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An intrasite spatial analysis of the van Sweringen site, St. Mary's City, Maryland

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AN INTRASITE SPATIAL ANALYSIS OF THE VAN SWERINGEN SITE, ST. MARY'S CITY, MARYLAND

JULIA ANN KING

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Any errors in fact or in interpretation, however, are my sole responsibility.

ABSTRACT

AN INTRASITE SPATIAL ANALYSIS OF THE VAN SWERINGEN SITE, ST. MARY'S CITY, MARYLAND

BY JULIA ANN KING

ROBERT L. SCHUYLER, DISSERTATION SUPERVISOR

The household is one of the basic settings for human social activity, and the study of this fundamental unit provides valu able insight concerning human interaction with the natural and social environments. The study of past households is especially important for examining these interactions through both time and space. Archaeological data constitute one of the most valuable and, often, one of the only sources of information about past households. Intrasite spatial analysis provides methods for examining the material content, structure and organization of past households but, unfortunately, many of these methods are limited in their utility for practical applications. Further, few models of household behavior in a spatial context have been developed. This dissertation addresses these problems by, a) presenting a method of intrasite spatial analysis for use at historic period archaeological sites and, b) developing a model of household behavior in a spatial context which is used to interpret the archaeological analysis.

The focus of this analysis is the colonial Chesapeake house hold. Methods are developed for analyzing architectural, fence line, and secondary refuse midden data from the van Sweringen site, a late 17th century/early 18th century household and inn in St. Mary's City, Maryland. A model of household organization and behavior is developed through a review of contemporary and sec ondary historical sources from both England and the Chesapeake and from previous archaeological research conducted in the re gion. Further, a room-by-room inventory of van Sweringen's dwelling, taken in 1700, provides an important link between the more general historical model and the archaeological site.

The analytical methods applied to the van Sweringen site reveal significant patterning in the archaeological record. This patterning is then linked to chronological, social, and function al variability suggested by the historical model. Manifestations of public and private space, building and room use, and social status are all clearly visible in the archaeological record at the van Sweringen site. This analysis not only has important implications for the study of colonial Chesapeake culture, it demonstrates that temporal, social and functional variation in a spatial context can be deciphered and interpreted from the ar chaeological record.

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CHAPTER I

INTRODUCTION

Introduction

One of the basic units of human domestic activity is the household. Households provide the primary focus for human interaction with the natural and social environments and are the context of most decision-making and experimentation (Barlett 1980). Hence, the household provides a major setting in which adaptation can be studied directly (Wilk and Rathje 1982). The study of past households is particularly valuable for the analysis of change and stability in this fundamental domestic unit.

The archaeological study of the material content, structure and organization of households and their activities has the potential for providing otherwise unavailable data for the investigation of adaptive processes through time. Even during periods for which extensive documentation is available, contemporary writers failed to describe family and/or households in the detail necessary for such studies. Further, most of human history has occurred during the two million years for which no written history is available, and archaeological evidence provides the only data for addressing these questions.

Most archaeological sites contain material evidence of numerous activities, occurring at different times and places among different groups of people. The functions of

households represented in these activities and their organization in space are especially important in the study of adaptation, since they provide the articulation of human behavior to the natural or physical environment. Further, the organization of space is not necessarily determined by the most efficient integration of the household with the natural environment, but by a complex interplay of environmental conditions and symbolic systems of classification used by societies (Fletcher 1980). The spatial organization of activities can therefore reveal information on social relationships among household members.

The intrasite spatial analysis of archaeological materials provides a means for investigating the nature and organization of many of these activities within the household. In controlled archaeological excavations, data on both vertical and horizontal proveniences of artifacts are recorded. Whether these materials are collected from actual item locations or from grid counts, the horizontal provenience of these items and their relationships to other artifacts and archaeological features make them valuable sources of data on past behavior.

Prehistoric archaeologists have engaged in discussions about intrasite spatial analysis for nearly twenty years as an important tool for studying prehistoric behavior. A number of studies have revealed the existence of intrasite archaeological variability linked to past human behavior (cf., Hill 1968; Hietala 1984). Other studies have begun developing methods suitable for the analysis of spatial data (cf., Whallon 1973a, b; 1974; 1984; Carr 1981); still others seek to understand the formation of the intrasite archaeological patterns

(cf., Ammerman and Feldman 1974; Schiffer 1976; Kroll and Isaac 1984). This work has demonstrated the need for detailed research and integration of theory, assumptions, methods, data, and interpretation (Hietala 1984: 1).

Two particularly significant issues for prehistoric archaeologists are: a) the temporal and functional identification of both archaeological materials and archaeological patterning through adequate classificatory schemes and analytical techniques; and b) the link between the archaeological record and past behavior (site formation processes). Hence, much consideration has been given to ethnographic studies and their application archaeologically (Kent 1984; Kroll and Isaac 1984; Ciolek-Torrello 1984; Spurling and Hayden 1984). These studies have demonstrated that complex and subtle relationships exist between even simple tasks and their manifestation in the archaeological record.

Historical archaeologists are in a good position to investigate these concerns. A rich documentary record and a common cultural heritage provide comparatively tight controls for investigating intrasite spatial variability. Such studies can provide insights concerning the relationship between material patterning and past behavior, as well as studying the articulation of the household with both the natural and the social environments.

Intrasite spatial research at historic sites, however, has been limited with some exceptions (cf., Keeler 1978; Noble 1983; Neiman 1980; King and Miller 1987; King 1988a; Riordan 1988). Many studies of archaeological materials from historic sites combine artifacts from all locations to facilitate intersite comparison, thus minimizing the

effects of intrasite variability. At domestic sites, functions of households are often addressed through the identification of activities inferred from artifacts, but little archaeological research has been done to investigate specifically how these activities were organized. Many studies of intrasite organization that have been published have focused upon the identification and inferred function of domestic architecture (cf., Carson et al 1981). Comparatively little attention has been directed to the structure and organization of activities within historic sites through intrasite spatial analyses. Variability within a site is often reported only on a most basic level, such as the associations of large numbers of pins, hooks and needles with a tailor shop adjoining a larger structure (South 1977: 106-12).

Isolating spatial clusters of archaeological assemblages and identifying their "functions" potentially reveals the types of activities and their locations at a site. The relationships of these activities to each other and to other elements of the archaeological record provide important data for studying past household behavior. The documentary record can be used to develop models of household behavior in a spatial context, and these can be tested and refined against data provided by the archaeological record. In turn, more refined models of household spatial organization can be developed using archaeological data.

The purpose of this dissertation is to investigate the spatial organization of household activities at a colonial domestic site in the Chesapeake Tidewater. This study will include an analysis of the distribution and associations of artifacts, architecture, and other

archaeological features, and a comparison of these findings with a document-derived model of colonial household organization. By so doing, intrasite patterning in the archaeological record can be linked to household activities identified through historical research. Secondly, this dissertation will investigate the adaptation of the traditional European household to the physical and cultural demands of the colonial environment.

The Household

Most social scientists agree that the household is one of the primary human social groupings. However, definitions of the term vary and are often too narrow to include all ethnographically known households (cf., Laslett and Wall 1972; Bender 1968; Bohanon 1963; Goody 1971; Horne 1982). Part of this problem derives from confusing the concepts of family and household, two related but distinct analytical categories (Bender 1968). And, many of these definitions focus on describing what a household is, rather than what a household does.

A framework for describing households primarily in terms of human behavior overcomes the problem posed by previous definitions (Wilk and Rathje 1982). Under this framework, the household has three primary components: human behavior, demographic relationships, and material culture (Wilk and Rathje 1982). Such an approach is well-suited to the intrasite spatial analysis of archaeological sites. Under this framework, behavior by members of the household promotes (or hinders) domestic maintenance (Wilk and Rathje 1982). This behavior can take three forms: production, consumption

and reproduction (Spijkers-Zwart 1980; Wilk and Rathje 1982). Production is the procuring and processing of resources for both household use and market exchange. Both the environment and the scheduling of productive labor into tasks are two important sources of variability in household production and, by extension, the archaeological record. Consumption is here defined as the movement of finished products to consumers, both on the household and the market level. The third kind of domestic activity, reproduction, involves the production and socializing of children. All three of these components of behavior - production, consumption and reproduction - take place according to both social and economic rules (Wilk and Rathje 1982). Unfortunately, this behavior is not directly observable for past households.

Household behavior is strongly linked to roles defined by demographic composition. The demographic composition of the household includes the number and relationships of all household members, allowing for both kin and non-kin relations. Most members, however, are usually related by blood or marriage. Information on past household demographic structure during the historic period is often available through documents and, in the colonial Chesapeake, has been the focus of much important historical research (cf., Tate and Ammerman 1979, Main 1982). In many cases, specific household demographic composition can be reconstructed.

Material culture provides the physical context for domestic life and includes architecture, possessions and activity areas (Wilk and Rathje 1982). In most cases, material culture is the only remaining element of past households. Fortunately, human

behavior is patterned, and the material by-products of this behavior are patterned as well, although not necessarily in a one-to-one relationship. Archaeologists can use material culture to interpret past behavior and demographic structure.

A number of studies of the household in England and in colonial America have been done, resulting in a large body of historical data (cf., Greven 1970; Demos 1970; Laslett and Wall 1972). Many of these studies have been concerned with the family and family social structure, and do not make clear the distinction between family and household. They have nonetheless provided valuable insight into the demographic composition and social organization of past households and, to a lesser extent, the kinds of domestic activities performed in this setting. Several creative studies using data gathered from probate inventories have provided the most specific information yet on the organization of household activities (cf., Main 1982; Walsh 1983; Carson and Walsh 1981). Inventories, however, are limited in the amount and kind of information they contain. Biases due to wealth and decedent's age, variable reporting rates, and survival of documents are several of the factors that affect the reliability of these documents (Carr and Walsh 1978; Horn 1988).

Despite these efforts, study of the spatial organization of domestic activities among households from all levels of society has not been as detailed as necessary for the study of adaptation and change. The archaeological record can provide these data as well as the time depth that many ethnographic studies lack. The lack of written records for the major

part of human history and for many social groups and classes in literate societies makes the archaeological study of the household especially important.

Intrasite Spatial Analysis

Because the household is the most basic level at which adaptive strategies are developed and applied (Barlett 1980), activities which promote household maintenance through production and consumption must be organized to satisfy social, ideological, economic and environmental needs. This organization can be investigated both temporally and spatially through the analysis of intrasite patterning at archaeological sites. Archaeologists recover more than the structural remains of household dwellings and associated architectural features; they also recover data on the distributions of associated artifacts and yard features through both time and space. The quantitative analysis of these data leads to pattern recognition and the identification of variability in the archaeological record from which insights into past behavior can be obtained.

The intrasite spatial analysis of archaeological materials has been an important focus in archaeological research for the last two decades, a development related to the recognition that relationships between objects are as important as the objects themselves (Clarke 1977). Most published studies, however, have emerged in prehistoric archaeology, and these have been primarily concerned with the development of analytic and interpretive methods (cf., Whallon 1973a, b; 1974, 1984; Hodder and Orton 1976; Hodder 1978; Carr 1984; Hietala 1984). This research has revealed the need for further study for analytical

methods, for interpretive methods (particularly concerning the formation of the archaeological record) and for developing spatial models of human behavior in household contexts.

As archaeologists search for methods to analyze spatial data, there has been a concern with borrowing methodologies, often uncritically, from other disciplines (cf., Whallon 1984). For example, many analytical techniques require data collected from completely excavated sites, both an unrealistic and often an undesirable goal in archaeology. Analytical methods suitable for use at sites that have been partially excavated require careful consideration of sampling design, particularly strategy (e.g., random, stratified random, uniform, etc.) and distance between excavation units. Finally, many analyses require the statistical transformation of data. While such transformations are not necessarily incorrect, many archaeologists have not received sophisticated training in statistics, and misunderstanding of the use and limitations of transformed data can result in invalid interpretations. The statistical analysis of spatial data is especially complex, and spatial statistics are rarely considered in standard statistics courses. In response to these concerns, this study will present a quantitative analysis of intrasite spatial data using standard statistical techniques. This method was developed for use at sites that have been plowed and only partially sampled.

The classification of archaeological data is also an important issue for the analysis of the types and organization of household activities. Since the 1950s, archaeologists have been concerned with typology and the classification of assemblages. Archaeological

categories designed for revealing activity areas and their location are especially important in intrasite analysis (Noble 1983). Prehistoric archaeologists are often limited in their identifications of artifacts and artifact patterning; however, the classificatory schemes of historical archaeologists (cf., South 1977) have not proven particularly useful for intrasite comparisons (Noble 1983). This study suggests categories for use at colonial sites.

Once significant patterning is identified in the archaeological record, interpretation of this patterning in terms of past behavior can be difficult at best. Linking archaeological patterning to past behavior is a fundamental avenue of inquiry in all archaeology, not just intrasite spatial analyses. This patterning does not necessarily mirror past behavior; rather, the patterning of material culture may be more appropriately viewed as a transformation of past behavior (Schiffer 1976; Noble 1983; Hodder 1986: 2).

Both cultural and natural processes affect the formation of the archaeological record and it is the job of the archaeologist to extrapolate these processes from that record. Several archaeologists have examined the relationship between spatial behavior in ethnographic situations and the resulting material residue, concluding that this relationship can be both complex and subtle for even straightforward tasks. Their research has shown that different activities "employ alternative complexes of tools and operations" and that rates of use and discard among these tool complexes are an important source of variability both in the behavioral domain and in the archaeological record (Noble 1983: 5). The effects of this variability remain to be deciphered in the archaeological record.

Another major problem for archaeologists is the overall lack of explanatory models which explicity account for behavior in a spatial context, especially at the level of the household. Those models which have been developed are little more than "vague generalizations and inexplicit insights" (Clarke 1977: 28). This is particularly unfortunate when considering intrasite archaeological patterning, since social and cultural factors as well as economics are significant causes of variation at this level of site organization (Clarke 1977: 11).

Models of behavioral variability can be developed using archaeological data but this requires precise identification and inference of archaeological materials. The tight controls available to historical archaeologists greatly facilitate isolating those factors which cause pattern and variability in the archaeological record. Once these patterns are identified, sources of variability can be isolated and studied. Behavioral variability is generally linked to four sources: ecological, temporal, stylistic and functional factors. In many cases, these divisions are arbitrary, and a particular archaeological manifestation may be acted upon by more than one cause of variability.

Ecological variables are of interest to many scholars, particularly at the regional level, and have been shown to be extremely important sources of variation. In this study, the focus will be on a single site in a single environmental setting. In addition, documentary evidence and tightly dated material culture have made it possible in historical archaeology to recognize and control for variation due to temporal differences.

The two remaining causes of archaeological variability, style and function, are of major interest in this proposed analysis of activities on the household level. Stylistic variation is linked to cultural and status distinctions with no inherent adaptive significance (Dunnell 1980: 63). Stylistic variables, however, can affect the manner in which a household will partition its space for domestic use (cf., Douglas 1972) and may have adaptive value socially. Functional variation is a major component of site structure on any level, but is especially significant on the household level. Phenomena of functional value are observable in the archaeological record, and variation linked to functional differences is of particular relevance for studying adaptive behavior (Kirch 1980; Dunnell 1980: 63). Despite this potential, functional variation has been studied only in a general way (Binford and Binford 1966; Hill 1968). This situation is undoubtedly a consequence of the complexity of the archaeological record and the associated interpretive problems (cf., Ammerman and Feldman 1978; Schiffer 1976).

Obviously, intrasite spatial analysis will require considerable archaeological investigation at a number of levels of methodological and theoretical concern. The potential information value of this avenue of inquiry, however, makes it important to begin addressing these concerns. This dissertation addresses several of these methodological and analytical issues through a preliminary archaeological study of the 17th century Chesapeake household. The issues investigated in this dissertation are:

a) the identification of activity areas and use of household space in the archaeological record;

b) linking the archaeological variability to documented household organization and functions.

CHAPTER II

THE HOUSEHOLD IN ENGLAND AND IN THE CHESAPEAKE

Introduction

A number of historical and archaeological studies have been completed which provide insight into both 17th century English and Chesapeake families and households. Geneaological records have been used extensively to reconstruct social relationships and family structure. Through the creative use of probate inventories and other surviving documents, the form and layout of households of this period have been examined. Although little effort has focused on intrasite archaeological patterning at colonial Chesapeake households, archaeological evidence has nonetheless provided a great deal of information on the form, layout and function of buildings and activity areas (cf., Keeler 1978; Neiman 1980; King and Miller 1987; King 1988a; Pogue 1988). This chapter synthesizes these data and presents models of the more typical 17th century English homelot and the Chesapeake homelot as it evolved throughout the colonial period.

The 17th Century English Household: Demographic Composition and Behavior

In medieval and post-medieval England, the family formed both the basic economic unit and the basic social unit (Hanawalt 1986; Laslett 1965). The typical family form of Stuart England was the nuclear, or conjugal, family, composed of a husband, wife, their children and servants, if present in the household (Laslett 1965: 1-22). This form of the

English family had a long tradition, surviving four centuries of external stress, including famine, disease and increased taxation (Hanawalt 1986).

Traditional role structures defined the economic and the social interaction of the English family. The husband was considered the most powerful individual in the household but, in reality, he and his wife worked in a mutual and symbiotic relationship. The husband was responsible for the farm and any business outside the household, while the wife was largely responsible for the management of the household itself, including the upbringing of children. According to an early 17th century English manual, "The Perfect Husband-Man is the father and master of the family . . . whose offices and imploiments are ever for the most part abroad or remoued from the house as in the field or yarde . . . our english Hous-wife . . . is the mother and mistris of the family, and hath most generall imployments within the house" (Markham 1969: 1,4). Another contemporary English observer described "the man to get, to trauaile abroad, to defende: the wife, to save that which is gotten, to tarrie at home to distribute that which cometh of the husbandes labor . . . and to keepe all at home neat and cleane" (cited in Houlbrooke 1984: 106). This philosophy was reflected in the division of household labor among family members and is discussed in the next section of this chapter.

Children were expected to obey both parents, and were socialized early for their future roles. Once able to walk, boys would join their fathers in the fields and girls would assist their mothers with the domestic chores. Formal instruction for children began as early as

age four or as late as age six, and included religious education. The great majority of adolescent children eventually entered some form of service or apprenticeship.

Nearly fifty percent of husbandmen had at least one servant, and this figure increases to seventy-two percent for yeoman (Houlbrooke 1984: 173). Servants in the household were also required to obey both the husband and the wife, and most appear to have been treated well. A servant's duties mirrored the traditional roles and obligations of men and women. Female servants assisted with the running of the household, while male servants worked in the fields.

The average yeoman family in 17th century England contained approximately ten members. These included the husband, his wife, an average of four children and an average of four servants (Anderson 1971: 15-16). Of the four servants, one or two might live in the same household, while the others returned to separate households in the evening.

One of the characteristic features of English farmsteads, regardless of their location, was the continuity of occupation by the same family and its descendants. Farms were rarely divided, and younger sons were often forced to look for land elsewhere. The importance of property made knowledge of ancestry and kindred essential among post-medieval English landholders. Kin relations were instrumental for providing contacts, legal assistance, loans, and for determining lines of inheritance (Houlbrooke 1984: 39-62). Marriage was, of course, a primary way to align oneself with new kin. In

post-medieval England, it was not unusual for young adults to spend several years in servitude and thus postpone marriage until age 25 or slightly later (Houlbrooke 1984: 63). These demographic and behavior patterns were reflected in the size, layout, and composition of English farms. The next section describes the material element of the 17th century English household and homelot.

The Household and Homelot in 17th Century England: Material Culture

Seventeenth century England contained an extensive variety of regional folk cultures which can be loosely grouped into a highlands and a lowlands section (Figure 1). Nearly all colonists to the Chesapeake came from the lowlands, which is further described by two general areas: champion and woodland regions. The champion regions of 17th century England were characterized by wheat production and sheep husbandry. These districts contained nucleated villages surrounded by three large, open fields up to one-half mile square. These fields were cultivated on a strict system of rotation reviewed by a village council. Permanent meadows for grazing, woods and streams were also included in these districts. In the woodland areas, dairying and pasture farming formed the economic basis, although some grain was grown. These areas consisted of small hamlets or farmsteads with individually owned fields demarcated by ditches, walls and hedgerows (cf., Anderson 1971: 7-13).

The material element of the household in 17th century England consisted of the dwelling, associated service structures, the immediate dwelling yard, the garden and

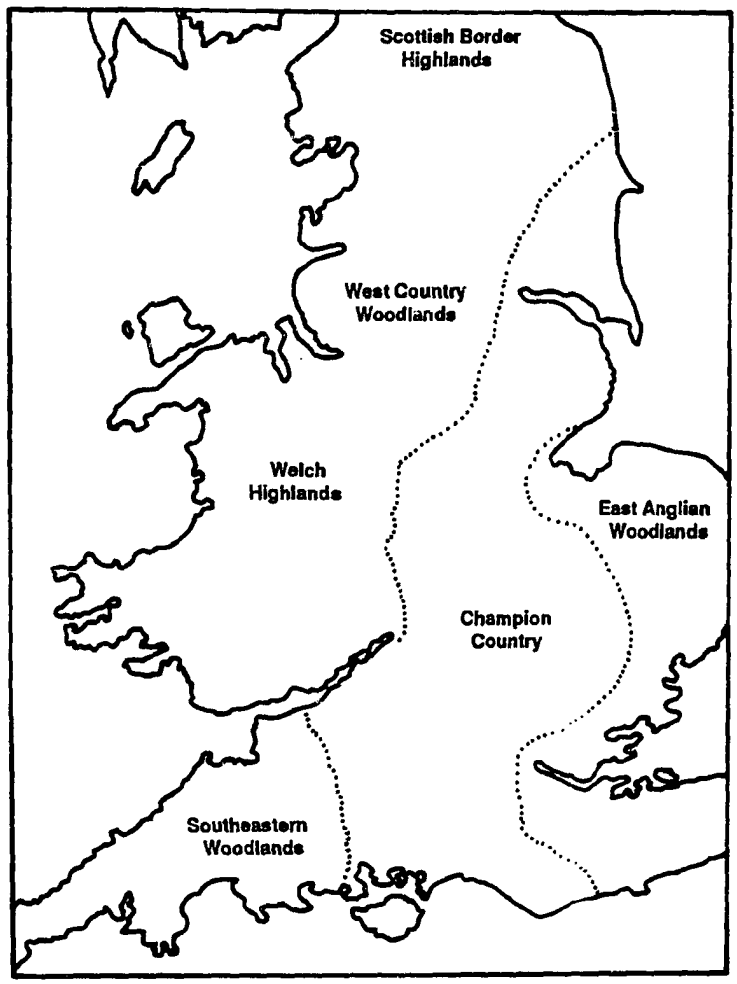


Figure 1. Highlands and lowlands sections of England (Source: Anderson 1971).

orchard, and barns and other agricultural buildings. The homelot and its boundaries formed the primary sphere of interaction for the English family; the persons who moved freely within this domain defined its members. Both laws and social rules carefully regulated access to a yeoman's holding by outsiders. This is confirmed by the relative safety family members could expect within the confines of the homelot. In a study of medieval English peasant families, the majority of homocides and other violent crimes took place in village fields or other commonly held areas and only rarely in the household and its associated yards (Hanawalt 1986). This pattern probably persisted in the post-medieval period.

Not surprisingly, the form of English houses, their associated service structures, and the homelot varied from region to region. Differences are also evident among different socioeconomic groups (cf., Horn 1988). Nearly every house, however, including those of the poorest farm laborers, contained at least a hall and a chamber (an upstairs room). Most houses had a third room, usually a parlor on the ground floor. The average husbandman's house contained five basic rooms, including a hall, parlor, buttery and two chambers over the hall and parlor (Anderson 1971: 18). This pattern was also found to exist in the Vale of Berkeley, located just north of Bristol (Horn 1988: 77- 78). Auxiliary service rooms and structures detached from the main dwelling appeared with increasing frequency after 1600 (Barley 1967). In the southeastern counties, these often included a milk house (or dairy), a bake house and a brewhouse (Anderson 1971: 18).

In order to examine the types of rooms and auxiliary structures of English households, including their contents and inferred functions, English room-by-room probate inventories were consulted. The sample included 158 room-by-room probate inventories from mid-Essex, England (Figure 2), recorded between 1635 and 1700. The majority of these inventories (137, or 86.7 percent), however, were actually recorded between 1660 and 1700. These inventories contain listings of rooms and separate service structures and their contents made by members of the local community, providing unparalleled information for studying household structure in 17th century Essex (Steer 1969). These documents are well-suited for an "intrasite spatial analysis," constituting field records made three centuries ago.

Like any other historical document, however, probate inventories must be used cautiously since many inherent biases can affect the quality of the data and the interpretations. For example, not all decedents are necessarily represented in a sample of inventories, since the estates of poorer individuals were rarely probated in 17th century England. Probate inventories also record the status of an individual at the end of his/her life, when individuals are usually most wealthy and the most improvements to a dwelling have been made. Biases also exist among inventory takers, who may incorrectly identify certain rooms or not specify others. Finally, the best-housed English farmers were those of Essex and Kent, because of convenient access to London markets (Stone 1982: 165), and these inventories reflect that. Nonetheless, probate inventories are one of the few

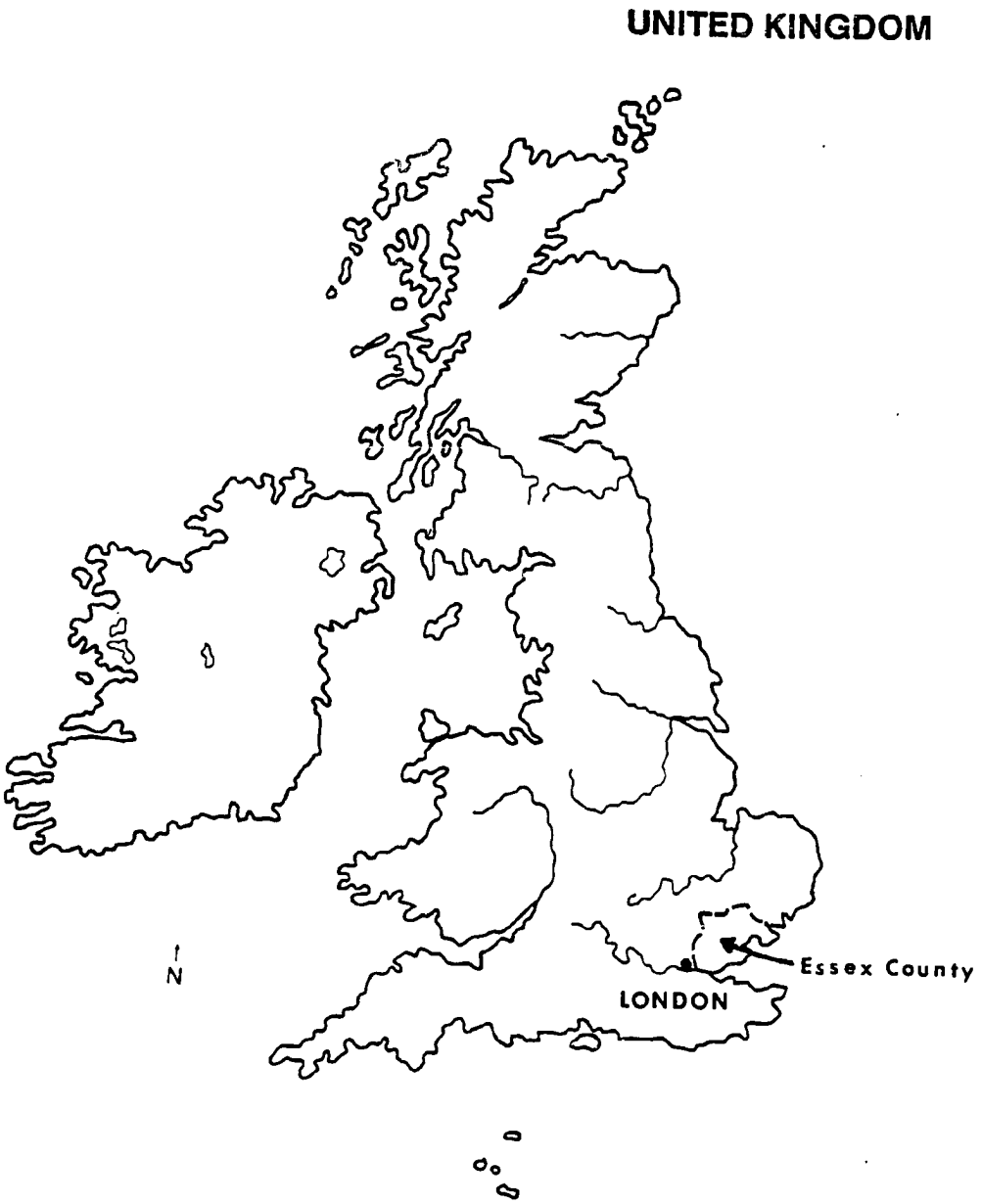


Figure 2. Location of mid-Essex, England (Source: Steer 1969).

sources of data on the nature of 17th century dwellings, and the information they contain is considerable.

The mid-Essex probate inventories were transcribed and compiled from original documents in the late 19th century by Francis Steer (Steer 1969). According to Steer, these documents were made by "creditable persons" who assessed the value of a deceased individual's material goods, including household goods, money, debt, livestock and farm produce. Material items were often recorded by place of location, such as dwelling rooms, service structures and farm buildings. It is this information which allows a reconstruction of English dwelling rooms, their contents and their inferred functions.

Although the mid-Essex inventories are detailed in the information they contain, it is sometimes difficult to determine which rooms are part of the dwelling and which are included in detached service structures. This problem has been recognized in probate inventories from all areas of England (Barley 1963: 480). For this reason, all categories of rooms and/or separate structures were treated in this study as individual units of space. When the term used to describe the room clearly designates a room within the dwelling or contained in a separate structure, this distinction is noted.

Of the 158 probate inventories from mid-Essex, 43 percent describe households with five, six, or seven "rooms" or differentially designated spaces (Table 1). Nearly 20 percent of the inventories include eight, nine or ten rooms, and slightly more than

Number of Inventories Where Present

No. of Rooms/Buildings:	No.	% of total
One	0	-
Two	0	-
Three	5	3.2
Four	12	7.6
Five	16	10.1
Six	27	17.1
Seven	25	15.8
Eight	15	9.5
Nine	12	7.6
Ten	4	2.5
Eleven	9	5.7
Twelve	14	8.9
Thirteen	9	5.7
Fourteen	5	3.2
Fifteen +	5	3.2
TOTAL	158	100.0

Table 1. Number of rooms/structures and frequencies of each forprobate inventories from mid-Essex, 1635-1700.

one-quarter listed eleven or more rooms. Only 3 percent of the inventories describe households of three rooms, and 7 percent include four rooms.

All but three of the dwellings recorded in the inventories contain a hall, and more than 90 percent list a parlor in the dwelling (Table 2). Possessions found in the hall usually included tables, chairs, stools, chests, cupboards, cooking equipment, pots, frying pans, pothooks, some pewter, and fireplace equipment. A few halls also contained such amenities as books, candlesticks and chair cushions (cf., Steer 1969).

The majority of parlors contained bedsteads and beds, tables (some covered with carpeting), chairs, frequently of leather or with cushions, chests, cupboards, linen, and pewter. These rooms appear to have been used both for sleeping and as formal sitting rooms. By the late 17th century, however, 15 parlors (almost 10 percent) contained no beds or bedsteads at all, and this trend continues in inventories taken after 1700. In these dwellings, the parlor was being used as a formal sitting room, with sleeping relegated to upstairs chambers.

Ninety-three percent of the inventoried dwellings contained at least one buttery and over one-quarter contained two. Butteries were used primarily for the storage of kitchen equipment and supplies, including iron pots and frying pans, pewter and wooden dishes, kettles, wooden tubs, pails, barrels and one or two cupboards. In households without a brew house, brewing equipment could be found in the buttery. In addition to the buttery, two-thirds of the households had a milk house, or dairy, as this room was coming to be

Room/Building Designation:	Number of Inventories Where Present No.	% of total
Hall	155	98.1
Buttery	147	93.0
Parlor	144	91.1
Hall Chamber	114	72.2
Parlor Chamber	108	68.4
Kitchen	86	54.4
Barn	61	38.6
Buttery Chamber	51	32.3
Milkhouse	51	32.3
Dairy	48	30.4
Stable	44	27.8
Second Buttery	43	27.2
Cheese Chamber	39	24.7
Kitchen Chamber	35	22.2
(TOTAL NUMBER OF INVENTORIES:	158)	

Table 2. Types of rooms/structures and frequencies of each (includes only rooms/structures that occur in frequencies of 20 percent or greater) (Source: Steer 1969).

called. The milk house or dairy could have been a room in the main dwelling or a separate structure adjacent to the dwelling. Milk houses and dairies, as their names imply, contained items used in the processing of dairy products, including wooden cheese presses and molds, bowls, pots, kettles, storage pots and, of course, cheese and butter.

Slightly more than one-half of the inventories also listed a kitchen. All of these inventories listed a hall as well, indicating that 'hall' and 'kitchen' were not simply interchangeable terms but rooms that served different functions. Kitchens provided space for the growing amounts of equipment needed for baking, brewing, and so forth, and they also served as a work room. In this early period, kitchens were furnished with tables, chairs and cupboards, and housed pots, skillets and other cooking equipment, knives, dishes, kneading troughs, tubs, baskets and, in a few cases, bird cages. There is some evidence that a few kitchens may have been housed in detached structures. The detached kitchen in England dates to the medieval period, but, by the 17th century, most kitchens were included in the farm dwelling (Barley 1963: 492; 1967).

Nearly three-quarters of dwellings had at least one chamber, or upstairs room, and two-thirds had two. Chambers were most often located above the hall and parlor and designated "hall chamber" and "parlor chamber." Chambers appear to have been used primarily for sleeping and secondarily for storage. Beds, bedsteads, chairs, chests and linens occur in nearly all hall and parlor chambers. In many cases, wheat, malt, barley, apples, cheese and wool were often stored in chambers. Kitchen chambers, when present, were also used for both storage and sleeping. Designated servant's chambers occur in

nearly 11 percent of the inventories, although servants could have been easily lodged in kitchen chambers. Rooms above milk houses, dairies, butteries and other service buildings were used primarily for storage.

Brew houses occurred in nearly one-quarter of the inventories. Brass pots and kettles, tubs, malt and other "bruing vessels" (Steer 1969: 175) for the production of beer were kept in these structures. Shops were listed in 16 percent of inventories. Tools were most often found in these rooms, but other items could be stored there as well. Other rooms/structures that appeared include malt houses (10.1 percent), bolthouses (7.6 percent), quarne houses (4.4 percent), kiln houses (3.2 percent), bake houses (2.5 percent) and wash houses (1.3 percent). These rooms, not surprisingly, are generally associated with wealthier households.

This brief analysis confirms Anderson's (1971: 17-18) statement that the typical husbandman's home was a full two- stories, usually with a hall, parlor and buttery on the first floor, and two or three upstairs chambers. Many households also had a milk house/dairy and a kitchen. A few households had second butteries and brew houses; a smaller number boasted bake houses, kiln houses, bolt houses and quarne houses. Figure 3 shows a typical room and building arrangement for mid-Essex farmhouses based on the inventory analysis and surviving farmsteads of the 17th century. The monetary values of the sampled estates are positively correlated (Spearman's r = .7891) with the number of rooms, indicating that wealthier farmers were able to create functional divisions of space through the multiplication of service rooms/structures.

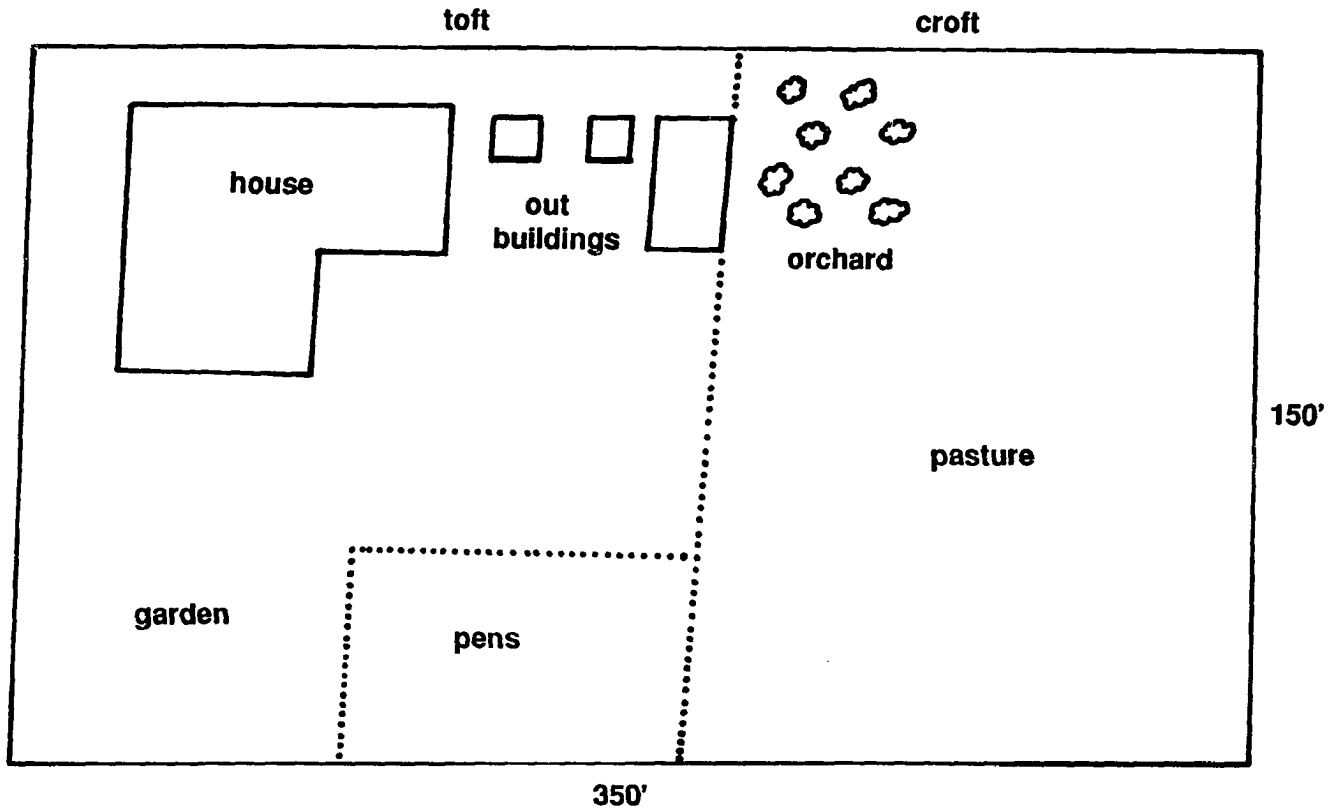


Figure 3. Typical building and yard arrangement for 17th century mid-Essex farms (Source: Anderson 1971).

Room functions in these 17th century mid-Essex households have been inferred by the items found in them. Halls were used for food preparation and cooking and as dining and living rooms. Fireplaces were almost always located in halls, judging by the fireplace implements found there, and fires were probably kept burning. Kitchens, when present, were also used for the preparation and cooking of meals, as well as for baking, brewing and storage. Butteries functioned as pantries, and cooking equipment, dishes and foodstuffs were kept in these rooms, sometimes in a cupboard or two. Parlors were generally used for sleeping, although the evidence suggests a trend towards using parlors solely as formal sitting rooms. Upstairs chambers were used for sleeping and storage. In the homes of the very wealthy, domestic chores were removed to specialized rooms or structures, such as brew houses, bake houses, wash houses and so forth.

In addition to the dwelling and associated outbuildings, the typical 17th century English homelot included the yard, orchard and an enclosed pasture. The house, its outbuildings and yard were referred to as the "toft" while the orchard and pasture were called the "croft" (Anderson 1971: 28). The yard, or toft, included the garden, animal pens, chicken houses and dairy barn, and was primarily the domain of the housewife, her daughters and any female servants. In tolerable weather, many chores, particularly brewing and laundering, were moved into the yard. The croft included other barns, bee hives, dovecotes and the orchard, and was managed primarily by the husbandman and his sons.

The spatial layout of the typical farm indicates that the homelot formed the "inner zone" of the farm, while the fields and buildings distant from the dwelling formed an "outer zone" (Anderson 1971: 28) (cf., Figure 3). This distinction between inner and outer zones occurred consistently on farms in both champion and woodland country, although the outer zone and its distance from the homelot varied from region to region.

The English colonists who journeyed to Maryland and Virginia in the 17th century were not unfamiliar with the 'typical' farmhouse and farm lot described above. The uniformity of this style in 17th century southeastern England - the area that sent the most colonists to the Chesapeake - suggests a fairly homogenous "mental template" (Deetz 1977: 45-49) carried by the immigrants to the Chesapeake.

The 17th Century Chesapeake Household: Demographic Composition and Behavior

The Chesapeake Tidewater had been visited by Spanish and English explorers throughout the 16th century, and a Spanish mission may have even been located in the region. It was not until 1607, however, that a permanent settlement was established by the English at Jamestown, Virginia (Figure 4). At first, the tiny colony suffered from disorganization and misfortune, compounded by a lack of obvious riches and an elusive indigenous population. The colony underwent a number of administrative reorganizations in an effort to resolve these problems. More significantly, however, tobacco was discovered to thrive in the rich alluvial soils of the Chesapeake coastal plain and the demand for tobacco by both English and European markets saved the Virginia colony.

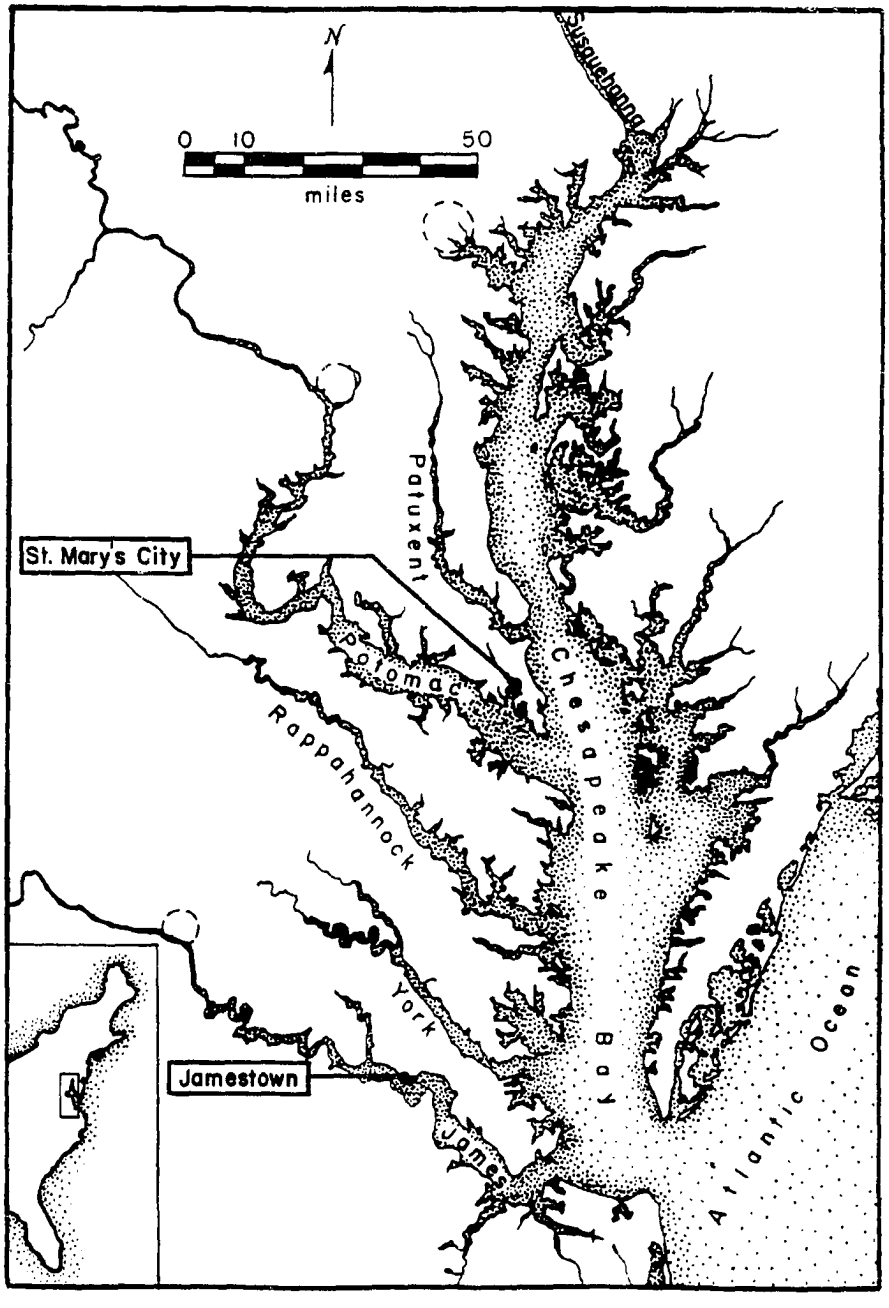


Figure 4. The Chesapeake region, showing Maryland and Virginia (Source: St. Mary's City Commission).

Tobacco cultivation rapidly escalated in the Chesapeake: exports rose from 2300 pounds in 1616 to 200,000 pounds by 1624 (Nash 1974: 53). By the time permanent settlement was established at St. Mary's City, Maryland (cf., Figure 4), in 1634, exports amounted to nearly 3,000,000 pounds and tobacco was the economic foundation of the Chesapeake. The "sot weed" proved to be a demanding crop, requiring fertile soils and lots of it, access to markets and a large labor force. This labor was provided by the tens of thousands of European immigrants who found their way to the Chesapeake in the 17th century.

Beginning in 1607 and continuing through the century, both Maryland and Virginia received large numbers of immigrants, and it is this factor that influenced the social and economic development of the Chesapeake (cf., Menard 1975). The Chesapeake colonies depended on immigration from abroad to sustain population growth due to a high death rate. Even so, over a hundred thousand immigrants came to the Chesapeake in the 17th century, but only 70,000 were living there in 1700 (Menard 1980: 9). By the turn of the 18th century, despite more than sixty years of colonization in Maryland and more than ninety in Virginia, the native-born population in several counties numbered only one-half or slightly more of the total population (Main 1982: 15). Seventeenth century Chesapeake society was predominently an immigrant society.

The majority of colonists that arrived in the Chesapeake in the 17th century came from England, although a small number came from Ireland, Holland, France and Africa. Population, prices, and the number of unemployed in England were on the rise in the 16th

and the first half of the 17th centuries. Persecution, harvest failures and the decline of the cloth trade may have also provided the impetus for immigration. The character of this immigrant society has been of considerable interest since the early 1970s, and Chesapeake historians have used ship' lists, headright lists, probate inventories and other surviving documents to reconstruct the origins, demographic composition and economic and social conditions of these people (cf., Tate and Ammerman 1979; Main 1982; Carr et al 1988).

Although colonists to the Chesapeake came from all over England, the majority of immigrants to the Chesapeake came from the southeastern part of the country; that is, London and the Home Counties, and from the lowlands around Bristol. Between 70 and 85 percent of the immigrants to the region arrived as servants (Horn 1979: 54). In exchange for transportation to the colonies, an immigrant would bind him or herself to a planter for an agreed-upon term of service. Most immigrants came from agricultural backgrounds, either as semi-skilled or unskilled laborers, and a large number were textile workers (Horn 1979). The terms of service varied according to each contract, but the average was seven years. The majority of these servants worked as farm hands, were fairly well-treated and their material conditions were not very different from most ordinary planters (Main 1982).

The immigrant population that arrived in Maryland and Virginia was overwhelmingly male. Male servants were preferred by Chesapeake planters who primarily demanded farm labor. Traditionally, field work was the responsibility of men, and this role structure

persisted in the Chesapeake. Women did immigrate to the Chesapeake, but in much fewer numbers. It is estimated that as few as one of three immigrants was female (Menard 1973). The resulting unbalanced sex ratio persisted to the end of the 17th century.

Morbidity and mortality were high for 17th century immigrants to Maryland and Virginia. Many immigrants died soon after their arrival in the colonies, unable to survive what was known as the "seasoning," or the process of initial adjustment to a new and different environment. Unfortunately, the number of deaths resulting from the seasoning has not yet been estimated (Menard 1975: 181). If a male immigrant survived seasoning, though, chances are he would only live to the ages of 40 to 45 (Menard 1975: 182). Women may have lived slightly longer lives than men, but every pregnancy posed life threatening risks. Children were also at risk: an estimated 40 to 55 percent of the children born in 17th century Maryland died before age 20 (Walsh and Menard 1974: 193).

These three factors, then - servitude, an unbalanced sex ratio, and a shorter life expectancy - placed severe limitations on the formation of traditional families in the Chesapeake. Many immigrants were simply unable to form families. In the earliest years of colonization in Maryland, as many as one-half of male colonists died unmarried (Menard 1975: 76); by the second half of the century, the gap had narrowed, but was nonetheless substantial. Over one-quarter of the men who left estates died unmarried (Menard 1975: 323-9). Many of these unmarried men joined with another unmarried

man, or "mate," to form households (Menard 1975: 98); in the event one of the men located a wife, the wife would come to live in the household.

Of course, households with the traditional components of husband, wife and children did form, but the traditional family relationships were strained and less easily replicated in the 17th century Chesapeake (Walsh 1979: 127). Servants were generally unable to marry before the end of their terms, so most men and women married later than their contemporaries in England. Women usually married in their mid-twenties and those men who married did so in their late twenties. Because the child-bearing years were cut short by servitude and by early death, families were small, and most couples produced only two or three children (Walsh 1979: 128).

In both Maryland and Virginia, most children could expect that one or both parents would die before the children reached the age of sixteen (Walsh 1979; Rutman and Rutman 1979). Usually the surviving spouse remarried and children were produced from this second union. Hence, the nuclear colonial family might well consist of husband, wife, children and stepchildren. Some historians feel that the presence of natural children and stepchildren in the same household provided more opportunity for conflict and increased tensions (Walsh 1979: 132).

Households in the 17th century Chesapeake may have been more likely to have had servants than those in England, although the evidence is not conclusive. One-half of English husbandmen's households had at least one servant, and nearly three-quarters of

wealthier yeoman households had one or more servants. In Maryland, at least two-thirds of households had one or more servants, most bound for at least five years (Main 1982: 158-60). Even the poorer households, worth less than L100 sterling, usually included one and sometimes two servants (Main 1982: 108).

The families of the 17th century Chesapeake lacked the kinship networks familiar and important to English families. Orphans without an estate for support might be bound out as servants (Walsh 1979) while other orphans might fall victim to an unscrupulous stepfather. Children could, however, exercise more independence in their choice of a marriage partner. During the 17th century, surviving younger children also had much better opportunities for acquiring land than did their counterparts in England.

By the turn of the 18th century, demographic conditions in the Chesapeake were changing. Servant emigration to the region was declining by the 1670s and 1680s (Main 1982: 200), and a native-born population had begun to emerge. A number of persons, particularly single men, were leaving the region in search of better opportunities elsewhere (Horn 1987). These two trends contributed to a more balanced sex ratio.

Consequently, people married younger, often with the benefit of an inheritance from their parents. Women married in their late teens and produced an average of four to five children, two more than their immigrant mothers (Kulikoff 1986: 42). Although age at marriage fluctuated in the 18th century depending on the availability of land, the number of children per couple continued to increase and may have averaged as high as ten

children by the Revolutionary War (Kulikoff 1986: 57). The families being formed in the Chesapeake in the late 17th and 18th centuries produced as much as one-third more offspring than their contemporaries in England (Kulikoff 1986: 57, n. 23).

Neighborhood communities included large numbers of relatives, who increasingly organized their social life with their kin relations. By the mid-18th century in Prince George's County, Maryland, for example, one-quarter of marriages were celebrated between blood relations, and kin networks provided "meaningful social interchange" for colonial society (Kulikoff 1986: 205-60).

Although servant immigration began declining in the late 17th century, the demand for labor remained high. As the number of servants decreased, demand for and the price of indentured servants necessarily increased. Chesapeake planters were forced to seek an alternative labor source in the form of black slaves. The transition to slavery, however, was not immediate. Chesapeake planters did not invest in substantial numbers of slaves until the second half of the 1690s, twenty years after the decline in white servants had begun (Menard 1977: 363-75). By the early 18th century, black slaves constituted the majority of the unfree labor force, although white servants were still available (Kulikoff 1986: 41).

In summary, then, many of the earliest Chesapeake households contained a typical English nuclear family, consisting of a husband, wife, one or two children and possibly one or two servants. Many households also included stepchildren. Still, a significant

number of men were unable to find wives, and these planters often joined with a second unmarried planter to form a household. By the end of the 17th century, however, a native- born population had begun to emerge and the sex ratio was becoming more balanced. Nearly all households were still constructed around the familiar nuclear family. Kin members outside the nuclear family, however, appeared more frequently in colonial neighborhoods, reinforcing family and community ties. Finally, white servants gave way to permanently unfree black slaves.

Documentary evidence for family and family structure in the colonial Chesapeake suggests that, although the colonists attempted to replicate traditional English social institutions, the demands of the frontier environment limited the development of these institutions. The nuclear family still formed the basic economic and social unit, but the composition of this family unit varied from that found in 17th century England. Many men never did become members of families in the traditional sense, but only of households. Families did, of course, form, but conditions in the Chesapeake kept them small and of short duration due to a comparatively high morbidity and mortality rate. What did persist, remarkably unchanged, were the traditional roles of daily behavior. A division of labor based on gender, age and status was transported virtually intact to the Chesapeake.

Although the structure of the colonial family differed significantly from the traditional English family, for the most part, the traditional roles of men and women appear to have been transplanted to the Chesapeake with little modification. In the Chesapeake family,

men were considered heads of households with authority over other household members. These husbands were responsible for the production of tobacco and for any contacts outside the household, whether economic, legal or political. This is dramatically reflected in the surviving historical records which almost always concern men. Wives, less visible in the documents, were in charge of the household and its operation. Some able females may have been required to work in the fields, but this generally was not the case, even in the labor intensive production of tobacco (Carr and Walsh 1977). Like their counterparts in England, adult Chesapeake women were responsible for the dairy, the poultry, the pigs, the garden, food processing and preparation, child-rearing and the myriad of domestic chores that left little time for tobacco cultivation.

The importance of these roles for structuring the division of labor and the acceptable and efficient operation of the household cannot be underestimated. A large number of unmarried planters purchased female servants. A majority of the poorer planters who could afford one or, at most, two servants often chose a female servant; nearly thirty percent of women servants were owned by planters of the poorer classes (Main 1982: 108). While female servants may have been less expensive, it was also a method for achieving the traditional operation of the household. When a wife or female servant was not available, two or more unmarried men would establish a household in the interest of economy of labor.

The Colonial Chesapeake Homelot: Documentary Evidence

As noted earlier, tobacco was the focus of Chesapeake economy and life. Consequently, the settlement pattern that developed in the Chesapeake was distinctive. Most Chesapeake colonists lived on plantations that were dispersed along the river and creek networks, ranging from one-half to one-mile distant. Plantation houses were almost always located within 1000 feet of the waterways, and most were within 500 feet (Smolek 1984). Also noted earlier in this chapter, most immigrants to the Chesapeake came from the woodland areas of England, where indivdual farmsteads were surrounded by fields (Horn 1986). These colonists may have found the Chesapeake form of settlement familiar, differing only in scale.

Towns never developed in the Chesapeake region, despite political and legal efforts to create them (cf., Carr 1974). In Maryland, the colonial Assembly made a number of attempts to establish port towns. A few such towns are shown on the 1673 Augustine Hermann map, and these hamlets probably consisted of nothing more than a few dwellings. Archaeological and historical investigation at the site of late 17th century Harvey Town, located on the Patuxent River in what is now St. Mary's County, revealed a dispersed cluster of no more than five or six households (Reeve 1989 et al). Only St. Mary's City, the provincial capital, grew to the size of an English village, and was particularly populous during meetings of the Assembly and courts.

The households created in the 17th century Chesapeake attempted to replicate the farmhouses left behind in England. The earliest dwellings constructed in Maryland and Virginia are the result of a conscious effort to transfer familiar building types to the Chesapeake. St. John's was constructed by John Lewger in 1638, only four years after the founding of the Maryland colony. This fairly substantial house was box-framed on a continuous cobblestone foundation, and was "well-built, a product of the English housing revolution in a place where durable dwellings were a prerequisite few could afford" (Carson et al 1981: 185). At about the same time, Thomas Cornwaleys, a major plantation owner and merchant, constructed a dwelling with six rooms, a kitchen, servant's quarters, bake house, storehouses, barn and granary at nearby Cross Manor on St. Inigoes Creek (Stone 1982: 399-401). Another early house, St. Peter's, consisted of a dwelling, kitchen, bake house, servant's house, corn house, little store house, thatched storehouse and cow house in addition to the dwelling (Stone 1982: 174).

These plantations, established in the earliest years of the Maryland colony, were owned by those few men with titles. Early Maryland society was rigidly stratified, with these manor lords controlling land, capital and most of the unfree labor (Menard 1975: 100). Although the manorial system worked during the earliest years of settlement, the changing character of the immigrant population and the available opportunites transformed Maryland into a colony of middling planters not clearly distinguished by wealth, education or birth (Menard 1975: 268). These conditions are reflected in Maryland plantations constructed after c. 1650.

In a study of 111 room-by-room probate inventories recorded between 1660 and 1719 from six Maryland counties, Gloria Main found that the poorest third of planters lived in structures of only one or two rooms. The second room was often a loft above the heated ground floor. The middle third generally lived in dwellings of three rooms, including two rooms on the ground floor with a loft above. These households often had an auxiliary structure, usually a detached kitchen or quarter. The top third of households lived in dwellings of five or six rooms, with anywhere from two to six detached service structures (Main 1982: 152-3). Although Main suggests that the dwellings of 17th century England were not necessarily larger (Main 1982: 153-154), both the Essex data described earlier and evidence from the Vale of Berkeley in England (Horn 1988) suggests that Chesapeake dwellings were indeed smaller and cruder. These data strongly indicate that colonial Chesapeake families were comparatively crowded in their living quarters. The poorest third of planters averaged two to three family members per room (not including servants). The middling third averaged one to two individuals per room, while the richest third averaged less than one family member per room. These figures increased when servants and slaves are taken into consideration (Main 1982: 159).

Based on the room-by-room probate inventory analysis, Main found that Maryland's dwellings consisted of "core room pairs" around which additions were made. These "core pairs" included 'outer and inner rooms,' 'hall and chamber,' or 'hall and kitchen' combinations (Main 1982: 162). In the first two examples, cooking and other daily living activities took place in the outer room or in the hall; both rooms could also be used for

sleeping. Inner rooms and chambers were used primarily for sleeping. In the last example, cooking and other household tasks occurred almost exclusively in the kitchen, while household members often slept in the hall.

The term "parlor", so prevalent in the 17th century Essex inventories, was used to describe a room used for both sleeping and dining, but appeared in less than one-third of the probate inventory sample (Main 1982: 161). The use of the term "buttery occurred in fewer than 10 percent of the room-by-room inventories, and the storage function it served in mid-Essex may have been subsumed by the colonial milk house or cellars. Milk houses appeared in fewer than one-third of inventories. The contents of this structure indicate use primarily for dairying and storage, although a few were used for cooking and even sleeping (Main 1982: 161, 293). Lofts occurred in 17 percent of inventories, and appear to have been used for sleeping and for storage (Main 1982: 293).

The term "kitchen" was used in 71 percent of the Maryland inventories, and material items located there indicate it was used primarily for cooking and secondarily for other domestic chores. Chamber was mentioned in 82 percent of the room by room inventories, usually as an upstairs bedroom, although chambers were occasionally found on the ground floor. Stores were mentioned in one-third of inventories, and were mostly confined to wealthier households. These unheated, separate structures were used for storage of new goods (Main 1982: 294).

Separate quarters were sometimes constructed for servants or slaves, particularly in the wealthiest households. These buildings appeared in more than one-third of inventories worth more than L150. In some cases, these quarters were located elsewhere on the plantation or at other plantations held by the head of the household. Servants were also housed in lofts above kitchens or in other detached structures (Main 1982: 161-62).

In a comparative analysis of living standards between the Vale of Berkeley in England and two counties along the lower Potomac in the Chesapeake, Horn found that "the most important conclusion to be drawn . . . is the great poverty experienced by most Chesapeake planters during the 17th century" (Horn 1988: 88). According to Horn, even the poor in England were better off than many middling planters in the Chesapeake. He describes crowded living conditions in one or two rooms that served most domestic functions. The division and segregation of domestic space according to gender and status so prevalent in the English household was not as easily achieved in the Chesapeake household.

These conclusions are supported by Main's findings and the Essex data as well. Middling planters in the Chesapeake lived in dwellings of three rooms, sometimes with a detached service structure. Ninety percent of the farmers in mid-Essex lived in households with at least five and usually more "rooms" and/or auxilliary structures. While the Essex inventories are biased toward wealthier farmers, the gross differences between the two populations are so large that inventory bias cannot account for all of the discrepancy. While one-quarter of the Essex farmers lived in structures of eleven or more

rooms, only a very small percentage of the members of Chesapeake society lived in households with a comparable number of spaces.

Elements of the 17th century homelot besides the dwelling and associated outbuildings included some provisions for the family's livestock. Even the poorest households kept an average of ten cattle (Main 1982: 62). Cattle were rarely penned or housed in the 17th century, and were usually left free to graze in the natural meadows provided by swamps or in harvested corn fields (Earle 1975). Nearly every household also owned pigs, which were allowed to run in the woods and were encouraged to run in the yards. The pig was considered "the Husbandmans beft Scavenger, and the Hufwifes most wholefome finke, for his foode and living is by that which would elfe rot in the yard make it beaftly" (Markham 1969). This reference alludes to the 17th century practice of garbage disposal: usually outside doors and windows into yard middens.

Sheep, prevalent on 17th century English farms, were rare in early colonial Virginia and Maryland. Of 42 inventories recorded between 1638 and 1665, only three list sheep. This observation is supported by pre-1660 archaeological faunal assemblages, which contain few sheep bones (Miller 1986b: 9). After about 1660, sheep become more common. Between 1660 and 1720, one-quarter of the poorest households kept sheep, while about one-half of middling households owned sheep (Main 1982: 62). Sheep required considerably more care and investment than either cattle or pigs. They had to be penned and protected from predators. In a frontier society where labor was both costly and in short supply, colonists' attention was demanded by tobacco (Miller 1986b: 10).

Horses were kept by some planters and were apparently allowed to roam as well, although the round-up of horses was not as easy as cattle (Main 1982: 63). Some plantations had stables but references to these structures are few (Keeler 1978: 83).

Nearly every household had a garden in 17th century Maryland and Virginia which was tended by the housewife or a female servant. Both vegetables and herbs were raised in the garden, which was almost always enclosed for protection from the free- ranging livestock. Garden produce included peas, beans, sweet potatoes, turnips, onions, potatoes, carrots and asparagus (Gardiner 1973). Wealthier households often had orchards, predominantly containing apple trees. Located close to the homelot, surviving references indicate that some orchards may have contained as many as 100 to 150 trees (Keeler 1978: 97).

Like the colonial Chesapeake family, the material conditions of the household were also smaller and, in a sense, of short duration. Houses of only two or three rooms were not uncommon and, as Gloria Main has suggested, the landscape must have had a lonely and desolate character. Orderliness and permanence were simply not possible in a frontier society which emphasized tobacco cultivation. The next section of this chapter considers the layout and spatial relationships of Chesapeake households as revealed through archaeological investigation.

Archaeology of the Chesapeake Household

Archaeological data provide some of the most detailed information about the structure and use of domestic space. Excavated sites can produce a plan illustration of the 17th century house and homelot, the types and locations of outbuildings, and the spatial division of the homelot as revealed by the distributions of fencelines. Many of these studies, however, have not exhausted the potential of archaeological data for identifying functions of spatial divisions, relying instead on the work of historians using probate inventories to infer intrasite uses.

One of the earliest colonial sites yet examined in the Tidewater Chesapeake is at Martin's Hundred, located on the James River in Virginia approximately seven miles downstream from Jamestown. Wolstenholme Towne was the administrative center of the 20,000-acre Martin's Hundred tract, begun in 1619 (Noel Hume 1982: 65-6). The town lasted only three years, having been destroyed in the Indian uprising in March, 1622. The archaeological site of Wolstenholme Towne was discovered almost by accident and was subsequently excavated by archaeologists from the Colonial Williamsburg Foundation. Traces of a number of post-supported structures were revealed during the excavations. Buildings with evidence of substantial posts, measuring four or five bays in length by two bays in width and with evidence of chimneys were identified as dwellings. Unheated but substantial post structures were variously identified as stores or outbuildings, while flimsier post structures were labelled sheds (Noel Hume 1982).

While this study could identify the size and evolution of structures at the site, very little about room and building use could be said other than that based solely on architectural analogy and implicit assumptions about the arrangement of dwellings. However, the use of space was not necessarily a primary goal of that study.

Kingsmill Plantation is another James River land tract which has been archaeologically investigated and reported (Kelso 1984). A number of 17th and early 18th century sites were examined prior to the development of the property as a residential subdivision. The earliest sites discovered include Littletown Tenement and Kingsmill Tenement, both occupied in the 1620s. At Littletown Tenement, evidence for two phases of construction were recovered (Figure 5). The first phase includes a 'driven post' house site measuring 12.5-by-16.5-feet, which is believed to have been divided into two rooms, one of which was a narrow cooking room. At a slightly later date, a 41-by-18-feet post-supported structure was constructed in the same spot. The second building has also been interpreted as a dwelling (Kelso 1984: 58-65).

At Kingsmill Tenement, many more post-supported structures were found (Figure 6). The structure believed to have been constructed first is interpreted as a dwelling measuring approximately 50-by-18-feet. A second dwelling was constructed at right angles and in close proximity to this first house, measuring 40-by-18-feet with two shed additions on ground laid sills to form a "cross-plan" house. A second set of post holes in line with this crossplan house has been interpreted variously as a store (Carson et al 1981: 157) or as a barn attached by roof to the house (Kelso 1984: 71).

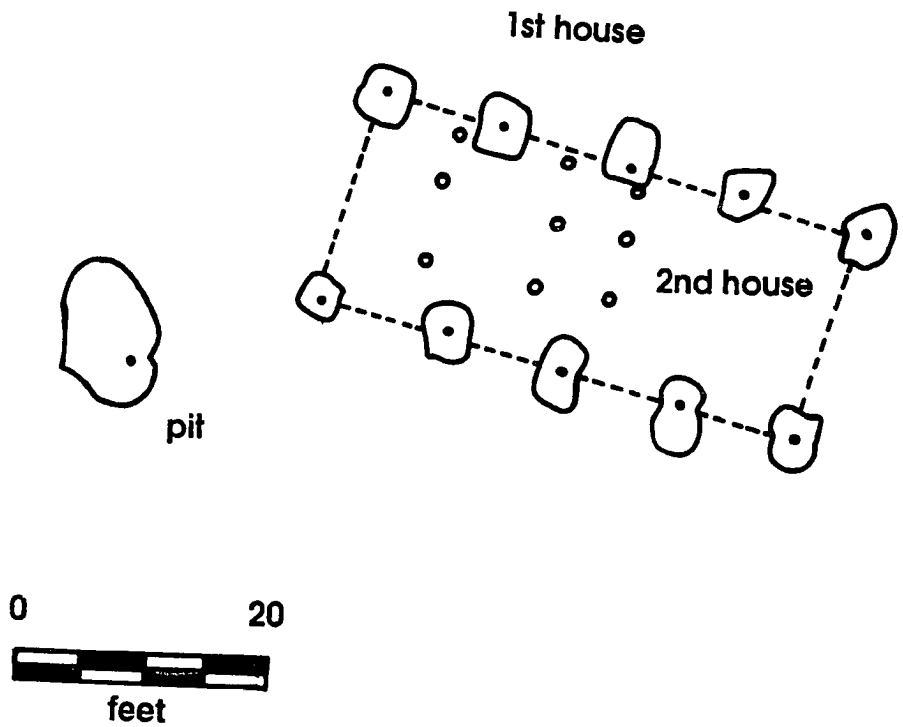


Figure 5. Structures at Littletown Tenement, Kingsmill, Virginia (Source: Kelso 1984).

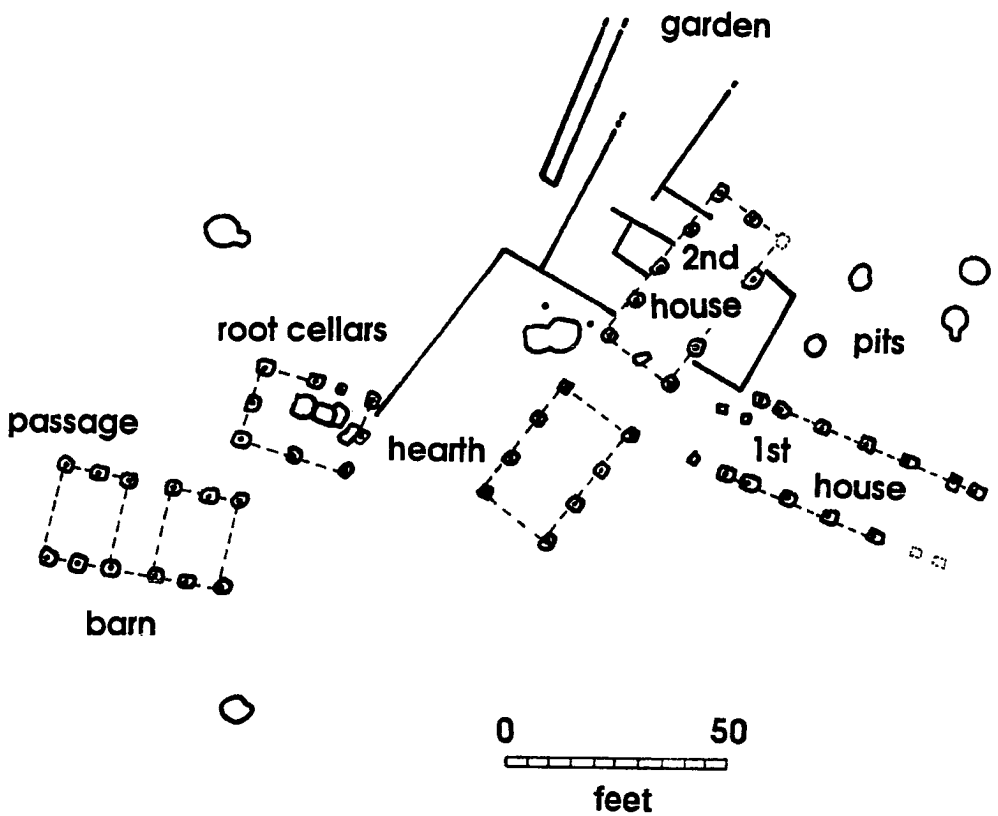


Figure 6. Structures at Kingsmill Tenement, Kingsmill, Virginia (source: Kelso 1984).

A fourth structure at Kingsmill Tenement has been interpreted as a kitchen. This building, located approximately 50 feet southwest of the crossplan house measured 20-by-18-feet with an area of severely burned clay. Several root cellars were also located in the interior of this building. Finally, a fifth post-supported building at the site has been identified as a barn with a central cross-passage (Kelso 1984: 59, 65-71).

The next phase of building at the Kingsmill property coincides with the occupation by Colonel Thomas Pettus beginning as early as the 1640s. Colonel Pettus' Littletown Plantation consists of Pettus' dwelling site itself and of Utopia, where tenants, servants or slaves may have resided. Considered one of Virginia's wealthier colonists, Pettus' dwelling was revealed as a "complex series of posthole/postmold patterns" (Figure 7) (Kelso 1984: 76). Constructed in at least two phases, the original dwelling measured 50-by-18-feet with an "east wing" attached by a small passage. The core dwelling was interpreted as being divided by a central chimney into an "equal hall-parlor plan." Sometime after 1660, a post-supported addition was added to the rear of the dwelling. A 4-by-9-feet brick and tile-lined feature was interpreted as the buttery while the rest of the post-1660 addition was identified as a kitchen. By this time, Pettus' dwelling had over 2500 square feet of space on its ground floor alone. A smokehouse, a structure tentatively identified as a quarter, and a possible third building were also found in close proximity (Kelso 1984: 73, 77-80). Pettus' dwelling was probably occupied until the end of the 17th century.

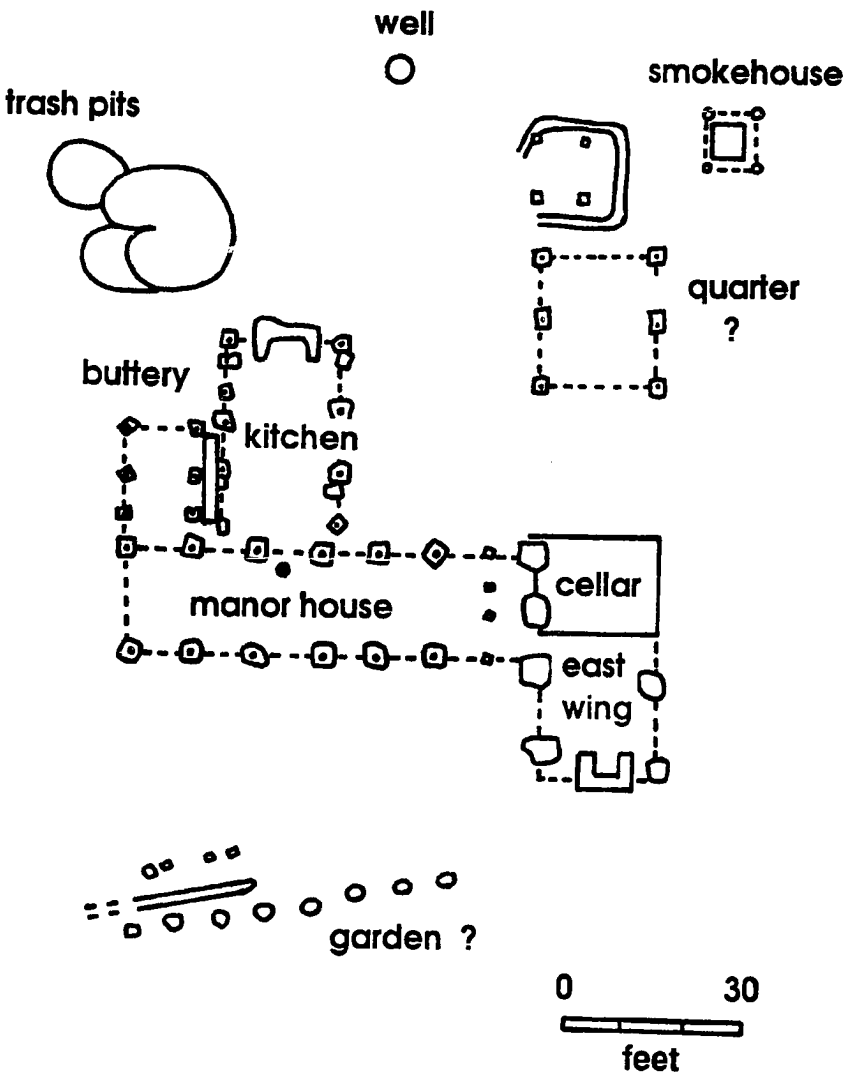


Figure 7. Colonel Pettus' Littletown Plantation, Kingsmill, Virginia (Source: Kelso 1984).

Utopia, occupied c. 1660 until c. 1700 by tenants, servants or slaves of Colonel Pettus, included a dwelling measuring 29-by- 18-feet with wattle and daub chimneys in exterior frame ends (Figure 8). A brick-lined cellar under the west half of the structure was accessed by a bulkhead entrance in the west gable wall (Kelso 1984: 73-5). A second smaller outbuilding is interpreted as having been used as a servant's quarter (Kelso 1984: 73, 104). An area south of the dwelling and enclosed by a paling fence is believed to have served as the garden, with a well within the enclosure (Kelso 1984: 73).

The late 17th/early 18th century plantation of Mareen Duvall of Anne Arundel County, Maryland, contained a complex arrangement of post-supported structures, fence lines and other archaeological features (Figure 9). Many of these structures were constructed throughout the site's occupation, which lasted until 1763. Fortunately, Duvall's probate inventory of 1694 mentions several buildings at his plantation, including the dwelling, kitchen, milk house, quarter, and new storehouse. This information greatly aided the interpretation of the archaeological features uncovered at the site.

The dwelling at the site measured approximately 42-by-20- feet with a central chimney partitioning the structure into two rooms. On the east end of the dwelling a small shed was attached. The dwelling itself was located on a ridge above a freshwater spring. The yard between the dwelling and the spring appears to have been enclosed with no other structures located there. A milk house, kitchen and root cellar were located in the back yard behind the dwelling. Further back a possible hen house was discovered. An enclosed area containing a root cellar was identified as the garden. Springhouses were

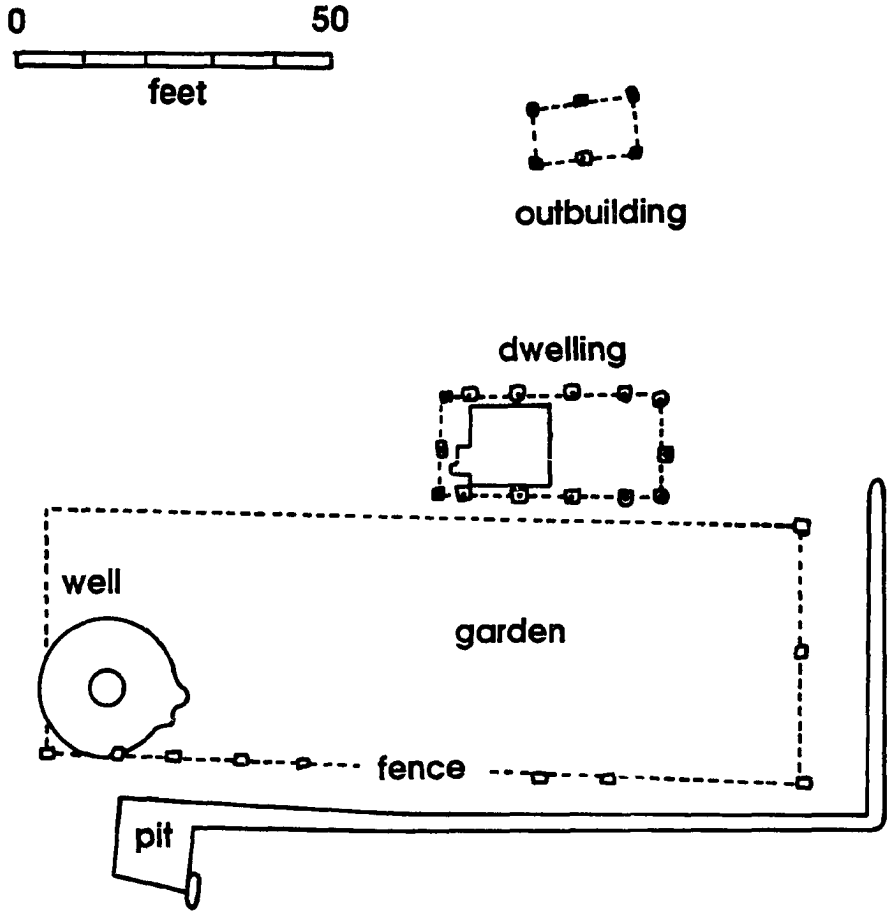


Figure 8. Utopia, Kingsmill, Virginia (Source: Kelso 1984).

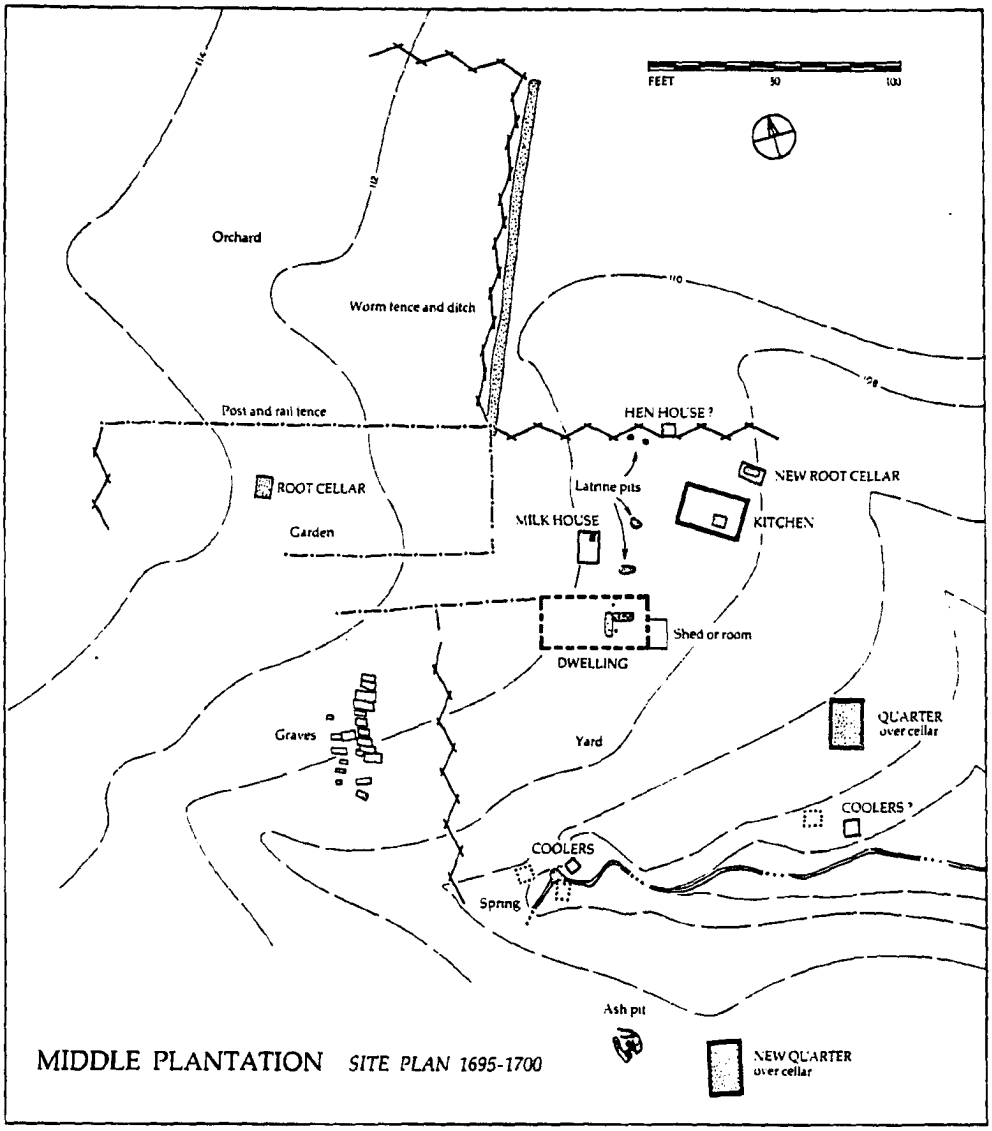


Figure 9. Middle Plantation, 17th Century, Anne Arundel County, Maryland (Source: Carson et al 1981).

found located adjacent to the spring. A quarter and a storehouse were also identified. A cemetery with at least twenty individuals was contained in the area west of the foreyard. By the second quarter of the 18th century, the homelot at Middle Plantation consisted of the dwelling, a detached kitchen or quarter, two other quarters, a milk or meat house and a roofed cellar (cf., Figure 10) (Carson et al 1981).

By the early 18th century, dwellings in both Maryland and Virginia were becoming more substantial. Houses were larger and brick was incorporated more frequently into dwelling construction. At Kingsmill, the domestic architecture at c. 1740 Bray's Littletown is in stark contrast to that observed in the previous century (Figure 11). Excavations revealed a full English basement measuring 53-by-29-feet. At least five rooms existed on the ground floor; the second floor was probably a well lit half story. The basement was also divided into five partitions (Kelso 1984: 81-85). In addition to the main dwelling at Bray's Littletown, six other buildings were found. The building closest to and aligned with the house is interpreted as a kitchen. Two heated structures at right angles to the main dwelling are interpreted as a possible office and a kitchen/quarter. All of these dependencies were aligned with the Bray dwelling or to its rear. In the front of the house was an enclosed foreyard (Kelso 1984: 145-146).

While these studies have provided impressive "maps" of colonial homelots, much of the interpretation has been based solely on the form of the surviving architectural elements. While the importance of architectural analysis cannot be underestimated, many structures simply cannot be identified as to function on the basis of architectural

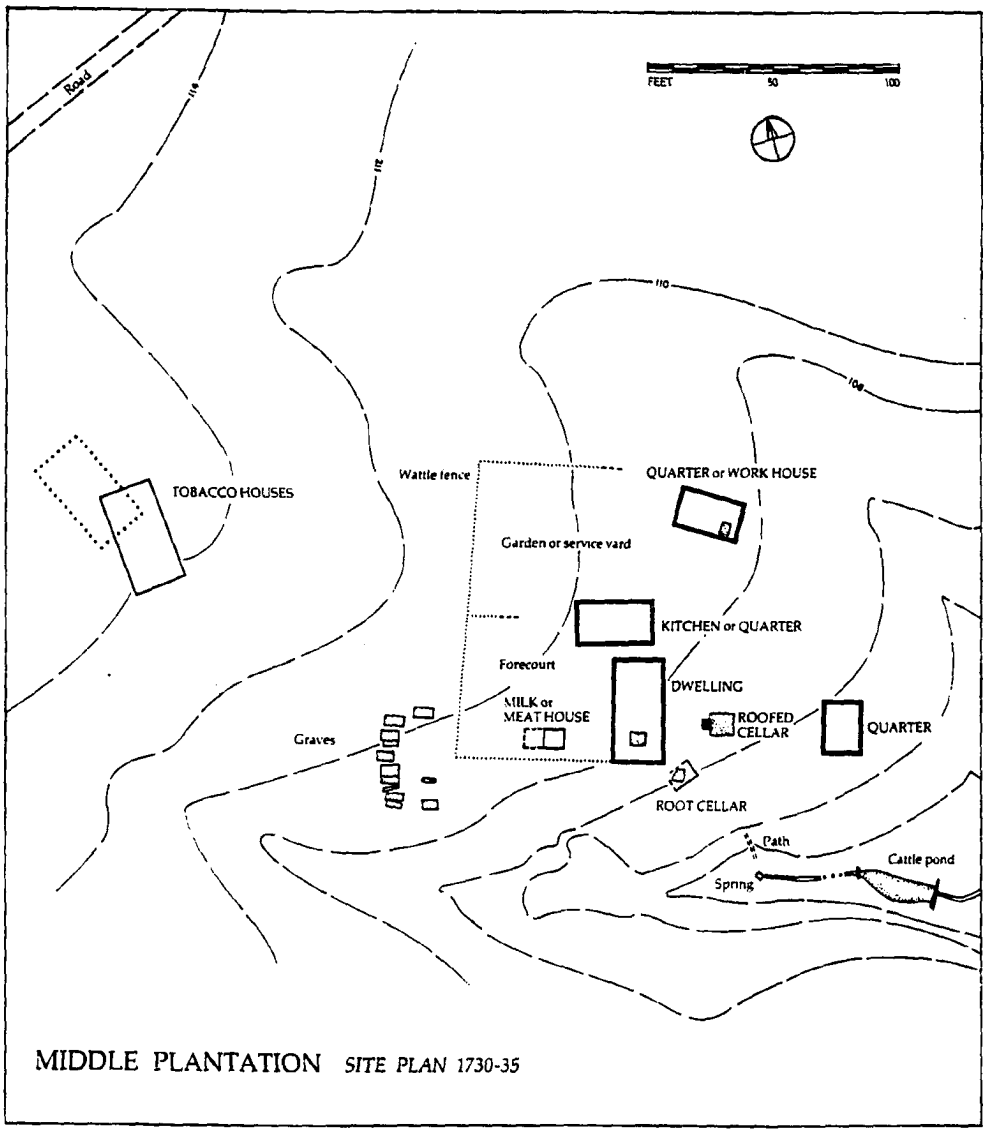


Figure 10. Middle Plantation, 18th Century, Anne Arundel County, Maryland (Source: Carson et al 1981).

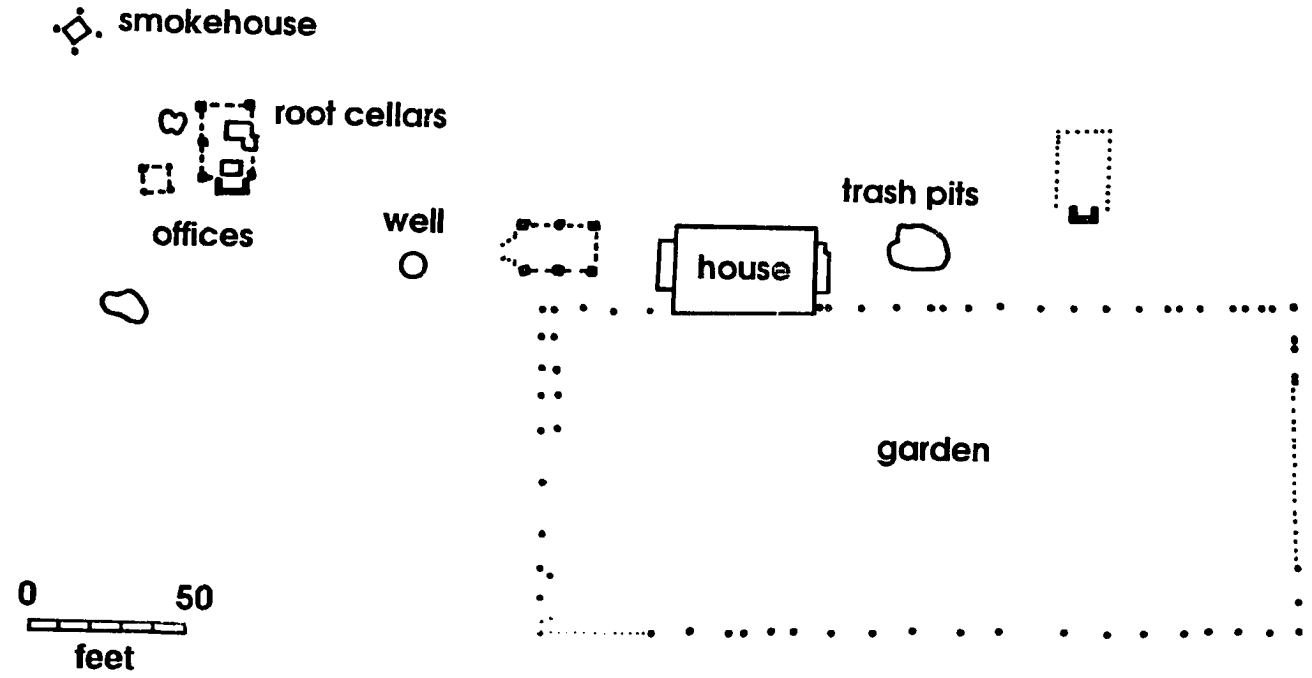


Figure 11. Bray's Littletown, Kingsmill, Virginia (Source: Kelso 1984)

information alone. Further, most colonial sites in the Chesapeake have been plowed in the hundreds of years since their abandonment, and the evidence for many structures and early fence lines has been destroyed as a result. At Kingsmill Tenement, "heavy plowing ... removed up to a foot of original stratigraphy including all evidence of hearths" (Carson et al 1981: 179). Limited testing at an early 18th century tenant house in St. Inigoes, Maryland revealed no structural remains below the plow zone (King and Pogue 1985). Structures with ground-laid sills, not an uncommon construction technique, would not even survive limited plowing. Thus, architectural analogy is of limited value for identifying the functions of the flimsiest sheds and outbuildings and of rooms within dwellings.

In order to define activities associated with particular rooms, buildings and yard areas, archaeological materials associated with these spaces need to be analyzed and assessed. Artifacts, faunal and floral remains, soil chemicals and so forth from both feature and midden contexts can provide data on room, building and yard use. In the case of deeply plowed soils, surviving traces of many buildings will only be found in the plow zone in the form of brick, nails and window glass. The distributions of archaeological materials in the plow zone is also potentially valuable for studying the use of space. That this information is contained in the plow zone has been demonstrated a number of times (cf., Keeler 1978; O'Brien and Lewarch 1981; Miller 1983; King and Miller 1987; Riordan 1988; King 1988a).

One important study using both subsurface feature data and plow zone materials was conducted at the St. John's site in St. Mary's City, Maryland, a tobacco plantation occupied from 1638 until c. 1720 (Keeler 1978). Changes in the organization of the

17th century homelot revealed through both distributional data and architectural evidence were correlated with the evolution of Tidewater frontier society (Figure 12). As Chesapeake society stabilized and matured, homelots grew from simple and impermanent dwellings surrounded by wattle fences and a few outbuildings, through stages of greater elaboration and increasingly formalized spatial division.

The Clifts Plantation site, located on the Potomac River in Westmoreland County, Virginia, was excavated under the direction of Fraser D. Neiman in 1976 and 1977 (Neiman 1980). These excavations revealed the remains of the principal dwelling, eight outbuildings, a cemetery, and numerous fencelines, all constructed c. 1670 to c. 1700 (Figure 13). Throughout the site's occupation, the west yard between the dwelling and the fresh water spring functioned as a service yard, while the yard east of the dwelling became the site of a vegetable garden and the cemetery. Neiman used architectural analogy and the spatial distribution of midden materials to identify the temporal and functional affiliation of structures at the site.

These studies are significant in that they use plow zone materials in addition to architectural and other feature data to address questions of intrasite use. These studies rely heavily on the analysis of the distributions of artifacts in the plow zone. The spatial

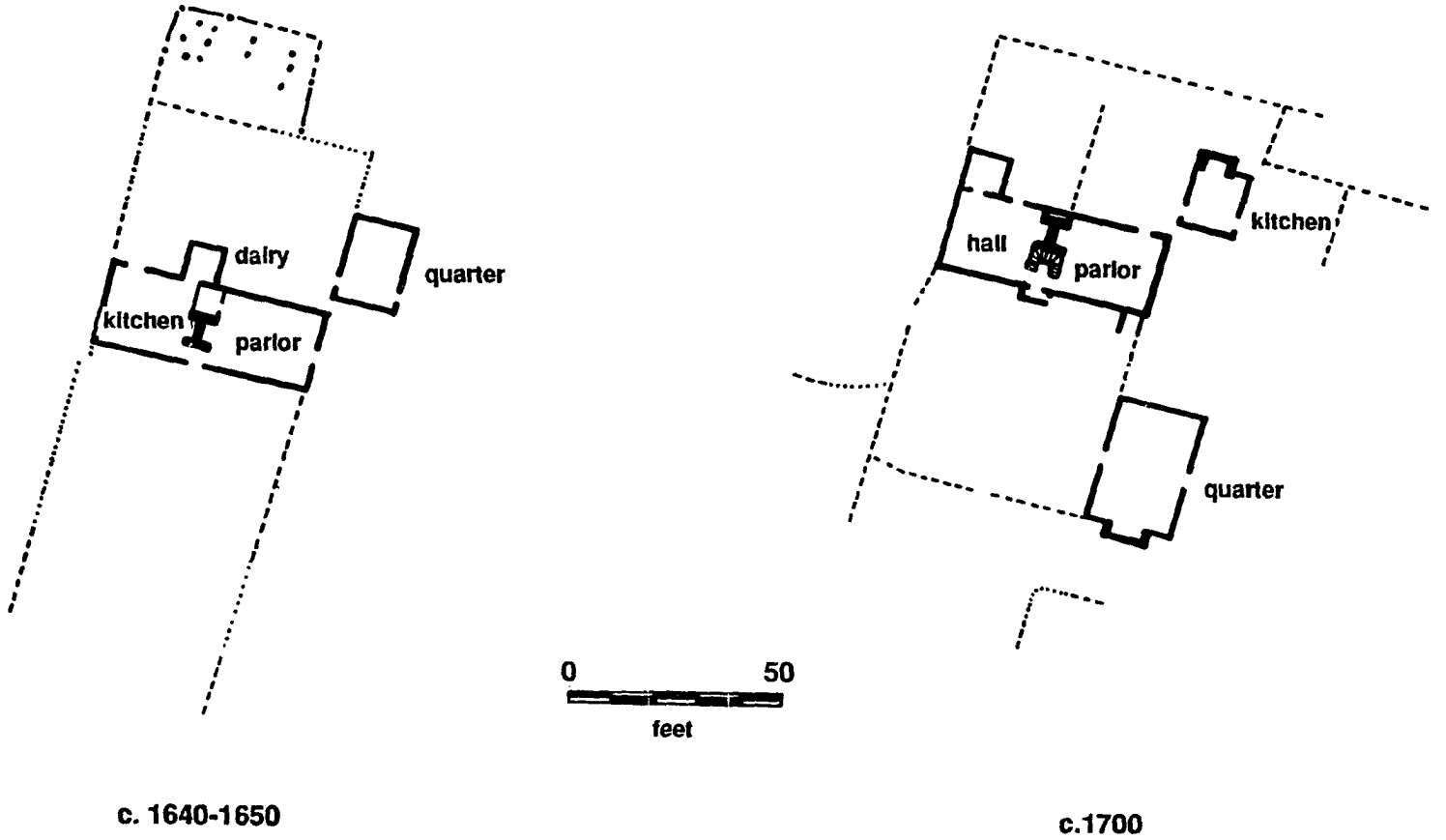


Figure 12. Plan of the St. John's Homelot, St. Mary's City, Maryland, c. 1638-c.1720 (Source: Keeler 1978).61

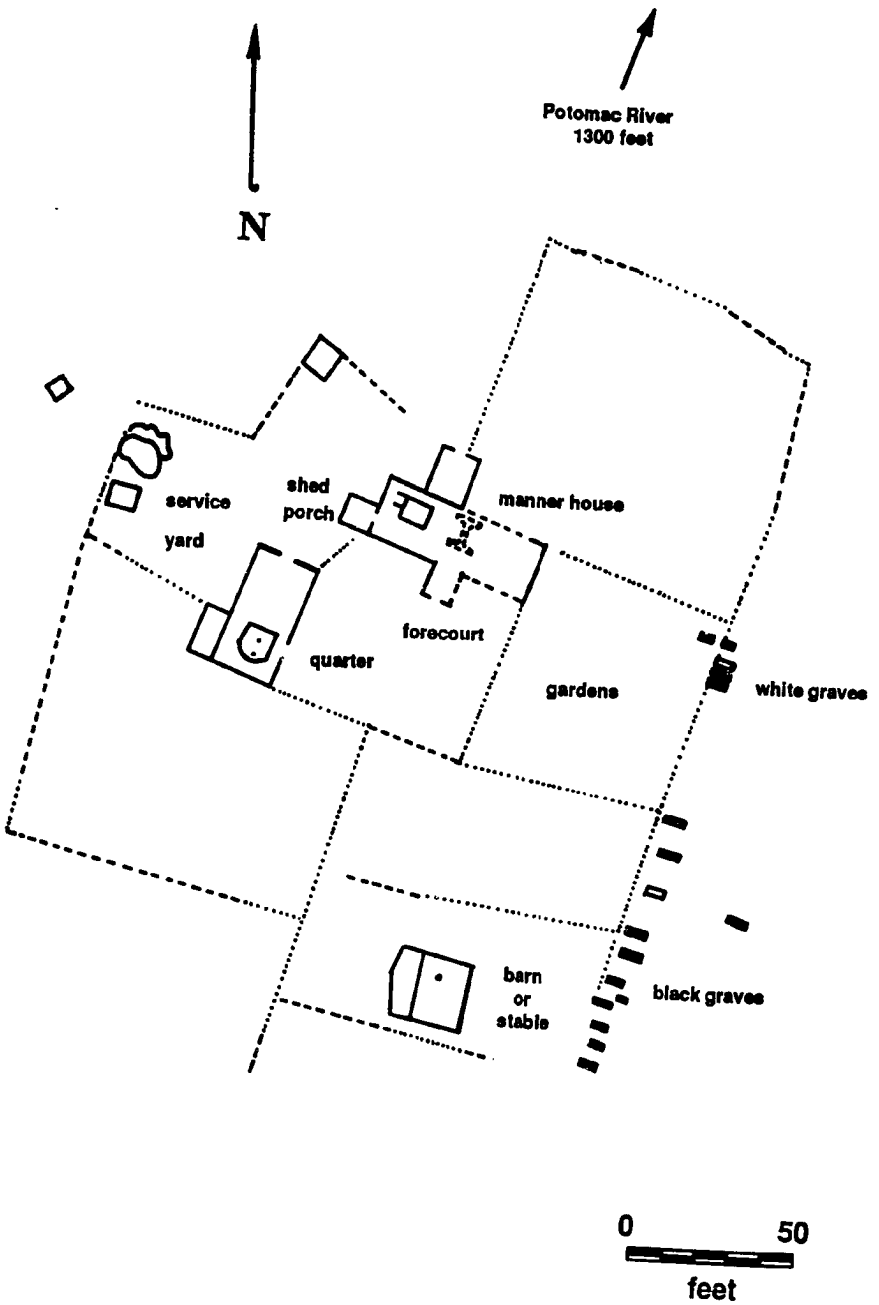


Figure 13. The Clifts Plantation Site, c. 1670 to c. 1730 (Source: Neiman 1980).

associations of these materials, however, have not been fully and systematically addressed. Ethnoarchaeological studies have shown that spatial patterns are often complex and subtle, and the distributions of single artifacts or artifact classes are simply not enough to recognize these patterns (cf., Kent 1987).

Using Keeler's (1978) data from St. John's, a later study quantified the relationships among artifact types, including ceramics, pipes, and bottle glass, and spatial location (King 1988a). Activities occurring in rooms, buildings, and various yard locations could be inferred from this analysis. The hall formed the focus for most daily domestic activities: food preparation, cooking, or warming of meals, eating and drinking. Little domestic refuse was associated with the parlor, and documentary evidence supports that this room was used for sleeping and government affairs. Architectural and artifactual evidence suggest that dairy products and other foods were stored in the dairy. The overlying plowed midden associated with the kitchen contained artifacts associated with food preparation and cooking, as expected. However, tablewares and evidence for leisure activities suggest that servants also lived in the kitch en. Finally, heavy concentrations of Flemish earthenware milk pans located in the front yard approximately 50 feet from the dwelling strongly suggests a dairy processing area, possibly within a structure not detected archaeologically (Figure 14) (King 1988a).

A preliminary study of the distributions and associations of archaeological materials used the van Sweringen site in St. Mary's City as its focus. During the second half of the 17th century, little variation in midden content between the dwelling and the kitchen was

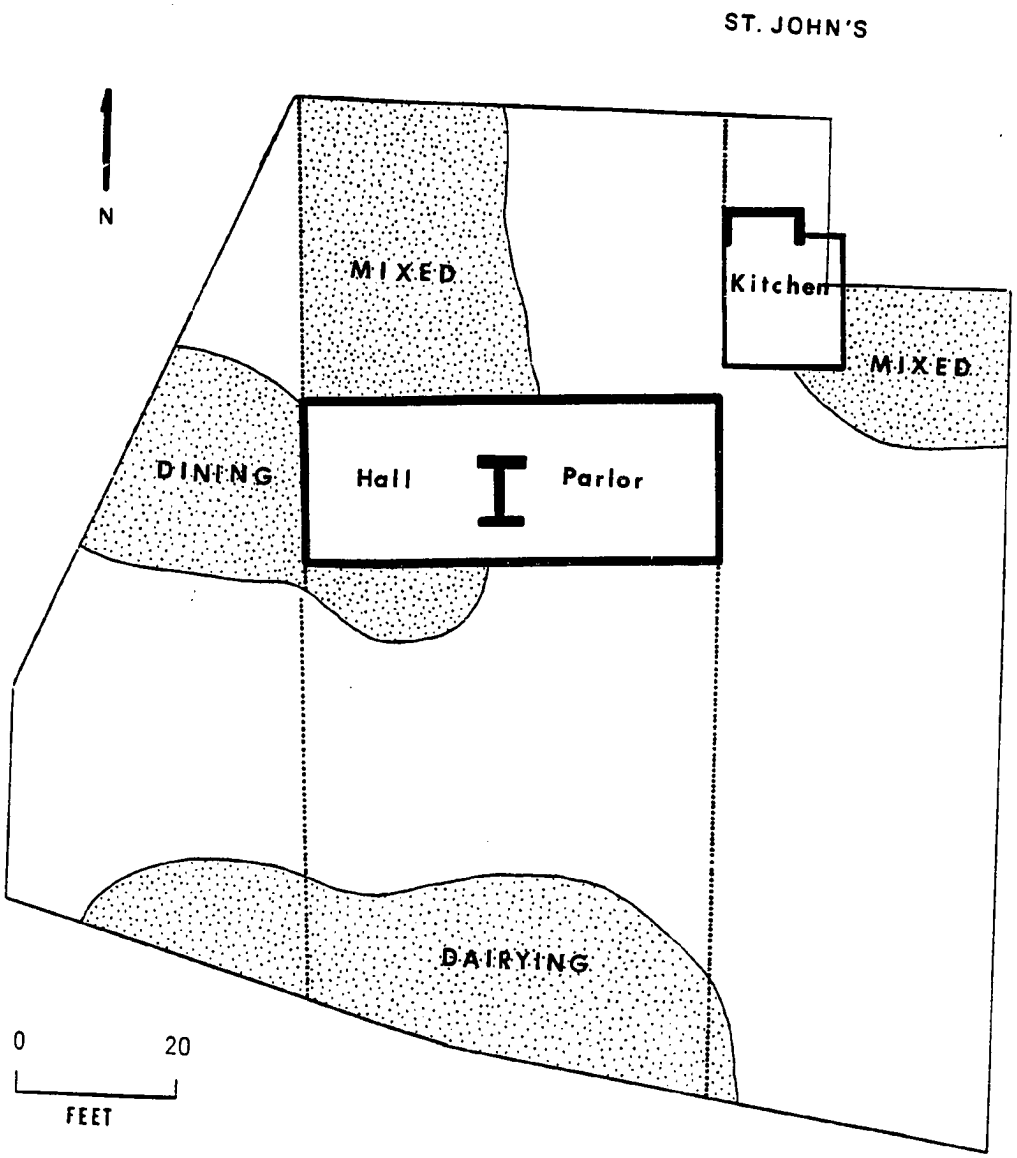


Figure 14. Midden Deposits at St. John's and their inferred functional associations

(Source: King 1988).

observed, suggesting that similar activities were performed in both structures. By the early 18th century, however, variation linked to both function and social status are evident in the middens, and these differences are inferred for room and building use (King and Miller 1987).

In order to expand knowledge of household structure and organization in the colonial Chesapeake, architectural evidence, feature data and midden-derived artifact assemblages from documented sites of known function are required. The combination of these three types of data with historical data should reveal patterning in the archaeological record which can be linked to past human behavior. This dissertation will present the results of an analysis of intrasite archaeological patterning of archi tectural and other features, and midden and artifact assemblages at the van Sweringen site in St. Mary's City, Maryland. The van Sweringen site, a late 17th/early 18th century household located near the heart of Maryland's first capital, is one of the best documented early colonial sites in the Chesapeake. Further, the site was excavated using a research design and sampling strategy which collected not only architectural and feature information, but spatial data as well. The next chapter of this dissertation presents the historical and archaeological background of the van Sweringen site.

CHAPTER III

THE DATA BASE

Introduction

In order to investigate domestic functions and their spatial organization on the 17th century Chesapeake homelot, patterning in the archaeological record must be linked to known functions of rooms, buildings and out-of-doors activity areas. These patterns, which are composed of architectural and other feature data, refuse middens, and other artifact distributions have been described in a number of 17th century site reports. Many of the interpretations, however, are based on untested assumptions about the form and function of the 17th century homelot and the form and composition of the archaeological patterning.

Pattern identification is often possible in historical archaeology because of the availability of the documentary re cord. Documentary evidence has been used over and over to pro vide controls for the investigation and identification of regu larity and variability in the archaeological record (cf., Deagan 1983; Otto 1975). While most of these studies have been con cerned with social and economic status and ethnic affiliation, documentary controls are necessary to investigate functional variability in the archaeological record as well.

Unfortunately, most 17th century sites are poorly documented, and often even the occupants remain unidentified. Only a few documentary sources survive which contain references to a specific structure or room within a building for a particular site. No 17th century colonial Chesapeake homelot illustrations survive.

One source of information about site structure and organization are surviving room by room probate inventories. As noted in the previous chapter, historians have already made creative and extensive use of these documents (cf., Horn 1988; Main 1982; see also Chapter II). Most probate inventories taken at death in the 17th century Chesapeake, however, were made without benefit of an explicit room by room location of material items of value. For example, only two 17th century dwellings found in St. Mary's City are described in room-by-room inventories. These two inventories describe the various rooms and buildings on a homelot and their contents at a particular point in time. One of these was prepared for the estate of Garret van Sweringen, a householder and innkeeper in St. Mary's. The van Sweringen site has been the focus of archaeological investigation and both features and associated midden deposits have been sampled. The van Sweringen probate inventory and the van Sweringen dwelling site provide an ideal case in which to link room and building function and material patterning. This site forms the focus of this dissertation.

The van Sweringen site is located within the St. Mary's City Town Lands on a high bluff overlooking the St. Mary's River (Figure 15). Situated on Aldermanbury Street, one of the principal highways of the town, the site is approximately 175 yards west of the

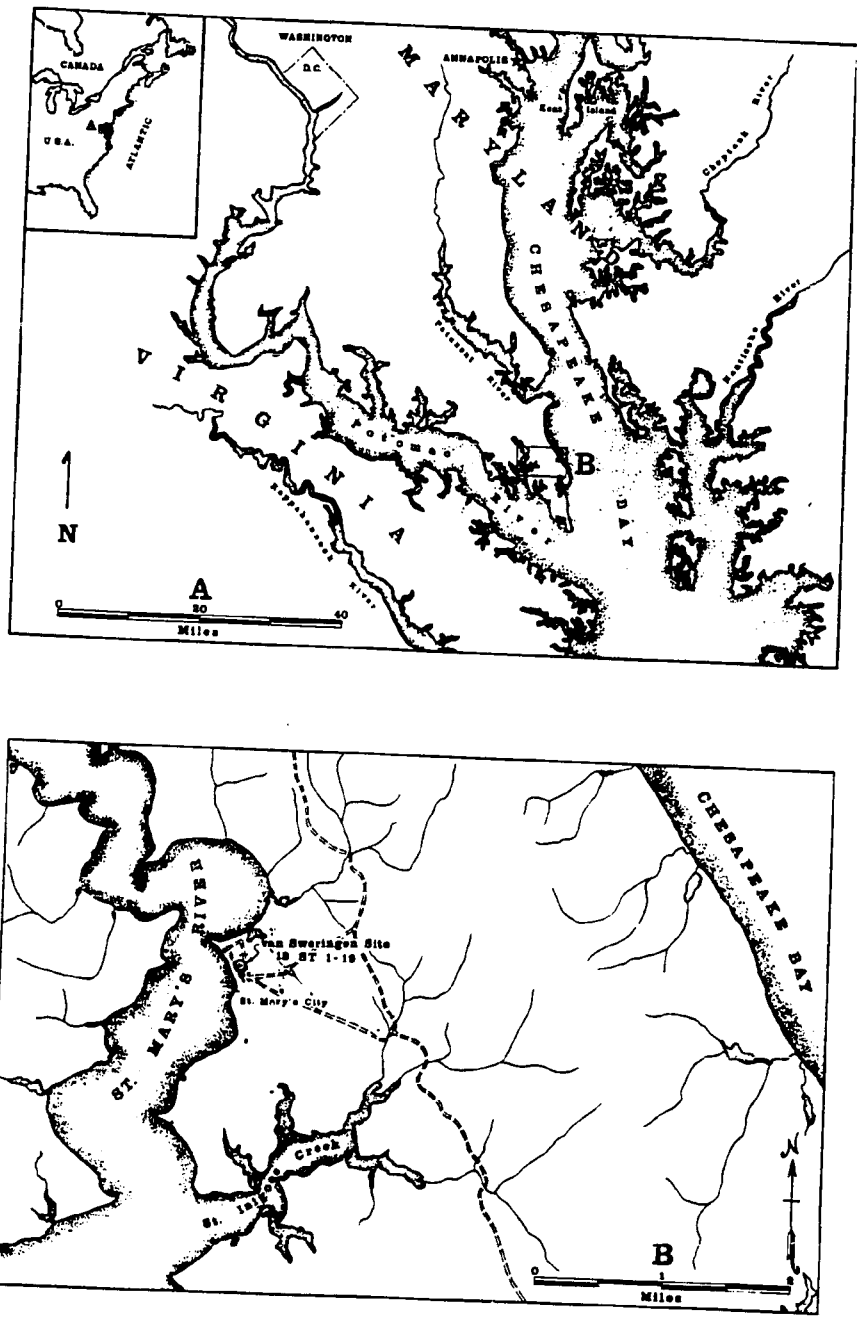


Figure 15. Location of the van Sweringen site in St. Mary's City, Maryland (Source: King and Miller 1987).

town center. Occupied from c. 1665 until c. 1745, van Sweringen's contains the archaeological evidence of a colonial household. Both the site and its occupants have been the focus of extensive research undertaken by the St. Mary's City Commission since 1974, and this chapter summarizes the results of that research.

St. Mary's City

St. Mary's City, the first settlement and capital of the Maryland colony, was founded in 1634 when the Ark and the Dove arrived in the St. Mary's River in late March of that year. After negotiating with the friendly Yaocomicoe Indians, Governor Leonard Calvert purchased their village, situated on a bluff overlooking the St. Mary's River. The colonists then moved into the Indian houses on the land they renamed St. Mary's. Father Andrew White, who accompanied the colonists to Maryland, described these structures as twenty feet in length, nine or ten feet in height, with an opening in the ceiling for smoke (Hall 1967: 43-4). To date, none of these dwellings has yet been excavated in St. Mary's City, although several have been located.

The colonists soon began construction of small frame cottages enclosed within a wooden fort and, in 1635, the home of Governor Calvert was erected. Eventually, some of the colonists moved outside the immediate vicinity of the town to establish tobacco plantations. Most of these farms were located along the tributaries of the Potomac, with some settlement spreading to the Patuxent by the early 1630s (Stone 1982: 16). The fort

at St. Mary's was apparently not needed, and was torn down sometime in 1642 or 1643 (Miller 1983).

Despite the spread of settlement, by 1642 the population of St. Mary's County was no more than 340 to 390 persons, with one- quarter of this number living close to the St. Mary's Town Lands (Menard 1975: 57-8). The population of the town itself averaged 75 to 100 persons distributed over an area of approximately two square miles (Carr 1974; Stone 1982). Although the population was slowly increasing, growth was interrupted during the 1640s and 1650s due to political upheavals associated with the English civil wars. Some evidence indicates that the colonial population may have even declined. Following the Restoration of Charles II as king in 1660, however, the small village rapidly began to expand.

The population of St. Mary's City grew close to that of a typical English village, at about 200 to 250 permanent residents (Carr 1974). Many of these residents were engaged in businesses directly related to the support of the colonial capital. A number of households doubled as inns and ordinaries to accommodate and profit from the colonists brought to the capital on business. Lawyers, other public officials, and merchants also made their homes in St. Mary's City.

In 1695, the capital at St. Mary's City was moved to Annapolis for both geographic and political reasons. The town was largely abandoned with the exception of a few farms and county government functions. In 1708, the county government functions were moved

to Leonardtown, and the former capital became a small agricultural hamlet. Except for the founding in 1840 of St. Mary's Female Seminary (now St. Mary's College of Maryland) the area remained rural. In 1966, the State of Maryland established the St. Mary's City Commission with the purpose of researching, preserving and interpreting Maryland's first capital, and the state began acquiring the old townlands.

The van Sweringen Site

Following the Restoration of 1660 and the return of political stability to the Maryland colony, St. Mary's City grew in importance as the political center of the colony. During the second half of the 17th century, as the town's population grew, a number of public buildings were constructed. Private individuals also built homes in the town, including Garret van Sweringen, a free immigrant of Dutch origin.

The van Sweringen site is believed to have been occupied first as a Land or Secretary's Office (Stone 1983). In 1664, the Colony contracted with William Smith to build a Secretary's office (Archives I: 538), and the structure was apparently completed by June, 1665, when the Council is reported to have met in the Office Chamber (Archives III: 522). Surviving documents place the Land Office northwest of the Country's House in the vicinity where the van Sweringen site is located. The first specific mention of the lot containing the site occurs in a 1672 patent of one-acre lots located along Aldermanbury Street. Garret van Sweringen was granted one of these lots in 1672; the patent does not mention any standing structures (Pat. Lib. 17: 361-2).

Van Sweringen and his first wife, Barbara, had come to St. Mary's City about 1666 from Talbot County on the Eastern Shore of Maryland (SMCC Biographical Files n.d.). Van Sweringen, a Dutch immigrant who had initially settled in Delaware before relocating on the Eastern Shore, may have been solicited to settle in St. Mary's. The charter incorporating St. Mary's City in 1668 lists van Sweringen as one of six aldermen of the city (Archives LVII: 347-51). Garret van Sweringen soon rose to high social standing and political importance in St. Mary's. In addition to being appointed alderman in 1668, he was in that office again in 1671 and 1685. Van Sweringen also served as sheriff of St. Mary's County from 1686 to 1688 (SMCC Biographical Files n.d.).

By 1670, van Sweringen had sublet Smith's Ordinary, one of three or four wooden buildings clustered around the town center, and a deposition of that year identifies him as an "inholder" (Archives LVII: 540-41). In 1676, van Sweringen leased the ordinary at Smith's Townland to John Deery, and he considered setting up a brew house and opening a private lodging house. He may have been living at Aldermanbury Street by this time, although he could have been living in a house he had leased from his neighbor, Mark Cordea. Unfortunately, van Sweringen suffered a series of economic setbacks: in 1677, his tenant at Smith's Townland died, and, in 1678, the ordinary and all of its furnishings burned. The merchant securing van Sweringen's supplies for the brew house sold all of the goods elsewhere, fearing van Sweringen would not be able to pay him (SMCC Biographical Files n.d.).

These misfortunes may have prompted van Sweringen to take up residence at his Aldermanbury Street lot if he was not there already. Archaeological evidence suggests this site was intensively occupied by the late 1670s. Clearly, van Sweringen was at Aldermanbury Street by 1680, when the Upper House of the Assembly is reported to have met there (Archives VII: 328, 329).

During meetings of the colonial Assembly, van Sweringen ran an exclusive lodging house at his St. Mary's City dwelling, catering mainly to the Provincial Council, the members of which were appointed by Lord Baltimore. The Council adjourned there at least four times during 1681, twice to the "Arbour at van Sweringen's" (Archives VII: 120, 122, 130, 137). The Council and other lodgers at van Sweringen's were the elite members of colonial society, although van Sweringen often had to sue them for payment of services. These services consisted of food, drink and lodging for the inn's patron and shelter for his horse.

The van Sweringen household consisted of both family members and servants and, at various times, patrons of the "lodging house". By 1676, Van Sweringen's first wife, Barbara, had died and he had married Mary Smith, a 16 or 17-year-old woman of English birth. Smith or her family had paid for her transportation to Maryland, and she arrived as a free immigrant (SMCC Biographical Files n.d.). Considering that she was free and female, Mary Smith was one of the most unique colonists in 17th century Maryland.

In addition to Garret and Mary, the household contained up to eight children. These included Elizabeth and Zacharias from van Sweringen's first marriage, and Charles, Dorothy, Joseph, Elinor, Teresa and Ann from the second marriage. The van Sweringen family was large by 17th century Chesapeake standards. Documentary evidence further indicates that at least Charles, Dorothy, Joseph, Elinor and Ann survived into adulthood. The exact number of servants and/or slaves at the van Sweringen household is more difficult to estimate. At his death, van Sweringen owned four slaves and two servants and, although some of these individuals probably resided at van Sweringen's nearby plantation at St. Elizabeth's on St. Inigoes Creek, others surely lived at his house in St. Mary's City. At least one of van Sweringen's servants, Robert Harper, was "skilled in the use of physic" and, for a fee, van Sweringen allowed other colonists the use of his medicinal services. Harper probably resided at the St. Mary's City house, where he would have been more accessable to the public.

The van Sweringen family remained in St. Mary's City after the capital moved to Annapolis in 1695, and van Sweringen may have even continued taking in a few lodgers (cf., Prov. Ct. Judgements TL 1: 733-734). He died in 1698 at the comparatively old age of 68, leaving his Aldermanbury Street dwelling to his sons, Joseph and Charles, and providing for his widow and other minor children (Wills VI: 209). He also left at least 1500 acres of land at his plantation in St. Inigoes. The total value of van Sweringen's estate at his death, excluding land, was L381, making him one of the wealthiest individuals in late 17th century St. Mary's County (Inventories and Accounts 20: 96-98).

Joseph van Sweringen, about age 16, may have been living at the St. Mary's City dwelling when his father died. Archaeological evidence suggests he continued to live there with his mother, Mary, and his brothers and sisters. Joseph's mother died in 1714 and, by 1715, Joseph had married Mary Neale. The only daughter of James Neale and his wife, Elizabeth Calvert, Mary Neale had already survived two husbands, Charles Egerton, Jr. and Jeremiah Adderton. Both Joseph and Mary had inherited large estates, and could boast one of the wealthiest households in early 18th century St. Mary's County. Joseph's occupation was listed as a planter and briefly as a merchant. At least three children from Mary's previous marriages, including Charles, James, and Jeremiah came to live at the van Sweringen site. Mary and Joseph did not have any children of their own.

Joseph died in 1721, leaving an estate valued at 1202 pounds sterling and 1500 acres of land (SMCC Biographical Files n.d.). Joseph's inventory lists a sloop and gear and two carts, items not frequently encountered in early 18th century inventories. He had 22 slaves and seven servants, one of which was a tailor. Despite Joseph's wealth and high social standing, however, very little is known about him. Most of the surviving information derives from his inventory and from the accounts of his wife's fourth husband, William Deacon.

Mary had married William Deacon by 1723. Deacon had recently come to Maryland from England as the Royal Customs Collector for the north side of the Potomac. Deacon and Mary probably lived at the site for several years before moving to a newly constructed house at nearby Chancellor's Point. As Mary's husband, Deacon retained the

property and, in 1754, he sold it to William Hicks (SMCC Biographical Files n.d.). Archaeological evidence indicates that the site was occupied until c. 1745, probably by tenants or servants.

Some documentary evidence survives concerning the van Sweringen homelot in St. Mary's City. The 1672 patent specified that the lot itself was one acre in size, bordering on one of the major roads in the town. Van Sweringen's will refers to the "Councill Rooms and Coffee house" presumably constructed at Aldermanbury Street (Wills VI: 210-1). Other valuable information is contained in depositions. In November, 1684, van Sweringen described the damage to his garden caused by a group of sailors. The sailors had raided van Sweringen's garden and taken some cabbage, and apparently were ready to kill one of his sheep when they were stopped by a neighbor's servant. Van Sweringen found his garden "destroyed by the sheep and cattle that went in at a breach I found the next day between the palisadoes." From this deposition can be inferred the existence of a garden enclosed by a palisade fence. The deposition and Van Sweringen's inventory both refer to sheep in his possession, suggesting that van Sweringen had shelter and fencing for them. Further, van Sweringen arrived in St. Mary's City on horseback when he discovered the damage, and was probably keeping his horse stabled there as well on a part-time basis (Archives XVII: 300- 1).

In late October, 1692, Henry Bonner was coming from Philip Lyne's ordinary when he was stopped by the Secretary of the Colony "about the Corner of Vansweeringens Garden fence" (Archives VIII: 419), suggesting the garden was located either along

Aldermanbury Street or along Middle Street, the two roads that bordered the lot. Van Sweringen also had an outdoor arbor, where he sometimes entertained members of the Provincial Council during the warmer months (Archives VII: 130, 137). Finally, van Sweringen had access to a pasture for horses, whether on his land or adjacent to it. In October, 1697, van Sweringen was accused of negligence in allowing an inn patron's horse to have wandered away "from the pasture" (Prov. Ct. Judgements HW 3: 201-204).

One of the most important sources of information on the types of rooms and buildings at the site is van Sweringen's probate inventory, taken in 1700, two years after his death. The goods contained in the dwelling house were cataloged by the appraisers on a room by room basis, and the functions of each room can be inferred by its contents. Archaeological evidence, discussed in more detail below, revealed four structures standing in 1700, including the dwelling, the kitchen, a milk house and an outbuilding of unknown function. Using the archaeological evidence, evidence from other colonial Chesapeake room by room inventories, and the van Sweringen inventory, Barbara Carson and Garry Stone were able to identify the various rooms, structures and their contents in the van Sweringen inventory (Carson 1983) (Appendix 1).

The principal dwelling at the site was divided into three rooms, including "the Councill House," "the inner roome," and "Mrs. Vanswerings Rome." Items located in a closet in Mrs. van Sweringen's room were also listed. The remainder of the inventory does not specify rooms or buildings, but significant breaks could be discerned in the

inventory's text for the kitchen, the loft in the kitchen, the milk house cellar and the outbuilding.

Items listed in the council house room include three furnished beds, five "old Turkey worked Chaires," one large table with a turkey work covering, five smaller tables, two pictures and the King's Arms hanging over the fireplace. This room appears to have been used for socializing, dining and sleeping. The inner room contained five chests varying in size, one cupboard, two small tables, two playing tables, one "old" table and five chairs. Carson (1983: 5) believes that a feather bed found in the inner room would have been used in the council house room on a fourth bedstead there. Excavation revealed that the inner room was heated by a fireplace, and it is probable that socializing occurred in this room. The chests and cupboard suggest the storage of household goods.

Mrs. van Sweringen's room, probably the sleeping chamber for the van Sweringens, contained two beds and bedsteads, a third bed, possibly concealed under one of the bedsteads, a large chest and two tables. The closet in this sleeping chamber contained some clothing items and linens.

At this point, the appraisers no longer recorded goods on an explicit room-by-room basis. Carson and Stone (Carson 1983) worked through the inventory, however, and were able to find significant breaks in the listing. From these breaks, they inferred room and building association on the basis of the known structures at the site and their proximity to the main dwelling. The kitchen contained primarily cooking equipment, including iron

pots, brass kettles and skillets, and tin patty pans. Foodstuffs and earthenwares are not mentioned. The kitchen loft appears to have been used for sleeping, probably by servants, and storage of a spinning wheel, old scythe, horse gear and an old musket. The milk house was used for the storage of kitchen equipment, including butter pots, bottles, galley pots and tablewares. Interestingly, nearly all of the pewter listed in the inventory was found in the milk house, including pewter dishes, plates, basins, salt cellars and other tablewares. A nearby outbuilding contained a variety of items, including an old chest, old and broken chairs, some cooking equipment, three or four chamber pots and fireplace equipment. A three hour glass and a set of scales and weights were also found in this building. However, no beds or bedsteads were found here. Finally, the inventory also describes the livestock in van Sweringen's estate, including 38 sheep, 14 lambs, seven pigs and one horse.

Despite its shortcomings, this inventory provides a powerful control for the spatial analysis of archaeological materials at the van Sweringen site. Linking the rooms and structures listed in the inventory to the rooms and structures revealed archaeologically offers a unique opportunity to compare the material items present in the "systemic context" with those recovered archaeologically. Such an analysis not only permits a comparison of information derived from the documentary and the archaeological records, but allows the identification of archaeological patterning associated with a known space. Similar analyses at other both documented and undocumented sites will expand the data base available for investigating spatial organization.

Unfortunately, Joseph van Sweringen's inventory was not recorded on a room-by-room basis at his death, and it is not possible to sort out the rooms in the inventory as was done with his father's. However, it should be possible using the patterns identified for the late 17th century to infer functions of rooms in the first quarter of the 18th century and possibly the later tenant occupation in the second quarter of the 18th century as well.

Archaeological Evidence

The van Sweringen site was excavated between 1974 and 1980 and again in 1982 and 1985 by the St. Mary's City Commission under the direction of Garry Wheeler Stone. At first, excavations focused on the recovery of data associated with the structures at the site, including the dwelling and four outbuildings. Excavations over the immediate areas of the structures ranged from an 85 to 100 percent sample of the archaeological record. When a firm understanding of the structures at the site and their evolution had been achieved, excavations were directed to the site's associated yards. A strategy of stratified random sampling was combined with a judgement sample at approximately ten percent and was applied in the yard areas to collect spatial data. Final excavations to resolve specific questions and prepare the site as an exhibit were conducted in 1982 and 1985.

During the excavation of the van Sweringen site, only five major feature deposits were encountered, and only two of these dated to the 17th century. Four of these five features contained few artifacts, and the information they yielded was insufficient for fully

interpreting the site. The fifth, the dairy cellar, contained a large quantity of domestic refuse in the lower levels, mostly deposited during the last years of the site's occupation. These features are, of course, important components for examining site layout and use. However, large quantities of archaeological materials were also present in the plow zone, and this information is important for reconstructing midden composition.

The plow zone at the site was carefully excavated in 10-by- 10- and 5-by-5-foot units and screened through 3/8-inch mesh to standardize artifact recovery (Figure 16). The 10-by-10-foot units were excavated over the structures associated with the main dwelling and the 5-by-5-foot units were excavated over the area of an outlying outbuilding and in the yard. Once the plow zone in each square was completely removed, subsurface features which had survived the plowing were mapped and recorded according to standard archaeological procedure. Some subsurface features were excavated and this was done by stratigraphic level using trowels and brushes. Feature fill was carefully screened through 1/4- inch mesh to standardize artifact recovery. Detailed cross- sections and field notes of excavated features were recorded.

The five major features encountered below the plow zone include two storage pits, a borrow pit, a 17th century cellar and an 18th century dairy cellar. A sixth feature, a brick-lined cellar in the kitchen, was not excavated. Other features were primarily architectural, including post holes and molds, builder's trenches, chimney bases and so forth. Numerous fence lines were also identified. Analysis of these data revealed a total

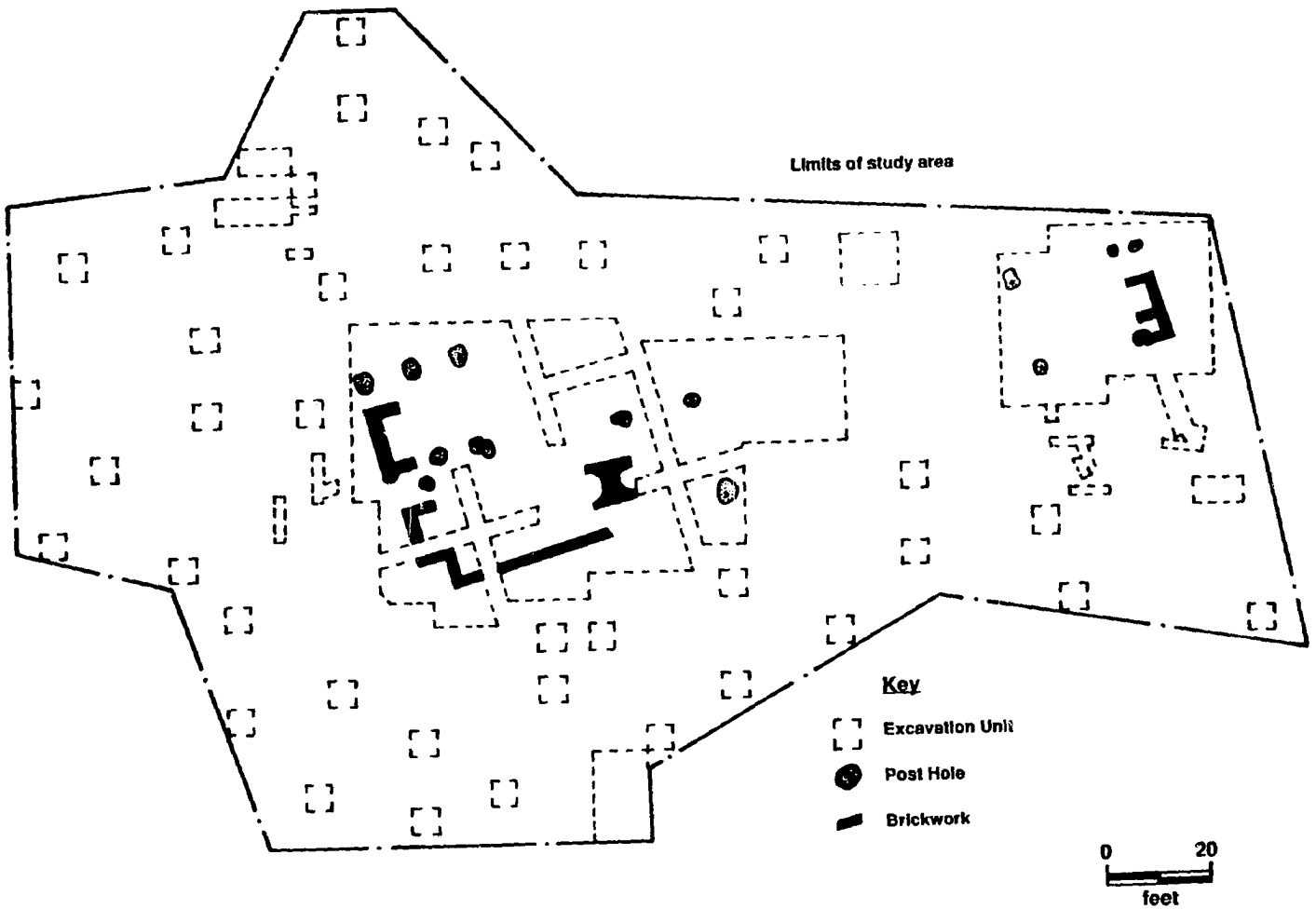


Figure 16. Plan of excavation units at the van Sweringen site .

of five structures at the site, and these buildings were apparently constructed in two phases.

The dwelling house revealed in plan at the site measured approximately 55-by-20-feet with an exterior end and a central chimney partitioning the building into three rooms (Figure 17). At some point, a brick veneer was added to the west end of the front of the structure, probably soon after the all-wood ordinary leased at Smith's Townland burned in 1678. The largest room, located at the west end, measured 20-by-20-feet and was evidently the "Council Chamber" where van Sweringen entertained the members of the Upper House and other patrons to his inn. A 10-by-20 foot room was located in the center of the structure, heated by the west opening of the central chimney. This room appears to be the "inner roome" mentioned in the inventory. To the south of the central chimney was a brick-floored entrance lobby, and east of this was the van Sweringen's chamber, also heated. On the north side of the central chimney was a closet which opened into the van Sweringen's chamber. It is possible that a loft was located over the three ground floor rooms (Stone 1983).

Some evidence that van Sweringen rebuilt an earlier standing structure is provided by the floor plan revealed at the site. The Secretary's Office, which may have been located at the site, was described in the colonial archives as an inferior structure (Archives II: 34). Architectural evidence at the site indicates that van Sweringen may have constructed his dwelling around a poorly built but serviceable frame structure. This evidence is provided

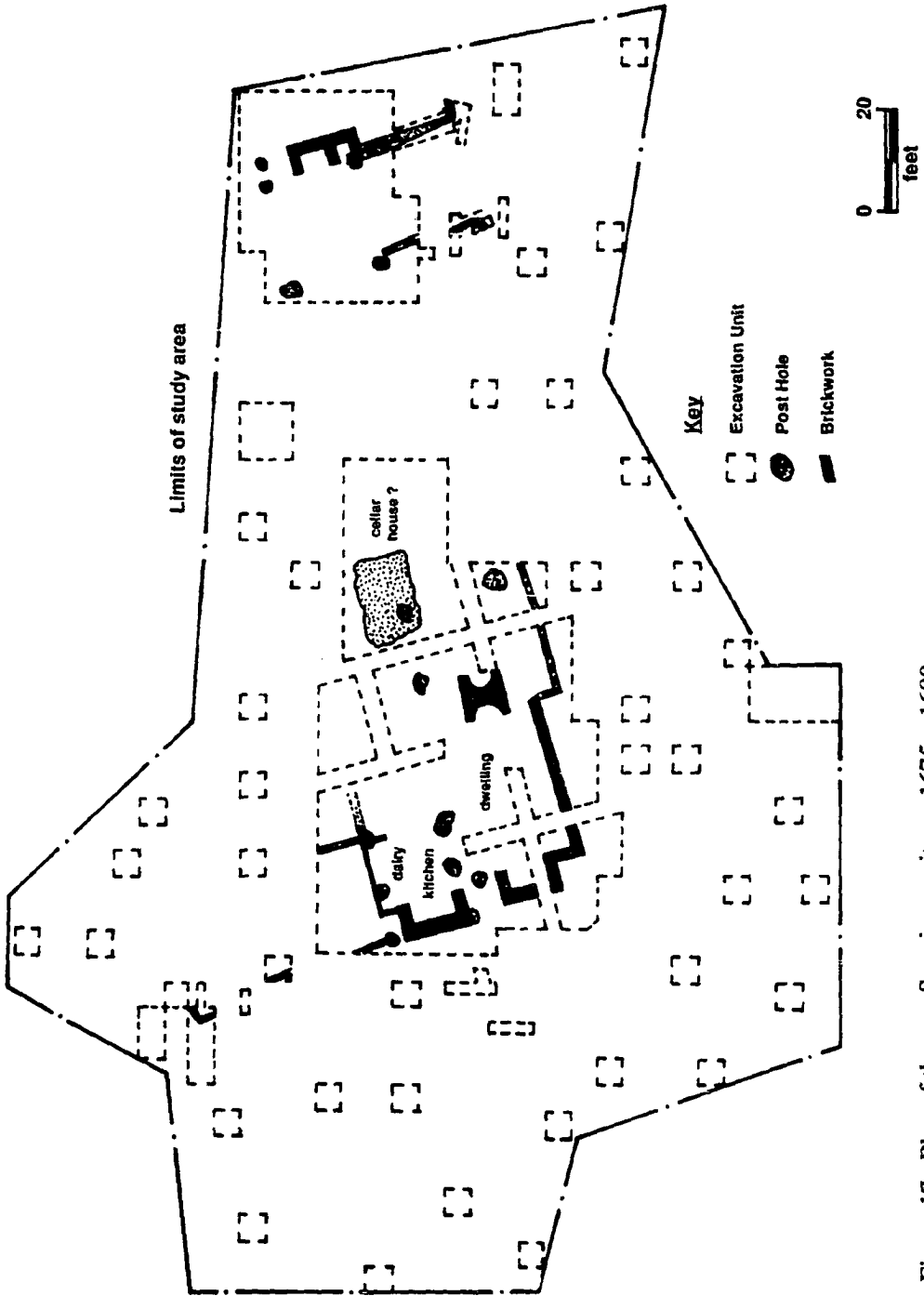


Figure 17. Plan of the van Sweringen site, c. 1675-c.1690

by the east wall of the inner room, which bends 4 degrees from its orientation at the northwest corner of the chimney (Stone 1983).

Less than five feet behind the main dwelling is the van Sweringen kitchen (cf., Figure 17). Archaeological evidence indicates that the kitchen was constructed soon after van Sweringen moved to the site as a pre-assembled post-in-the-ground structure. The building was not well-built, however, and one wall which was incorrectly measured had to be extended with a block and sill section. A chimney constructed partially of Dutch brick was located at the west gable end of the house, and the door was located in the east gable end. A small brick-lined cooling cellar measuring 5-by-15-feet was located in the kitchen structure along its north wall.

At the northwest corner of the dwelling, evidence for a third service structure was recovered (cf., Figure 17). This evidence consists of a shallow cellar, a portion of which was excavated. No other associated architectural features were located, such as post holes and molds, and this is probably due to the limits of excavation in this area. The cellar extended less than three feet below the base of the plow zone, with fairly straight sides and a flat bottom. Similar storage cellars, usually with a wooden roof overhead, have been located at Middle Plantation (Carson et al 1981: 167) and at the Clifts Plantation (Neiman 1980: 109-113). Artifacts contained in the portion of fill removed from the cellar suggests that it was filled by c. 1690.

About 1690, van Sweringen undertook substantial renovations to the structures at the site (Figure 18). The cellar building was abandoned and filled. The kitchen was enlarged and the kitchen fireplace and chimney rebuilt. The cooling pit located in the kitchen was filled and the floor paved with brick. At about the same time, an approximately 10-by-10-foot frame milk house was constructed five feet east of the kitchen. The milk house stood over a cellar approximately four feet in depth lined with brick laid in a haphazard bond.

Finally, an outbuilding of unknown function was constructed approximately fifty-five feet east of the main dwelling (cf., Figure 18). This structure measured 20-by-18.5-feet with a chimney on the east gable end. This chimney has two openings in the hearth area, and this unusual configuration has resulted in speculation that this building was originally built as a bake and brewhouse by van Sweringen (Stone, personal communication, 1982). If so, it was a fancy brew house, with glass windows, wood floors and plastered walls. Artifacts recovered in association with this structure suggest it was built c. 1685 and abandoned c. 1725. Two storage pits were identified in front of the hearth, and two unusual pits were located outside the structure on the east gable end. These unusual features include an oblong pit approximately two feet deep containing two complete case bottles and an early 18th century barrel lined pit, possibly used for vegetable storage. A number of 18th century post holes located on the east side of the structure suggest a work shed or work table.

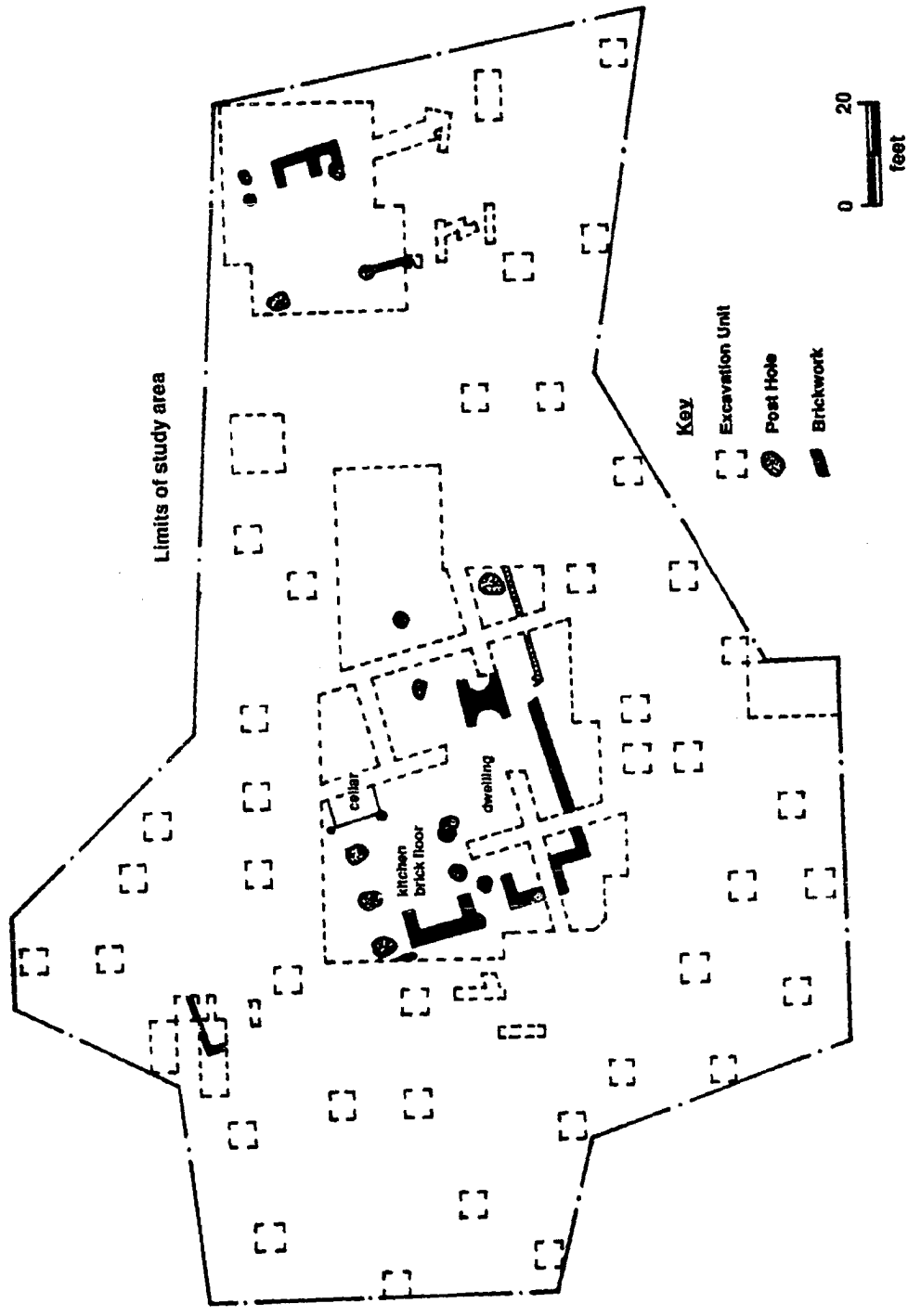


Figure 18. Plan of the van Sweringen site, c. 1690

In addition to the structures at the site, a number of paling ditches were encountered and recorded. These former fence lines are an important component for understanding the segmentation of the yard throughout its occupation. Two types of fencing were observed at the site: ditch-set palings and post and rail. A third type not visible archaeologically, worm fencing, was inferred from gaps in fencing in the archaeological record. Several of the paling ditches were sampled, and this information suggests a tentative sequence of fencing described more fully in Chapter V.

Careful excavation, a comparatively detailed documentary record and architectural analogy and inference have suggested the identifications of the structures at the van Sweringen site. These identified room and building functions can now be compared with the archaeological materials recovered from the plowed midden contexts to link observable patterning with known function. The relationships thus revealed can then be applied to an interpretation of the outbuilding or so-called bake and brew house and to the use of the rooms in the main dwelling complex in the 18th century. Function, status and temporal affiliation form the variables studied in the following analysis.

CHAPTER IV

METHODS OF ANALYSIS

Introduction

To investigate the material patterning associated with functionally distinct rooms, buildings and yard areas, the intrasite spatial analysis of archaeological materials was undertaken at the van Sweringen site. Intrasite spatial analysis has been a focus of considerable archaeological interest in the last fifteen years, and much of the published literature has concerned methodological approaches. No standard approach has been developed but a wide variety of methods have been investigated. The methods of data recovery and analysis used in the present study draw on much of this work, and are described in detail in the present chapter.

Most published studies of intrasite spatial analysis have emerged in prehistoric archaeology. Spatial studies at the site level are few in historical archaeology, possibly because of the detailed kinds of information already available and the existence of an often rich documentary record (Noble 1983: 1). Some historical archaeologists have even suggested that years of continuous occupation coupled with changing activity areas results in a "blending" effect, making the interpretation of intrasite spatial patterning difficult if not impossible (South 1977: 88, 182). In many cases, the distributions of particular artifacts or artifact groups at historic sites are examined, but few studies

proceed to the examination of the associations among these distributions (for exceptions, see Keeler 1978; Noble 1983; King and Miller 1987; King 1988a). This problem is compounded by a lack of "standard" methodological procedures for undertaking these kinds of analyses. This dissertation proposes a method which has applicability to colonial Chesapeake sites and to other historic sites as well.

Archaeologists have experimented with a number of methodologies for the analysis of intrasite spatial data, many of which have been borrowed from other disciplines (cf., Whallon 1973a,b, 1974; Hodder and Orton 1976; Hodder 1978; Hietala 1984). These methods have been criticized, however, generally for one of two reasons. Many of the methods, especially those borrowed from the natural sciences, are based on untested assumptions about the structure and organization of the archaeological data. Secondly, statistical methods are often indiscriminately applied to spatial data, and some require unrealistic transformations of data.

Historical archaeologists can control for many variables through the availability of the documentary record. For example, a major problem encountered by prehistoric archaeologists is the interpretation of their findings, especially the identification of artifacts and artifact patterning. Unfortunately, cultural anthropologists have made little effort to translate their ethnographic observations in terms of material culture, so prehistoric archaeologists are often forced to make at least some assumptions about the form and function of their data (Hodder 1978: 199). Historical archaeologists can overcome much of this difficulty because the form and function of artifacts and artifact

groups are often known. At the van Sweringen site, for example, room and building functions are known, and the refuse patterns associated with each unit can be linked to these interior spaces. Such strong controls for examining assumptions about the distribution of archaeological materials are unavailable to prehistorians.

The second criticism of many methods concerns the statistical techniques used to manipulate the data. Because of the often subtle relationships among spatial patterns on the site level, statistical techniques are invaluable for examining these patterns and their relationships. Many of the statistical methods suggested in the literature, however, have not been adopted for general use. For example, some methods require data from completely excavated archaeological sites, an unlikely situation in either historical or prehistoric archaeology. Others use data that have been transformed extensively according to "cookbook" instructions. Finally, many techniques require a sophisticated knowledge of spatial statistics and involve complicated equations that are foreign to most archaeologists.

Furthermore, although archaeologists realize that a one-to- one correspondence usually does not exist between an activity and its manifestation in the archaeological record, little is understood about the processes of this transformation. Types of activities, refuse disposal patterns, differential patterns of discard and curation, and other cultural rules act to influence the material patterns ultimately observed by the archaeologist (cf., Binford and Binford 1966; Ammerman and Feldman 1974; Hodder 1978; Spurling and Hayden 1984; Hietala 1984; Kent 1984). Both cultural and natural post-depositional forces can

also affect archaeological pattern formation through the actions of animals, erosion, plowing, and so on (cf., Schiffer 1976).

In this dissertation, a method of intrasite spatial analysis has been developed which is easily replicated by other researchers. This method is used successfully to investigate the distributions and associations of archaeological materials at a well-documented colonial Chesapeake site. The techniques presented here were designed for plow-disturbed sites, but there is no reason they cannot be applied to other historic sites, plowed or not.

Plow Zone Archaeology

Surface middens associated with both prehistoric and historic archaeological sites contain important data which can address a wide range of archaeological questions about past cultural behavior. Middens are particularly important for studying colonial sites because refuse was often deposited in yard surface areas adjacent to doors and windows. In fact, pigs were considered especially useful during the colonial period because their food came from garbage "which would elfe rot in the yard" (Markham 1969). Archaeological excavation at colonial sites in the Chesapeake has demonstrated that, indeed, garbage was thrown in the yards and only occasionally in open pits or holes (cf., King and Miller 1987).

Most sites in the Chesapeake have been subjected to post- occupational plowing at one time or another. The damage to the archaeological record caused by plowing cannot be

minimized. Not only are the exact proveniences of archaeological materials destroyed, but the artifacts themselves are often severely damaged by plowing. Consequently, the information potential of plow-disturbed middens has been questioned (cf., Noel Hume 1982: 9-10). In situations where time and funds are limited, resources are frequently concentrated on feature excavation at the expense of the plow zone. Despite these views, a growing number of studies suggest that the information value of plow zone materials is high (cf., O'Brien and Lewarch 1981; King and Miller 1987).

A number of studies of plow-disturbed soils have demonstrated that, although the vertical relationships among artifacts and stratigraphy are destroyed, horizontal relationships among artifacts are only minimally disturbed (cf., O'Brien and Lewarch 1981). For example, at the 17th century Chapel site in St. Mary's City, nearly 50 percent of the brick fragments recovered from intensive surface collection of a plowed field occurred within ten feet of the chapel's brick foundation (Riordan 1988: 8). At the St. John's site, a 17th century domestic site in St. Mary's City, more than half of ceramic crossmends from the plow zone occurred within zero to thirty feet (King 1988b). Even a cultural feature as ephemeral as a 17th century road was visible using plow zone-derived artifact distributions (Riordan 1988: 9-11). Finally, the existence of significant variability has been demonstrated among horizontally distributed artifact assemblages recovered from within the same site. Temporal and functional distinctions among plow zone artifact assemblages were identified for the St. John's site (Keeler 1978; King 1988a), the van Sweringen site (King and Miller 1987), and the Country's House (Miller 1986).

Since most colonial Chesapeake households disposed of refuse in the associated yards, and since these plowed midden contexts retain important horizontal provenience data of use in spatial analysis, the plow zone at the van Sweringen site was excavated by hand according to standard techniques. The plow zone-derived artifacts constitute the major part of the data base for this dissertation.

Sampling Design

Archaeological sites constitute one form of data about both the recent and remote past. These sites are a nonrenewable resourceand, once excavated, whether by bulldozer or by trowel, they are destroyed. Although extensive recordkeeping preserves much of the archaeological data, no system of record keeping nor scheme of excavation is all inclusive to insure 100 percent data recovery. Hence, sampling allows archaeologists to examine a portion of a site. Time and funds are conserved and a part of the site remains preserved for future study. However, the archaeologist must understand the potential and limitations of sampling in order to maximize the use of this research tool.

The strategy developed to sample the van Sweringen site was divided into two parts: a) plow zone excavation and b) feature excavation. Sampling strategy for features was decided as they were exposed and mapped. Many were completely excavated, others partially so and many simply recorded in plan. All unexcavated features were carefully reburied. A more systematic sampling design was applied to the excavation of the plow

zone. This sampling design is discussed in terms of three related issues: 1) the sampling scheme; 2) the size of the excavation unit; and 3) the distance between excavation units.

The sampling scheme used at the van Sweringen site consisted of a combination of a stratified random strategy coupled with "judgement" sampling. Such a strategy is considered superior to a strictly statistical approach since it also draws on the knowledge of the investigator (Mueller 1974: 3; Asch 1975: 188- 189). For the examination of spatial structure, a systematic, or uniform, sampling scheme is considered optimum (Cliff and Ord 1973). For the sampling of artifact distributions, a systematic sampling scheme provides more even coverage and is less likely to result in the random placement of more or fewer squares in areas of very high or very low artifact concentrations (Neiman, personal communication, 1988). A systematic sample is also easier to use. Once the starting point of the sample and the spacing between units has been determined, identification of the units to be tested proceeds rapidly. The actual placement of excavation units in the field is also simplified. Systematic sampling, however, may not be as reliable for locating subsurface archaeological features which are also usually evenly spaced. The location of these elements is necessary and important for interpreting spatial distributions in the plow zone, and stratified random sampling minimizes the chances that such features are missed. According to Cliff and Ord (1973), "stratified random sampling . . . should do well relative to uniform random sampling." The happiest solution for future investigations may be a stratified systematic unaligned sampling scheme, used with

good results at Fort Ouiatenon in Indiana (Noble 1983: 19). Such a strategy introduces a random element into an otherwise uniform sampling design.

At the van Sweringen site, excavations initially concentrated on a nearly complete recovery of plow zone data over the five structures at the site. When a firm understanding of the structures at the site had been established, the site was divided into 50-by-50-foot blocks and a series of random test units drawn. Contiguous units were replaced and redrawn to maximize areal recovery. Once excavations were underway in the field, additional squares were selected based on site data and the previous experience of the archaeologists.

A second important issue concerns sample size, and this is closely linked to quadrat size and distance between quadrats. For example, a sample size of only one percent was found to be effective for identifying building locations and activity areas at a 19th century farm complex in southern Maryland. One-foot shovel test units were spaced only ten feet apart (King 1989). At Fort Ouiatenon, a sample size of 11.1 percent was judged adequate for the recovery of spatial data (Noble 1983: 20). At mid-17th century Compton in Calvert County, Maryland, a sample size of 12 percent was successful for identifying activity areas and refuse middens (Louis Berger Assoc. 1989). Squares of 2.5 feet were spaced approximately 10 to 12.5 feet apart. At the Village Center in St. Mary's City, a sample size of seven percent was considered "the smallest frequency that would successfully detect buildings and yard features." The seven percent sample size "permitted identification of the town center and key sites within it." Subsequently, much

more intensive testing was conducted to "better understand the features detected." In at least one case, Smith's Townland, a 50 percent sample was collected (Miller 1986: 6).

There are several methods for measuring horizontal and vertical provenience at archaeological sites. Ideally, actual item points provide the most control over the two locational measurements. Within plowed contexts, however, the point to point relationships of artifacts and strata have been transformed. In these cases, the use of grid counts provides "virtually as much resolution, and certainly the same picture" as actual item points (Whallon 1984: 268).

Two quadrat sizes for plow zone excavation were used at van Sweringen. Since the plow zone at the site averaged eight inches in depth across the site with little variation, the quadrat sizes provide the determining factor for measuring provenience. Over the areas of the structures, 10-by-10-foot units were utilized, while 5-by-5-foot units were excavated in the area of the surrounding yard. Generally, the plow zone units directly over the areas of the structures contained significantly fewer artifacts than the plow zone units in the yard areas. Figure 19 shows the frequency of artifacts represented in a schematic cross-section through the main dwelling and kitchen; the dwelling and kitchen are relatively free of refuse. These "clean areas" are as significant as areas of high artifact density and should also be sampled (cf., Kroll and Isaac 1984). In such low artifact density areas, however, fewer units of a larger size may be acceptable, particularly to collect a reliable and fairly large sample of archaeological materials (cf., Asch 1975: 183).

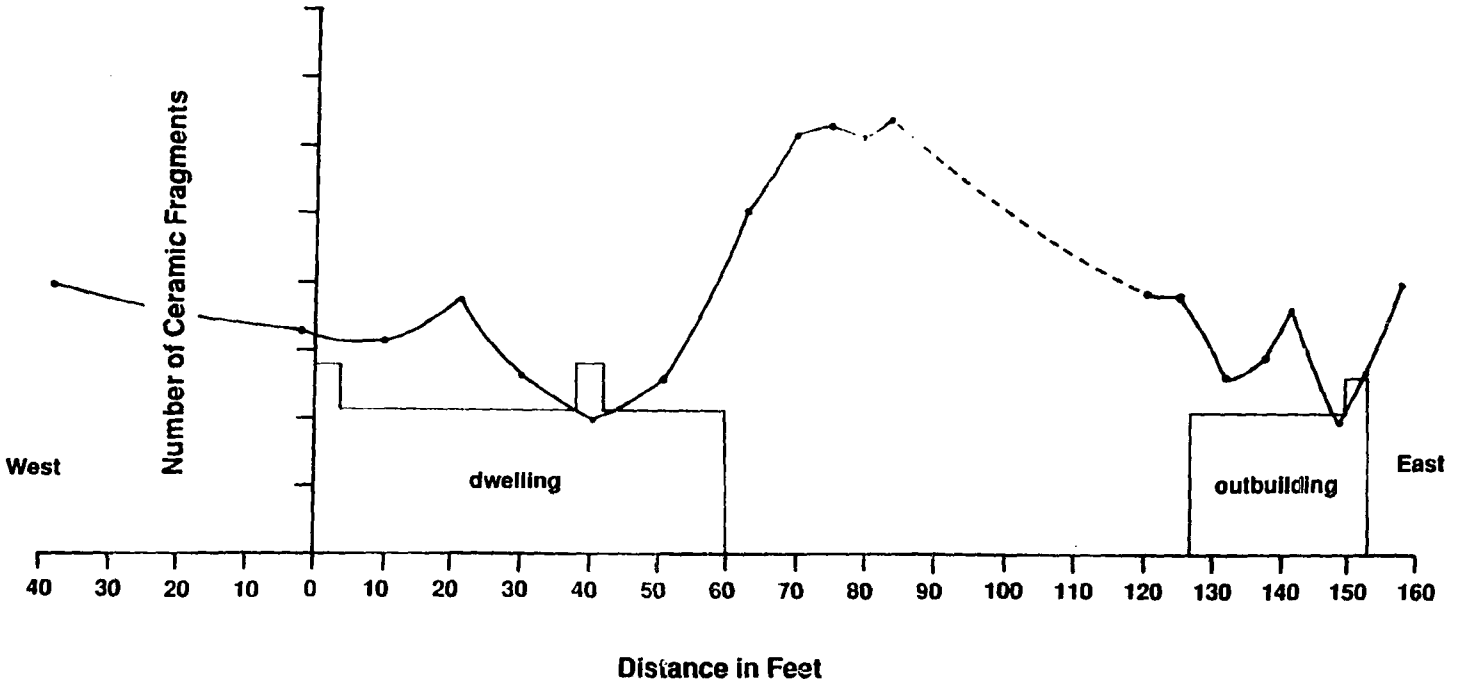


Figure 19. Schematic cross-section of artifact frequency through the main dwelling complex

Generally, excavation units should not be larger than the concentrations to be identified. The 5-by-5-foot unit appears to provide fairly good resolution for the study of spatial distributions at colonial sites in the Chesapeake. A five-by- five-foot unit also allows, through placement of the unit, larger areal coverage, since a larger number of smaller units can cover more space than a fewer number of large units.

When sampling spatial data, the distance between quadrats is also important for judging the reliability of sampled data. At the Clifts Plantation site in Westmoreland County, Virginia and at the Kings Reach site in Calvert County, Maryland, concentrations generally measured 30 feet in diameter or more. Hence, a maximum distance of 30 feet between center points of quadrats is recommended (Neiman, personal communication, 1988). At the van Sweringen site, the site was divided into two areas: the structures and the yard. An 80 to 100 percent sample was excavated over the five structures at the site, with a maximum distance of ten feet between quadrat center points. In the yard area, a 7 percent stratified random sample was combined with a 3 percent judgement sample to produce an overall sample of 10 percent. Since 5-by-5-foot units were used, the average distance between center points of quadrats was 25 feet.

Once the archaeological materials had been removed from the van Sweringen site, they were washed and catalogued. All artifacts were identified to type. Ceramics were further divided into vessels by Henry M. Miller and S. Kathleen Pepper. Vessels were determined by cross-mends and comparative studies of sherd paste, glaze, decoration, and

form. Vessel forms were then identified using the guidelines prepared by Beaudry et al (1983).

Preliminary analysis of the distributions of the plow zone artifacts was accomplished using the SYMAP computer mapping package (Dougenik and Sheehan 1979) available at the VAX/VMS facility of St. Mary's College of Maryland. The SYMAP package uses a nearest neighbor statistic in its interpolation algorithm to project complete densities across a study area using sampled data.

SYMAP has proven to be a reliable tool in the projection of artifact densities at sites. Like any graphics or statistical program, the final product is only as reliable as the original data given to it. In a study of the use of SYMAP to measure air quality, Shepard found that SYMAP is "perfectly reliable . . . only at data points. Where the spacing of data points is relatively wide . . . SYMAP is less reliable" (1970: 9). This is, of course, tied to the distance between sampling units. Shepard constructed a SYMAP using 635 data points to define the original surface. He then prepared five SYMAPs using systematically spaced data. The sample sizes ranged from 0.5 percent to 42.8 percent. An additional three SYMAPS were prepared using data dervived from "critical points" - areas of high or low values. These maps were statistically compared using a FORTRAN program and, as expected, the test map with the smallest amount of error was the 42.8 percent sample. Further, data collected systematically yielded more reliable results than data collected from "critical points." The coarser the sample size, the more likely that

interpolation resulted in a "hit-or- miss process in which very good accuracy or a moderate chance of large inaccuracy are both possible" (Shepard 1970: 14).

A less elaborate but significant analysis of SYMAP interpolation was undertaken using surface collected data from the 18th century Blacksmith site in the Mill Field at St. Mary's City. A total of 602 data points at ten foot intervals was used to generate a density projection for colonial ceramics. Both systematic and stratified random sampling strategies were used to draw a number of samples. Not unexpectedly, the greater the number of data points, and the less distance between quadrats, the more reliable the map. The systematic and stratified random strategies gave very similar results (King 1989b).

The SYMAPs of artifact types from the van Sweringen site were then carefully compared to identify areas of midden deposition and potential activity areas revealed through associations of artifact types. Hand-plotted distribution maps were also used, particularly when data sets were too small to justify the expense of a SYMAP production. Midden and activity areas were then further examined for artifact content and association. Standard statistical techniques were employed to measure the contents and strengths of association.

The methods described above, both excavation and analytical, were useful for examining intrasite spatial content and structure at van Sweringen's. The results of this analysis are described in the next chapter.

CHAPTER V

THE SPATIAL ORGANIZATION AND USE OF THE VAN SWERINGEN HOMELOT

Introduction

The spatial analysis of the van Sweringen site considers three elements of the domestic homelot: the site's architecture, fence lines, and artifact distributions. The artifact distributions considered here occur predominantly as secondary refuse middens. These materials have been discarded away from their immediate area of use. These data are nonetheless important for addressing intrasite organization and structure since middens often accumulated in yard areas directly adjacent to the rooms and buildings in which the materials were used, broken and discarded. Primary de facto refuse - materials discarded precisely where they were used - also occurs at van Sweringen's, but the majority of these distributions cannot be dated any tighter than the c. 75 year occupation of the site. The combination of these three sets of archaeological data - architecture, fencelines, and refuse middens - provides a more complete picture of the domestic landscape than any element alone. Architecture and fencing define the spatial divisions at the site, while the artifact distributions suggest function.

For purposes of this analysis, two basic phases of occupation at the van Sweringen are used: 1) 17th century (c. 1675-1700) and 2) 18th century (c. 1700-1745). Phase I corresponds well with the use of the site as both a private household and exclusive

lodging house in the village setting of St. Mary's City. The earliest occupation of the site, when an original portion of the main dwelling served as a Land or Secretary's Office, is not considered here. Phase II corresponds with the site's exclusive use as a private household in a rural agricultural hamlet, following the removal of the capital from St. Mary's City as well as the death of Garret van Sweringen. These phases correspond well with the dating sequences of architecture and artifacts recovered at the site. In some cases, Phase II could be further subdivided into Phase IIA (c. 1700- 1725) and Phase IIb (c. 1725-1745), aligning with the early 18th century occupation of the site by Mary van Sweringen, her son, Joseph, and later, his wife, and the final occupation by an unknown tenant.

PHASE I: 17TH CENTURY

During the last quarter of the 17th century, the van Sweringen site was occupied as an elite domestic household which also served as an exclusive lodging house during meetings of the colonial assembly. In addition to Garret van Sweringen, occupants included his wife, Mary, and possibly as many as eight children of varying ages. These individuals probably also resided some of the time at van Sweringen's plantation in St. Elizabeth's Manor. Male and female servants or slaves, or both, were undoubtedly present at the St. Mary's City dwelling as well. Robert Harper, a physician indentured to van Sweringen, was almost certainly living at the St. Mary's City dwelling, where van Sweringen could more easily sell Harper's services.

Patrons to the inn were probably almost always male, and they were usually members of the colony's highest economic, social and political strata. Van Sweringen also may have had a Coffee House at the site, because of a single but significant reference to such a structure in his will of 1698 (Wills VI: 209). The exact nature and location of this Coffee House had been unknown until recently, when a preliminary investigation identified a building at the site as the Coffee House (King and Miller 1987).

Architecture

Evidence for at least four and probably five structures constructed during the Phase I occupation of the site was found at van Sweringen's. These buildings cluster in two areas of the site, and include the main dwelling complex and the outbuilding. The main dwelling complex consists of four of the structures located in close proximity while the fifth, the outbuilding, was located approximately 60 feet east of the principal dwelling. Remains of other buildings probably also exist at the site, particularly in the outlying reaches of the yard. Unfortunately, these buildings have not been found yet, probably due both to the low visibility of 17th century outbuildings and the smaller area investigated in the yards.

The main dwelling and the outbuilding were both oriented with their principal facades towards a small alley off Aldermanbury Street. The west gable ends of the dwelling and the kitchen, with their massive exterior end chimneys, faced Aldermanbury Street. Such

an orientation of buildings is similar to ones portrayed in surviving illustrations of Dutch homelots in the 16th and 17th centuries in urban settings (Voskuil 1979: 37- 39).

The types and evolution of the architecture have been analyzed in detail by Stone (1983) and were summarized in Chapter III of this dissertation. The present section concentrates on the size, spatial relationships and inferred functions of the available living space at the site through time. This information is summarized in Table 3.

Main Dwelling Complex

The first phase of architectural arrangement at the van Sweringen site began with van Sweringen's acquisition of the Secretary's Office in the late 1670s. During this earliest phase of domestic occupation, the homelot consisted of the principal dwelling, a detached kitchen and a cellar house (Figure 20a). Van Sweringen had added an exterior chimney to the west gable end of the former Secretary's Office and it was partitioned into two rooms of approximately 20 by 20 feet each (Stone 1983). This early dwelling was not unlike the homes of many Maryland colonists, which often consisted of two ground floor rooms, one heated and one unheated (Carson et al 1981; Main 1982).

The van Sweringens also constructed two separate service buildings, including a kitchen and a cellar house. Located adjacent to the rear side of the dwelling, the kitchen measured approximately 15 by 20 feet with a large cooking hearth at its west end. A small, brick-lined cooling pit was located along the north interior wall of the kitchen. The

BUILDING	ROOM (inventory)	ROOM (after Main 1982)	SQUARE FOOTAGE	DISTANCE FROM DWELLING	HEATED	FUNCTION	DATE OF CONST.
DWELLING	Council Chamber	Hall	400	-	yes	Dining Socializing Sleeping	c. 1675
Socializing	Inner Room	Inner Room	200	-	yes	Dining	
	Mrs. Van Swerings Rome	Chamber	300	-	yes	Sleeping	
KITCHEN	Not recorded	Kitchen	300 enlarged to 360	10 feet Food/Dairy Storage	yes rebuilt 1690	Cooking	c. 1675
	Not recorded	Loft		no	Sleeping		
CELLAR HOUSE	N/A*	Cellar House	100	30 feet(?)	no	Storage Dairy Storage	c. 1675
MILK HOUSE	Not recorded	Milk house	100	15 feet	no	Dairy Storage	abandoned 1690 c. 1690
OUTBUILDING	Coffee House(?)	Outbuilding	370	60 feet	yes	Cooking Socializing Baking/brewing(?)	c. 1680-1685

*Removed prior to death of van Sweringen

Table 3. Architectural space, size, function and distance relationships at the van Seringen site.

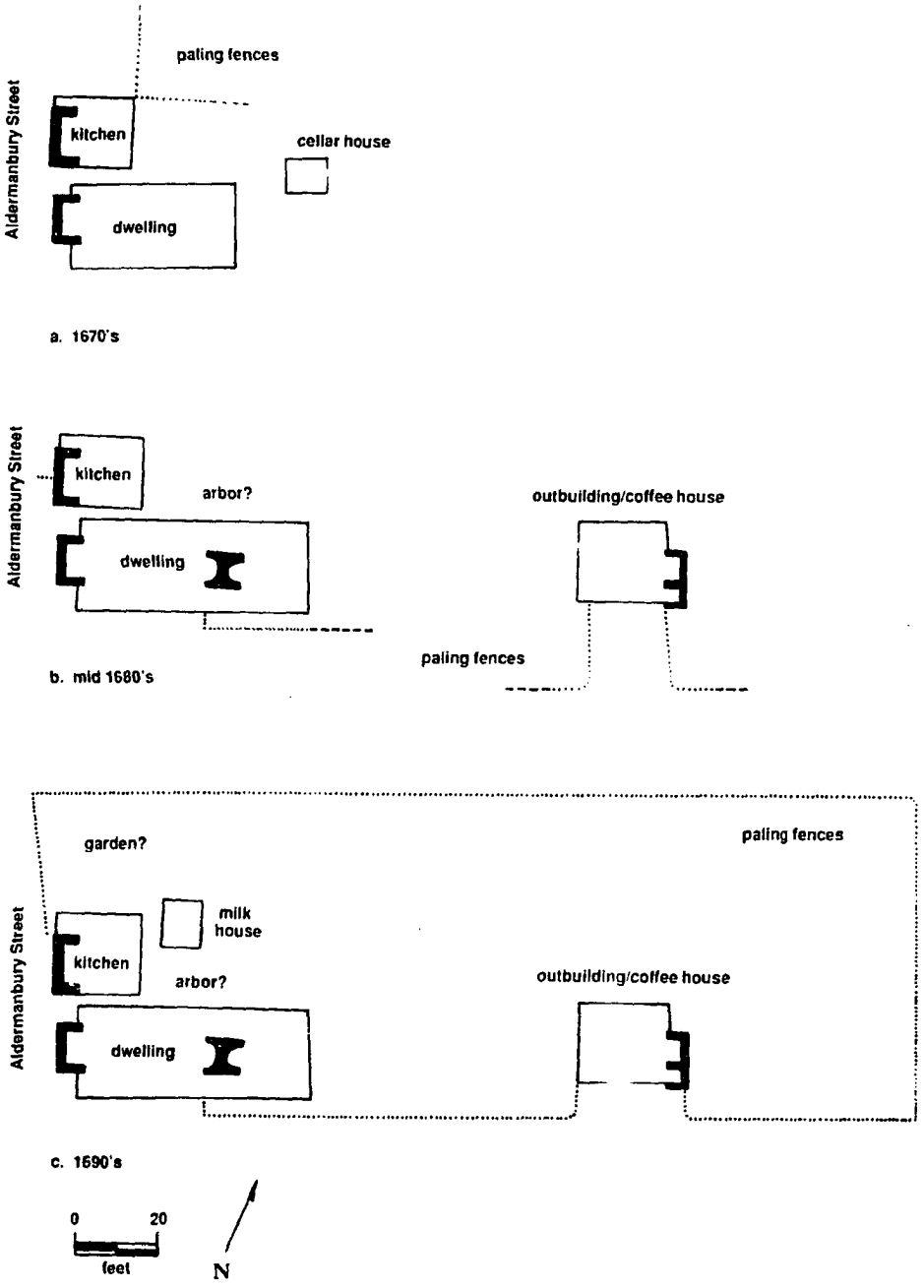


Figure 20. The van Sweringen architecture and fence lines in the 17th century

second outbuilding was a cellar house constructed at the northeast corner of the dwelling. Limited archaeological testing suggests a shallow cellar three to 3.5 feet deep housed under a frame structure. Similar buildings, or cellar houses have been located at the Clifts plantation site (Neiman 1980: 69-71) and the Hallowes site (Buchanan and Heite 1971: 40), both in Westmoreland County, Virginia, and at Middle Plantation in Anne Arundel County, Maryland (Carson et al 1981).

In the mid 1680s, the van Sweringens undertook a number of architectural changes to their buildings (Figure 20b). The dwelling was enlarged from 40 by 20 feet to 55 by 20 feet and a brick veneer was added to the front facade. A central chimney was built at this time, and the floor plan now consisted of three heated ground floor rooms. These three rooms could be used comfortably year-round by the van Sweringens and their family and this form persisted throughout the remainder of the site's occupation.

The largest room, located at the dwelling's west end, measured approximately 20 by 20 feet, providing 400 square feet of heated living space. This room probably served both as the main living room (hall) and the Council Chamber mentioned in van Sweringen's will. Items found in this room when van Sweringen's will was probated in 1700 suggest that it was used for socializing, dining and sleeping (Carson 1983; cf. Chapter III). A 10 by 20 feet heated "inner room" was located in the center of the dwelling. Items found in the inner room in 1700 indicate it was primarily used for dining and/or socializing. Family members and inn patrons probably did not sleep in this room; a bed listed in the inventory was probably used on an empty bedstead in the Council Chamber. "Mrs.

Vanswering's room," located at the east end of the structure, measured approximately 15 by 20 feet with a fireplace and a built-in closet next to the chimney. The van Sweringens and at least some of their children used this room as their bed chamber.

Stone (1983) believes that a loft was located over the three ground floor rooms but, if so, nothing of any value was found there when van Sweringen's estate was probated. Archaeological evidence did not reveal a stair to the loft, but a ladder could have easily served the purpose. Lofts are mentioned in only 17 percent of 17th century southern Maryland room by room inventories (Main 1982: 293) and were used by children, other family members, servants or slaves for sleeping and also for the storage of equipment or foodstuffs.

Renovations were also undertaken with the kitchen building during the mid 1680s. The kitchen was enlarged slightly to approximately 18 by 20 feet and the fireplace and chimney were rebuilt. The small cooling pit in the kitchen was filled and a paved brick floor was added tothe kitchen. The nearby cellar house was also abandoned at this time. The cellar was filled and it is likely that the superstructure was also pulled down.

In the 1690s, a new frame milk house was constructed within the main dwelling complex (Figure 20c). Located behind the dwelling and adjacent to the kitchen, the milk house was of post construction over a four foot deep brick-lined cellar. Shelves were probably attached to the walls of the frame structure. Nearly all the van Sweringen pewter was found stored in the milk house when the estate was appraised in 1700.

The arbor frequently mentioned in the Council minutes was discovered archaeologically in 1985. The arbor was constructed of a number of wooden posts with boughs woven together across the top. At van Sweringen's, it was located behind the dwelling, adjacent to the kitchen (cf., Figure 20c).

Outbuilding

Sometime during the 1680s, van Sweringen constructed a fifth structure approximately sixty feet east of the main dwelling complex (cf., Figure 20b). This building, constructed on wooden blocks, measured 20 by 18.5 feet, with 370 square feet of interior living space. This was only slightly smaller than the amount of space found in the Council House room in the main dwelling. A large fireplace with an unusual E-shaped hearth was located along the structure's east wall. The front of this building, like the main dwelling, was oriented to the alley. Since van Sweringen had ordered a large amount of brewing supplies, there was some initial speculation that this structure might have been a bake and brew house (Stone 1983). Van Sweringen's inventory listed old chairs, an old chest, some cooking equipment, three or four chamber pots and a set of scales and weights in this building. No baking or brewing equipment is mentioned for this building nor anywhere else on the homelot. The absence of beds and bedsteads in this building indicate it was probably not a servant's or slave's quarter. Plaster, window glass and fireplace tile fragments in the associated archaeological deposits further suggest this structure was not an ordinary service building. A subsequent preliminary analysis presented a strong argument that this building was, in fact, the enigmatic Coffee House

mentioned in van Sweringen's will (King and Miller 1987). This interpretation is examined more closely in this chapter.

In summary, the architecture at the van Sweringen site in the 17th century consisted of the principal dwelling with two service buildings located to the rear of the dwelling. These service buildings were all located within 30 feet of the dwelling. When van Sweringen first expanded the former Land Office, he created a dwelling of two rooms, of which one was heated, not unlike other dwellings built throughout the colony. Within ten years he had expanded the dwelling to include three heated rooms. Service buildings included a detached kitchen and a cellar house subsequently replaced by a milk house.

The outbuilding, constructed in the mid 1680s, was located more than 60 feet from the dwelling complex. This structure was well-appointed with plastered walls and a tiled fireplace hearth, and the inventory suggests that, during the 17th century, it was neither a quarter nor a brewhouse. Rather, the chairs mentioned in the inventory suggest a gathering room not unlike the Council House. The old and broken quality of the chairs may refer to their lack of use for nearly five years following the move of the capital to Annapolis.

Fences

Fences and fence lines are important when analyzing the organization and use of domestic space because they create visual demarcations of outdoor space (Keeler 1978:

84-85). Like walls, fences act as barriers and contain valuable information about the use and meanings of outdoor domestic space. They create functional, symbolic and even ecological divisions of space (Keeler 1978: 85). In 17th century St. Mary's City, fences were used to keep both animals and people in or out.

During the Phase I occupation, yard space at the van Sweringen site was enclosed by paling fences. Paling fences were frequently mentioned in 17th century documents and are the most common fence type encountered on 17th century sites in St. Mary's City. Small ditches no more than one foot in width and one to two feet in depth were hand dug and posts three to four inches in diameter were closely set in the ditch. These posts, or pales, were anchored together by a rail nailed across their top. Paling fences were impenetrable by most animals including pigs. These fences also formed an impenetrable visual barrier which effectively prevented an individual on one side of the fence from seeing or joining what occurred on the other side.

Six Phase I palisade ditches at the van Sweringen site were partially excavated, and fence line layout through time is shown in Figure 20. During the earliest domestic occupation of the site, in the late 1670s and early 1680s, the household's back yard was enclosed, probably containing the household garden and livestock necessary to maintain the St. Mary's City residence (cf., Figure 20c). The dwelling, kitchen and cellar house, buildings standing at this time, were not enclosed. By the mid to late 1680s, the enclosed back yard was enlarged to include the service buildings as well as the newly constructed outbuilding located in the outlying east yard (cf., Figure 20b). Paling fences were also

constructed along the alleyway from Aldermanbury Street, preventing access to the van Sweringen yard and directing traffic to the main entrances of the dwelling and the outbuilding. Further, the paling provided a second barrier to the ground floor bedroom of the van Sweringen's and their children. This arrangement of fencing persisted through the 17th century.

Distribution of Artifacts

Thousands of artifacts were recovered from the plow zone contexts at van Sweringen's, and many of these artifacts were plotted on maps either by computer or by hand. The artifact distribution maps revealed evidence of both secondary and primary deposition. Secondary deposits, or refuse middens, contained large quantities of overlapping materials, while primary deposits consisted of tightly-clustered concentrations of a small but significant number of artifacts. Refuse middens represent the disposal of household garbage through cleaning efforts. Primary deposition represents the remains of loss or of specific activity areas. The identification and types of artifact distributions at the van Sweringen site are discussed below.

Midden Areas

Analysis of the computer-generated artifact distribution maps, hand-plotted maps and other data revealed two phases (Phase I: 17th century and Phase II: 18th century) of secondary refuse deposition in the vicinity of the main dwelling and the outbuilding.

Middens were identified as plow zone units containing significantly more artifacts than other areas of the site. Most of the 17th century distributional data suggest that the secondary deposition of garbage and refuse took place in midden areas outside doors and windows and along fencelines. Not surprisingly, none of the middens were located within dwellings, which were generally kept clean of refuse (cf., Figure 19).

Phase I middens were identified primarily through overlapping distributions of pipe stems having large bore diameters of 3.0 to 3.4 mm (roughly 7/64-10/64ths inch) (Harrington 1954; Stone 1977) and Morgan Jones ceramics (c. 1661- 1680) (Miller 1983: 90) (Figures 21-24). Plots of Rhenish brown stonewares, identified makers marks on pipes, pipe bowl forms, diagnostic table glass fragments and tin-glazed earthenwares dating to the 17th century were also used to date the identified artifact concentrations as precisely as possible. These 17th century artifacts are more concentrated in certain locations of the site and these concentrations are interpreted as refuse middens during this period (Figure 25).

These clusters suggest that, during the occupation of the site by the family of Garret and Mary van Sweringen, refuse was predominantly deposited in two areas at the main dwelling complex. The first was a widespread midden area west and northwest of the dwelling and kitchen, in what was then Aldermanbury Street. This midden measures approximately 75 feet in length with a width varying from 30 to 40 feet. The second midden occurs in the yard south of the dwelling, adjacent to the main entrance and in the alleyway. This midden is shaped like an upside down U with a width of 60 feet and a

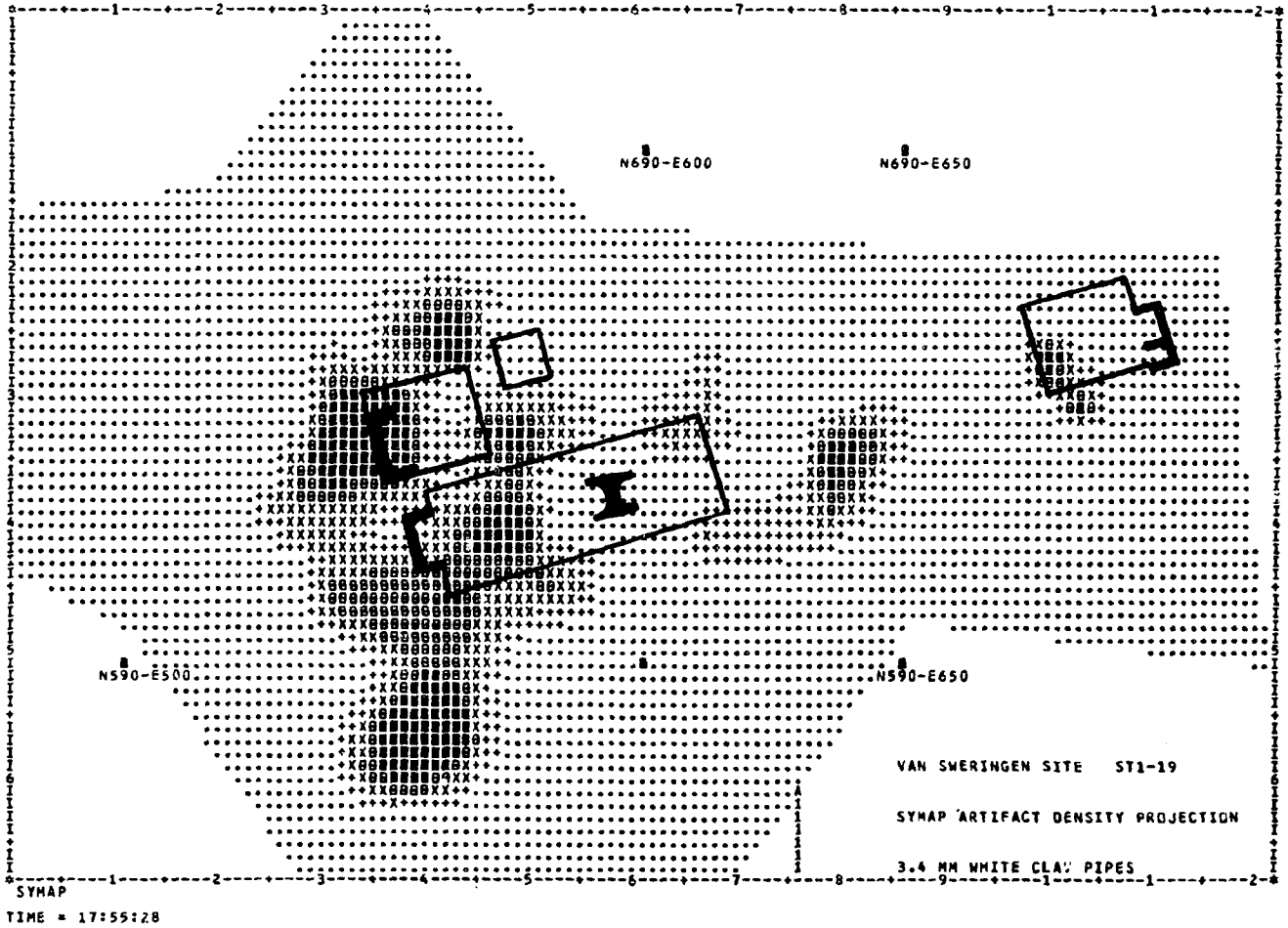


Figure 21. Computer-generated distributions of pipe stems with 3.4-4.0 mm bore diameters

Figure 22. Computer-generated distributions of pipe stems with 3.2 mm bore diameters

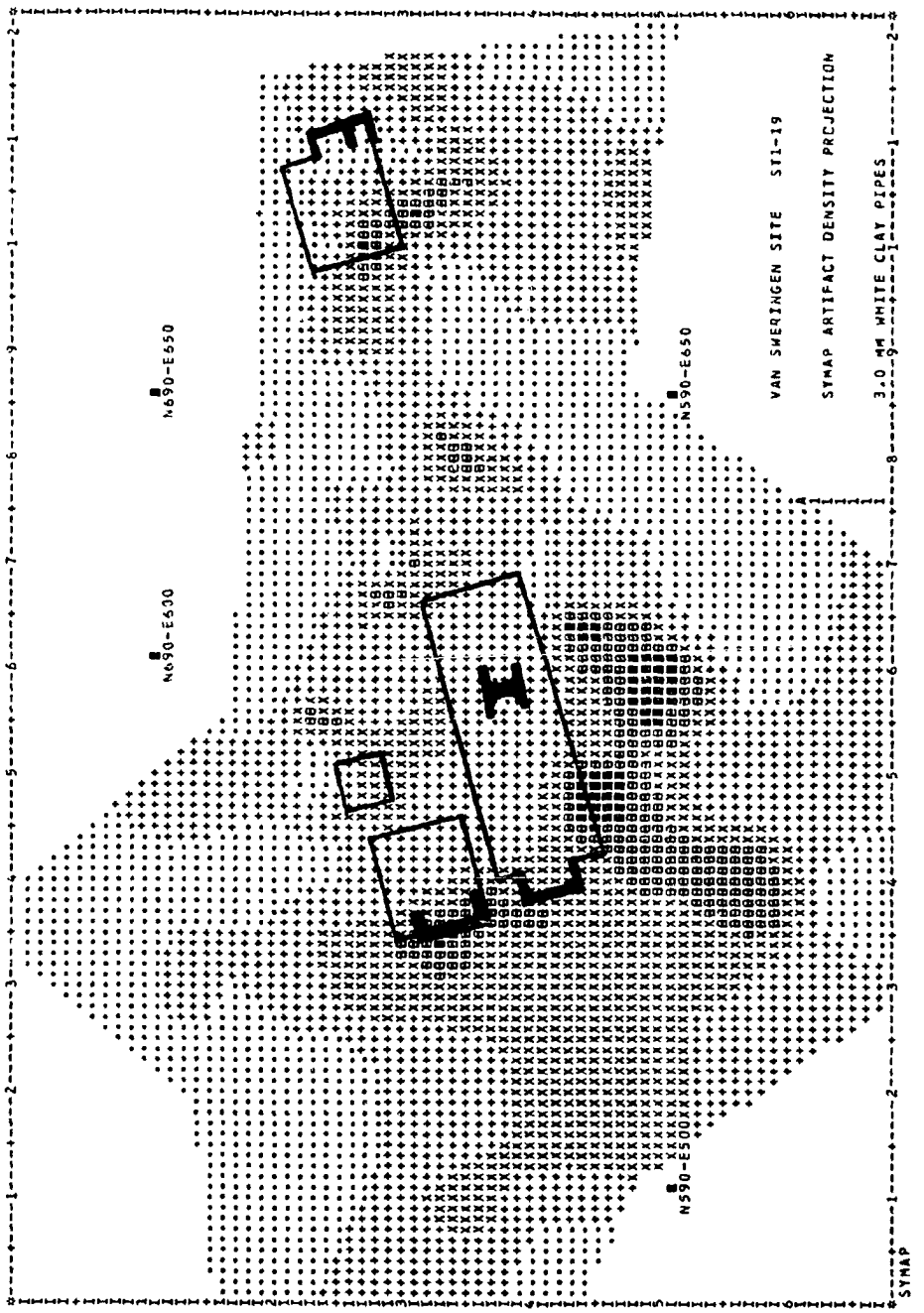


Figure 23. Computer-generated distributions of pipe stems with 3.0 mm bore diameters

Figure 24. Computer-generated distributions of Morgan Jones earthenware fragments

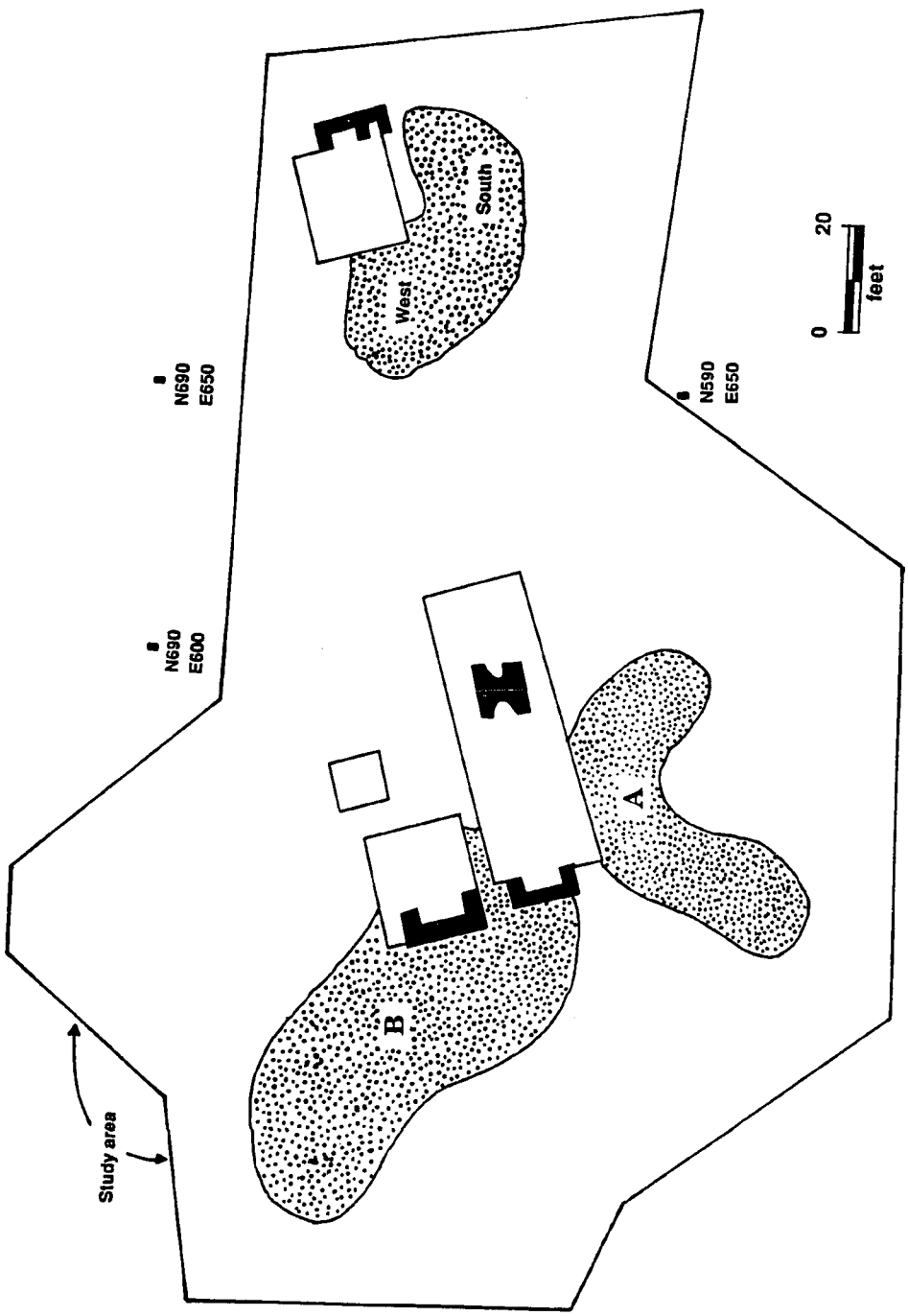
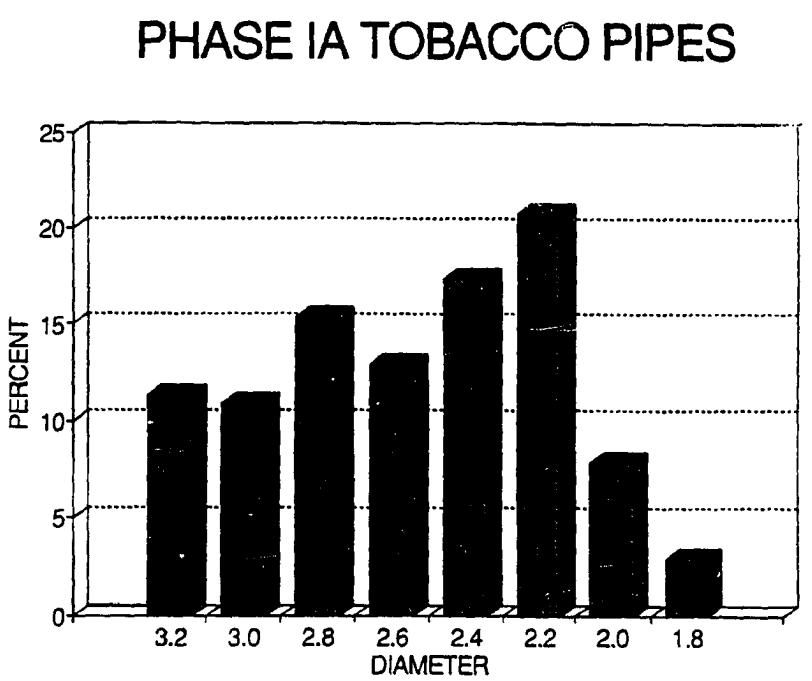


Figure 25. Phase I 17th century refuse middens

maximum distance of 40 feet from the main dwelling. Both middens are contemporary and were deposited throughout the 17th century occupation based on artifact content, including very similar pipe stem bore diameter distributions (Figure 26). The backyard of the van Sweringen main dwelling complex remained relatively clean of refuse in the 17th century, despite the presence of the kitchen, the cellar house and the later milk house. The majority of trash from the kitchen was not simply tossed out of the kitchen door as in the main dwelling, but carried to the fence separating the lot from Aldermanbury Street.

At the nearby outbuilding, refuse was tossed out the structure's entrance into the alleyway, and the midden's distribution conforms well with the fenceline arrangement in this area. A second doorway is suggested in the west wall of the outbuilding, where another midden is also located. All the 17th century materials which occur at the main dwelling complex are also found at the outbuilding, although in smaller numbers. While these reduced numbers may be linked to temporal variation, it may also be a result of functional variation. Hence, precise dating of the outbuilding is best accomplished through architectural analysis (artifacts in post molds and post holes). In the case of the outbuilding, that date is mid-1680s to c. 1725.

These middens, although plow-disturbed, are certainly associated with the van Sweringen occupation and not any other site. The middens are located between the van Sweringen dwelling and the river bank, and no evidence was discovered for another structure in this area. Erosion along the river bank in this area has also been minimal (Miller 1986). Finally, cross-mending ceramic fragments occur between the middens and



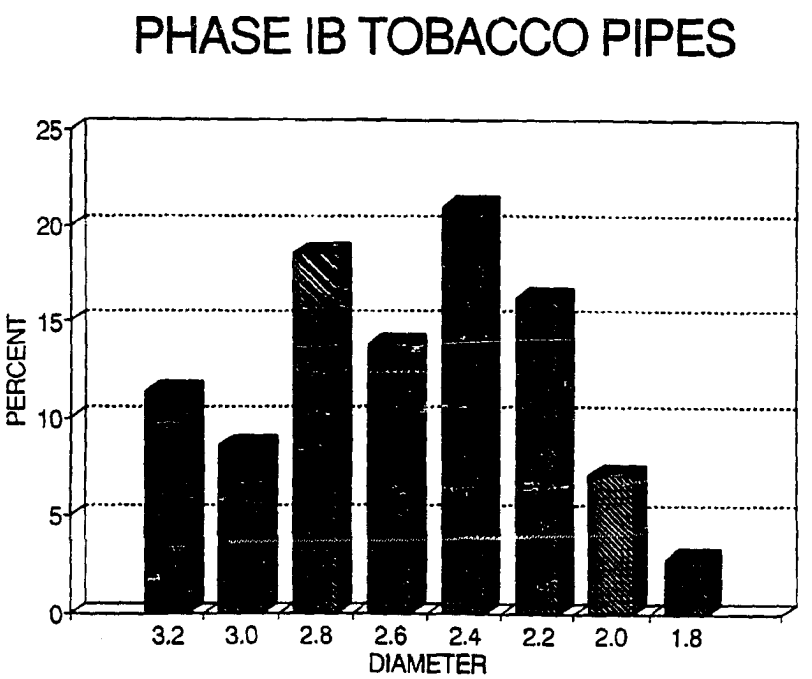


Figure 26. Distribution of pipe stem bore diameters, Phase I Middens A and B

other features at the site, strongly linking the plow zone proveniences used in this study with the van Sweringen architecture.

The distribution of midden deposits at the van Sweringen site contrasts with similar analyses at other 17th century sites in southern Maryland. Midden deposits at St. John's, a tobacco plantation located on the edge of St. Mary's City that also served as an inn, occurred in the household's backyard and west side yard and in an area close to the site's water source. The front yard, which was enclosed by a fence, was kept free of refuse throughout the 17th century (cf., Figure 12) (Keeler 1978; King 1988a).

The Compton site is another tobacco plantation located on the lower Patuxent River in Calvert County. The site is believed to have been occupied c. 1651-1684 and is the earliest colonial site yet excavated in Maryland outside St. Mary's City (Louis Berger Assoc. 1989). Analysis of the plow zone artifacts indicated that refuse was tossed out of the nearest door, with midden concentrations in the yards surrounding the buildings (Gibb and King in prep). Similar distributions were also evident at the King's Reach site, a late 17th/early 18th century tobacco plantation at the Jefferson Patterson Park and Museum in Calvert County, but those distributions are still under study. A number of artifact-rich features contributed materials to the plow zone assemblages at this site (Pogue 1988). Finally, at the Patuxent Point site, located less than 1000 feet from Compton and occupied c. 1660-1690, virtually no refuse accumulated on the dwelling's east side, believed to be the front yard. Refuse middens, pits, and fence lines occurred exclusively in the dwelling's west yard (Gibb and King in prep).

St. John's, Compton, and King's Reach, unlike van Sweringen's, were tobacco plantations, and Compton and King's Reach were situated in rural settings typical of 17th century settlement in the Chesapeake. St. Mary's City, however, was a relatively populous village in the late 17th century, and comparable data are also available from two ordinaries located there.

The Country's House was located in the Village Center of St. Mary's City, and served as an ordinary from c. 1680 until the end of the 17th century. During this period, service buildings and the orchard were enclosed by fences to the rear of the structure. Artifact distributions revealed a large concentration of utilitarian coarse earthenwares (primarily North Devon gravel- tempered wares) in association with one of the rear yard service buildings. Fine wares of the type found predominantly in tableware forms were found clustered in the building's front yard, presumably from dining and socializing activity in the front rooms of the Country's House. While this site will require more intensive analysis, preliminary study suggests that outdoor spaces were not consciously kept clean, as at van Sweringen's (Miller 1986: 25-46).

Smith's Ordinary was also located in St. Mary's City. Constructed c. 1666, Smith's served as an ordinary until its destruction by fire in 1678. Garret van Sweringen had leased the property possibly as early as 1667, and held the lease until c. 1677. Preliminary analysis of the distribution maps suggests that refuse simply went out the nearest door (Miller 1986: 92- 104). These patterns contrast dramatically with the van Sweringen data. During the 17th century, refuse from the van Sweringen household was

deposited in public areas, including a roadway and a path. The private areas located to the rear of the dwelling were essentially free of garbage. Had refuse been tossed out 'the nearest' door or window, an extensive midden associated with the kitchen building would be expected in the back yard.

This variation in midden distribution provides some insight into how spaces were perceived and used. The 17th century inhabitants of the van Sweringen site apparently considered the public roads an acceptable location for garbage disposal. Spaces not considered public, on the other hand, were kept relatively free of trash. Archaeological and historical evidence sugggest that the north yard of van Sweringen's homelot was an area used for family and private guest activities.

The remains of a stout paling fence, which apparently enclosed the entire north yard, were found in that area (cf., Figure 20b). These rugged, ditch-set fences consisted of closely spaced rails that would have created an effective barrier between van Sweringen's backyard and busy Aldermanbury Street. Traces of a post-supported arbor have also been detected along the north side of the dwelling, within the fenced yard. Documents indicate that on at least three occasions in the 1680s, members of the Governor's Council adjourned their meetings and retired to the "arbor at van Sweringen's" (Archives of Maryland 1885: 122, 130, 137).

Ethnicity may also be related to the spatial arrangement of van Sweringen's homelot. Van Sweringen was of Dutch origin, initially settling at the Dutch colony of New Amstel

on the Delaware Bay before moving to Maryland. Many 17th century Dutch genre paintings portray arbors as locations for drinking, feasting and relaxing (cf., Hooch 1984). Generally depicting homes in urban settings, these paintings show that the arbors and courtyards are to the rear or side of the dwellings, and these areas are consistently free of any major accumulations of garbage. During the late 17th century, when St. Mary's reached its maximum population size, van Sweringen may have employed a Dutch homelot organization at his Maryland home. St. Mary's was not as large or urbanized as Dutch cities, but it was the only major population center in 17th century Maryland as well as the center of government. When the Provincial Assembly or courts were in session, Aldermanbury Street was a heavily traveled route. The enclosure of an outdoor space adjacent to the dwelling provided a private area for use by the family and the elite customers at van Sweringen's lodging house that would have been especially welcome during the summer months. Thus, this spatial arrangement may represent a response to an increasingly urban environment through the application of an urban Dutch concept of space use (King and Miller 1987).

Midden Composition

Associations among artifacts are as much an important source of data for spatial analysis as are associations of artifacts with architecture and fence lines. Although the overlying midden soils at the van Sweringen site have been plow-disturbed, artifact associations are expected to remain intact, if blurred (O'Brien aand Lewarch 1981; King and Miller 1987; King 1988; Riordan 1988; cf., Chapter IV). Using the main categories

of ceramics, tobacco pipes and bottle glass, and typological and functional categories of ceramics, midden variability is as sessed.

Excavation squares from the large midden west of the dwelling and the smaller midden were selected for further analysis (cf., Figure 25). These selected midden proveniences were not overlapped by later Phase II deposition. The outbuilding midden was not included in this particular analysis because of the problem of overlapping middens from Phase I and Phase II. Midden content at the outbuilding, however, is discussed later in this chapter. The number and frequency of total pipes, ceramics, bottle glass, table glass and bone from the Phase I middens at the main dwelling are shown in Table 4. Overall, tobacco pipes, ceramic and bone fragments each account for nearly thirty percent of the total artifact assemblage. Bottle glass accounts for slightly less than half of that percentage. Table glass accounts for a very small but significant percentage of the total Phase I artifact assemblage.

When the total artifact assemblages between the two Phase I middens are compared, little variation in artifact content is observed. Using the chi-square statistic, no significant differences at the .05 level are evident in artifact content with the exception of bottle glass ($x2=19.06$; $df=1$). Nearly twice the percentage of bottle glass fragments occur in Midden A, located adjacent to the dwelling's main entrance, than in Midden B.

Ceramics were further subdivided by type, and these types were classed into five categories, including Chinese export porcelain, tin-glazed earthenwares, other imported

Midden:	A		B		Total	
	no.	%	no.	%	no	%
Artifact Type:						
Tobacco Pipes	244	27.7	257	31.0	501	29.4
Ceramics	250	28.4	242	29.2	492	28.8
Bottle Glass	151	17.1	82	9.9	233	13.7
Table Glass	10	1.1	10	1.2	20	1.2
Animal Bone	224	25.4	236	28.5	460	27.0
Total	879	99.7	827	99.8	1706	100.1

TABLE 4. Total Domestic Artifact Categories from Phase I Middens, Main Dwelling Complex.

fine-pasted ceramics, imported coarse earthenwares, local ceramics, and miscellaneous lead-glazed earthenwares. The number and frequencies of these types for Phase I middens as well as their classification are presented in Table 5.

The bulk of the ceramic types from both middens are comprised of tin-glazed earthenwares, which account for nearly one-third of the ceramic assemblage. Other fine-pasted wares make up slightly more than one-quarter the total ceramics. Both tin-glazed and the other fine wares consist predominantly of drinking and dining vessel forms, and make up nearly 58 percent of the total Phase I assemblage. Chinese porcelain, which generally also occurs in drinking and dining forms, is represented by a single sherd, indicating that porcelain was little used at even this exclusive lodging house in the 17th century.

Imported and local coarse earthenwares together comprise approximately 20 percent of the ceramic collection. Notably, more than one-fifth of the Phase I midden ceramic assemblage consists of unidentified coarse earthenwares.

When the assemblages from Middens A and B are compared using ceramic types, the distributions of ceramic types are similar. This observation is reinforced by the chi-square calculations for these comparisons, where no statistically significant differences at the .05 level were found to exist.

Midden:	A		B		Total	
	no.	%	no.	%	no.	%
Ceramic Type:						
Chinese						
Porcelain	1	0.4	0	-	1	0.2
Tin-glazed wares	83	33.2	71	29.3	154	31.3
Other Fine Wares*	66	26.4	85	26.9	131	26.6
Imported Coarse						
Earthenwares	39	15.6	33	13.6	72	14.6
Local Wares	10	4.0	17	7.0	27	5.5
Miscellaneous						
Wares	51	20.4	562	3.1	107	21.7
Total	250	100.0	242	99.9	492	99.9

TABLE 5. Total Ceramic Types from Phase I Middens, Main Dwelling Complex.

The ceramic type data provide a preliminary look at functional variation. However, vessels of different functions are frequently present for any particular ware type. In this analysis, fragments from identified vessels were calculated for each midden. Sherd counts were used for these calculations. While individual vessel data are preferred, the sample sizes from the van Sweringen middens were too small to warrant meaningful statements.

Vessel categories included forms used in serving, food and beverage consumption, food and beverage storage, food processing and cooking. One hundred thirty-six ceramic fragments from the Phase I middens could be identified as to vessel form (Table 6). Ceramic drinking containers constituted the largest category of sherds, accounting for nearly half the total midden assemblage. Food consumption vessels accounted for 14.7 percent of identified vessel fragments. Storage vessels and food processing vessels accounted for 13.3 percent and 11.8 percent, respectively, of this assemblage. Cooking vessels accounted for less than 4 percent of the total assemblage, and it is safe to assume that most cooking was done in iron pots. When the two Phase I middens were compared, no statistically significant differences between categories of vessel forms were observed.

Overall, the similar composition of the two middens is striking. The location of Midden A suggests its derivation from the hall, or Council Chamber, and possibly the inner room of the dwelling. Midden B is located such that its materials appear to derive from the kitchen and possibly the dwelling as well. Virtually identical distributions of tobacco pipe, bone, and ceramic vessels suggest that food processing, food storage, dining

Midden:	A		B		Total	
	no.	%	no.	%	no.	%
Vessel Category:						
DRINKING	28	42.4	34	48.6	62	45.6
SERVING	5	7.6	7	10.0	12	8.8
CONSUMPTION	10	15.2	10	14.3	20	14.7
STORAGE	8	12.1	10	14.3	10	13.2
PROCESSING	9	13.6	7	10.0	16	11.8
COOKING	3	4.5	2	2.9	5	3.7
OTHER	3	4.5	0	-	3	2.2
Total	66	99.9	70	100.13	136	100.0

Drinking: mugs, jugs, cups, small punch bowls

Serving: pitchers, large punch bowls

Consumption: plates, dishes, other tablewares

Storage: jars, bottles, butter pots

Processing: bowls, milk pans

Cooking: patty pans, pipkins, skillets

TABLE 6. Vessel Forms from Phase I Middens, Main Dwelling Complex.

and beverage consumption occurred in both areas. While cooking undoubtedly occurred in both rooms, the surviving archae ological evidence for this is meagre.

These data are especially intriguing when compared to the evidence provided by van Sweringen's probate inventory. While the probate inventory of 1700 suggests significant functional differences in use between the kitchen and the Council Chamber, the archaeological record suggests that similar activities were conducted in each space. The documentary record concerning the van Sweringen site, particularly the Archives passages and van Sweringen's frequent legal battles to secure payment, reveal the predominantly male clientele that frequented this lodging house. The archaeological record indicates that, while socializing clearly went on in the Council Chamber, so did food processing and other domestic chores. Since women were documented to have been responsible for these chores, they also appear to be present in the Council Chamber. Further, both the Council Chamber and the kitchen may have been used differentially on a seasonal basis. When the Assembly was not in session, and especially in the winter, the van Sweringens may have restricted their living space to the dwelling with only limited use of the kitchen. Floral and faunal data from the kitchen and Council Chamber hearths and associated storage cellars are needed to examine variability linked to seasonal use.

Both the inventory and the archaeological data provide complimentary evidence for investigating the use of space at this 17th century inn and household. While the inventory is a reflec tion of a single point in time, the archaeological record can only be narrowed to a period of 25 years. Further, room fur nishings may only provide part of the clues for

determining the actual activities which occurred in various rooms and spaces over two decades.

PHASE II: 18TH CENTURY

Van Sweringen died in 1698, leaving the Aldermanbury Street lot to his son, Joseph. While this event restructured the composition of the van Sweringen household, the removal of the capital from St. Mary's to Annapolis in 1695 surely had a much more immediate impact. No longer did members of the Council congregate at van Sweringen's, although there is some evidence that occasional lodgers were still taken. After van Sweringen's death, Joseph and his mother, Mary, continued to reside at the St. Mary's City dwelling. Unlike his father and mother, Joseph was of mixed Dutch-English heritage and had been born and raised in colonial Maryland. There is no reason to assume, however, that colonial-born Joseph immediately changed his domestic environment. His mother, Mary, continued in her role as the female head of household, responsible for its daily organization and operation.

Mary, her son Joseph, and several other minor children continued to live at St. Mary's. Mary van Sweringen died in 1714, and Joseph soon married a wealthy widow. Joseph and his new family resided at the house in St. Mary's. When Joseph died in 1723, his widow remarried William Deacon. Sometime in the 1730s, the Deacon family moved to a new dwelling at Rosecroft, adjacent to St. Mary's City. The van Sweringen dwelling, now owned by Deacon, was occupied until c. 1745, presumably by an unidentified tenant.

During the 18th century, then, the site functioned primarily as a domestic household. Until c. 1730, it was one of the most wealthy households in St. Mary's County. After that time, a household of less economic or social status but of unknown ethnic affiliation occupied the site.

Architecture

The four buildings standing in the late 17th century continued to stand and to be used into the 18th century. These include the dwelling with its three heated rooms, the kitchen with its loft, the milk house and the outbuilding. When Joseph died in 1723, his possessions were appraised in an inventory but the room layout and contents are impossible to determine from that document. Archaeological evidence indicates that no other buildings were constructed at the site, nor is there any evidence that major repairs were made to any of the buildings. The outbuilding was abandoned c. 1725. The other structures at the site were abandoned about twenty years later (Figure 27).

Fences

By the 18th century, fencing type and placement had changed at the van Sweringen site. While the tall, closely set palisade fences of the 17th century yard created physical and visual barriers, the 18th century fence lines simply created physical barriers. Post and rail and worm fencing were used to enclose the 18th century yardscape. The early 18th century fencelines and their types are illustrated in Figure 27.

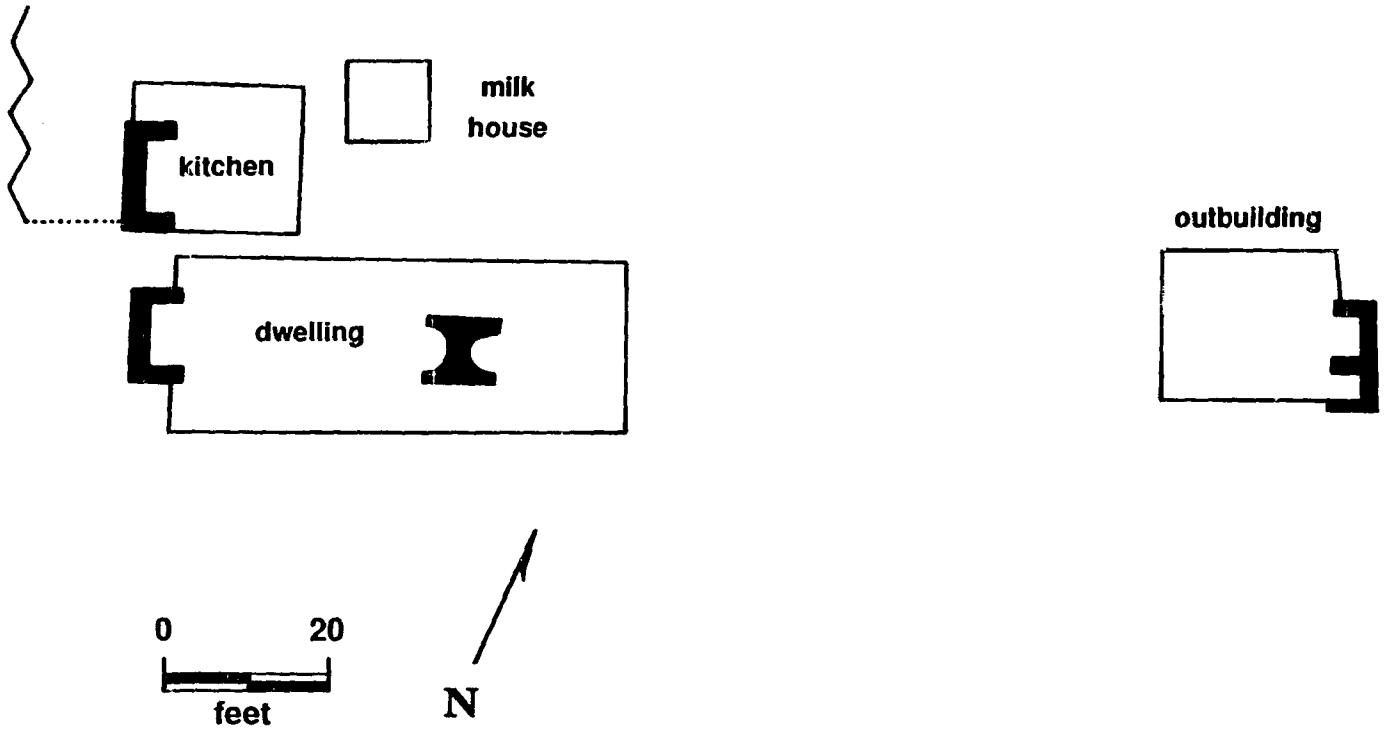


Figure 27. The van Sweringen architecture and fence lines in the 18th century

A single post and rail fence extended from the southeast corner of the dwelling to the southwest corner of the former Coffee House. A short section of a paling extended from the southwest corner of the kitchen into the former path of Aldermanbury Street. A worm fence, which leaves no archaeological traces, is hypothesized to extend from the paling into the rear yard.

Undoubtedly more 18th century fencing existed at the site, although this fencing was not discovered by the limited testing conducted in the 1970s and 1980s. Those fences that were exposed, however, contrast with those constructed during the 17th century, when van Sweringen's functioned as an inn as well as a household in a village setting. No longer was there an emphasis on building entrances, and fences no longer served as visual barriers.

Part of this change is probably related to the movement of the capital to Annapolis in 1695. This event had a tremendous impact on the cultural landscape of St. Mary's City. Within the space of a decade, St. Mary's went from being the most urbanized settlement in Maryland to a small agricultural hamlet. Only a few structures continued to be occupied, and they were scattered over the old townlands. Aldermanbury Street was apparently little used, except by residents and the occasional visitor. Consequently, the need for a private yard at the site, concealed from public view, was probably eliminated.

Keeler has also suggested that, as colonial Maryland evolved from a frontier community to a permanent, provincial colony, housing became more permanent and

yardscapes were increasingly organized through the use of fencing. While this statement appears to have been true for the St. John's site as well as the Country's House, early 18th century fencing at King's Reach (c. 1690-1715) in Calvert County consisted of a single, irregularly enclosed forecourt (Pogue 1988). Although the testing in the yards at van Sweringen's was limited, preliminary evidence sug gests that complex yard divisions may not have been present at the site in the 18th century. Such evidence indicates that household and yard composition and organization are complex, and probably affected by a variety of factors, including but not limited to the nature of early frontier Maryland.

Midden Areas

Identification of the Phase II midden areas was based on concentrations of pipe stems with small bore diameters of 1.4 to 2.4 mm (about 4/64-6/64ths inch), English brown stoneware, dipped white salt-glazed stonewares, pipe bowls and marks, diagnostic wine bottle bases and dated bottle seals, table glass and 18th century tin-glazed earthenware fragments (Figures 28-32). The location and size of the identified clusters indicate changes in the deposition of refuse at the van Sweringen site (Figure 33). Although refuse was still deposited along the west side of the dwelling, middens developed on the north and east sides of the dwelling. The area south of the dwelling, a major midden deposit in the 17th century, received relatively little refuse. There were more midden refuse areas, although each area tended to be smaller and more discrete than the widespread sheet middens of the 17th century.

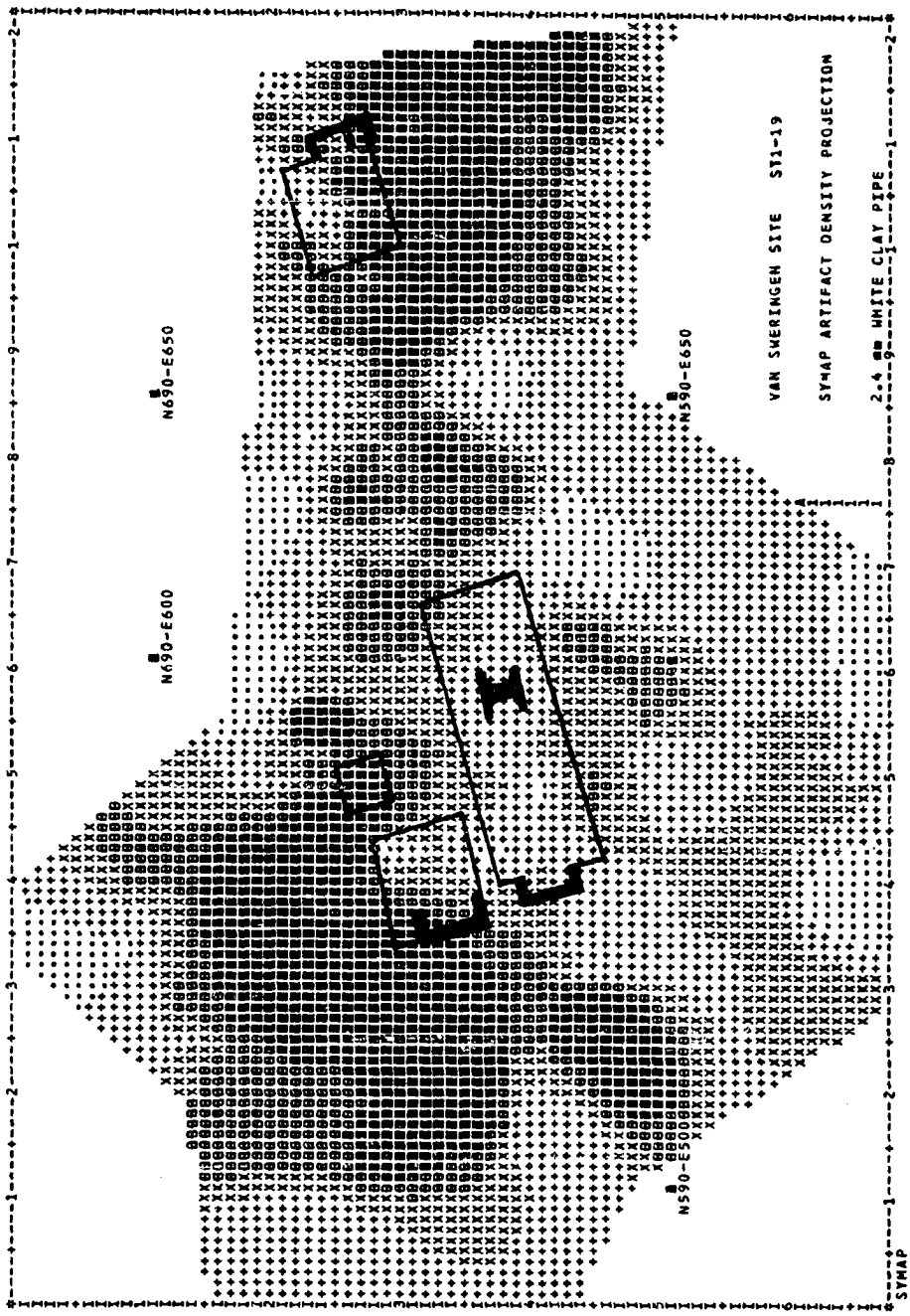


Figure 28. Computer-generated distributions of pipe stems with 2.4 mm bore diameters

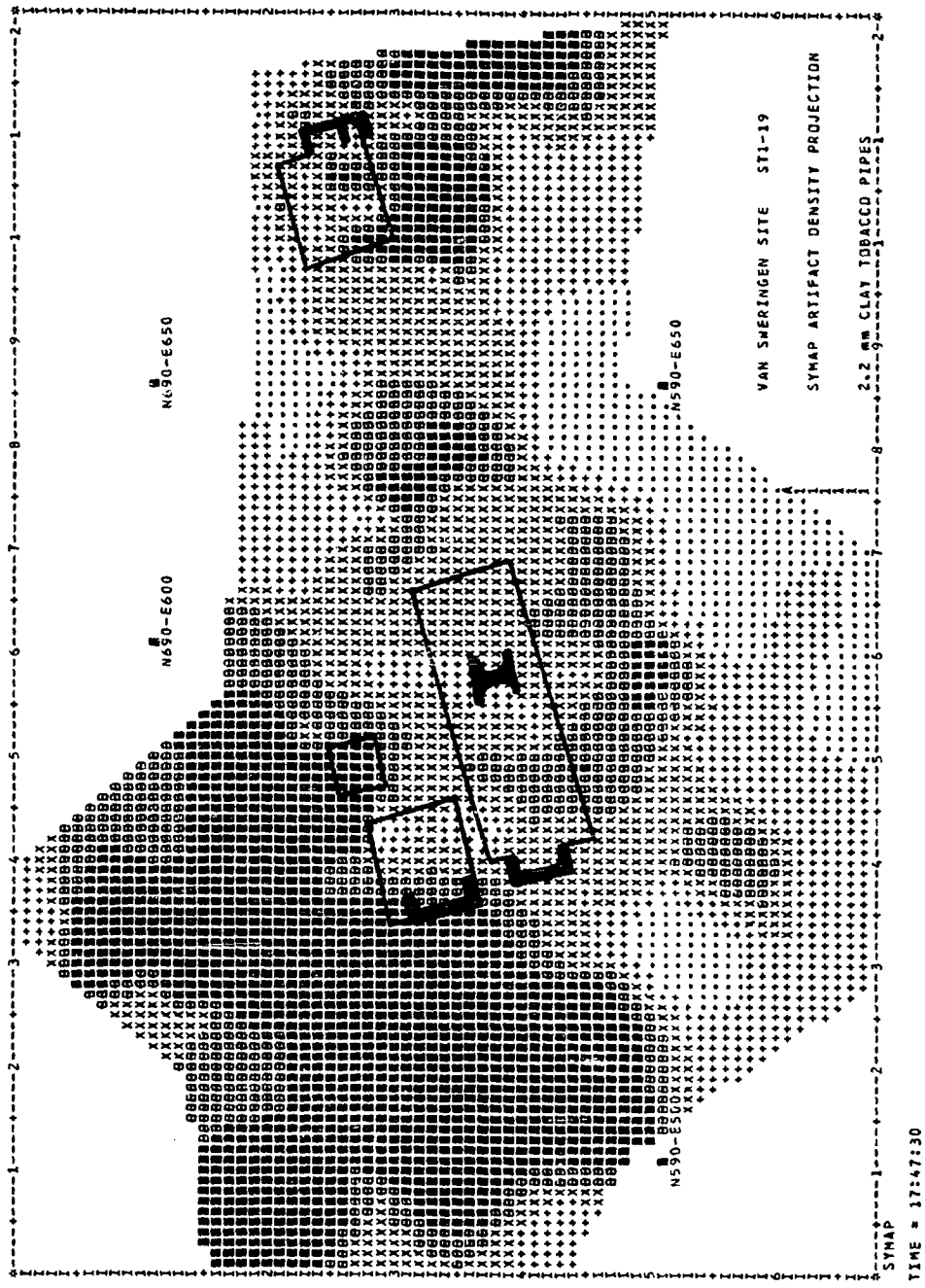


Figure 29. Computer-generated distributions of pipe stems with 2.2 mm bore diameters

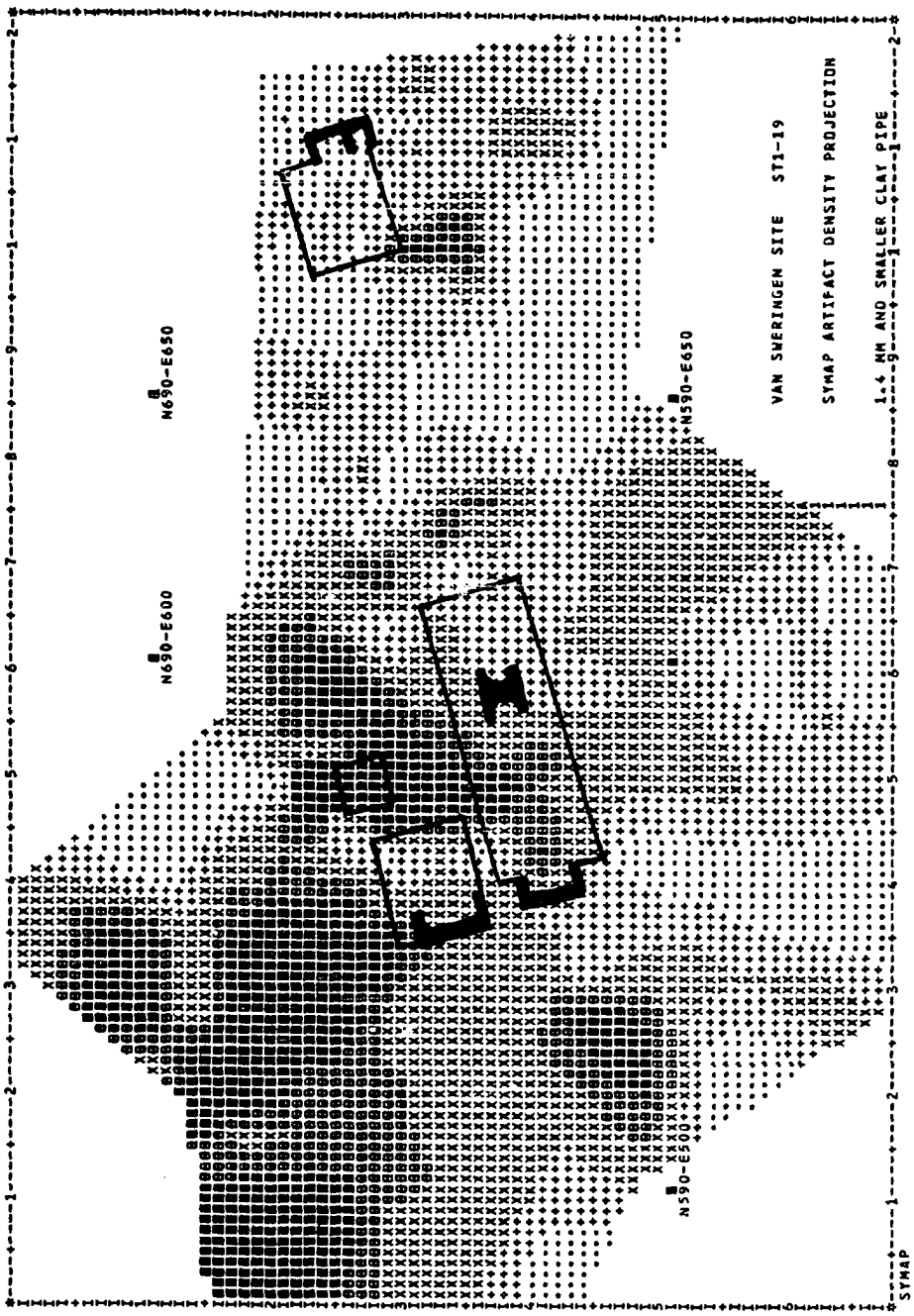


Figure 30. Computer-generated distributions of pipe stems with 1.4-2.0 mm bore diameters

Figure 31. Computer-generated distributions of English brown stonewares

Figure 32. Computer-generated distributions of dipped white salt-glazed stonewares

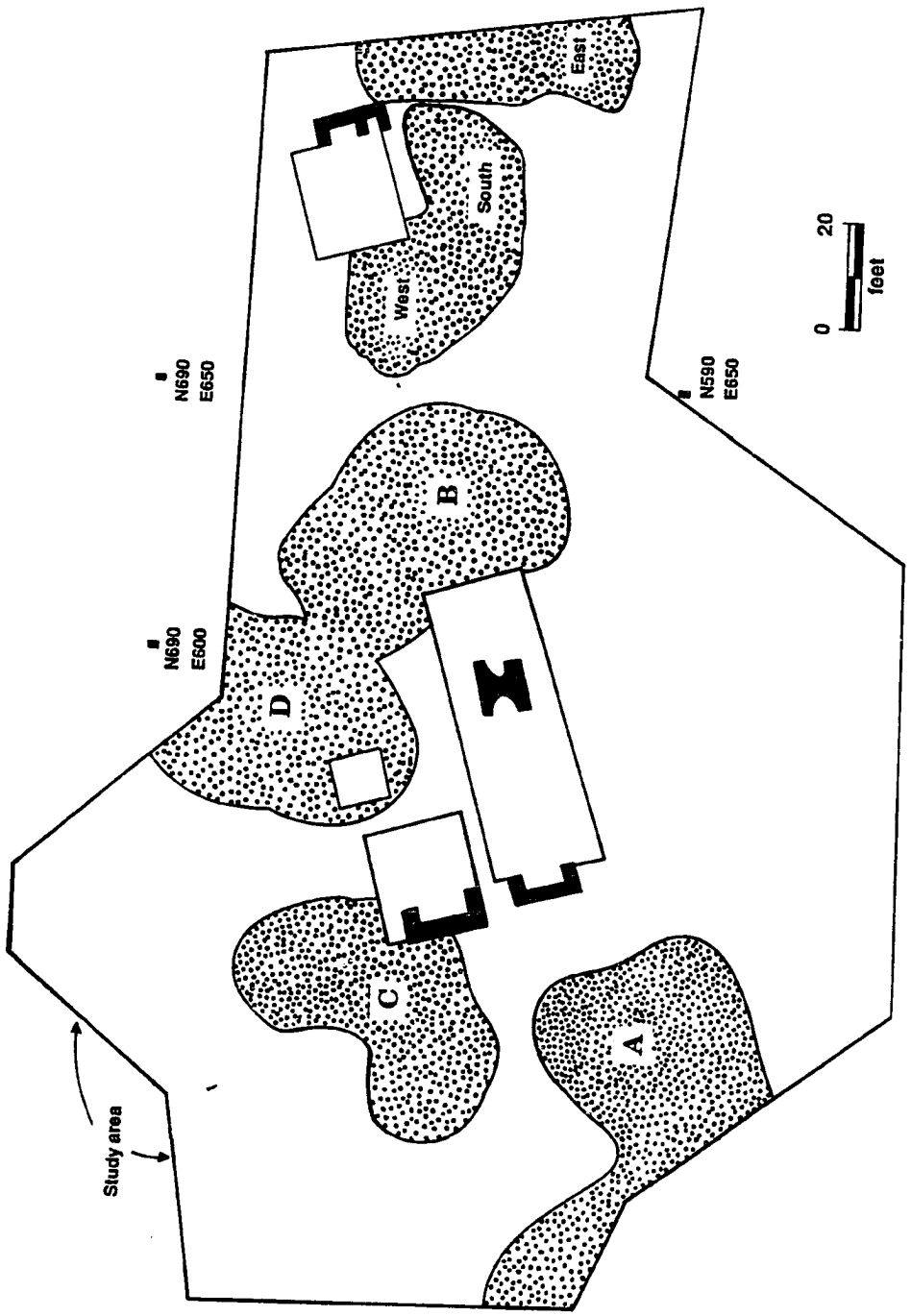
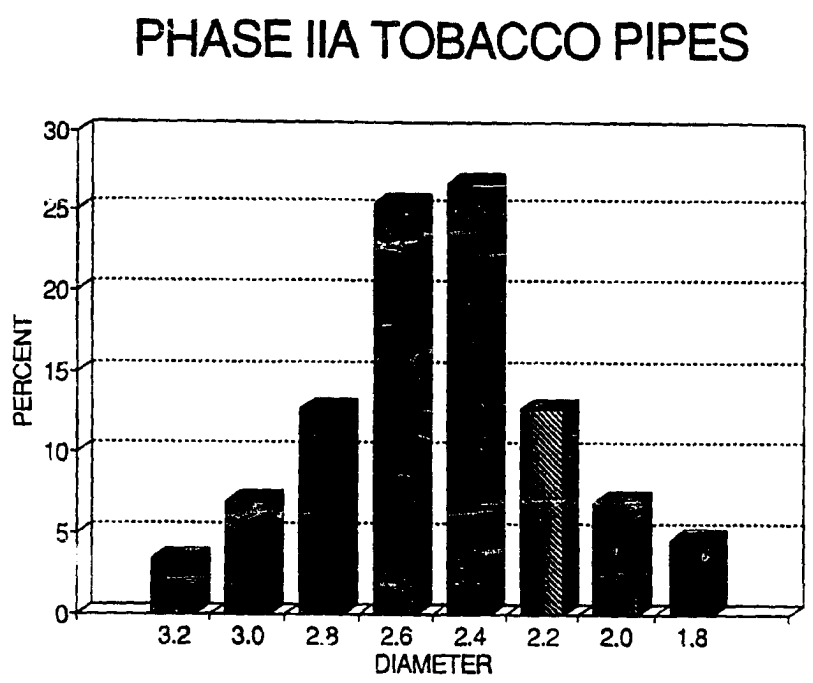


Figure 33. Phase II 18th century middens

Changes in disposal behavior were also detected within the 18th century occupation of the site. During the first quarter of the 18th century, refuse continued to be deposited west of the dwelling in a midden located 25 feet from the house and extending over the river bank (A). Deposition along the eastern end of the dwelling probably began in the very late 17th century and continued until c. 1725, since materials in these areas dated almost exclusively to the first quarter of the 18th century (B). Both middens contain pipes with a similar distribution of bore diameters (Figure 34). After c. 1725, however, refuse dumping continued primarily in the area north of the dwelling complex, within a fenced yard. A smear of 18th century materials in the northwest corner of the study area may be associated with another structure outside the limit of sampling.

The private space north of the dwelling became a general workyard and locus of refuse disposal. Garbage was also deposited at the east end of the dwelling. South of the house, adjacent to the main entrance, however, very little trash was deposited. Eventually, most of the deposition became concentrated in the north yard and perhaps the front or south side of the dwelling became the formal, clean area.

The front yard, associated with the main entrance of the home, became a cleaner, more formalized area, while the back was transformed into a service yard. Later occupant William Deacon, of English birth and upbringing, appears to have continued this yard arrangement. A similar pattern of spatial organization is found at the nearby St. John's site (Keeler 1978). Constructed in 1638, St. John's exhibited this front-back division from its earliest years. Unlike the van Sweringen site, St. John's was built and occupied



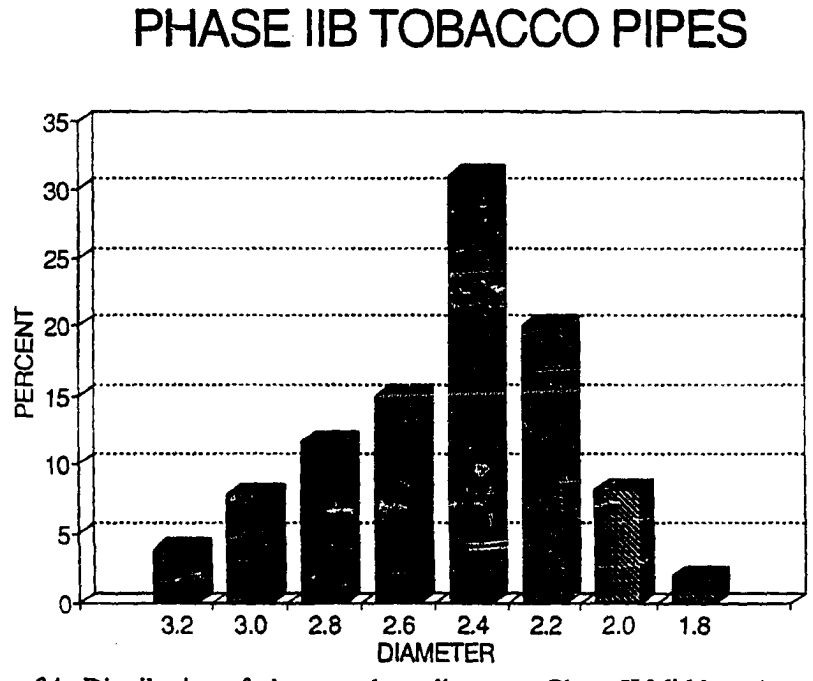


Figure 34. Distribution of pipe stem bore diameters, Phase II Middens A and B

for most of the 17th century by colonists of English descent and was in a more isolated section on the edge of St. Mary's City.

These data suggest that there are a number of factors influencing refuse disposal at the site. Along with the shift from a semi-urban to rural setting, differences between first and second generation colonists and ethnicity are also probably involved. Isolating these variables and determining their influence will require extensive and detailed comparative research. This initial study of the evolution of dumping patterns, however, has revealed information about a site obtainable from no other source. To gain further insight, it is necessary to turn to the composition of the 18th century middens and investigate how they vary through both time and space.

Midden Composition

In order to study composition and artifact association in the 18th century middens, selected squares were analyzed for four of the identified Phase II middens. The total numbers for five domestic artifact categories and their relative frequency for each assemblage, including ceramics, tobacco pipes, bottle glass, table glass and bone is presented in Table 7. The relative frequencies of ceramics, bone and table glass are similar to those for the same categories in the Phase I middens with no statistically significant differences in the distributions. However, proportionally much fewer tobacco pipe fragments occur in the Phase II middens, while bottle glass fragments exhibit a

MIDDEN:	IIA		IIB		IIC		IID		TOTAL	
ARTIFACT TYPE:	No.	%	No.	%	No.	%	No.	%	No.	%
Tobacco Pipes	127	18.9	618	16.5	197	24.1	234	20.2	1176	18.4
Ceramics	157	23.4	1072	28.7	232	28.4	382	33.0	1843	28.9
Bottle Glass	124	18.5	1125	30.1	124	15.2	320	27.6	1693	26.5
Table Glass	1	0.1	78	2.1	14	1.7	19	1.6	112	1.8
Bone	263	39.1	844	22.6	251	30.7	203	17.5	1561	24.5
TOTAL	672		3737		818		1158		6385	

Table 7. Total Domestic Artifact Categories from Phase II middens, Main Dwelling Complex.

MIDDEN:	IIA		IIB		IIC		IID		TOTAL	
CERAMIC TYPE:	No.	%	No.	%	No.	%	No.	%	No.	%
Chinese Porcelain	1	0.6	41	3.8	2	0.9	3	0.8	47	2.6
Tin-glazed wares	32	20.4	369	34.4	71	30.6	96	25.1	568	30.8
Fine Imported Wares	55	35.0	241	22.5	64	27.6	111	29.1	471	25.6
Imported Coarse Wares	25	15.9	214	20.0	33	14.2	96	25.1	368	20.0
Local Wares	4	2.5	20	1.9	2	0.9	4	1.0	30	1.6
Miscelaaneous Wares	40	25.5	187	17.4	60	25.9	72	18.8	359	19.5
TOTAL	157		1072		232		382		1843	

Table 8. Total Ceramic Types from Phase II middens, main dwelling complex.

significant increase in the Phase II assemblages. Both of these examples are significant at the .01 level.

Differences among proportions of ceramic types were also apparent between Phase I and II (Table 8). While the proportions of tin-glazed earthenwares, fine imported wares and miscellaneous lead-glazed wares do not differ between either period, there were significantly more imported coarse earthenwares and fewer local ceramics in Phase II than in Phase I. Chinese porcelain, which was not present at all in the Phase I assemblages, was a small but extremely significant component of the Phase II ceramic assemblage. While no significant differences were observed between total Phase I and total Phase II assemblages, a larger variety of types were present in the 18th century, including such specialized tableware forms as a saucepot, vase, coffee cups, tea pot, salt and cream pitcher. Interestingly, ceramic storage vessels, including large jugs and bottles, were nearly absent in the Phase II assemblage.

Unlike the Phase I midden assemblages, which, except for bottle glass, exhibited no differences among each other, the Phase II middens varied significantly in content (Tables 7-9). A wide range of variation exists among the Phase II middens when all artifact categories are considered. Table 10 summarizes the degree of variation from the percentage mean for each artifact category by midden for all Phase II middens. The major differ ences are discussed below.

MIDDEN:	IIA		IIB		IIC		IID		TOTAL	
VESSEL FRAGMENT:	No.	%	No.	%	No.	%	No.	%	No.	%
Drinking	29	55.8	112	34.9	9	33.3	54	50.5	204	40.2
Serving	1	1.9	20	6.2	1	3.7	4	3.7	26	5.1
Consumption	2	3.8	51	15.9	6	22.2	7	6.5	66	13.0
Storage1	6	30.8	55	17.1	2	7.4	27	25.2	100	19.7
Processing	4	7.7	75	23.4	5	18.5	11	10.3	95	18.7
Cooking	0	0.0	2	0.6	4	14.8	1	0.9	7	1.4
Other	0	0.0	6	1.8	0	0.0	3	2.7	9	1.8
TOTAL	52		321		27		107		507	

Drinking: mugs, jugs, cups, small punch bowls

Serving: pitchers, large punch bowls

Consumption: plates, dishes, other tablewares

Storage: jars, bottles, butter pots

Processing: bowls, milk pans

Cooking: patty pans, pipkins, skillets

Table 9. Vessel Forms from Phase II Middens, Main Dwelling Complex.

MIDDEN:	IIA	IIB	IIC	IID
ARTIFACT CATEGORY:				
Tobacco Pipes	0	—	++	0
Ceramics	—	0	0	++
Bottle Glass	-	++	—	+
Table Glass	—	+	0	0
Bone	++	-	0	—
Chinese Porcelain	-	++	0	0
Tin-glazed Wares	—	++	0	0
Other Fine Wares	++	—	0	0
Total Coarse Wares	+	—	-	++
Drinking	++	-	-	+
Serving	—	++	0	0
Consumption	—	0	++	-
Storage	+	0	—	+
Processing	-	++	0	-
Cooking	-	0	++	0

KEY:

0: x +/- 1/2 s.d -: x - 1/2 to 1 s.d. —: x - 1 to 2 s.d.

+: x + 1/2 to 1 s.d. ++: x + 1 to 2 s.d.

Table 10. Distance of each Phase II midden from the mean for total Phase II midden categories, main dwelling complex (based on percentages)

Midden IIA, located west of the dwelling in the vicinity of the river bank, contained the largest proportion of animal bone fragments, but less ceramic, bottle glass and table glass fragments than the other middens. Of the ceramic fragments, other fine wares comprised the largest category by type and this is reflected by the overabundance of drinking vessel fragments - predominantly mugs and jugs. A notable lack of serving and consumption vessel fragments suggests that the bone derives either from meals served on perishable tablewares or the presence of bone outside of a dining/food consumption situation. Ceramic storage containers comprise a large percentage of vessel fragments, while ceramic processing and cooking vessels are few in number.

Midden IIB, located off the northeast corner of the dwelling, exhibits some important differences when compared with the other Phase II middens. Midden IIB contains the largest proportions of bottle glass, table glass, tin-glazed earthenware, and Chinese porcelain fragments. Tobacco pipes occur in smaller frequency in Midden IIB. When the vessel fragment distribution is compared with Midden IIC (below), which derived from a food consumption and preparation context, no significant differences are evident among drinking containers (x^2=.03; df=1), food consumption vessels (x^2=.73; df=1), or food processing vessels (x^2=.33; df=1), suggesting that Midden IIB also derived from a food preparation and consumption context.

The large quantity of porcelain in Midden IIB, however, implies that many of the materials in this deposit, as compared to the kitchen midden, derived from activities having a more social character and involving the tea ceremony. Nearly all the Chinese

porcelain fragments recovered from this area were identified as pieces from tea cups or saucers. Further, a number of sherds from two early 18th century elaborately decorated Turkish tin-glazed coffee or tea cups were recovered here. The concentrations of ornate table glass, wine bottle glass, including a number of bottle seals and tin-glazed earthenware plate fragments all strongly suggest this interpretation.

This evidence indicates that Midden IIB contains the refuse of social activities conducted by persons of high economic and social status, probably conducted in the east room of the dwelling. The dating of this midden to the c. 1700-1730 period corresponds precisely with the occupation of the most wealthy families at the site: Joseph van Sweringen and his wife, Mary, and later, William Deacon.

Midden IIC, located behind the kitchen, contained a comparatively large frequency of tobacco pipe fragments and the smallest proportion of bottle glass fragments. Vessel fragments indicate a mix of materials deriving from a number of activities. While total vessel count is admittedly small, their distribution is nonetheless suggestive about the kitchen's function. Sherds were recovered from food processing and cooking vessels, not unexpected in a kitchen context. The occurrence of a significant number of sherds from drinking, serving and tableware vessels also suggests that meals were taken in the kitchen, possibly by servants or slaves. The kitchen loft, indicated in Garret van Sweringen's probate inventory of 1698, may have provided quarters for these individuals. The relative lack of ceramic storage vessel fragments may indicate that foodstuffs were stored elsewhere, in different containers, or both.

Midden IID was located adjacent to the small cellar house behind the van Sweringen dwelling. Unlike Middens IIA and IIC, Midden IID contains a considerably larger frequency of bottle glass fragments. Midden IID also contains the largest percentage of ceramics and the smallest frequency of bone. Of the ceramics recovered from this midden, nearly one-quarter are imported coarse earthenwares, of which a large number are storage vessel fragments. Food consumption vessels are significantly less represented, although drinking vessels comprise one-half the identified vessel fragments. The relatively large numbers of bottle glass, imported coarse wares and storage vessels coupled with this midden's association with the milk house, suggests activities related to household food storage. The presence of a large number of drinking vessels may indicate that beverages were sometimes acquired on an individual basis directly from the cooler.

A number of researchers of colonial period material culture have suggested that, by the mid-18th century, the lives of Anglo- Americans were becoming increasingly specialized and more segmented (cf., Glassie 1975; Deetz 1977). According to these scholars, this trend is abundantly evident in architecture, particularly floor plans, and it is also apparent in foodways. Not only do things like architecture and table settings reflect more individualized behavior, often segregated on the basis of economic status, gender and age, they reinforce and shape this behavior.

The early to mid 18th century midden deposits identified at the van Sweringen site suggest that the specialization and seg mentation of activities, and thus, behavior, may have begun as early as the late 17th century. Clearly, this transformation was underway

by the first quarter of the 18th century. Evidence for food preparation and consumption divided along status lines, for food storage and for the tea ceremony/formal dining are all evi dent in the middens at the van Sweringen site. But many of these activities are segregated from one another. Food preparation and cooking occurred in the Kitchen, probably by servants and/or slaves, who also took their meals in the kitchen and may have slept there as well. Household food and beverage storage took place, not surprisingly, in the milk house cellar. Formal dining and possibly entertaining occurred exclusively in the east end of the main dwelling.

This represents a major shift in site organization and use from the 17th century, although the architecture and its arrangement remained essentially unchanged. Comparing an early 18th century household with a late 17th century lodging house is admittedly difficult because of the number of variables which potentially structure behavior. For example, lodging houses in an urban setting may simply not demand the number of support services necessary for a private household in a rural environment. Clearly, comparative data are necessary from other sites to assess the nature and reasons for these changes in site organization and use.

Midden Content and Building Function

The analysis of midden distribution and composition at the main dwelling complex revealed significant variability linked to room and building function. This finding not only clarifies the organization and use of the well-documented van Sweringen site, but

demonstrates the potential for studying spatial organization at other less documented archaeological sites. One building at the van Sweringen site was not well-documented and its function was unknown. The outbuilding, located approximately sixty feet east of the principal dwelling, was initially identified as a bake and brew house. This interpretation was based on a deposition taken in 1677 concerning a large order of brewing supplies placed by van Sweringen. Van Sweringen also referred to a 'Coffee House' at the Aldermanbury Street lot in his 1698 will. This is the only reference to a coffee house anywhere in 17th century Maryland, and its identification is important for examining social relations in this 17th century urban setting.

Van Sweringen's probate inventory suggests that, in 1700, the outbuilding contained a number of old and broken chairs, some cooking equipment, an old chest, and a set of scales and weights. While all three of these documentary references - the deposition (bake and brew house), the will (Coffee House) and the inventory - are intriguing, only the evidence in the archaeological record is available for testing these hypotheses and interpreting the function of the outbuilding.

Architectural evidence at the site revealed an unusual E- shaped hearth which suggests a bake and brew house interpretation. However, fragments of fine tin-glazed fireplace tiles, plaster and window glass suggest a well-appointed and comfortable structure. The building also had a wooden floor, unusual for any ordinary service building and even many dwellings in 17th century Maryland.

A preliminary analysis of the outbuilding middens (King and Miller 1987) provided convincing evidence that the outbuilding was, in fact, used for socializing in the 17th century (cf., Figure 25). When the total two midden assemblages from the outbuilding were compared to the midden assemblages from the main dwelling complex, significantly larger proportions of tobacco pipes and drinking vessels occurred in the outbuilding assemblage (Table 11). Further, very little bone was found associated with the outbuilding, although preservation conditions were identical across the site (Table 11). And, baking pan sherds do not occur in association with the outbuilding (King and Miller 1987: 48- 52).

The fencelines uncovered in association with the outbuilding are also unusual in their orientation. These paling fences connected the main dwelling complex to the outbuilding and enclosed the yard to the rear of the buildings. However, rather than the fenceline simply running to the southwest corner of the outbuilding, several generations of paling fences originate off the southwest and southeast ends of the outbuilding and extend southward for 20 or more feet before turning (cf., Figure 20). In addition to enclosing a larger area of yard, this arrangement created a fenced corridor leading to the south door of the outbuilding. As noted by King and Miller (1987: 51), the "pattern of this fencing would have made little sense if the south doorway was used by the van Sweringen family and their servants, since it more than doubles the walking distance to the main house." The fenced south entrance to the outbuilding created public access to the building from the same alleyway approaching the principal entrance of the main dwelling.

	Main Dwelling Complex		Outbuilding	
Artifact Type:	**No.**	**%**	**No.**	**%**
Tobacco Pipes	1741	20.3	962	40.4
Bottle Glass	1946	24.0	528	22.2
Ceramics	2378	29.4	699	29.3
Animal Bone	2028	25.1	192	8.1
Total	8093	98.8	2381	100.0

Table 11. Total domestic artifact categories from the Main Dwelling Complex and the Outbuilding.

Based on this analysis, King and Miller (1987) suggested that the outbuilding was the enigmatic coffee house referred to in van Sweringen's 1698 will. The implications of this discovery are important for understanding the 17th century colonial frontier and St. Mary's City. Coffee houses were a recent introduction in England, and they were growing in popularity during the second half of the 17th century. Originally serving coffee, tea and chocolate, the coffee house later added wine and other beverages to its menu and was a fashionable place for entertainment and discussion. Little food was served in such an establishment (King 1976). The van Sweringen Coffee House, with its wood floors, tiled fireplace and glass windows, would have provided a stylish place for patrons to discuss the price of tobacco, political gossip and other topics.

A comparative analysis of the two 17th century middens associated with the outbuilding (cf., Figure 25) suggests that little variation exists between the midden west of the outbuild ing and the midden south of that structure (Table 12). Both middens contain comparable distributions of tobacco pipes and bottle glass, with large quantities of drinking vessel fragments. However, slightly more fragments of food processing and food storage ceramics occur in the west pathway. This suggests that, while the west entrance to the outbuilding may have served as a service entrance, patrons to van Sweringen's lodging house may have also visited the Coffee House by the west door.

Unfortunately, the two 17th century middens at the outbuild ing continued to receive refuse throughout the 18th century until the building's abandonment c. 1725 (cf., Figure 33). Analysis with a fine temporal control similar to that at the main dwelling is not

	Work Area		West Path		South Path	
TOTAL ARTIFACTS						
Tobacco Pipes	175	34.3	387	40.2	400	41.2
Ceramics1	55	30.3	256	26.6	288	29.7
Bottle Glass	131	25.6	212	22.0	186	19.2
Table Glass	11	2.2	27	2.8	25	2.6
Bone	39	7.6	81	8.4	72	7.4
TOTAL	511		963		971	
CERAMIC TYPES						
Chinese Porcelain	0	-	3	1.2	0	-
Tin-glazed Wares	16	10.3	32	12.5	43	14.9
Fine Wares	42	27.1	118	46.1	132	45.8
Coarse Wares	47	30.3	55	21.5	54	18.8
Local/Misc. Wares	50	32.3	48	18.8	59	20.5
TOTAL	155		256		288	
VESSEL TYPES						
Serving/ Drinking	20	46.7	65	61.3	48	73.8
Consumption	1	2.3	15	14.2	7	10.7
Storage	9	20.9	8	7.5	5	7.7
Processing	13	30.2	17	16.0	5	7.7
Other	0		1		0	
TOTAL	43		106		65	

Table 12. Artifact categories and their relative frequencies from Outbuilding midden contexts.

possible. Since it is unlikely that the outbuilding functioned as a Coffee House in the 18th century, this problem is especially relevant. However, a third midden at the outbuilding, located in the yard east/southeast of the building, dates exclu sively to the first quarter of the 18th century.

This midden indicates that the outbuilding possibly func tioned as a servant/slave quarter in the 18th century. Fragments from food storage and food processing vessels comprised slightly more than half of the ceramic vessel assemblage from this midden, a dramatic contrast with the south and west middens (cf., Table 12). No cross-mends occur between these utilitarian vessels at the outbuilding and similar ones at the main dwelling complex, suggesting two independent households.

This analysis ahs demonstrated that variation in midden content linked to social and economic status and to function is available in the plow-disturbed deposits at the van Sweringen site. The final section of this dissertation summarizes these findings and their relevance for understanding the colonial period in the Chesapeake.

CHAPTER VI

CONCLUSION

The household is a basic unit of human domestic activity, providing a focus for human interaction with the physical and social environments. The spatial organization of this interaction is extremely important for investigating economic, social, and symbolic relationships among human groups. These relationships are often apparent in the division of labor within the household and the types of activities/labor performed by various household members. For the study of past households, archaeology provides a powerful methodology for studying the precise types and locations of domestic activities, as the analysis of the van Sweringen homelot has shown.

The majority of the colonists in the colonial Chesapeake arrived as immigrants from England. These individuals had been born and socialized in England, and brought with them ideas, or "mental templates" (Deetz 1967: 45-49) about the division and organization of household behavior and the form and arrangement of household dwellings, outbuildings and yards. Probate inventory data indicate that nearly all farm familes in Essex lived in dwellings with at least three rooms, and more than two- thirds had five, six or seven rooms. These rooms usually included a hall, parlor, buttery, and two upstairs chambers. Halls functioned as cooking, dining and living rooms, while parlors were used for sleeping and formal socializing. Butteries served as pantries and upstairs chambers were used for sleeping and storage. Most farms also had at least one or

two outbuildings, and there is a trend toward using rooms and outbuildings for increasingly specialized functions, particularly as each farm family could afford to add rooms and/or outbuildings to the household.

Despite some early attempts to transplant English farmhouses and homelot forms to the 17th century Chesapeake, demographic conditions seriously hindered the ability of the colonists to replicate the domestic environments they left behind. Documentary research has indicated that most Chesapeake planters and their families lived in smaller and cruder structures. Only the wealthiest third of planters lived in dwellings of five or more rooms, while the majority lived in dwellings of three or fewer rooms. Archaeological research to date, admittedly skewed toward the homes of the wealthy, nonetheless suggests that even these wealthy planters inhabited short-lived dwellings of three rooms.

The van Sweringen site, located in the colonial capital of Maryland at St. Mary's City, was occupied by a wealthy Dutch immigrant and his family. Van Sweringen's Dutch background may be evident in the orientation of the architecture to Aldermanbury Street and in the fencelines at the site. Nonetheless, historical research suggests that it is probably van Sweringen's English wife and female servants who performed many of the domestic activities visible in the archaeological record at the site. By c. 1680, the van Sweringen family boasted at least eight "rooms" or spaces at the site. These include the Council Chamber, the Inner Room, Mrs. van Sweringen's chamber, the kitchen, a loft in the kitchen, a cellar house and the outbuilding. There may have also been lofts over the main dwelling and the outbuilding. The analysis of 17th century middens at the site

suggests little variation in use between the Council Chamber and the kitchen. Middens associated with both rooms contain virtually identical distributions of materials, with no apparent variation linked to use, economic status or legal status. Variation is instead measured by the presence or absence of middens. The lack of materials associated with Mrs. van Sweringen's room supports the evidence derived from the inventory that this room functioned primarily for sleeping. While patrons to the inn undoubtedly slept in the Council Chamber - beds are found here in the inventory - members of the van Sweringen family retired to private quarters separated from both servants and inn patrons.

By the early 18th century, midden distribution and composition suggest that activities had become more segregated and rooms within buildings were becoming more specialized in their functions. This increasing specialization and separation of activities is the beginning of a trend documented by a number of archaeologists and other students of material culture as the 'Georgian mindset' (cf., Deetz 1977). The Georgian mindset has been believed to emerge in the mid-18th century in New England, but data from the van Sweringen site suggests that, at least among the wealthiest economic stratum, this transformation is well underway by the early 18th century. The architecture at the van Sweringen site in the 18th century was essentially unchanged from the 17th century, and only through detailed midden analysis is the changing use of space perceived.

One of the surprising findings of this research was the differences in data sets provided by the probate inventory and the archaeological record. While the midden analysis showed little variation in room use between the main dwelling's Council Chamber and

the kitchen, the furnishings found in these spaces in 1700 are clearly different. Tables, fabric covered chairs, beds and bedsteads suggest the Council Chamber was used for socializing, dining and sleeping in a comfortable setting by the inn's patrons. Predominantly cooking equipment was found in the kitchen, suggesting that food preparation took place almost exclusively in this room. Probate inventories, however, are taken at a single point in time - usually in one day - and van Sweringen's was taken two years after his death (the reason for this is not known). There is the possibility that, following his death, the family cleaned the St. Mary's City dwelling and lived at the family plantation for several years with only periodic visits to the former capital. The archaeological analysis indicates that room functions were not necessarily fixed as suggested by the inventory, but that, in the late 17th century, the domestic activities conducted in halls (in this case, the Council Chamber) and kitchens appear to be virtually identical.

Finally, the identification of the outbuilding as van Sweringen's 'Coffee House' (cf., King and Miller 1987) has impor tant implications for the late 17th century capital. Previous archaeological research has suggested that St. Mary's City was not simply a cluster of structures oriented in a haphazard manner on the townlands. Rather, archaeological study of the townlands has revealed that the capital was much more urbanized than previ ously suspected. Dwellings were closely clustered and the town center boasted what may have been an early colonial market place. Monumental architecture, including the 1676 brick State House and the massive c. 1667 Catholic

Chapel, a brick Jesuit school and the Governor's Palace surely gave an urban flair to the town. Research conducted by Henry M. Miller (1988) has suggested that St. Mary's City was laid out according to principles of Baroque design that incorporated this monumental architecture. The Coffee House that van Sweringen operated in the late 17th century capital is completely sensible in terms of these recent discover ies of an urbanized setting and sophisticated town planning. Coffee houses had only recently been introduced into England, and the fashionable meaning this term had was surely not lost on van Sweringen and the colonists who both lived in and traveled to St. Mary's City. Monumental architecture, Baroque town planning and establishments like coffee houses represent an impressive - and successful - attempt to transplant the most modern institutions to the colonial frontier. Nonetheless, economics and geography conspired to nullify these efforts, and the capital was abandoned in 1695 and moved to Annapolis. Impermanence was the key charac teristic of cultural and political institutions as well as tobac co fields, dwellings, and human lives on the early colonial frontier.

The primary purpose of this dissertation was to identify significant intrasite patterning at an historic period domestic site and link this patterning to documented household organization and function. Although the midden contexts at the van Sweringen site have been plowed for many years, sampling of these midden contexts has revealed patterning in the material assemblages. Further, these patterns are sensible in light of both site-specific documentation and historical research.

The sources of intrasite variability for the van Sweringen site can only be suggested here. The nature of the plantation economy, changing demographic conditions, and economic status undoubtedly influence household composition, behavior and, ultimately, the material element of the household in the colonial Chesapeake. A changing world view through English and Anglo- American society may also be at work. At the van Sweringen site, a change in site function and the transition from colonial capital to rural hamlet, and the long-term occupation of the site are also important variables which, at present, cannot be adequately controlled. The application of the methodology presented here is necessary at other sites which can provide comparative data and for which these variables can be controlled. Similar studies should also be undertaken of 17th century homelots in England.

This study, therfore, is intended as a beginning point for much-needed similar research. The distribution and associations of archaeological materials do not necessarily mimic probate inventories or architectural patterns discovered below the plow zone. These distributions provide an independent and powerful source of data on site structure, use and organization. Archaeologists should make every effort to recover and study these distributional patterns in concert with architectural and historical data. It is with these data that truly exciting discoveries will be made.

APPENDIX I

INVENTORY OF GARRET VAN SWERINGEN

Garret Vanswering
Inventories & Accounts
Liber 20, folio 96-98
January 11, 1700

An Inventory of the goods & Chattells of Garret Vanswering Late of St Marys County deceased taken by us appraisers Appointed & ord the same vizt in the Councill house

To 2 feather bedds 2 bolsters one pillow two paire of of sheets one blankit 3 quilts & one sett of Curtaines & vallance & one pair of Curtaines	12 00 00 .
To two pictires at	0 10 00 .
To one old feather bed & Rugg	2 00 00 .
To 4 bedsteads at	0 15 00 .
To old Curtaines & one old Rugg	0 08 00 .
To one Large turkey workd Carpett & Table	300 00 .
To the Kings Armes	1 10 00 .
To 5 Tables at	1 15 00 .
To 5 old Turkey worked Chaires	0 10 00 .
To one paire of hand Irons	0 10 00 .

In the inner roome

To one feather bed one bolster one pillow one blankitt one sheete one Rugg Curtaines & vallance	3 10 00 .
To 2 old Chests at	0 15 00 .
To one old Table and 5 old Chares	0 15 00 .
To one Cupbord at	0 10 00 .
To paire of playing Tables at	0 15 00 .
To one looking glass	0 05 00 .
To 2 old Chests	0 12 00 .
To one small Chest at	0 04 00 .
To 2 old small Tables at	0 10 00 .

In Mrs Vanswerings Rome

To one feather bed one bolster one sheet one blakitt & one old Curtaine & bedstead	4 00 00 .
To one large Chest at	0 10 00 .
To one small Ovell Table at	0 08 00 .
To one feather bed one bolster 3 pillowes one paire of sheets one blankitt & Rugg one sett of Curtaines & vallance & bestead	5 00 00 .
to one bed one bolster one pillow one paire of sheets one Rugg one blankitt	3 05 00 .

to one old table at	0 02 06 .
to one old Ink Standish	0 00 06 .
To 4 old Reap hookes at	0 01 00 .
To 2 paire of new mild stockin	0 06 00 .
To one Cloth Searge new Coat	1 05 00 .
To one leather belt	0 01 00 .
To one broad Cloath Coat at	0 05 00 .
To a parcell of Ginger at	0 01 00 .
To 2 stone Juggs at	0 06 00 .
To one small runlett at	0 07 00 .
To one pot hanger at	0 02 00 .
To 7 Corse Table Cloaths at	1 05 00 .
To 12 old napkins	0 04 00 .
To 12 Corse Towells at	0 08 00 .
To a paire of Corse Sheets at	0 08 00 .
To 2 old Diaper Table Clothes at	0 03 00 .
To 24 napkins at	0 18 00 .
To 2 pillowbers at	0 01 06 .

To 3 hollow Sheets at	1 04 00 .
To 38 sheep at	19 00 00 .
To 14 lambs at	3 10 00 .
To 7 shoates	1 15 00 .
To one Copper punch bowle & Cover	0 05 00 .
To one Copper poringer	0 01 06 .
To one brass Ladle & Skimer	0 03 00 .
To 3 Candle Sticks	0 03 06 .
To 2 old Do & 2 paire old Sifters	0 01 06 .
To 12 pasty panns	0 01 00 .
To one old brass Candlestick	0 00 06 .
To one Tinn pasty pann	0 01 00 .
To one large brass Skellet at	0 07 00 .
To one old Tennant Saw	0 02 06 .
To one Iron Trevatt	0 01 00 .
To one Large Iron pot	0 10 00 .
To 2 small Do at	0 12 00 .
To one very old Do at	0 02 00 .

To 2 Iron Pesnets	0 - - .
To pothookes & hangers	0 05 00 .
To 2 Iron Ladles	0 04 00 .
To one old brass Kettle	0 10 00 .
To a parcell of wooden ware	0 04 00 .
To one flock bed bolster a paire of Sheets one Blankett one Rugg	1 10 00 .
To 2 old Chats [?] bedds one Rug old old & one Matchcoat	0 10 00 .
To 2 old bedsteads	0 05 00 .
To a Spinning wheel at	0 05 00 .
To 2 old horse Collars a Chart Sadle a pack Sadle a Riding Sadle	0 15 00 .
To an old Sythe	0 02 00 .
To 3 pr horse harness at	0 02 00 .
To one old Musquet	5 00 00 .
To 2 old Chests at	0 02 06 .
To one old Chest at	0 04 00 .
To 2 large butter pots at	0 02 00 .
To a parcell of gally potts & bottles	0 10 00 .

To one fowling piece at	0 18 00 .
To 2 Stocklocks at	0 02 06 .
To a parcell of Salt at	0 09 00 .
To 9 pewter Dishes at	2 00 00 .
To 4 pewtr basons at	0 10 00 .
To 25 pewtr plates at	0 10 09 .
To one pewtr punch bowle & 2 pewter Saltsellers	0 04 00 .
To 60 lb of old pewter at	1 15 00 .
To porringers at	0 02 06 .
To 3 pottle pots one gall pot & 2 quart pots	0 12 00 .
To 2 p of Stilliards at	0 15 00 .
To 2 p sheep sheares and a p of Garden Sheares	0 03 00 .
To 2 small pewter salt sellers	0 01 00 .
To 2 small sifters	0 00 06 .
To 2 tinn funnills	0 01 00 .
To 3 brass Cocks at	0 06 00 .
To 2 Augors at	0 01 00 .
To one hammer & chisel	0 01 00 .

To 5 small gimbles at	0 00 10 .
To one large pewtr seringe	0 02 06 .
To one pewtr pint Cup at	0 01 00 .
To a mill pick at 6 [?]	0 00 06 .
To a 3 hour glass	0 01 06 .
To a hand Mill at	1 00 00 .
To one Iron Kettle at	0 06 00 .
To a p of Iron Racks	0 09 00 .
To a frying pann	0 01 00 .
To 2 old Dripping pans	0 01 00 .
To pewter Chamber pots	0 04 06 .
To one Earthen do 3 sifters & 2 Ridles	0 03 06 .
To one hand saw	0 01 00 .
To 2 p of fire tongues & shovel	0 02 00 .
To 2 old Coppers	2 00 00 .
To a p of Scales & weights	0 02 06 .
To a large Jarr at	0 02 00 .
To a pcell of old Caske	1 08 00 .

To 6 hides at	0 15 00 .
To a p of old Stilliard 1 Ropes [?]	0 00 06 .
To old broken Chaires	0 01 06 .
To one pewtr qt Tankard	0 01 06 .
To an old Chest	0 02 00 .
To one large bread tray	0 02 00 .
To one Gelding at	4 00 00 .
To one silver tankard at	3 00 00 .
To 6 silver spoones at	1 10 00 .
To 2 old silver Cups at	1 00 00 .
To one Negroe man named Paul	28 00 00 .
To one other negroe named William	30 00 00 .
To one Servt boy about 1 yeare eight months to Serve	3 00 00 .
To one servt woman named Eliza Danis	9 00 00 .
To one other Servt woman 5 year to serve named	10 00 00 .
To two old Carpitss at	0 10 00 .
To one p of Iron bound Cart Wheells at	4 00 00 .

This is a true & just appraisement according to what Came before us to the best of our knowledge & understanding of wittness our hands & seales the eleventh day of Janry 1700

Wm Guyther seal

Wm Shiqiuth seal

APPENDIX II

SYMAP INTERVAL LEVELS AND DISTRIBUTION STATISTICS

1. White clay tobacco pipes - 3.4 to 4.0 mm bore diameter

   (Figure 21)

   mean: 0.110

   standard deviation: 0.328

   Level 1: 0.00 - 0.11 Level 4: 0.45 - 0.62

   Level 2: 0.11 - 0.28 Level 5: 0.62 - 0.79

   Level 3: 0.28 - 0.45 Level 6: 0.79 - 3.00

2. White clay tobacco pipes - 3.2 mm bore diameter

   (Figure 22)

   mean: 1.157

   standard deviation: 3.858

   Level 1: 0.00 - 0.35 Level 4: 1.35 - 1.85

   Level 2: 0.35 - 0.85 Level 5: 1.85 - 2.35

   Level 3: 0.85 - 1.35 Level 6: 2.35 - 49.00

3. White clay tobacco pipes - 3.0 mm bore diameter

   (Figure 23)

   mean: 1.340

   standard deviation: 1.454

   Level 1: 0.00 - 0.50 Level 4: 3.10 - 4.40

   Level 2: 0.50 - 1.80 Level 5: 4.40 - 5.70

   Level 3: 1.80 - 3.10 Level 6: 5.70 - 8.00

4. Morgan Jones earthenwares

(Figure 24)

mean: 0.626

standard deviation: 0.910

Level 1: 0.00 - 0.17 Level 4: 1.09 - 1.55

Level 2: 0.17 - 0.63 Level 5: 1.55 - 2.01

Level 3: 0.63 - 1.09 Level 6: 2.01 - 5.00

5. White clay tobacco pipes - 2.4 mm bore diameter

(Figure 28)

mean: 6.498

standard deviation: 4.108

Level 1: 0.00 - 2.30 Level 4: 6.40 - 8.40

Level 2: 2.30 - 4.40 Level 5: 8.40 - 10.40

Level 3: 4.40 - 6.40 Level 6: 10.40 - 22.00

6. White clay tobacco pipes - 2.2 mm bore diameter

(Figure 29)

mean: 4.826

standard deviation: 3.052

Level 1: 0.00 - 1.60 Level 4: 4.80 - 6.40

Level 2: 1.60 - 3.20 Level 5: 6.40 - 8.00

Level 3: 3.20 - 4.80 Level 6: 8.00 - 18.00

7. White clay tobacco pipes - 1.4 to 2.0 mm bore diameter

(Figure 30)

mean: 2.839

standard deviation: 2.507

Level 1: 0.00 - 1.50 Level 4: 4.10 - 5.40

Level 2: 1.50 - 2.80 Level 5: 5.40 - 6.70

Level 3: 2.80 - 4.10 Level 6: 6.70 - 17.00

8. English brown stonewares

(Figure 31)

mean: 1.384

standard deviation: 1.408

Level 1: 0.00 - 0.68 Level 4: 2.08 - 2.78

Level 2: 0.68 - 1.38 Level 5: 2.78 - 3.48

Level 3: 1.38 - 2.08 Level 6: 3.48 - 9.00

9. Dipped white salt-glazed stonewares

(Figure 32)

mean: 0.930

standard deviation: 1.180

Level 1: 0.00 - 0.42 Level 4: 1.46 - 1.98

Level 2: 0.42 - 0.94 Level 5: 1.98 - 2.50

Level 3: 0.94 - 1.46 Level 6: 2.50 - 7.00

REFERENCES CITED

Ammerman, A. J. and M. W. Feldman

1978 Replicated Collection of Site Surfaces. American Antiquity 43: 734-740.

Anderson, Jay

1971 "A Solid Sufficiency": An Ethnography of Yeoman Foodways in Stuart England. Unpublished Ph.D. dissertation, Dept. of Folklore, University of Pennsylvania.

Archives of Maryland

1885 Archives of Maryland. Maryland Historical Society, Baltimore.

Asch, David L.

1975 On Sample Size Problems and the Uses of Nonprobabilistic Sampling. In James W. Mueller, ed., Sampling in Archaeology. University of Arizona Press, Tucson.

Barlett, Peggy F.

1980 Adaptive Strategies in Peasant Agricultural Production. Annual Review of Anthropology 9: 545-573.

Barley, M. W.

1967 Rural Housing in England. In Joan Thirsk, ed., The Agrarian History of England and Wales, 1500-1640. Cambridge University Press, Cambridge.

1963 Glossary of Names for Rooms in Houses of the 16th and 17th Centuries. In I.D. Foster and J. Alcock, eds., Culture and Environment. London.

Beaudry, Mary C., Janet Long, Henry M. Miller, Fraser D. Neiman,and Garry Wheeler Stone

1983 A Vessel Typology for Early Chesapeake Ceramics: The Potomac Typological System. Historical Archaeology 17(1): 18-43.

Bender, G.

1968 A Refinement of the Concept of Household: Families, Co-residence and Domestic Functions. American Anthropologist 69: 493-503.

Binford, Lewis R. and Sally R. Binford

1966 A Preliminary Analysis of Functional Variability in the Mousterian of Levallois Facies. American Anthropologist 68: 238-295.

Bohanon, P.

1963 Social Anthropology. Holt, Rinehart and Winston, New York.

Buchanan, William T., Jr. and Edward F. Heite

1971 The Hallowes Site: A Seventeenth Century Yeoman's Cottage in Virginia. Historical Archaeology 5: 38-48.

Carr, Christopher

1981 The Nature of the Archaeological Record and Spatial Analytical Approaches to its Investigation (2nd working draft). Paper presented at the 46th Annual Meeting of the Society for American Archaeology, San Diego.

Carr, Lois Green

1974 The Metropolis of Maryland: A Comment on Town Development Along the Tobacco Coast. Maryland Historical Magazine 69(2): 124-145.

Carr, Lois Green and Lorena S. Walsh

1978 Changing Life Styles in Colonial St. Mary's County. Regional Economic Research Center, Working Papers I (3): 73-118.

1977 The Planter's Wife: The Experience of White Women in Seventeenth Century Maryland. William and Mary Quarterly 3rd Series, 34: 542-571.

Carr, Lois Green, Philip D. Morgan and Jean B. Russo

1988 Colonial Chesapeake Society. Chapel Hill, University of North Carolina Press.

Carson, Barbara G.

1983 Conjectural Finishing Plan for Four Rooms in the van Sweringen Property, c. 1690. Ms. on file, Historic St. Mary's City, St. Mary's City, Maryland.

Carson, Cary, Norman F. Barka, William Kelso, Garry Wheeler Stone and Dell Upton

1981 Impermanent Architecture in the Southern American Colonies. Winterthur Portfolio 16(2-3): 135-196.

Carson, Cary and Lorena S. Walsh

1981 The Material Life of the Early American Housewife. Paper presented to the Conference on Women in Early

America, Williamsburg, Virginia.

Ciolek-Torrello, Richard

1984 An Alternative Model of Room Function from Grasshopper Pueblo, Arizona. In Harold Hietala, ed., Intrasite Spatial Analysis in Archaeology. Cambridge University Press, New York.

Clarke, David L., ed.

1977 Spatial Archaeology. Academic Press, New York.

Cliff, A.D. and J.K. Ord

1975 Elements of Spatial Structure. Cambridge, Cambridge University Press.

Deagan, Kathleen

1983 Spanish St. Augustine: The Archaeology of a Colonial Creole Community. Academic Press, New York.

Deetz, James J.

1977 In Small Things Forgotten. Garden City, Natural History Press.

1967 Invitation to Archaeology. Garden City, Natural History Press.

Deetz, James F. and Edwin S. Dethlefson

1967 Death's Head, Cherub, Urn and Willow. Natural History 76(3): 29-37.

Demos, John

1970 A Little Commonwealth: Family Life in Plymouth

Colony. New York.

Dougenik, James A. and David E. Sheehan

1979 SYMAP User's Reference Manual. Laboratory for Computer Graphics and Spatial Analysis, Harvard University, Cambridge.

Douglas, Mary

1972 Symbolic Orders in the Use of Domestic Space. In Peter J. Ucko, Ruth Tringham, and G. W. Dimbleby, eds., Man, Settlement and Urbanism. Duckworth, London.

Dunnell, Robert C.

1980 Evolutionary Theory and Archaeology. In Michael B. Schiffer, ed., Advances in Archaeological Method and Theory, Vol. 3. Academic Press, New York.

Earle, Carville V.

1975 The Evolution of a Tidewater Settlement System: All Hallow's Parish, Maryland, 1650-1783. University of Chicago Department of Geography, Research Paper No. 170, Chicago.

Gardiner, Richard

1973 Instruction for Manuring, Sowing, and Planting of Kitchen Gardens. Reprint of 1603 edition. De Capo Press, Amsterdam.

Glassie, Henry

1975 Folk Housing in Middle Virginia. University of

Tennessee Press, Knoxville.

Goody, Jack

1971 Developmental Cycle in Domestic Groups. Cambridge University Press, New York.

Greven, Philip J., Jr.

1970 Four Generations: I opulation, Land and Family in Colonial Andover, Massachusetts. Ithaca.

Hall, Clayton

1967 Narratives of Early Maryland, 1633-1684. Heritage Press, Bowie, Maryland.

Hanawalt, Barbara

1986 The Ties that Bound: Peasant Families in Medieval England. Oxford.

Hietala, Harold, ed.

1984 Intrasite Spatial Analysis in Archaeology. Cambridge University Press, New York.

Hill, James N.

1968 Broken K Pueblo: Patterns of Form and Function. In Sally R. Binford and Lewis R. Binford, eds., New Perspectives in Archaeology. Aldine, Chicago.

Hodder, Ian

1986 Reading the Past. Cambridge University Press, Cambridge, England.

1978 Spatial Organization of Culture. Cambridge University Press, New York.

Hodder, Ian and Clive Orton

1976 Spatial Analysis in Archaeology. Cambridge University Press, New York.

Horn, James P. P.

1988 "The Bare Necessities": Standards of Living in England and the Chesapeakem 1650-1700. Historical Archaeology 22(2): 74-91.

1987 Moving On in the New World: Migration and Outmigration in the 17th Century Chesapeake. In Peter Clark and David Souden, eds., Migration in Early Modern England. Hutchinson, London.

1979 Servant Emigration to the Chesapeake in the Seventeenth Century. In Thad W. Tate and David L. Ammerman, eds., The Chesapeake in the Seventeenth Century: Essays on Anglo-American Society. University of North Carolina Press, Chapel Hill.

Horne, Lee

1982 The Household in Space: Dispersed Holdings in an Iranian Village. American Behavioral Scientist 25(6).

Houlbrooke, Ralph

1985 The English Family, 1450-1700. Longman.

Inventories and Accounts

n.d. Inventory of Garret Vanswering. Liber 20, folio 96-

98. January 11, 1700. Maryland State Archives, Annapolis.

Keeler, Robert W.

1978 The Homelot on the Seventeenth Century Chesapeake Tidewater Frontier. Unpublished Ph.D. dissertation, University of Oregon.

Kent, Susan

1987 Method and Theory for Activity Area Research: An Ethnoarchaeological Approach. Columbia University Press, New York.

Kelso, William M.

1984 Kingsmill Plantations 1619-1800: Archaeology of Country Life in Colonial Virginia. Academic Press, New York.

King, Doris

1976 The Colonial Tavern as Cradle of the American Revolution. Paper presented at the annual meeting of the Organization of American Historians, St. Louis.

King, Julia A.

1989a Archaeological Investigations at Susquehanna: A 19th Century Farm Complex Aboard Patuxent River Naval Air Station, St. Mary's County, Maryland. Jefferson Patterson Park and Museum Occasional Papers No. 2, St. Leonard, Maryland.

1989b Estimating Sample Size for the Recovery of Plow Zone

Data: An Example from the Mill Field. Paper presented at the Annual Meeting of the Society for Historical Archaeology, Baltimore.

1988a A Comparative Analysis of a Household and Inn in St. Mary's City, Maryland. Historical Archaeology 22(2): 17-39.

1988b Site Formation Processes in a Spatial Context: Cross-mends from the Plow Zone at St. John's. Paper presented to the Association for the Preservation of Virginia Antquities meeting, Wakefield, Popes Creek, Virginia.

King, Julia A. and Henry M. Miller

1987 The View from the Midden: An Analysis of Midden Distribution and Composition at the van Sweringen site, St. Mary's City, Maryland. Historical Archaeology 21(2): 37-59.

King, Julia A. and Dennis J. Pogue

1985 Archaeological Investigations at the Antenna Field, St. Inigoes, Maryland. Naval Electronics Systems Engineering Activity, St. Inigoes.

Kirch, Patrick V.

1980 The Archaeological Study of Adaptation: Theoretical and Methodological Issues. In Michael B. Schiffer, ed., Advances in Archaeological Method and Theory, Vol. 3. Academic Press, New York.

Kroll, Ellen M. and Glynn Ll. Isaac

1984 Configurations of Artifacts and Bones at Early Pleistocene Sites in East Africa. In Harold Hietala, ed., Intrasite Spatial Analysis in Archaeology. Cambridge University Press, New York.

Kulikoff, Allan

1986 Tobacco and Slaves: The Development of Southern Cultures in the Chesapeake, 1680-1800. University of North Carolina Press, Chapel Hill.

Laslett, Peter

1965 The World We Have Lost: England Before the Industrial Age. New York.

Laslett, Peter and Richard Wall, eds.

1972 Household and Family in Past Time. Cambridge University Press, London.

Louis Berger Associates

1989 Archaeological Excavations at the Compton Site, 1651-1684, Solomons, Maryland. Prepared for CRJ Assoc., Inc. Report on file, Jefferson Patterson Park and Museum, St. Leonard.

Main, Gloria

1982 Tobacco Colony. Princeton University Press, Princeton.

Markham, Gervase

1969 Cheape and Good Husbandry. Reprint of the 1614 edition. Theatrvm Orbis Terrarvm Ltd., Amsterdam.

Menard, Russell R.

1980 British Migration to the Chesapeake Colonies in the Seventeenth Century. Paper presented to the Economic History Workshop, Department of Economics, University of Chicago.

1977 From Servants to Slaves: The Transformation of the Chesapeake Labor System, 1680-1710. Southern Studies 16: 355-390.

1975 Economy and Society in Early Colonial Maryland. Unpublished Ph.D. dissertation, University of Iowa.

1973 From Servant to Freeholder: Status Mobility and Property Accumulation in Seventeenth-Century Maryland. William and Mary Quarterly 30: 37-64.

Miller, Henry M.

1986a Discovering Maryland's First City: A Summary Report on the 1981-1984 Archaeological Excavations in St. Mary's City, Maryland. St. Maries Citty Archaeology Series No. 2, St. Mary's City.

1986b Killed By Wolves: Analysis of Two 17th-Century Sheep Burials at the St. John's Site and a Comment on Sheep Husbandry in the Early Chesapeake. St. Maries Citty Research Series No. 1, St. Mary's City.

1983 A Search for the "Citty of Saint Maries": Report on the 1981 Excavations in St. Mary's City, Maryland. St. Maries Citty Archaeology Series No. 1, St. Mary's City.

Mueller, James

1974 Sampling in Archaeology. University of Arizona Press, Tucson.

Nash, Gary B.

1974 Red, White and Black: The Peoples of Early America. Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

Neiman, Fraser D.

1989 Personal communication. Yale University, New Haven.

1980 Field Archaeology of the Clifts Plantation Site: Westmoreland County, Virginia. Prepared for the Robert E. Lee Memorial Foundation, Stratford, Virginia. On file, Jefferson Patterson Park and Museum, St. Leonard.

Noble, Vergil E., Jr.

1983 Functional Classification and Intra-Site Analysis in Historical Archaeology: A Case Study from Fort Ouiatenon. Unpublished Ph.D. dissertation, Department of Anthropology, Michigan State University, East Lansing.

Noel Hume, Ivor

1982 Martin's Hundred. Alfred A. Knopf, New York.

O'Brien, Michael J. and Dennis E. Lewarch, eds.

1981 Plowzone Archaeology: Contributions to Theory and Technique. Vanderbilt University Publications in Anthropology No. 27, Nashville.

Otto, John S.

1977 Artifacts and Status Differences: A Comparison of Planter, Overseer and Slave Sites from Cannon's Point Plantation (1794-1861), St. Simon's Island, Georgia, an Antebellum Plantation. In Stanley South, ed., Research Strategies in Historical Archaeology. Academic Press, New York.

Patents

n.d. Patents, Liber 17, folio 361-362. Maryland State Archives, Annapolis.

Pogue, Dennis J.

1988 Spatial Analysis of the King's Reach Plantation Homelot, ca. 1690-1715. Historical Archaeology 22(2): 40-56.

Prov. Ct. Judgements

n.d. Provincial Court Judgements, Liber TL 1, folio 733-734. Maryland State Archives, Annapolis.

Reeve, Stuart A., Jean Russo, Dennis J. Pogue and Joseph Herbert

1989 An Archaeological and Historical Survey of Myrtle Point, St. Mary's County, Maryland. Jefferson

Patterson Park and Museum Occasional Papers No. 3, St. Leonard.

Riordan, Timothy B.

1988 The Interpretation of 17th Century Sites through Plow Zone Surface Collections: Examples from St. Mary's City, Maryland. Historical Archaeology 22(2): 2-16.

Rutman, Darrett B. and Anita H. Rutman

1979 'Now Wives and Son-in-Law': Parental Death in a Seventeenth Century Virginia County. In Thad W. Tate and David L. Ammerman, eds., The Chesapeake in the Seventeenth Century: Essays on Anglo-American Society, University of North Carolina Press, Chapel Hill.

St. Mary's City Commission (SMCC) Biographical Files

n.d. Biographical Files. On file, Historic St. Mary's City, St. Mary's City.

Schiffer, Michael B.

1976 Behavioral Archaeology. Academic Press, New York.

Shephard, Donald S.

1970 SYMAP Interpolation Characteristics. In Computer Mapping as an Aid in Air Pollution Studies, National Air Pollution Control Administration, Public Health Service, U.S. Department of Health, Education and Welfare, Washington, D.C

Smolek, Michael A.

1984 "Soyle light, Well-Watered and On the River": Settle-

ment Patterning of Maryland's Frontier Plantations. Paper presented to the Third Hall of Records Conference on Maryland History, St. Mary's City.

Spurling, Brian and Brian Hayden

1984 Ethnoarchaeology and Intrasite Spatial Analysis: A Case Study from the Australian Western Desert. In Harold Hietala, ed., Intrasite Spatial Analysis in Archaeology. Cambridge University Press, New York.

South, Stanley

1977 Method and Theory in Historical Archaeology. Academic Press, New York.

Spijkers-Zwart, S. I.

1980 The Household and 'Householding': Some Conceptual Considerations. In Clio Presvelou and S. Spijkers-Zwart, eds., Households, Women and Agricultural Development. Miscellaneous Papers 17. Lanabou Whogischool Wageningen, Netherlands.

Steer, Francis W.

1969 Farm and Cottage Inventories of Mid-Essex, 1635-1749. Phillimore and Co., Ltd., Chichester, Sussex, England.

Stone, Garry W.

1983 Garret van Sweringen's 'Council Chamber' Lodging House (1677-1699): An Historic Structure Report. Ms. on file, Historic St. Mary's City, St. Mary's

City, Maryland.

1982 Society, Housing and Architecture in Early Maryland: John Lewger's St. John's. Unpublished Ph.D. dissertation, Department of American Civilization, University of Pennsylvania, Philadelphia.

1977 Dating Seventeenth-Century White Clay Tobacco Pipe Stem Groups: A Proposal to the Seventeenth Century Study Group. Ms. on file, Historic St. Mary's City, St. Mary's City, Maryland.

Tate, Thad W. and David L. Ammerman

1979 The Chesapeake in the Seventeenth Century: Essays on Anglo-American Society. University of North Carolina Press, Chapel Hill.

Voskuil, J. J.

1979 Van Vlechtwerk tot baksteen: Geschiedenis van de wanden van het boerenhuis in Nederland. Stichting Historisch Boerderij-onderzoek, Arnhem.

Walsh, Lorena S.

1983 Urban Amenities and Rural Sufficiency: Living Standards and Consumer Behavior in the Colonial Chesapeake, 1643-1777. Journal of Economic History 43(1): 109-117.

1979 "Till Death Us Do Part": Marriage and Family in Seventeenth Century Maryland. In Thad W. Tate and David L. Ammerican, eds., The Chesapeake in the

Seventeenth Century: Essays on Anglo-American Society. University of North Carolina Press, Chapel Hill.

Walsh, Lorena S. and Russell R. Menard

1974 Death in the Chesapeake: Two Life Tables for Men in Early Colonial Maryland. Maryland Historical Magazine 69: 211-227.

Wilk, Richard R. and William L. Rathje

1982 Household Archaeology. American Behavioral Scientist 25(6).

Wills

n.d. Will of Garret van Sweringen. Liber VI, folio 209-210. Maryland State Archives, Annapolis.

Whallon, Robert

1984 Unconstrained Clustering for the Analysis of Spatial Distributions in Archaeology. In Harold Hietala, ed., Intrasite Spatial Analysis in Archaeology. Cambridge University Press, New York.

1973a Spatial Analysis of Paleolithic Occupation Floors. In Colin Renfrew, ed., The Explanation of Culture Change. Duckworth and Co., London.

1973b Spatial Analysis of Occupation Floors I: Application of Dimensional Analysis of Variance. American Antiquity 38(3): 266-278.

1974 Spatial Analysis of Occupation Floors II: The

Application of Nearest Neighbor Analysis. American Antiquity 39: 16-34.