Bowls (% preserved): 65%
 Jars (% preserved): 35%
 Cook pots (% preserved): 0%
 Notes: Bricky collapse from surface to above floor 1 (phase 2b). Could include phase 3 sherds from surface contamination.

LOT: CC2 5
 Room: 26
 Stratum: 1-2
 Grade: 35
 Season: '69
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 99%
 Average size: 5cm
 Notes: Bricky collapse from surface to above floor 1 (phase 2b). Complete bowl rim most likely of phase 2b date.

LOT: CC2 10
 Room: 27
 Stratum: 2

Grade: 35
 Season: '69
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 50%
 Average size: 12cm
 Notes: Bricky collapse from above room 27.

LOT: CC2 15
 Room: 26
 Stratum: 4
 Grade: 21
 Season: '69
 Equivalent Lots: CC2 16
 Phase: 2b
 Lots with sherd joins: CC2 16 (phase 2b)
 Number of Sherds: 2
 Average sherd preservation: 10%
 Average size: 1cm
 Notes: Clean clay on floor 1 (phase 2b)
 near doorway between room 19 and corridor 26.

LOT: CC2 16
 Room: 19
 Stratum: 4
 Grade: 21
 Season: '69
 Equivalent Lots: CC2 15
 Phase: 2b
 Lots with sherd joins: CC2 15 (phase 2b)
 Number of Sherds: 8
 Average sherd preservation: 14%
 Average size: 5cm
 Within lot joins: 1 (12.5%)
 Notes: Clean clay on floor 1 (phase 2b)
 near doorway between room 19 and corridor 26.

LOT: CC2 17
 Room: 27
 Stratum: 3
 Grade: 21
 Season: '69
 Phase: 2b
 Number of Sherds: 4
 Average sherd preservation: 11%
 Average size: 2cm
 Notes: On floor 1 (phase 2b) near doorway
 between rooms 26 and 27.

LOT: CC2 22
 Room: 27
 Stratum: 3

Grade: 37
 Season: '69
 Phase: 2b
 Number of Sherds: 6
 Average sherd preservation: 16%
 Average size: 4cm
 Within lot joins: 1 (16.7%)
 Notes: On floor 1 (phase 2b).

LOT: CC2 2020
 Room: 6,19
 Stratum: 2
 Grade: 40
 Season: '69
 Phase: 1-3b
 Number of Sherds: 0
 Notes: Mixed lot. From bricky collapse over room 19 and/or clearing stratum 3 (phase 3) in room 6.

LOT: CC3 9
 Room: ?
 Stratum: ?
 Grade: 40
 Season: '69
 Phase: 1-3b
 Number of Sherds: 6
 Average size: 4cm
 Notes: Unknown provenience.

LOT: CC3 13
 Room: 43
 Stratum: 3
 Grade: 51
 Season: '69
 Phase: 2a-2b
 Number of Sherds: 24
 Average sherd preservation: 22%
 Average size: 4cm
 Within lot joins: 1 (4.2%)
 Bowls (% preserved): 78%
 Jars (% preserved): 20%
 Cook pots (% preserved): 2%

Notes: Blocking of trapezoidal corridor 43. Not clear when this occurred but there is no evidence for any wall collapse before the blocking was done so it presumably occurred before the squatter phase (phase 3). Could have taken place at any time within the original occupation. The comparatively large size and good preservation of these sherds indicates a source closer in the waste stream to the context of use than much of the other refuse at the site.

LOT: CC3 18

Room: 39
 Stratum: 2
 Grade: 48
 Season: '69
 Phase: 1-3b
 Lots with sherd joins: SF 2901 (phase 1-3b)
 Number of Sherds: 6
 Average sherd preservation: 12%
 Average size: 3cm
 Notes: Mixed bricky collapse and wash above
 floor 1 (phase 2b). Could include sherds from later squatter
 dumping.

LOT: D 1
 Room: AA2
 Stratum: 1-2
 Grade: 31
 Season: '65
 Phase: 1-3b
 Number of Sherds: 1
 Notes: Undefined deposit near surface in
 AA2 from sounding D.

LOT: D 2
 Room: AA2
 Stratum: 2
 Grade: 34
 Season: '65
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 99%
 Average size: 25cm
 Notes: Undefined deposit near surface in
 AA2 from sounding D.

LOT: D 4
 Room: 6
 Stratum: 3
 Grade: 40
 Season: '65
 Phase: 3b
 Lots with sherd joins: AA2 303 (phase 3b)
 AA3 10 (phase 3)
 Number of Sherds: 9
 Average sherd preservation: 14%
 Average size: 3cm
 Notes: Bricky collapse overlying phase 3
 floor in sounding D.

LOT: D 5
 Room: AA2
 Stratum: 2-3

Grade: 46
 Season: '65
 Phase: 1-3b
 Number of Sherds: 3
 Average sherd preservation: 13%
 Average size: 3cm
 Notes: Undefined deposit near surface in
 AA2 from sounding D.

LOT: D1 5
 Room: AA2
 Stratum: 1-2
 Grade: 31
 Season: '65
 Phase: 1-3b
 Number of Sherds: 3
 Average sherd preservation: 13%
 Notes: Undefined deposit in sounding D1.

LOT: D2 1
 Room: AA2
 Stratum: 1-2
 Grade: 31
 Season: '65
 Phase: 1-3b
 Lots with sherd joins: AA3 10 (phase 3)
 Number of Sherds: 25
 Average sherd preservation: 14%
 Average size: 3cm
 Bowls (% preserved): 63%
 Jars (% preserved): 34%
 Cook pots (% preserved): 3%
 Notes: First 50cm of bricky collapse in
 sounding D2.

LOT: D3 2
 Room: 9
 Stratum: 1,2
 Grade: 35
 Season: '67
 Phase: 2b
 Number of Sherds: 1
 Average sherd preservation: 99%
 Average size: 5cm
 Notes: Bricky collapse over Apadana.

LOT: D3 3
 Room: AA2
 Stratum: 2
 Grade: 31
 Season: '65
 Phase: 1-3b

Notes: Undefined deposit from sounding D3.

LOT: DD2 2
 Room: 28
 Stratum: 3
 Grade: 21,26
 Season: '69
 Phase: 2b
 Lots with sherd joins: DD3 6 (phase 2b)
 BB1 16 (phase 2b)
 Number of Sherds: 48
 Average sherd preservation: 13%
 Average size: 2cm
 Within lot joins: 1 (2.1%)
 Bowls (% preserved): 65%
 Jars (% preserved): 30%
 Cook pots (% preserved): 6%

Notes: Large deposit of sherds on floor
 (phase 2b) of room 28.

LOT: DD2 3
 Room: 28
 Stratum: 3
 Grade: 21
 Season: '69
 Phase: 2b
 Number of Sherds: 1
 Average sherd preservation: 99%
 Average size: 31cm

Notes: One complete large bowl rim from
 beside curtain wall (wall 47) in room 28.

LOT: DD2 4
 Room: 28
 Stratum: 3
 Grade: 28
 Season: '69
 Phase: 2a-2b
 Number of Sherds: 2
 Average sherd preservation: 42%
 Average size: 7cm

Notes: Two large bowl sherds in arrowslot
 of wall 23. Phase 2b or earlier.

LOT: DD3 4
 Room: 35
 Stratum: 1-2
 Grade: 35
 Season: '69
 Phase: 1-3b
 Number of Sherds: 15
 Average sherd preservation: 10%

Average size: 2cm
 Bowls (% preserved): 71%
 Jars (% preserved): 29%
 Cook pots (% preserved): 0%

Notes: Bricky collapse in exterior area 35
 near walls 38 & 39.

LOT: DD3 5
 Room: 34
 Stratum: 2
 Grade: 35
 Season: '69
 Phase: 1-3b
 Number of Sherds: 7
 Average sherd preservation: 9%
 Average size: 2cm

Notes: From bricky collapse over room 34.
 Might well be part of large pottery lot DD3 6 but could contain
 later squatter sherds from surface.

LOT: DD3 6
 Room: 34
 Stratum: 3
 Grade: 21,26
 Season: '69
 Phase: 2b
 Lots with sherd joins: DD2 2 (phase 2b)
 DD3 8 (phase 2b)
 SF 2901 (phase 1-3b)
 TR5 3 (phase 2b)
 TR5 2901 (phase 2b)
 Number of Sherds: 75
 Average sherd preservation: 11%
 Average size: 2cm
 Within lot joins: 2 (2.7%)
 Bowls (% preserved): 74%
 Jars (% preserved): 25%
 Cook pots (% preserved): 2%

Notes: Large collection of sherds in a
 loose wash on floor of tower 34. Many fine ware sherds but not
 exclusively. Although average size of sherds is comparable to
 other lots there is a much more diverse distribution of sizes
 (kurtosis is very high) of sherds. Two almost complete vessels
 were found (one bowl, one jar) but otherwise there is not an
 elevated number of within lot joins such as would indicate a
 ceramic storage area. Probably a single episode or provisional
 discard dump.

LOT: DD3 7
 Room: 34
 Stratum: 3
 Grade: 26

Season: '69
 Equivalent Lots: 6
 Phase: 2b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 3cm

Notes: Loose wash on floor in narrow
 corridor between tower 34 and room 27.

LOT: DD3 8
 Room: 27
 Stratum: 2-3
 Grade: 35,26
 Season: '69
 Phase: 2b
 Lots with sherd joins: DD3 6 (phase 2b)
 Number of Sherds: 28
 Average sherd preservation: 12%
 Average size: 3cm
 Within lot joins: 2 (7.1%)
 Bowls (% preserved): 74%
 Jars (% preserved): 26%
 Cook pots (% preserved): 0%

Notes: Striated occupational trash on floor
 of room 27. Join with DD3 6 might indicate that the fine ware
 dump extended into room 27.

LOT: EE1 2
 Room: 26
 Stratum: 5
 Grade: 26
 Season: '69
 Phase: 2b
 Lots with sherd joins: MG6 3 (phase 2b)
 MG6 5 (phase 2b)
 SF 2901 (phase 1-3b)

Number of Sherds: 45
 Average sherd preservation: 16%
 Average size: 3cm
 Within lot joins: 1 (2.2%)
 Bowls (% preserved): 51%
 Jars (% preserved): 38%
 Cook pots (% preserved): 12%

Notes: Large pile of sherds and bone piled
 against east wall of north magazines corridor (room 26).
 Greenish deposit on sherds and strong smell indicated high
 organic component to this deposit. Probably a garbage dump and
 latrine.

LOT: EW 501
 Room: 18,25
 Stratum: ?

Grade: 62
 Season: '73
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 5%
 Average size: 1cm
 Notes: Test trench tracing walls 48 and 22.

LOT: EW 502
 Room: 25
 Stratum: ?
 Grade: 62
 Season: '73
 Phase: 1-3b
 Number of Sherds: 2
 Average sherd preservation: 30%
 Average size: 2cm
 Notes: Test trench tracing north face of
 wall 49.

LOT: EW 503
 Room: 33
 Stratum: 1-2
 Grade: 32
 Season: '73
 Phase: 1-3b
 Number of Sherds: 20
 Average sherd preservation: 14%
 Average size: 3cm
 Bowls (% preserved): 71%
 Jars (% preserved): 26%
 Cook pots (% preserved): 4%
 Notes: Bricky collapse over room 33.

LOT: EW 504
 Room: 33
 Stratum: 2-3
 Grade: 37
 Season: '73
 Phase: 2b
 Number of Sherds: 4
 Average sherd preservation: 6%
 Average size: 1cm
 Notes: Bricky collapse directly above floor
 1 (phase 2a or 2b) in room 33.

LOT: H 12
 Room: WSLOPE
 Stratum: ?
 Grade: 40
 Season: '67
 Phase: 1-3b

Number of Sherds: 1
 Average sherd preservation: 5%
 Average size: 2cm
 Notes: Miscellaneous Godin II sherds from
 slope of mound.

LOT: M1 1
 Room: SLOPE
 Stratum: 1
 Grade: 4
 Season: '67
 Phase: 1-3b
 Number of Sherds: 4
 Average size: 5cm
 Notes: Miscellaneous Godin II sherds from
 slope of mound.

LOT: MG4 1
 Room: 22
 Stratum: 1
 Grade: ?
 Season: '73
 Phase: 1-3b
 Lots with sherd joins: AA3 10 (phase 3)
 Number of Sherds: 5
 Average sherd preservation: 12%
 Average size: 4cm
 Within lot joins: 1 (20%)
 Notes: North magazines 4, 5 and 6 (rooms
 22, 23, 24) were cleared to the floor in 1973. No notes or lot
 sheets were kept for these excavations and only information
 comes from sherds which were labelled MG4, 5 or 6 followed by
 undefined lot numbers. If the stratigraphy in these magazines
 follows those excavated in 1969 then lot 1 should be compact
 bricky collapse from surface of site, lot 2 should be bricky
 collapse filling room and lot 3 should be occupational debris
 directly over floor.

LOT: MG5 1
 Room: 23
 Stratum: ?
 Grade: 40
 Season: '73
 Phase: 1-3b
 Number of Sherds: 11
 Average sherd preservation: 10%
 Average size: 3cm
 Bowls (% preserved): 65%
 Jars (% preserved): 35%
 Cook pots (% preserved): 0%
 Notes: see note lot MG4 1.

LOT: MG6 1

Room: 24
 Stratum: 1
 Grade: 40
 Season: '73
 Phase: 1-3b
 Number of Sherds: 2
 Average sherd preservation: 18%
 Average size: 2cm
 Notes: see note lot MG4 1.

LOT: MG6 2
 Room: 24
 Stratum: 2
 Grade: 40
 Season: '73
 Phase: 2b
 Lots with sherd joins: MG6 3 (phase 2b)
 MG6 5 (x2) (phase 2b)
 Number of Sherds: 48
 Average sherd preservation: 25%
 Average size: 5cm
 Within lot joins: 4(%)
 Bowls (% preserved): 55%
 Jars (% preserved): 39%
 Cook pots (% preserved): 7%

Notes: see note lot MG4 1. Large number of sherds in this deposit unlike bricky collapse over magazines cleared in 1969. Perhaps garbage dump from magazine corridor (room 23, lot EE1 2) extended into room 24 as well. Not clear whether this lot was perceptibly different than MG6 3 & 5 which also contained many sherds (some joins).

LOT: MG6 3
 Room: 24
 Stratum: 3
 Grade: 40
 Season: '73
 Phase: 2b
 Lots with sherd joins: AA3 10 (phase 3)
 EE1 2 (x2) (phase 2b)
 MG6 2 (phase 2b)
 Number of Sherds: 50
 Average sherd preservation: 15%
 Average size: 3cm
 Within lot joins: 3 (6%)
 Bowls (% preserved): 67%
 Jars (% preserved): 33%
 Cook pots (% preserved): 0%

Notes: Large number of sherds in this deposit unlike bricky collapse over magazines cleared in 1969. Perhaps garbage dump from magazine corridor (room 23, lot EE1 2) extended into room 24 as well. Not clear whether this lot

was perceptibly different than MG6 2 & 5 which also contained many sherds (some joins). Join between sherd from this lot and AA3 10 (phase 3 dump) is odd and only join between exclusively phase 3 lot and phase 2b lot. Perhaps there was mixing in this area? Also possible that sherds from AA3 28 (dug at the same time) might have been mislabelled MG6 as it was also a very large pottery lot (and obviously equivalent to AA3 10 dug in '69).

LOT: MG6 5
 Room: 24
 Stratum: ?
 Grade: 40
 Season: '73
 Equivalent Lots: 3
 Phase: 2b

Lots with sherd joins: AA3 10 (phase
 EE1 2
 MG6 2 (x2)

Number of Sherds: 28
 Average sherd preservation: 17%
 Average size: 3cm
 Within lot joins: 1(%)
 Bowls (% preserved): 56%
 Jars (% preserved): 41%
 Cook pots (% preserved): 3%

Notes: Large number of sherds in this deposit unlike bricky collapse over magazines cleared in 1969. Perhaps garbage dump from magazine corridor (room 23, lot EE1 2) extended into room 24 as well. Not clear whether this lot was perceptibly different than MG6 2 & 5 which also contained many sherds (some joins). Join between sherd from this lot and AA3 10 (phase 3 dump) is odd and only join between exclusively phase 3 lot and phase 2b lot. Perhaps there was mixing in this area? Also possible that sherds from AA3 28 (dug at the same time) might have been mislabelled MG6 as it was also a very large pottery lot (and obviously equivalent to AA3 10 dug in '69).

LOT: MG6 2901
 Room: 24
 Stratum: 4
 Grade:
 Season: '69
 Phase: 2b

Number of Sherds: 6
 Average sherd preservation: 13%
 Average size: 4cm

Notes: Sherds from arrowslot in east wall (wall 22) of room 24.

LOT: MG6 2902

Room: 24
 Stratum: 5
 Grade: 40
 Season: '69
 Phase: 2b
 Number of Sherds: 13
 Average sherd preservation: 9%
 Average size: 2cm
 Bowls (% preserved): 87%
 Jars (% preserved): 13%
 Cook pots (% preserved): 0%
 Notes: Sherds labelled "MG6 2 GARBAGE."
 Not clear how or if these are different from MG6 2.

LOT: NW 5
 Room: 4
 Stratum: 1-4
 Grade: 60
 Season: '71
 Phase: 1-3b
 Number of Sherds: 6
 Average sherd preservation: 12%
 Average size: 4cm
 Within lot joins: 1 (16.7%)
 Bowls (% preserved): 80%
 Jars (% preserved): 20%
 Cook pots (% preserved): 0%
 Notes: From surface down to yellowish clay
 on floor of tower 4.

LOT: O 1
 Room: LSLOPE
 Season: '67
 Phase: 1-3b
 Number of Sherds: 6
 Average sherd preservation: 16%
 Average size: 4cm
 Notes: Miscellaneous Godin II sherds from
 slope of mound.

LOT: O 2
 Room: LSLOPE
 Season: '67
 Phase: 1-3b
 Number of Sherds: 2
 Average sherd preservation: 10%
 Average size: 3cm
 Notes: Miscellaneous Godin II sherds from
 slope of mound.

LOT: SE 2
 Room: 37

Stratum: 3
 Grade: 11
 Season: '71
 Phase: 2b
 Number of Sherds: 5
 Average sherd preservation: 13%
 Average size: 2cm
 Notes: Material on floor in South east tower.
 Includes one complete cooking pot.

LOT: SE 3
 Room: 37
 Stratum: 1
 Grade: 41
 Season: '71
 Phase: 1-3b
 Number of Sherds: 18
 Average sherd preservation: 10%
 Average size: 2cm
 Bowls (% preserved): 89%
 Jars (% preserved): 11%
 Cook pots (% preserved): 0%
 Notes: Cleaning wall 53.

LOT: SE 5
 Room: 33
 Stratum: 1-2
 Grade: 38
 Season: '71
 Phase: 1-3b
 Number of Sherds: 1
 Average sherd preservation: 10%
 Average size: 2cm
 Notes: Test trench along wall 49 in room
 33.

LOT: SE 6
 Room: 38
 Stratum: 1-2
 Grade: 38
 Season: '71
 Equivalent Lots: SE 7, 8
 Phase: 1-3b
 Number of Sherds: 5
 Average sherd preservation: 18%
 Average size: 2cm
 Within lot joins: 1 (20%)
 Notes: Test trench dug along east face of
 wall 52 in exterior area 38.

LOT: SE 7
 Room: 35, 38

Stratum: 1-2
 Grade: 38
 Season: '71
 Equivalent Lots: SE 6, 8
 Phase: 1-3b
 Lots with sherd joins: SE 8 (phase 1-3b)
 Number of Sherds: 20
 Average sherd preservation: 11%
 Average size: 2cm
 Bowls (% preserved): 46%
 Jars (% preserved): 49%
 Cook pots (% preserved): 7%

Notes: Test trench along south face of wall-53 in exterior areas 35 and 38. Extended below level of wall 53. May well include quantities of early original material from dumping outside walls before construction of Southeast tower.

LOT: SE 8
 Room: 35,38
 Stratum: 2
 Grade: 38
 Season: '71
 Equivalent Lots: SE 6,7
 Phase: 1-3b
 Lots with sherd joins: SE 7 (phase 1-3b)
 Number of Sherds: 50
 Average sherd preservation: 10%
 Average size: 2cm
 Within lot joins: 1(2%)
 Bowls (% preserved): 58%
 Jars (% preserved): 36%
 Cook pots (% preserved): 7%

Notes: Test trench along east face of wall a52 and south face of wall 53 in exterior areas 35 and 38. May well include quantities of early original material from dumping outside walls before construction of Southeast tower.

LOT: SF 2901
 Room: surf
 Season: all seasons
 Phase: 1-3b
 Lots with sherd joins: AA3 10
 AA3 28
 CC2 16
 CC3 18
 EE1 2
 DD3 6
 Number of Sherds: 145
 Average size: 2cm
 Bowls (% preserved): 69%
 Jars (% preserved): 23%

Cook pots (% preserved): 8%

Notes: All sherds labelled "surface" or whose labelling broke off, is illegible or whose provenience is otherwise unknown.

LOT: TR5 1
 Room: 17
 Stratum: 1?
 Grade: 40
 Season: '73
 Phase: 1-3b

Notes: There are no field notes or lots sheets for TR5 lots. Only information comes from sherds labelled TR5 in sherd collection. Since these sherds were excavated in 1973 by which time tower 5 had been completely removed for the deep sounding, these sherds cannot be from that tower. Tower 17, however, was excavated in '73 and as it is the fifth tower along the wall from the west, it is most likely that the excavator simply mislabelled his lots "TR5 (tower 5)" instead of "tower 17." There is little information about the stratigraphy of these lots but some sherds were labelled "TR5-3rd floor (since assigned TR5 2901 for computer coding) indicating the presence of three floors. Given the absence of any clear phase 3 (post original wall collapse) occupation in this area in general it is likely that these sherds belong to phase 2. A number of joins between TR5 lots and DD3 6 might indicate that it was part of the same episode of dumping as the latter lot.

LOT: TR5 2
 Room: 17
 Stratum: 2
 Grade: 40
 Season: '73
 Phase: 2b
 Number of Sherds: 5
 Average sherd preservation: 9%
 Average size: 3cm
 Notes: see note TR5 1.

LOT: TR5 3
 Room: 17
 Stratum: ?
 Grade: 40
 Season: '73
 Phase: 2b
 Lots with sherd joins: DD3 6 (phase 2b)
 TR5 4 (x3) (phase 2b)
 Number of Sherds: 23
 Average sherd preservation: 29%
 Average size: 5cm
 Within lot joins: 5 (21.7%)

Bowls (% preserved): 61%
 Jars (% preserved): 23%
 Cook pots (% preserved): 16%
 Notes: see note TR5 1.

LOT: TR5 4
 Room: 17
 Stratum: ?
 Grade: 40
 Season: '73
 Phase: 2b
 Lots with sherd joins: DD3 6 (phase 2b)
 TR5 3 (x3) (phase 2b)
 TR5 2901 (phase 2b)
 Number of Sherds: 16
 Average sherd preservation: 9%
 Average size: 2cm
 Bowls (% preserved): 63%
 Jars (% preserved): 27%
 Cook pots (% preserved): 10%
 Notes: see note TR5 1.

LOT: TR5 6
 Room: 17
 Stratum: 4?
 Grade: 40
 Season: '73
 Phase: 2b
 Number of Sherds: 5
 Average sherd preservation: 21%
 Average size: 4cm
 Notes: see note TR5 1.

LOT: TR5 2901
 Room: 17
 Stratum: ?
 Grade: 40
 Season: '73
 Phase: 2b
 Lots with sherd joins: TR5 4 (phase 2b)
 DD3 6 (phase 2b)
 Number of Sherds: 4
 Average sherd preservation: 9%
 Average size: 2cm
 Notes: see note TR5 1. Sherds labelled
 Tower 5 - 3rd floor.

LOT: TR5 2902
 Room: 17
 Stratum: ?
 Grade: 40
 Season: '73

Phase: 2b
Number of Sherds: 1
Average sherd preservation: 10%
Average size: 2cm
Notes: see note TR5 1. Sherds labelled
Tower 5 - door.

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