

## CHAPTER 2

### YEARLEY'S FORT (44PG65)

#### INTRODUCTION

In this chapter the fort and administrative center of Flowerdew at 44PG65 are examined in relation to town and fortification planning and the cultural behavior so displayed (Barka 1975, Brain et al. 1976, Carson et al. 1981; Barka 1993; Hodges 1987, 1992a, 1992b, 1993; Deetz 1993). To develop this information, we present the historical data pertaining to town development and documented fortification initiatives as a key part of an overall descriptive grid to exploit the ambiguity of the site phenomena and the historic record. We are not just using historic documents to perform a validation of archaeological hypotheses; rather, we are trying to understand how small-scale variant planning models evolved regionally in a trajectory away from mainstream planning ideals (Beaudry 1988:1). This helps refine our perceptions of this site. The analysis then turns to close examination of design components at the archaeological site that might reveal evidence of competence or "mental template." These are then also factored into a more balanced and meaningful cultural interpretation of the site.

The site is used to develop baseline explanatory models that are considered in a broader, multi-site context in Chapter 3. Therefore, this section will detail more robust working interpretations that help lay the foundations for the direction of the entire study. In short, learning more about this site as a representative example of an Anglo-Dutch fort/English farmstead teaches us more about many sites struggling with the same practical constraints and planning ideals that Garvan (1951) and Reps (1972) defined.

44PG65, at Flowerdew Hundred, is the ideal study site for several reasons, not the least of which is its ambiguity. The titles this site has had and the authors to these titles dramatize that ambiguity: (1) the "Fort," Leverette Gregory 1972–73 (Flowerdew Hundred Foundation Archives); (2) the "Fortified Area," 1974–75 (Gregory and Norman Barka, Flowerdew Hundred Foundation Archives); (3) the "Enclosed Settlement," 1976–92 (Flowerdew Hundred Archives; Norman Barka 1993); (4) the "Yeardley-Piersey Bawn" (Hodges 1993); and (4) the "Enclosed Compound" (Deetz 1993). Most of these identifications exemplify anthropological generalization because they provide shades of meaning in which the ambiguity of the site and of its historic context variously affects the different and often contradictory perspectives of various researchers. Although ambiguity is normally seen as bad, Leone (1988) explains that just the opposite is true; ambiguous sites have the most to teach us about the past.

The author's own previous title "Yeardley/Piersey Bawn" unfortunately sets up an inherently uninformative nomenclature. This is because the word "bawn" can describe anything from a Renaissance fort to a cattle fold. Accordingly, it conveys little textural meaning other than that a curtain, courtyard, or enclosure of some variant sort is present (OED 1978 1:712).

Therefore, of all these terms, the least ambiguous is that of Gregory—that is, the "Fort." This is the term the field crews always used when excavating the site, both during Gregory's tenure at Flowerdew (1971–75) and after (1976–78) (Andrew Edwards, pers. comm. 1996). Based on analysis outlined in a previous study sponsored by COVA, this is this term that we will use, but prefaced by the word Yeardley (hence, "Yeardley's Fort"). This term personalizes the fort's origins and shortens the longer denomination, Yeardley/Piersey Fort (Hodges 1993). The author will also refer to Weyanoke, Flowerdew, and Piersey's Hundred as "Flowerdew."

If early 17<sup>th</sup>-century Flowerdew is couched in the broadest patterns of 17<sup>th</sup>-century Virginia history, its hypothetical chief importance is the information it can reveal about shifts from public corporation organization during the second stage of English settlement to a more agriculturally based and privately run economy. In some ways this particular frontier period is the most crucial and creative in Virginia history in that it elevated the Virginia enterprise beyond the stage of a military outpost and carefully

pointed it in the direction it would largely follow until 1865. The initial period of transition dates from 1610 to 1619 when the colony was under the direction of Anglo-Dutch-trained military veterans Sir Thomas West (Lord DelaWarre), Sir Thomas Gates, and Sir Thomas Dale. Shifts to a privately run plantation and tobacco economy date from ca. 1617–19+ (Turner and Opperman 1993:79). This therefore is clearly the maximal period of cultural adjustment in the seminal Virginia frontier model (Green and Perlman 1985). Deetz (1977:17) has defined change as the most important building block of all subsequent analysis, so we may have isolated the most important research topic Virginia can offer.

Flowerdew's indirect link with understanding the 1610 to 1619 period emerges from the unique events of 1622 to 1632, created by the Second Anglo-Powhatan War. This abrupt turn of events—only in combination with successive ownership by the two wealthiest planters in Virginia, Sir George Yeardley (owner 1619–24) and Abraham Piersey (owner 1624–27/8)—appears to have forced circumstances that imposed, or re-instituted, a plantation organization that reflected military and paramilitary settlement models and plantation organization typical of the First Anglo-Powhatan War of 1610–14 (Hodges 1993:198, Hodges 1995). So it is possible to also argue that Flowerdew can help researchers understand some aspects of prior public corporation activity, particularly through the activities of Captain George Yeardley who was a senior assistant to Gates and Dale during the formative

frontier period of 1610–17 observed above. However, this requires clarification of some serious points of ambiguity in both the historic and archaeological records. Consequently, we will develop the history section first in relation to a settlement landscape and re-factor this into the material remains provided by archaeology at Yeardley's Fort in the second section.

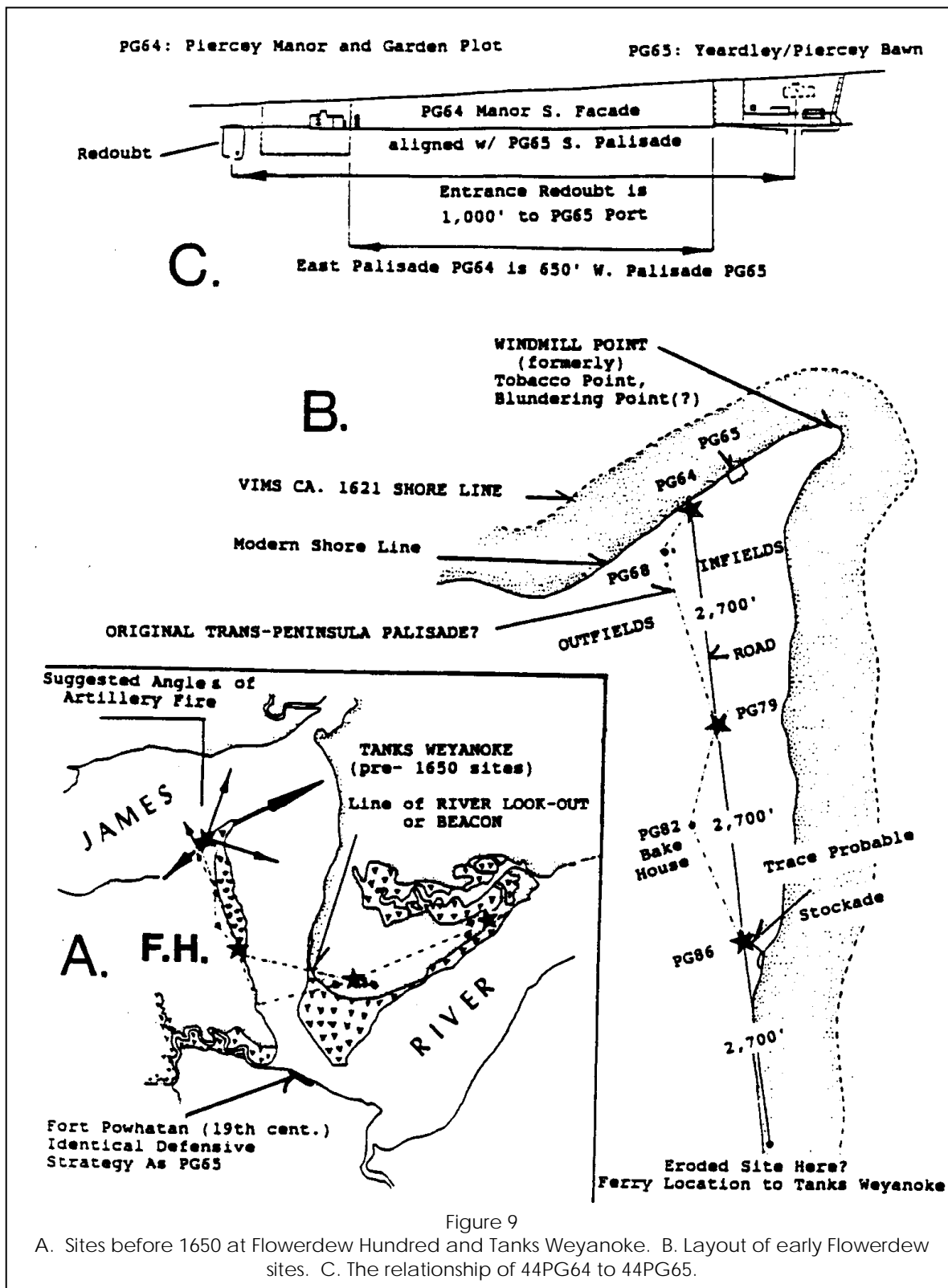
### **Introduction to Flowerdew's History: Stanley Flowerdew and George Yeardley**

Both the Yeardley (1619–24) and Piersey holdings (1624–27) stretched across both sides of the James River between Flowerdew Hundred and Weyanoc, where the James River takes a dramatic double bend about halfway between Jamestown and modern Richmond, or roughly a few miles due south-southwest of modern Charles City Courthouse in Charles City County (Hodges 1993, Lucketti 1977). The original Flowerdew plantation of 1,00 acres was established sometime between 1617–19 and was owned by the Stanley Flowerdew family (Alan Kulikoff, pers. comm. 1993, Flowerdew Hundred Foundation Archives). The Flowerdew's were gentry families from Norfolk, heirs of the John Stanley fortune, and connected by kinship to Robert Dudley the Earl of Leicester (Bemiss 1964:44). Thomas Flowerdew, brother to Stanley, had begun his Ulster, Irish settlement with a timber framed house in Fermanagh, but by 1613 had wisely built an Irish-styled stone tower (Ryan et al. 1993:202). Although we know little about the

Flowerdew-Ulster connection, we can say that, as a younger brother, Thomas Flowerdew probably had less money behind him than did Stanley.

Weyanoke, a peninsula directly opposite Flowerdew and consisting of a 2,200-acre tract, was given to Yeardley by Opechancanough in 1617 as a token of good will and by the Virginia Company for his prior public service to the colony in 1618 (Kingsbury 1933:103). (See Figure 9.) Yeardley, a military veteran since the age of 14 with service in both the Low Countries and Virginia, was unanimously voted to knighthood by entire Virginia Company on both sides of the Atlantic in 1618 (Kingsbury 1933:217). When he married Temperance Flowerdew that same year, an approximately 3,200-acre macro-plantation was created that spanned the James River between Flowerdew and Weyanoke (Jester and Hiden 1956:377). By 1619 Yeardley was appointed Governor of Virginia, a term that ended in 1621 when he declined a second term, "in regard he had soe longe in time togetather (nowe allmost three years) attended wholly vpon the publique service" (Kingsbury 1906 1:435-436). Yeardley's term as Governor was a popular one, what with the great freedoms given to Virginia by the Third Charter, including representative assembly in concert with perhaps the very peak of the legendary tobacco boom and outwardly friendly relations with the Powhatan Chiefdom until 1621 (Morgan 1975:108–119).

Yeardley was the son of a London tailor and, according to John Pory, arrived in Virginia in 1610 with "nothing more valuable than a sword;" thus,



Yeardley's presence in the office of governor of Virginia and as a titled knight epitomizes the increasing emphasis of on individual ability over blood lines, which contributed to increasing social mobility and urbanity during the late Renaissance in England (Carson 1994:521–528; Morgan 1975:122; Rice 1970:76–79; Simpson 1959:10–12).

### **Flowerdew History: Piersey**

Abraham Piersey purchased Flowerdew in October 1624 (Morgan 1975:120, 168), so Deetz (1993:51) brackets Piersey's career by two statements: he arrived in Virginia in 1616, "a verie poore man," yet by his death in 1628 he left "the best Estate that was ever yett knowe in Virginia," becoming the "richest man in Virginia." In fact, this Virginia promotional propoganda aside, Piersey was likely never a truly poor man, given that he was well connected to the Earl of Northumberland. Through his marriage to the daughter of Sir Thomas West (governor of Virginia 1610–18), he became associated with Queen Elizabeth's family (Deetz 1993:50; Morgan 1975:120). Piersey was the Virginia Company Cape Merchant (1616–19), operating the floating store, the Susan and the George (Jester and Hiden 1956:263–265; McIlwaine 1915:33). By 1624 he was a member of Virginia's elite Council and by 1625 he was a militia captain of sorts (Jester and Hiden 1956:263–265; Kingsbury 1935:110–111).



### **Morgan's Assessments of Yeardley and Piersey**

Morgan's research (1975:98,122–123) describes Yeardley as a prime example of the violent "robber barons" who used "gun barrel" diplomacy with Indians. Moreover, he noted that he was a key example of the exploitive minority in Virginia who used government office for private benefit—typically by grabbing up labor—as a "right worthie Statesman for his own profit." Morgan (1975:95, 120, 125) questioned Piersey's honest business dealing; the magazine ships of which he was Cape Merchant showed a loss despite selling goods at three times their cost. Piersey also was accused of selling rare food commodities at inflated prices during the post massacre period and he personally distinguished himself as one of two people who "deale uppon nothing but extortion" (Fausz 1977; McIllwaine 1979; Morgan 1975:125). Together, Yeardley and Piersey were the two top users of indentured servants and apparently shamelessly exploited the labor-intensive tobacco economy (Morgan 1975:119).

Did Yeardley and Piersey fall victim to criticism? Again, we must properly put things in perspective in concert with their political or financial ascendancy in the Virginia frontier.

### **Town-Founding Evidence at Flowerdew**

Instead of moralizing, let's try to view Morgan's criticisms in our archeological context. A key factor in the real wealth of Yeardley and Piersey was their control of labor pools that were very large by the standards of most

plantations except for that of George Sandys, the Virginia Company treasurer. So, although Flowerdew is tied for 5<sup>th</sup> place in overall population and other quantifiable indices throughout the colony and only the second largest in Charles City based on the Muster of 1624–5 as noted by Barka (1993, in terms of real power to accomplish personal goals under a single household head, Flowerdew was probably in the very first rank within the Virginia Company and early Royal colonial periods. This assertion requires that public corporations such as James City and Elizabeth City be discounted in comparisons with Flowerdew, as it is simply a particular plantation (on paper at present). Nonetheless, the plantation's hypothetical intersection with the local Charles City corporation administrative infrastructure during the Second Anglo-Powhatan War (1622–32) will be looked at in more detail below. This intersection may have been arbitrated or modulated by those factors of immense private power to make Flowerdew a de facto public corporation administrative center within a nearly bankrupt Charles City borough public economy.

Evidence that Yeardley was trying to found a town at Flowerdew before and immediately after the 1622 massacre appears in seven ways, although few are stated as such by surface information surviving in the historic record or through mere archaeological data. With critical analysis we must sift through this information very carefully to grasp that raw ambition:

1. Windmill: The presence of a windmill built before 1621–22 by "the good Example of Sr: Geo Yardley" indicates that retired governor Yeardeley was trying to establish Flowerdew as a local food crop processing area in exchange for a portion of the resulting corn meal (Kingsbury 1933:586). Yeardeley's recognition that over-planted Indian maize was a key commodity as a follow-on to spring crops of English wheat was probably attributable to the importance of maize in the First Anglo-Powhatan War 1610–14 (Kingsbury 1933:220).
2. Tobacco Taster: Either Yeardeley or the Council established one of the two Flowerdew burgesses, one "Mr. [John] Jefferson" (possibly related to Thomas Jefferson) who is described as a "gentleman" and as a Virginia Company "tobacco taster." Perhaps Yeardeley was hoping to establish Flowerdew as a regional tobacco inspection station and potential regional dock, especially for up-river planters (Kingsbury 1933:153–154, 229).
3. Legal Dutch Port and Illegal Dutch Black Market: Yeardeley had a resident plantation "factor" (formalized business representative), the second burgess from Flowerdew in 1619, one Ensign or Captain Edward or Edmund Rossingham (an Anglo-Dutch military veteran), who, from 1621 to 1623+, annually traveled to Holland as Yeardeley's personal agent in Dutch tobacco sales (Kingsbury 1933:153–154; Powell 1977:123–124). Thus, Flowerdew was a specific Dutch trade port destination based on international business contract ties with the Free Estates General of Holland. Notably, and perhaps not without reason, Windmill Point was already known as "Tobacco Point" as early as 1617, perhaps because of Stanley Flowerdew's Anglo\Dutch trade connections as indicated by the Atlas of the Dutch West India Company made that year (Kelso 1996:20). In fact, one of Yeardeley's servants or tenants, one Theodor Bersiston or Theophilus Beriston, may even have been of Dutch extraction and acted as a translator if either Yeardeley or Rossingham—who were almost certainly fluent in Dutch—was absent from day-to-day social intercourse (Briggs n.d.; Hotten 1981).

Such Dutch trade drove a wedge between the Dutch traders on one hand, who paid better prices for tobacco and thus were regionally popular in Virginia, and the English crown policy that increasingly sought sole control of

tobacco sales. This caveat was a major factor and clearly lay underneath the royal colonial takeover of the Virginia Company in 1624. Indeed, Rossingham's international business transactions with the Dutch between 1621 and 1623 (and probably 1619–21) preserve handsomely something of Yeardley's economic arrogance. For both Yeardley and Rossingham were, at least on paper, literally running an illegal black market at Flowerdew, selling "contraband" tobacco. Not only did the English end free importation of tobacco in 1619 to English ports, but between 1621 and 1623, when we know Rossingham was specifically most active in Dutch trade, the English side of the Virginia Company Council had difficulty enforcing "its requirements that all exports from Virginia should be shipped directly to England" [author's emphasis] (Craven 1932:261–264). Notably, this particular "Dutch connection" may help explain the unrelenting personal hatred Sir Thomas Smith and his faction had toward Yeardley, nor should we forget the title of the Dutch Map of 1617, "New Netherland."

Should we be surprised by this Anglo-Dutch black market? When Catholic James I signed a treaty in 1604 to extricate England from the Dutch Protestant-Catholic conflict with the Spanish—and thereby leaving the Dutch patriots alone—the British troops in the Low Countries remained loyal to Holland until 1609. Interestingly, this is the very year Sir Thomas Gates and Captain George Yeardley were sent to Virginia (Fortesque 1910:139). As right-hand man to Sir Thomas Gates and Sir Thomas Dale during the first

Anglo-Powhatan War 1610–14, Yeardley was almost certainly paid directly out of back pay funds dispersed to his commanding officers from the Dutch Republic by at least 1616; this assumption helps us understand that open arrogance (Jester and Hiden 1956:375–379; Shea 1983:14–24; Wilcoxon 1987:19–21; 73–80). These troublesome Protestant soldiers, in combination with Machiavellian theory, exacerbated Catholic King James I, who already despised the Protestant military leadership, war, and tobacco—in short, all fundamental aspects of early Virginia society (Willson 1967:372–373; Brown 1901:21–29; Rutman 1959).

For now, we must simply assume from this that Yeardley's business associations with Holland were not only more profitable, but were also part of what he saw as a Anglo-Dutch allied colonial effort in Virginia (although it is highly doubtful that his ultimate loyalties to the English ever wavered). We suspect it was directly associated with a logical extension of the political ambiance of the fundamentally Anglo-Dutch military regime. If we then put this information together with the numerous storage facilities (examined in more detail below) solely at Flowerdew after 1622 in Charles City Corporation, we can speculate with some certainty that Flowerdew was quite possibly the very last key center of an up river illegal Dutch "black market" within Charles City Corporation, which together with Henricus public corporation, was clearly the major Anglo-Dutch territorial enclave in Virginia.

One reason James I greatly distrusted the military was not only fears of Machiavellian theory and its association with patriotic nation-state armies, but also its literal modeling on that of the Roman Legion system—one that had toppled more than one Emperor. In fact, the Dutch were actively doing just that to the Spanish monarchy during the 80 Years' War (1566–1648), and Charles I of England also would lose his crown during the British Civil War (1641–45) (Fausz and Kukla 1977:107,110,122; Fortesque 1910:31). When we realize that this Dutch black market got wrapped up in and defended by a formidable fortification in 1622 and 1623 at Flowerdew, we begin to appreciate the symbolism of Yeardley's Fort as a fundamentally American icon in spirit; that is, the fort stood for free international trade and republican representative assembly. These ideals were the very views also supported by George Washington and Thomas Jefferson 150 years later in their attempt to realize a Renaissance vision.

Material evidence of the Dutch connection appears through marked Dutch trade pipes and Ming porcelain and other luxury goods recovered at 44PG65 of undisputedly Dutch origin (Barka 1992:331; Flowerdew Hundred Foundation Archives; Taft Kaiser, pers. comm. 1993; Anthony Opperman, pers. comm. 1978). The former characteristic has almost certainly skewed the creative use of pipe-stem dating by Deetz (1993:7–9) through uncritical use of Harrington histograms and invalid statistical premises nonetheless worth further hypothetical investigation (Frazier Neiman, pers. comm.,

1994). According to Duco (1981), Dutch pipe stem diameters do not strictly follow the English system. Thus, the similarity between Group 1 sites at Flowerdew and Group 2 sites at Martin's Hundred is superficial, as will become even more clear from dated population studies below (Brown and Edwards 1993; Deetz 1993:161–163). In the meantime, ecological factors such as the hurricane of 1667 (which inundated and scoured the flood plain at Flowerdew) probably dramatically affected the motivation for terminating Group 1 stem dates at Flowerdew, all of which were on a devastated flood plain (Morgan 1975:242).

4. Signal Cannon: Flowerdew was the only private plantation to have a cannon (or two) before the massacre (Hatch 1957:73; Kingsbury 1906 2:383). Such a meager arsenal would hardly suffice against a foreign warship. Instead, perhaps the cannon's primary function at Flowerdew was as a signal gun announcing the arrival of international trade ships to the entire local community. Until March 1622, a sharp loud bark from the cannon, followed by only one bark, was possibly a call to the entire audible river community to gather at a bustling international Dutch market during the peak of the tobacco boom.

To underscore this hypothesis, two documented examples of this system follow here. First, John Smith built a blockhouse at Hog Island in 1609 to "give us notice of any shipping" in a fashion that was clearly not necessarily belligerent (Barbour 1969 1:263). Second, when Gates sailed into the mouth of the Chesapeake in 1610 he notes, "wee came up within two miles of Point Comfort, when the Captaine of the Fort [Fort Algernoone] discharged a warning Peece at us, whereupon we came to Anchor, and sent

off our long Boat to the Fort, to certifie who we were" (Purchas 1926 19:43–44). Such a system was an acknowledged international symbolic ritual also employed in the Spanish Caravel incident of 1611. Thus, in saluting one another by firing an uncharged cannon (powder charge without ball), the trade vessel reimbursed powder to the trade port or entry port and often picked up a river pilot who knew the vagaries of the local waterways (at Point Comfort often a trade license had to be obtained) (Broadbeck 1942:8; Brown 1890:515).

5. Indian Trade Goods: Yeardley's Fort (44PG65) has produced evidence of trade beads, a Jew's harp, a crucible, and associated copper scrap seemingly intended for Native American trade (Barka 1975, 1992:331). The Virginia Company specially licensed these items and "private trucking" was illegal although difficult to control (Flaherty 1969:16–17; Kingsbury 1933:93; Purchas 1926 19:51). Thus, before 1622, 44PG65 was part of an Indian trade network in which furs and corn were probably exchanged for copper and glass trade beads and Dutch gin. The copper scraps are almost identical to those only recently found at Jamestown and documented to have been traded to Pasbahegh Indians before 1610 (Hodges and Hodges 1994, Kelso 1995). English war diplomacy that Yeardley and Wyatt developed during 1622–32 required "boote" (looted) corn from English Native American enemies and "trade" corn with non-Powhatan Chiefdom Indian allies to feed starving colonists (Kingsbury 1933:93;656–657; 1935:6–8; 9–10, 580–585; Powell 1977:91). From another perspective, some of the glass beads found at 44PG65 may have been traded to the Weyanoc Indians from 1607 to 1614 during their suspected occupation on the same site (see palisade discussion below).
6. Minister and Charles City Borough Minister: By agreement with the Virginia Company, a "particular plantation town" settlement was encouraged to have a minister present within its population (Reps 1972:47). Piersey's Muster of 1624–25 lists a minister named Grivell Pooley (Jester and Hiden 1956:19), yet Pooley also appears



on Yeardley's 1624 "List of the Living and Dead" for Flowerdew (Hotten 1980:172). The Muster entry for 1624–5 notes that Pooley arrived in Virginia on a ship called the James in 1622, a date further confirming his association with Yeardley's efforts at "town founding." Yeardley's patronage here seems assured, for only a year later public taxes were used to support borough ministers approved. That point will be described in more detail later (Kingsbury 1935:400–401; 523). For now the important issue is that Pooley, who was resident at Flowerdew, became the parish minister for all of Charles City borough in 1623, the same year the fort was completed.

7. Settlement Model Parallels with Public Corporations: The bold layout of Flowerdew matches those of prior public corporations, especially at Bermuda Hundred and also superficially at Henrico, both having the same or close personal origin through George Yeardley. But even more importantly, the political resemblance to corporation towns may not be superficial by 1622–26. At a minimum this means Yeardley was openly copying a system he considered efficient both in Virginia and quite possibly in the Low Countries. The fort at 44PG65 follows the exact basic settlement model of Henricus and Bermuda City in that all three forts were at the tip of a peninsula. Only the Flowerdew work was on a flood plain more typical of the Dutch military landscape (Hodges 1993: Figure 1, 188, 192). Thus, the fort was the administrative center in the "city" in Charles "City," just as the "town" center in Henricus City was the fort. This arrangement is attributed to similar warfare contexts and Anglo-Dutch veteran patronage that included fears of both Indians and European rivals during the First Anglo-Powhatan War (1610–14) (Hatch 1957, Fausz 1990; Reps 1972). The main administrative center of each cluster of settlements was not just a military fort; rather, the defenses contained a religious center with a minister, a court center, and secure market place.

In an agriculturally based society, a fort cannot stand on its own as an economic entity, which was a serious problem at Jamestown until Gates and Dale arrived (1610–11). For instance, both Charles City and the fort at Flowerdew were supplied with "victuals" (food) by the satellite settlements, which often clustered linearly around them, for no infrastructure in Virginia

society could exist without a food surplus, some of which came from Native American tribute corn. Profits from tobacco or the Indian trade were also important. The supply arrangements were well defined. For example, Coxendale, Rochdale, Mount Malady, Elizabeth Fort, Fort Patience, Charity Fort, Hope in Faith, etc. supplied Henricus (Purchas 1926 19:100–101). Also, Bermuda Hundred (opposite flood plain peninsula), West and Shirley Hundred, Digges Hundred, and Rochdale Hundred (Hatch 1957; Purchas 1926 19:101; Wertebaker 1958:19–25) supported Bermuda City or Charles Cittie (at modern City Point, Hopewell). The Flowerdew Fort was obviously supplied by the string of sites stretching south at Flowerdew and across the river to Weyanoke.

What other function did this linear, dispersed pattern have? To understand other functions of these satellite sites at Flowerdew and Weyanoke, we really need only to consult the documentation of Bermuda Hundred, which Captain George Yeardley ran on a daily basis (Hatch 1957:62–63). At Bermuda Hundred, John Rolfe (1951:38) noted one reason the plan was not random was that, "The houses and dwellings of the people are sett round about the river, and all along the pale so farr distant one from the other, that vpon anie [Indian threat] All-arme [put on arms and armor, so that] they can second and succor one the other" [author's inserts]. Flowerdew's impaled peninsula recorded in Piersey's 1626 court deposition (probably a Yeardley improvement) was intended to demark a strong ethnic

boundary in relation to the Native Americans; but in day-to day-use, it was likely to keep "Cattle from ranging and perserueth the corn safe from their [Native American or cattle's] spoile" (Rolfe 1951:1951:31; McIlwaine 1924:120).

This is a sort of poor man's defensive and commercial rationalization of a "latter day" Hadrian's Wall or the Great Wall of the Dutch Republic (hypothetically, the European addition to the Native American riverine pattern) (Parker 1986:12, 39; Hodder and Hassall:392–293). The Dutch Great Wall is similar evidence of classicism in Holland through direct imitation of Roman military frontier "limes" (limits) (De La Croix 1972:31). The Dutch Wall was possibly occupied by Gates and Yeardley from 1601 to 1609, or at least was well known to them. The Dutch retained strings of fortified garrison houses in Holland from which they incessantly raided Spanish garrisons (Jester and Hiden 1956; Parker 1986:40–41). Henricus and Bermuda and numerous up-river military regime sites placed settlers in "bordering houses," literally along the pale (Hodges 1995). (See Figure 10.) Hatch (1957) recorded this system, but its classical underpinnings through direct Dutch imitation of Roman tactics was not fully understood at the time, and we need to know more to strengthen this parallel.

What other parallels did Flowerdew have with Bermuda Hundred through George Yeardley? In describing Bermuda, Ralph Hamor (1957:32) wrote that the linear defensive layout described above contained periodic houses, "built vpon the verge of the River, half a mile distant from each other, [where there] are very faire houses, already builded [authors emphasis]," a landscape illustrated partially in the Dutch West Indies map (Kelso 1996:20).

The archaeological survey evidence precisely generated by Michael Barber at Flowerdew demonstrates that the analogous extractive road for

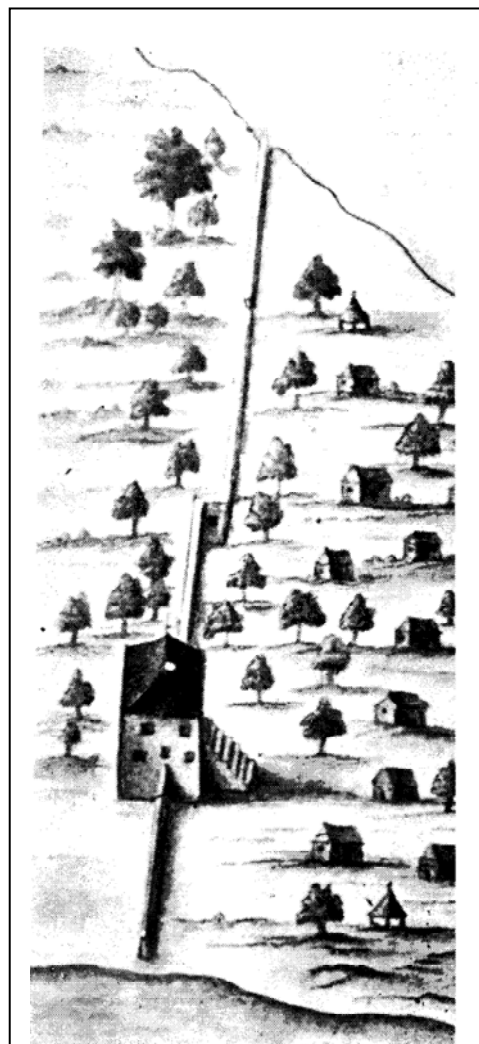
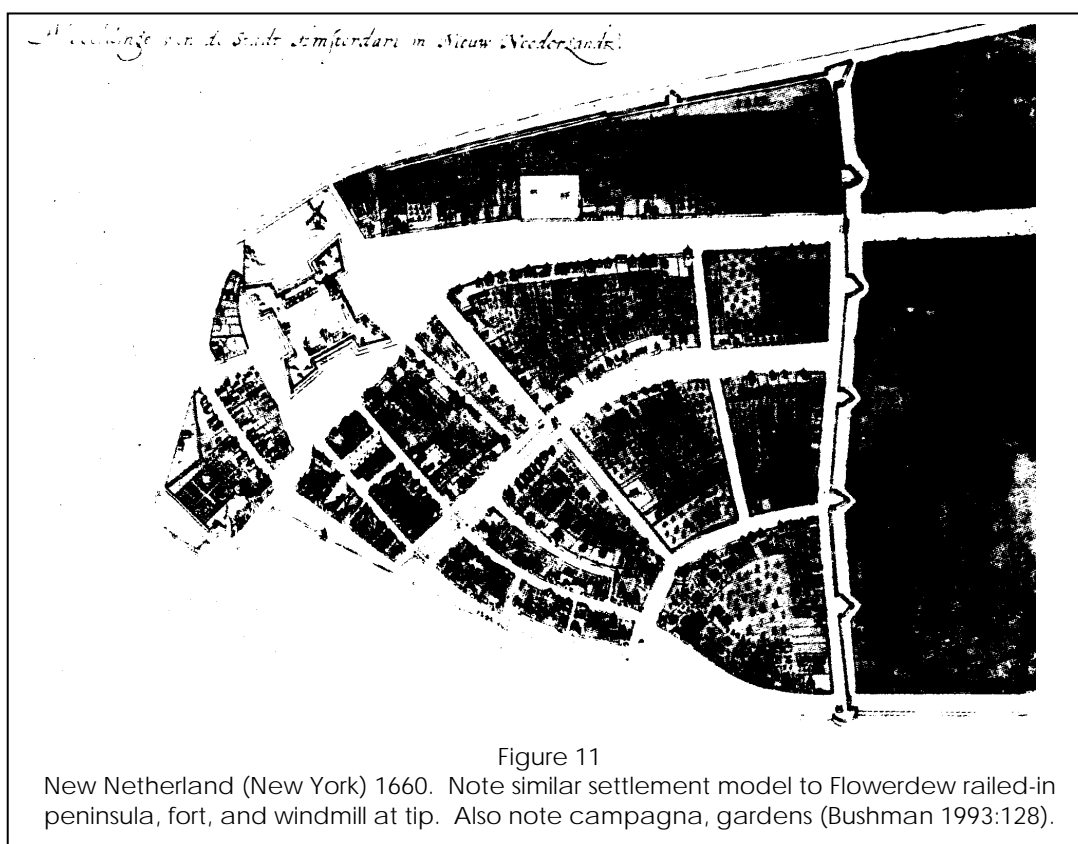


Figure 10  
A bordering house from a railed-in peninsula in West Africa 1665. Note musketeer (sharp angle in wall) (Lawrence 1964.)

transportation of men and bulk products such as corn and tobacco at Flowerdew is on 2,700-foot centers (almost exactly half mile centers) and precisely follow distinct elevated river levees (12 to 13 feet above sea level) (Sites PG64, PG79, and PG86) (Hodges 1993: Figure1B; see also Neiman 1993:256). From there they descended to lower elevations at 44PG65 that are inland of a probable dock area about 371 feet to the north-northwest (7 to

8 feet above sea level) (Byne and Anderson 1977). University of Virginia archaeologists have located the original windmill footing between 44PG64 and 44PG65, further confirming this area as the heart of the administrative and commercial district at Flowerdew, specifically under Yeardley (James Deetz, pers. comm. 1994). The combination of fort and windmill, together with its later "railed-in" peninsula—probably built by Yeardley following the "Bermuda Model"—must have made Flowerdew like an early version of Dutch-founded New Amsterdam, the foundations of modern New York City (see Figure 11) (Bushman 1993:128; Hodges 1995; Reys 1965:189).

Both at New Amsterdam and Flowerdew the railed-in peninsulas were closely associated with streets; a perfect example in New York is the well-known "Wall Street." However, by comparing very military landscapes with defensive walls such as the ideal of Henrico and New Amsterdam, we can see that the hypothetical Flowerdew neck land rail is a rationalization of pre-existent riverine settlements trending north to south more parallel to the river. In contrast, a strictly military plan from the very beginning would cut off Windmill Point right across the neck from a more northwest to southeast orientation. The same problems occur at Weyanoke; there, a more military-type pattern also influenced by swamps does occur. The pattern is evident only at the southernmost sites where hogs may have been impaled to the swamp side, but the entire settlement is riverine based on the east cluster of sites Lucchetti discovered in 1977 (VDHR Archives).



It is interesting that the two Native American palisades at 44PG65 indicate that these areas also were the most important socio/politico and potentially defensive zones of the Late Woodland and Contact Native American occupation. The overall structure of both the Weyanoke peninsula and Flowerdew peninsula English settlements was patterned loosely after prior Weyanoc Indian hamlets and planting fields; apparently, Yeardley strung the English settlements so that they cut across Native American hamlets and villages (since not every early English site has a clear late Native American component) (Lucchetti 1977, Hodges 1995; Anthony Opperman, pers. comm. 1996). In other words, the core riverine structure of English Flowerdew and Weyanoke was largely in the broadest outline form

predicated on Weyanoke Native American settlement models. This efficient energy system, which does not include all pre-1650 sites at Flowerdew, matches nearly identical layouts for commerce and defense at Bermuda Hundred and Bermuda City of 1611–15, which were strung across Appomattuck Native American settlements. Thus, those sites laid out in non-random placement are probably Yeardley's through the Bermuda connection where he was in residence as Deputy Governor (Hatch 1957:62–63).

The dispersed hamlets noted above at Bermuda Hundred and Flowerdew, operating in concert with administrative centers, are extremely important because we are trying to isolate vernacular influence in town founding in Virginia using Flowerdew as a model. It is generally accepted that (1) tobacco and corn cultivation, along with (2) the headrights system creating outward-bound servants every seven years, and (3) dispersed Native American settlements with previously cleared lands that "jump started" land clearing were the major influences in settlement models (see Brown and Edwards 1993). What is therefore also needed here is some explanation of the Renaissance credo of individualism versus communalism that is operating here.

This credo ties into to what Upton (1979) calls the "atomistic" desires of the immigrants to Virginia who strongly resisted communal "nucleation." Danish scholar Ramussen (1979:68) touches on this:

A modern person thinks of moving out into the country as an escape from cosmopolitan life of the city to a more primitive existence. But in Palladio's day [16<sup>th</sup> century] just the opposite was true. Life in a little town like Vicenza was the primitive one, cramped and dirty with a small opportunity for magnificent display. To be able to realize what was then considered a civilized life, it was absolutely necessary to live in the country [author's insert].

For unseasoned servants and soldiers who often arrived quite ill, life in corporate towns/forts like early Jamestown and Henrico was nearly analogous to a death sentence in slave-like conditions (Fausz 1990; McIlwaine 1915: 21, 28, 29, 31, 33; Morgan 1975:101-102; 115). In their dreams they might have wanted to create magnificent villas, these typically lower- and middle-class servants longed for their own land or at least a tenant relationship where they could be partially rewarded for individual efforts by a share of profits. After several mutinies and other failings in corporate towns and forts, Dale and Yeardley at Bermuda Hundred recognized this great psychological need and they concluded by 1614–16 that:

“the sooner reslove [resolve] upon the [need for] a division of the country by lot, and so lesson the General [public and communal] charge, by leaving each several tribe or family to husband and manure his own” [land] [author's inserts] (Brown 1990:762).

To great delight, three acres of land was given to everyone but those in Bermuda Hundred (the Capital of Virginia); and by 1617 the qualifying Ancient Planters were released from servitude even at Bermuda Hundred (Kingsbury 1906 I:77–78; McIlwaine 1915:31, 33). Thus, when we consider Ulster settlements like Macoscin or Magerafelt with their bilinear streets



occupied by servants and tenants and compare them with Virginia settlements, the strong vernacular influences and a Renaissance credo of individualism will reveal these same people out in corn and tobacco fields on someone else's property or their own. Importantly, the little nucleation that did occur was to cache crop surpluses and create minimal but efficient plantation administrative complexes that took on the nature of small fortifications, villas, or both—not towns—except at Jamestown.

In sum, this is a very simple "mongrel Baroque landscape;" that is, a spatial organizational scheme that architecturally embraces an entire landscape forged into a single entity that invites movement in and around key nodes. The linearly dispersed settlement model forms a sort of "riverine rationalized military Baroque" landscape system that acknowledged that tenants were more at ease and therefore more productive on their own, and this was meshed with the most efficient way to maintain planting fields and livestock by simply being out there with them. For this baroque system, the Yeardley Piersey Complex (PG64 and PG65) is its main point in space as an organizing node with the James River itself as the second node (see Bacon 1967:111–124).

Bermuda Hundred, with which Flowerdew has strong personal, spatial, and even empirical links, was an extractive agricultural satellite site of a disarticulated fortification across the river (Charles Cittie). Warfare at Flowerdew caused further rationalizations and resulted in direct articulation

of satellite sites and a redoubt and fort within a single, walled, articulated landscape. Therefore, the mongrel baroque landscape at Flowerdew is neither entirely commercial nor entirely military; nor is it entirely Native American-derived. By the same token, nor is it entirely English or Dutch influenced. Overall, this landscape seems a very good paradigm for what was going on in Virginia during this period of maximal cultural adjustment.

#### **THE "BOROUGH LAND" AT WEYANOKE: YEARDLEY'S GIFT HORSE AND ITS RELATIONSHIP TO LOCAL TOWN GOVERNMENT**

When in 1617 the Ancient Planters were released from servitude as we noted above, the practical infrastructure of Charles City borough was surely weakened because the surpluses needed to support government were harder to come by. During the shamelessly greedy tobacco boom, what if anything did they do for Charles City borough? We can be reasonably certain that Flowerdew was a private or "particular" plantation, permitting considerable freedom for Yeardley's business activities; the same cannot be clearly said about Weyanoke (Robinson 1957:19–20). What was the ambiance of Weyanoke as a land holding? Above we noted that Weyanoke was bestowed as a present to Yeardley from the Native American Opechancanough in 1617 and then given to him by the Virginia Company in 1618. In fact, receipt of these favors from each party presented a problem to Yeardley in terms of what he personally could do with the land (Hatch 1957:42; Kingsbury 1933:103).

According to the research of Alexander Brown (1898:321–322), who strip-mined many original English documents stored in London, the 2,200-acre Weyanoke parcel was Charles City Corporation land set aside to help relieve tax and other public burdens within the larger Charles City Corporation political entity known as a "Borough Land." (See Figure 12). However, this information seems at odds with the fact that the hypothetical Weyanoke borough land could be sold privately by Yeardeley to Abraham Piersey in October 1624 (Hatch 1957:42). The fact that Weyanoke supposedly was given to Yeardeley in the spirit of a personal reward for prior public service would also appear at odds with the notion of Weyanoke as public borough land. If Weyanoke was yet another public responsibility for Yeardeley, he certainly might have had cause to question this "gift horse."

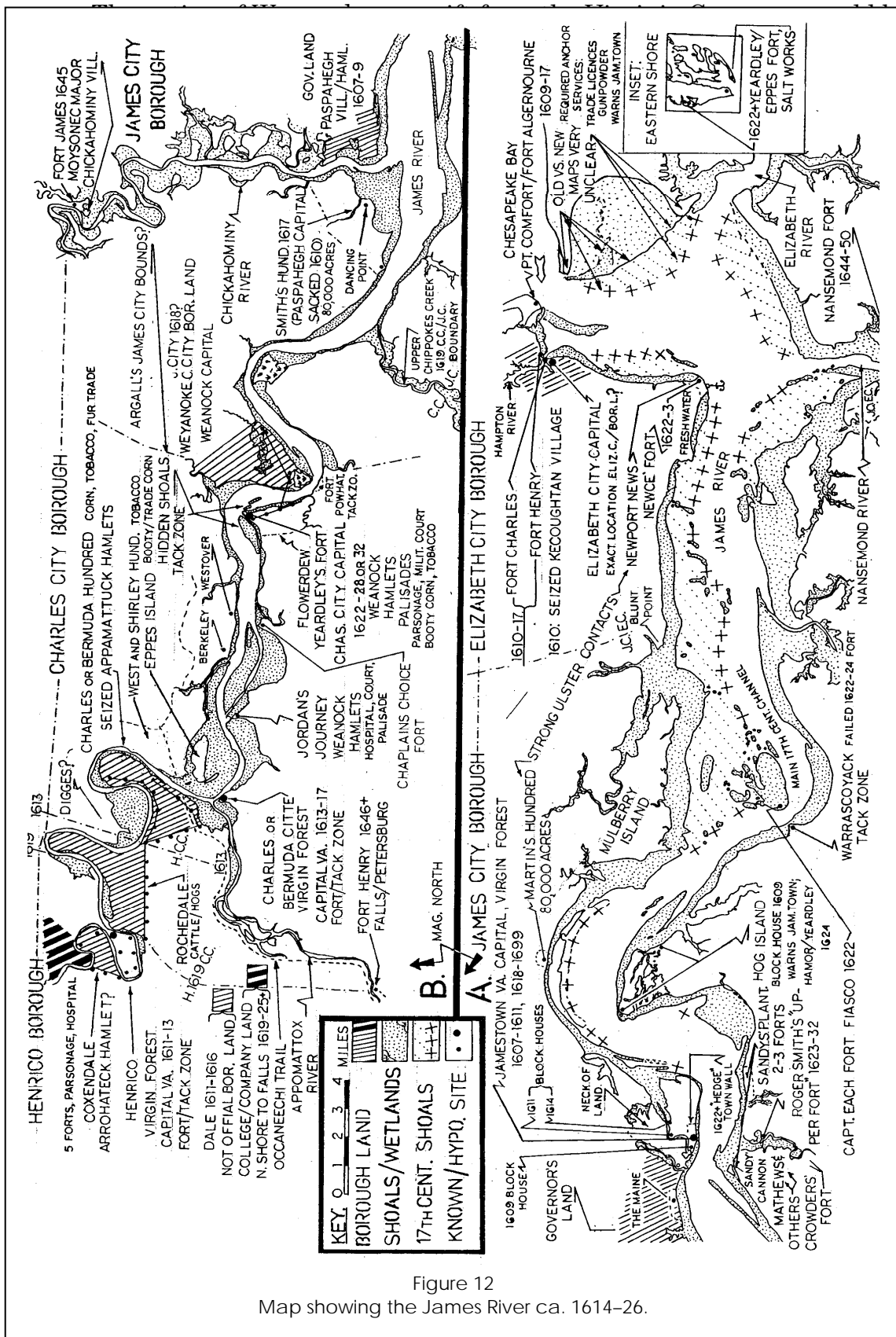


Figure 12  
 Map showing the James River ca. 1614-26.

assume that a similar arrangement was in place on "borough lands," also to support the government.

We have already briefly alluded to the best clue that Weyanoke's contemporary use as borough land. It probably represents compensation to the Charles City public corporation. This is directly associated with the relinquishment of some public lands at Bermuda Hundred to tenant farms and then private allotments of 100 acres between 1614 and 1616 and probably 1618 by Dale, Yeardley, and perhaps Argall (Hamor 1957:32; McIlwaine 1915:33; Reps 1972:47; Robinson 1957:15-16). Weyanoke therefore helped provide a second subsidy for Charles City borough at the very moment that Bermuda's contribution was being weakened and partially dismantled.

The second best clue in the documentary record that Weyanoke was public corporation land is seen in its use as a public "cure" or "rest" area for non-indigenous patients, cared for at public expense in a charitable manner. Public corporation lands, such as Coxendale, were used as rest areas during the administrations of Dale and Gates (1611–15), and borough land was used again for rest areas in 1620 (Hamor 1957:31). However, Reps (1972:47) notes that by 1620 both borough lands and some particular plantations as well were supposed to have guest houses built on them analogous to rest areas for the typically ill servants delivered in boatloads to the colony. Hypothetically, initially abandoned after the Massacre, Weyanoke plantation was quickly

reoccupied by 1622–3 by Yeardley. By 1623, Captain Nicholas Martieau brought to Weyanoke patients who were sick with the "droopsie" (presumably dysentery or chronic diarrhea) to "perfect a cure," where notably not one "miscarried" (McIllwaine 1979:11).

The other duties at borough lands included the "beginning of a stocke of Cattell" as a sort of public commons. Weyanoke's beginnings in this capacity may have occurred through the gift of two heifers from the Virginia Company (Reps 1972:47). In terms of hard evidence from Weyanoke, the public stock of cattle, presumably used to feed public servants in residence at Weyanoke, may have also occurred through "common usage" of the former Governor Argall's (1617–19) eight theoretically "impounded" cattle. Argall's cattle were in limbo as public property, presumably pending Virginia Company suits against Argall's estate in Virginia (Hatch 1957:19–21; Powell 1977:76–79). Notably, the Muster of 1624–5 recorded that Piersey's personal household contained not only the plantation's cattle herd but also "8 neat cattle young and old" that are specifically listed separately as "MR. SAMUEL ARGALLS CATTLE" (Jester and Hiden 1956:22). In other words, the livestock at Piersey's Hundred constituted a public or corporate cattle herd impounded along with his own. When Argall ran afoul of the Virginia Company in 1618, these publicly appropriated cattle may have wound up at Weyanoke for the same reasons that mischievous, privately owned hogs at

James City were forfeited to be ringed at public holdings at Bermuda Hundred (Kingsbury 1933:93).

Because Argall's governorship technically ended in 1619, the transfer of these cattle in 1624–25 from the Governor's Land or Governor's estate in James City Corporation to Piersey's Muster cannot be explained adequately as emergency behavior resulting from the 1622 Indian Uprising. Jamestown Island in James City was considered the safest place for cattle in 1622, not Flowerdew (Kingsbury 1933:612). Therefore, although Argall's cattle may have been originally sent to Bermuda Hundred, we can explain how the cattle got to Flowerdew only through Yeardley's use of borough lands at Weyanoke much earlier. Given the Yeardley borough land connection, Piersey had to legally account for Argall's cattle in 1625, suggesting that the livestock were inadvertently acquired as part and parcel of his "largesse" purchase of Flowerdew and Weyanoke borough lands in 1624 (McIllwaine 1979:55).

A fourth suggestion that Weyanoke was a borough land is offered through post-massacre documentation and modern archaeology. In November 1623, the same years as Martieau's use of Weyanoke as a rest area, there was public court discussion of setting aside 2,000-acre plantations to create secure "fortified Towns" for all willing to settle there. This discussion, as well as the size of the plantation/rest area (2,200 acres), would be fully appropriate to Weyanoke as an apparent Charles City public

corporation, "borough land" holding (Kingsbury 1906: 482–483, see also 488–489). In reality, all Weyanoke did was support the emergency fort across the river, but borough land association would surely help in rationalizations of where fortified towns were.

The evidence supporting the notion that Weyanoke was a public corporation land is provided largely through historic archaeology, which has revealed what appears to be the ultimate fate of the privately held Flowerdew side of the macro-plantation. Flowerdew became a borough district fort and administrative center to Charles City Corporation during the period 1623–32. The change at Flowerdew may have occurred by default, since it was initiated following the sacking of Weyanoke during the 1622 Indian Uprising (Tyler 1946:369). It may have originally been intended that the public fort be established at Weyanoke, or at least be supported by tax revenues from Weyanoke. The effort may have been shifted to Flowerdew, or at least recombined with Flowerdew, since Flowerdew had experienced minor losses during the Uprising as compared to Weyanoke. By at least 1622-23, Flowerdew had also erected its own significant defenses (Kingsbury 1906 II:363; Tyler 1946:369). In these emergency activities, the through sacking and abandonment of both Bermuda Hundred and Charles City, the original fountainhead of Charles City corporation government in the immediate post-massacre period only serves to strengthen our hypothesis about the fate of



Flowerdew as the seat of a privately and publicly financed Charles City borough fort (Kingsbury 1933 3:612, 670).

Two other documentary notes will conclude our discussion of Weyanoke as a hypothetical borough land. If we examine Morgan's (1975:122–123) somewhat venomous account of Yeardley's refusal to surrender about 54 tenants when he retired as governor in 1621 and look at the date of the original agreement of 1618–19, part of the wrangling may be due to at least 20 or so tenants who were financed by Yeardley and wound up as part of the Yeardley borough land "gift horse." This is because either Governor Argall (1617–18) or Sir Thomas Smythe tried to attach Weyanoke to Smyth's Hundred. This Hundred was directly analogous to Martin's Hundred in size at 80,000 acres. It is described as having an eastern boundary in the western side of the Chickahominy River area and bounding on the west by "Weyanoke territory." This hypothetically makes Weyanoke Marsh Point the western boundary of James City borough. It certainly helps us understand how Argall's cattle got to Weyanoke and how Virginia Company officials attempted to undermine Yeardley's trans-river estate (Hatch 1957:39, 42).

Close analysis of Piersey's will helps confirm our hypothesis that public and private affairs had become entangled at Flowerdew and Weyanoke. Piersey's will was made in 1626, the very same year we find that half the "grete ordnance" in Virginia is at Flowerdew (McIlwaine 1924:120).

In it Piersey included a special provision that "the Governor [then Yeardley] and counsell [should have] a true Inventorie in upon her oath [executrix, wife Frances Piersey] of all my estate soe left as aforesaid" [author's inserts] (Neill 1886:405). This highly unusual provision anticipates public and private complications in his estate resulting from his association with borough lands and with his co-sponsorship of what had become a royal colonial artillery fort. As a result of the special provision of the will, government officials were allowed to peruse the estate inventory for public property such as artillery, powder stores, and a public granary to ensure that these items were not recorded as Piersey's personal property (as was the case with Argall's cattle). This would also include separating "men at the castle" paid for by borough taxes from his servant household. So when Piersey as a capitalist magnate purchases Flowerdew and Weyanoke, what he is really doing is purchasing the rights to patronize a local government concession as well as large tracts of personally owned private property.

#### **THE CONTEXTUAL CIRCUMSTANCES LEADING TO THE BUILDING OF YEARDLEY'S FORT**

Now we must focus on the particular historic context that would cause this private or particular tobacco plantation to rapidly eclipse Jamestown, Henricus, Bermuda City, Point Comfort, and Warrascoyack in military improvements during the desperate period of 1622–32. In order to do this we

must again get underneath the surface impressions of the scattered historical records and pull this together with the otherwise mute archaeological record.

Based on insights outlined by Garvan (1951) and Reps (1972), it is suspected that the inferred fortification introduced below will mesh closely with the modest urbanization attempts noted above, which would make both less not more ambiguous.

The Flowerdew Fort was built in the 1622–23 period, a time of bitter warfare with the Powhatan Chiefdom and the dissolution of the Virginia Company. What was going on at this time? The Virginia Company—including especially the liberal Wyatt, Yeardley, Sandys, Southampton, and Ferrar "patriot" faction—saw the post-massacre reconsolidation of the formerly scattered 40 to 50 tobacco plantations along the James River into only seven or eight strongholds primarily as accomplishing three very specific goals. First and foremost, they saw this as an opportunity "to unite more neerly together in fewer places the better for to Strengthen and Defende ourselves" (Kingsbury 1933:612). This provided settlers with the labor to build plantation fortifications that would be defended by pooled manorially and privately held swords, powder, and muskets employed against Native Americans (Kingsbury 1935:73–75). Due to famine in 1622, initially Yeardley could locate only a maximum of 180 able-bodied men to go on Indian raids, of which 80 were only fit to carry stolen Indian corn. These of course are roughly the same amount of healthy men who were also the real

substance behind seven plantation defenses during a period of increasing famine (Fausz 1977; Kingsbury 1935:12, 67).

Second, without these bases of strength they could not leave each stronghold to also attack the Powhatan Chiefdom with great amounts of men and arms lest the core sedentary plantation strongholds and their livestock left behind would be poorly defended both within and without of their palisades. The agricultural base of the English meant that protection from Indians was a common need during normal outdoor farming practices, much less within defenses (Kingsbury 1906 2:509; 1933:613–616, 1935:9–10, 12, 67, 236–237). Indeed, reliance on sedentary agriculture or horticulture meant that both the English and Native American were very vulnerable to one another during this period.

The overall tactics of the Virginia Company in building the seven strongholds of 1622–23 before mounting offensive Indian raids in June of 1622 are sound Renaissance military ideals. They are evidence that the English were subscribing to modern military practices that encourage a reasonably secure defensive base before any offensive attacks (Parker 1986:28–32). Planned attack and defense were seen as tactically one in the same in the modern crisis of European warfare or emphatic controls of territorial claims (Parker 1986:6–8, 28–32; Vauban 1969). Yeardley's offensives against the Weyanocs, Nansamounds, and Pamunkeys in the summer and fall of 1622 therefore argue that these raids were launched from

an analogous secure position due to Yeardley's training in that "greate vniversity of warre the lowe Countres" (from 1601–09 under Sir Thomas Gates), and indeed this popularized citation from John Pory refers specifically to Yeardley (Fausz 1977; Kelso 1996:10; Kingsbury 1933 3:220, 1935 4:9–10).

Third and most importantly for our present study, the Virginia Company saw the consolidated eight plantation strongholds as public relations opportunities to build badly needed towns due to mounting criticisms attenuated by Nathaniel Butler in the post-massacre period (Kingsbury 1906:381–385). As Reps (1972) has demonstrated, this was an effort which did not begin or end during this crisis period, but one that got everyone's attention as directly spurred by Native American warfare and mounting London Company and Royal political criticism. This population concentration provided an opportunity to minimally urbanize the seven strongholds the Virginia Company decided to hold.

These included reading up-river to down river: West and Shirley Hundred (once part of the greater Bermuda Hundred and Bermuda City Corporation and that James River community agglomeration), Jordan's Journey, Flowerdew, and Newport News (all private holdings). In the meantime, James City and Pasbahegh (Governor's Land) were parts of the James City Corporation administrative complex. Elizabeth City (formerly Kecoughtan) was another public Corporation center (Kingsbury 1833 3:612).

From this list alone Charles City stands out as a borough devoid of public lands and funds—unless you count Weyanoke, which according to Fausz (1977), was also sacked.

In August 1622, George Sandys wrote, "wee think it fitt, that the houses and buildings be so contrived together, as may make if not handsome Townes, yet compact and orderly villages; that this is the most proper, and successful manner of proceeding in new plantations" (Kingsbury 1933:669). When the London Company arrogantly asked the Virginia Council to re-occupy abandoned plantations such as Martin's Hundred and Weyanoke in late 1623, Sandys wrote, "by your Comaunding vs to disperse wee are like quicksilver throwne into the fire and hardlie to be found in so vast a distance....," along the lower James River basin (Kingsbury 1935:66, 70–72, 73–75). How grim were things during this period? George Sandys, the secretary of the colony, was humbled by having to pull palisade guard duty during this period and might have died of famine. He lost 23 servants to famine by March 30, 1623 (Kingsbury 1935:70–72). We suspect that Yeardley "rolled up his sleeves" and made similar contributions beyond guard duty in order to survive. What did he do and what was his role?

## CONTEMPORARY DOCUMENTATION OF FORTIFICATIONS AT FLOWERDEW AND THE ORTHOLOGICAL AND FUNCTIONAL CORRELATION OF ARTILLERY, PALISADES, AND "TRENCHES"

In the winter of 1622, Nathaniel Butler, the ousted governor of Bermuda Island and anxious to tap into handsome tobacco profits, sought a political alliance with the critics of the indigenous liberal Virginia Company. Butler wrote a scathing assessment of frontier Virginia civility and its defenses, called the "Unmasking of Virginia." In this document, Butler made the following statement about Virginia's defenses, which although exaggerated, probably had some basis in reality (Kingsbury 1906 2:374–375):

“I found not the least peece of ffortifications: Three peeeces of Ordnance onely mounted att James Citty and one att fflowerdue hundred butt never a one of them serviceable; Soe yt [it] is most certaine that a Small Barke of 100 Tunn may make ittts time to pass vpp the River in spite of them; & cominge to an Anchor before ye Towne may beat all their houses downe aboute their ears and soe forceinge them to retreat into the woods may Land vnder ye fauor of their Ordnance and rifle the Towne att pleasure.”

Butler saw Jamestown, and this is surely the "Towne" to which he refers, although he never traveled in Virginia north of the vicinity of the Chickahominy River. Thus, his comments about Flowerdew probably were based on hearsay (Fausz 1977; Kingsbury 1935:450–451; McIllwaine 1915:24). His statements suggest, however, that it was commonly known that Flowerdew had at least one cannon and that Flowerdew was one of only two poorly defended settlements in Virginia worth mentioning at all, which were intended to guard against foreign incursions by ship.

Commenting in their 1625 "Discourse of the Old Company" on the immediate post-massacre period, the Ancient Planters (settlers who arrived in Virginia by 1616) recorded information that largely supports some of Butler's basic contentions (Jester and Hiden 1956:xxi). The Ancient Planters noted that, "As for Fortifications agaynst the forraigne enemy, there was none at all, onely foure peeces mounted but althogether unserviceable." The four cannon the Ancient Planters enumerated are certainly the same as those mentioned by Butler (three at Jamestown and one at Flowerdew). The Ancient Planters continued: "There was onely eight Plantacions, all which were but poorly housed, and as ill fortifed agaynst the Sauages" (Kingsbury 1935:520–521). If contextualized, these comments appear to pertain to the period early during the efforts to organize the eight strongholds, when very little had been accomplished in the way of fortification. In contrast to Butler's statement, however, the Ancient Planters' use of the term "ill fortifed" does suggest that by late winter some palisade fortifications had been installed against the Indians. Later in their "Discourse," the Ancient Planters note how planters suffered under martial law. These last comments clearly suggest that the more serious fortifications were erected after the fall harvest was secured and processed when martial law forced them to build some forts.



Not ironically, time wise, sometime during the winter of 1622–23, the Virginia Council and the Assembly issued a sharp reply to the criticisms of Butler and the London-based Virginia Company:

“We have as yet, no Fortifications against a foreign Enemy, altho' it hath been endeavored by the Company, with a Success unanswerable to the Care and Expence: as also ourselves. But the Work, being interrupted by the Scarcity [of food] of last Summer, shall, proceed again, God willing, with all convenient Expedition; and almost all our Houses are sufficiently fortified against the Indians with strong Palisadoes. His [Butler's] Envy would not let him number truly the Ordnance at James City: four Demi-Culverins being there mounted, and all serviceable. At Flower-de-Hundred, he makes but one of six; either was he ever there, but according to his Custom, reporteth the unseen as seen. The same Envy would not let him see the three Pieces at Newport's News, and those two at Elizabeth-City. Two great Pieces there are at Charles Hundred, and seven at Henrico. Besides which, several private Planters have since furnished themselves with [anti-personel] Ordnance [murderors and fowlers]. So that it were [would be] a desperate Enterprise [to sail up the channel and attack the colony], and unlikely to be attempted by a Man of his Spirit, to beat downe our Houses about our Ears, with a Bark of that Burthen” {author's underlining] (MacIllwaine 1926:24).

For our purposes, the key aspects of this document are the great number of cannon at Flowerdew above all others (one-and-a-half times the capital at Jamestown), and the fact that defenses in the seven strongholds had, so far, been made by strong "pallisadoe" against the Indians (although not all strongholds were palisaded by then). The efforts mentioned in the document are surely a result of a shameless scramble of the liberal Virginia Company patriots to improve the defensive and political situations in

Virginia in response to Butler's criticisms, although the limitations to what had been accomplished by this date appear to be honestly reported.

The type of cannon ball which predominates in the archaeological collections from Flowerdew represent long-range demi-culverns, weighing 3,400 pounds each, which were normally employed as "ship-killing" cannon by pointing them toward a river (Stone 1961:162). It might be incorrect, however, to assume that all the large cannon in Virginia were employed in defense against foreign ships, although this is the emphasis in the reply to Butler. At Newport News in 1622, for instance, what were clearly large cannon were mounted against the Indians when this need was the most pressing (Purchas 1926 19:169). In ca. 1614, the Ancient Planters noted that only four large ordnances were mounted, and these were employed "against the natives," probably by using them to flank palisaded defensive works.

The historical record also suggests, however, that cannon alone, by implication without earthworks and perhaps even without palisade fortifications, could constitute Virginia's defenses against foreign ships. In the 1622–23 passage cited immediately above it is admitted that "We have as yet, no Fortifications against a foreign Enemy," yet, by winter, the cannon were mounted and serviceable, and now pointed toward the river (McIllwaine 1915:33). Still, although it would be difficult to underestimate the shabbiness at times of Virginia's international defenses, the ideal defensive format during this period would nonetheless have had cannon inside a fort

comprised of palisades and earthworks (Duffy 1979). By spring 1623 this also was done in but only in a few places due to great costs in labor.

On April 30, 1623, a document made by "divers Planters" and mariners was read in London in further reply to appraisals of Butler and other critics of the Virginia Company:

“Itt is true ther is as yett no other artificiall ffortificacons then Pallisadoes wherof allmoste everie Plantacon hath one, & divers of them hath Trenches, And this last yeare Capt Each was sent for ye purpose [.] As for great Ordnance there are fower peeces mounted att James Citty and all serviceable, ther are six Mounted att fflowerdue all of them likewise serviceable, And three mounted att Kicoutan and all of them serviceable, ther are likewise att Newporte Newes three all of them serviceable ther are likewise at Henrico seaven peeces and att Charles hundred two, and in other places, besides ffowlers and Murders att divers places” [author's underlining of key words] (Kingsbury 1906: II:383).

This document appears to support the general accuracy of the Council and Assembly's earlier response to Butler, prepared in the fall or early winter of 1622. However, the later document notes that, in addition to palisades against the Indians, "trenches," or earthworks had been added to some ("divers") of the seven strongholds. What is going on here? The colonial authorities recognized two basic types of fortification and the orthography of fortification citations noted above shows this simple division. Those with "trenches" are the ones "for enduringe of assualts and Battery" (from potential "foreignne" enemy cannon), built by high-status patronage and the other made of, "Pallysadoes [without earthworks] wch wee conceiveth the

fittest" for protection against Native Americans or the "domestic enemy" for better than average status plantations or building wooden blockhouses especially within the seven or eight strongholds originally held (Kingsbury 1906 1:317; 2:381–385).

"Trenches"—that is, earthworks made from trenches—are normally a defense against the European threat and accordingly associated with more tactical river controlling "greate ordnance" (Kingsbury 1906 2:363; OED 1978 11:321). Those forts at Henricus (1611+) and Charles Cittie 1612+) were by "Trench and Pallizado and diuerse [diverse] blockhouses made of great Tymber built vppon passages [built near entrances, and these were] for scouring the Pallizadoes," often supported with "Sodds" (turves as part of earthworks) (Kingsbury 1935 4:238). The references are useful, as they are reflections of the same closely correlated wording which is only slightly differently used in the Virginia Assembly's reply to Butler's Dismasking cited above, and indeed the wording may be Yeardley's own in both cases. Thus, since we know that on the most important early works (James Fort, Henrico, and Charles City Fort) there were "blockhouses" made of "greate Tymber" since otherwise there could be no "scouring" (flanking fire) of the curtain walls with projectiles, this clearly sets up a predictive model for the Flowerdew work which is documented by archaeology at 44PG65 (see Brown 1890:481, 515, 634, 660; Hodges 1993; Kingsbury 1935:259–262; OED 1978 11:321; Kingsbury 1935:109). Spanish spies such as Don Diego of the 1611–13 period

and other sources describe English curtain walls (walls connecting bastions or blockhouses) as "stockades and posts" or "encompaffed with small young trees." This clarifies the English use of closely set "ditch-set" palisades, which are synonyms for stockades in coordination with these earthworks, facts defined archaeologically at 44PG65 as early as 1973 (Barret 1969:250; Brown 1890:519; Brown 1898:108; OED 1978: 7:395, 10:996).

The above inferences about two basic types of fortifications are considerably strengthened by additional analysis of the orthography of the statement of 1623 in the colonies rebuttal of Butlers' "Dismasking of Virginia." This document records that, "six [cannon were] Mounted att fflowerdue hundred," and therefore in effect states specifically that cannon were placed on a mount (hence "mounted") or "platform" or terreplein of some sort, which we know is true from the archaeological evidence at 44PG65 (Barret 1969:253; Hodges 1993; Kingsbury 1906 2:383; Norton 1973:84, OED 1978 6:769; Purchas 1926:205). For instance, John Smith noted that the ordnance at James Fort was mostly, "well mounted upon convenient platformes" [authors emphasis] (Tyler 1946:397). "Riches Mount" a freestanding terreplein for a shore battery at Bermuda Island, illustrated by John Smith, is a good example of this word usage backed by contemporary graphic illustration and a written label. Smith's Fort and Pagent's Fort, also at Bermuda Island, show similar examples of cannon supports (Arber 1910 2:624). (See Figure 13.)

Not only did "mounts" provide space for recoil and reloading as well as physical support to the massive guns—they were critical to the gunner who was expected to mathematically adjust the sighting of each gun from the same point of "zero" or origin based on previous results of cannon fire. This was done for exactly the same reason archaeologists level transits or plane tables before making calculations (Norton 1628:Tract 2, Dialogue 20).

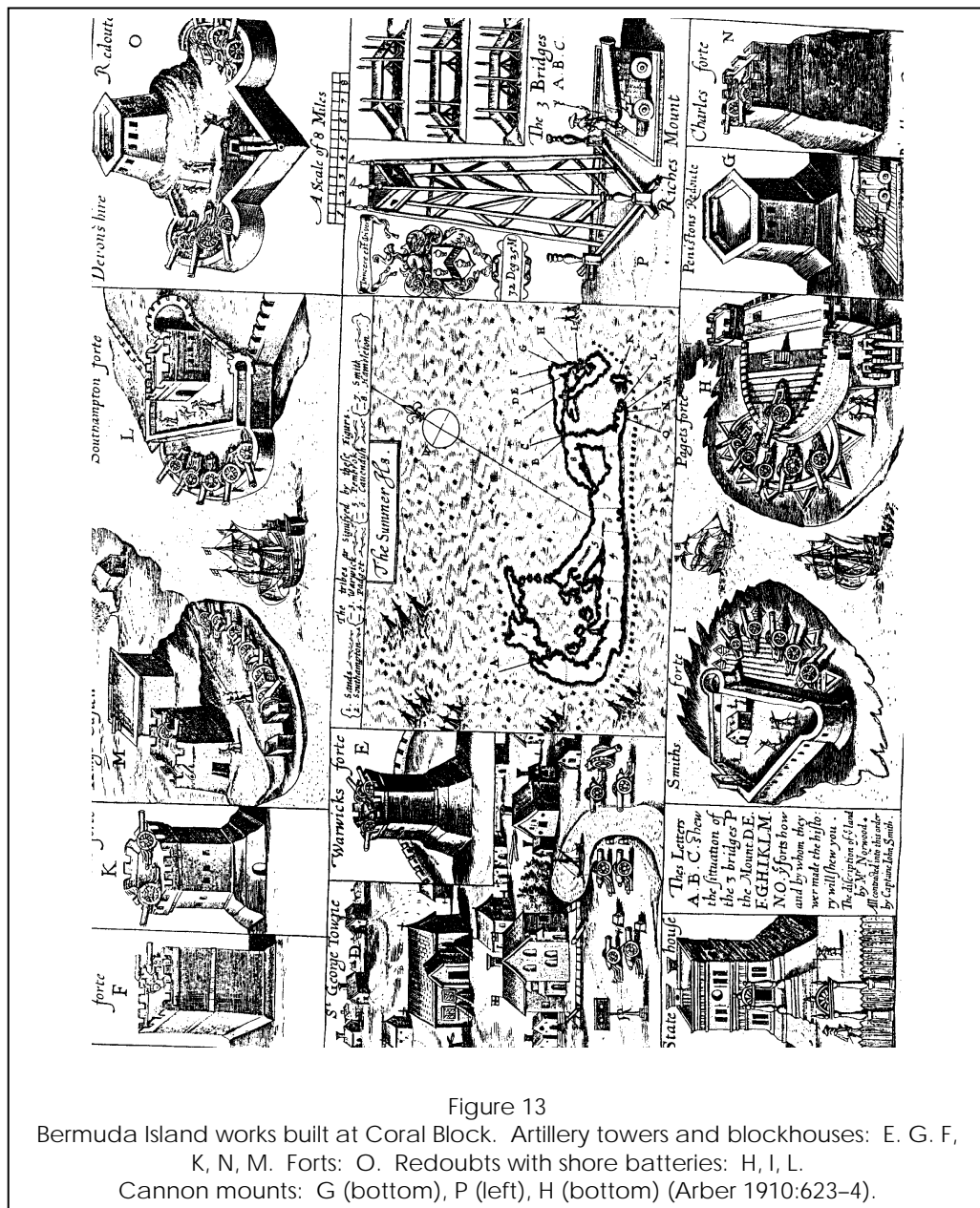


Figure 13

Bermuda Island works built at Coral Block. Artillery towers and blockhouses: E, G, F, K, N, M. Forts: O. Redoubts with shore batteries: H, I, L. Cannon mounts: G (bottom), P (left), H (bottom) (Arber 1910:623-4).

In other words, mounted large ordnance is normally culturally associated with fortifications intended to endure an artillery duel with foreign vessels. Presumably, the earthworks ("trenches") were built by late winter or early spring of 1622–23 only at settlements holding large cannon "mounted" to contend with foreign threats that the documents say specifically is only the case at Jamestown and Flowerdew. The earthworks protected this artillery from "battery" (bombardment from ship's cannon).

In summary, orthographic analysis of the triangulation of (1) "great ordnance" (large artillery publicly owned) as opposed to "ffowlers and Murders" (privately purchased), (2) "trenches" (earthworks), "pallisadoes" equaling "trench and pallisado" and (3) "mounted and servicable artillery" (on terrepleins or other platforms) is (again) actually a remarkably informative statement about precisely what was done at Flowerdew by Spring 1623 as documented by archaeology (Hodges 1993). In addition to transporting the sick to Weyanoke, Nicolas Martiau during his three-week stay beginning in March 8, 1623, probably brought salvaged iron from Falling Creek to Flowerdew at the same time to repair cannon mounts and even more likely enhance fortifications with long spikes. Notably Martiau, a French Huguenot was as close as Virginia had to a "singular good" military engineer in building palisades and blockhouses (Kingsbury 1:317; MacIllwaine 1979:10–11; Rutman 1959:296). In Sandys' letter of April 11, 1623, this is the exact same period in which Yeardley was "taken vp with his private and attende but the

other [by implication public works]," while he was in full residence at Flowerdew (Kingsbury 1935 4:110). So sometime between the winter of 1623 and March or April of 1623 is exactly when the partially entrenched artillery fort was completed.

Because Virginia Company officials were being discredited at the time, the second reply to Butler was intended backup to the Virginia Council and Assembly's potentially biased, earlier reply. Accordingly, the second reply is followed by the signed depositions of various people, including colonists and mariners who happened to be at Jamestown at the time the correspondence was drafted (Craven 1959; Kingsbury 1906 II:385–387). Some colonists were more insular than others and noted that they had not traveled from Jamestown and, thus, had not seen the other settlements. Others noted that not every plantation was palisaded and that they had not seen all the ordnance (because of the dispersals orders from the seven strongholds); and still others, such as some mariners, who presumably had traveled extensively on the James River, readily confirmed the entire statement. For instance one Gregory Pearle, "having been Maistermate and lived in Virginia 16 monneths doe affirme all the answers wthin written save I have not seen the Ordinnce att Henrico and Charles Citty" as both sites were abandoned and were stripped of their artillery. So we also have signed depositions witnessing Yeardley's artillery fort by spring 1623.



## YEARDLEY'S KEY ROLE AS ACTING COMMANDER IN CHIEF OF VIRGINIA MILITIA 1622–23

So far we have located cryptic but useful references to the fort at Flowerdew. What role did Yeardley play in Virginia society when the fort was built? Machiavelli wrote, "Nothing brings a prince into greater respect than the undertaking of great enterprises and setting a fine example" (Bergin 1947:65). In Virginia in April 1622 such an enterprise was a place "defensable to seate upon" so that Indians could not "infest...nor forraine enemy subvert us wch wilbe the master peace of this greate worke" (Kingsbury 1933:612–613)

Sheer political and military clout within the Virginia Council, in combination with the light initial mortality of only six people at Flowerdew, is probably why Yeardley-held Flowerdew was initially chosen to be one of the eight plantation strongholds to be retained by the Virginia Company in the immediate aftermath of the Massacre of March 22, 1622, in which about 1/4th of the colony was killed (Kingsbury 1933:612). The emphasis on the light mortality at Flowerdew is intended to be a direct reflection of rational Native American warfare input into probing each plantation's defenses and organization rather than sophomoric chauvinism toward Flowerdew's "supposedly heavy defenses" (Deetz 1993:47). The former notion, that Flowerdew was defended by "decisive defensive action" is one sensitively developed by ethno-historian Fausz (1977:385–386) to incorporate carefully

directed Native American warfare activity—into American history. Fausz wants less—not more bias, since Weyanoke was devastated and Flowerdew wasn't.

Following from the above, how much real clout did Yeardley have in post-Massacre Virginia? Studies by Rutman (1959:272–275, 296) indicate that Yeardley, for all intents and purposes, was the acting Marshall of Virginia from 1622 to 1623+ or about a year. This is largely because recently appointed Governor Wyatt (1621–26) freely admitted to having limited military skills and experience and was often ill during this period due to his lack of seasoning and unrelenting mental stress. Also quite ill due to famine was Newce, the "on paper" Marshall of Virginia who died in 1622. For example, typical military commands or instructions ordered by Wyatt in the March 1622–23 period were received from "either my self [Wyatt], or Sr. George Yeardley Knight" (Kingsbury 1933:609, 678–679; 1935:6–8, 1935:9–10). Yeardley did not seize control; his authority derived from governmental appointment and was apparently supported by popular sentiment, especially since he warned settlers of a major forthcoming Indian attack in 1621 (Rountree 1990:68–73). One settler commented succinctly in a poem, "Bould worthy Sir George Yardly, Commander cheife was made, Cause foureteene years, and more he hath, within this Country staid" (as cited in Fausz 1977:451). The effective military title of Marshall makes Yeardley the senior full-time military leader unencumbered by politics in the colony, if it is

possible for such a person to be unencumbered. This was a factor especially true within the Charles City Corporation before 1623 when Captain Madison took command of all plantations "above Flowerdew" within Charles City Corporation, probably on the advice of Yeardley. By September 1624 Yeardley even became the acting Governor of Virginia by personal commission from James I in Wyatt's absence to settle his diseased father's estate (Kingsbury 1935:504). Between 1623 and 1625 he was Deputy Marshall of all Virginia (Rutman 1959).

Thus, since the martial law of the old Anglo-Dutch-trained military regime was gradually softened and nearly abolished between 1615 and 1620, Yeardley in some very real ways was personally probably most responsible for laying the foundations of the indigenous Virginia militia system during this period that set up men like Captain Madison (Rutman 1959:243–295). Indeed, between 1622 and 1623 successful militia action was one of the few positive accomplishments the Virginia Council could report back to the London Company (Fausz 1977). So when we look at post-massacre Flowerdew, we must be aware of the real possibility that Yeardley was trying to lead by example on the only plantation where he still retained any controlling influence or ownership due to Native American depredations at Southampton Hundred (also called Smith's Hundred) and Tanks Weyanoke (Hatch 1957:38–39,42, Kingsbury 1935:9–10).

The earliest forts were built on martial law authority, giving men like Yeardeley "absolute power and command in all matters of war over all people...upon all occasions," backed by specific legal threats in writing stating that these leaders were to be obeyed, "uppon paine [penalty of] of death" for those who did not knuckle under to the resurgent English military command system (Kingsbury 1933:609). Through fits and starts and rebuilding, many of these "forts" were still standing in 1627 and probably until 1632 (MacIllwaine 1979:103, 147, 192).

#### **CONTEXTUAL EVIDENCE OF THE MOVEMENT OF CANNON TO FLOWERDEW**

So far we have looked at cryptic although surprisingly useful original documentation of the Virginia Company under Yeardeley's leadership doing everything it could to make a liar out of Butler in regard to its fortifications after the Massacre of 1622. In the movement of artillery to Flowerdew and its embellishment with "trench and pallisadoe" fortifications, is Yeardeley using this situation for his own personal aggrandizement or is he thinking about the colony? Are there ways in which we can remove bias in the fortification of Flowerdew and place them on a larger plane?

Let us briefly look at the overall pattern of artillery movement in Virginia between 1621 and 1626. In the Virginia Company's second reply to Butlers' dismasking (cited in full above), they take pains to minimally separate "grete ordnance" (very expensive tactical, anti-ship's rigging, and anti-personal artillery) from "murdorers and flowlers" (privately purchased

inexpensive totally anti-personnel [shooting people] cannon). While Robinets (which are quite small) and any of the other "great ordnance" cannon might have been used to shoot people, Table 2 uses their simple cultural separation in order to produce an unbiased appraisal of terminal Virginia Company and early Royal Colonial artillery dispositions in relation to cannon range, corporation, and specific site. This information is based on the following sources: Arber 1910 II:486; Barka 1993:320; GMCO's James River Map 1991; Jester and Hiden 1956:5–69; Hecht 1973:73; Kingsbury 1906 II:363, 1933:16, 609; McIllwaine 1926:120.

TABLE 2:

GREAT ORDNANCE DISPOSITIONS IN VIRGINIA FROM MARCH 1621-22  
TO 1626

(Robinets, Falconets, Falcons, Sakers, Minions, Demi-Culverns; Culverns)

MARCH 1621-22 TO WINTER 1622-23

MUSTER 1624-25 TO 1626

<u>Corporation/Site/Range*</u>	<u>#</u>	<u>% Total</u>	<u>Site/Minimum Range</u>	<u>#</u>	<u>% TOTAL</u>
Henricus Corporation	7	28%			0%
Henricus City, 0.05 mi.	7	28%	Abandoned Apr.1622	0	0%
Charles City Corp.	8	32%		11	53%
Charles City, 0.1 mi.	2	8%	Abandoned Apr.1622	0	0%
Flowerdew H., 0.42 mi.	6	24%	Flowerdew Hundred	10	48%
			Chaplain's C., 3/5mi.	1	5%
James City	4	16%		7	34%
James City, 0.7mi.	4	16%	James City	4	19%
			Treas. Plts.(2) ½	2	10%
			Martins H., 2.2 mi.	1	5%
Kecoughtan/Eliz. C.	6	24%		3	14%
Newport News 3.4 mi.	3	12%	Newport News	3	14%
Eliz. City, 3 mi.	3	2%	Eliz. City Occupied	0	0%
<b>TOTAL</b>	<b>25</b>	<b>100%</b>		<b>21</b>	<b>101%</b>
Smith's Total 1607-09	24 (error + 1)			(error) 24	-3

**MURDERORS BY SITE 1624-25**

**TOTAL**

<u>ORDNANCE BY SITE</u>	<u>1624-26</u>			<u>#</u>	<u>% Total</u>
<u>Corporation/Site</u>	<u>#</u>	<u>% Total</u>	<u>Site/Population</u>		
Charles City	7	35%		18	39%
Flowerdew/Piersey's H.	2	10%	Flowerdew (57)	12	31%
Chaplains Choice	5	25%	Chaplains Ch. (17)	6	15%
James City	5	25%		11	28%
			James City (125)	4	10%
Neck of Land	2	10%	Neck of Land (16)	2	5%
			Tres. Plants.(18, 22)	2	5%
Blaney's Plantation	1	5%	Blaney's Plant.(15)	1	2.5%
Basses Choice	1	5%	Basses Choice (12)	1	2.5%
			Martins Hundred (26)	1	2.5%
Elizabeth City	7	35%		10	26%
Eliz. C. Company Land	2	10%	E. C. Comp. Land (93)	2	5%
Elizabeth City	5	25%	Elizabeth City (255)	5	13%
			Newport News (20)	3	8%
<b>TOTAL MURDERORS</b>	<b>20</b>	<b>95%</b>	<b>TOTAL CANNON+MURDRS.39</b>	<b>99.5%</b>	

CANNON RANGE is shown at Minimum modern James River Channel width.

Flowerdew, whose "greate ordnance"—that is, ordnance above the size of murderor or falconette and jumped up from 1 to 2 in 1622, to 6 in 1623, to 10 or 12 cannon in 1626—was already the top runner in mounted large ordnance by 1623–4 through Yeardley's initial efforts on an active plantation. The two cannon recorded at Charles City (so low that this is surely where Yeardley got his) and seven at Henricus in 1622–3 were probably not serviceable due to rotted carriages. This is a fact the Virginia Company was not entirely honest about in 1623, hence as few third parties as possible were allowed to see these ruined forts and ruined cannon carriages as they were pulled to active forts (Kingsbury 1906 2:385–7). Accordingly, by the Muster of 1624–5, neither Henricus nor Bermuda City has any cannon at all (Kingsbury 1906 1:363).

Also by 1624–5, Piersey Hundred (Yeardley's company cannon) has 6 cannon, Chaplain's Choice possibly has 1, James Cittie has 3 cannon, the Treasurer's (Sandys') plantation on the Neck of Land has 1, Martin's Hundred has 1, and Newport News has 3, all remounted from former military regime forts. These figures were obtained by subtracting the murderors from the Muster totals in order to get back to the contemporary segregation of larger and often tactical "great ordnance" over the smaller anti-personnel guns (Barka 1992:320; Quisenberry 1901:367; Jester and Hiden 1956).

The largest cannons documented by archaeology at Flowerdew were long-range demi-culverns weighing 3,400 pounds, the predominant cannon

ball size at 44PG65. The presence of such river-controlling tactical guns, represents a major engineering feat and investment in labor through moving these from Henricus and Bermuda City (Stone 1961:162). Yeardley was able to do this because he had an ocean-going three-masted ship, called a barque (or bark) of "40 Tunn [with] 7 men belonging to her" (Jester and Hiden 1956:27). Yeardley "freely employed his shippinge, maryners, and servants" to the Virginia Company in both moving settlers, militia levies, cannon, and captured Indian corn (Kingsbury 1935:9–10). Notably, it was one of the few boats or the only boat in the colony capable of moving such heavy guns without capsizing. Based on the Muster this privately owned ship was the largest centerpiece of Virginia's pitiful indigenous "navy," and placement on this ship may explain what happened to some of the other upriver cannon. In light of this, Yeardley was given license to "make prise" on foreign shipping plying the James River should he so desire (Kingsbury 1933:656–657).

Why is Table 2 information important? It means that between 1622 and 1626 we can conclude that Yeardley's Fort at Flowerdew was the most important artillery fort in the terminal Virginia Company Period with the highest number of large "pieces" at 24% or 1/4th of the available artillery. In Piersey's court deposition of 1626, we find that he has 10 or 12 pieces. In the chart we gave Piersey only 10 large cannon because the it seems clear that the two murderers are present and he seems to want to separate them from the larger cannon (rather than being confused by how many cannon he has).



Even at 10 large cannon at its means Yeardley's and Wyatt's policy was maintained and even enhanced to include 48% of the "grete ordnance" present in colonial Virginia well into the early Royal Colonial period through patronage by Piersey and the colony at large.

So the movement of artillery to Flowerdew cuts across any personal endeavors of Yeardley and Piersey or the Virginia Company "patriot party" or the "pro royalist court party" during the 1622–24 period to apparently become part of a larger Colony-wide policy endorsed by both the Virginia Company and the Royal Colony.

Historical analysis of this period indicates that the importance of Yeardley's Fort at Flowerdew was only magnified by down-river bungling of similar efforts. Thus, in sum, the failure of Captain Each's fort at Point Comfort and the failure to build anything of tactical significance at Warrascoyack—only in combination with the temporary abandonment of Henricus and Charles City—placed a sort of default emphasis on Flowerdew due to the relative tactical value of Windmill Point (Kingsbury 1933:16–17, 670; 1935 4:100, 129-130, 191, 259-262, Rutman 1959:274, 295).

As a reflection of this fort, after October 1623, Charles City Corporation or borough militia commands suddenly begin to constantly use terms regarding militia troop levies for offensive Indian raids that are dispersed "from Flowerdew Hundred vpwards" or "above Flowerdew

Hundred." It is thought therefore that Flowerdew protected—and militarily defined—the beginning of the western limits of the colony (Kingsbury 1933:664-665, 1935:292, 400, 404, 407, 441, 448–489, as cited in Rutman 1959:274) (Rutman 1959:292). Buried in these written statements is the strong argument that Flowerdew was by then a stationary regional garrison that could no longer participate in offensive raids as it had done in the summer and fall of 1622. This is almost certainly because its plantation force was now sedentary and on defensive duty to man the cannon at the fort, documented through archaeological excavations and colonial records. Moreover, various additional supporting court documentation suggests that Flowerdew had become the main regional gun powder repository and public granary as well as initial court center for Charles City Corporation by 1623 at the very time the above militia orders shift in their references to Flowerdew (MacIllwaine 1979:11, 62). Hence, every settlement above the fort landmark at Flowerdew was offensively attacking Indians under the direction of West and Shirley plantation-based Captain Madison, while Flowerdew defended all of the same from potential foreign attacks. This is a complimentary reciprocal exchange system whose new fort center allowed a rational division of offensive and defensive military power and regional administrative authority with which Yeardley attempted to bind Charles City borough together.

## ANTI-EUROPEAN THREAT FORT STRATEGY AND ITS CONNECTION TO FLOWERDEW

We have now established that cannon movement to Flowerdew is part of a larger pattern endorsed by the Virginia Company and the Royal Colony. However, we still don't know how fortification activity at Flowerdew plays into overall Virginia Company strategy, and why would Flowerdew have more artillery than Jamestown or any settlement? In addition to palisaded anti-Native American defenses, the original company plans were that at least one or two strong points would be held with massed Virginia Company-owned cannon to resist potential opportunistic European raids on the weakened colony (Kingsbury 1935:12). This was a policy already advocated by Yeardley in 1619 who, "purposeth at a place or two upon the riuer fortifiable to provide for them [the Spanish], animating in the meane while this warlike people (then whom for their small number) no prince can be serued wth better by his example to preserve their courage" (Kingsbury 1933:220). Yeardley had begged the London Company to send "choise men [real military engineers capable of building a semi-permanent fort] from the Lowe Countries to raise ffortifications" capable of resisting foreign threats (Kingsbury 1906:I:257, 317, 326-327, 339, 482, Kingsbury 1933:220). As will be systematically demonstrated below, it will become very evident that Flowerdew and Point Comfort (Each's Project in the quote above and defaulted to Warrascoyack) were the selected locations for these special types of fortifications in excess of simple palisades during the post-massacre period.

The policy of one serious fort at the mouth of the James River and one upriver fort refuge hearkens directly back to the praxeological constraints of the instructions to Sir Thomas Gates in 1609. These instructions almost certainly reflect the wisdom of Robert Tindall, the master gunner to Prince Henry (Henry is James 1's son, indicating Tindall was the second best artillerist in all England) who sailed and mapped the James in 1608 (cf. Jester and Hiden 1956). These rational and modern Anglo-Dutch tactics as they are applied in Virginia can be readily observed by a careful reading of the rejection of James Fort as a potentially important tactical fortification:

"itt [James Fort and Jamestown] onely [should be seen] as a fitt porte for yor Shippes,...[as it was] ...so accessable with [to] shippinge that an ememy may eazily [be] vpon you with [and take] all the povision [and] ordnance and munition and it is not to be expected that anie fortification there can endure an enemy that hath the leasure to sitt down before yt" [author's inserts] (Kingsbury 1906 2: 16–17)

These comments are of course echoed in Nathaniel Butler's Dismasking, since both authors were reading the same theory (Kingsbury 1906:383, 385; 1933 3:16). Thus, the wide and straight channel here near Jamestown can be directly approached by deep-water vessels that could send point-blank broadside fire on the fort even from an anchorage, or alternatively simply run the guns in a straight course upriver.

Given the grim circumstance of Jamestown, Gates was told instead to go upriver and fortify in a strong place where European rivals would be forced to launch smaller boats to offload men for a ground assault where the

defenders had every advantage. It is important to remember that Yeardley was Gates' senior Captain when these instructions were given him, and it is likely that these sentiments were well remembered by Yeardley during 1622–32 military policy decisions which left James Town (Yeardley's fitfully shared main residence) a politically correct but militarily incompetent site from the very beginning in terms of current military theory (Jester and Hiden 1956:376).

In order to remove any bias that might infiltrate this discussion, Table 2 was amended to include the width of the James River channel in direct relation to artillery dispositions to see if Tindall's and Gates instructions were honored. The table uses modern channel widths which are somewhat wider than the 17<sup>th</sup>-century channel widths. I do not include channel widths plus the distance to the forts (the exact fort location not always known) which would be about 100–371'+ or so plus the width of tidal flats. Nonetheless, the chart provides reasonably good baseline information.

In terms of artillery range in relationship to James River channel width, the Flowerdew Fort—at 0.42 mile wide—was decidedly inferior to the earlier forts at Henrico and Charles Cittie built by Gates and Dale and Yeardley, at 0.05 miles and 0.1 miles wide, respectively. Nonetheless, Flowerdew, whose modern channel has been deepened and widened by engineers, is still from a tactical standpoint nearly twice as effective (twice 0.42 is 0.84 minus 0.7 is 0.14 miles) as, for instance, Jamestown at 0.7 miles

wide. Since Gates and Dale removed most of their artillery upriver between 1611 and 1616 where it still was in 1621, the larger aggrandizement of artillery at Flowerdew is simply a consequence of continued common sense and the liquidation of two borough arsenals (Henrico and Charles City) into one. As a borough fort, Yeardley's Fort is placed as near as possible to the south of Charles City borough specifically in order to protect as many upriver settlements as possible.

As was the case at Jamestown, the defenses at Newport News and Elizabeth City at 3.4 and 3 miles wide, respectively, are thought to be entirely defensive artillery placed at important ports there, rather than river-controlling defenses. They also served as auditory warning guns for upriver settlements (three shots or more). While the mouth of the James has been severely changed by modern engineering and hurricanes, here the import of their tactical value in the 17<sup>th</sup>-century artillery disposition would not be greatly different until more modern rifled cannon and better gunpowder were invented in the 19<sup>th</sup> century.

Having seen clear inferiority to Henrico and Charles City, what are the relative tactical merits of Flowerdew? Compared to 19<sup>th</sup>-century Fort Powhatan (on a bluff opposite the tip of Weyanoke peninsula), for instance, Windmill Point is not the best military tactical position even along the James River here. These two locations are therefore good places to compare the defensive settlement models of the two periods. Both forts are intended to

fire on ships specifically making a "tact"—that is, slowing down while reversing their sails in order to corner sharp turns in the James River. The rich flood plain at Flowerdew was the best surviving location to support a subsistence economy dependent of corn and tobacco, which was a key element in the war from the beginning as were all Indian conflicts during this early period of 1610–14 and 1622–32 (Fausz 1977, 1990). Thus, in excess of the relative tactical value of Windmill Point, Flowerdew was a good tactical location because it already had an established plantation with a very large population under a single increasingly powerful leader supported by some of the most productive corn lands in Virginia. Here the superior high bluff locations of Henrico, Charles City (and probably Fort Powhatan) are also inferior to Flowerdew because, as stated in a contemporary documents, all the land nearby was, "ouergrowne wch great Timber Trees so that there is little or no land fitt for present culture but by industrie is cleared of wood" (Kingsbury 1935 4:259–262).

In contrast, Fort Powhatan at Hoods, built by 1819, was fed rations by a state-supported army that probably used slaves to drag huge cannon up the high bluff there above the tactically superior narrower river passage opposite the tip of Weyanoke Point (Clary 1990:9, 70). Not ironically, not local effort, Virginia Company, nor Federal was capable of keeping a fort standing indefinitely in this portion of the James River. Ironically, had the United States been able to build a permanent fort at Hoods, with subsequent

Confederate seizure, Grant's army could not have crossed the James here in 1864 (see Deetz 1993:149–151).

Now focusing on military tactics in the early 17<sup>th</sup> century, the base of Windmill Point allowed archaeologically documented cannon from sacker, minion, to demi-culverns size to fire on ships involved in a particularly difficult tact around Windmill Point (a treacherous turn in the James perhaps sarcastically named "Careless Point" in 1607), where they would be sailing directly into the typically stiff prevailing south-east winds emerging from a long reach to the west (Arber 1910 1:li). This is a river turn navigation whose waters hid a shallow massive subsurface shoal which makes ship navigators who knew the channel swing very widely around Windmill Point, although not out of accurate cannon range. Indeed, the larger Flowerdew cannon could destroy targets on the opposites shores on all sides of Wind Mill Point, much less within the river channel (Peterson 1969). Ships attempting to turn their broadsides (long sides of ships were most cannon were present) toward the fort would be subject to being driven by strong water currents into foundering off course. In turn, they would be risking potentially being driven onto banks on either side of the channel or on the hidden shoals of Windmill Point itself. At such a time, these ships would be Flowerdew's "oyster" for systematic cannon fire.

In turn—and here the difference between Flowerdew and Jamestown becomes dramatic—the tidal flats at Flowerdew would not let deep-draft



vessels directly approach any of the east or north side of the entire Flowerdew Plantation land mass, much less the tip of the Windmill Point peninsula. Therefore, as Gates was instructed, only "lightered" small boats could approach any shore near the entire Flowerdew holding because of tidal shoals along the entire peninsula (Kingsbury 1933 3:16). In the meantime, ships firing on the fort would have great difficulty also targeting the redoubt at 44PG64 which was specifically intended to triangulate cannon fire on a vessel in concert with the fort at 44PG65 (Hodges 1993).

"Lee Necke" battery in Kent Country, England, built below London along the Thames River by 1588 for defense against Spanish invasion, closely matches the Flowerdew tactical position with a peninsula shore battery targeting a tact zone (Walker 1981:73). Similarly, a Dutch fort center supported by lines of redoubts lies within the tip of a peninsula in a sharp bend in the line of the IJssel and Waal River along the "Great Wall of the Dutch Republic" (Parker 1986:Figure 14). As noted above, these are of course also the exact tactical positions of Henricus (Ferrar's Island [sharp peninsula]) and Bermuda City (City Point, Hopewell [sharp peninsula]) forts (Hatch 1957:32–33) chosen by Sir Thomas Dale for serious fortification where cannon could actually control the narrower up-river channels.

#### **EVIDENCE OF YEARDLEY'S PERSONAL AND EARLY PATRONAGE OF THE FORT**

Public patronage would have documented the actual financing of the work similarly to the well-documented Captain Each (Point Comfort) and

Warrascoyack examples, which, as we have seen, both wound up as fiascos, has not yet been found for Flowerdew, although it may exist (Kingsbury 1935:450–451). The archaeological evidence suggests that Yeardley's own personal power between 1622–23 under martial law ultimately made a mockery of similar later Virginia Company efforts to build a publicly financed fort in 1623–24 (Kingsbury 1935:236–237). For instance, the Virginia Company drafted 1 of every 20 men to build a fort at Warrascoyack that would up as "Dwelling houses, 2 in several Pallisadoes" (the paired palisades [stockades] were to be in filled with earthworks) (Jester and Hiden 1956:46; Kingsbury 1935:188, 191, 229; Rutman 1959:295). Indeed, therefore it is the early date of the Flowerdew work specifically before major public support through the institutionalization of the regional castle tax of 1623+ that very specifically suggests that it was largely built through Yeardley's martial law and "knightly" patronage between 1622 and 1623 (Kingsbury 1935: 100, 129–130, 188, 191, 229; as cited in Rutman 1959:293).

This was probably done not only to protect the upriver James and his private holdings, but as a patriotic gesture on behalf of the English liberal faction of the Third Charter of the Virginia Company against pro-Royalists. Again, the latter were trying to find any means possible to dissolve the Virginia Company charter due to alleged bad management in which poor defenses and general neglect of public works both loomed largely in a mounting list of deficiencies (Brown 1901:64–68).

The foggy documentation of financing of the Flowerdew work is also probably a by-product of English cultural practices as well as an indication of deficiencies in the documentary record. The captains of the Elizabethan army were in Corelli's (1970:45) words, "a strange mixture of private contractor and public servant." Warfare was a business and the captain would feed, house, arm, and train his men from funds disbursed from a pay master or Muster officer (Broyndon 1967; Parker 1986). Many soldiers had to be frequently fraudulent contractors as may have been necessary to sustain legitimate military initiatives through unavoidably creative or predatory means—or among the unscrupulous, to obtain personal gain.

A frequent debilitating partner in this process was Elizabethan administrative supply incompetence and crippling parsimony, factors which daunted both Roanoke and Jamestown colonization initiatives from the beginning (Oman 1937:372–389). Thus, this strange professional paradigm, which often forced soldiers to be a mixture of rascal and magician, is probably a good description of the fort at Flowerdew, its ambiance in Virginia society, and financial arrangements at the time (the Virginia Company is essentially bankrupt). It simply appears as a solution from out of a fog of mounting problems. It does so probably as an exponent of the Machiavellian ethos of the Dutch military under Maurice of Nassau and English general Vere who had attempted to cure chronic problems in British military organization in

order to make the British more effective allies (Bergin 1947, Parker 1986:18–23).

Thus, when Yeardeley attempts to finance his public and private initiatives as a military contractor to the bankrupt Virginia Company through raids on Indian corn, he is demonized by Morgan (1975:122–123) and Fausz (1977:476–478) who demonstrate a complete misunderstanding of the Elizabethan soldier's peculiar predicament in society. Accused of selling stolen Indian corn to starving colonists, Yeardeley only has 20 barrels in his Muster of 1624–5 (Jester and Hiden 1956:23). This is presumably because he is trying to act like a Dutch state-supported soldier rather than as a feudal baron by selling the corn at the Virginia Company's going price probably fixed by Sandys who undertook to disburse corn through questionable Virginia Company auspices (Fausz 1977:479). Hypothetically, this system tried to disperse the stolen Indian corn to more than lusty militia who took it directly by booty on various Indian raids.

If "boote corn" did not finance the fort, possibly Wyatt's permission giving Yeardeley the power to punish public drunkenness on January 25, 1622–3, may have been the basis of some public support Yeardeley received to build or improve the fort of 1622 (Kingsbury 1935:18). If this is not a correct inference, then by April 1623 when Yeardeley was, according to George Sandys' complaint, "taken vp with his private," the fort may have been built on his private plantation which received a public burden in Yeardeley's

reckoning of needs to defend the entire upriver community on behalf of Charles City Corporation (Kingsbury 1935:110–111).

In plain fact, when the London Company officials told the settlers to leave the strongholds and return to their many private plantations in 1623, apparently everyone was made to "look to his private [plantation]" (Kingsbury 1935:12). This order, of course, was calculated to become a self-fulfilling prophesy showing the disorganization of the colony which went from over somewhere near 50 plantations in February 1622 to 7 or 8 in April 1622 and back to 28 by 1624–5 (Hatch 1957; Barka 1993:334). In between these brutalizing shifts in private commercial and defensive policy, Native American warriors fired many abandoned buildings, while poorly provisioned, unseasoned, and often deathly ill immigrants arriving from England were dumped on the colony, leaving another 600 dead by the end of the year 1622 (VMHB 1911 2:115–118).

At Flowerdew about six months after Yeardley completed the fort, the "catle tax" was created to provide public funds to specifically support fort garrisons (Kingsbury 1935: 100, 129–130, 188, 191, 229; as cited in Rutman 1959:293). This was a tax levy, typically in tobacco poundage, which constituted the pay or a sweetening subsidy for soldiers who were also servants engaged in tobacco and corn production.

## CHARLES CITY BOROUGH'S AND PIERSEY'S PATRONAGE OF THE FORT

The defensive strength of Flowerdew improved under Charles City boroughs's and Piersey's patronage. It is likely that Piersey continued Yeardley's patronage of the public corporation fort and town at Flowerdew since throughout his period of ownership of the plantation "castle tax" funds were available. These funds probably were supplemented through Piersey's able management of the borough land at Weyanoke. Piersey's takeover of the Flowerdew macro-plantation may or may not have been viewed as hostile. Overall, we suspect cooperation between Yeardley and Piersey, for as early as 1622–23 Yeardley had been promoting Piersey to the Virginia Council through "large letters." George Sandys both expressed mistrust of and strongly supported—as if it were his own idea—Yeardley's promotion of Piersey (Kingsbury 1933:616–617). Given that Piersey was a pro-Royalist and Yeardley was a liberal patriot in the politics of 1622–24, it is very likely that both Sandys and Piersey at one time or another "double crossed" Yeardley, even as Yeardley was promoting the latter and bringing "boot corn" to the former (Powell 1977:115).

In any case, it is doubtful that Piersey's pro-Royalist politics adversely affected his career in Virginia, although he may have not been liked in private circles. This is because he was a such notorious extortionist that McIlwaine (1979) decided to put a special sub-index heading for "extortion charges" under the Piersey index heading with one colonist noting "they

[Piersey and Hamor] deale in nothing but extortion" (Morgan 1975:125).

While the author has not studied this information in any detail, perhaps this seemingly private interest extortion also relates to Flowerdew's duality in its public role in early Virginia. Most of the extortion cases so far examined by the author pertain to the period of post-massacre chaos between 1622 and 1623 when the needs of starving: soldiers, businessmen, and public officials often clashed or were awkwardly handled when they played against private planters. In any case, Piersey was made a member of the Council by 1624, and his term of service as a burgess in the Convention of 1625 until his death in 1627–28 included service from 1626 through 1627 to Yeardley's administration (Jester and Hiden 1956:264).

That Piersey's takeover of Flowerdew was amiable or at least an institutional obligation is suggested by the fact that he retained Yeardley's borough minister, Grivell Pooley, and the Anglo-Dutch veteran, Captain Samuel Sharpe. Most importantly Piersey retained 15 servants and tenants, who among the males are now suspected to be previously trained "gunners" (artillery crews) who were the very "men at the castle" supported by public funds, rather than a further example of Piersey's extortion of Yeardley's previous labor pool.

Samuel Sharpe is listed at the head of Piersey's Muster of 1624–25 in order to honor his role as plantation commander as was established by Yeardley (Jester and Hiden 1956:19; Kingsbury 1935:584). His military title

is not indicated in the Muster, however, either as a result of sloppy recording, humility, or the gradual gentrification of the militia by borough parish (Shea 1985:44, see footnote 12). As Governor in 1626, Yeardley had instituted gentrification of the militia, and this law had effectively softened military professionalism (a former monopoly of military veterans) in Virginia in favor of a militia that reflected Virginia society at large with special acknowledgement of gentry status (military veterans and high-ranking businessmen). By gentrifying the militia, Yeardley intended to bind Chesapeake society together by uniting military veterans and businessmen toward common goals. For instance, during this period, according to Fausz (1977), Piersey had become an honorific militia "Captain." Yeardley's move contrasts sharply with the social arrangements made during the period 1610–18 under Smythe's harsh and authoritarian command of the military regime under which Yeardley also suffered. Lest the reader be confused here, Yeardley clearly hated both military and civil authoritarianism and this surely came from his republican experience in the Low Countries when the Dutch applied the Machiavellian ethos to founding their own free country.

Can we document any improvements in Flowerdew's defenses during this period of gradual gentrification? If we use the Virginia Company's replies to Butler and the Muster of 1624–25 as a document of the amount of artillery at Flowerdew six large cannons (1623–1624–25) and two murderers (1624–25) we can isolate certain improvements under Piersey. In response to



continued laws (which began in 1623) forcing settlers to palisade their houses in 1626, Piersey was largely exempted since:

“The Court at this time, uppon ye demonstrance of Mr. Abraham Piersey, yt ye aforesaid order would prove very heauye & burthensome vnto him at **Perseyes Hundred** is content, in regard he hath he hath many houses allreadye paled & palizadoed in [Yeardley's Fort], & that all ye whole necke is well railed in & that he hath 10 or 12 pieces of ordnance well mounted & planted [dug in] for ye defense of ye place.” [author's insert] (McIlwaine 1979:120).

Why were even more cannon added to Piersey's Hundred at this particular time? Two things are happening. First, the original fort was a very considerable investment in men, labor, and material and the cheapest thing to do was to support that investment rather than start from scratch elsewhere. Second, if placed in a broader perspective, this continuing and possibly rapid deployment of additional cannon to Piersey's Hundred is directly associated with specific threats of active international war in 1623–24—in 1625 there were renewed fears of attacks on the still weak colony caused specifically by King James I's decision to enter the Thirty Years' War (1618–48) against Spain. Specifically, Spain considered James' dispatch of 1,200 English troops to help the Danish in Germany an act of war by England (Brown 1898:576, see note 1; Dupuy and Dupuy 1970:549). This paranoia spilling into the Chesapeake probably not only increased the cannon at Flowerdew, but got the redoubt at 44PG64 built (Hodges 1993).

We have already looked at the orthography of early "mounted" artillery colonial forts above and we have already looked at how the numbers of Piersey's cannon play into overall Royal Colonial policy. However, there are a few things that we must note here that we can get out of the Piersey's cryptic court deposition (cited in full above) that compliments our interpretations of fortifications associated with earthworks at Flowerdew. The 1626 deposition records that the "10 or 12 pieces of ordnance" were not only "well mounted," but "planted." The word "planted" seems to imply they were dug in behind earthworks. The assertion of this phenomenon in contemporary military slang was repeated in descriptions of military regime forts build between 1611 and 1613 where Spanish spy Don Diego noted the English, "forts are surrounded with earthworks on which they plant their artillery" (Brown 1890 2:660).

If we look at the fine texture of Piersey's deposition, we must also note its broad defensive perspective. The artillery at Flowerdew is situated "for the defense of ye place" that is in a defensive landscape. It is not defending a fort so much as it is defending the entire settlement and Windmill Point peninsula and accordingly the James River. Through archaeology we know that included a redoubt whose earthworks probably comprised turves and whose ditch was not as deep as its palisades, which were only 0.8-0.6' below the plow zone. According to contemporary British soldier Barret (1969:126), the Virginia militia is attempting to follow the prevailing military wisdom of

the time that you cannot defend a landscape with a single work (Hodges 1993:195–199). Not only can the redoubt triangulate artillery fire on ships in the James, it can "second" (defend) the fort. Also, if the fort is taken, it can become a defensible retreat for the surviving fort garrison. Moreover, it adds considerable purchase as a grid anchor to the inferred railed-in peninsula location.

The title of the redoubt "Yeardley/Sharpe Redoubt" is a reference to who actually was behind the redoubt. At this time Yeardley was Deputy Marshall (1623–25) to "Captain General" Francis Wyatt (Governor). Yeardley was the Captain General (1626–27). Yeardley was surely the militia borough district commander (1624–25) who commissioned the work. The inferred plantation commander at Flowerdew, Captain Samuel Sharpe was the man who directly supervised construction (Jester and Hiden 1956:19). Interestingly, Piersey contracted carpenters in 1625, but we have no idea what this contract was for or where it occurred (McIllwaine 1979:71).

#### **YEARDLEY AND PIERCEY'S LABOR INVESTMENTS COMPARED**

Deetz (1993:50, 51–52) has suggested Piersey ran the plantation better than Yeardley had. In fact, we don't know if this is the case. Yeardley, who was anxious to leave public office in 1621 to pursue private endeavors, had established his protégées Rossingham and Jefferson in responsible positions with considerable discretionary power, just as Dale had established Yeardley, Ralph Hamor, and John Rolfe at Bermuda Hundred. At the latter plantation,

the net result of these freedoms and creativity was that Virginia had its first and, for all intents and purposes, only cash crop—tobacco (Hatch 1957:16–18, 63, 64). Warfare and politics prevented Yeardley certainly from enjoying his retirement to Flowerdew. In the meantime, his personal attachment to Smith's (Sir Thomas Smythe) or Southhampton Hundred was soured by its joint stock nature dominated by political rivals or open enemies. Although Yeardley paid for 25 servants there and he had a "mansion house" (perhaps a precedent for the manor at 44PG64), Flowerdew was a pure family holding at least on the west side of the river (Hatch 1957:39).

In a cash-and-carry capitalist society, what evidence do we have of Yeardley's and the Flowerdew family's labor investments at Flowerdew which would support such ambitious undertakings such as patronizing a fort? Deetz (1993:47–48) unfortunately grossly underestimates the extent of the original investments at Flowerdew Plantation because key elements are not published. He suggests a pre-massacre population of 25 to 35 that approximately doubled after the massacre. Yet according to the Census of 1619–20, under George Yeardley, Flowerdew Hundred had a population of 77 people (66 men, 5 women, and 4 children) or 5 more than Martins Hundred and three times his Smith's Hundred investment (Ferrar Manuscripts, Colonial Williamsburg Foundation Archives). So, if this population doubled, you would get 154 people. Since the 1619–20 Census has no entry for Weyanoke, it is assumed that about 20 of the total of 77 were at Weyanoke

opposite Flowerdew. This is cautiously based on the massacre losses of 21 at Weyanoke on March 22, 1622.

Hotten (1980:171–172, 191) notes a total of 63 people at Flowerdew in February 1623–4, including 52 whites, and 11 African Americans, with 18 dead, for a total previous population of 81 people before his sale to Piersey in October 1624 (Barka 1976). Thus, the population figures for Flowerdew were fairly stable from 1619–20 to 1624 under George Yeardley, regardless of where the population came from. Therefore, Yeardley and Virginia Company officials did not greatly increase the population of Flowerdew during the post-massacre period probably in order to more magnanimously strengthen a larger number of regional settlements in a more egalitarian fashion. This would include West and Shirley Hundred and Jordans Journey within Charles City Corporation during the immediate post massacre period.

The scattering of six of "Yeardley's servants" to Charles City, and West and Shirley Plantation, James Island, the Eastern Shore, Elizabeth City, and Newport News noted by Deetz (1993) almost certainly reflects people from other plantation servant households seeking succor in numbers at Flowerdew and being redistributed or willfully leaving afterward. Some of these people surely felt they were asked to "to forsake their houses...to joyne themselves to some great man's plantation" (Morgan 1975:116). Others, such as those from James Island and east, may have had special fort-building or carpentry skills or were simply people using the Charles City borough rest area at Weyanoke.

Together with the large servant population recorded by 1624 and a tobacco crop of 9,000 pounds in 1623–4 (which was ruined by Sergeant Fortesque, the then plantation overseer), the Massacre of 1622 appears to have had little impact on cash crop raw production within less than 1–2 years at Flowerdew (Hatch 1957:72).

Despite this information, Yeardley by 1622–23 had by the account of Sandys lost 2/3 of his estate during the post-massacre period (Kingsbury 1935:22–23). Southampton Hundred (Smith's Hundred), a Yeardley-run but not Yeardley-owned project opposite Pasbahegh on the north side of the mouth of the Chickahominy, was initially held and then abandoned again, suggesting there was little bias toward Yeardley in overall Virginia Company policy though the Earl of Dorset (a heavy investor) was very displeased (Hatch 1957:38–41; Kingsbury 1933:612; Morgan 1975:123). Thus, with the loss of Southampton Hundred and temporary loss of Weyanoke, Flowerdew was just about all he had left of the Yeardley/Flowerdew family holdings during a very critical and turbulent period in Flowerdew's history. Hence, the complaints that Yeardley was a "right worthy Stateman for his own profit" by Capps when he fortifies Flowerdew or seizes labor to mount Indian raids (Morgan 1975:123). Part of this financial ruin for Yeardley may have been from his personally financing the fort between 1622–23, which was a remarkable financial gamble. Thus, the combination of the 1623–4 crop failure and patronage of a fortification, probably combined to ruin Yeardley

financially. In reality Yeardley was a "right worthy statemen" for his own financial ruin.

In view of this it is likely that Yeardley borrowed heavily from Abraham Piersey during this period. This seems quite possible, as Piersey extorted or otherwise obtained no less than nine tenants and seven servants from Yeardley between 1623–4 and 1624–5, while Deetz (1993:47) notes 14. This can be determined by comparison of the Hotten (1981:171–172) Muster of 1623–4 with the Piersey's Muster of 1624–5 (Jester and Hiden 1956:20–22). Since we now suspect these very people are the forts' trained militia garrison (as noted above), the likelihood of Yeardley borrowing from Piersey still remains due to the latter's soaring wealth and close relations with Yeardley. With Piersey's purchase of both Flowerdew and Weyanoke Plantations from Yeardley in 1624, this left Yeardley with only his house at Jamestown, forcing him to scatter some of his servants to Hogg Island (a plantation affiliated with Smith Hundred) led by his secretary companion from Bermuda Hundred days (1611–16) Ralph Hamor, who is now a militia Captain (Jester and Hiden 1956:27, 42–43).

Despite Yeardley's frequent political success as governor, Marshall, or Deputy Marshall, Sir Thomas Smith, the Earl of Warick, Sir Robert Rich, and much of their big English merchant conservative faction in the indigenous and non-indigenous Virginia Company remained his unrelenting personal enemies (Morgan 1975:92–93). To the person including William Capps, the

Earl of Dorset, and Nathaniel Butler, virtually every negative comment cited by Morgan (1975:122–123) and Deetz (1993:51–52) against Yeardley's character or self-promoting business practices emerges from this specific openly hostile faction within the indigenous Virginia Company or its English parallels (Craven 1932:157–158, 163–164, 185–186; Kingsbury 1935:76–79; 119–122 as cited in Fausz 1977:481—see note 239; Eve Gregory n.d.). John Smith's second-party popular history simply passes on and thereby apes this deliberately negative political and factional propaganda which filters back to England through these specific parties. This is because John Smith specifically wants Yeardley's job as military commander, so he presents Yeardley in as negative a vein as possible or ignores or downplays any successes. Smith wants to bring over a huge professional army while Yeardley is trying to build a grass roots militia more in line with Machiavellian theory in order to prevent authoritarian military control (Arber 1910 II:595, 588–591; 599–600, etc.). Yeardley felt this deeply prejudicial "malignancie" made this faction always find something wrong with virtually anything he did (Kingsbury 1933:217).

The contrast between the fortunes of Yeardley and Piersey during the 1622–25 period is dramatic and in microcosm they record the fate of the colony in general as real wealth began to be passed from land-poor old Anglo-Dutch soldiers with new political titles to savvy English gentry businessmen. Abraham Piersey, former Cape Merchant, with blood-level, high-class social



connections, lost his "plantation off the College Land" near the mouth of the Appomattox river during the post-massacre period in 1622. Piersey had only 13 servants before the Massacre, which killed four, leaving him with 9 servants in the immediate aftermath of the massacre (Hatch 1957:66–67; Jester and Hiden 1956:263–265). Clearly supported by the London merchant faction that recommended Royalist takeover of the Virginia Company—through war profiteering and extortion—Piersey was able to purchase Flowerdew and Weyanoke in October 5, 1624, from Yeardley (Kingsbury 1935:22–23; Flowerdew Hundred Foundation Archives, MacIllwaine 1979). By the time of Piersey's Muster of 1624–5, the population of Flowerdew and reoccupied Weyanoke had shrunk from Yeardley's 81 in 1624, to 57 living people and 7 dead, for a total of 63 people during 1624–5. If you deduct the 16 (or 15) tenants and servants potentially extorted from Yeardley by Piersey or who are partially subsidized by the castle tax, you get about 47 people who were brought in by Piersey for a net investment of about 5/8 the equivalent of Yeardley in 1619–24 (Deetz 1993:47).

The Muster of 1624–5 indicates that the majority of Piersey's servant population (26 of 39) did not arrive in Virginia until 1622–23, when he began selling rare commodities at inflated prices including fish from New Foundland. This was a program that was begun in 1621 and potentially supported by Yeardley's salt works project on the Eastern Shore (Fausz 1977:559; Hatch 1957:66–67; Morgan 1975:119). The dress rehearsal for this

alternative protein source was the First Anglo-Powhatan War (1610–14), as Native American warfare prevented successful hunting and killed many cattle, and the James River and Chesapeake Bay provided seasonally indifferent fishing (Fausz 1977; 1990; Purchas 1926 19:62).

### **Contextualizing the Muster 1624–25**

Both Barka (1993) and Deetz (1993:20–23) have shown great interest in the Muster of 1624\25 from entirely different perspectives. In the present document we will try to add some texture that helps us understand who did what and when and how these things might help us underscore the identification of special borough or public activities that are going on that are larger than either Yeardley or Piersey and pertain to our identification of a small town within a fort or, comprehensively, a Charles City "borough fort."

### **In Piersey's 1624\25 Muster Whose Improvements are Being Tabulated?**

If one goes to the trouble of contextualizing the Muster of 1624–5 and trying to determine who did what and when, certain conclusions are relatively easily derived. Of extreme importance—the 1624–25 Muster was prepared between January and February 1624–25—this is notably only three or four months after Yeardley's October 1624 sale of the property. Therefore, the count of 10 dwellings, 3 store houses, 4 tobacco houses, 6 cannons, 1 windmill, a later trans-peninsula palisade, possibly the redoubt at 44PG64, etc. at "Piersey's Hundred" recorded in the January 1624–5 Muster, in court records of 1626, or through archaeological initiatives, arguably tell us more

about Yeardley (and possibly even the Stanley Flowerdew occupation) at Flowerdew than it does of Piersey's endeavors beyond his recently acquired purchasing power (Flowerdew Hundred Foundation Archives; Hodges 1993; MacIllwaine 1926:120).

For instance, the incentive for Piersey to build new houses would be retarded as fewer servants and tenants were present. In turn, this relative labor decline probably also precluded the need for additional tobacco and storage houses, much less dwelling houses. Since we know the fort was built in the 1622–23 period, repairs and embellishment would be Piersey's only practical option for input into the fort (Kingsbury 1906 2:363). Piersey's patronage did render changes to Flowerdew which are discussed elsewhere but they have to do with financing, not clearly conceptualizing. As we have seen, the redoubt and probably the railed-in peninsula are things instigated by Yeardley as Deputy Marshall since they pertain to the militia. These factors, which may have contributed to a forceful psychological impact on Piersey, may have resulted in his more original focus on building a pretentious manor house at 44PG64 (if it is not a glebe or "parson house" or "mansion house" also founded by Yeardley) (Barka 1975:9; Deetz 1993:35–39; Hatch 1957:40).

## NON-DOMESTIC ARCHITECTURE IN THE 1624–25 MUSTER AND WHY IT'S IMPORTANT

Besides fortification evidence and the immense wealth and power of Yeardley and Piersey, there are other lines of evidence that help us move to the conclusion that Flowerdew, by both political and financial clout as well as pure wartime default strategy, became a paranormal particular plantation acting as a public corporation by the 1622–25 period at the beginning of the Second Anglo-Powhatan War (1622–32). One way to isolate objective data on the development of the Flowerdew particular plantation is to examine its cachement features and other forms of non-domestic architecture. These improvements might physically address the sorts of surpluses of foodstuffs or commodities which are required to create towns and the divisions of labor needed to sustain them. For instance, from a comparison of the size of architectural cachement features at Martin's Hundred and the Hampton site, as learned through both archaeology and the documentary record, Andrew Edwards (1994:95) observed that higher economic status is positively correlated with larger cachement features and, accordingly, a more unequal distribution of goods.

With the above notions in mind, Table 3, which is based on data from the Muster of 1624–5, presents a brief summary of non-domestic specialty buildings, most of which are specifically dominated by cachement features for food stores and tobacco. The buildings are listed by plantation or town

center, based on pioneer research by Barka (1993:325). However, below the information is adjusted to correlate Barka's list by public corporation, based on Hecht's (1973:3) population analysis. The buildings are listed by corporation to determine if Flowerdew can be suggested to be a rolled over borough land or public corporation land of some sort by at least 1624–5.

TABLE 3.  
NON-DOMESTIC BUILDINGS LISTED IN THE MUSTER OF 1624–25, CORRELATED  
BY PUBLIC CORPORATION  
(after Barka 1993:325 and Hecht 1973:73)

CORPORATION	SETTLEMENT	SPECIALTY BUILDINGS	# BUILDINGS	% CORP.	% VA
<b>Henrico:</b> 22 people, 1.8% of total VA population (Lt. Osborne Muster)					
	College Land	0	0	0	0
<b>Charles City:</b> 235 people, 19.3 % of total VA population (Flowerdew comprises 24% of Charles City total)					
	Flowerdew	Tobacco Houses	4	100%	57%
	Flowerdew	Windmill	1	100%	100%
	Flowerdew	Storehouses	3	100%	6%
(Commodities*: Corn and Peas, 300 bushels; Mr. A Piersey, Fish 1,300)					
<b>James City:</b> 540 people, 44.4% of total VA population (James C. Proper, 10.3%)					
	James City	Church	1	100%	100%
	James City	Storehouses	3	25%	6%
(Commodities: Corn, 10 barrels; Gov. Wyatt, Fish, 4,000*)					
	Treasurer's Plantation	Silk Worm Houses	1	100%	100%
	Treasurer's Plantation	Storehouses	3	25%	6%
(Commodities*: Corn, 100 barrels; G. Sandys, VA Company Treasurer)					
	Mr. A. Piersey	Storehouses	2	16%	4%
(Commodities: Corn, 50 bushels; Fish 180)					
	Burrows Hill	Tobacco House	1	25%	14%
(Mr. Burrows)					
	Blaney Over Water	Tobacco Houses	3	75%	42%
(Mr. Blaney)					
	Matthews Plantation	Storehouses	3	25%	6%
(Commodities*: Corn, 240 bushels; Mr. Matthews)					
	Wariscoyack	Storehouses	1	8%	2%
(Commodities*: 54 Corn, bushels; Mr. Bennett + 10 barrels, 3 Musters) (in military agglomeration)					
<b>Elizabeth City:</b> 419 people, 34.5% total VA population (Company Land is 22% of total)					
	Company Land	Storehouses	2	4%	4%

TABLE 3 cont'd.

CORPORATION	SETTLEMENT	SPECIALTY BUILDINGS	# BUILDINGS	% CORP.	% VA
	(Commodities: Corn, 15 barrels; Capt. West Fish, 700 count*, + 4 Musters, Meale 2 hogsheads)				
	5 Musters	Storehouses	10	28%	21%
	(Commodities: Corn, 53 barrels; Fish, 900 count)				
	Sgt. Barry	Storehouses	6	17%	6%
	(Commodities*: Corn, 80 barrels)				
	Capt. Epes	Storehouses	3	8%	6%
	(On Eastern Shore. Commodities*: Corn, 65 barrels)				
	14 Musters	Storehouses	14	40%	29%
	(On Eastern Shore. Commodities: Corn, 163 barrels)				

\* Stored food commodities thought to be associated with a regional public granary/store in one or more "Stores" or "Store Houses."

In Table 3, when storehouses of any sort are listed, they are followed by known quantities of stored food items to see if a pattern will emerge. The cachement of large quantities of food items is thought to be often associated with various public granaries, as required by law beginning in 1623 (Hening 1809:125; Kingsbury 1935:582). Items in Table 2 have been marked with an asterisk when large, hypothetically public cachements of stored food stores may be present. All the sites thought to be public granaries or stores are associated with social titles, and half of these are associated with military titles (e.g., Sergeant, Captain), a fourth associated with governmental titles (e.g., Governor, Treasurer), and a fourth associated with the title of Mister ("Mr."). Within the latter two groups, the military titles include Captain General (Governor Francis Wyatt), (acting militia Captain George Sandys, treasurer), and honorific or real militia Captain (Abraham Piersey) (Fausz 1977, 1988; Fausz and Kukla 1977; Rutman 1959).

If we can trust that these data are accurate for all public and private holdings in Virginia in 1624–5, the data in the table support the notion that Flowerdew had become a high-status settlement in its own right by 1624–5. Notably, Flowerdew has all the windmills and 57% of the tobacco houses in Virginia, although only 6% of the storehouses. This suggests a specialization in maize and wheat processing and tobacco production, with peas appearing as a potentially rare, bulk-stored commodity.



Most storehouses listed in Table 3 are thought to be associated with food stores, typically corn, salt, or dried fish, although "meale" and peas are also noted. The number of store houses at Flowerdew is dwarfed by the large number in Elizabeth City (Kecoughtan) (40% of those in Virginia) and Elizabeth City's associated Eastern Shore company venture (37%). Many of the storage units in Elizabeth City, however, are not thought to be associated with public granaries because of the limited size of the Muster households. Rather, they are simply storehouses typical of medieval and post-medieval farmsteads, with most planters storing their food in lofts within their dwelling houses (Beresford and Hurst 1971:Figure 19B).

Of utmost importance for this study, when Flowerdew is considered solely in the context of the Charles City public corporation, the number and types of non-domestic buildings at Flowerdew suggest the settlement was the only logical place for a public corporation center at about 1624–5 or earlier (remembering that most of what is listed for Piersey was Yeardley's).

Flowerdew has virtually all the non-domestic architectural resources, including valuable store and tobacco houses. Unfortunately, we do not know how many of these non-domestic buildings were at the mysterious borough lands at Weyanoke. It is logical to conclude from this that at least during the 1624–25 period it is very possible Flowerdew is the main port for Charles City Corporation for tobacco sales, suggesting a public market housed there which also represented the College Lands (Henrico), Neck of Land/Charles

Cittie (Bermuda Hundred), West and Shirley Hundred, and Jordan's Journey. Neck of Land (Bermuda Hundred) settlers may now be paying rents to Flowerdew government. Moreover, we can be entirely certain that Flowerdew is the only possible location of the Charles City public granary and it would be logical that such a unit would lie in the safety of the fort during wartime (cf. Structure 2 in Hodges 1993:188–190).

### **WHY YEARDLEY'S FORT ISN'T IN THE 1624–25 MUSTER**

The Muster of 1624–25 lists six "forts" and numerous palisades at various locations in Virginia, but no mention of a fort or even a palisade is made in reference to Piersey's Hundred. The Muster even fails to note that Piersey's cannon are mounted. Let us try to get underneath this puzzling matter. The documentary record cannot be ignored if the archaeological evidence of a fort at 44PG65 is to be interpreted objectively.

There are small things in the Muster itself worth noting initially. The gunpowder at Piersey's Hundred is reckoned in barrels (1-1/2), rather than pounds, the latter of which is more typical of household Musters (Barka 1993:320, 326; Jester and Hiden 1956:22). An ink blot obscures the count of muskets at Piersey's Hundred, and it is possible that this blemish was made deliberately to conceal a large number of weapons per capita at the settlement. There are more large cannon at Flowerdew than anywhere in the colony (Jester and Hiden 1956:22).

If we contextualize the negative information contained in the 1624–25 Muster, we find that it might be strikingly useful in establishing when and by whom the fort at 44PG65 was built. The fact that no fort at Flowerdew is mentioned in the 1624–25 Muster suggests that the fort was erected early during the 1622–23 period (between the spring of 1622 and the spring of 1623) and, by the time of the 1624–25 Muster, was very possibly in ruins (Purchas 1926 19:44–45). In such condition, it could hardly be described as a material "asset" worth tabulating. It was difficult to maintain a fort in Virginia's humid and stormy environment. James Fort, for example, was rebuilt three times between 1607 and 1610, only once because of a fire (Duffy 1979:93; Hatch 1957:11; Hatch n.d.; Purchas 1926 19:44–45). Wood rot, which was exacerbated by the use of green rather than seasoned wood, often up against earthworks, erosion of the earthworks, and neglect were chronic problems.

Now shifting to broader arguments, it would appear that the 1624–25 Muster is an imperfect representation of Virginia. A law had been passed about a year or so before the Muster requiring that all planters palisade their houses by 1623–24 (Kingsbury 1935 4:583). Thus, Flowerdew was required by law to have palisade defenses. Does it make sense that a senior militia officer or the senior officer like Yeardley would be remiss in this respect? Could he ask others to fortify their plantations if he had not done the same? The absence of fortifications at Flowerdew in the main is a ludicrous

documentation if contextualized. More distressing than the Muster's omission of defenses at Flowerdew, however, and more suggestive of the Muster's lack of comprehensiveness, is the fact that the document fails to even mention palisades at any of the seven strongholds other than Elizabeth City held by the Virginia Company during the post-massacre period (Barka 1993:326; Jester and Hiden 1956:49–66; Kingsbury 1906 II:363, 1935:580).

If you contextualize the 1624–25 Muster, political reasons are probably the main culprit in this regard and this insult specifically zeros in on the seven strongholds which we carefully noted above. The pro-Royalists or "court party" who are tabulating the Muster are here clearly deliberately obfuscating the original forts championed by the Virginia Company in their spitited reply to vicious critic Butler (Kingsbury 1906 2:381–385). Here we are seeing James I's desire to make Virginia a Royal Colony that previously could not create public works such as forts. Therefore, previous or standing forts made by Virginia Company "rebel/patriots" were subject to open and shameless crown censorship of any documentation which might say otherwise (Brown 1901:30–87).

How vicious was this period? In answer to Alderman Johnson's pro-Smythe propaganda (ca. 1623–24), Wyatt and the Assembly offered the wisdom that rather than submit to anything remotely similar to Smythe's absolute government or its libel, they would rather have the King send over commissioners "wth authoritie to hange us" (McIllwaine 1915:22). The

unmistakable patriotic tone of this statement is highly reminiscent of Patrick Henry's mythic speech at the beginning of the American Revolution: "give me liberty or give me death." Governor Wyatt and the Assembly were expressing true republican sentiment. Given the politics of the time, their response exhibited great bravery. In sum, the Muster's fortification list appears was yet another example of triumphant pro-Royalist propaganda.

The Muster's lack of comprehensiveness is also likely the result of an emphasis on households and the material items within them, the whim of various Muster officials (with the Elizabeth City tabulator being honest), errors in recording and copying, and social disruption caused by the recent order for planters to disperse from the seven "trench and palisado" and palisaded strongholds to re-occupy previously abandoned plantations (Barka 1993:313–314; Hecht 1973 30:75; Noel Hume 1991:141–142, 153).

A few specific examples of the inaccuracy of the 1624–25 Muster with regard to fortification must be cited. At Newport News, immediately after March 22, 1621–22, "Captain Nuce called his neighbors together...entrenched himself, and mounted three Peeeces of Ordnance, so that in three or four dayes hee was strong enough to defend himself against all the Barbarian forces" (Purchas 1926 19:169). John Smith mentions Nuce's "fort" in an account from this early post-massacre period (Arber 1910 II:595). The defenses at Newport News, which, like the work at Flowerdew, appears to be composed of "trenche and pallizadoe," are also mentioned in the *Virginian's*

replies to Butler's "Unmasking of Virginia" (Kingsbury 1906 II:383; MacIllwaine 1915:24). The Muster of 1624–25, however, mentions no entrenchments or fortifications of any type in association with Newport News, although the cannon are listed under Mr. Danniell Gookine's Muster as "mounted" (Jester and Hiden 1956:48).

Captain Nuce (also Newse), an Ulster, Ireland, veteran, was the Marshall of Virginia from 1621 until his death sometime in 1622 (Jester and Hiden 1956:110). While surely Nuce's efforts to erect defenses were motivated by personal necessity (his settlement was attacked repeatedly by the Indians), he also undoubtedly was trying to set an example of his military prowess given his social title (Fausz 1977; Kingsbury 1906 1:446, 468). As Rutman's (1959) research has indicated, Yeardley apparently replaced Nuce as Marshall of Virginia; and there are very strong parallels between the personal and social reasons for evolution of the defenses at each man's plantation. Like Nuce at Newport News, Yeardley was quick to erect defenses at Flowerdew.

In addition to modern archaeology at Flowerdew contradicting the Muster, this site is not alone. The presentation of Jordans Journey, one of the 1622–23 strongholds, in the Muster is yet another example. Here, the archaeological remains of hole-set palisades have been found surrounding five large domiciles packed in like a sardine can—yet this early palisade is not listed (Mouer et al. 1992). Again, John Smith also mentions fortifications

at Jordans Journey in the 1622–23 period, when Samuel Jordan, "fortified and lived despite the enemy" (Arber 1910 II:584).

Deliberate deception may be another reason the Muster of 1624–25 fails to mention that there is a fort at Flowerdew. Deception, after all, is an element of the art of war (Fausz and Kukla 1977:114). Only by surprise could Flowerdew have expected to stop a serious attack by one or more foreign warships and a full fleet would be typical. Accordingly, the Virginians would have taken care not to broadcast the presence of their last anti-foreign rival "trump card" in the public record. We know, for instance, the Virginia Company was deliberately lying about artillery at Henrico and Charles City in 1623; since both sites were sacked and abandoned in June 1622, the ruined artillery are truly "there" but of no use to anyone (Kingsbury 1906 2:383).

#### **SUMMARY APPRAISAL OF YEARDLEY AND PIERSEY: A SENSE OF PEOPLE AND HEART**

What ideology went into the fort/town center at Flowerdew? Here we will appraise this best through the people behind the fort and focus on Yeardley and Piersey. We have noted that Fausz (1977), Morgan (1975:122–123), and Deetz (1993:51) saw Yeardley as a "vainglorious" self-promoting "robber baron" and ruthless abuser of public office to his own selfish benefit. In contrast, Hatch (1957:26) is amazed that Yeardley faired as well as he did given the clash of private interests then present. Powell (1977:76–79) credits

Yeardley's success in this regard because it was aided by the watchful eye of Secretary John Pory, who didn't want Yeardley to suffer the fate of Argall. Fausz (1977) and Morgan (1975:125) saw Piersey as a shameless war profiteer and extortionist, whereas Deetz (1993:51-52) saw him in a kinder light.

Given these often contradictory modern scholarly assessments, we will try a novel approach here. It might be useful to observe how Yeardley and Piersey's actions were perceived by their peers, which should level scholarly bias. This is arguably more important to us here from an emic (an insider's view of a past culture) perspective than this etic (an outsider's view) view created by modern scholarship.

Beginning with Yeardley, when such an examination is made, a remarkably positive transformation is made. Yeardley openly resisted Edwin Sandys' policy of dumping boatloads of poorly provisioned and often seriously ill colonists into Virginia during his administration whom Yeardley had to house and feed out of his own funds with no notice (Craven 1932: 154, 157–158, 161, 164, 165, 168, 185–186). Most of the settlers arriving in Virginia between 1619 and 1621 who lived through the post-massacre period owed their very existence to Yeardley's nursing them back to life. Settlers who lived through the 1622–23 famine did so through Yeardley's recommendation of their eating summer "green corn" (corn on the cob) and Yeardley's fall booty corn (stolen Powhatan maize). The Virginia Company was so upset by



Yeardley's "open scandal" of selling corn for tobacco to starving settlers, the selfish behavior of making the militia fortify his "private" plantation at Flowerdew, and his breaking the back of the Powhatan Chiefdom, that the Virginia Court awarded him a special grant of 3,700 acres at Hangars on the Eastern Shore in May 1623 (Fausz 1977:476–478; Jester and Hiden 1956:378). Thus began a tradition of great patriotic patronage through public works by the Virginia self-made aristocracy which shines through the basic contentiousness of both his own turbulent period and near-sighted modern scholarship (Bemiss 1964:44).

The overall regional appraisal of Yeardley's alleged ruthless violation of the "public trust" between 1622–25, resulted in Yeardley being chosen by unanimous vote by the entire Virginia Council and Assembly as their first elected Governor under the crown at the "Convention of 1625" (McIllwaine 1915:43–44). Among the signatures on this vote, which seems to summarize Yeardley's true legacy from 1622–25, was Francis Wyatt, George Sandys, Abraham Piersey, and Samuel Matthews (the latter two libel-ridden pro-Royalists). While observing that Yeardley lost two-thirds of his estate in March 1622–23 (when it is clear the "trench and pallisadoe" fort was built), Sandys commented, "to give him his dew [due] he [Yeardley] hath behaved himself very nobly in ye service of ye Country to his great expenses" (Kingsbury 1935:23). So had we not performed any archaeology at Flowerdew, the overwhelming statement of personal public support for

Yeardley might reasonably contribute to the notion that we can trust the Councils, Assemblies, and "divers planters" that artillery and fortifications were indeed installed at Flowerdew in 1622–23 by Yeardley, and that his actions throughout this period were remarkably honorable—and downright impressive patriotic behavior (Kingsbury 1906 II:363; McIllwaine 1915:24).

From 1626 to his death in 1627, Yeardley was made governor of Virginia by appointment of Charles 1. The legislative body of the Virginia Assembly and Council installed by Yeardley's, Ferrar's and Sandys' "Great Charter of 1618"—the prototype of the Mayflower Compact—was preserved intact by brilliant courtly behavior by both Wyatt, Yeardley, and the 1622–24 Council who proved themselves worthy "courtiers" (Simpson 1959). By all reasonable accounts, Yeardley must have been an extraordinarily brave and genuinely charismatic natural leader. Even a frequently jealous John Pory would admit in 1619 that his ability to animate people to defend against the Spanish was considerable despite their small numbers such that, "no prince can be served wth better by his example to preserve their courage" (note the direct reference to Machiavelli's, The Prince) (Kingsbury 1933:220). Yeardley apparently had the rare quality of being able to exert authority without being oppressive, as the Assembly was hypersensitive to anything less. Yeardley clearly led primarily by exemplary actions and not words—while his enemies made the mistake of never getting beyond words.

By Yeardley's arming, feeding, and defending the population, their arms became his arms literally and figuratively in a brilliant exercise in Machiavellian politics (Bergin 1947:61, 65). However, it is likely these politics were not cynical, given the spirit of freedom and idealism imbued in Yeardley by the Free Estates General and his sincerely given public accolades. Machiavelli wrote, "The best fortress a prince can have is simply not being hated by his people..." (ibid:64). Yeardley's real fortress was apparently the genuine love of the majority of thinking people of Virginia. His strength was a genuine understanding of their feelings and the shared history of trials and tribulations under previous absolute authority.

When emic perspectives are used, the popular conception of Piersey takes a different turn. Piersey was remembered by the Ancient Planters in 1623 as the personal factor of the hated Sir Thomas Symthe (dignified by the title "Cape Merchant"), the key figure in instigating the absolute authority of the military regime's harsh rule (1610–18). Moreover, it is doubtful that anyone was pleased with the "mean" English prices being paid for tobacco after 1624, whose London merchant monopoly and import taxes Piersey helped secure (McIllwaine 1915:26, 33). This may be why Piersey decided to move to Flowerdew by 1626; many planters hated him. Besides pure mercantilism, the British trade monopoly is the only thing we can find in Piersey that hints at ideology unless you count his vote for Yeardley.

Nonetheless, Piersey's conception of the role of the colony follows the Roman imperial model; as all colonial roads lead to Rome—that is, to England.

Other aspects of Piersey's personal character are readily evident. Piersey, upon purchase of Flowerdew, immediately renamed the plantation after himself, a "vanity" shared by many colonists who were determined to put their own personal mark upon the land. This is in sharp contrast to Yeardley's courtly behavior at Flowerdew or virtually any of his own plantations, all of which bear colloquial names (1, "Hungars") or more typically those of other relatives and patrons (3: Flowerdew, Smith's Hundred, Stanley) (Jester and Hiden 1956:378). "Yeardley Hundred" was Virginia.

Deetz (1993:51) suggests that Piersey cared more deeply about Piersey's Hundred than Yeardley. Given this potentially useful humanistic insight, it is not without a sense of irony that we read of Piersey's "intense" personal attachment to Flowerdew recorded in his will. Piersey's will, written in January 1626, ordered his executrixes at his death, "to make sayle of all my land [,] housinge [,] and other buildings...[and to also]... make sayle of all the estate I the said Abraham hath in Virginia as namelie Servaunts [English servants] cattle hoggs corne tobacco and all other kinde of moveable or household stuffe or chattels [African American servants]" [authors underlining and insert to show attitudes toward people]. To what end did he do what he did in Virginia? This is clarified in his own words. The document

states plainly, "all the estates as aforesaid [are to be sold] to the profit it can be sold for" (Neill 1886:404–406). One knows these are not rare sentiments for a calculating businessman who was looking for, "a present Cropp, and their hastie retourne; but coming from someone in Virginia from 1616 to 1628, the fundamental detachment is even more striking here (Morgan 1975:111–112). So using Piersey as an example of many, this does not sound like a rural "folk society" which placed "the group ahead of the individual in importance." Rather, it sounds like an icy and modern liquidation of assets before a court inquiry could intervene (Deetz 1993:70–71).

While Yeardley gave his children Virginia land, Piersey's quite different attitude toward the Virginia experiment was the notion to totally liquidate Piersey's Hundred and his considerable Jamestown holdings and make cash awards to be paid in silver or tobacco poundage to his family as their tangible share of his realized personal legacy in Virginia (Jester and Hiden 1956:378–379). Given the land sales and servant liquidation, it appears inarguable that he expected them to immediately leave Virginia with this portable cash, or other provisions surely would have been made. Clearly, Piersey's will does not show any personal care whatever for the actual land at Flowerdew, its buildings, fortifications, or working inhabitants except toward what cash rewards he might gain from them during his lifetime.

With Piersey's cold mercantile attitude almost certainly in mind, in 1629–30 (a year after Piersey's death), "Piersey's Hundred" was promptly re-

named to "Flowerdieu Hundred" by resident burgess man John Flood in perhaps a statement of heart intended to honor larger people well remembered (McIllwaine 1915:xi; 33). Behind this sentiment, Flood probably figured that although Piersey left supposedly the best estate in Virginia, most of it at "Piersey's Hundred" was a pony ride on Yeardley's adventure. Indeed, when the tally was made of Piersey's worldly goods, his liabilities exceeded his assets and, because of claims made by Samuel Matthews and others, the estate was not settled for another eight years. During this tally, it was quickly found that Piersey had not even bothered to settle any accounts from his 1616–19 operation of the Susan and George as Cape Merchant even by 1626 (Morgan 1975:120; see McIllwaine 1979).

During this period his orphan Mary Hill was barely able to feed herself or her children, a doubtful prospect for children of a father well loved by a closely knit rural community, although readily imaginable for a genuinely unpopular family legacy. In turn, this may help explain the clear desire to liquidate the Piersey assets into cash for immediate departure to England. In reality, it took until 1636 for his daughter Mary Stephens to regain control of the estate which she had chosen not to sell or more likely could not legally sell until then. Within three years she sold it also as "Flowerdew" and specifically not "Piersey's Hundred." Her father's servants and chattel, who could have been useful to her or Mary Hill—having long since departed as was her father's wish (Deetz 1993:51–52, 57; Jester and Hiden 1956:246,

266). Piersey's chief legacy is that he "left the best Estate that was ever yett knowen in Virginia" a legacy of 60,000 pounds of tobacco turned into promotional literature for prospective investors (Jester and Hiden 1956:265; Morgan 1975:120).

Yeardley's death was treated as a colony-wide day of mourning, honored almost certainly by a tomb in James Town church. His estate was not liquidated but given to his wife and children, who were not trapped there by litigation, but who willingly stayed in Virginia (Jester and Hiden 1956:377–379). Yeardley's estate was worth 10,000 English pounds or 1/6ths that of Piersey, but his true legacy appears to have had more value than can be counted in money—at least from an emic perspective (Morgan 1975:123).

Despite the essential coldness of Piersey's legacy, we must remember that on borrowed credit and extortion, Piersey soundly maintained the best military holding of the Royal English Colony and greatly stimulated a regional cash economy in creative ways (for example salt-fish from the Grand Banks). After being shocked by the amoral nature of the colony's leaders, Fausz (1977) relents and credits men like Piersey and Sandys' quest for merchantable rare commodities as greatly stimulating a later wartime economy that not only boomed but diversified beyond tobacco. In the meantime, one reason it took so long to settle the Piersey estate was that Samuel Matthews had married Frances (Greville-West) Piersey in 1628. Matthews, we find, was trying to build a fort at Point Comfort which,

although done by public commission, was completed largely through private contract, as was Yeardley's Fort. The Point Comfort fort was completed in 1632, almost certainly by the grabbing up of Yeardley and Piersey's (Charles City and Henrico boroughs) publicly owned artillery and gunpowder stores (Jester and Hiden 265-266; Weinert and Arthur 1978:8).

### **SUMMARY OF THE HISTORIC CONTEXT PLUGGED INTO THE CULTURAL LANDSCAPE**

With as little fanfare as possible, let us pause to grasp the social significance of Flowerdew and Weyanoke's owners between 1619 and 1628. In all, Piersey could be fairly reasonably described as Virginia's first and foremost indigenous successful frontier businessman between 1616 and 1628. If we bracket Yeardley's career as the son of a London tailor, and note that we was but one of many young Captains to arrive in Virginia, then follow him to his Governorship of Virginia in 1619–21 and again in 1626–27 as a titled knight, we can call Yeardley the most successful rising indigenous soldier, politician, administrator, and comprehensively "military entrepreneur" created in the crucible of the Virginia frontier between 1610 and 1627.

In sum, therefore, if we contextualize Flowerdew, it is possible to accurately describe the archaeological complex between 44PG64 and 44PG65 as physical evidence of the cognitive visions of the very first self-made rural English tobacco and corn barons, "river barons," or (if the reader prefers) "Chieftanes" Virginia ever produced—namely Sir George Yeardley and



Abraham Piersey. That these wealthy large-scale planters existed about 60 years before we are told such things occurred and achieved their commercial (Piersey), social, political, and military ascendancy (Yeardley) predominantly by white indentured servant labor, is extremely important to understanding and modeling a balanced conceptualization of the full development of elite Chesapeake plantations before the substantial introduction of slavery and the allegedly new Palladian villas of the great Virginia aristocrats of the 18<sup>th</sup>-century (Kulikoff 1986; Issac 1982).

Looking at their built landscape, what is already strikingly different for us is not how similar this settlement is to Ulster towns (Deetz 1993), but rather how essentially different this settlement is from Ulster plantations. At least in terms of town planning, there would be agglomerated occupants of Ulster bilinear streets or an urban center strung out along a road on half-mile centers or less that stretches roughly 3.5 miles long across the macro-plantation in a series of tenant farms (Flowerdew side, particular plantation) that breaks into clusters of rest areas and tenant farms (Weyanoke, borough land). These little semi-independent enclaves that commercially reward the plantation owners, Charles City Corporation, and themselves (tenants get a share of the profits) support an unfortified separate mansion and garden plot (Yeardley or Piersey) or glebe house (Grivell Pooley), and a small-scale regional administrative center within the fort occupied by a militia Captain

(Rossingham or Sharpe) and a businessman (Rossingham, Jefferson, or symbolically Piersey).

These tenants are colonists who are more psychologically at ease, physically healthier, and therefore and more productive out on their own away from urban areas. Although they do not own the property, and in some real ways neither do Yeardley (borough land and borough fort) or Piersey (bad or false credit not tested until his death), the tenants have been given a little piece of what they want—a share in the profits and at least some control over the day-to-day activities and arrangements of their rented tenant land. This we suspect is because, in the post-Renaissance credo, they as men see themselves as the true measure of their own independent destiny.

The fort in turn protects the entire upriver community and, within a less-than-desirable trade port (tidal shoals), it markets both upriver goods and its own to either Dutch- (Stanley Flowerdew and Yeardley) or English-trade monopoly ships (Piersey). The conception of the "mongrel baroque landscape" is markedly similar to prior public corporations efforts, especially at Bermuda Hundred and Bermuda City. This is a working compromise between defensive needs, commercial needs, previous Native American improvements, and the Renaissance-driven atomistic desires of the colonists. Except for possibly the mansion house (44PG64), most conceptual aspects of the macro-plantation (the strung-out layout, the focal point defined by a redoubt, windmill, and fort, the railed-in peninsula) are readily identified as

Yeardley's and are strongly influenced by strings of garrisoned redoubts and forts in the Low Countries and Native American dispersed hamlets, whose focal point is also a palisaded area within or near the English fort (44PG65).

The most humanistic and idealistic aspects of the ideo-technic ideology of the plantation are also Yeardley's through his patriotic support of free trade and representative Assembly, as well as English dominance of Native American land, both derived from a Machiavellian (militant nationalism by the consent of the people) and Dutch republican spirit (anti-absolute and anti-Royalist: authority). He did not want non-indigenous and authoritarian professional soldiers like John Smith to take over Virginia again, so he strengthened the militia to include military veterans and gentry. It was this very system, together with French intervention, which finally threw the British out in 1781. Yeardley, of course knew Virginia was too weak to resist the Crown, but he fought to preserve it as a politically legitimate part of England—taxation with representation and a regional voice in the colonial leadership.

Yet Yeardley lost his very fragile plantation to commercial bungling since his plantation overseer was a militia sergeant, not a planter, and he was literally one failed tobacco crop away from disaster. Consequently, this once idealistic plantation model became the seat of purely English trade monopoly and purely English capitalism through Piersey, as would be the case until 1776, based on the classically inspired Roman Imperial model.

Despite building on borrowed credit and extortion, Piersey nonetheless soundly maintained the best commercial and military holding of the Royal English Colony (1624–28) and greatly stimulated a regional cash-and-carry economy in creative ways in the process.

It is entirely possible, therefore, that the fort churned up or otherwise consumed much in the alleged financial greed attributed to Yeardley and Piersey by Morgan (1975:119–121) and Fausz (1977). Given the pathetic financial conditions of the colony as a private plantation, hypothetically, it may have been systematically compelled to act as a public corporation-fortified town. (See Figure 14.)

One suspects this means that a sort of state capitalism was activated through these men's private enterprise to support the fort since they operated Weyanoke as a business whose borough land profits managed Flowerdew based Charles City government and its militia garrison. This is a curious public and private mixture that may recall a sort of modern capitalist version of feudalism and the odd paradigm of the Elizabethan soldier himself as a, "strange mixture of private contractor and public servant."



Figure 14

Similar tactical positions to Yardley Fort. (Top) The Great Dutch wall of 1605. Note arrow pointing to fort in tact zone. (Bottom) Lee Neck Battery on the Thames, England ca. 1588. Note arrow, the battery targets tact zone. (Top) Parker 1988:Fig. 14. (Bottom) Walker, 1981.

## THE TOWN PLAN BASED ON ARCHAEOLOGY

In the sections above the author has concentrated on the frequently colorful and contentious history of the development of Flowerdew's Charles City borough fort and associated economic development during the 1617–1632 period. We also focused briefly on the trans-river or macro-plantation's settlement landscape spanning Flowerdew and Weyanoke. In this section we will look at the key archaeological features at the Yeardley/Piersey Complex with an eye to isolate mental template and town design especially in relation to architectural layout. (See Figure 15). The excavations at 44PG64 associated with minister Grivell Polley's glebe house or Piersey's Manor were conducted by the College of William and Mary (1971–78) (manor completely excavated, most of garden fence excavated, redoubt found and mapped) and the University of California (1982–93) (more work on redoubt, discovery of saw pit, more of garden fence) (all periodically) (Barka 1976; Carson et al. 1981; Deetz 1993:28–31, 35–38; Hodges 1993:195–199). 44PG65 was excavated entirely by the College of William and Mary (1971–78) (Barka 1975; Carson et al. 1981; Hodges 1987, 1993:186–195, 1995). (See Figure 16.) University of Virginia archaeologists working with James Deetz found the 1621 Windmill in 1994.

The accurate illustration of this area was greatly facilitated by William and Mary's creation of an AGNU Master Grid between 1971 and 1975 (see

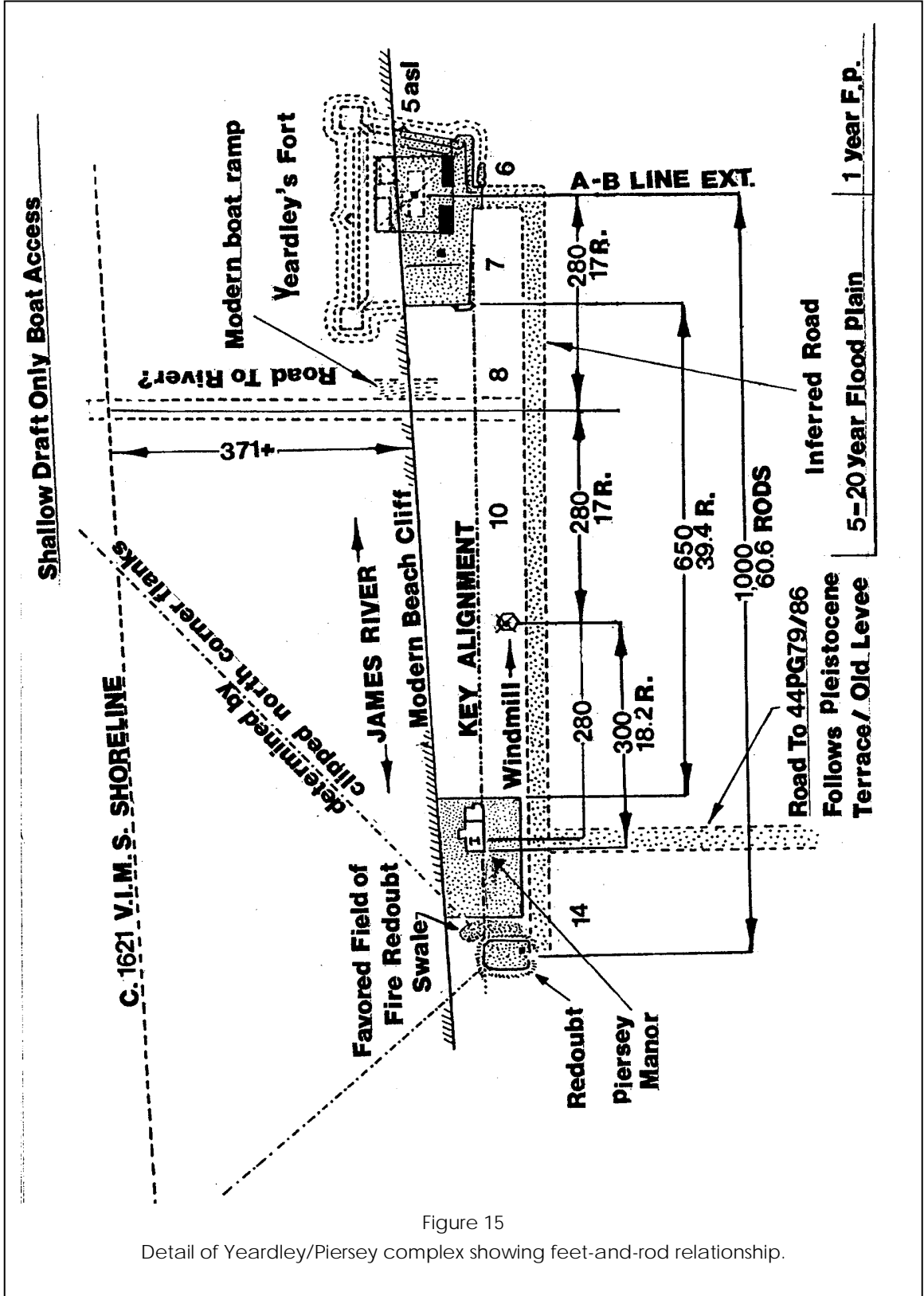


Figure 15  
Detail of Yeardley/Piersey complex showing feet-and-rod relationship.

Barka 1976; Hodges 1993:Figure 1, 195–199). Figure 15 illustrates the basic archaeological plan of the area spanning 44PG64, Piersey's Manor and

garden plot, and

44PG65 Yeardley's

Fort. In the

illustration, the top

of the drawing is

north, the left west,

the right east, and

the bottom south.

On this drawing,

isolated cardinal

numbers, 14', 8', 7',

6', and 5' represent

the elevation of the

landform at above

sea level (asl)

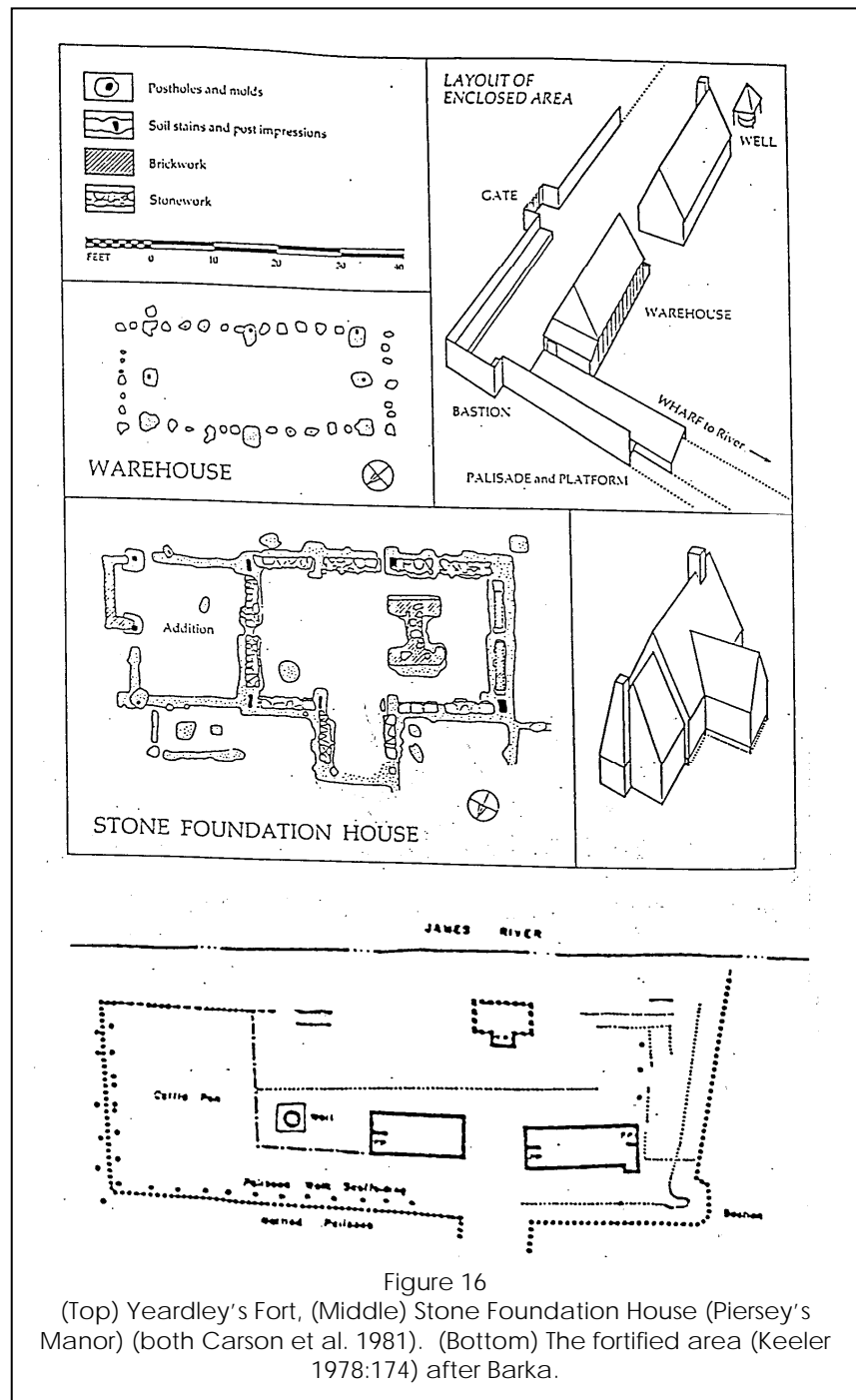
typically once the

modern plowzone

was removed. One

will notice

immediately that the Yeardley/Sharpe Redoubt and Piersey Manor are both





about 14 feet above sea level, whereas the fort is typically between 7 to 6 feet above sea level. The west half of the Fort is on a 5- to 20-year flood plain; the right half is within a one-year flood plain. There is a scarp running right across the site dropping out aboriginal post molds. This latter river scarp was possibly created by the "Great Gust" (Hurricane) of 1667 when the James took a shortcut around Windmill Point and surely destroyed any remaining earthworks (Morgan 1975:242).

In the vicinity of the fort there was about two feet of erosion prior to modern plowing, for a total destruction of 3 to 3.5 feet in depth. Despite the low elevation of the fort, roughly about the same amount of fort trench depth was found, indicating that it was built on a contemporaneous sloping landform—probably the last remnants of the original first terrace. The presence of two Native American palisades within or immediately near the fort indicates that, in the early 17<sup>th</sup> century, it was a very commodious place; that is, prior to sea level rise of 1 foot every 100 years. Yeardeley probably chose this sloping area to help drain posts in the fort trenches.

The low topographic elevation of the fort, which is intimate with a riverine environment, is a very Dutch choice of site in that it takes advantage of water and swamps to the east for defenses and provided a low target for enemy artillerists (Duffy 1979:91–93).

Because of this low elevation, Dr. Barka and Levorette Gregory felt the Fort was integral to the river dock area. The present author has shifted it to the west to make it compatible with the present river "put in" or boat ramp still used by farmers today for launching small boats (see Carson et al. 1981:149, 152). According to the Virginia Institute of Marine Science, the 17<sup>th</sup>-century shoreline was about 371 feet away from the present shoreline (Byrne and Anderson 1977:47). The actual dock area is purely hypothetical, but the reader should be advised this is the most logical place for launching boats within the entire Flowerdew peninsula topographic entity as there are beach cliffs elsewhere. Moreover, this ramp area is still used today within feet of the fort. In this drawing the author has placed the road to the river arbitrarily in between the 1621 windmill (280 feet, 17 rods east) and Fort entrance (17 rods west), where a conjectural road leads to it. Before leaving the dock area discussion, it is important to remember that very heavy objects are being dragged or carted to land here. This would include sledges carrying demi-culvern barrels weighting 3,400 pounds each, and cartloads of heavy siltstone (initially used as ballast on ships), used for the interrupted sill of Piersey's Manor. In brief, such heavy objects were not to be found anywhere else on the floodplain among the many sites surveyed on the property, further anchoring our dock vicinity interpretation.

While the author first identified the layout in feet, study of this plan indicates the key architectural units were clearly laid out in rods (16.5 feet)

(Hodges 1993:Figure1). The most crystal-clear and striking mathematically pure relationship is that between the entrance of the Fort and the Redoubt, which is 1,000 feet or 60.6 rods. These two units were added together between 1622–23 (Yeardley's Fort) and 1626 (Piersey's Redoubt) and were hypothetically laid out by either Yeardley (Marshall or Deputy Marshall) or Samuel Sharp (Plantation Commander) and the Charles City militia. The author obtained this figure by extending the A-B line from the north center of the hearth in Structure 3 (plantation commander's house) within the fort to between the two most central fort gateposts. These reference marks have already been established in a previous publication and will be explained in greater detail below (Hodges 1993). The 60-rod line is suspected to be the sort of thing one would get when trained military people were present.

Another potential planner may have been none other than the bright young surveyor William Claiborne. Claiborne was the very person we observed in Chapter 1, who laid out the presumed bi-linear extension of James Fort known as New Town (Jester and Hiden 1956:131–133). So there is nothing strained in either our use of him here since we know that not only was there a campaign to create "orderly villages" by August, 1622, but by November 1623—especially on 2,000-acre tracts of public corporation land—there were plans for "Citties and fortified Townes are to be built" on behalf of the Virginia Company when Flowerdew was rolled over as the main seat for Charles City public corporation (Kingsbury 1906 II:482–483; 1933:669).

Notably Yeardley presumably lived in a town lot probably surveyed in by Claiborne in 1621 (Foreman 1938). This surveyor joined the council in 1623, and we know he became very close to Yeardley, even to witnessing his will along with Abraham Piersey (Fausz 1988:59-76; Turman 1959:183–185).

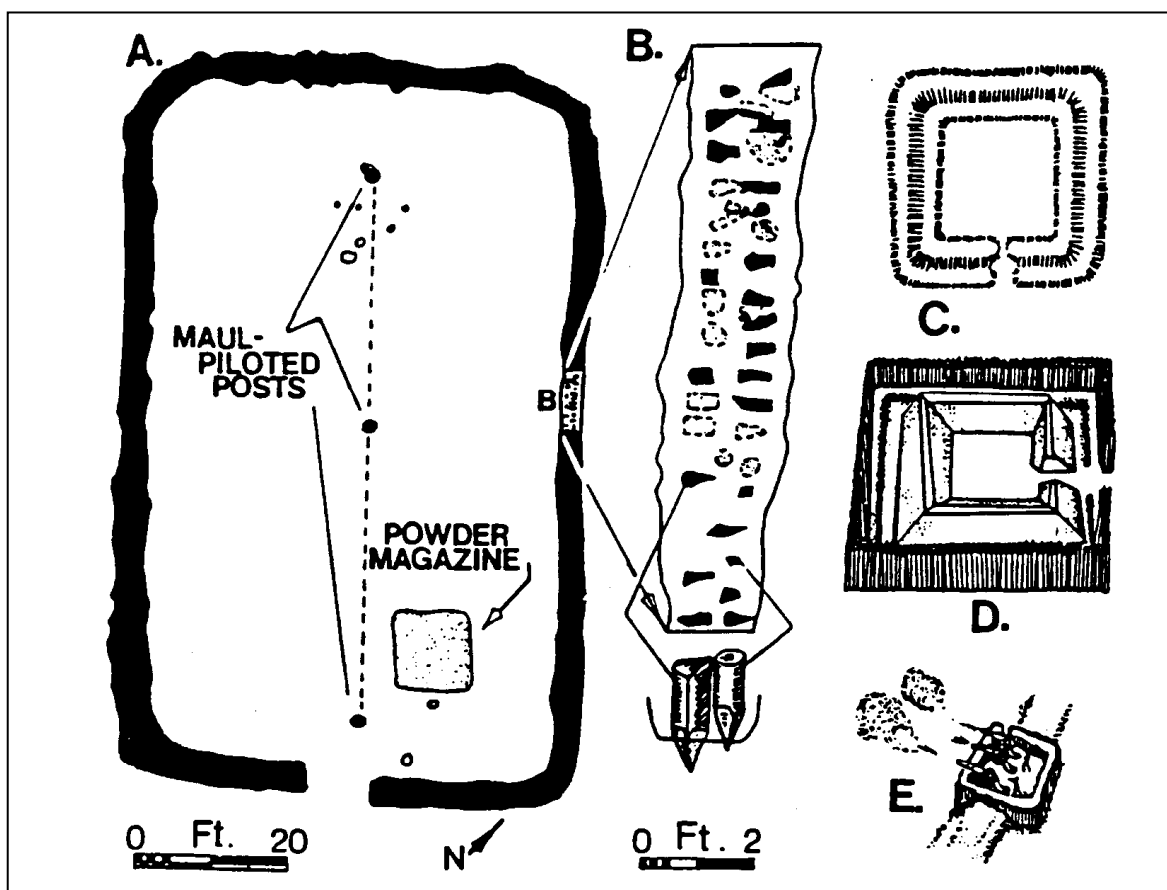
The windmill built by Sir George Yeardley in 1621 was located in 1994. It consisted of a sextagon of large rotted timber molds that were clamped together with massive wrought iron staples. This huge footing was set into a prepared builder's trench. At present, the author is unable to provide a foot-by-foot precise measurement of how this fits precisely into the master plan, but we do know that it fits within AGNU grid units that are about 300 feet or 18.2 rods east the entrance of the Piersey Manor (Flowerdew Hundred Foundation archives). The windmill appears to be parallel (slightly north of line) to the southern line of the garden plot fence of the Piersey manor and slightly south of the entrance to Yeardley's Fort.

In the drawing the author has added hypothetical roads to reflect rational movement between the archaeologically defined units. Of these, the most clearly defined is an inferred roadway following a Pleistocene Terrace or old river levee that is 14 feet above sea level. This terrace runs straight to 44PG79 and 44PG86 with the former 2,700 feet south of 44PG64 and the latter 2,700 feet south of 44PG79. A "T" in this road has been inferred to be opposite the lobby entrance into Piersey's Manor (south side of H-shaped hearth) (pers. comm. Henry Glassie). The west leg of the "T" leads to the

redoubt entrance. The right leg of the "T" leads past the windmill to the fort entrance. A north "T" runs toward the river to a fort and redoubt-protected dock (described briefly above).

Modest attempts at architecturally harmonizing the agglomeration are labeled "Key Alignment." The south curtain wall of the fort is in line with the south facade of Piersey's Manor. In turn, this same line defines the north curtain wall of the redoubt. The meaning of this alignment is simple—Piersey's Manor is well secured between two military brackets that can protect it with artillery (or in the case of the redoubt, with artillery and musketry).

From the overall plan described above, it is possible to tune the primary field of fire of the redoubt. Clipped corners on the northwest and northeast side of the redoubt not only eliminate "dead ground" (areas near the redoubt where the occupants cannot see or shoot out, but they define that the cannon (one or two) typically faced the river in contemporary disposition. See Figure 17 (Hodges 1993:Figure 4.) The details of the redoubt are shown in Figure 18.



**FIGURE 4.** The Yeardley/Sharp Redoubt: A. Plan of Feature, B. Plan Detail of Post Molds in Trench, C. Earthworks at the Scot's Redoubt (Ramm et al. 1964:38), D. Redoubt in Contemporary Print (Folger Shakespeare Library n.d.), and E. Redoubt at Flanders 1574 (Padfield 1988:36).

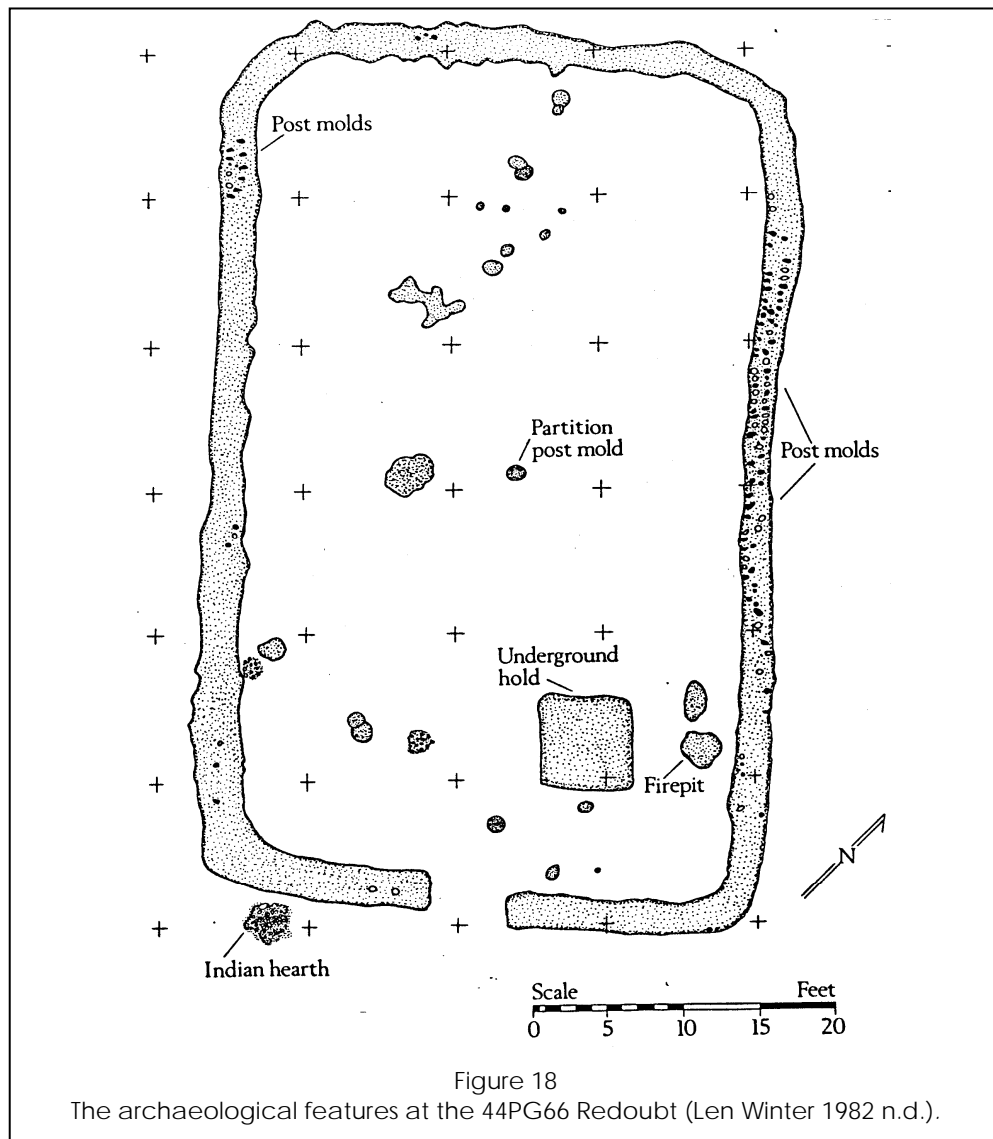
Figure 17  
The 44PG64 Redoubt from Hodges 1993:Fig. 4.

We are able to infer this because of the location of Yeardley's windmill. Unless it was moved in the 1622–25 period, it would make flank fire supporting the fort somewhat prohibitive; nonetheless, fire to the southeast would be possible. The Piersey manor would make fire restrictive in some locations to the northwest. Despite this, if one thinks about it, neither the windmill nor the Piersey manor could be placed anywhere north or south of where they are without greatly compromising the bracketed fortifications. Yeardley's fort can flank the south and north side of the Piersey manor, the redoubt can flank the south and west sides of the manor and portions of its north. Consequently, the area between the redoubt and fort become a sort of "safe zone" for residential and commercial activity (see also Deetz 1993:41). Here, in addition to the mill, a sawpit and "impaled" kitchen garden features were probably present. Also pre-war calf pens can be anticipated, which were closely associated with dairying activities.

No one knows exactly how the trans-peninsula palisade intersects the western end of the Yeardley/Piersey Complex presumably at the redoubt. Traces of closely set "impaled" sapling molds (larger than typical aboriginal molds) were found penetrating sub-soil on a terrace rise to the south of the redoubt, but the author was not allowed to map or pursue this by then-current Flowerdew Foundation staff in the 1980s. The sapling traces may have also been garden features, and the most logical position for the pale

here would run toward 44PG68 which, along with 44PG82, may have been "bordering houses"—that is, houses set into the trans-peninsula palisade.

In sum, the Yeardley/Piersey Complex is not a perfect defensive package, but it is seemingly not without its general rational merits. Given that this plantation is engaged in more than defense, it is a fairly good master plan for a defended commercial and administrative agglomeration.





Is this a town?—well, sort of for the Chesapeake. But mostly it is an administrative center and defensive refuge for the entire macro-plantation. Settlers from Weyanoke would rapidly descend down roads across a ferry and, together with Flowerdew tenants, down roads to rapidly retreat into the redoubt and Fort if attacked by European treats. This complex is not like any Ulster settlement agglomerations we are presently familiar with. It is an essentially linear layout and not a bilinear layout centered below a central bawn. The administrative agglomeration at Flowerdew is bi-polar or bi-nodal rather than bi-linear. Its east node is the fort where Yeardley and Piersey housed most of their servants and the fort garrison. Its west node is the Piersey Manor and Redoubt. Its main street (running east to west) presently has nothing below it to the south. A single commercial feature, the windmill, lies between these two nodes. It spatially trends toward the Piersey Manor (or Yeardley Mansion), where it is only 300 feet east of the entrance. In contrast, the windmill is 560 feet west of the fort entrance. This greater distance almost certainly reflects the zone of what the contemporary English called a "Campania" (an Italian-derived word spelled *campagna* in better dictionaries). The settlers and militia had to clear a "campania" or "plaine Champain" (that is, cutting down all visual and physical obstacles) anyway to create an unobstructed field of fire around Yeardley's Fort, so it is likely they were more than tempted to "kill two birds with one stone" by using these same materials to build the fort. English soldier Barret (1969:128) explains

that the campania was the "field without the Cittie ought to be raised or plaine"—that is, cleared for 500 to 1,000 paces. Using the windmill as a reference point, at two feet per pace, Yeardley's downscaled vernacular campania was 280 paces (or 560 feet). Again, military planning and town planning were one in the same here.

The linear rather than ordinal bi-linear settlement plan is inferred by this author to be related to Anglo-Dutch military practice seen in Holland in the great Dutch Wall and at Bermuda Hundred as described by John Rolfe (see discussion with citations above).

#### **YEARDLEY'S FORT**

While the defensive linear nature of the settlement and the presence of a campania aren't totally satisfying clues, together they help us infer a basic context for the inception of the beginnings of the Yeardley Fort complex which are considerably strengthened by its historic context. In 1621, Yeardley retired as governor, and built the windmill indicating that Flowerdew received his undivided attention then. Also in 1621, three major things occurred while Yeardley was still governor: (1) During the Jack the Feather incident (the killing of a famous Powhatan war chief) Opechancanough completely lost his temper in front of Yeardley, indicating his true and unremitting hatred of the English intruders. (2) Yeardley found out from spies that the Powhatan Chiefdom was collecting plant materials to make poison arrows in order to compete with muskets. (3) In view of the

above (1 and 2), Yeardley personally visited every plantation and, "tooke a generall muster of all the men and their armes, [and] gave straight charge yt [to] watch and warde," against imminent and potentially explosive Indian hostilities (Kingsbury 1935 3:586, 1935 4:10; Rountree 1990:68–73). In short, this activity postponed the "Massacre" (a successful surprise attack) by a year and made Yeardley a very popular leader when it did occur in 1622 since while still in office he told everyone in effect "all hell was going to break loose" sooner or later.

One does not "watch and warde" well from a wide open, unenclosed administrative seat and labor-housing concentration. Consequently, when Flowerdew received Yeardley's undivided attention in 1621, he built a fortification which we know from our historic context was first palisaded (1621–22); then, by the winter of 1622–1623, some portions were built of "trench and pallisadoe" which we know from both the historic context and modern archaeology (Hodges 1993:186–195; Kingsbury 1906 2:381–385). Of course the palisaded phase could have been built between 1619 and 1621 following a generalized Ulster model as described by Garvan (1951), Reps (1972) and Noel Hume (1981; 1991), but then fortified settlements were also built by the Spanish and French as a logical extension of the European Renaissance colonial expansion (Cumming et al. 1974; Reps 1972). So what the author is saying here is that whether or not you think the palisades were

built between 1619 and 1622, we can be certain that by 1621–22 Yeardley had every reason to palisade and did just that.

One of Parker Potter's (1992:10) uses of mid-range theory suggests that it is the "organizational behavior" of the original cultural protagonists that allow us to more clearly see the documentary records in their own terms. Thus far we have seen that only when Yeardley was in authority as acting Marshall of Virginia (1622–23) and Governor (1626–27) is there any serious hint of a fortification at Flowerdew. These appear through such things as references to "mounted" ordnance, which go hand in hand with "trenches" (earthworks), and regional gunpowder repositories associated with a militia effort in 1622 to 1623. It also occurs through court documentation in 1626, also denoting militia fortification efforts that are ignored in the Muster of 1624–5. Ironically, 1624–25 is not the period of the royal takeover of the colony when militia efforts were deliberately obfuscated by the crown up to and including the actual censorship of documents. Thus, the documentation of the accomplishments and behavioral organization of the Virginia militia appears to reflect the changes in the political organization of Virginia itself.

In any case, following Potter's reasoning from above, militia organization is clearly the key organizational behavioral framework which we should be seeing in this fortification, and how this relates to a town center might reveal some of the fundamental aspects of a capitalist society its social

hierarchy and the technological subsystems that were required to define it as an architectural statement.

Figure 19 shows the enclosed settlement as recorded in 1977 to give the reader an idea of what the archaeological plan looks like before more formal structural analysis (Barka 1993).

Figure 20 shows the basic identification of the fort's features with minimal structural analysis.

### **The Fort Master Plan**

According to contemporary English soldier Davies, in English military protocol it was the captain who was expected to design and build the fort, a fort that would include, according to the Jamestown instructions, a variety of houses and a market place given a common spatial ordering principle (Brown 1890 I:79–85; Davies 1619:122; Purchas 1926 19:55)). In other words, the sum of the parts of a frontier fortification is a miniature defensible town or "Central Place" literally and figuratively. According to military engineer Digges (1579:69), the captain or senior officer could not perform his planning and fortification duties without knowledge of proportion, "and the more perfection they can have in this science, the more speedily & with lesse staggering shal they be able to discharge their duetie, & shal not neede to

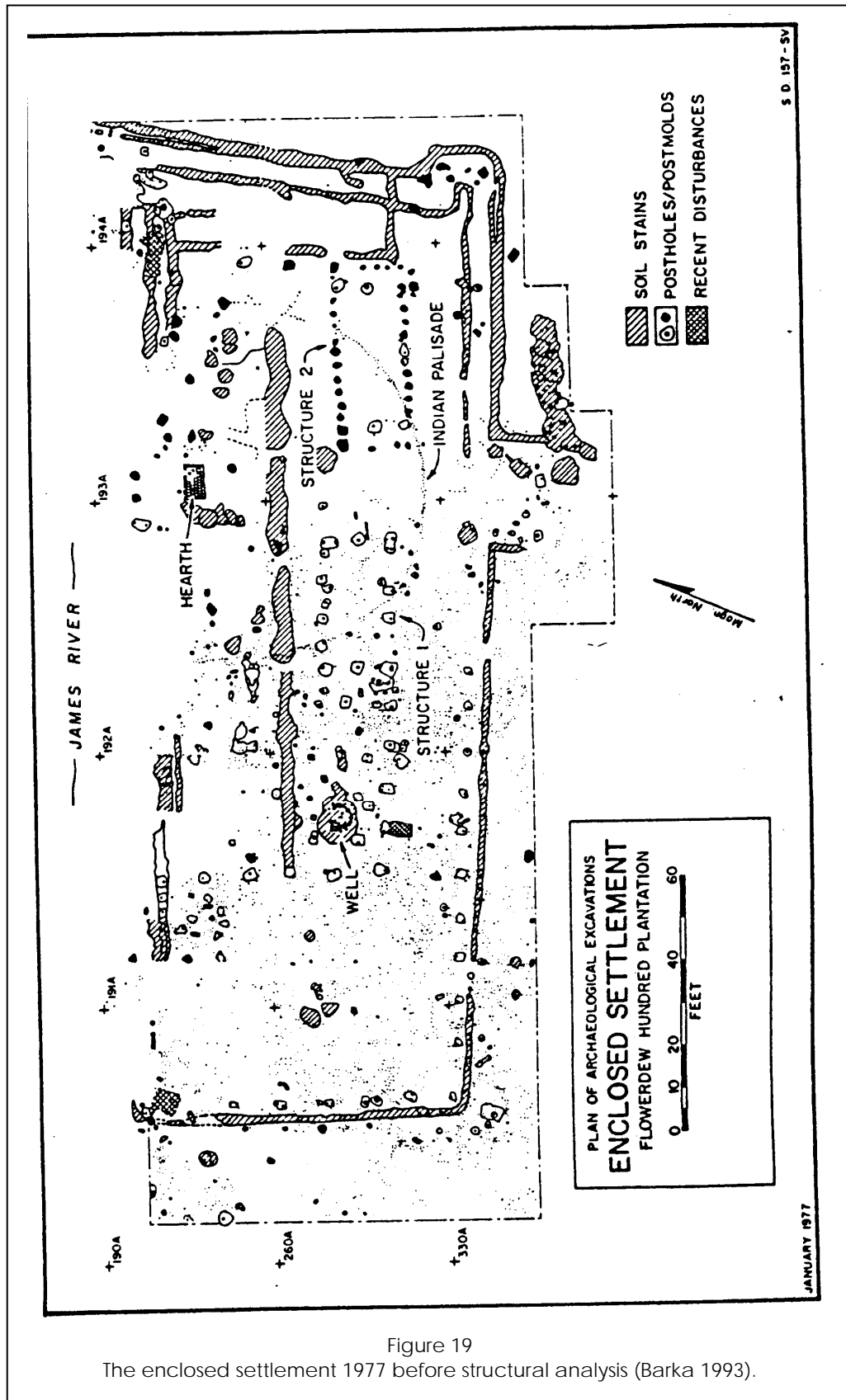


Figure 19  
The enclosed settlement 1977 before structural analysis (Barka 1993).

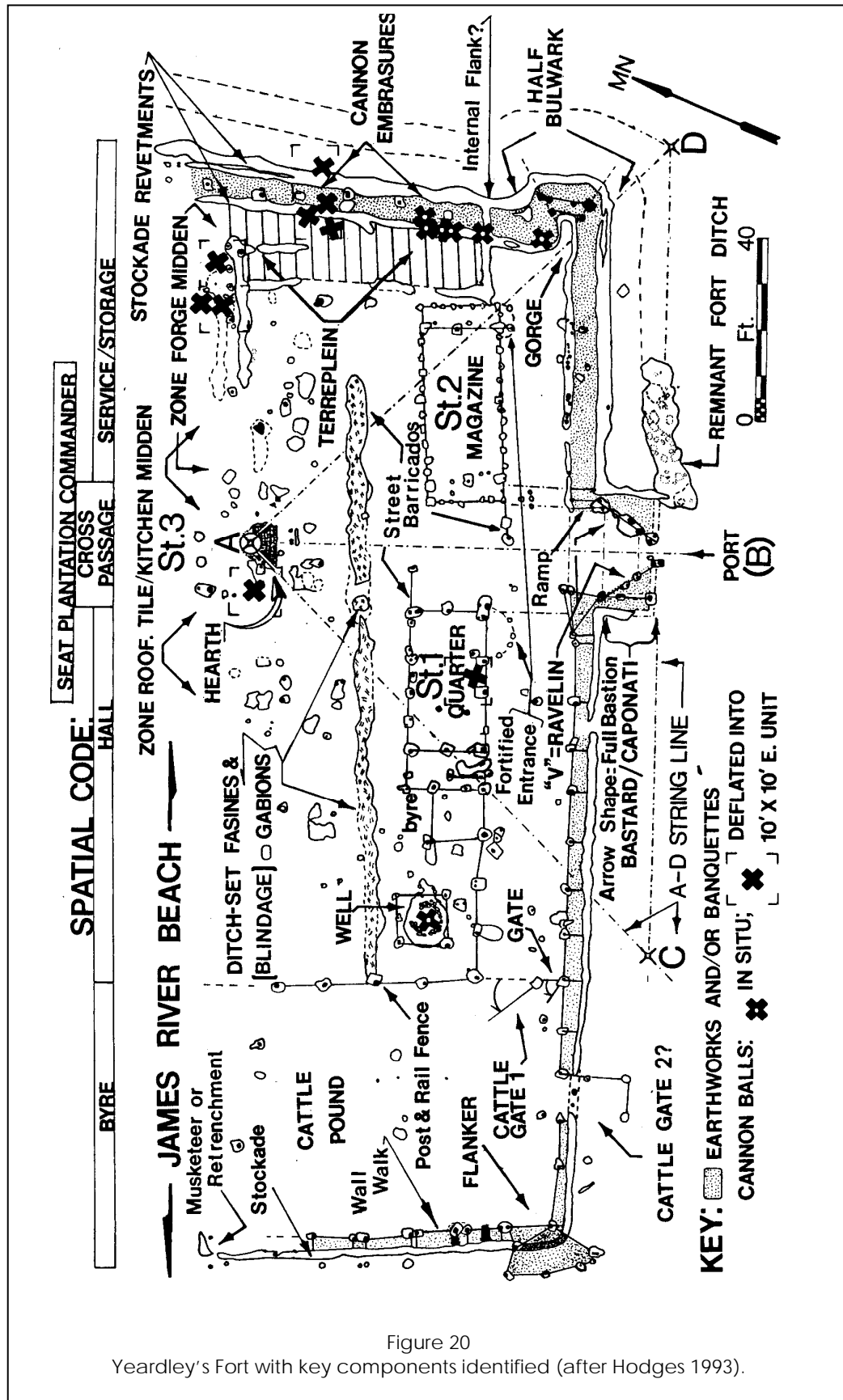


Figure 20  
 Yeardeley's Fort with key components identified (after Hodges 1993).

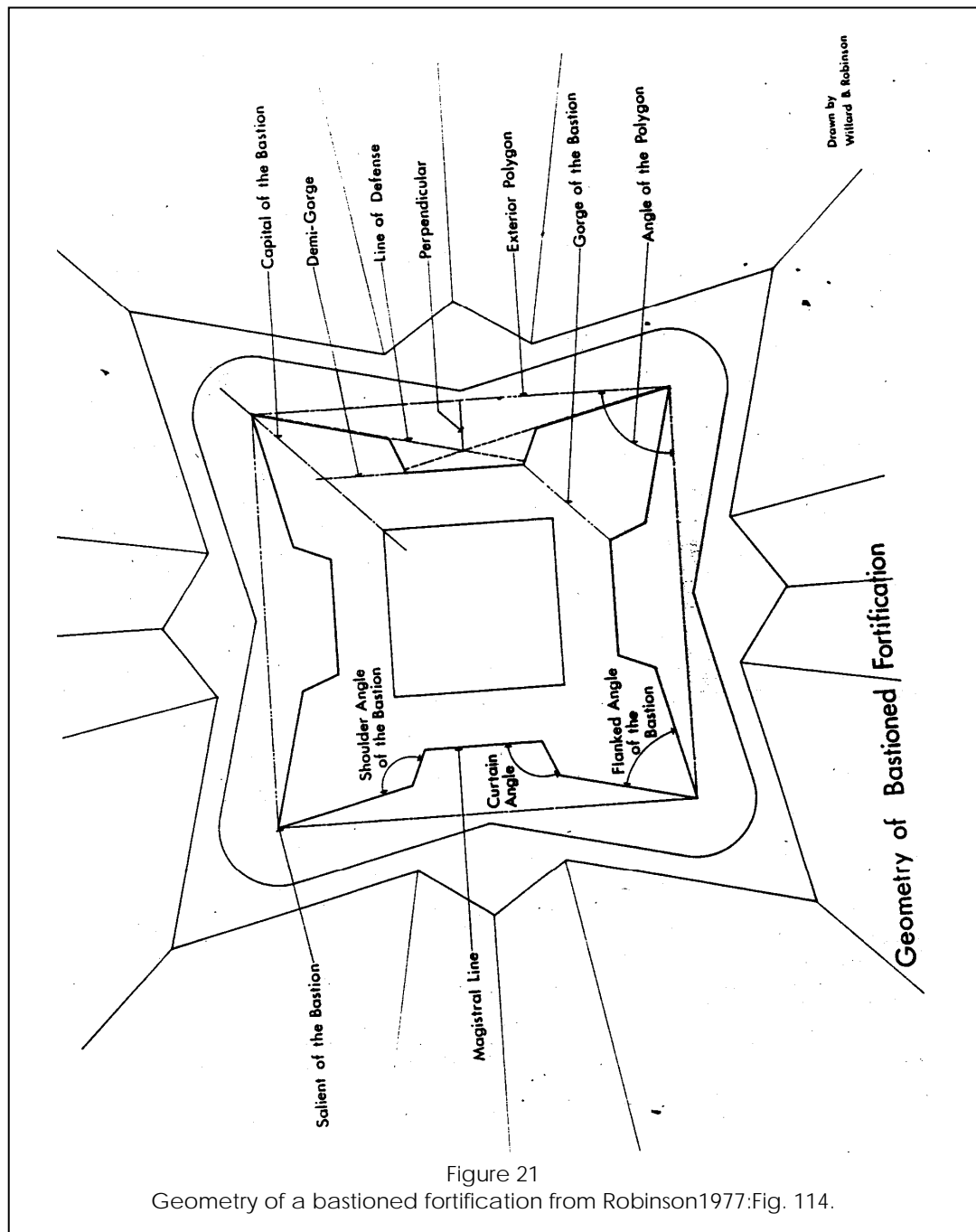
rely upon the direction of any servant or any other hired person." From this information, we will presume that Yeardley designed the fort.

When Yeardley's commanding officer, Sir Thomas Gates, set out to rebuild James Fort largely from scratch in 1610, he "measured" the ground before beginning to fortify. Besides the dimensions of the new church, the only empirical information pertaining to his fort master plan that has survived pertains to the plan of the fort itself. Gate's Fort perimeters consisted of two "lines" or "curtain" (walls) 100 yards long (east and west) and one wall (south) 140 yards long. This indicates that the fort was based on the Pythagorean Theorem of right triangles, resulting in a right equilateral triangular fort plan (Purchas 1926 19:55; Wright 1964:79). This information suggests that certain geometric principles will probably be at work in Yeardley's fort, as is typical of Renaissance "works" (forts). Here the reader is reminded that in August 1622, Sandys recommended that the seven palisaded strongholds, should consist of "compact and orderly villages."

In fact, there was an abundance of skilled geometry experts and mathematicians at this site, especially through Captain Rostingham and Captain Sharp, who would need to know basic geometry and trigonometry in order to even pretend to operate the cannon placed within 44PG65 by 1622–23. In 1639, English artilleryist Norton (1973:24–26) observed that the definition of, "Geometry is the Art to measure well, and is the Sinewes of the Art of Artillerie." Elsewhere, he provides instructions on how to make



various right triangles, and shows repeatedly how fortification is governed by principles of geometry. Figure 21 shows the complex geometry of a bastioned fortification (Robinson 1977:Figure 114).



Let us now focus on Yeardley's main labor agglomeration, administrative center, and cachement zone that we have deemed Yeardley's Fort. Readers not familiar with Yeardley's fort should be told here that 2/5s to 1/2 of the fort has been destroyed by the James River. The most basic identification of the fort components are shown in Figure 22; here the reader should note the A-B line referred to above which links the fort entrance to the redoubt entrance. The A-B line is a bisector or vertex of the equilateral right triangle A-C-D. Note that point A is centered directly above the hearth of Structure 3 (a partially block-founded structure). Lines A-C and A-D pass through the corner posts of Structures 1 and 2, the forts quarter and magazine (storehouse), respectively.

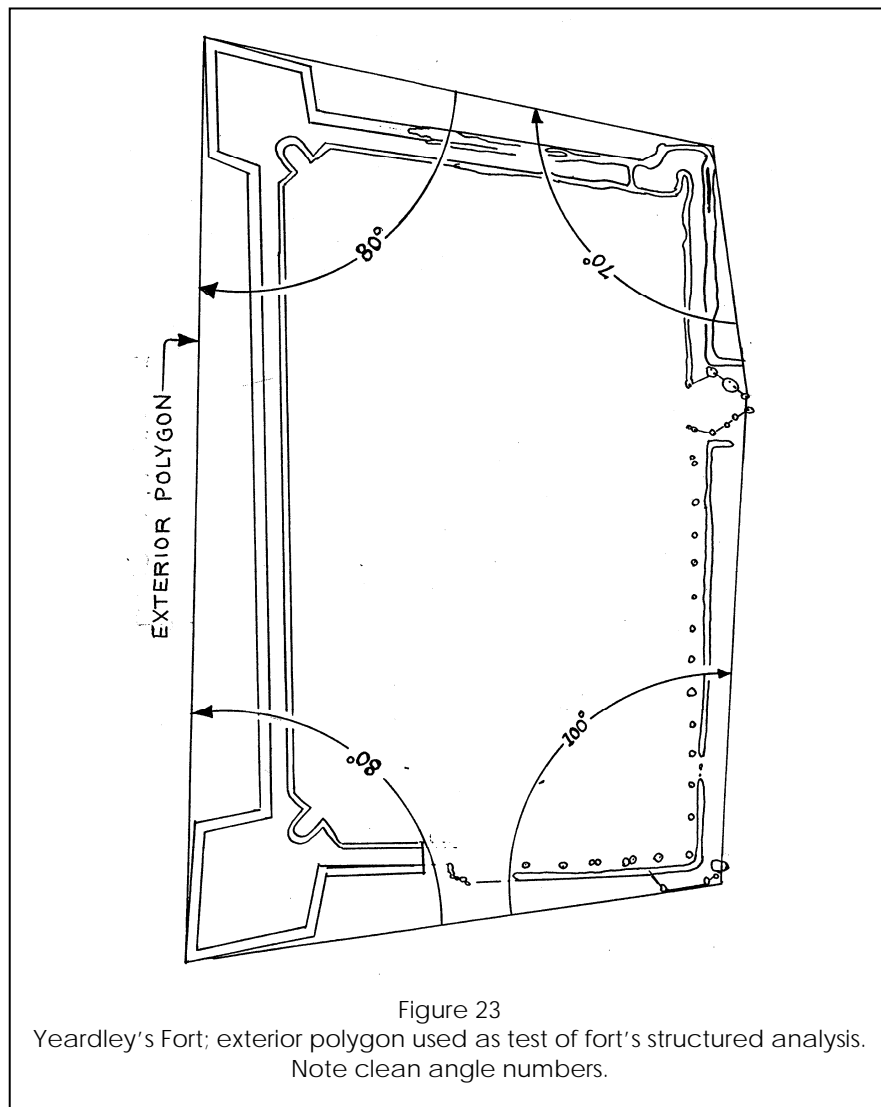
### **The Known and Hypothetical Fort Master Plan**

In earlier manuscript versions, the author has gone into great detail in reference to the master plan throughout the fort text so that the poor reader is forced to return over and over again to finite drawings of the master plan to check the integrity of interpretive inferences. Knowing that highly detailed descriptions are available for readers who want more (which the author will be happy to provide), let us dispose of the entire master plan in a more streamlined fashion here. In this master plan (see Figure 6) (hereafter the "master grid"), we are presently only interested in the spatial, functional, and geometric relationships between improvements.



The reader might find it interesting to know that one can readily follow how the author decoded this master plan simply by following the exhaustion of the alphabet beginning with the A-B reference points presented above.

One method of decoding the fort plan is shown in Figure 23, where the hypothetical completion of the fort is reinforced by the clean numbers of the angles within the exterior polygon which we got from Robinson's geometry of a bastion fort.

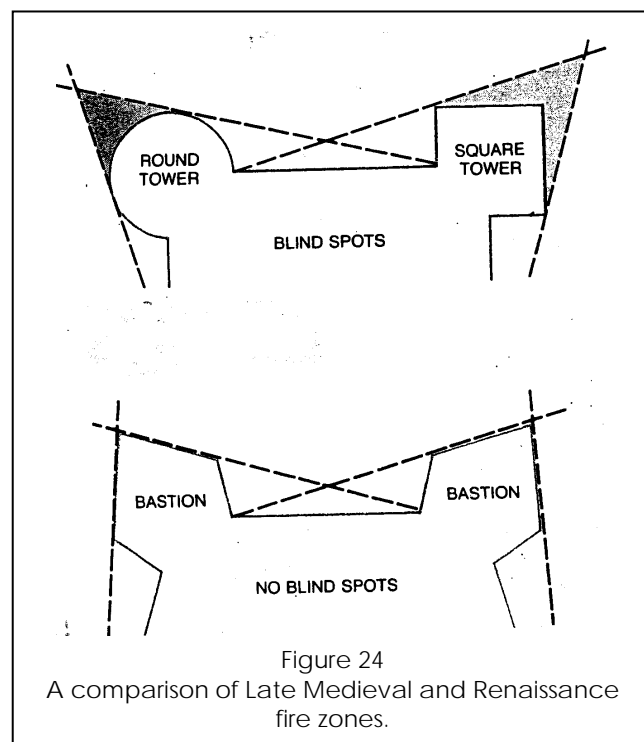


The reader will notice that the master grid shows both the known (defined by archaeology) and hypothetical completion of the master plan (for areas destroyed by the James River) based partially on the model of Magherafelt, in Ulster Ireland. In this drawing the reader will note a wheeled cross defines master grid points. The key reference point of the civil layout is defined as a circle with a cross. The key reference point of the defensive layout is a diamond with a cross. Showing all the points on the same drawing is a necessary evil here.

How did the author come up with this plan? While the master grid drawing is intimidating looking initially, when broken up into digestible pieces the reader will find it very useful in understanding the mental template behind its design. Moreover its basic simplicity will also become apparent. For instance, we know Yeardley was trying to eliminate “dead ground,” which are areas where blind spots might be present in the fort perimeter. Modern fortifications tried to eliminate these areas (see Figure 24).

In Figure 25 we are looking at three sequences of the fort which are intended to show the evolution of it from ca. 1619–22 (certainly 1622) to 1623 since our strengthened historic context shows there were no earthworks present at Flowerdew in 1622, but by the spring of 1623 earthworks and cannon were present. Additions to the fort are shown in heavy black lines from A-C.

In Figure 25a, we are looking at the hypothetical fortification during the fall to early winter of 1622. The key elements of the plan consist of an equilateral right triangle A-C-D which links the hearth of Structure 3 to the southwest hearth post of Structure 1 (A-C), and the Structure 3 hearth and



the southeast corner post of Structure 2 (a store or warehouse). If we take the right leg (A-D) of the triangle (A-C-D) so defined and extend it to the fortifications at exactly 100 feet, we hit the terminus of the flank angle of the half bulwark at point P2 (A-P2=100 feet). If we take the right leg (A-C) of the triangle (A-C-D) and extend it to exactly 100 feet, we get point P1 where the extended triangle hits the fort curtain (A-P1=100 feet). (See Figure 26.)

Besides a point on the curtain, what possible special reference point is P2, one might well ask? The meaning of the point is based on Yeardley's simplification of a "flanked redoubt" a sort of simple cartwheel-shaped fortification design so that one half bulwark or demi-bastion protects with flank fire only one wall of a quadrangular fort. Contemporary English fort engineer Paul Ive shows one such fortification with the basic design lines

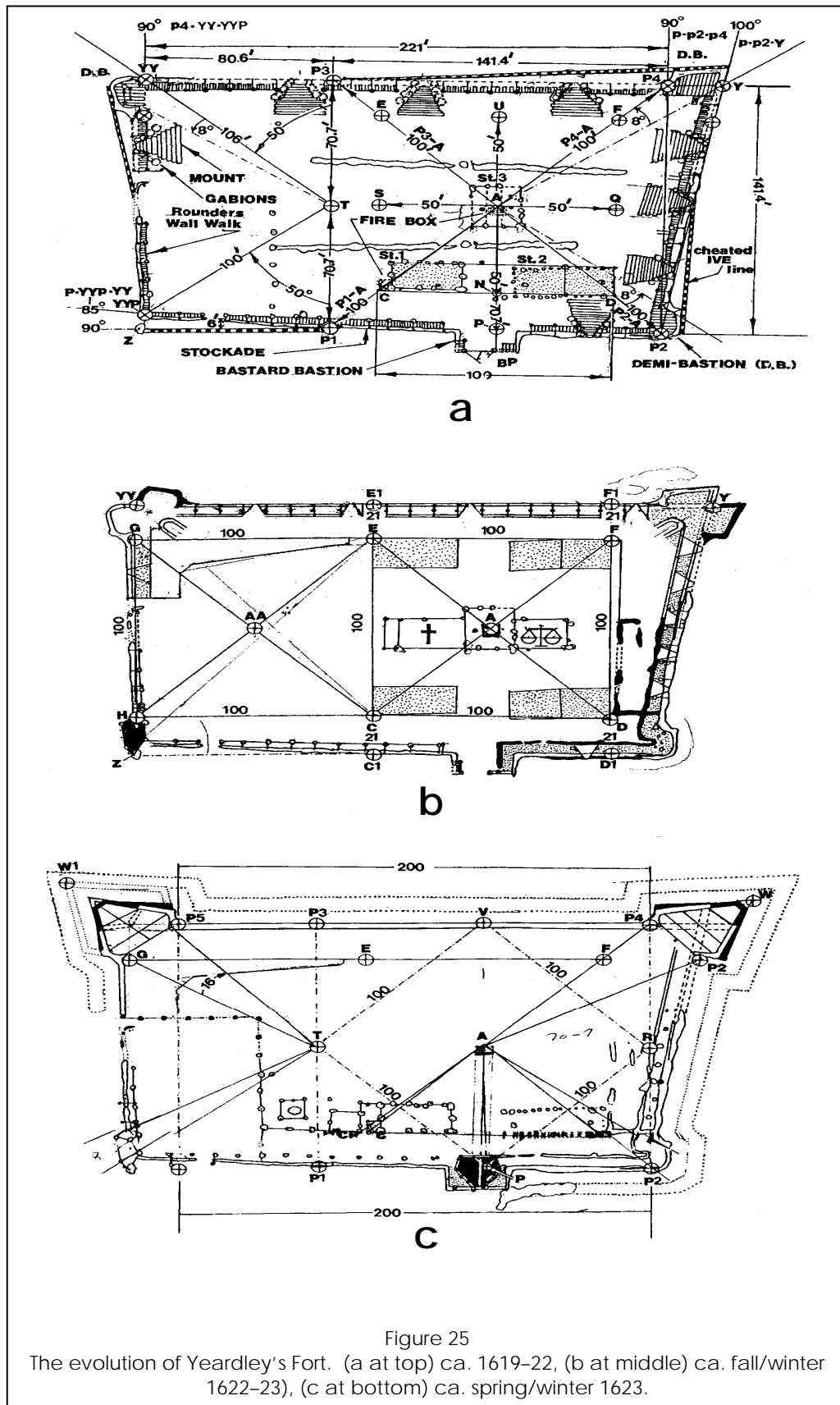


Figure 25  
 The evolution of Yearley's Fort. (a at top) ca. 1619-22, (b at middle) ca. fall/winter 1622-23, (c at bottom) ca. spring/winter 1623.



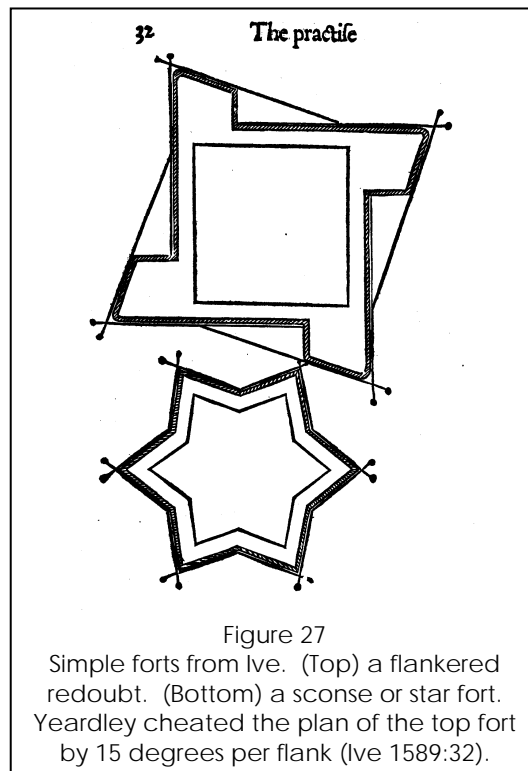


intact (see Figure 27). In terms of relative scale, Ive's demi-bastions are huge compared with Yeardley's impoverished works. Importantly, Ive shows 20-degree angles to define the expansion of his demi-bastions. Yeardley chose instead to "cheat" Ive's plan so that, at points like points P2 and P3, only then does the fort curtain contract inward toward each demi-bastion at a 5-degree angle. The author has shown these "cheated Ive lines" as dotted bars like a drawing scale. Since Ive is basing his plan on a square work, and we are dealing with a trapezoid, differences are going to occur.

The author has inferred that the missing corners of the fort (now in the James River) can be found by simply reversing the 100-foot lines (6.06 rods) A-P1 and AP2 to A-P3 and A-P4.

This gives us a square 141.4 feet by 141.4 feet and defined by points P1-P2-P3-P4.

To create an accurate reconstruction of the missing demi-bastions, we returned to the known archaeological plan. The surviving east side of the parapet trench (outer of two paired stockade revetments) is a 100-degree angle; so moving up this



line, we joined the P3-P4 line to create point Y, the terminus of the northeast

demi-bastion. The author has slightly stylized this demi-bastion to show what the known half bulwark probably looked like before it was eroded and plowed. In order to get the width of this demi-bastion, we observed that the known diameter of the southeast demi-bastion is 8 degrees north of the A-P2 line. So, to get an accurate restoration of the northeast demi-bastion, we made another 8-degree line south of the A-P4 line. To get the northwest demi-bastion, we returned to the master grid plan and struck an 8-degree line off YY and T. Notice that in this demi-bastion we have retained the style of the known southeast demi-bastion.

Let us complete a very basic description of the 1622 fort. During the 1622 period, there was no southwest demi-bastion because the bastard caponier protected the entire south curtain. Yeardley did install a full wall walk behind (hole set posts behind the southwest and west curtains) so soldiers could fire from an elevated planked platform. On the north and east wall which face the river, only relatively few hole-set posts were installed to create an elevated platform. These were at the center of each curtain between bastions and within the demi-bastions. Cannon were mounted on shabby platforms behind zonal areas of gabions. Yeardley created more of these than he had cannon (6) so artillery could be shifted around.

In figure 28 we are looking at the fort in a transition to an earthwork fort hypothetically during the fall and winter of 1622–23 when the second reply to Butler was made when "divers hath trenches" (Kingsbury 1906

2:381–385). The paired stockade revetments with the outer side consisting of a parapet and the inside consisting of a parade curtain should be noted when the fort is looked at, as these are associated with the earthworks.

This phase also allows us to learn more about a key portion of the master grid that animated the town plan such as it was. This was in order to administrate a profoundly impoverished Charles City borough which had lost all government and financially supporting borough lands, including possibly Weyanoke. Structure 3 has hypothetically sprouted two wings, one for a simple chapel and one for a courthouse. Two more buildings were added to the north. These were intended to create the architectural sense of a town square with the plantation commander's house—also resided in by Charles City borough minister Grivell Pooley—forming a central and hierarchal position. It was easy to locate where to put these buildings. The author simply doubled the A-C-D triangle noted above to the north, making for a 100- by 100-foot town square composed of master grid points C-D-F-E. Here also we can best see important aspects of Yeardley's town, for he deliberately left another 100 square block (Points C-E-G-H) as room for cattle, pigs, and other activities outside of the town square.

Lets turn briefly to the fort again. First, notice that in Yeardley's plan, the west 100- by 100-foot block is anchored at the terminus of the northwest demi-bastion at point G. The north flank terminus of a new southwest

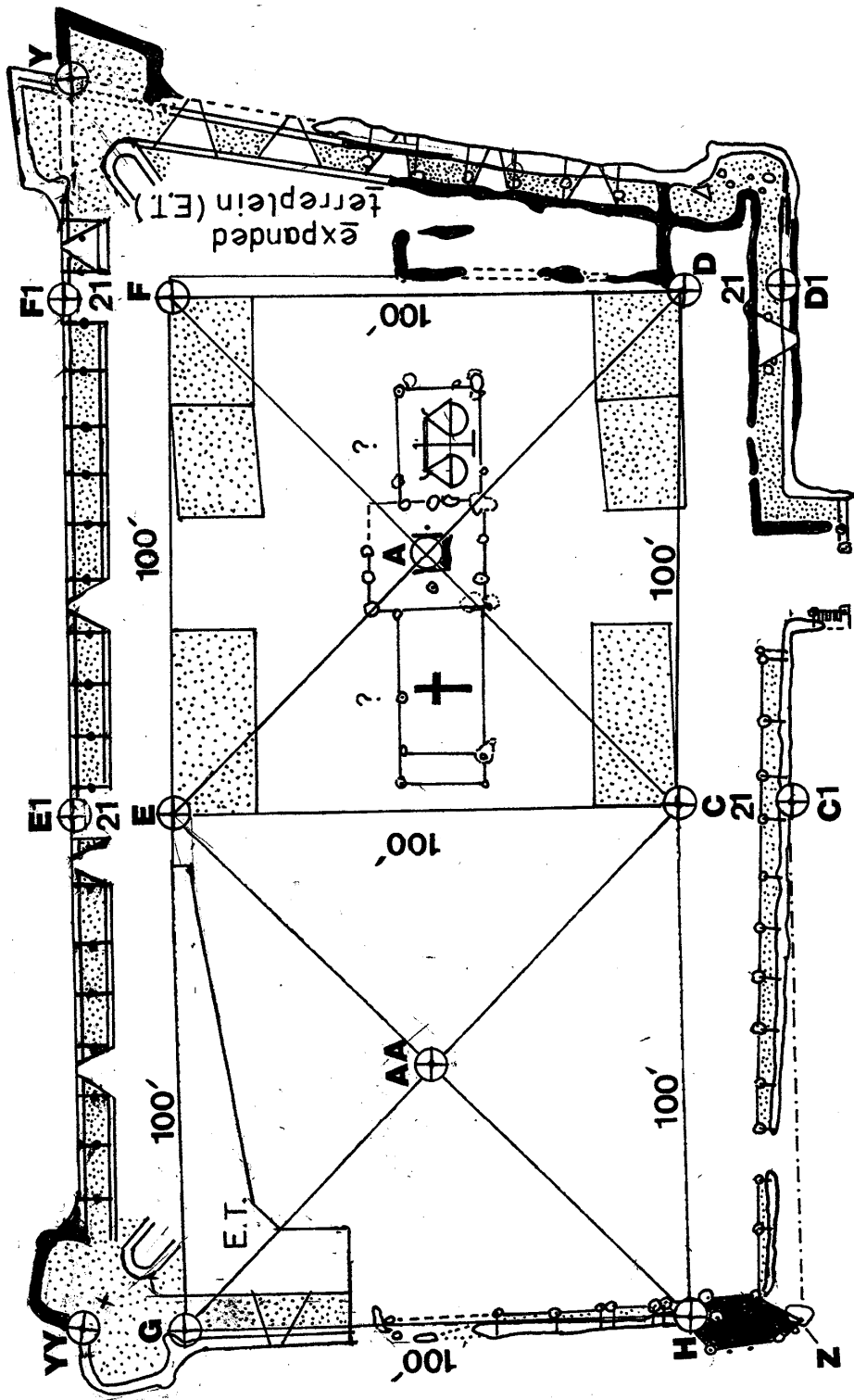


Figure 28  
 Breakdown of the Master Plan of Yeardley's Fort ca. fall/winter of 1622-23.  
 Note town square, the second phase at fort.

flanker (therefore shown in black) defines point H (archaeologically confirmed). Other black marks define where terrepleins were added (cannon "mounts" referred to in the replies to Butler). Notice that the plan allows 21 feet in all directions from the town square to provide for 8-foot-thick earthen ramparts and 13 feet for terrepleins. The typical archaeological measurement of terrepleins is 12 feet and ramparts 8 feet. The wider expansion of the terrepleins to the north is inferred to be due to the need to get large artillery up longer ramps into bigger bastions facing the river and not protected by the swamps to the east. Also, larger cannon can recoil more safely or two cannon can be pulled past one another. On the master grid plan, one section of the terreplein northeast of Structure 3 is enlarged to provide a down ramp, allowing artillery to be hauled anywhere across the town—for instance, to defend against a land attack.

Notice that we have retained as the style of ramp a reversed "U"-shape shown in the known southeast demi-bastion (or "half bulwark") within the two hypothetical bastions. Demi-bastion or literally half bastions could be easily turned into full bastions by doubling them on the reverse side. We have done this in this drawing (notice blackened lines), but we are showing here only a second stage in the work; so the faces of the paired demi-bastions are bifurcated and still not full bastions. The Elizabethan Belvoir manuscript shows just such a scenario, with a full bastion being created from two half bastions (see Figure 29 (Hale 1964). Notice how the "base court," a

utility area supporting the work, corresponds roughly to the west 100- by 100-foot block in Yeardley's Fort.

In figure 30, we are looking at the completed Yeardley Fort. This phase of the fort corresponds with spring and summer 1623 when Yeardley (in full residence at Flowerdew) was assisted by French military engineer

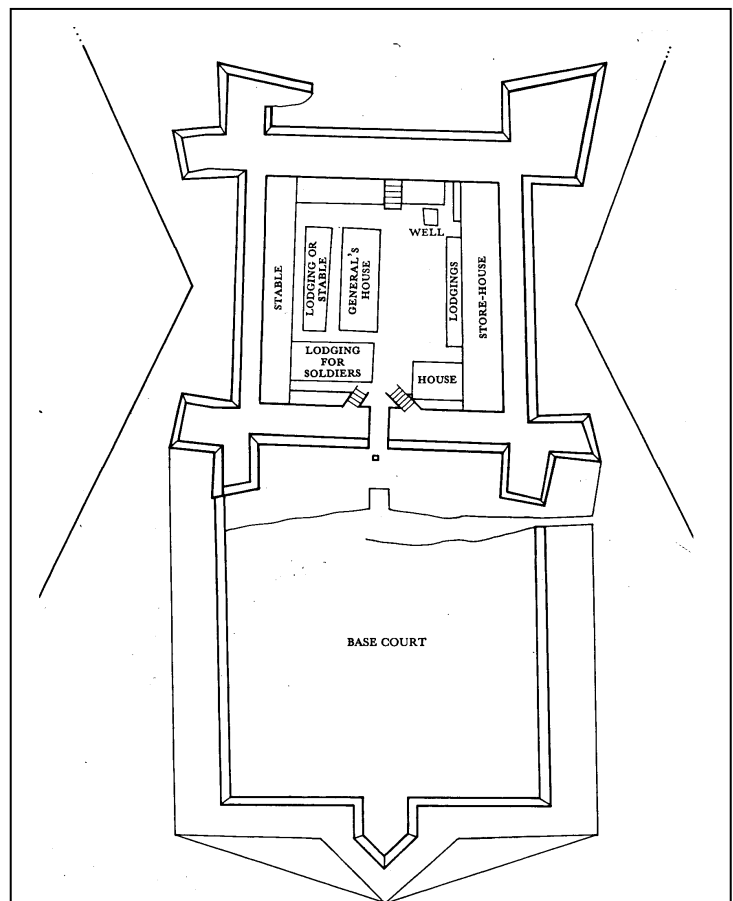


Figure 29  
Broughty Crag from the Belvoir Plans (late 16<sup>th</sup> century). Note how in this English fort, paired demi-bastions are in the process of being made into full bastions; note also non-hierarchical building (Hale 1983:Fig. 65).

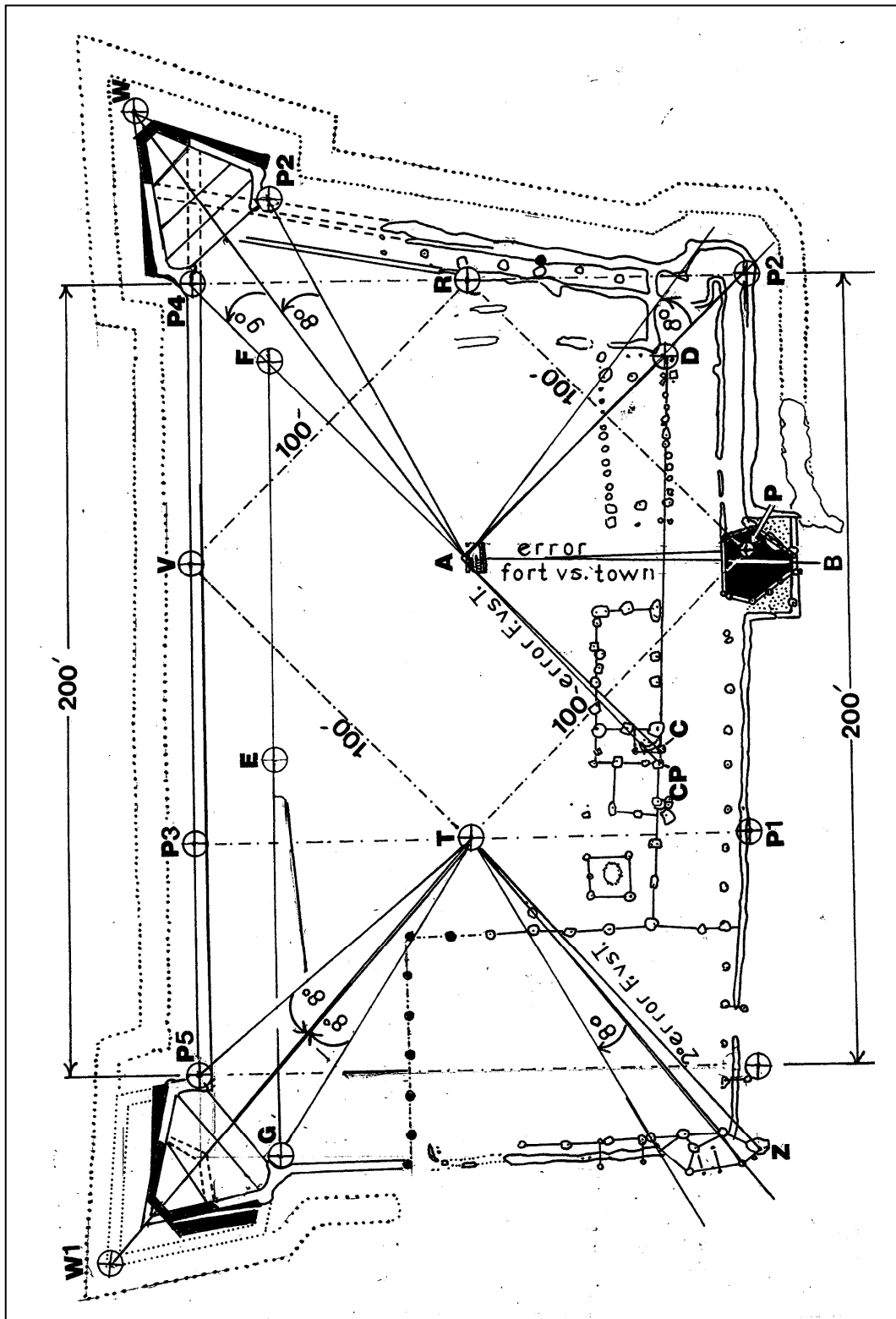


Figure 30  
 Breakdown of Yeardley's Fort Master Plan ca. spring/summer 1623. Note structural method of calculating fort perimeter and bastions.

Nicolas Martiau and possibly Captain Maddison (later Charles City borough field commander).

Black lines indicate changes to the fort. These changes include turning the paired demi-bastions (a bastion with two flanks but only one face) into full bastions (a bastion with two flanks and two faces) by infilling them in the Italian Renaissance fashion. This allows all of the bastion faces to be swept by artillery from those supporting them from flanks on either side. In the ideal plan (see master grid), the capitals of these bastions (points W and W2) are each 1.41 feet from points A and T. In order to allow these bastions to flank one another, we had to make the northwest bastion larger than the northeast bastion. The northwest bastion is 5 degrees over the YY-V-A 90-degree angle, while the northeast bastion is only 2.5 degrees over the A-V-Y 90-degree angle (see master grid plan). The author has added a second black line on the west side of the northwest bastion to show how Yeardley may have cheated the ideal fort plan to allow the southwest flanker and northwest bastion to sweep each other's faces since the northwest bastion is one stage beyond the scale of the northeast bastion and bastard caponier.

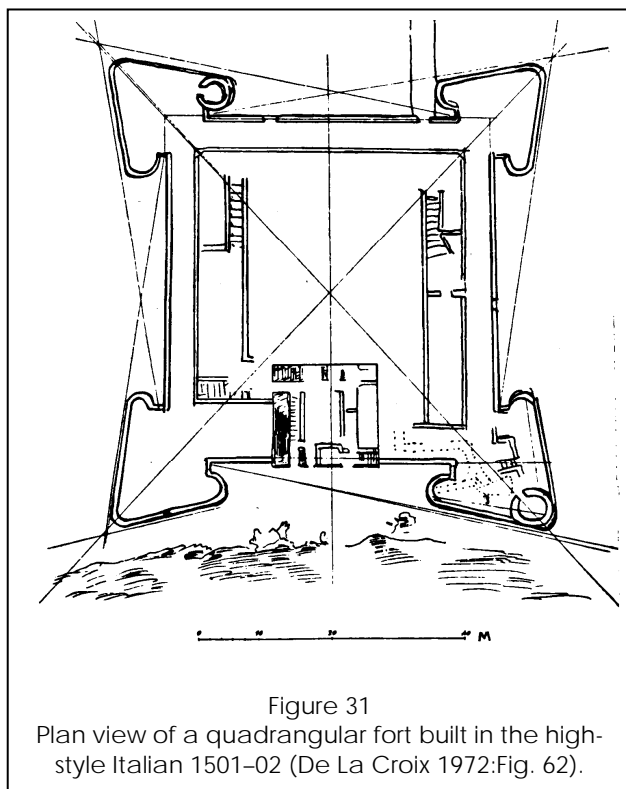
Yeardley has added a hole-set blockhouse shaped like a ravelin (notice blackened area south central area). This allowed militia to move freely from along the earthen ramparts to the east across to the planked wall walk to the west. On the ground floor, the bastard caponier was retained as well as passages pertaining to a fortified entrance following the A-B Line.



In this drawing we have a deliberately different opportunity to understand the master grid plan of the fort in slightly different ways.

Here the reader can see clearly the points we used to determine the expansion of the demi-bastions (8-degree gorge) to full bastions (16-degree gorge). There is a 2-degree error (10 degrees) in the southeast flanker because it is 8 degrees to the south curtain. There is a 1-degree error in the northeast bastion (17 degrees total). Figure 31 shows a quadrangular fort built in the high style which shows bastions being cut in half by the fort's design in a manner similar to our analysis process.

The P-R-V-T points are highlighted in this drawing. They are all 100 feet apart and allowed us to calculate the north wall of the fort based on the known south curtain (P2-YYP) and a point on the east parade curtain wall. These points are the result of turning the town square C-D-F-E at a 45-degree angle and adding 21 feet for the terrepleins and ramparts (typical archaeological total 20 feet).



The error in the town (wheeled grid points on the master grid based on known architecture) versus the fort (diamond-shaped points on the master grid) should be noted. The distance between A-P and the nearest A-B line is 1.25 feet apart. The distance between A-C (present master grid) and A-CP (C-Prime a COVA grid point) is 3 feet (Hodges 1993). The master grid as a way of digesting a mental template is nearly perfect, but empirically it isn't exactly the same as previously published material, and there are certainly errors—which might be corrected by a computer program. Nonetheless, for a 17<sup>th</sup>-century fort in severe archaeological ruin, we are surely seeing a relatively disciplined Elizabethan Renaissance approach to town and fort planning. Figure 32 shows how Yeardley's Fort used Renaissance methods to defend its perimeter.

#### **RETURNING TO ARCHAEOLOGICAL PLAN FOR INTERPRETIVE INFERENCES**

Let's return to an archaeological plan that will allow us to check the integrity and grammar of the known archaeological resources in a slightly different way (see Figure33). Here, our goal is simpler. Below we don't want to be encumbered by treating the fort and its architectural improvements in a developmental perspective because we have limited space for such discussion. The master grid drawing and its three-part break down presented so far make a strong argument that the fort is a monolithic feature of mental template with all its components laid out in harmony with one another. Let's make sure we are right. More detail on the site features described below will

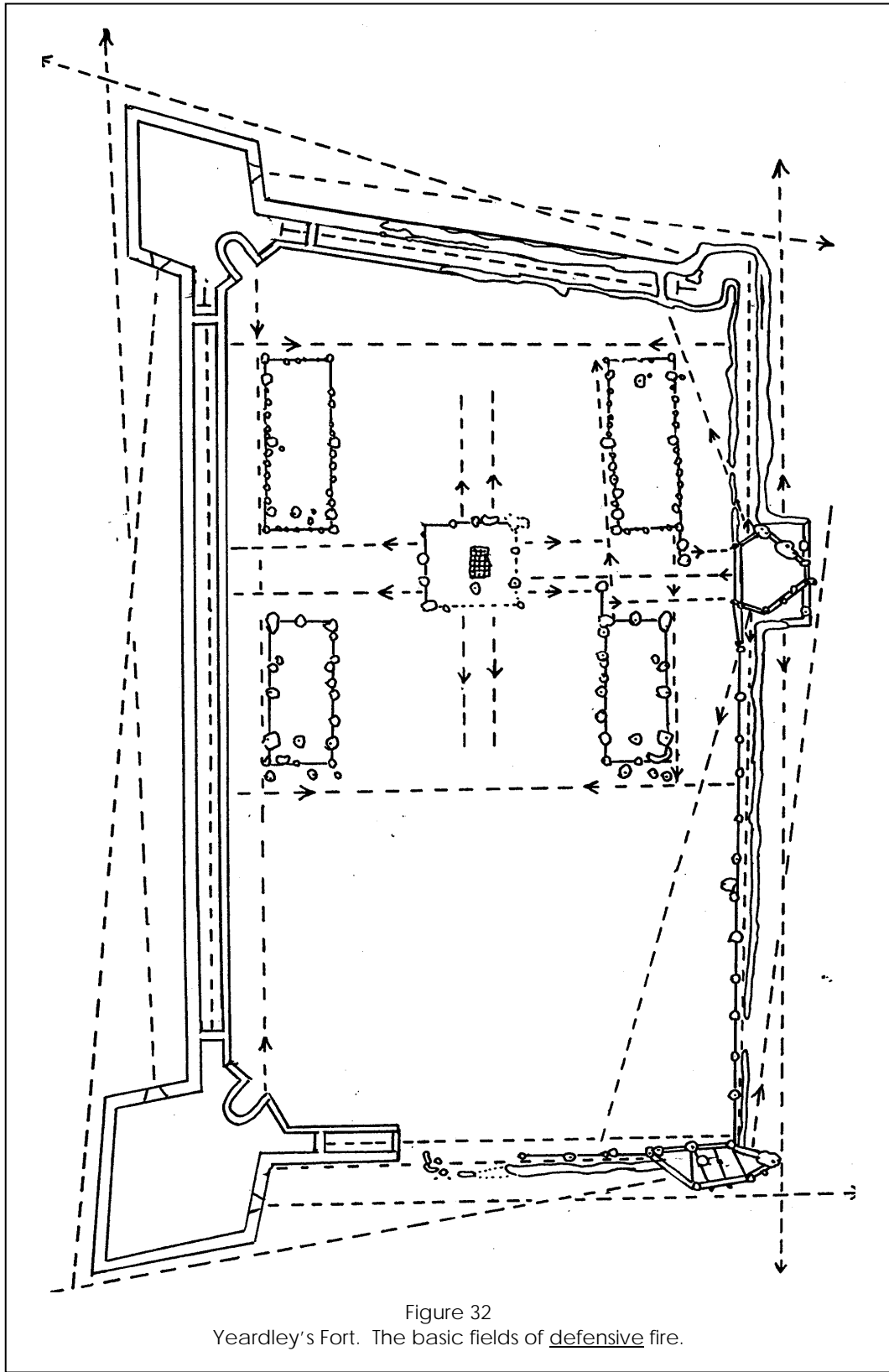
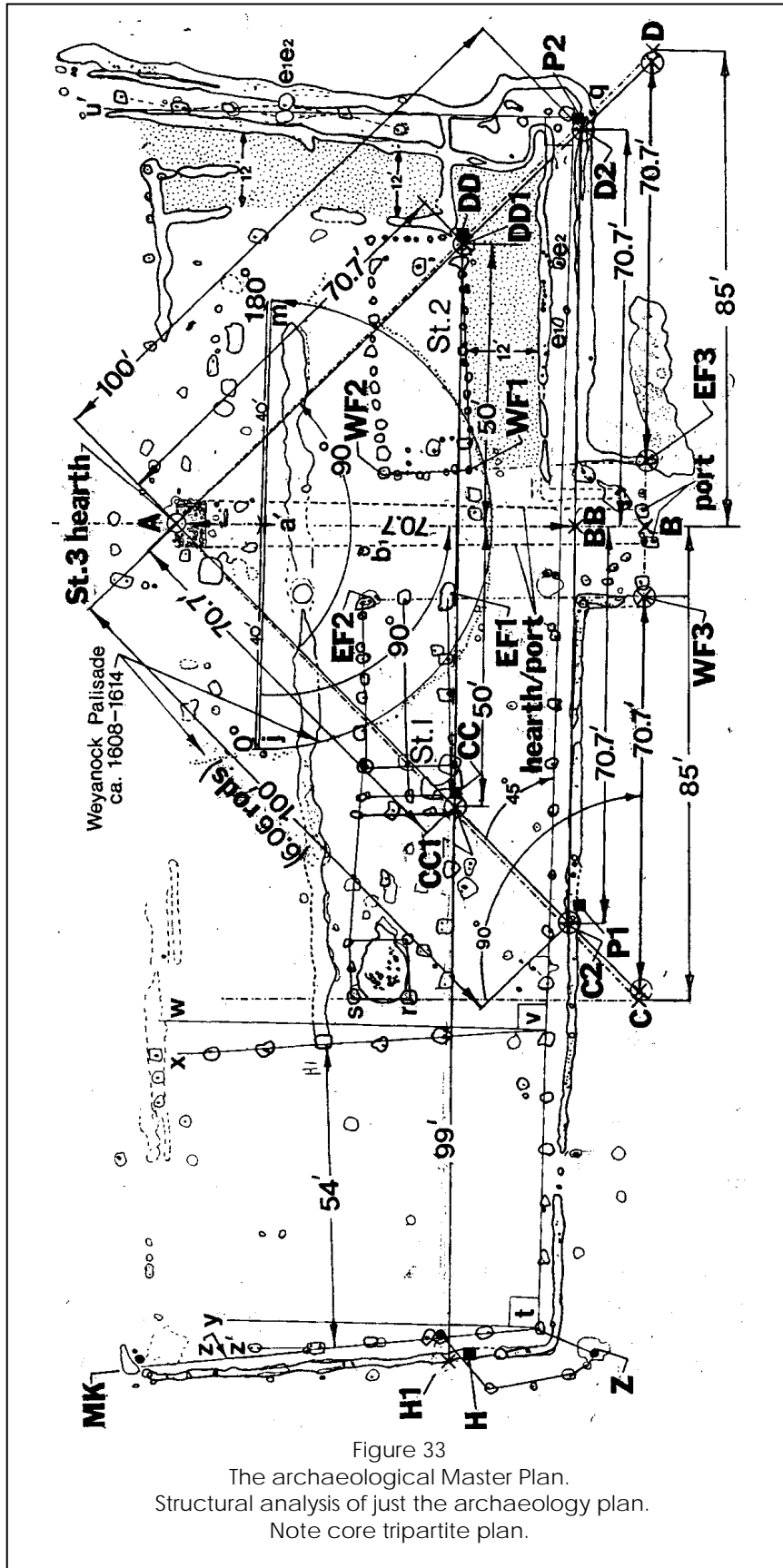


Figure 32  
Yeardley's Fort. The basic fields of defensive fire.



appear elsewhere; here again, we are trying to dispose of the reader's need to constantly turn back to the master plan maps in the later text to follow interpretive inferences.

In this drawing the bisector line of the triangle A-DD1-CC1 (A-CC1 leg = 70.7 feet; A-DD1 leg = 70.7 feet; base CC1 - DD1 = 100 feet) runs right through the fort gate at reference point B, indicating a 0.5- to 2-foot error between the two plans. These figures are of course familiar as the hypotenuse of a 50-foot square. At point BB, the bisector line A-BB intersects the southern palisade curtain line at point BB for a distance of 70.7 feet, which is the exact distance between A-CC1 and ADD1. The line A-B also seems to halve the Weyanock Native American palisade. Returning to our work for COVA, we created the right triangle A-C-D that leaves the fort and spans the fort gate (Hodges 1993:Figure 2). The distance between D (extension of the right triangle on the left side) and EF3 (left corner of bastard caponier) is 70.7 feet. Also at 70.7 feet, this distance is the difference between the distance of the known demi-bastions flank angle (reference point D2) and the A-B line.

Focusing on the west side of the bastard caponier reference point, C2 is 70.7 feet from the A-B line, and COVA reference point C is 70.7 feet from WF3 (the southwest corner of the bastard caponier). While C2, C, and P2 are seemingly all arbitrary points except by virtue of being on the palisade, of these reference point C is the most useful here. If we square C back into the

fort (on the C-D line) at a 90-degree angle, we get the west facade of the well house at points "r" and "s." All of this, together with the terreplein distances of 12 feet, appear to be Yeardley's calculation of just how much space he can allot to buildings and artillery.

What is the relationship between the cattle pound which occupies the west side of the fort and its nearby curtains? Was this part of the original plan? In order to discover this, the author created point "v," the southern terminus of the cattle pound ("v" is inside the right-angle symbol). When we lay a right triangle across the hole-set base line t-v, we get point W, which has no connection to the archaeological master plan. This is also what happens when we square point "t" (inside right-angle symbol) along the v-t line. The product of this at point "y" is floating in space. Therefore, we can infer that the ordering principles of the cattle pound are based on the shape of the curtain since, when the hole-set perimeter turns out on the west side, so do the ditch-set palisade lines (note point Z). In sum, the hole-set posts in the vicinity of the ditch-set curtain form a complimentary parallelogram that reflects its ordering principles by the ditch-set palisades; when the latter shifts, so does the former. Note how reference point H1 is 99 feet from point CC; this indicates a 1-foot error from C and H in the "Known\Hypothetical Plan."

As a by-product of these same inference processes, we can safely infer that the hole-set posts along the outer perimeter of the entire cattle pound

and on the inside of the entire western half of the fort represent an elevated "wall walk" allowing militia to shoot from loopholes in the ditch-set palisade/stockade curtains. Part of the reason for this is that it wouldn't do to have militia dodge pigs and cattle in the cattle pound. We can scribe all of these hole-set posts associated with the wall walk with only two lines. If we continue the line Z-T-V eastward, we hit a single poorly defined postmold inside the rampart (below e1 and e2). Well-defined postholes (one devoid of a mold) marked as "e1" and "e2" are not on this line. One posthole in the bulwark (demi-bastion) is above it. The t-v extension line actually manages to nearly intersect with the ditch-set palisade, but it actually hits nothing. Note that repair posts along the wall walk tend to be placed parallel to the wall-walk scaffolding system. This phenomenon is not always true for posts along the wall walk that are near the bastard caponier, ravelin, or southwest flanker since different kinds of repairs or reinforcements are needed in those areas.

The hole-set posts inside of the stockade revetments along the east rampart wall do not form a single line between points u' (u prime) and near arbitrary-point q (que) (near the terminus of the flank angle of the bulwark). Instead, here they form a zigzag line that is not clearly connected to post holes inside the bulwark. One hole (e2 "east" verses south) seems to intrude at the ditch-set stockades along the outer parapet wall opposite another post hole. This is almost certainly a repair brace to the parapet wall. All of the

posts here along the east wall are inferred to be earthwork "piles" and counter-fort bolsters, or are associated with the cheeks of cannon embrasures.

Hole-set posts inside of the bastard caponier reflect lines that define both additional wall walks (west side) and a ravelin (V shape). Postholes inside the bulwark (a demi-bastion) reflect piles associated with strengthening the interior earthworks in general and also reinforcements to receive the weight of cannon mounted there. They do form a delta shape similar to the southwest flanker; however, the very limited size of a once-previous hole-set flanker here seems unlikely. If this were the remote case, it is certain the ditch-set bulwark trenches and ramp obliterated significant portions of such an incarnation.

Since we know one phase of the fort 1619–22 did not include earthworks, it is likely that temporary platforms were placed in front of the ditch-set stockades on the east or "water side" of the fort. These were absorbed into a double revetment. Some of the hole-set posts on the east side associated with the double revetment may also represent zones of isolated firing platforms which were later used as piles, counter-forts, or cannon embrasure cheeks, inside the 1623 double revetment.

#### **SUMMARY DISCUSSION OF THE YEARDLEY FORT MASTER PLANS**

In sum, the implication of the two master plan studies is that Yeardley put a lot of thought into spatial arrangements in the interior of the fort and



how it intersected with the exterior defenses. Vitruvius wrote (recalling Digges's later advice), "there is nothing to which an architect should devote more thought to than the exact proportions of his building with reference to a certain part selected as a standard." This physical standard seems to be the Structure 3 hearth at point A at 44PG65 and equilateral right triangles, based on rods and clean numbers of feet. Later Vitruvius comments, "Hence, the first thing to settle is the standard of symmetry, from which we need not hesitate to vary" (Morgan 1926:174,175). Yeardley did indeed vary ideal fort plans. The fort had to be very compact because it was built during a period of war and famine, but it had to function well or the entire effort would have been wasted. A very good example of corners cut is that only on the "water side"—that is, where large ships cannon could hit the fort—did he entrench the fort with earthworks. Yet there was space left to remedy this also should international politics take an ugly turn.

With regard to the ideal plan (five large buildings) on the master grid verses the "known archaeological plan (three buildings), something should also be said. In 15<sup>th</sup>- and 16<sup>th</sup>-century Europe, a square divided by four right triangles to form a consonance of diagonals emerging from the corners of the square and converging at the center is at the core of planning the ideal of both the Renaissance quadrangular bastioned fort, and the "four square" "Leager," or military camp as influenced by the Pythagorean theory of right triangles (Clayton 1591:39; Ive 1589:31). However, such plans were not

restricted to quadrangular forts or military camps. For instance, sketches by Leonardo Da Vinci of the royal palace of Rommorantin also suggest that a square dived by a saltire spanning each corner (four right triangles) was at the core plan of the Renaissance villa and pavilion forms inspired by Italian architects (Pedretti 1985:Figure399). Such plans, which are similar to the number 5 expressed on a pair of dice, are the basic core plan at Fort Caroline (cf. Glassie 1975:22–25; Digges 1968:120; Lorant 1946:55). If this is the case, then we would be dealing with a plan remarkably similar to Nomini Hall Plantation built in ca. 1750–75. Notably, this particular plan features an equilateral right triangle emanating from the center of the mansion as a path (corresponding to points A-D and A-C at Flowerdew) to span the corners of two subordinate outbuildings of the four flanking units (Upton 1988: Figure 9). This plan probably owes more of a debt to fort design than might seem otherwise with the four outbuildings—once bastions also housing princely servants. This is since early modern villas (1400s to 1500s) were once fortified and therefore grew straight out of a late castle-building tradition. Through time the defenses became decorative military gingerbread and then disappeared all together, causing post-modern confusion since the original grammatical references and functional meanings were compromised and ultimately irrelevant (Platt 1996:150-196).

## THE CORE TRIPARTITE PLAN: BUILDING IDENTIFICATION AND CULTURAL SIGNIFICANCE

The ideal of our fort model suggests that originally there were hypothetically five large structures present within the fort. Of these only three—Structures 1, 2, and 3—have survived as archaeological remains. Therefore, in the following section we will focus fairly carefully on the above three known structures, which together form what we will call in shorthand the "core tripartite plan." We will start with Structure 2, a storage facility, move on to Structure 1 the garrison house, and then look at Structure 3, the headquarters building.

### Structure 2 Public Granary, Storehouse and Magazine

Structure 1 to the immediate right of the bastard caponier, with its 32-by 16-foot-long main core with interval puncheons and huge end-wall storage sheds, has already been described in various publications (Carson et al. 1981:149, 152; Barka 1993:329; Hodges 1993:188). Houses built of "cagework," perhaps a reference to the puncheons acting as studs which brace the main frame at Structure 2, are often noted in Pynar's survey of Ulster (Hill 1970). Hill (1970:452) suggests that, "these ancient houses were built in what is called cagework; the interstices were filled up with wicker and clay, some of which I have very lately seen [written 1814] in perfect preservation." Robinson (1983:53) suggests such cagework houses were fully framed and mortised in. Aalen (1978:279) describes the Ulster cage house as being

typical of the London plantations in Ulster, which had "oak beams and white panels" and, in contrast to Hill, suggests not one of these has survived the vagaries of the torch of the Irish rebellion of 1641 or the vagaries of time. The author has seen a 17<sup>th</sup>-century "tithe barn" remarkably similar to Carson's (et al. 1981:152) schematic illustration in a British real estate sales magazine, although the source has unfortunately been lost.

At Bermuda "Nether Hundred" of 1616, Rolfe (1951) notes farmers who could produce four servants were to pay "Rent Corne as other Farmours." It is likely that Structure 2 is where such rent corn from tenants would up in an administrative complex in much the same way a person might make a deposit in a bank against debts owed to creditors—hence, perhaps, a connection with tithe barns through such an analogy. Tithe barns in the medieval system are associated with ecclesiastical wealth; and, by the early 17<sup>th</sup> century, we suspect secular wealth in a tobacco and corn credit society (Harvey 1970:40–41). Originally a tithe represented 1/10<sup>th</sup> of produce paid to maintain a vicar (Beresford and Hurst 1991:138). For Virginia a more proper term would be a "quit rent" barn. Thus, there may be a connection here with the medieval grange which was both a defensive enclosure defended by soldiers and integral to a more insular ecclesiastical outreach system (Ryan et al. 1993). Both the "men at the castle" and the settlement minister, Grivell Pooley, were partially supported with corn and tobacco rents which might have been tabulated and stored here.

This identification can be strengthened. The Virginia Council and Assembly's "Law and Orders" of March 5, 1623, state in item 15 that, "in every parrish a publique Garnery [granary]" be kept with everyone above 18 years old must contribute to this (Kingsbury 1935:582). Vitruvius (Morgan 1926:184) suggests for the farmhouse complex that, "rooms for grain should be set in an elevated position with a northern or northeastern exposure. Thus the grain will not be able to heat quickly, but, being cooled by the wind, keeps a long time." Within Structure 2, corn was probably stored in the loft, while tobacco "in cask" was stored below. Such a structure would need to be well secured, especially during the famine of 1622. Because of the hydraulic properties of major flooding, a key probably associated with Structure 2 was swept over to the parade curtain where it gradually descended into rotting stockade molds (Flowerdew Hundred Foundation Archives).

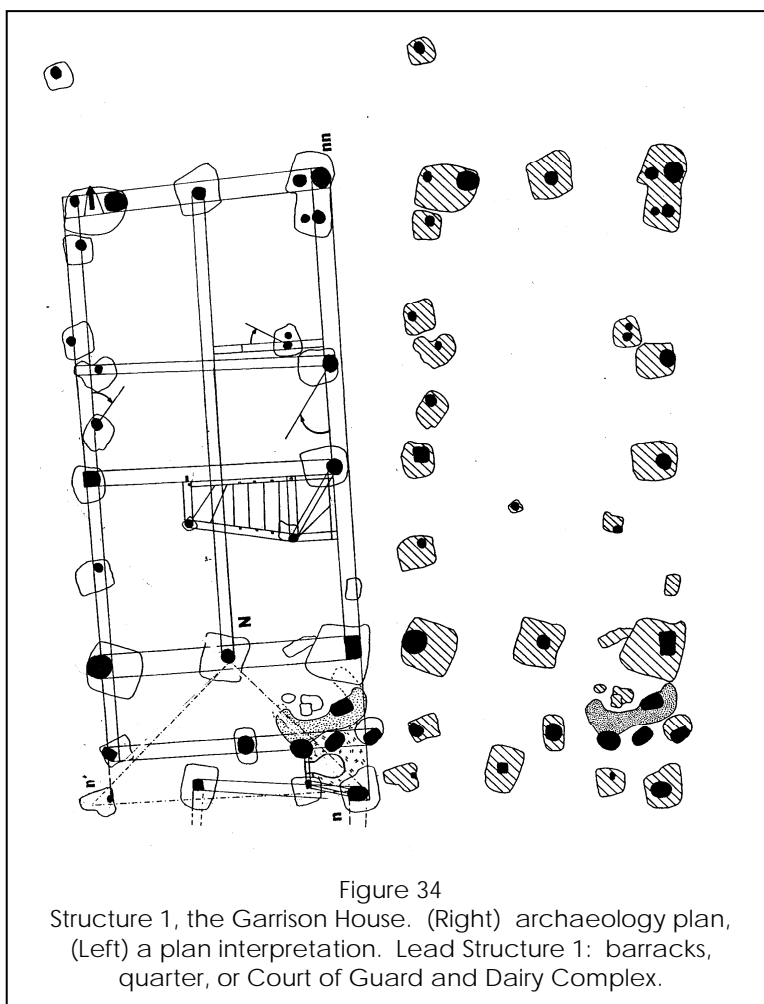
In the Roman court-yarded principia (or military headquarters building), two flanking ranges of unpartitioned rooms include a storeroom and an "armorie" and perhaps at 44PG65 these were rolled into one structure; in which case the word "magazine" offers no ambiguity whether or not weapons or provisions were stored there either comprehensively or exclusively in either case (Johnson 1983:108; OED 1978 6:22). Based on studies by Garvan (1951), we have no reason that such a parsed-down system wasn't still useful through models such as the medieval grange and post-medieval small campaign forts such as our study unit.

### Structure 1: Barracks, Quarter, or Court of Guard and Dairy Complex

Structure 1, is an earthfast structure approximately 37 feet long east to west by 16 foot wide north to south. It is shown in Figure 37. A "C"-shaped fire-reddened hearth stain is in the southwest corner. The presence

of a possible gable post within the west core of the structure suggests the original structure may have originally been a three-bay structure 30 feet long with a 7-foot-wide bay addition to the west which absorbed the once-exterior chimney, thus allowing space for a pantry to the

immediate north of the now-interior hearth. The house has a cross passage. An informally laid-out shed about 9 feet by 9 feet wide was also added to the already expanded west gable wall. The shed addition was probably used as a byre dating from a period when the house length was in its maximum growth



stage (Hodges 1993). In all likelihood the byre making this unit a sort of "byre house" was used as a cattle shed and milking station, only initially perhaps working in concert with a small earthfast enclosure or croft (paddock) to the west of the building (Robinson 1983:49; Rowley and Wood 1982:67). This protected the cattle from wolves and mischievous Native Americans at night and allowed the penning of calves to keep dairy cattle near the house. This is a typical west English plan with the provision that cattle were now entirely out of the house technically (Carson 1969).

When the well, well house, and now formalized well yard were installed in concert with the larger cattle pound discussed below, probably shortly after March 22, 1622, the well yard was specifically to keep cattle out. By this time the byre was turned into a dairy and buttery, while the well yard had become a full dairy complex. The well, replete with a well house and windlass along its north façade, was used to wash ceramic containers associated with milk, cheese, and butter production and water cattle within the cattle pound to the immediate west (Brown 1977; Fussell 1966:136, 146, 148). Manure collected from the cattle pound was heaped as far away as possible from the well yard. In some ways Structure 1 acted as a kitchen to Structure 3 or, under the military system, it became analogous to a "provisions quarter" for the entire community (Vauban 1968:153).

Who occupied Structure 1? A fragment of a gold band with the letter "F" on it also found in the well may possibly suggest this was the original

Stanley Flowerdew homestead (ca. 1617–19) (Kulikoff, pers. comm., 1995).

Regardless of when the structure appeared at 44PG65, certainly by the time Structure 3 was laid out in the A-C-D arrangement, this unit had become a quarter which spatially submitted in a physically lower off-center subordinate fashion within the simple hierarchal building arrangement.

By 1623, at least, it was probably occupied by Sergeant Fortesque, who is documented to have also been the plantation overseer at Flowerdew under the Yeardley full militia social organization then present (MacIllwaine 1979:27). Interestingly, among the sergeant's duties is care of "such Tooles as, as are required for the works at hand," apparently including tobacco hoes. Two different halberd fragments (one decorated with pierced holes, one not) found in the well were the distinctive training weapons of a sergeant who only carried a musket during anticipated combat (Flatherty 1969:75, 76). The more decorated halberd might indicate the presence of a sergeant major at Flowerdew. However, the halberd fragments come from a large secondary deposit that may not literally pertain to the occupants of Structure 1 except in a general way. Sergeants were responsible for taking charge of munitions, victual, cleaning, as well as the market and military duties. As noted above, Fortesque's failure to properly string tobacco probably forced Yeardley to sell Flowerdew to Piersey, suggesting that this was indeed a "private fortification" in the broadest definition of the term (Hatch 1957, Hodges 1993).



Also potential hypothetical residents of Structure 1 were 16 of Yeardley's tenants and servants who are listed by 1624–5 as part of Piersey's muster. These people may well have been extorted from Yeardley to pay personal debts to Piersey associated with the loss of the tobacco crop 1623–4 by the deeply stressed community (Deetz 1993; Hotten 1980:171–172; Jester and Hiden 1956:21–22). By March 1623–4 the Virginia Company officials having now institutionalized public support for the full-time militia (so that they would not prey on the communities) ordered that, "every man that hath not Contributed to the findinge a man at the Castell shall paye for himself and servante 5 pound of Tobacco a head, toward the discharge of such as had their servante there" (Kingsbury 1935:584). Thus, alternatively, these very 16 people, including the wives of tenants, may have been the specific men "at the castle" as part of the fort's full-time previously trained gun crew and garrison. Some wives were included as part of critically important support-provisioning activities associated with the dairy activities noted above, and they well probably aided them in laundering the garrison's clothing.

Returning to the men, hypothetically, as such trained men, they could not be spared to Yeardley, who probably financed them "to the castle," as they were now publicly funded by Charles City Corporation. After Yeardley's holdings prior to 1622 were liquidated, he appears to have spread them around to strengthen smaller plantations that needed more servants to defend themselves and maintain subsistence initiatives simultaneously, including

dispersal to Hog Island and the Eastern shore. So these people at the castle may be yet another magnanimous dispersal within a reciprocal regrouping of plantations.

Added to this sardine can at Structure 1 just may have been Yeardley's 11 African-American servants who are likely to have been deeply involved in building the fort as well as working corn and tobacco fields. Thus, it is likely that from a numerical standpoint, black military history principally began right here at Flowerdew. Fortification was so labor intensive that many wanted to convert captured Indians or their children as slaves to work on public works such as surely forts (Kingsbury 1933:672). By cramming these people hypothetically into Structure 1 we are acknowledging that the probable five buildings originally here are a theory. Some may have slept in the loft of Structure 2. So we are trying to adhere to our concrete material evidence here and stick to two domestic buildings at 44PG65.

Very tentatively there should be mention of the possible presence of Native Americans in residence at 44PG65, although neither official muster list records such occurrences between 1623–4 and 1624–5 at Flowerdew (Hotten 1981, Jester and Hiden 1956). Prior to 1622, and perhaps afterward, a Christianized Native American may have been occasionally in residence at Flowerdew, perhaps through travel within Yeardley's barque (large sailing vessel noted above). Yeardley was known to have had full-time fully trained "musket toting" Indian hunters under his employ at Bermuda City at ca.

1615–17. Such persons may have acted as trusted guides and interpreters to Yeardley (Purchas 1926:119). One of Yeardley's military files was lead by an Indian in 1617 at Jamestown, a fact that shocked arriving Governor Argall (Barbour 1969 1:262; Purchas 1926:44–45). Through Yeardley and Dale this is the beginning of the Indian guides who did not have "knives at their throats" from this time until the end of the 19<sup>th</sup> century. After 1622, when Yeardley was attacked for such policies of arming Indians with muskets, the scenario appears unlikely, although the real demand for such special talents appears not to have relented.

In sum then, it seems Structure 1 acted as a "military quarter" almost certainly literally. When applying this label, it is interesting to note that when specifically referencing a particular dwelling place of humans, the word "quarter" has had only three meanings in the history of the English language: (1) quarters for soldiers which officers were obliged to provide for soldiers, or the latter were compelled to build for themselves; (2) compulsory lodgings provided to troops by private citizens, and (3) in the U. S. (American) south to refer to cabins inhabited by slaves in plantation contexts (OED 1978 :27–28). Perhaps our use of the word "quarter" to define servant or slave quarters comes directly from the matter-of-fact military usage of the term by the English military that first organized Virginia (Barret 1969:159–161). If this appears a weak argument, the reader is encouraged to consult Fausz's (1986:93–97) list of council men and Virginia "oligarchs" and "warlords" to

observe the remarkably high bias toward military titles prefacing names. In any case, the direct analogy between overseer and sergeant at Flowerdew in 1623 is well precedented, as is the term "soldier" and "laborer" in the Roman army which the Dutch and English specifically modeled themselves after, as noted above (Shea 1985:15–17).

### **Structure 3: The Ordinal or Hierarchal Structure**

Structure 3 is extremely difficult to interpret beyond basic information. It probably consisted of a partial or complete silled frame resting on a block or groundsill seat (Carson et al. 1981:129). There is evidence of posts probably associated with chimney scaffolding or room divisions to the north and east of the hearth, but it is presently unclear how they link up (see Barka 1993:330). The latter information may suggest a "T"-shaped building with a wing pointing north. A divided north-facing double hearth (perhaps suggesting one-half was used as a bread oven), consists of dry-laid river cobbles, over-daubed cobbles, and brightly burned bricks. Traces only of a predictable "H-shaped hearth" are suggested at best. The hearth is associated with a chimney base or fire hood fall, also consisting of river cobbles that form a huge pile to the immediate east. Also especially to the east of the hearth are large quantities of clay roofing tiles. In all probability, roofing tiles from Structure 3 are strewn all along the north shore of Windmill Point to the east, almost certainly relating to the Hurricane of 1667 or similar catastrophic flooding previous to this. This phenomenon probably

also explains the east direction of the fire hood fall and roofing tiles nearest the hearth (Schiffer 1987:233–234).

Shallow, often amorphous stains nearby, which are very difficult to group together because of tree disturbances, may pertain to block impressions associated with the building foundations. Distinctive fragments of silt stone found in the general Structure 3 area may suggest Piersey demolished Structure 3 in order to found his new house at 44PG64 about 1626–27. Alternatively, this information minimally suggests similar European ballast sourcing was employed (Flowerdew Hundred Foundation Archival Collections). Domestic use of the structure is indicated by large quantities of fish bones from a kitchen midden, which suggest the hall was on the east side of the structure with a parlor presumably to the west—if this information has not also been biased by flood scouring. As a very generalized form, the building with a slightly offset or centered hearth and a lobbied entrance, can be vaguely construed based on well-defined Ulster and Virginia precedents that provide but a generalized model at best here (Barka 1976; Hodges 1993, Neiman 1993; Robinson 1983:62).

Who occupied the high-status tenement at Structure 3? If we apply a simple inference, Structure 3 was probably the equivalent of the headquarters building within the administrative complex. This model is the equivalent of the Roman "principia" or "praetorium," which in the Roman fort administrative center functioned as both the religious and military

headquarters. The principia was normally at the apex of a central street at the architectural head of a tripartite plan and typically flanked by at least two large subordinate buildings within a courtyard (Johnson 1983:104–106). Regardless of whatever classical connections are present at 44PG65, Yeardley probably stayed at this high-status tenement when he visited Flowerdew to supervise work there and hunt. Only after 1621, when no longer in public service as Governor (1619-1621), did he really have time to visit Flowerdew for any length of time. To him it was most likely a sort of a hunting lodge and country seat.

Structure 3 was probably, however, the continuous annual residence of Ensigne Edward (or Edmund) Rossingham, a burgess for Flowerdew in 1619 as well as cousin to Temperance Flowerdew Yeardley's gentry wife (Kingsbury 1933:153–154). The military title "ensigne," modeled on the Roman title ""vexilla," means he was a flag bearer, normally a very honored title in the military for a man of extraordinary bravery and resolution (Davies 1619:86–94). The military title given Ensigne Rossingham may also mean Flowerdew was permitted to fly the English banner there, as the military trappings of the old military regime were not fully dismantled until 1621 and it was possibly a specific upriver Dutch port.

Other duties for Rossingham probably included being a senior "overseer and...husbandman," thus Ensigne Rossingham probably ran Flowerdew as a farm prior to the massacre (Flaherty 1969:Milner 1996:44–

45). As noted above, Rossingham was Yeardley's factor during his frequent trips to Holland for tobacco sales from 1621–23 in Holland (Rutman 1959, Kelso 1996:9–12). Rossingham almost certainly was at Structure 3 after 1622–3. He was promoted to a militia Captain by at least June 1622 (Kingsbury 1906 2:11). A man of letters in addition to being valiant soldier, he was sufficiently articulate and well read to have replaced the intellectual John Pory, the former secretary of the Virginia Council under Yeardley, as a pamphleteer in London (Powell 1977:123–124). If the fort master plan is not Yeardley's, then it was probably laid out by Rossingham, who surely was familiar with the Pythagorean theory of right triangles.

A second possible occupant of Structure 3 was Mr. John Jefferson (a potential ancestor to Thomas Jefferson), who in 1619 was the second burgess from Flowerdew. As we have seen, Jefferson was made a "tobacco taster" along with John Boys (Boise) of Martin's Hundred (Kingsbury 1933:229). The placement of one businessman (our Jefferson), with a military veteran (our Rossingham) is interestingly paralleled by Charles City burgesses in 1619 who include Samuel Sharpe (former soldier) and Samuel Jordan (businessman?) (Kingsbury 1933:153–4). It is unlikely that this is a coincidence. The title "burgess" had primarily civil trappings in early Virginia, yet interestingly the word originally meant admitting one to the freedom of a borough or "burgh" or fortified settlement. This is the same root word we noted in Chapter 1 for Williamsburg (William's Fort) and the Anglo-

Saxon and Norman "byrh" or "burgh," or originally a fort or fortified settlement (OED 1978:1184–1185).

A third occupant of Structure 3 was Samuel Sharpe, who was with Yeardley and Gates on the ship wreck of the Sea Venture on Bermuda Island and thus part of Gates' personal company of 150 (or 50) English soldiers pulled directly from Holland in 1609 and led by 22-year-old Captain Yeardley (Purchas MCMVI 19:30). Notably, Lieutenant Sharpe was the commander of James Fort in 1616 by specific request of Sir Thomas Dale, who left the major fort at Bermuda Cittie to Captain Yeardley, Deputy Governor of Virginia, when the capital of Virginia lay there (Brown 1890:782; Kingsbury 1935:259). This indicates that Yeardley, above all of the many captains brought over from Holland by Gates, Dale, and Lord Delawarre, was considered the ablest commander during the First Anglo-Powhatan War (1610–14). It also dramatizes the decreased importance of James Fort, which was left to a junior officer.

Sharpe was a Burgess from Charles Cittie in 1619 (Hatch 1957:65). He probably came to Flowerdew after March 1622, through specific orders from Yeardley to Captain Roger Smith to temporarily abandon Bermuda Hundred and Bermuda Cittie (Kingsbury 1906 2:11. 1933:153–154, 609). Sharpe was also promoted to Captain in 1622 when Flowerdew was momentarily autonomous (Rutman 1959:292). He apparently also helped organize the defenses of Westover in 1623–4, for he is listed as their burgess



(MacIllwaine 1925:viii). He is listed in Yeardley's Flowerdew Muster of 1624 (Hotten 1980:172). By 1624–5 he is listed at the head of Piersey's muster devoid of a military title just before Mr. Pooley, the only person present with a social title (Barka 1976).

In the muster of 1624–5, alone of all Piersey's many tenants, Samuel Sharpe is described as having any personally associated houses at two houses. Perhaps this is because of the peculiar situation of the fort at Flowerdew as a public property mixed up with state and private capitalism (Jester and Hiden 1956:20). Thus, it can be cautiously inferred that this is almost certainly because Sharpe is living at the behest of the castle tax at Piersey's administrative center at 44PG65; hence, Piersey's hesitation to list Sharpe's houses as if they were his own. Each plantation now officially had a plantation "Commander," and Sharp, a Dutch veteran of Sir Thomas Gates' old company from Holland, former commander of James Fort, and a specifically requested soldier by Yeardley in 1622, is surely our only possible candidate for the position of commander at Flowerdew (Kingsbury 1935:584). It is possible he was a master of artillery in Holland given the overall implications of his original movement to Flowerdew and his stationary position there during the property transfer between Yeardley and Piersey in 1624.

Named military titles at Flowerdew also include one Lieutenant Gibbs resident there 1622–3. Gibbs may have had charge of protecting Yeardley's

livestock herd by daily attendance with an armed guard (in excess of a civilian cow herd) should they be slaughtered by Native American warriors while in daytime pasture and not in the cattle pound at night (MacIllwaine 1979:11). As we have seen, this was actually probably the most dangerous job at Flowerdew for, out of the fort, Native American warriors were still a potent force.

Let us pause here to count the military titles revolving around Flowerdew between 1622 and 1623. Yeardeley (owner) "ad interim" Marshal or Deputy Marshall of Virginia, two Captains (tenants Rossingham and Sharpe), one Lieutenant (tenant Gibbs), and one Sergeant (overseer Fortesque), not counting a three-week stay by French Huguenot military engineer Captain Nicholas Martiau (MacIllwaine 1979:11; Rutman 1959:296). This is the only time there is a documented formal and entire military command structure at Flowerdew. So we must conclude that this is surely when the fort was built. This militant context, we surmise, helps explain the pains taken in the design of the fort and its internal improvements, which display a certain type of mental discipline we are not used to seeing within most 17<sup>th</sup>-century farmsteads or forts.

Babitts (1988:124–125) notes that military society was hierarchal, with officers who were literate gentlemen typically superimposed over frequently illiterate noncommissioned soldiers, typically of the "common sort." Such a system was articulated through a rigorous command system primarily based

on orders from officers performed by the common soldier who were led by sergeants (Davies 1619:86-122; Flaherty 1969). At Flowerdew this plantation command structure involved both military and plantation husbandry commands communicated to laborers through the plantation overseer Sergeant Fortesque to the "men at the castle." They articulated this command structure derived directly from the plantation commander to tenants and servants that were not always direct participants in the militia structure. In other words, the production of corn and tobacco was seen as a necessary form of personal discipline of colonists, as was military activity; and the military were "at the backs" of all, least the fragile enterprise would founder through famine or the financial ruin of patrons. This is a strangely creative, if not brutal, marriage of state capitalism and private enterprise that was essentially Elizabethan, Anglo-Dutch, and Machiavellian simultaneously. This is the same personal discipline that required a Roman soldier to be an engineer as well as a fighter, as without capital production and food production the entire system—whether tenant, servant, or soldier—would surely collapse.

Local courts documented to have taken place at Flowerdew were probably held within Structure 3. For instance on March 7, various militia officials were examined by "befor Sr. Geor Yeardely att Flowdieu hundreth 7 the tryall to be mad[e] the 20th this month" (MacIllwaine 1979:11). Two days later, one Lieutenant Gibbs was examined for his abuse of the manorial cattle

in his care as has been noted above. So in some ways Yeardley found himself in pretty much the same situation he was in at Bermuda City when local jurisdiction was necessary due to the insular qualities of the Virginia frontier (Hatch 1957:64–65). A model for where the court meeting room was can be tentatively inferred by the analogous meeting of Virginia's First representative assembly at Jamestown in the church where church seating appeared to have defined political seating (Kingsbury 1933:154). So, in order to locate this court, we must locate the chapel at Flowerdew.

### **The Charles City Borough Minister at Structure 3: Grivell Pooley**

The minister Grivell Pooley's disposition at Flowerdew is also helpful in understanding the peculiar ambiance of the fort as neither clearly a public holding nor a private holding, for Pooley appears to have rested in this "nether" place also. He was part of Yeardley's muster of 1624 and at Flowerdew perhaps as early as 1621 (Hotten 1980:172). On November 30, 1623, the same efforts that were made to provide a solid financial foundation for the militia were made to underpin religious officials (Kingsbury 1935:284, 400). To this end a levy of, "10 pounds of tobacco for every 1500 weight of tobacco and 16 barrels of corn [was made] to contribute to the salary of the minister at Jamestown. For Charles City Corporation, "the like (mutatis mutandis) [with the necessary charges or difficulties having been considered] was granted to Grivell Pooley for fflourdieu hundred, Chaplaines Choice, Jordans Journey, and Sherley hundred save only it was not expressly to

1,500 li [pounds] because he confidently affirmed it would come to farr lesse" (Kingsbury 1935:401–402). Is there any doubt that Flowerdew had become the religious center of Charles City borough?

One cannot be certain if this means Pooley visited the four Charles City plantations every Sunday to provide services, or whether they were held at Flowerdew since he was in residence there. What is certain is that he was based at Flowerdew on behalf of the local community in a very complimentary relationship to the ambiance of the community artillery fort.

By an act of March 5, 1623–4 (while Yeardley still held Flowerdew), it was enacted, "That there shalbe in every Plantatione, where the people vse to meete for ye worshipp of God, [a house] or Roome sequestred for ye purpose, And not to be for any temporall vse whatsouuer, and a place e[empladed in,] sequestred onlye to the buryall of the dead" (Kingsbury 1935:580). This later legislation argues Pooley visited each plantation while his main services were held in a chapel at Flowerdew. Pooley used such visits to press the palm of wealthy widow Cisley Jordan at Jordan's Journey to no successful end. Undoubtedly on similar religious and secular missions, he was killed in 1629 by Weyanoc warriors who probably saw him as a particularly treacherous "witch doctor" (MacIllwaine 1979 1:198).

In Piersey's Muster of 1624–5, "Mr. Grivell Pooley Minister" is simply listed as a tenant who has no dwelling like everyone but Sharpe, although he

is the only person given a social title at Flowerdew (Barka 1976; Jester and Hiden 1956:20–21). Notably, there is no listing of a chapel in the muster, but from the court records above, we know that he had one at the behest of the Virginia Company. Likewise, therefore, since the fort is not part of Piersey's tangible assets, it was not counted in his muster. This almost certainly places Pooley's giving services in a "roome set aside for that purpose only" in Structure 3 from 1623–25+. Based on the overall artifact distribution within Structure 3, Pooley's chapel would probably be on the west side of the structure, as few artifacts were found there, placing Pooley in the chamber. By default this places the plantation commander in the hall.

Pooley's physical placement in this cultural configuration is in a manner we have tentatively associated with the classical model of the principia in direct association with the senior military officer (Johnson 1983). While this association may seem exotic, it is actually familiar also through Garvan's (1951) work and our "small-scale variant models" noted in Chapter 1. Undoubtedly this was due to similar praxeological constraints and simultaneously political shrewdness.

Perhaps Pooley wound up in an attachment to the impressive manor at 44PG64 by 1626–28, where a paled graveyard was installed as ordered by the Virginia Council and Assembly (Barka 1976, Hodges 1993; Kingsbury 1935:580). Thus, 44PG64 could have been a parsonage, as it has both a "paled" fence and a graveyard. If Deetz is right also, Abraham Piersey's "new

frame" which stood in a "garden plott" was in violation of the statute that the burial plot be sequestered for burials only (Deetz 1993; Jester and Hiden 1956:265). Deetz's argument could be given some additional purchase by the meagerness of the graveyard. Unless the death rate went down dramatically between 1625 and 1627, seven people died, for instance, in 1625 at Flowerdew; so the three-person graveyard in the burial plot at 44PG64 is very small for an entire community, especially compared to Martin's Hundred and Jordans Journey burial complexes (Jester and Hiden 19956:22, Mouer et al. 1992, Morgan et al. 1995, Noel Hume 1982).

We know from the comparison of various census data that death rates went down dramatically from 18 in 1623–4, to 7 in 1624–5. So that three, as at 44PG64, is not an unusual reduction in numbers following from this pattern given Virginia's survival of the famine and increasingly seasoned new servants and tenants and the every brief period between the beginning of Piersey's new fame and his death (Hotten 1981, Jester and Hiden 1956, Deetz 1993). To add to our confusion, since all houses were required to be palisaded by 1623, this may be the real significance behind our obscure "paled parsonage." The dovetail in this perplexing puzzle may be the one or the other wings attached the 44PG64 manor, which was the real substance perhaps of a continually makeshift chapel at Flowerdew (Barka 1976). In any case, if the parsonage was moved to 44PG64, this would follow our small-scale variant model based on sites like Macosquin, in which a streets began

and ended with a church (44PG64 chapel) and a bawn (44PG65 flanked redoubt) noted by Garvan (1951) and Repts (1972).

Although, clearly we have no real evidence that Pooley lived anywhere but at the fort, his presence there is, alas, a familiar cultural configuration dating from the Virginia Company period such as that of Reverend Buck at Jamestown or Jabez Whitaker at Henricus and Bermuda Forts (Hatch 1957). One very good reason we think Piersey remained at the fort is that Elizabethan militia defenses in England up to and including the 1630s were organized around parishes, with many churches being the actual repositories of powder and arms for probably dismal holiday exercises (Boynton 1967: 116, 132–39). This church-parish militia association survived into the 18<sup>th</sup> century in Virginia (Issacs 1982:258–259). So when we look at this Flowerdew material, we are looking at some very important beginnings of a strong English tradition associating church and regional military power of the rising state that had its origin in such pitifully small settlements as 44PG65.

By 1628 the fort was commanded by one "Mr. Henry Careleffe," whose commission as plantation commander at "Perfeys hundred" was renewed that year (MacIllwaine 1979:192). In 1629, Anthony Pagett, newly renamed "Flowerdew's" burgess, probably was the plantation commander also (MacIllwaine 1925:xi). Captain John Flood served as Burgess for "Flowerdew Hundred" from 1629–32 and was surely the plantation commander by then



(MacIllwaine 1925:xi,xiii). He was apparently a well-known Indian trader and possibly fluent in Algonquin, although perhaps his reputation as such, postdated much of the Flowerdew period. It is, however, likely that his initial experience as plantation commander at Flowerdew turned him in that particular direction, as plantation commanders dealt extensively and exclusively with Indians by strict law. This law always forced Indians to deal with Englishmen who had raw military power at hand. Such arrangements would theoretically provide the appropriate protocol to stabilize trade prices, while the secure nature of fort context provided the necessary atmosphere of security which would lubricate potential peaceful intercourse. For it is suspected that Native Americans readily understood such "headman" power systems (Jester and Hiden 1956:175–176; Kingsbury 1935:580–585).

### **Sunday Events in Charles City Borough Directed From Structure 3**

Minister Pooley and his shadowy parsonage, like the fort, acted on behalf of all the upriver Charles City settlements. Services at Flowerdew and attended by armed men and their families were probably followed by militia exercises where colonists were drilled by none other than Sergeant Fortesque. For instance, after 1622 John Smith noted approvingly armed settlers gathered and, "everie Holy-day everie Plantation doth exercise their men in Armes, by which meanes...the most part of them are most excellent marksmen" (as cited by Shea 1985:45). This is a policy Argall tried to continue from the old military regime as late as 1618 (Kingsbury 1933:93).

Besides the obvious defensive value of carrying arms everywhere, this weekly drilling is surely why people were required to carry their arms when going to church where formation into files could be organized (Kingsbury 1935:583).

Drill influenced by Maurice of Nassau literally used Roman military terms to command shooting formations which emphasized not only accuracy of fire but rapid fire through successive volleys created by lines of men who were firing, stepping back, and reloading as the next file advanced and so on. This devastating continuous fire known as the "countermarch" was developed by the Dutch in 1594 based on their "assiduous study of the military methods of the ancient Romans," who used the same system for slingers and javelin men (Jones 1987:222–223; Parker 1986:19–20). In order to ensure that Indians were hit, the English used their muskets very often like shotguns, firing multiple loads of "pistol shott" and "high swan shot" as well as single musket balls (Hening 1823 II;443–444; Hodges 1992b:19). Accordingly, archaeologically Yeardley's fort is literally peppered with lead shot. With little stretch of the imagination, fully 200 years before the Industrial Revolution, Virginia militia were being trained to manufacture flying hot lead in a highly regimented, tightly choreographed assembly line of specifically neo-classical origin (Shackel 1993:2, 47–50).

## Corporate Activity Directed From Structure 3: Charles City Corporation

### Trade Shops, Markets, and Other Diverse Activities

The huge and diverse concentration of artifacts associated with Structure 3 and due east of it (which include trade beads, copper scraps, and a forge midden) indicate this area was as close as Yeardley's Fort ever got to a regional marketplace (Barka 1992, Hodges 1993). It is possible the casting counters found at the fort are tokens sold at the fort gate turnpike or wheeled abatis to entitle one to the regional market here. The contact with Jamestown is very strong here. Not only were many of the goods disbursed from the Jamestown depot, but according to Jay Gainer (pers. comm., 1992), there seem to be distinctive personal punch marks made between at least one Jamestown blacksmith that he also recognized through these same marks in the Flowerdew metals assemblage from 44PG65. From this we can infer that the itinerant Jamestown blacksmith came up to Flowerdew periodically to repair firearms and make such items as cannon hardware and caltrops. Hence the energy model of having a fort center in one location, which helped through maintenance relations to encourage other frontier settlers to come to Flowerdew, for not only market days, but for musket and tool repairs, shot, powder, and in spring seed corn (St. George 1986). The seed corn was something smaller planters may otherwise have eaten, while in the case of the shot and powder, they may have squandered it. In turn, should foreign vessels actually attack Virginia, it made a lot of sense to keep highly valuable

gunpowder in tightly monitored catchment at Flowerdew along with the artillery.

At this time laborers and militia, many whom helped row in minor gentry in small boats, provided labor to help repair a fort that was always crumbling and rotting and could be kept standing only with the greatest difficulty. Writing of a an analogous small fort at Blackwater, Ulster, Ireland, in 1598, one soldier on garrison duty reported succinctly, "the fort was always falling" (Bardon 1992:101–102). At the less well built than Yeardley's Fort but larger Coleraine Town fortifications in Ulster, one homesteader lamented, "The Walls and Ramparts built of Sodds, and filled with Earth, do begin to decay very much, and moulder away; for the Ramparts are so narrow that it is impossible they should stand, and the Bullwarks are so exceedingly little that there cannot be placed any piece of Artillery, if occasion were. There are two small Ports which are made of Timber and Boards, and they serve for Houses for Soldiers to Watch in. The town is so poorly inhabited that there are not Men enough to Man the sixth Part of the Wall" (Hill 1970:576).

Despite all these problems, concentrated labor to fortify begot more cannon, as it made little sense to the occupants of Charles City Corporation to fortify upriver at Henricus and Bermuda City, leaving most of the population vulnerable to attack downriver and yet above Flowerdew. Hence, by 1626, half of Virginia's tiny arsenal of ordnance or 10 or 12 cannon was

amassed at Flowerdew because it was a community fort for Charles City Corporation following rather grimly in the surely more impressive footsteps of Henricus and Bermuda City when notably there was little habitation between these forts and Jamestown (Hodges 1993, MacIllwaine 1926:120). All of these things—including Native American threats, foreign threats, god, king, state, trade, and "maintenance relations"—surely helped bind the regional community strongly together (Deetz 1993:71; St. George 1986). Interestingly, we know that militia musters were occurring at Flowerdew as late as 1661, undoubtedly due to similar precedents as well as the convenient river landmark location of this holding (Shea 1985:75–76).

#### **The Deeper Meaning of the Core Tripartite Plan: Renaissance Classicism**

In this section the reader is reminded that we are using Flowerdew as an "exemplar model" to get from low- to high-range theory so that we can streamline our comparative models in Chapter 3. It is thought that at minimum, the core tripartite plan would help orient illiterate people as to the magnified architectural significance of the plantation commander's house, as all people unconsciously understand these sort of triangular architectural relationships. These are intellectually disciplined notions which anticipate Palladian reform of the 18<sup>th</sup>-century Chesapeake plantation complex because they have virtually the same origin in Renaissance classicism.

In the core tripartite plan, Yeardley has created a triangle that is not only based on the classical Greek Pythagorean theory in terms of geometry,

but one that references classical antiquity in another way. What do we mean here? In placing the plantation commander's house in a central ordinal position over subordinate structures, he has created a very simple but readily identifiable Vitruvian plan. Roman architect and engineer Marcus Vitruvius' The Ten Books on Architecture, written in the first century B.C., is the only classical book on architecture to have survived from the classical world. Because of this it became a sort of bible to Renaissance planners and was widely translated into French and English by the 15<sup>th</sup> to 17<sup>th</sup> centuries. Importantly, it was illustrated by Renaissance artists and printers with woodcuts or engravings, since the original illustrations did not survive the ravages of time. While these honored Vitruvius' thoughts, a certain amount of editorialization probably occurred.

The order of Vitruvian plans is that of the human body as, during the Renaissance, this was seen as a physical standard of spatial perfection. Leonardo Da Vinci's famous Vitruvian man is shown in Figure 35. Hence, the plantation commander's house becomes a metaphor for the head, the right arm and shoulder is the garrison house (Structure 1), and the left arm and shoulder is the Store house (Structure 2). Mercifully, we have Glassie's identification of the front door at Piersey's House as facing landward to strengthen our location of the fort's main gate—also facing south or landward—or we would be confused by which "arm" is which (right or left) in the above scenario. It is important to observe here that there is almost

certainly a cultural investment in this. People are on the right or favored side; objects are on the left. In a military Vitruvian model, the militia garrison, or the "men at castle," are literally the sword arm of the plantation commander. For instance, in later court books a superior is always allowed to walk on the right of two people, while the left hand or arm might be associated with evil or ill favor (Bushman 1993:39).

When choices were made as to which structure would be turned to

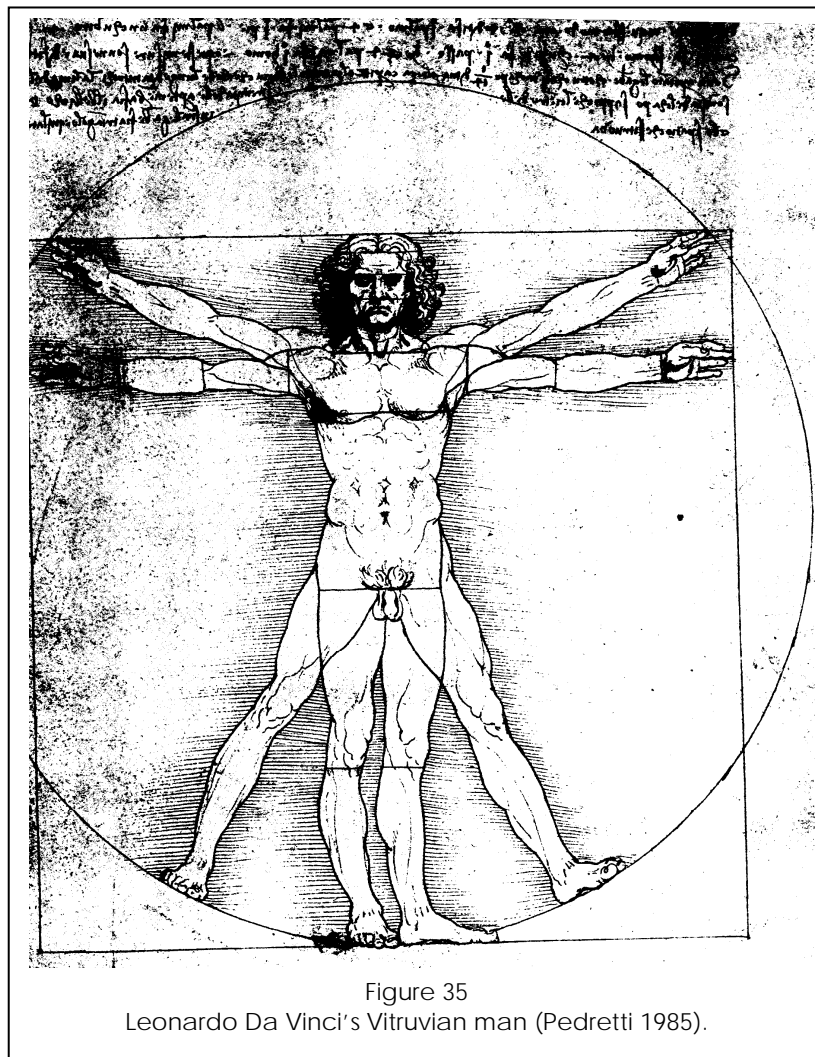


Figure 35  
Leonardo Da Vinci's Vitruvian man (Pedretti 1985).

allow Structure 1 and 2 to flank one another with musketry fire, it is notably the inferior structure—that is, the one containing objects that is shifted south and further away from Structure 3. This is almost certainly because of the "chain of being" which tended to rank things in the mental world of Yeardley. The Elizabethan mindset conceived of the universal order of the world in three main forms. The first consists of a vertical chain, which ranks everything as a series of links moving like a ladder from lower orders (earth, plants, animals, etc.) to higher orders (people by social class, God, etc.). The second consists of a series of horizontal corresponding planes in order of dignity. In the third there is a cosmic musical dance by degree in motion. So to the late Elizabethan and early Jacobean mind, people had to be placed in some way, symbolically or otherwise, in a superior position to buildings containing objects. This is since in the natural order of the world people are superior beings to harvested plant life and commodities in a connected chain. In this chain, each increasing link touches on the next link, so all of these things are interconnected (Tillard 1956:25–106).

There are horizontal corresponding planes set up in Yeardley's tripartite plan, for in the nearness of Structure 1 (close) and 2 (not quite as close) to the hierarchal Structure 3, structures 1 and 2 are otherwise aligned. There are deliberate horizontal linkages between the planes because the fort garrison in Structure 1 is storing part of their arms and munitions in Structure 2. This lateral linkage (literally Points C-D-K-J on the master



grid), is also strengthened because the fort garrison are not just soldiers, but farmer/soldiers—the producers of objects such as tobacco in cask, corn in barrels, etc. which were stored in Structure 2. Yeardeley is showing the symbolism of how these things are bound together, literally and figuratively.

If, for instance, the plan consisted of the master grid with Structure 3 being in the center of a four-squared structure, a sort of cosmic rotation or dance would revolve around it. To the north of the hearth one quarter would contain servants who were not the men at the castle, but brought into a direct relationship. Since they need living space, to the west this would be the structure associated with Reference points E-F-L-EF2. A second storehouse or the Charles City granary would be the structure comprising reference points (M-F-U). In creating such a minimal town square, we are reminded of similar care reflected in the original instructions to the Jamestown settlers, "And seeing order is at the same price with confusion it shall be advisably done to set your houses even and by the line, that your streets may have good breadth, and be carried square about your market place..." (Brown 1890 I:79–85; as cited in Reys 1972:33).

Perhaps tenuously, the symmetry of the master plan rests on the notion that Structure 3's hearth was centered within its block or ground sill based on comparisons with similar Ulster houses (Hodges 1993:188–190; Robinson 1983:51–53). We are not entirely reliant on this symmetry, though. Glassie (1982) notes that in Ireland the symbolic center of the house or its

architectural heart is the hearth. In Structure 3, the hearth most clearly turns toward a heated room facing the river. Therefore, Point A, the core of our entire town plan all the way to the redoubt at PG64, is literally centered above the terminus of a brick hearth footing and the beginning of an ash deposit; in other words, where the center mantel paneling would be (William and Mary Archives). This hearth in turn is directly linked to the chimney post in Structure 1 along the A-C line. Magherafelt, in Ulster (drawn in 1622), has a similar system centering a fortified gate with a manorial hearth, which is directly analogous to the A-B line at Yeardley's Fort at Flowerdew. The variant H-shaped hearth at Magherafelt is visible because, as fate would have it, the manor was never completed nor roofed and lay in ruins (Camblin 1951:Plate 12) (see Figure 36). So this seems to be an Anglo-Irish cultural selection of requisite Vitruvian core reference points which also cut through to some Anglo-Dutch models in early Virginia because of broader cultural trends.

While the competence of Yeardley tripartite plan (triangle A-C-D on the master grid) is excellent, the performance is not. The east facade of Structure 2 is 10 feet from the A-B bisector line, while the west facade of Structure 1 is 13 feet away, for an error of 3 feet against cold Palladian

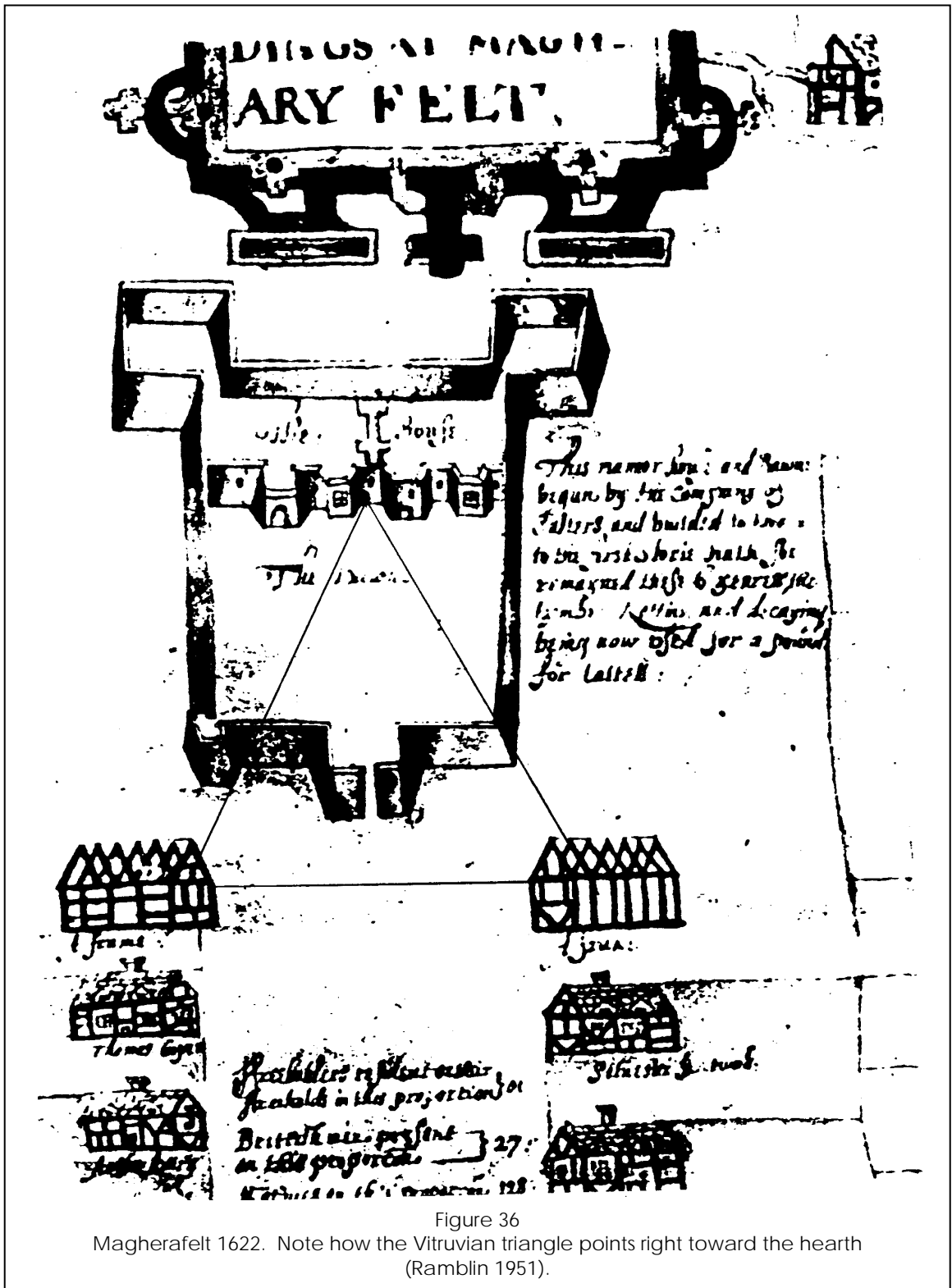


Figure 36  
Magherafelt 1622. Note how the Vitruvian triangle points right toward the hearth (Ramblin 1951).

symmetry. Seventeenth-century symmetry is warm, not cold. Yeardley is thinking the occupants of Structure 1 need more yard area than the objects in Structure 2. Further incompetence is noted in the two west bays of Structure 2 (an addition?); these are 2 feet south of the C-D line we observed above in our discussion of the chain of being.

While we do not know the full dimensions of Structure 3, we do know that one bay (to the immediate west of the hearth) is 16 feet wide and this bay may have to do with chimney scaffolding or traces of block impressions seen most clearly in the hearth core area (elsewhere post or block impression patterns are very hard to find). We know for certain that Structure 1 and 2 are 16 feet wide, as are a fair number of 17<sup>th</sup>-century houses in Virginia (cf. Carson et al. 1981:appendix). Remarkably enough, this specific number 16 is also classical Greek and Roman Vitruvian in origin. Vitruvius (Morgan 1960:74) explained:

“observing that six and ten were both of them perfect numbers, they [Greek thinkers] combined the two, and made the most perfect number, sixteen. They found their authority for this in the foot. For if we take four palms from the cubit, there remains the foot of four palms, but the palm contains four fingers. Hence the foot contains sixteen fingers.”

Elsewhere, he also explains that a foot is one-sixth of a typical human's height, and that the cubit once consisted of six palms, while 10 was a divine number because of its ease at adding to. Specifically, 10 is a number that is infinitely easy to add on to ad finitum (10, 100, 1,000, etc.). It is the number

of fingers on a human hand. Six is also a magical number because, "one is one sixth, two is one third, three is one half, four is two thirds, five is five sixths" (ibid.). Six is a number that is divisible by its first three numbers (1, 2, 3, 6 divided by 1 = 6; 6 divided by 2 = 3; 6 divided by 3 = 2). Early modern carpenters and architects loved these numbers accordingly.

Classical builders found these the best numbers to reckon with during day-to-day building processes. By adding 0.5 feet to 16, you get a rod; this allows you to add or convert these 16- based numbers into three-digit 10-based numbers. For instance, Yeardley's hypothetical town square was 100 by 100 square feet. The base of his right triangle was 100 feet wide when he created his core tripartite plan. Expressed in rods, 100 feet is 6.06 rods. Here seeming is a nearly magical numeric combination as  $100 = 6$ , allowing 10s and the number 6 to be combined in one. This is probably how they came up with the dimensions of the town square at 100 by 100 feet; it is both practical and somehow relates to the magic of Greek and Roman philosophy.

Glassie (1975:22–25) observes that most 18<sup>th</sup>-century houses, in fact, consist of initial layout measurements that are derived from squares which are ultimately reduced to an origin in 16-foot-wide squares that are then converted into rectangles. At least in some cases, Glassie is really referring to 16<sup>th</sup>- and 17<sup>th</sup>-century architecture also, which are not part of his overall temporal scheme. Although some of his houses may be "folk" houses, they are deeply invested with classical wisdom whether their builders knew it or not.

We know literate clients did, especially in the 16<sup>th</sup> and 17<sup>th</sup> century, when Renaissance wisdom deeply penetrated practices in Northern Europe through Vitruvius and undoubtedly the use of measuring rods 16.5 long.

**The Core Tripartite Plan: Comparisons with 18<sup>th</sup>-Century Plantations and More Contemporary Architectural Complexes**

After contacting Christopher Newport on his returning voyage from James Fort in 1608, one Dudley Carelton observed:

“They have fortified themselves and built a small towne which they call James-towne, and so they date theyr letters: but the towne me thincks hath no graceful name, and besides the Spaniards who thinck it no small matter of moment how they stile theyr new populations will tell I dowbt it comes to neere Villiaco” (Arber 1910 1:lvi).

In this statement Dudley with ease makes an analogy between a fortified outpost, a small struggling town, and a villa ("villiaco") in what appears to be sarcastic pig Spanish or pig Latin. If we note the term "villa" as a "diminutive from the stem vicus village, hamlet, country seat," and we stop to think about Sandys' request for "orderly villages" in 1622 which needed to be "fortified townes," then we have a fairly good "handle" on the Vitruvian based Palladian connection demonstrated at 44PG65. In Latin, villaticum is the neutral singular of villaticus, pertaining to a villa from which the French almost certainly derived the term village. Thereafter, the word probably penetrated English through the Norman invasion and later Plantagenet courtly language, which favored French (OED 1978 12:204). Here we are reminded that instructions for the fortified town planned on

Roanoke Island by Sir Walter Raleigh note them as "For Master Rauley's Viage;" that is, his fortified village (or villa) (Reps 1972:27).

Besides window dressing, as planning models how much difference is there between the early settlements in Virginia and Ulster and 18<sup>th</sup>-century Georgian (Palladian) plantation complexes? With Yeardley's Fort as a model, a comparison with the early 18<sup>th</sup>-century Palladian layout of Shirley Mansion and its subordinate buildings illustrates the basic similarity between the ca. 1738–40 Shirley plan and the ca. 1621–23 Flowerdew plan. This is because the design concept in reconciling each of the three building groups respectively is remarkably similar, with only a variant arbitrary choice of anchoring the central measuring point or vertex for the isosceles triangular plan (see Figure 37) (Reinhart et al. 1984:Figure 17). The paired diagonals which seem to dominate both core tripartite building plans at Shirley and Flowerdew recall the same principles of single-house building layouts also based on single diagonals emerging from a square as described by Glassie (1975:22-23). Below we will observe that this also ties directly into town planning.

If we replaced the mansion house at Shirley with a fortified bawn and replaced the two rows of subordinate buildings for homesteaders, we would have an Ulster plan like Magherafelt or a town plan like New Town in Jamestown of 1621. So what is the linkage? The answer is these are all ordinal Vitruvian plans based on the ideal of a human body. Hence, in

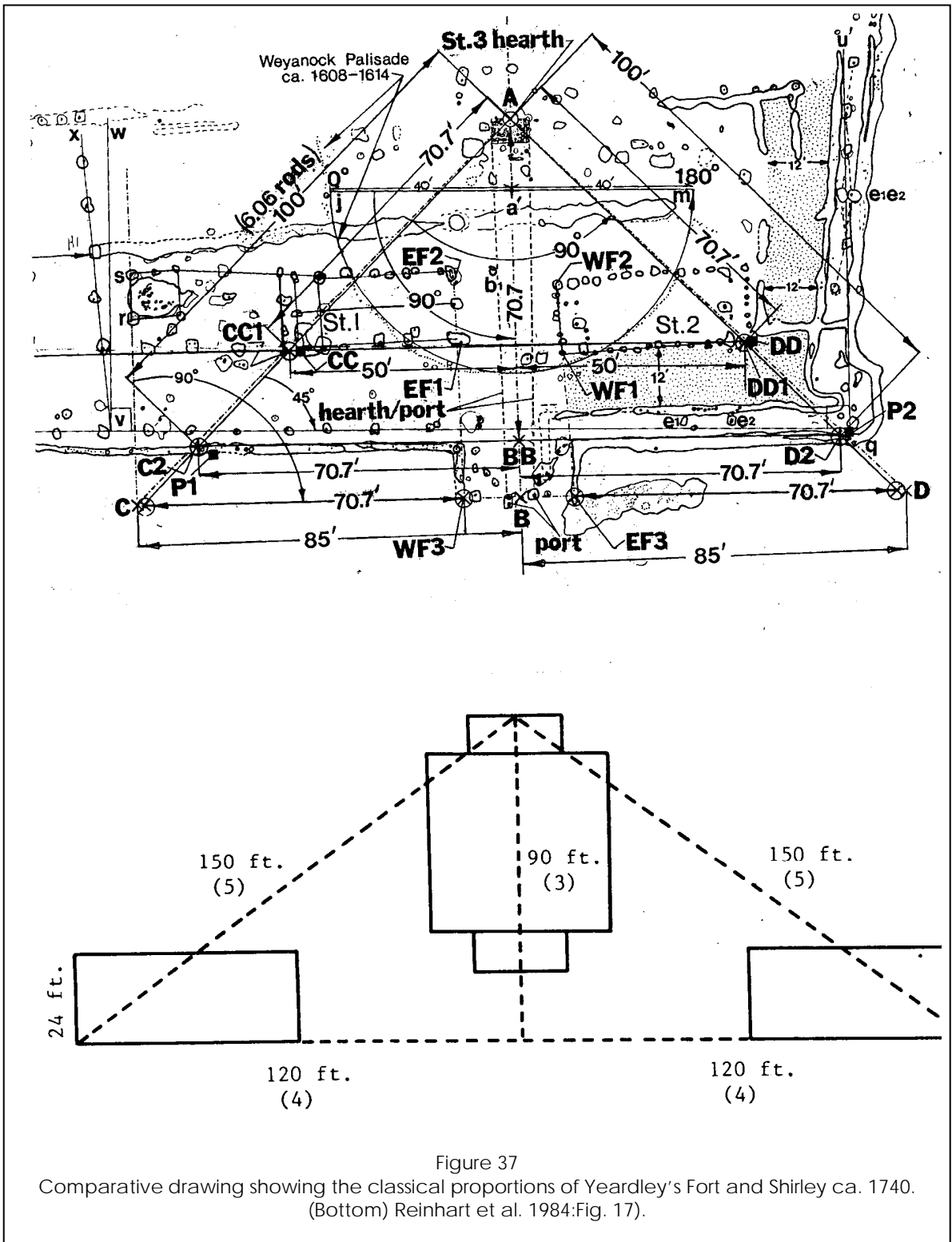


Figure 37  
Comparative drawing showing the classical proportions of Yeardley's Fort and Shirley ca. 1740.  
(Bottom) Reinhart et al. 1984:Fig. 17).



Chapter 1 we described medieval plans like Flint, Wales, or Ulster Irish bawns like Magherafelt, Macoscin, or Moneymore as Romano-Medieval since the fortifications did not enclose the entire town. Using Flint as an example, the castle is the head of the community literally and figuratively, and the body—consisting of pairs of limbs and organs—are the buildings laid out along the bi-linear streets. So the main difference between the earlier settlements and 18<sup>th</sup>-century plantation complexes is the rigorous spatial order and the direct metaphors (Roman columns, Greek cornices etc.), things far beyond the circumstantial capabilities of early settlers in Ulster and Virginia.

In turn, Yeardley was compelled to build his town center inside a fort following the Romano-Renaissance model. Yet he is compelled to make direct references to Vitruvius to at least symbolize English civility in some small way as associated with the classical world. This is how Yeardley has chosen to interpret it. He does so as an exercise in *humanitas*.

#### **The Concept of *Humanitas* Briefly Explained**

Earlier we noted that the layout of a fort was the duty of the fort commander who would not have to rely on servants to help him, thereby underscoring his social ascendancy. This is a sort of "action-based" concept in architectural planning (Geertz 1973). Davies' and Digges' mentally disciplined preoccupation with perfection of proportion in planning are of course not the preoccupations of a traditional folk society (Deetz 1977;

1993). In other words, knowledge of the mental discipline of geometry was, in effect, a practical social demonstration of one type of intellectual power that reflected personalized social superiority over a folk society (if one prefers), even when creating a literal power symbol such as a fort. Larry Babbitts (pers. comm. 1996) notes that a fort therefore is not really a symbol of power; rather, it is the personification and exemplification of "raw power" requiring no symbolization. This is an important thought because the fort becomes its own power symbol, if you will. Nonetheless, how it is used to architecturally underpin a type of social ascendancy is attended by the Vitruvian ordinal arrangement of the structures within the fort, of which Structure 3 is clearly the hierarchal center.

Such exactly similar thoughts of individual action and architectural expression probably occupied Thomas Jefferson's mind when he personally designed and laid out Monticello, placing his interpretation of a small Greek temple as a mansion in the ordinal center over two subordinate rows of slave housing and utilitarian shops. This pro-active similarity is because these are fundamental ideals originating in common heritage of the Renaissance and the rise of individualism, which has everything to do with aristocratic republican thought (Bushman 1993:414–415; Rice 1970:64–79). Moreover, they commonly document the rise of Castiglione's (1513) well-rounded "courtier" as the supreme exponent of culture through superior knowledge of humanitas. Humanitas is pro-active; it is "to be achieved in large measure

through the study and imitation of antiquity," rather than by superior basis in bloodline or religious preoccupation (Simpson 1959:v).

These Renaissance ideals of humanitas were not intended to commemorate Greek and Roman antiquity, but rather to "join in recreating it," which is exactly what Jefferson did (Argan 1969:27). Here, Geetz's active or action-oriented use of cultural symbols is especially useful. Yeardley or someone therefore chose Greek principles of geometrical harmony in the Pythagorean theorem to organize 44PG65 as his own active expression of humanitas. We know they were culturally striving for symmetry at 44PG65 because the equilateral right triangle simply features two common diagonal distances from a common point. Therefore, it is but a small step to realize we are dealing with a 16<sup>th</sup>-century Vitruvian-based plan in Yeardley's Fort that anticipates Palladian-inspired 18<sup>th</sup>-century mansion complexes..

Did these seemingly "Georgian" notions of space really penetrate early 17<sup>th</sup>-century behavior in Virginia? Yes, they did, because the "Georgian" notions of symmetrical space are really "Palladian." They are based on Andrea "Palladio's" (Andrea di Pietro della Gondola's, 1508–1580) interpretation of classical building. This north Italian 16<sup>th</sup>-century Renaissance architect advanced humanistic classicism based on the Roman architect Vitruvius' ideals of spatial harmony (Kruft 1994:81–92). The intersection with Yeardley and Palladio takes on new meaning in a fortification because Roman military camps were what both of them were

probably thinking about. Amazingly enough, Palladio extensively studied the organization of these camps and their use in the campaigns of Caesar and Polybius as a sort of hobby, then filtered military hierarchal designs into his villas to physically "dramatize" the main mansion house (Hale 1983:471–486). The English military camp (Figure 38) shows how the senior officer's tent is spatially dramatized. Even through Palladio we have a perfect military and civil intersection with Garvan's (1951:29–30) 17<sup>th</sup>-century homage to classicism. Using Carson's (1969;1994) model of development, once this language of Vitruvian and Palladian classicism through tripartite plans became an established "language," lower- and middle-class settlers tried to imitate what they could of the self-made aristocracy's simple language of English civility by making their houses more symmetrical.



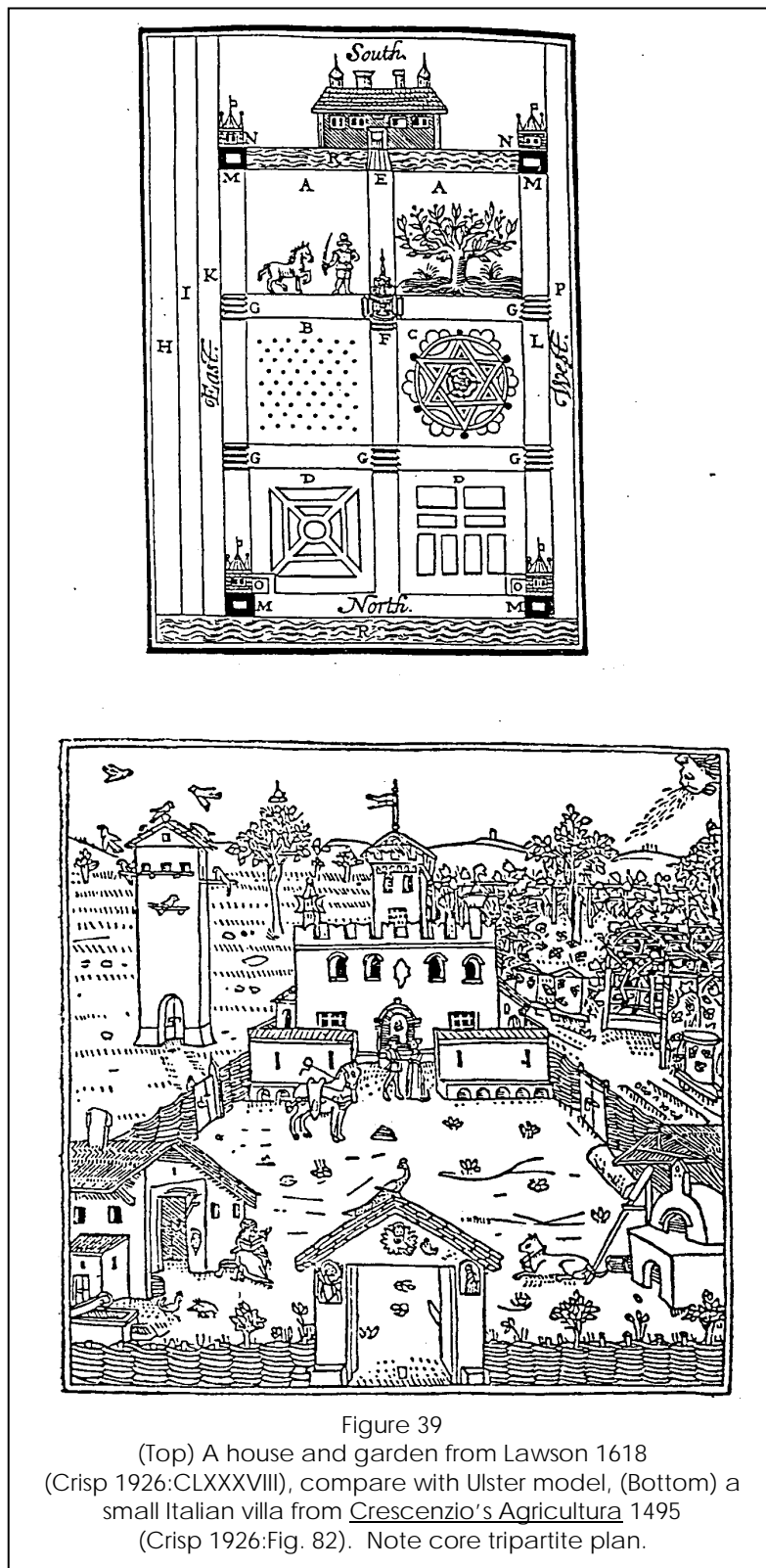
Figure 38

An overnight cavalry encampment of 1579. Note ordinal plan due to personnel discipline (from Digges 1579, reprinted 1968).

Perhaps the best way to end this particular discussion is simply to look at concrete examples of similar plans that show parallel models of how the Italian Renaissance ideas affecting Flowerdew are part of a larger movement. This will provide an additional sense of comparative scope for the reader to make his or her own judgments.

A good early Italian Renaissance plan showing a tower house with battlements in an ordinal position over two flanking subordinate outbuildings has been illustrated in the Italian book, *Crescenzo Agricultura* (see top of Figure 39), apparently published in 1485 (Crisp 1924 I:Figure 82). Notice how the centered main gate to the post-and-wattle courtyard or "forecourt" points toward the equally centered main entrance to the tower house. This is clearly reminiscent of the A-B line within Yeardley's Fort. Notice also how the two structures nearest the main gate, a farm house or kitchen (left) and a outdoor oven (right), attempt to preserve the spatial rhythm of tripartite core architectural master plan though in a less formal manner. This is since they are of unequal size and uneven function, so you need to compromise and regiment functional items if you want full symmetry. This plan also clearly anticipates the forecourt at Shirley.

In W. Lawson's, *New Orchard and Garden* (1618), the Vitruvian plan is shown with an ordinal house with a centered entry plan which presides over gardens and orchards rather than outbuildings of homesteaders' houses (Crisp 1924 II:Figure CLXXXVIII) (see Figure 39 bottom).



The centered house-garden-gate-entry plan is also analogous to the A-B line at 44PG65 and the parent Italian work noted above. Note how a garden house or small quarter (built in mock castle style) is at every corner of the courtyard, the upper two of which (N and N) are equivalent to Structures 1 and 2 at 44PG65. The lower two are spatially equivalent to the farmer's house and bake house depicted in the Crescenzo Agriculturaat. Two of the specific garden plots feature versions of right triangles, which in plot "C" become a star form, and in "D" - become a consonance of four right triangles to become a square. Although the garden is idealized, a manor at Bangor (just to the left of the "The Crofts hill") in Ulster of 1625, is entered in between two garden plots (or former house foundations) at right angles to the manor's long facade. These symmetrically flank the entrance. Ruins of a Z-Plan fortified perimeter frame the unit (Camblin 1951:Plate 6; Hodges 1993).

The Lawson's garden plot is barely different from the one featured in the 18<sup>th</sup>- century William Paca Garden in Annapolis (Leone 1988). The latter is asymmetrical in its relationship to the mansion since town life spatially constrained Paca (Leone 1984 as cited by Trigger 1989:xii, Figure 49). This again, as we discussed above, is why the country was considered the more freely expressed civilized mode of human expression in the Renaissance mind (Rasmussen 1951:68). Both of these gardens are expressions of Renaissance ideals, with Lawson's 17<sup>th</sup>-century model being more symmetrical than Paca's 18<sup>th</sup>-century performance. Plot A is probably a horse corral, suggesting that

these animals were still an integral part of the relatively formal enclosed home lot and garden in much the same manner that a car might be parked in front of a modern house. Architectural historian, Mark Girouard (1983:18–19), notes that Elizabethan and early Stuart taste employed "size and symmetry, the two qualities most certain to produce an impressive effect," to denote social status symbols as the watered down spirit of the Renaissance finally penetrated Britain in the late 16<sup>th</sup> century. Clearly, by turning the three core buildings into a common east-west orientation, Yeardley appears to have wanted to convey building "mass" to visitors entering the site from the centered fortified gate/caponier (point B) (Hodges 1993:Figure 2; Isaac 1988:54-55; Pedretti 1985:156, 159, Figure 230). The placement of Structure 3, with its probable centered lobby entrance opposite the casemated caponier (fortified entrance) along the A-B line and viewed between Structure 1 and 2, also is a manipulation of the laws of perspective—both optical (ambiance of layout), social (hierarchal), and historical (invasion of Virginia seen as an analogue for the re-created invasion of pagan Britain by civilized Romans), all hallmarks of the Renaissance.

At Wimbleton House, Surrey, built in 1588, and Holland House, in London, built about 1606 to 1607, massed building blocks feature an ordinal building center flanked by and joined with two massive building wings which are added with the symmetry provided by equilateral triangles (right or isosceles). This is simply a tripartite Vitruvian plan derived from various



Roman bacicias forums, temples, and villas, in which the subordinate buildings simply become wings in order to define a centered courtyard and entry way as posited by Renaissance scholars such as Barbaro (1567) and Palladio (Girouard 1983:36–37, Figures 16,17; Krufft 1994:Plates 44, 47) (see Figures a, b). The Wren Building at the College of William and Mary shows this plan, as does the "howfe wherin ye Lo. Bpp Duell" in Londonderry, Northern Ireland of 1622 (Reps 1972:Figure 12). The Governor's Palace in Williamsburg uses the same tripartite courtyard plan as separate buildings (Reps 1972:Figure 117). Of this group Yeardeley's Fort and the Phase 1 at Shirley show more emphasis on architectural mass because of common building orientation designed to catch the eye of mariners plying the James River as well as defensive constraints.

### **Yeardeley's Cattle Pound and Fortifications**

In the fort sections above, so far we have focused primarily on the master plan and the core tripartite plan and its classically derived cultural significance. It was thought best to follow the master plan immediately with the core tripartite plan so that the geometric basis of both discussions would be fresh in the reader's mind. In this section we will look at the cattle pound and fortification in order to complete our discussion of Yeardeley's Fort as a complimentary interpretive package.

## The Cattle Pound

Leone (1977) suggested that examination of town plans will provide evidence of the cultural subsystems present at a site, some of which may be largely invisible to archaeology. A livestock enclosure, perhaps once originally a kitchen garden in the original para-military town plan within the west side of the fort, appears to be part of such a subsystem, as it is a large open appendage to the master plan beyond the C-D line (Hodges 1993). The current feature, deemed a "cattle pound" by the author, is a term borrowed from contemporary notations by Thomas Raven at Magherafelt and Moneymore, where failed defensive bawns had been turned into cattle enclosures of the same name (Camblin 1951: Plates 12, 13). The original identification of the cattle pound appears in Brain (et al. 1976), where it spills toward the east in excess of its western section, the latter of which we are chiefly concerned with here. The theory was probably a default inference as there is no evidence of any important English features within the 54-foot-wide zone along the west side of the site, which is in marked contrast with the remainder of the site (Barka 1993:330).

What competence is demonstrated in this unit? In our study of the west trapezoidal palisade section, we noted that the north-south hole-set partition demarked a 54- (east to west) by 70+-foot (north to south)-wide sub-enclosure defined by seven hole-set posts spanning points v-x. Five of the most northerly hole-set units are on approximate 10-foot centers. The

remaining three define a man-sized gate just north of the wall walk (near point "V"), and a cattle-sized gate 12 feet wide just above it that probably operated two 6-foot-wide gate swings (Hodges 1993:Figure 2). There may be a northeast corner to this partition just above point x, although the regular gaps of hole-set post molds are not maintained, and little in the northern portions of this area of the site can be clearly interpreted. A later gate facing south may be an adjustment to the placement of the caponier over more commodious entry features after 1622 (see discussion of cattle gate/sally port above) (Brain et al. 1976). It appears to be well centered with a 21-foot gap to the west and a 20-foot gap to the east spanned by two paired postholes on either side.

There are several, somewhat large post mold-like stains similar to maul piloted stakes down the center of the pound or croft; these may even suggest this zone was a market or location of militia tents, if we are not looking at animal stalls or garden features.

The hole-set partition appears to either postdate the west ditch-set curtain and hole-set palisade or be contemporaneous with them, since it is a literal reflection of the 85-degree angle of the west curtain and wall walk (initial hole-set palisade) as a parallelogram or rhomboid form. Were this site built at any other time than circa 1622–23, a kitchen garden would be a key predictable improvement in such a blank space east of the relatively intensive core tripartite plan within the larger inner courtyard. The familiar

plot of the Macosquin ideal, although never completed as illustrated, gives us some idea of this "negative space/garden" argument (Blades 1986:Figures 2, 3; Garvan 1951:Figure 36; Robinson 1983:61). Adding somewhat to our sense of ambiguity, Joanne Bowen (pers. comm., 1995) has suggested that seasonally some annual kitchen gardens could become winter quarters for livestock. This is presumably in order to conveniently gather manure concentrations and to feed cattle more easily by hay cut earlier. We know at Jamestown in 1610 West and Gates had "a house set up to lodge our cattle in winter and hay to be appointed in his [Gods?] due time to be made: [as hay comes in season to be cut?]" (Brown 1890:492). Housing cattle in winter is a Dutch practice, although some elite Tudor households had cow houses (Fussell 1966: Plate facing page 38, 136). Governor Sir Thomas West delighted in the increase of cattle and observed, "Milke being a greate norishment and refreshing to our people, serving also (in occasion) as well for Physicke [health cures] as for Food ["whitemeats", cheese etc.]" (Tyler 1946:213). By 1611, with the removal of the capital of Virginia to Henricus, the chief purpose of James Town was the protection of "breeders" who were enclosed by blockhouses and an island (Brown 1890:491–493, Hatch 1957:13). Court testimony indicates "Cow keepers" were present at Jamestown in 1625, while other court cases refer to "cattle in the pen" in 1626, suggesting that cattle were indeed "penned at the time" in contrast to Deetz's (1993:40) assessment (MacIllwaine 1979:55, 79).

Given our perplexity at identifying what was going on at 44PG65, some sort of an elaborated behavioral explanation is called for here beyond a potentially fragile interpretation at the level of an educated hunch (Barka 1993). Why enclose cattle at Yeardley' Fort (1622–32) and perhaps not his original town center (1619-1621)? After the massacre, Nathaniel Butler, the former governor of Bermuda Isle and a harsh critic of the Virginia Company, noted on post-massacre inspection, "I found ye Antient Plantations of Henrico, & Charles Citty wholly quitted and left to ye spoil of ye Indians who not only burned ye houses said to be the best of all others, but fell Vppon ye Poultry, Hogges, Cowes, Goates, and Horses whereof they killed great number to ye grief as well as ruine of ye olde Inhabitants" (Kingsbury 1906:384). As we have seen, Butler never saw Henricus or Charles City, but these statements are probably accurate nonetheless (see above). Indians began killing cattle elsewhere (Kingsbury 1906:67, 118, 138, 476, 524). In fact, there are so many complaints of Native Americans killing cattle in both the First and Second Anglo-Powhatan Wars that a full citation of this activity would run us off this page (Barber 1990:170–172, 180; Kingsbury 1933:557; 613–614). In Gates' instructions of 1609, we can infer that cattle were penned to keep them out of corn fields and herded by armed guards while in more open pasture, a system developed by Dale and Gates perhaps from a Dutch model (Hamor 1957[1615]:32–33; Kingsbury 1933:18; Rolfe 1951[1616]:35).

What went on at Flowerdew, a site not abandoned in 1622? In a court inquiry regarding previous activity at Flowerdew in 1622, testimony relating to the plantation cattle was heard on March 7, 1623, at the Flowerdew borough fort (44PG65) that notes of these beasts, "Thefe 4 Cowes & the bull that were att Flourdieu hundreth where l[ieutenant] Gibbs lived and had the ufe [use] of them [,] whereof 2 of them dyed & one of them was [shot] by the Indians & the bull was drownd fwiminge out to Berkeley Hundred & eaten there" (McIllwaine 1979:11). While much of this testimony is probably a "cock and bull" story in its own right, the most important aspect is that Indians might well have killed one of the cows; it is likely that the rest were eaten by starving colonists at Flowerdew and Berkeley Hundred. Samuel Sharp, who was probably at Flowerdew in March 1622, complained of much sickness and many deaths exacerbated by famine (Kingsbury 1935:233). With this in mind Lieutenant Gibbs was probably lucky, for by 1623, he would have been risking capital punishment for this activity as stealing "Domestical or tame" livestock worth over 12 pence, was a serious crime since these beasts were important breeding stock and were not to be eaten except by command of Yeardeley (Kingsbury 1935:283–284; see also Barbour 1986 I:263, Flaherty 1969:17–18).

Summing up so far, we can assume that milk, whey, butter, and other dairy products were worth more to the colonists than a kitchen garden during the Second Anglo-Powhatan War since no meat could be taken and that the

wall walk prevented animals from interfering with militia activities along the south and west perimeter. Also from the court testimony involving Lieutenant Gibbs and Gate's instructions, it is more than probable that during the day cattle were normally driven out of the cattle pound by an armed guard and returned at night. We should pause here to ask, how many plantations could afford to have an armed militia guard protecting their cattle? This daily freeing of the cattle pound occasionally provided parade and drilling grounds for the militia after they compiled the manure as good "soldier farmers."

In the muster of 1624–5, Yeardley has 50 cattle, 40 swine, 8 goats, and 3 kids at James City. At "Piersey's Hundred" (Flowerdew), Piersey has 25 cattle and 19 swine in 1624–5. At Flowerdew, Piersey's herd was also a "corporate" herd, as it included 8 cattle which were "Mr. Samuell Argall's," the former governor's (1617–21) breeding stock almost certainly originally kept by Yeardley for his much admired friend (Powell 1977:76–79) (Jester and Hiden 1956:22, 27; MacIllwaine 1979:55, Morgan 1975:122). While it is not known how many of Yeardley's cattle at Jamestown were once from Flowerdew, it is likely that he had the largest private herd in Virginia, while Piersey's is better than most.

In describing Captain Newse's post-Massacre Plantation at Elizabeth City in 1622, John Smith (Arber 1910 2:596) noted, "The 9[th] of September [1622], we had alarum, and two men at their labor slaine; the Captain

[Nuse], though extremely sicke, sallied forth, but the Saluages lay hid in the Corne fields all night, where they destroyed all they could, and killed two men more. Much mischief they did to Master Edwards Hills cattle...." In this particular instance it is likely that the Indians were eating Edward Hill's cattle (or their livers raw in order not to make a fire) while camping out and destroying both corn and Englishmen, in a remarkably efficient guerilla attack system, which was nonetheless incapable of eliminating the entire community.

So it is rather obvious that the "feed fights"—usually only seen in the English's stealing Indian corn during "harsh visits" as a system developed by John Smith—were really a reciprocal warfare exchange between the English and Native Americans during the periods 1608–14, and 1622–32. Each group clearly took turns punching the other precisely in the stomach, quite literally (Fausz 1977, 1990; Shea 1985:29, 40)! Roman soldier Vegetius suggested during siege warfare which resulted in hunger, "all livestock, any sort of fruit and wine,...should be collected into strong forts" (Milner 1993:66). We can infer a borough fort had a magnified duty in this respect.

Although we know a trans-peninsula palisade similar to those in many of Dale's settlements was installed at Flowerdew by at least 1626, the poor settlement at Flowerdew, wealthy compared to most, could not afford to enclose the entire Flowerdew Hundred plantation within a serious Native American-proof defensive system due to practical constraints even if it



wanted to (MacIllwaine 1926:120). Thus, especially between 1622 and 1626, Yeardley's cattle pound at 44PG65 probably served a key service to the community herd prior to the erection of that unit. Moreover, if settlers were not also dispersed across planting fields, and possibly along the palisade, Native American warriors would, if possible, ruin the entire subsistence economy of the plantation by cutting down or firing their corn fields when the corn was tall enough to hide in (July +) and beginning to dry and ripen for harvest (August to October) (Kingsbury 1933:614). This of course helps explain the somewhat foggy Bermuda model of 1611–16 noted by Rolfe (1951), and the lamentations of Richard Frethorne at reoccupied Martin's Hundred (Kingsbury 1935:41–42, 58-62; see also 37–39; Hodges 1995).

Even in un-threatened circumstances there are a number of precedents for keeping cattle near the house, especially at night. In the medieval and perhaps late medieval system, "crofts" or "enclosed animal paddocks" were placed behind peasant houses or presumably within portions or "tofts," which were enclosed yards or gardens (Beresford and Hurst 1991:49, 136, 138–139; Rowley and Wood 1982:67). Such divisions may explain the partitions within Yeardley's Fort and the Nansemond Fort (Hodges 1992:Figures 2, 5). One tenant at Moneymore in 1616 was asked to enclose the "backe & crofte now laid to the said howse" with a quickset hedge, a good husbandry system typical of the midlands (Robinson 1983:62; Trow-Smith 1951:116). In the west English longhouse, small groups of cattle were kept at the end of the

house in a byre (Beresford and Hurst 1971). A farmhouse in 1681 illustrated in Worlidge's, Systema Agriculturae, The Mystery of Husbandry Discovered depicts a cattle pen annex appended to the main house courtyard in a similar vein to the relationship of cattle pound to the inner court with the core plan in Yeardley's Fort (Crisp 1924 I:Figure 169). This illustration seems to underscore an explosion of the west English longhouse plan by ejecting cattle into an annex convenient to the house. In unthreatened circumstances in later 17<sup>th</sup>-century Virginia, calves were penned to keep nursing cows near the dairy (Chinard 1934:122–126).

In contemporary Ulster, Ireland, cattle were driven into prepared courtyards or "bawns" at night, probably during the initial frontier period by some timid English who had not given over to open pasture (Noel Hume 1991:237). The traditional Irish had regularized their herd protection system. Let us look briefly at Hill's (1978:82) description of the traditional Irish bawn:

“It was customary among the ancient Irish to construct their bawns or cattle enclosures near their residences in times of peace, and adjoining their encampments in times of war. These enclosures were always formed on a certain well recognized plan, of trenches and banks strengthened by stakes, or most frequently by growing hedges, to guard against the attacks of wolves and other ravenous animals, as well as the assaults of hostile tribes... The term Boaghun was invariably used in former times throughout the north and west of Scotland to designate the cattle-enclosure connected with each hamlet or village” [author's emphasis].

While Renaissance courtyards might reserve space for horses and other livestock, the most important aspect of Hill's quote is the fact that the bawn was made to "adjoin" encampments during times of war, suggesting an appendage to a pre-existent unit or a planned integrated unit with such a partition "built in." (See Figure 40.) This is a very good match with the archaeological record at 44PG65. Also from Hill's research we can infer that it is obvious that bawns built during times of serious threat were constructed in a more substantial manner than regular cattle enclosures. This was done for exactly the same reasons; "a place for cattell" was included in military encampments and for exactly the same reasons as warfare attenuated subsistence integration into minor or major fortifications alike (Machiavelli 1560–62:Figure 7). This we suspect was the very case at Flowerdew in Yeardeley's fort in a zone deemed a "cattle pound."

A good example of a similar, more substantial defensive system is the Anglo-Norman grange, a type of unpretentious defended farmstead which seems to

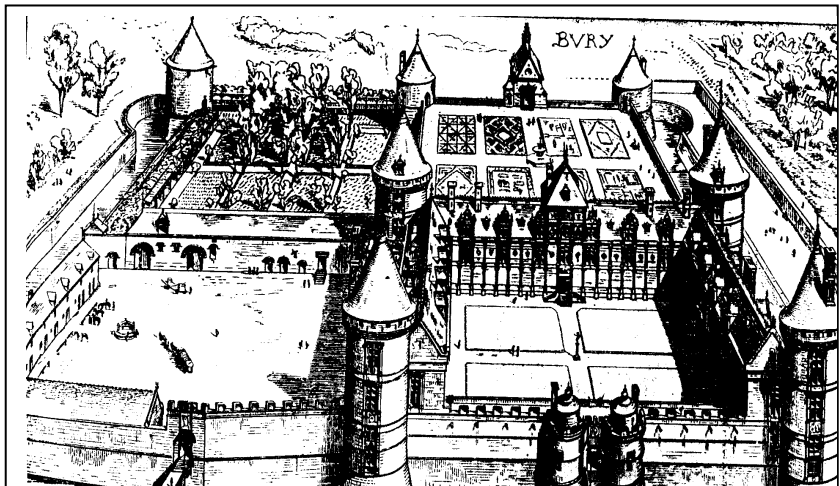
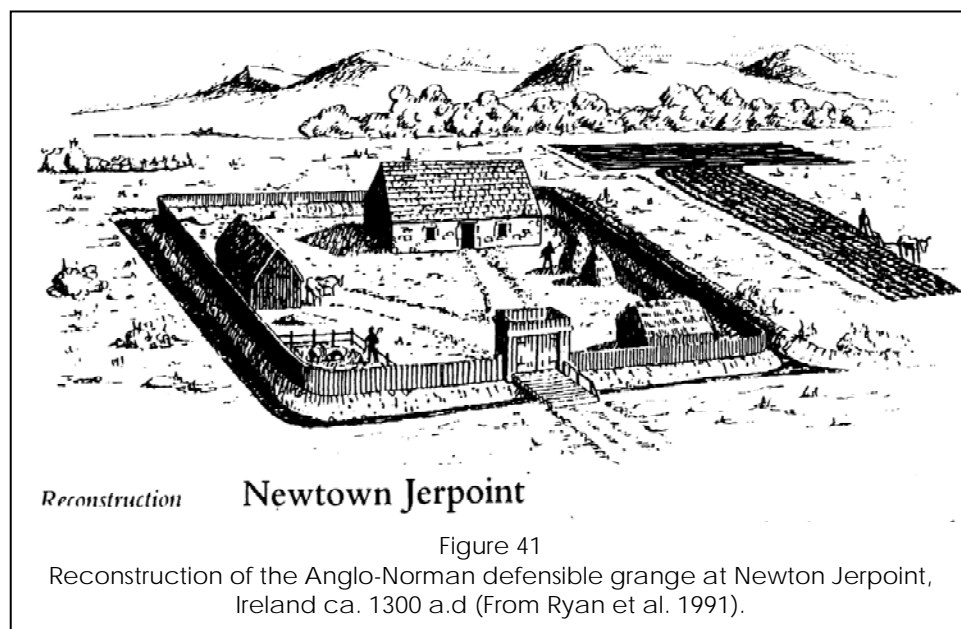


Figure 40

The chateau of Bury, 16<sup>th</sup> century. Note space reserved for animals in base court (which is now expanded) (Crisp 1926:Fig. CCLXXX).

simply increase the size of the outer ditch (which was often moated) and the strength of the surmounting stakes comprising the single paled or compiled palisade, to secure itself (Ryan et al. 1993:182). (See Figure 41.) The grange enclosure is simply a smaller version of the Norman bailey noted in Chapter 1 due to praxeological constraints. Toy (1984:53) illustrates three Norman motte- (turf-piled hill with fortress on it) and-bailey castles with built-in partitions. One of these examples at Haughley, Suffolk, matches the general form of the surviving "spatial code" at Flowerdew disturbingly well, probably because the functional needs present were roughly the same (Hodges 1993:Figure 2). In other words, there is an international quality to this type of defense of a meat-and-dairy subsistence system, we suspect, that is of great vintage, and the number of options generally favored some sort of partition or concentric plan to directly include animals in fortifications.



## Yeardley's Fortifications

In the aftermath of the Massacre of 1622, Sir Francis Wyatt's father recommended to his troubled son, "the singular pen of Vegetius," not just for tactics but probably to design field works (Fausz and Kukla 1977:123–124). Roman soldier Vegetius, who penned The Epitoma Rei Militaris or Epitome of Military Science in the early Christian period of the late Roman Empire and whose works had been available in English since the 15<sup>th</sup> century, recommended wooden stockades (Roman "valli") mounted on ramparts (Roman "agger") built with turves behind a "fosse" or ditch (Jones 1987:221–222; Kingsbury 1933:220, Milner 1996:xii-ziv, 77; Rowse 1973:398-339, 455–459). Renaissance fieldwork planners adapted the Roman earthwork fort model to artillery proof works, which will be explained in greater detail below. The Roman stockade or "valli" is thought to form the original basis of inspiration for the cliché stockaded Anglo-American fort dating from the 17<sup>th</sup> century to the 19<sup>th</sup> century, although a poorly understood stockading tradition in Europe survived wherever large quantities of wood were available and temporary defensive needs coincided (Robinson 1977).

Maurice of Nassau, the great Dutch Protestant political and military leader of West, Gates, Dale, and Yeardley, saw the Roman example as a way of building Renaissance forts more cheaply as rapidly constructed field works which typically embraced the very Roman fortified encampments noted by Garvan (1951) and Reys (1972). Accordingly, masonry revetments to

earthworks typical of the Renaissance Italian citadel forts could be built of only "close beaten earth" or twigs and turves, with or without revetments of wood or wooden palisades as these resources were available. It seems without such innovative field works there would not have been a Protestant Holland at all (Duffy 1979:58–105; Fithian 1991; Ive 1589; Parker 1986: 12–13).

It would probably be an understatement to say that this Roman-derived Dutch system of fort building was "drilled" into Yeardley's young mind as part of his "personal discipline" between the ages of 14 and 22 on the battlefields and garrisons of Flanders and Holland. Thus, rather than being particularistic to this study, Dutch-influenced fortifications provide us an opportunity to study a second range of data pertaining to humanitas—personal Elizabethan Renaissance interpretations of classical fortifications by hard-bitten war veterans. Yeardley was not consciously trying to build a correlative Roman fort. Rather, he, like most soldiers, was adapting Roman ideas in modern "catch as catch can" Renaissance ways, given his own and the Virginia Company's profound and increasing impoverishment.

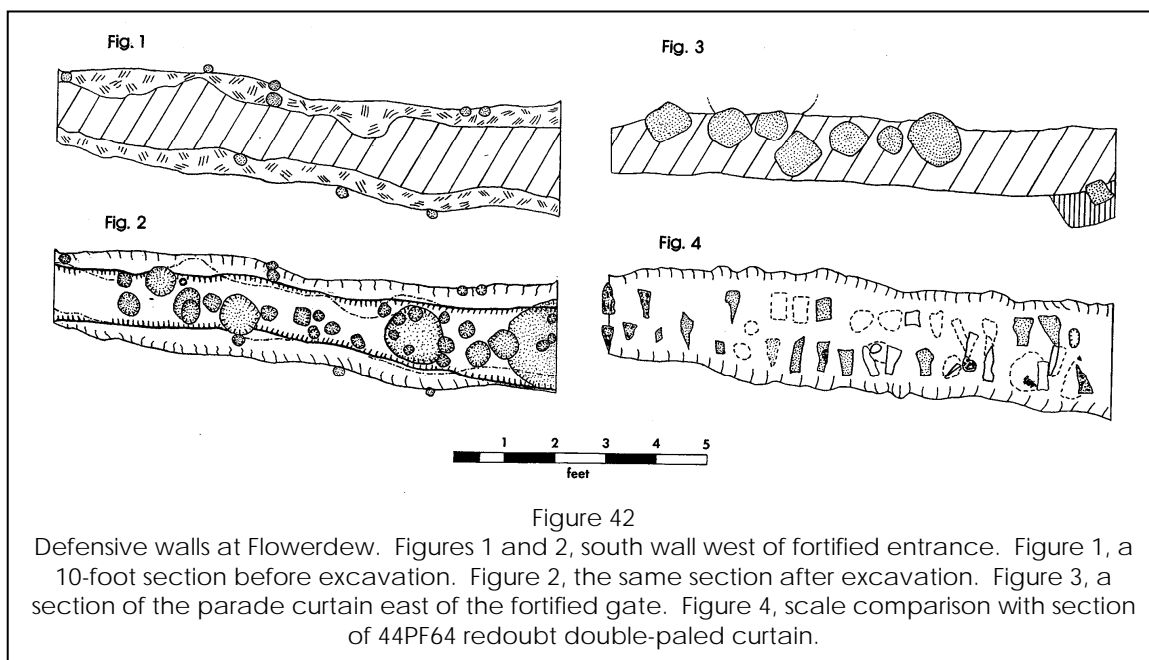
### **Preservation Characteristics of the Fort**

The fortifications are in poor but recognizable condition, possibly because the interior of the fort was turved prior to its construction following the Roman camp model, which lowered the habitation zones. The fort was partially excavated largely before much was known about site formation

processes or archaeological site curation when funding was inadequate. As we noted above, two to three feet of erosion occurred on the site before it was plowed another foot deep; this, combined with seasonal river flooding and daily tidal water table flooding, meant that between 1971 and 1978 portions of the fort were destroyed by excavation exposure and are only known to us from drawings and photographs made between 1971 and 1974.

So here we are making some general statement about all ditch-set fortifications and even hole-set fortifications at Yeardley's Fort, at least in terms of preservation. There seems to be quite a bit of confusion about what evidence there is about the palisades that has unfortunately hurt the identification of the fortification (Brain et al. 1976:132; Barka 1992; Deetz 1993:32–33). To be sure, many of the fortification trenches are nearly plowed out or shallow at 0.1 to 0.7 feet. So, in some ways, mostly all we have of the fortifications are the shallow archaeological footprint of its basic design preserved as builder trenches and postholes sensitive to them.

Thanks to earthworm action and other natural processes of post mold sinking including contemporary dead weight, very clear traces of massive ditch-set post molds ranging between 0.6 feet to 0.9 inches have sunk below the builders' trenches in some areas for as long as 15 feet, allowing positive identification of how the walls were made. (See Figure 42.) Similar phenomena have occurred at 18<sup>th</sup>-century Fort Necessity (Harrington 1977:Figure 22) and the redoubt at 44PG64 (Hodges 1993:Figure 4B). Since



Native American post molds average 0.25 to 0.3 feet in diameter these are easily separated from the English features because of their smaller size and consistent roundness. The latter can however can be confused with English wattle repairs intended to bolster the stockades. The larger English ditch-set post molds are typically rounded into a blunt cone—surely from ax felling; oval, squared, and a few elliptical or slightly triangular forms are notable. Some elongated shapes are perhaps due to wrenching and wall collapses. Some smaller appearing molds may be only the tips of once-larger post molds with V-shaped ax cuts, or they may be maul-driven and wattled repairs, "filler posts," and post tamping scars (Harrington 1977: Figure 22, 119; Hodges 1992b:11; 1993:Figure 4B; Kock 1978:162). A fair number of the largest English ditch-set molds were apparently butt sawed, perhaps from cannibalizing some buildings in 1622 or simply to process larger young trees,



also perhaps to accept horizontal runners called "lintels" or "ribands" (Hinds and Fitzgerald 1996:72). The absence of less clear patterning of molds on the west side of the gate is surely due to constant rebuilding, in which case many molds have been partially obscured by later intrusions. Other reasons for absent post molds are related to a lag in ditch construction verses post infilling, when the ditches partially silted in a small amount. The typical fate of a neglected fort is a cattle enclosure; and, as the fortifications rotted, "hedges" of smaller posts would be jammed in starting in 1632 in order to enclose cattle. Less evidence of repair is evident where the earthworks were present, suggesting cypress, cedar, and locust may have been used since these areas were more difficult to repair.

The following discussion of the bastard caponier, ravelin, and other portions of this fort has been greatly enhanced by the sharing of rare archival materials between the College of William and Mary and Flowerdew Hundred Foundation, including archival materials unavailable to the author in 1993. What is important is that, when all the drawings are re-assembled, a remarkably well-preserved fort emerges, especially through its recognizable design features. These form a complimentary package because fort design is not only rational but well recorded in contemporary drawings and field manuals, making past mental templates readily interpretable in the present through distinctive military grammar (Hodges 1993). In short, this is an "Enclosed Settlement" or "Enclosed Compound" on steroids.

As often as is reasonable (and sometimes repeatedly), the author will try to explain technical military terms in plain English in parentheses.

#### **The Slaughter or Murdering House: Bastard Caponier**

This is a type of projecting bastion-like work that is "bastardized" (modified) according to English soldier Barret (1598:126) because it is not at an angle or corner within the fortification envelope but along its "curtain" or wall (Barret 1598:126). The bastard bastion is analogous to a ground-level "flat bastion" in more modern parlance (Hinds and Fitzgerald 1996:66; Robinson 1977:197). The work described below technically is not a full bastion (one that has two flanks [sides] and two faces [front angles]), but would be more similar to a demi-bastion (two flanks but only one face) that is a type of casemate. Barret (1598:Tract 4) calls a caponier a casfamatta (casemate) or in English "a flaughter-houfe [slaughter house]," as the unit was intended to flanker the entire nearby east ditch and west stockade wall at or below its ground level. Another English version of the term is "murthering houses" (Pepper and Adams 1986:18–19). English military camps and siege forts are replete with such exactly similar units which could be of equal use to musketry or artillery depending on the design (Silke 1970).

Figure 43 shows the archaeological remains found here in relation to reference points (A-B) on the master grid. Above it are examples of how this can be interpreted (A-E). Of these the best example relating to the caponier

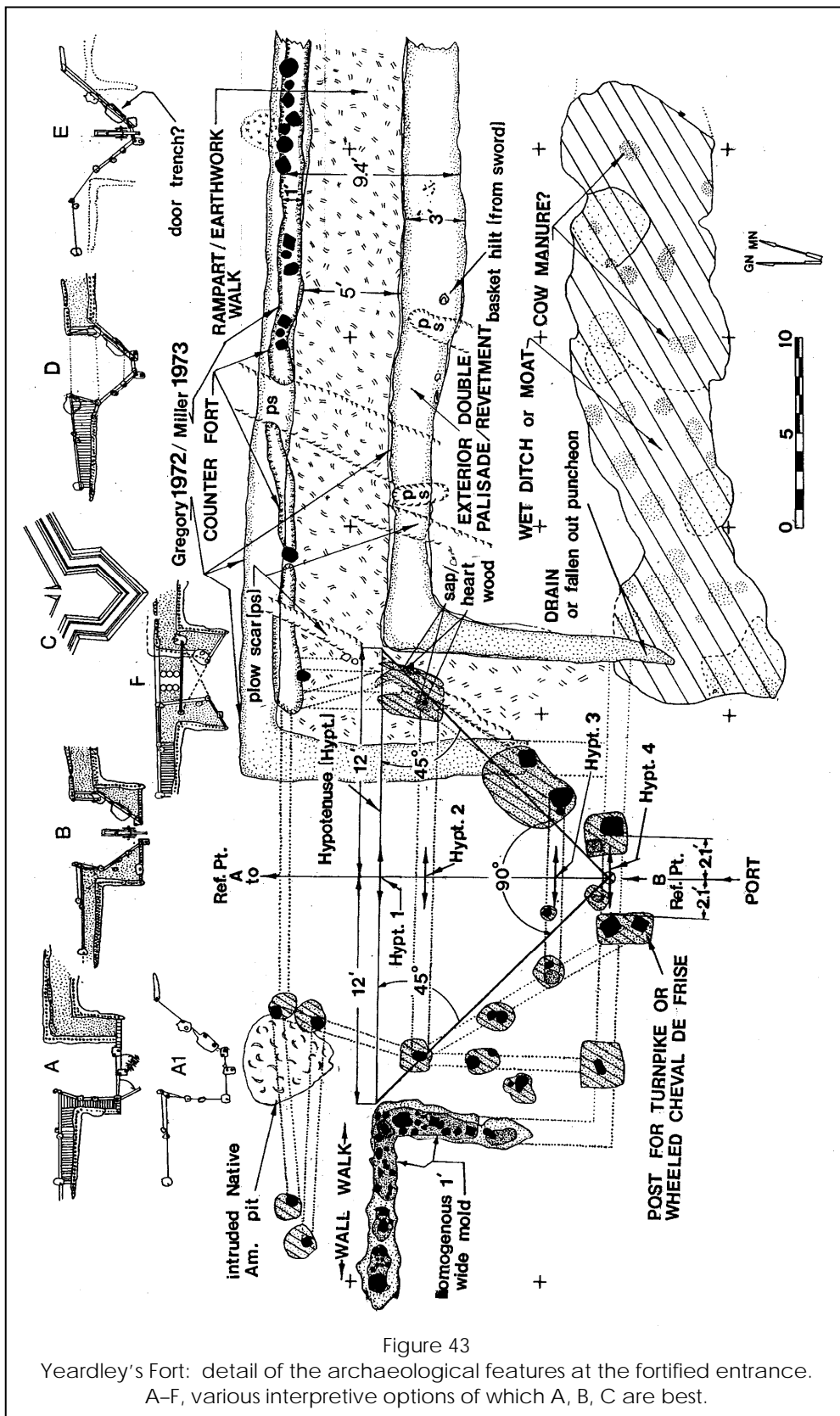
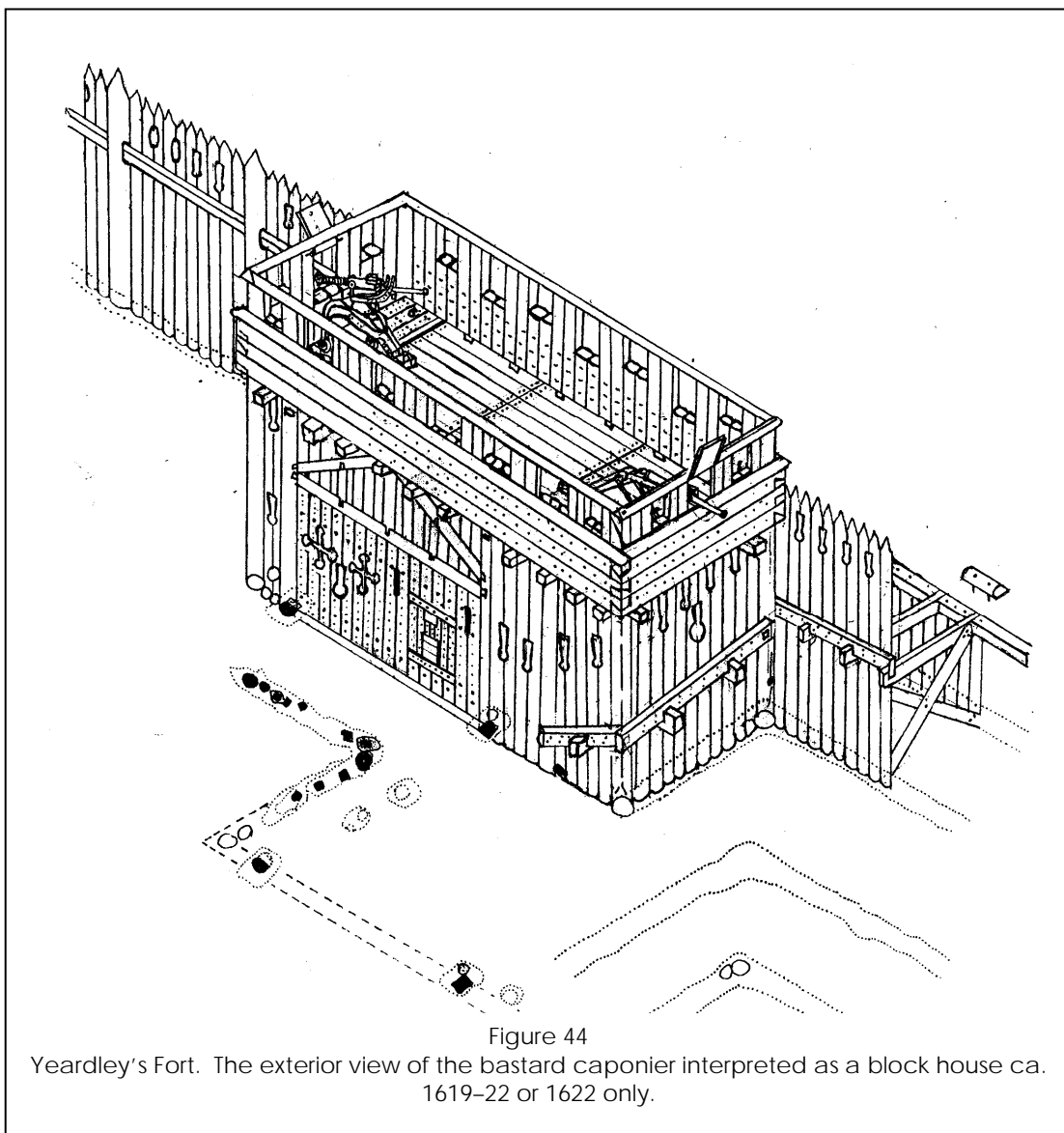


Figure 43  
 Yeardley's Fort: detail of the archaeological features at the fortified entrance.  
 A-F, various interpretive options of which A, B, C are best.



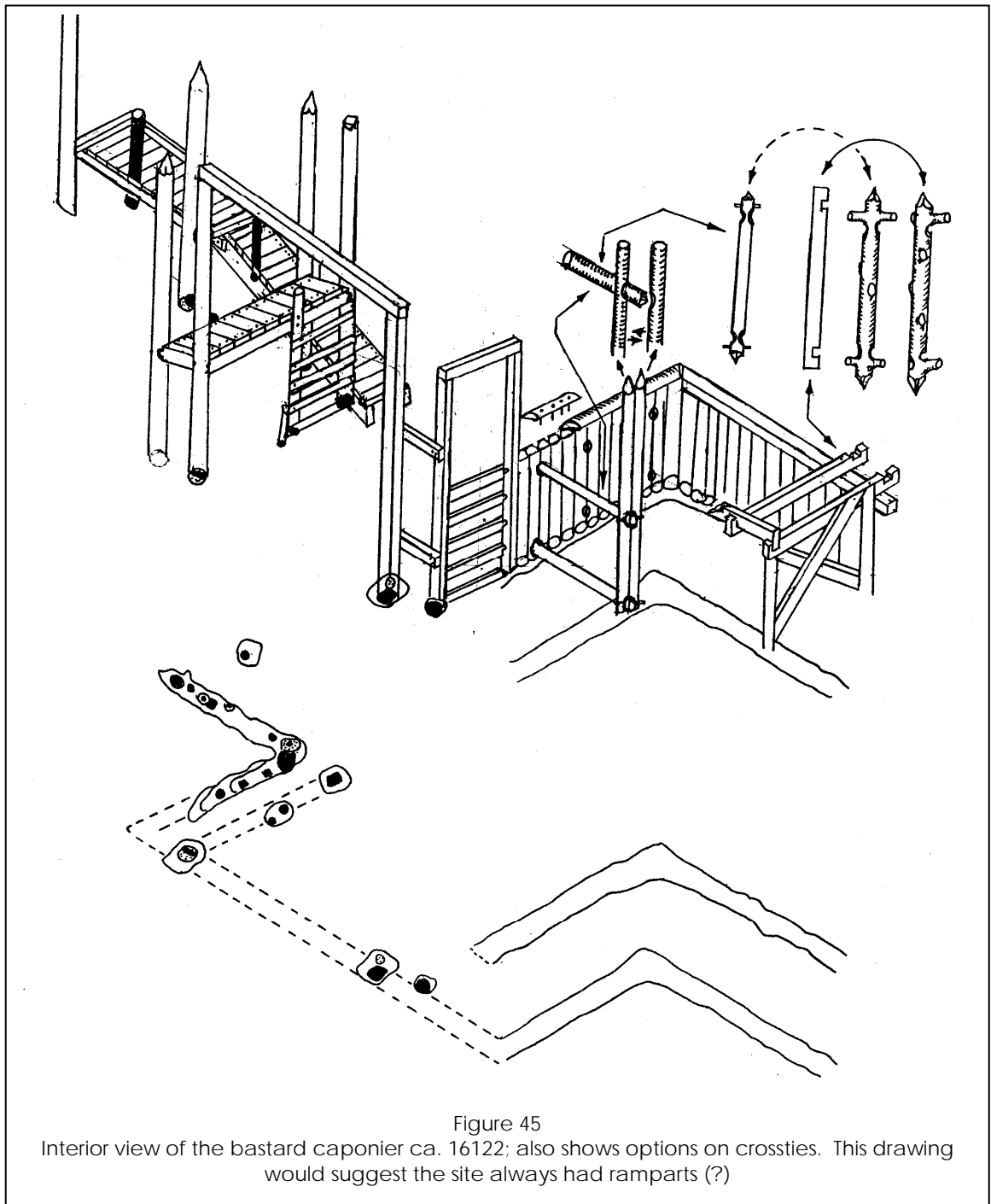


Figure 45

Interior view of the bastard caponier ca. 16122; also shows options on crossies. This drawing would suggest the site always had ramparts (?)

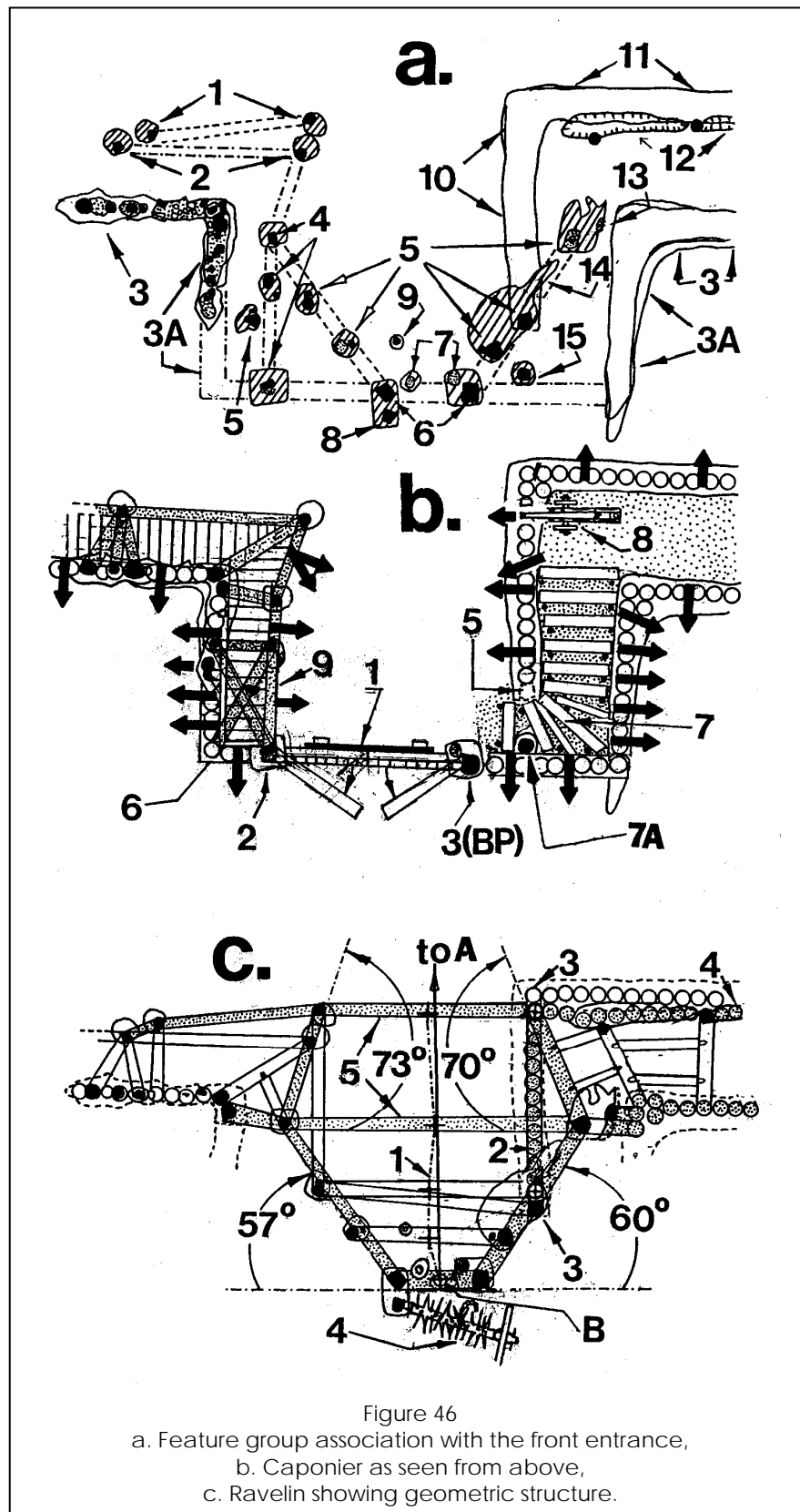
is noted in A above. This simple fortification phase is inferred to be present by 1622–23 or earlier.

The caponier represents a 28- by 14-foot stockaded expansion of the fort's gate area in order to flank the entire southern wall of the fort prior to the addition of the southwest flanker. It provides a 24-foot-wide gap that initially had a large double gate (cf. Carson et al. 1981). Simply stated, the services that it performs are:

1. providing an elevated wall walk platform to the west side of the gate allowing flank fire to the west;
2. providing a way of getting down from the earthen ramparts to the east while simultaneously allowing flank fire to the east;
3. providing fire to approaching enemies coming from the south via the two elevated units in 1 and 2 above, as well as through gun ports installed in the gate; and
4. permitting the use of ground-level artillery in the fort gate area.

Figure 46 shows a birds'-eye view of the caponier and its evolution in concert with a ravelin. Also shown is the interior of the caponier with the gate and exterior palisades removed (a simple drawing which unfortunately does not include clear artillery embrasures).

Several radiating caponiers (French spelling) of "caponnati" (Italian spelling) were the integral components of the Italian Renaissance citadel to flanker across the ditch from rows of enclosed gun ports (Pepper and Adams



1986:Figure 9). Barnabe Rich (1587:40) suggests that in the fortified camp, "one bastion [should be] levell within company of your shott [musketeers]."

In 1589, Paul Ive (1973) recommended in a complimentary manner to Barret that the:

“Gate of the Fort must be placed in the middle of the Curtain, that from the Bulwarkes on both sides of it, it may be equally defended, and must be set lowe, that the defenders may go out and in the couved [covered] waies, to defend the argin [bank], or sallie out as little seen as may be...[if you chose to build a casemate instead, it] must be placed opposite to the exterior angle of the Bulwarke...and be made full of holes to vse Harquebuze and Musket out at, And the walls must be so thinne...”[that if flattened by artillery no one can hide in its ruins] (author’s inserts).

The wall thinness recommended by Ive for his casemate is clearly preserved by the archaeological evidence at Flowerdew. Note the doublewide exterior stockade revetments to the immediate east (3 feet), while, when this builders’ trench joins with the east elbow of the casemate projection as it enters the casemate (caponier), it immediately tapers down to a single paled stockade trench about 2 feet wide or slightly less (see Figures 45 and 46). So the stockade here is the same width as the east inner parade curtain or "counterfort" and west stockade in keeping with Ive's recommendations for thinness to facilitate gun ports and not provide shelter for attackers if reduced by artillery (Robinson 1977:198). This does not seem to be a coincidence.



Gregory (pers. comm., 1974) located one or more calthrops in the immediate gate exterior. Also called "crow's feet," the treacherous four-pronged spiked item is made in such in such a manner that one prong always sticks up regardless of the position it is placed in (Stone 1961:158, Figure 205). These were sprinkled around to impede pedestrian movement. However, both Da Gama (1649:104) and Wagner (1979:228) show similar pronged nails attached to the tops of palisade posts specifically within stockaded fortification entrances or nailed to planks on heavily fortified bridges like barbed wire. The only place that the author is aware of where calthrops have also been found in Virginia is Jamestown (Cotter and Hudson 1957:69–70). Both the Jamestown example and most illustrated versions are more robust than the one in the Flowerdew Foundation collections, suggesting the itinerant Jamestown blacksmith made it from four iron spikes (large nails).

Precedents for this work are noted here. This work is similar to the main gates at Magherafelt and the Draper's bawn at Moneymore (Blades 1986:264, Camblin 1951:Plate 12; Hodges 1993). The plan of Magherafelt and the Flowerdew work are reminiscent of the south gate to the Roman fort of Theilenhofen (Johnson 1983:93). Similar gates form an entry into the Renaissance fort and would be typically supported with flanking gun ports, as was probably the case in Sienna Italy in 1535 (Pepper and Adams

1986:Figure17 inset). A fully stockaded gun-ported projecting main gate is shown at Placentia New France in 1670 (Hannon 1969:118).

#### Ravelin or "Commander"

According to English military engineer Paul Ive (1589:35), ravelins were a good way of rapidly defending a town, so they are in some ways part and parcel to town defense design. The Flowerdew ravelin is a cheap vernacular rendition of the massive ravelins that sprouted around towns in early modern Europe. The work described below is technically a ravelin because only its "V-shaped" south-facing portions project beyond the main fortification walls. In further detail it is technically a ravelin with two flanks (facing northwest and southeast) indicating its rear or "gorge" area was enclosed all around (Robinson 1977:204). The adjoining flanks, therefore, reflect Ive's (1589:35) recommendations that it should "shut in both the sides or flanks of the raveline vnto the wall with a strong palizado to affure [assure] it from furprice [surprise]." The work is superficially similar to a "redan," a V-shaped work with no back as it projects beyond the fortification walls. However, the French word redan did not penetrate English fortification terminology until the 18<sup>th</sup> century (Hinds and Fitzgerald 1996:31; Robinson 1977:204).

The Flowerdew ravelin has two "salient" faces (projecting beyond the curtain—south) 12 feet long, which are cut off by a "pan coup" 6 feet wide at the tip of the salient to allow for gate passage and to strengthen the "capital"

(where the south faces come together) of the work. Its closed rear or gorge line is 14 feet long.

At Flowerdew, the "V-shaped" hole-set ravelin foundation was installed as a complimentary improvement to the caponier described above and it seems the caponier was built to deliberately accommodate such improvement between 1622 and 1623. We know, however, that the ravelin was installed later because it nearly completely blocks the original main gate. Figure 46c shows both the ravelin and its structural integrity as it clearly links up with the stockades and walk to the west and the rampart to the east. It also sports a smaller entrance gate which is 4.1 feet wide made of 1-foot-thick squared posts (one reabsorbed from the original gate).

One gatepost has an attached exterior post. Wagner (1979:228) suggests that a wheel-mounted *cheveaux de frise* (a wheel-mounted beam with sharpened radiating branches) swung off the extra post notable in front of the gate on the west side, which has a post mold 1.0 feet wide. A smaller post within the gate area may define where a gate stop, or closing reinforcing bar, was anchored (Da Gama 1649; Koch 1978:162).

Barret (1598:127) recommended that at camp and fort gates, "The way which commeth from without fhould not come direct vpon the gate, to the end it be not eafily difcouered in the field; but of fufficient wideneffe, for the paffages of carts, waynes, and artillery, and of moderate highnes." So while

the bastard caponier modestly met these requirements, we must presume here that the main fort gate to Yeardley work was shifted elsewhere, as few things larger than 4.2 feet wide could pass. The best candidate for the new main gate is probably at points EF2 and WF2 on the master grid along the north wall in between the two large bastions where a projecting gate would be a hindrance. Another small port may have existed just above point MK on the master grid.

Figure 47 shows an isometric illustration of the completed unit, a story-and-a-half blockhouse. We invoke the blockhouse model for the ravelin here for two reasons. (1) we know that at Henrico, Charles Cittie, and James Fort, that in addition to "trench and pallisadoe" perimeters, there were "diuerse blockhouses made of great Tymber built uppon passages and for scouring the Pallizadoes" [author's underlining]. Clearly the blockhouses are built over (hence "uppon") the entrances. At Henrico, Hamor noted, "as ornaments belonging to this Towne, upon the Verge of this River, five fair Block-houses, or Commanders" were constructed (as cited in Reys 1972:40). The term "commanders" comes from contemporary military slang making an analogy between blockhouse height and the "command" of the ground achieved by elevation. (2) Similar angular coral block blockhouses (often quite tall) were also very popular in the contemporary Bermuda Island colony and these obviously also have doors (Arber 1910 II:623–4).

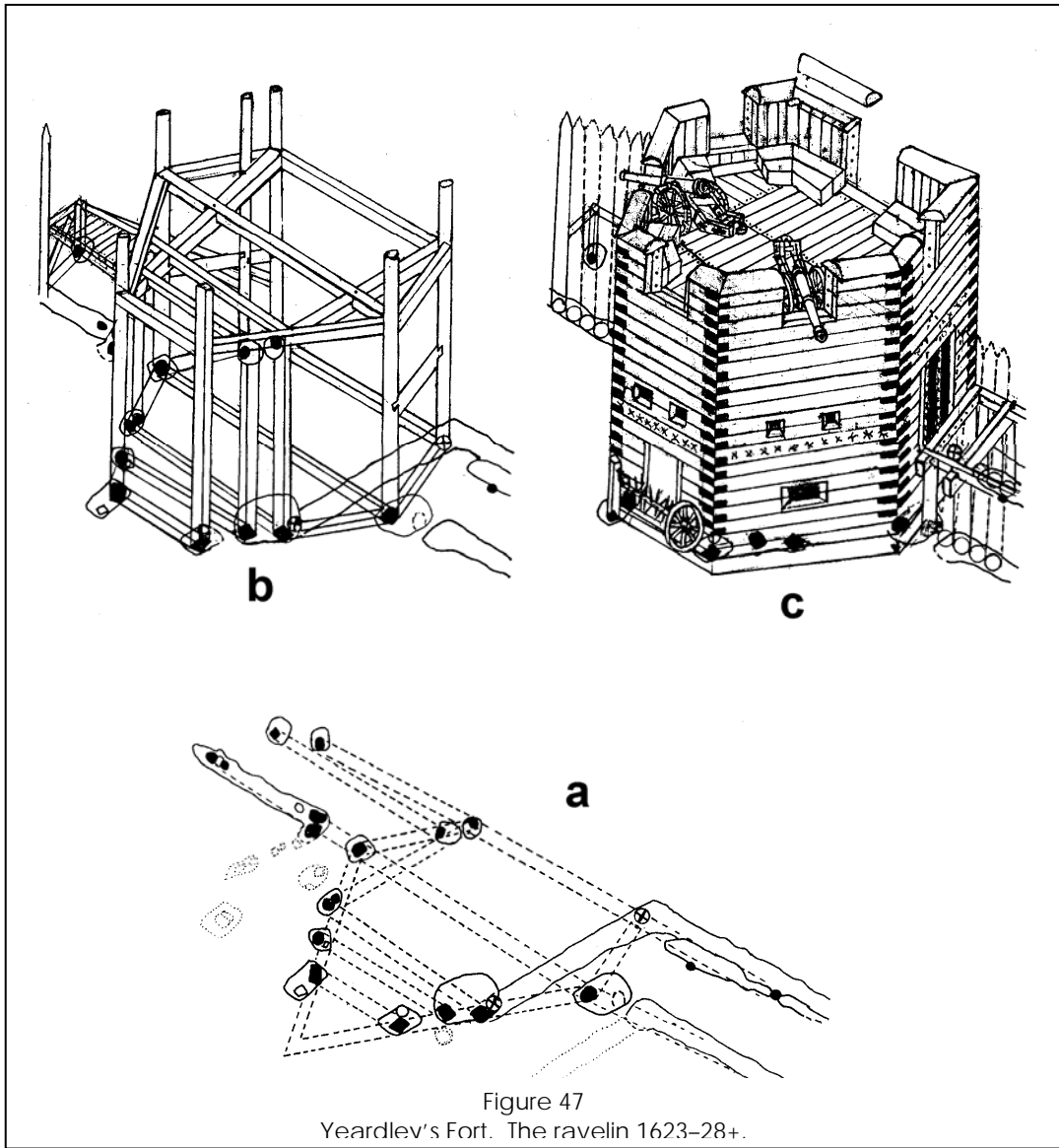
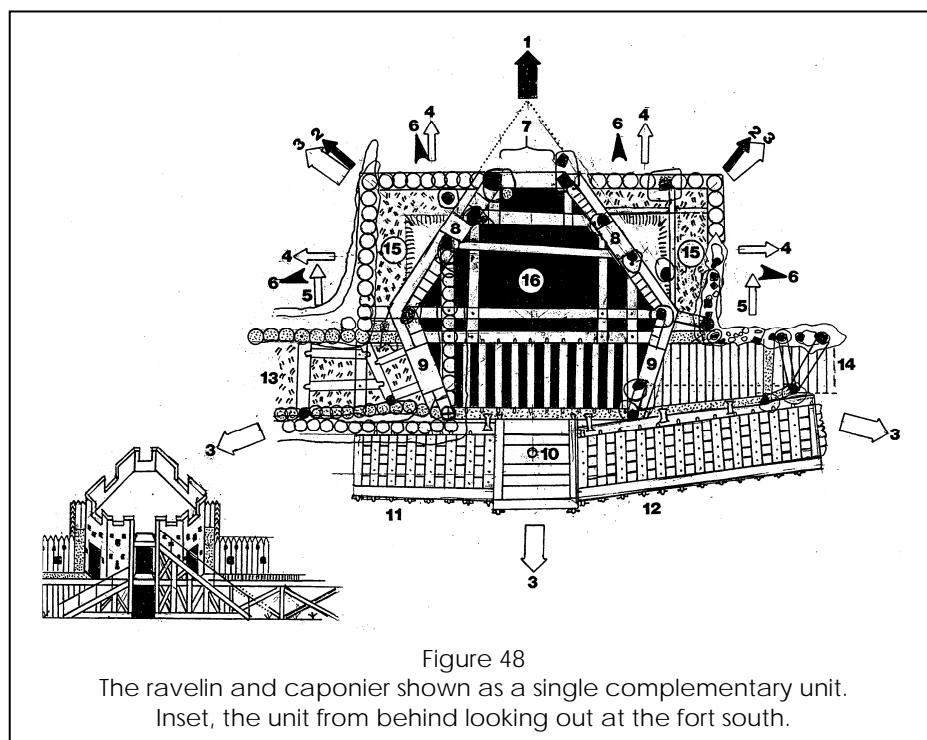


Figure 47  
Yeardlev's Fort. The ravelin 1623-28+.

The new ravelin was probably installed in spring 1623. As an improvement, it specifically allowed militia to move directly along a new continuous path from the east ramparts to the west wall walk. This allowed Yeardley to raise some of his lighter artillery (robinet, falconet, or falcon) to the upper deck of the ravelin above his musketry, who could still use the ground-level caponier. Figure 48 shows the clear utility of such a combination, as do the post molds comprising both architectural units. In turn, some earthwork infilling within the exterior caponier in 1623 may have helped to strengthen and protect the foundations of the ravelin. Additionally, the ravelin can now flank both the south wall walk and south rampart walk and, indeed the southern interior of the fort, from a position of great strength.

Ravelins are frequently combined with flanking towers and Yeardley seems to have compressed the units into a single entity (see Figure 49).



In addition to allowing passage from the ramparts to the wall walk (both elevated to 7 to 8 feet tall for this purpose), the ravelin turned the fort entrance into a sort of "Grand Central Station." People could move into the fort from the outside through the port associated with the pan coupe. Very large cannon could be moved into the ground floor of the ravelin. There were probably two paired stairs on ground sills that allowed people on the interior of the fort to get up to the top deck of the ravelin rapidly or pass under the upper deck of the ravelin to get to the caponier. In the former case, the same paired stairs allowed soldiers to move instead from the central locus of the ravelin outward directly to the rampart walk (east) or the wall walk (west) from interior fort ground levels.

Before we leave discussion of the ravelin, it should be noted that, with two faces and two flanks, this is as close as we have come to finding a full Italian-styled Renaissance bastion in a Virginia Company period

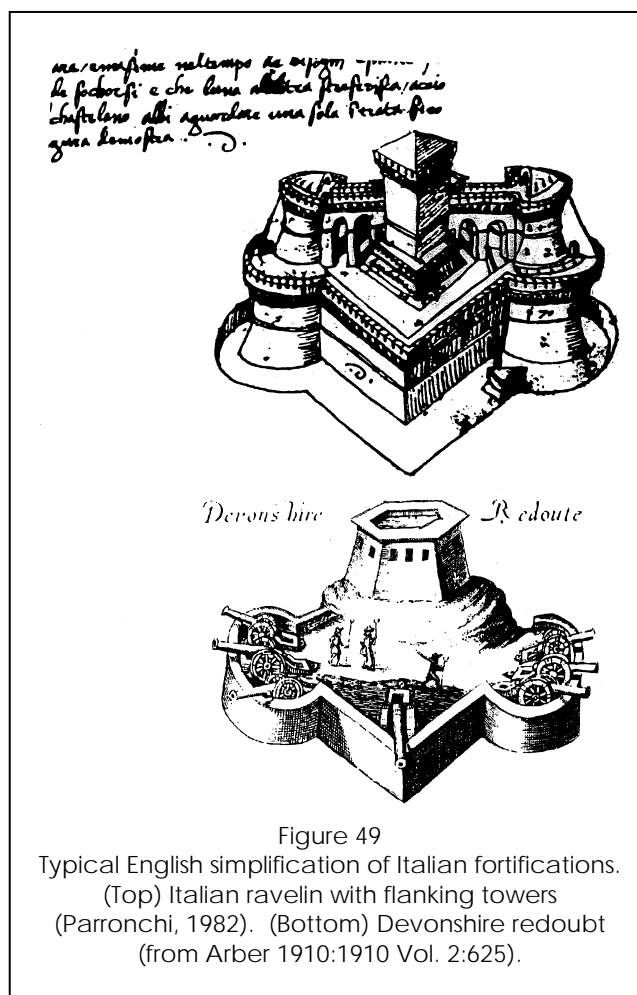


Figure 49  
 Typical English simplification of Italian fortifications.  
 (Top) Italian ravelin with flanking towers  
 (Parronchi, 1982). (Bottom) Devonshire redoubt  
 (from Arber 1910:1910 Vol. 2:625).

fortification. The archaeological information is precious to us, for, while many stone-reveted bastions and ravelins survive in Europe, not a single timber-framed unit has survived the ravages of time. For instance, we can note the striking similarity between the east-west angle to angle framing of Yeardley's ravelin and the French fort of 1699 called Fort Maurepas by looking at the nail lines of the bastions on the latter (which considerably strengthens our interpretation). (See Figure 50, where the nail lines are arrowed as is the double-paled palisade.) However, only through archaeology, can we see that also running north-south in the Flowerdew ravelin there is a second frame line that locks the faces and flanks together at the gorge (rear)—considerably increasing the strength of frame. The east side of this in the Flowerdew work would be created by a lintel mounted over the bastard caponier's newly elevated parade curtain which abutted the bottom of the upper timber deck of the ravelin. Hence, the earthen rampart walk on the east side was lengthened and infilled with soil or sods to protect the foundations of the ravelin on its "water side" where large artillery might hit it. There may indeed be a French connection in this work, as it may have been a sort of political calling card for newly arrived French military engineer Nickolas Martiau who visited Flowerdew for three weeks in spring 1623 (as we noted above).





In the reconstruction the ravelin the author has extensively used Shurtleff's (1939:9–16, 13, 59), The Log Cabin Myth, which has a good study of blockhouses. We used the simplest form of cladding "halved cornering" of hewn logs to reconstruct the Yeardley ravelin, which may have, in reality, simply butted every other post from angle to angle, one over the other, since Virginia blockhouses were fairly shabby. The heavy hewn timbers would "bear out a musket shott" or would stand up for a time against light artillery (which attackers at Flowerdew would have to place on land carriages in order to get in a goodly number of shots into the same target).

#### **The "Half Bulwark" (a Demi-bastion)**

Like the ravelin, bulwarks were part of town design in Europe when masonry revetments were either too costly in money or time. Bulwarks are a northern European term derived from "bole work;" that is, the use of whole tree trunks or "boles" in the construction of a "work" or fort (OED 1978 1:1172–1173). Bulwarks were in fact the very first defenses thrown up around towns when artillery that could level any masonry town wall or castle improved in the late 15<sup>th</sup> and early 16<sup>th</sup> centuries (Hinds and Fitzgerald 1996:12). The bulwarks revetted earthen banks that could absorb the shock of cannon balls. In early informal usage, bulwarks might refer to entire walls rather than just fort angle defenses like bastions.

In Yeardley's fort, the bulwark is at the southeast corner of the fort and is clearly integral to the earthworks and rampart system with a salient

angle pointing east (see Figure 51) (the entire southeast corner of fort). The shape and form of this unit are reminiscent of 1/3 or a hexagon and may have

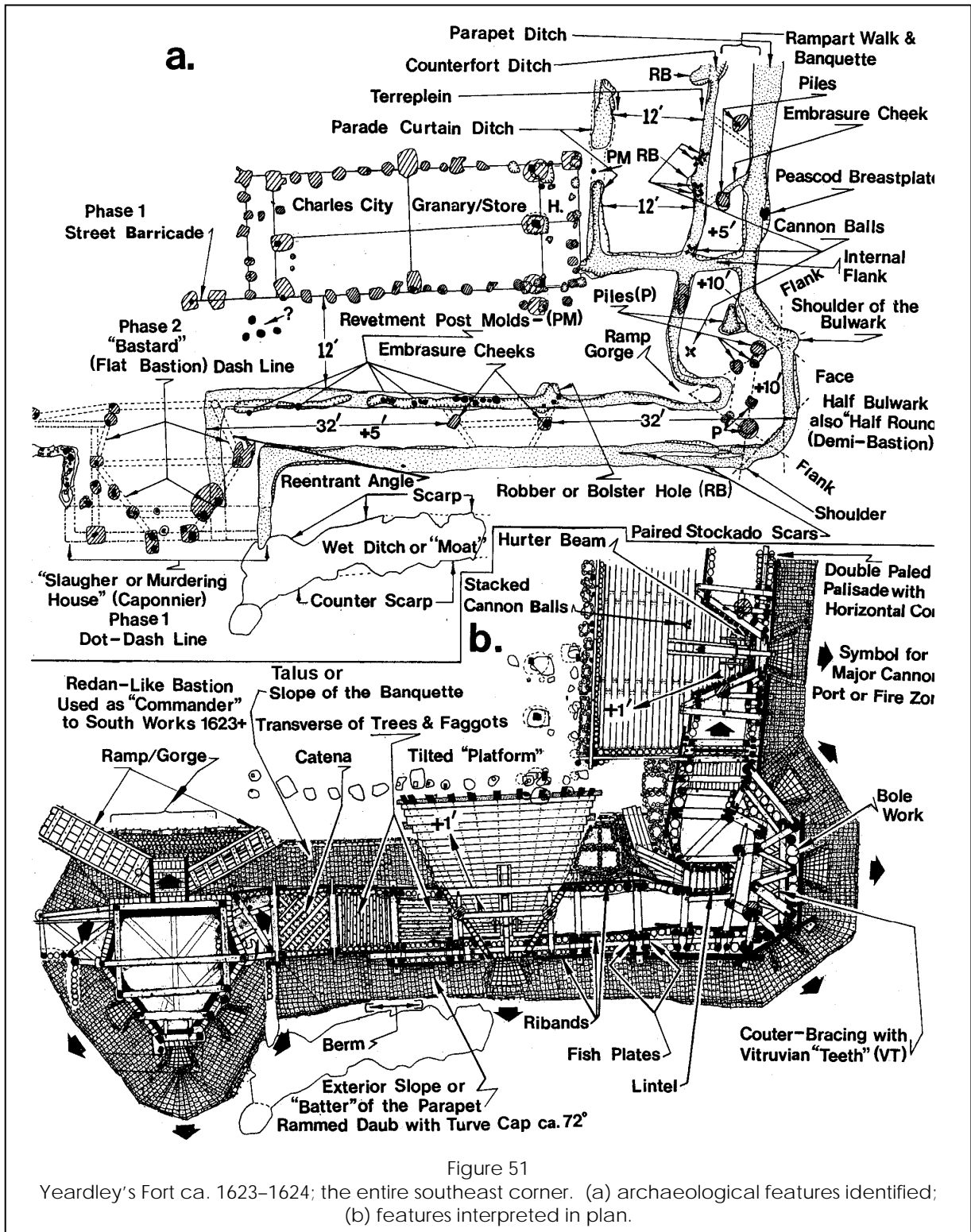


Figure 51  
 Yearley's Fort ca. 1623-1624; the entire southeast corner. (a) archaeological features identified; (b) features interpreted in plan.

been formed by creating an inscribed circle. North to south, the feature measures an approximate 24-foot-long expansion of the ramparts if an internal flank facing north is included, although the demi-bastion proper is technically only 20 feet long as a discreet expansion along this line. The former figure is complimentary to the width of the caponier or slaughterhouse and/or flat bastion, suggesting a favored planning dimension which rivals many small houses in length. The east-facing "face" of the unit is 12 feet wide, with a north-east facing flank 10 feet long and a south-east facing flank 7 to 8 feet long. The flanks of the demi-bastion provide an expansion of 9 feet wide beyond the usual 8-foot width of the ramparts, for a total expansion of 17 feet toward the east (maximum east builders trench to maximum west builders trench). This would allow plenty of room for a "rampart gun" or light artillery piece to fire east or north. Given the presence of a demi-culvern cannon ball, found in situ between the demi-bastion's stockade revetments (north of the ramp and east of counterfort), even larger pieces were apparently mounted here (cf. Brain et al. 1976:141–142). In 1610, Strachey (Wright 1969:79) noted in each of Gate's James Fort bulwarks, "a piece of ordnance or two well mounted."

At Flowerdew we are dealing with a specific smaller type of bulwark called by Paul Ive (1589:33) a "halfe bulwark" (an earthwork demi-bastion in the contemporary English vernacular). The work is technically a half bastion or demi-bastion since it has only two flanks (sides facing north and south)

and only one face (facing east) (Robinson 1977:198). If one uses a straight ruler to define it, there are two very small additional facets, one where it attaches to the south curtain (2 to 3 feet wide) and one of similar size in between the face and south flank. The demi-bastion with only one face but two flanks is obviously a compromise of the Italian-derived high-style Renaissance bastion. The ideal Renaissance bastion has two flanks and two faces, hence its arrow shape where the faces converge. Thus, the southwest demi-bastion is giving us a very specific message as to its purpose. That is, it is intended to primarily flank the east wall of the fort while offering only some protection to the east and south-east provided by the other facets of the flanks.

Any doubts that this unit was a demi-bastion are resolved by the complimentary angle of the ramp which provides access to the unit via a bifurcation in the counterfort and is one of many bastion access variations illustrated by Wagner (1979:197a). The vernacular Flowerdew bulwark feature is shaped somewhat like a bay window seen from above. This is a very simple design. It is repeated more weakly at the north facade of the Yeardley/Sharpe Redoubt with its clipped northeast and northwest corners as it faces the James River (Hodges 1993:Figure 4A). The more polygonal semi-circular shape at the Yeardley Fort recalls references to George Percey's "half moon" bulwark at James Fort, or John Symthe's (not to be confused with John Smith) "half rounds" (semi-circular bastions), which were apparently

barely adjusted to create a demi-bastion at Yeardley's Fort (Quinn 1967:22; Hale 1964b:xcvii).

Some colonists would refer to this demi-bastion generically as a "blockhouse" because of its use of entire tree trunks to revet it (Kingsbury 1935:259–262). The outer line of these revetments of course was extended to become a parapet. Note how the construction trench is not doubled (two parallel trench scars) in the vicinity of the bulwark since presumably entire tree trunks needed no additional improvements.

The straight linear facets in the demi-bastion facilitated bracing by heavy horizontal lintels and ribands to support the large upright timbers which held the outer works of "greate tymbber" together (see Figure 53). Swellings in the outer stockade revetments where the northeast flank joins the face and at the terminus of the A-D line, where the southeast flank rejoins the south stockade revetment, indicate that larger timbers were chosen to absorb turns in the exterior stockade line. Not ironically therefore, these places where the bastion flanks and faces meet are called the "shoulder angle" (Robinson 1977:204). This is probably telling us that the exterior ribands and lintels were mortised, butted (into incised grooves), or dovetailed; hence, the need for particularly large whole tree-trunk-sized posts here, as they must be wider than the majority of the line of stockade posts they support in either direction.

The remains of a delta configuration of timber pile impressions are notable inside the demi-bastion. These comprise the best example of timber piles the site has preserved, as there is no confusion with a former hypothetical hole-set palisade here (the resultant shape being ridiculous). These timber piles consist of two postholes closely set together just inside the terminus of the ramp and three or four forming a line across the north to south space inside the demi-bastion. These piles form a complimentary 60-degree angle emanating at the west ramp entry and are arranged in such a manner that they support the flanks at mid-section where the construction is weakest and converge to embrace the ramp entry within the gorge. A gorge is a term with various meanings but generally refers to the back center side or rear of the unit (Robinson 1977:203). Together, these timber piles were braced with sleepers and angle braces to hold the exterior stockade walls together, becoming Vitruvius' "teeth" (cf. Ive 1968:22). The deltoid form of the piles inside the demi-bastion might argue that there was an episode when this demi-bastion mount was entirely timber for a period. However, once the function of the piles is understood, we can presently see these units most clearly as providing precisely reverse strength to the main revetment faces and flanks and simple structural accommodation to the ramp.

A transversal line above the northeast facing flank which spans the stockade revetments at precisely the point where the terreplein joins the stockade revetments is probably telling us of massive vertical timber piles

and crossties which counter-braced both systems (bulwark and terreplein). In general, this line admirably establishes the contemporaneous nature of both Structure 2 and the building episode of the demi-bastion and stockade revetments as a single planning event, honoring the space of all. Also, it is very likely that this progression across the stockade revetments suggests that the rampart especially south of this line and associated with the demi-bastion was raised more than the predicted 5 feet of the normal height of the ramparts. Thus, this line, in addition to providing counter strength to both units, was probably used to simultaneously create an internal flank angle or "traverse" within the main rampart line. The traverse allowed musketry and rampart guns south of this line to specifically flank the line of artillery associated with the grand battery on the terreplein to its north. If the artillery battery was overrun during an assault through the cannon embrasures, the traverse prevented them from enfilading (firing right down the line of soldiers) within the bulwark.

Overall, we have what appears to be what we can call a battlefield vernacular design straight from the "low countries." Its shape and form are not "bad," nor certainly are they "good;" rather, they reflect three things adequately at best: (1.) Deliberate bluntness so that cannon cannot shoot off its face, as the narrow tip of an arrow-shaped bastion is a favorite target of cannon (Ive 1589:16; Machiavelli 1560-1562:Folio 24:7). The bluntness is an Italian Renaissance influence converted to simpler field works by Spanish



and Dutch battlefield experience. What this half bulwark clearly lacked in elegance it made up for in sheer design strength. (2.) Design sensitivity to the caponier or slaughterhouse and ravelin which already flank the entire south wall prior to the addition of the south-west flanker precluding a need for a southern flank to the half bulwark. And (3.), a simple initial bastion design that readily permits conversion to a full bulwark (blunt arrow-shaped design) should the level of the threat deteriorate further. For instance, if the English had warning of a Spanish fleet, they could add a second face and shift the southeast flank. In this case the addition would be south.

Comparison with Stanley South's (1983) full-blunted bastion at San Felipe illustrates nicely what the end result would look like in addition to what we have seen in the master plan discussion above.

#### **The Timber Piles, Counterforts, and Embrasure Cheeks Associated with the East Ramparts**

Knowing that fortification was an architectural science in the 16<sup>th</sup> and 17<sup>th</sup> centuries, is there an explanation for the irregularity of the hole-set posts along the east wall that we noted above? And why do they appear to follow a less regular linear dynamic, termed a "broken line" (serpentine) by geometry (Sperling and Stuart 1991:116)? We can infer that while some of them may have been small, temporary militia firing platforms, a goodly number must be piles or counterforts (Wagner 1979:197a). The reader will find these piles in Figure 51. The timber piles and counterforts are to help absorb the weight of the earthwork and cannon and provide a counter brace

against the collapse of the stockade revetments and parapet here (Pepper and Adams (1986:74–75), Da Gama (1649) and Ive (1969:16).

Moreover, some of the hole-set posts along the vicinity of the terreplein are almost certainly intended to strengthen and form internal stockade revetments for cannon embrasure "cheeks" (reinforced sides to the embrasures). It would be prohibitive to intrude a 5-foot-thick earthwork and subsoil without demolishing portions of the entire earthen rampart. Indeed, two intrusive post molds are specifically associated with the north cannon embrasure identified because of concentrations of cannon balls there. In our discussion of the master plan, we noticed how the additive intrusive repairs (post holes labeled "e1 prime" and "e2 prime") in this group of east wall hole-set post molds is at a right angle or "transversal" (a line that intersects two or more lines) to the stockade revetments (Sperling and Stuart 1991:125). While in apparent functional contrast, more in keeping with a parallel wall walk, the west-side hole-set additions not associated with the southwest flanker are added as intrusive repairs or doubled posts along a complimentary linear format, forming a parallel line with the ditch-set stockade.

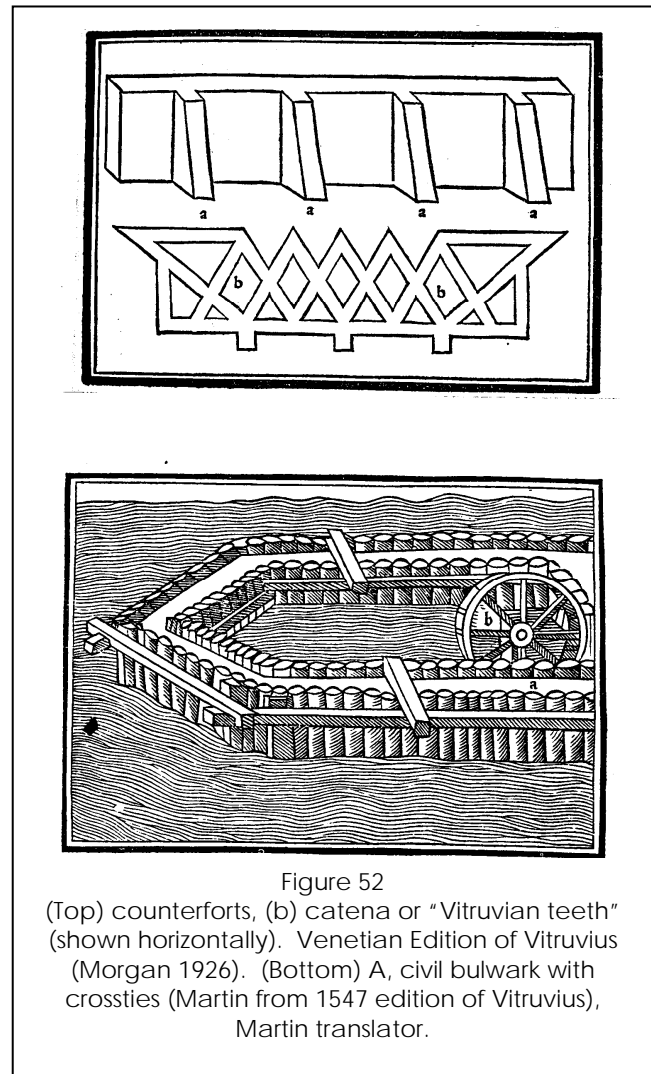
These pile systems are derived from the Roman system of building town walls, which are described by Vitruvius (Morgan 1926:190-191).

Vitruvius recommends:

“to meet the mass of earth, there should be saw shaped [diagonals creating V and diamonds shapes] constructions attached to the wall, the single teeth [right-angle braces] extending from the wall for a distance equivalent to what is to be the height of the substructure, and the teeth being constructed with the same thickness of the wall. Then at the outer most angles take a distance inwards, from the inside of the angle, equal to the height of the substructure, and mark it off on each side; from the marks build up a diagonal structure and from the middle of it a second, joined to the angle of the wall. With this arrangement, the teeth and diagonal structures will not allow the filling to thrust with all its force against the wall, but will check and distribute the pressure” [author’s inserts].

Although Vitruvius’ description is confusing, the hole-set works we are concerned with as archaeological finds apparently define the "single" teeth behind the wall and demi-bastion to brace them (see Figure 52b). These recommendations—that the wall braces and props should be as wide as the wall is high—are echoed by Paul Ive (1589:19), who doesn't bother explaining the classical origin of his fortifications for town walls. Thus, if the actual usable rampart at 44PG65 is 5 feet wide, as documented by the archaeological site plan's horizontal evidence, it was probably 5 feet high based on Vitruvius’ and Ives recommendations (although the full width of the entrenchments for the ditch-set stockade revetments are 8 feet wide).

In all probability the Flowerdew bracing system is a simplified departure from Ive and Vitruvius if the hole set units are the piles for rows of single teeth only as braced counterfort buttresses behind the parapet (outer stockade revetment). In reality, archaeologically we cannot recover evidence of cross teeth because they were destroyed. What we can say with caution is that Yeardley and Rossingham probably used crossties in



between the stockade revetments to pin them together (see additional discussion below). These crossties would be attached to our vertical piles and would be built at the same time as the stockade revetments (including a ditch-set palisade to the exterior).

Therefore, the intrusive nature of the hole-set units may be of negligible archaeological importance unless new embrasures are being added, as appears to be the case with points e1' and e2', and the posts were used to

help secure cannon embrasure cheeks (the cheeks are the sides of the embrasure, openings in the rampart for cannon barrels). This of course fits nicely with the historic record, which states that more cannon were added through time to Yeardley and Piersey's fort and that the parapet would have been standing in 1622 but not infilled with earthworks until 1623 (Kingsbury 1906 2:363, MacIllwaine 1926:120). This notion is further underscored by the material evidence of the cannon ball midden, which indicates variant cannon ball sizes in the same identifiable embrasure concentrations as well as in more general distribution (Hodges 1992b).

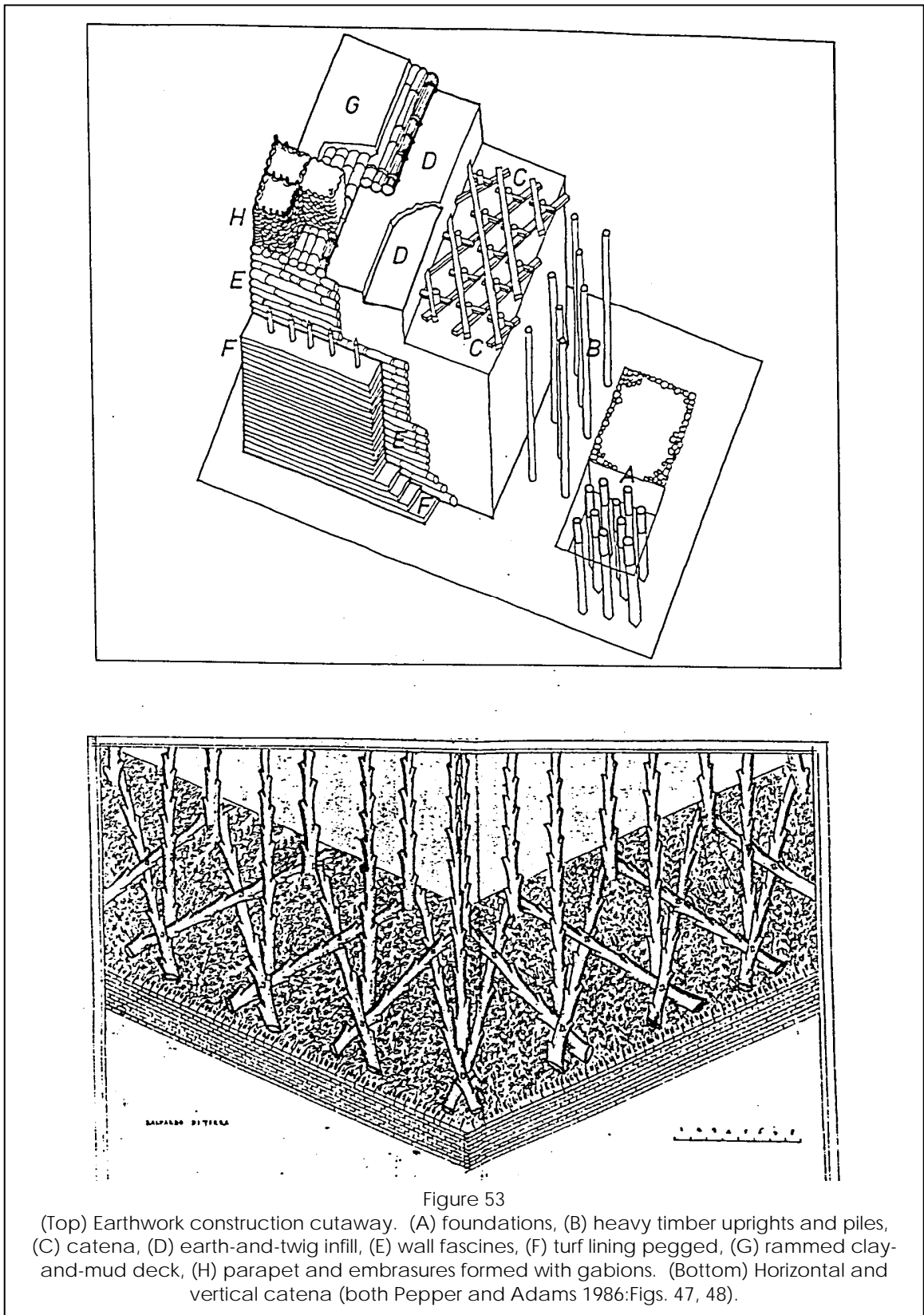
#### **Catena or the Chain Associated with the East Rampart**

Leone (1977) suggests that town plans might reveal evidence of the invisible aspects of cultural subsystems that are not preserved by archaeology. In addition to timber piles noted by Da Gama and Ive, Pepper and Adams (1986:74–75) suggest that the timber piles were also counter braced by internal revetments called the "the chain or catena," which provided diagonal structural stability to the earthwork (see Figure 53). These are presumably identical to what Vitruvius calls "diagonal structures" which, when seen in plan, look like teeth (hence "Vitruvian teeth"), showing once again the Renaissance debt to Roman engineering of earthen- or rubble-filled town walls ((Morgan 1926:190–191). As we noted above, such systems are completely invisible within the archaeological remains.

The importance of the chain or catena skirting the hole-set piles or "teeth" in the Romano/Renaissance system may be difficult to visualize, even when illustrated. At Flowerdew, this would be a series of diagonals of wooden "faggots," with earth and turves in between that spanned the hole-set timber piles between each of the two paired stockade revetments. This nail-less gravity chain provided lateral strength and "give" to ground settling while helping to hold the earthwork together. English and Dutch builders seem to have preferred a "criss-cross" pattern (one line of faggots parallel to the rampart one at right angles to it and so on, which is what the author has illustrated based on Ive's tracts.

If the reader has ever seen a snake fence, then you know the principle of the diagonal catena (compressed in some snake fences). Although some illustrations show caneta as "criss-cross" versions stacked at right angles rather than as diagonals (Da Gama 1649; Johnson 1983:60–62).

If we are correctly following the sequence of the adaptation of a paramilitary hole-set wall to a catena, then a military earthwork associated with stockade revetments here, then riven planks cannibalized from the former hole-set works may have composed the catena at Flowerdew rather than faggots. Likewise, these units may have helped strengthen the "batter," the sloping angle to the outer turf wall.



Although seemingly particularistic, the importance of the basic design concept of the catena "chain" to 17<sup>th</sup>-century Chesapeake society possibly cannot be underestimated because the familiar Chesapeake snake fence uses the same nail-less gravity-based diagonal principle for vertical and lateral strength. Twelve miles of earthworks and stockaded ditch banks were created under Dale 1611 to 1614 (Arber 1910 1:154, 2:443–444, Hatch 1957:51, 62–3, 65; Kingsbury 1935:259; Tyler 1907:305). With rain and general weathering, there were possibly 12 miles of catenas exposed. It is likely that some clever settlers learned to compress the wide lines into a nail-less wall not unlike a carefully planned "barricado" (barricade). From these classical tools for wall building, immigrant planters and citizen soldiers probably gradually or even rapidly invented the "Virginia snake fence," which they employed without earthworks based on a compressed diagonal catena (Hodges 1992b:48, 51). Such snake fence units are also a way of seasoning wood to air it without its warping and is similar to the methods of wood stacking in a lumber yard (normally criss cross at right angles).

#### **Stockade Revetments, Crossties, and Ramparts Associated with the Earthworks**

The stockade revetments only on the east side of the fortified entrance or casemated caponier consist of two parallel lines of posts 0.6 to 0.9 feet in diameter and fairly closely set together where they are definable. Based on Wagner (1979), the parade curtain (inner stockade revetment) may have been wattled in a military style (military wattling requires posts set closer

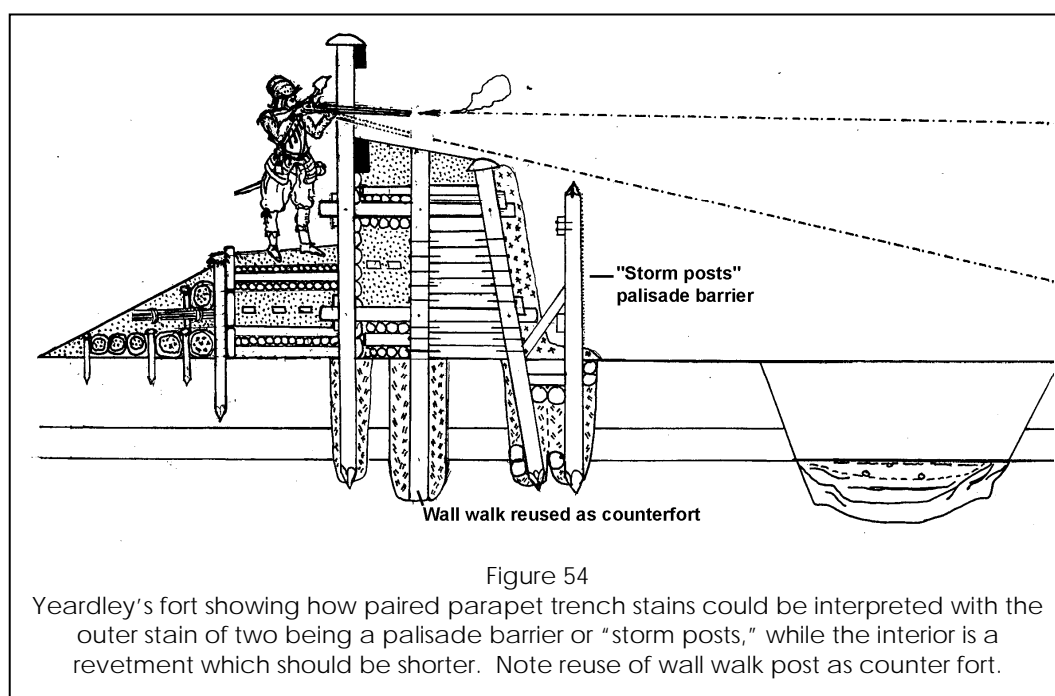


together). Record photographs indicate that occasionally two smaller posts 0.6 feet in diameter acted similar to a larger single puncheon, as is also indicated by the maximum northwest terminus of the counterfort (inner stockade revetment). The stockade revetments are set—maximum edge of builders' trench to builders' trench—an average distance of 8 feet apart. However, the usable space defined by the revetment trenches for the ramparts averages 5 feet apart except at the demi-bastion or "half bulwark". The reason for this regularity is simple for, by keeping to standard pre-planned dimensions, the carpenters and militia were able to rapidly churn out standardized wooden rampart revetment components that would greatly speed the production of the architectural form.

The basic plan and specific dimensions of this rampart and stockade revetment are identical in dimension and probable form—so far as can be determined—to that recorded at St. Augustine of circa 1604 (Chantelain 1941:54). This is probably because the builders of both works were reading various translations of the same field manuals. Perhaps more importantly, they were probably both educated in the same school of fort building, the 80 Years' War (1566–1648), perhaps precluding a need for manuals at all (Duffy 1979:58–105). Additionally, captured or abandoned fortifications were carefully inspected by each opposing side (cf. Ramm et al. 1964). In combination with international armies and fluidly moving mercenaries, all of these things contributed to a huge international school of field engineering

often vernacular in their systematic compromises of the high style of fort building. This latter idealized school was, more often than not, beyond the capability of the average field captains who could not afford to linger on ideals such as the massive scale recommended in fort engineering manuals.

At Flowerdew, each stockade revetment wall was pinned together by periodic cross-ties in the very same manner as the ship's mole (sea wall or



dock extension) or "bulwark" at Carrickfergus (Camblin 1951:Frontispiece; see also Rowse 1973: Cover illustration). It is suspected therefore that the hole-set piles noted above anchored these cross-ties. Figure 56 shows in profile what this would have looked like.

Vitruvius (Morgan 1926:22) recommended charred, rot-resistant olive wood for cross-ties in ramparts which would be tied into the horizontal runners or "lintels." Yeardeley may have used cedar or cypress in a system

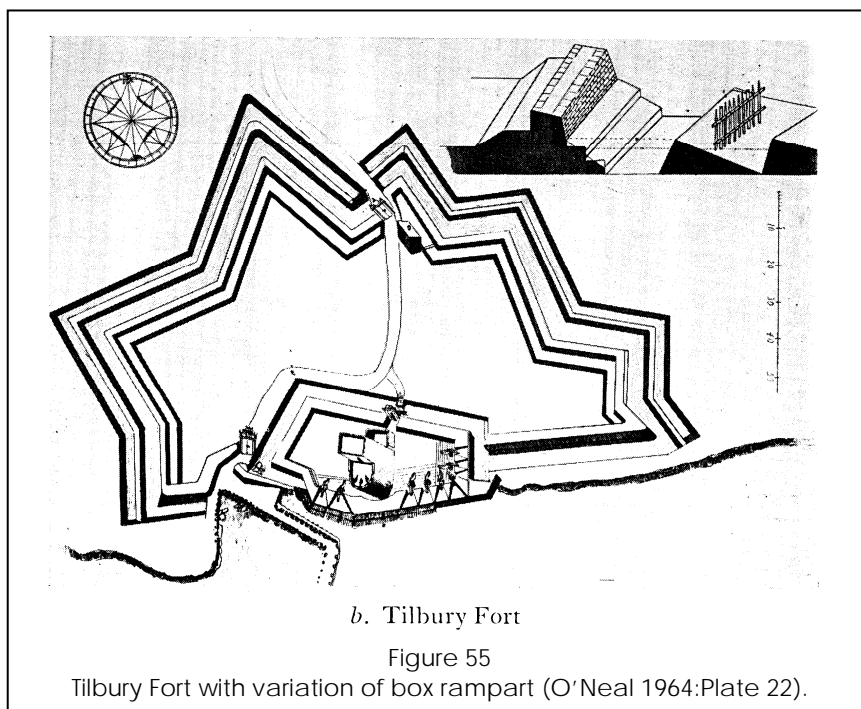
which may have had a Turkish or eastern European timber fort origin. This is really probably through Roman influence of the longer-lasting Eastern Roman Empire associated with Byzantium and Constantinople which affected the Turkish works (Arber 1910 2:868; Duffy 1979:Figure 72).

In a variant manner indicative of different wood resources but with classical Roman ideals intact, Confederate forces at Atlanta in 1864 were still using this cross-tie system to prevent the two parallel earthwork revetment walls from bursting apart under the weight of the earthworks (Banard 1977:Fig 40). In both cases, Yeardley's Fort and the Atlanta work, each cross tie was mortised to massive horizontal runners or lintels on each side as is indicated by the Carrickfergus' ship's mole (noted above). Vitruvius (Martin 1545:85a) suggests crossties in water dykes might be butt jointed into massive runners to hold up earthen banks. In any case, hence the fact that fort building normally required expensive carpenters (Broadbeck 1942). Thus, this fort at Flowerdew cost Yeardley and/or the Virginia Company the equivalent value of building a huge mansion complex.

The type of rampart system indicated by the paired stockade revetments joined in the fashion of a hurdle is often called a "box rampart," a system well known to the Celts, German, Romans, and Normans (Milner 1993:23, 115). The box rampart was created in concert with Vitruvius' "crossties" which we noted above (Johnson 1983:Figure 36, 62). Vegetius (Milner 1993:78) recommended at more stationary military camps that, "The

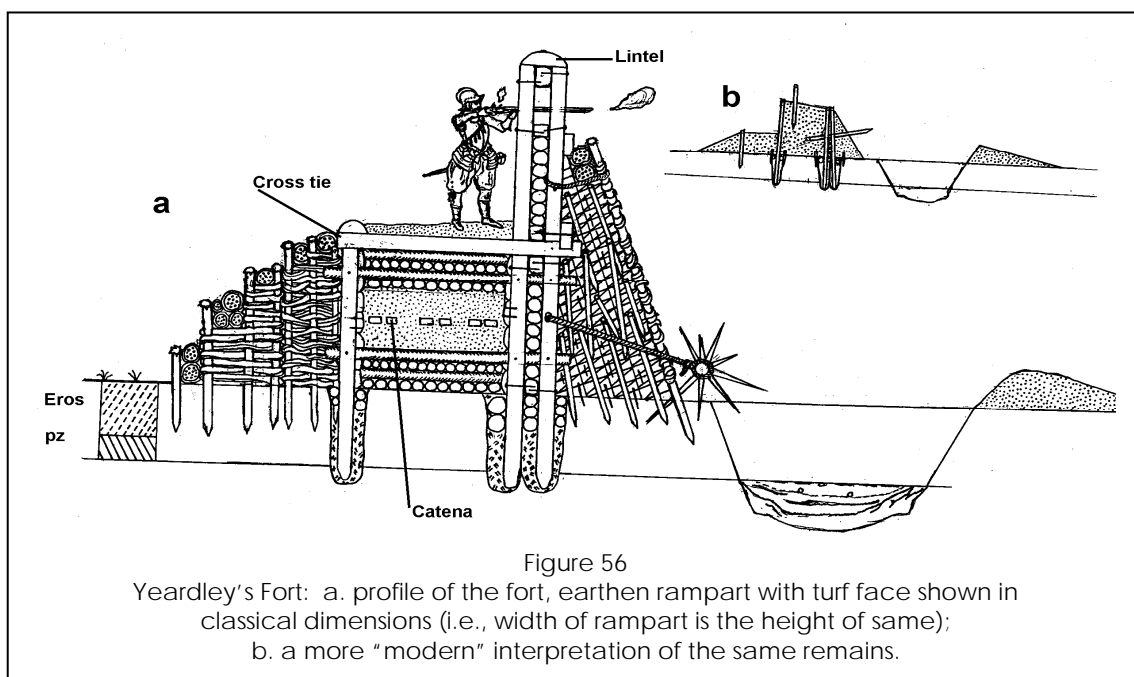
rampart is then raised between lines of revetments or barriers of logs and branches interposed [Renaissance catana, or crossties] to stop the earth from falling away. Above it a system of battlements [embattled or crenulated parapets] and turrents [flankers and bastions] is constructed like a wall."

An early incarnation of Tilbury Fort, along the Thames River above "Lee Necke" battery, once had a variation of the box rampart based on this essentially classical principle (O'Neal 1960:Plate 22). Thus, when Ive (1589:38) recommends a "palizado placed at the outer edge of the parapet raysed vppon the sayd courtine or bulwarke of sparres or such like," he is almost certainly talking about the basics of a box rampart similar to the masonry system at Tilbury with an integral outer parapet such has been recorded at Flowerdew as early as 1572 (see Figure 55) Flowerdew Hundred



Foundation Archives). Virtually every contemporary Renaissance fort shown in plan shows a double wall to create a rampart; should we be surprised that a double revetment would also be necessary? Figure 56 shows what is really a boxed rampart walk with a double or treble paled parapet.

Based on their more modern continental experience, Yeardley and



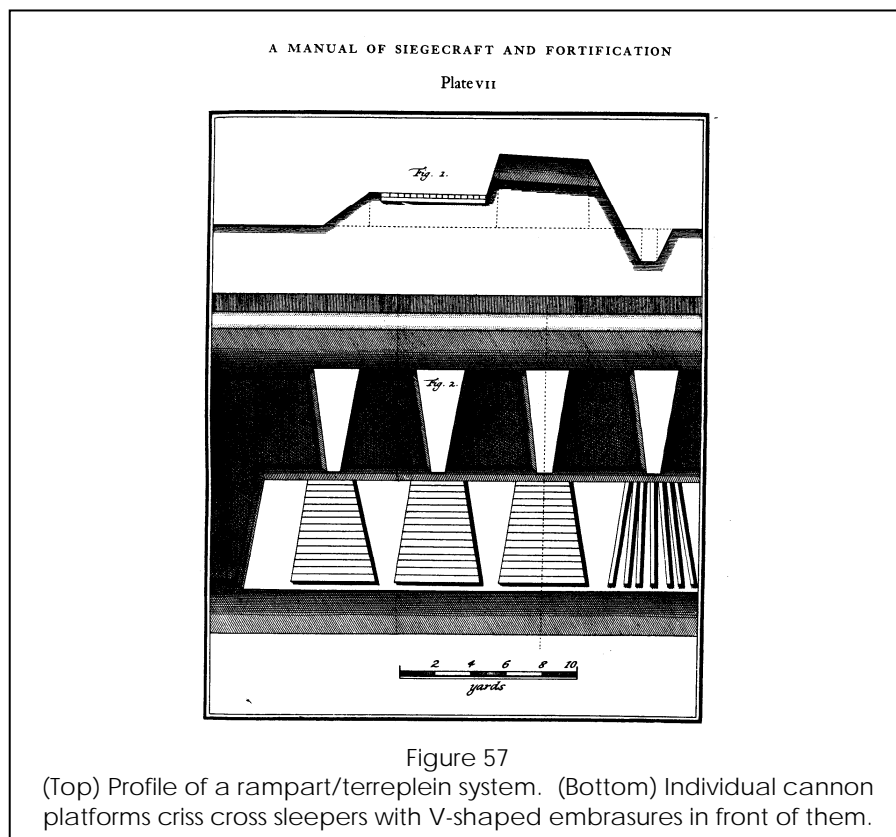
Sharpe may have had the militia set rows of "cannon basket" gabions (wicker baskets filled with earth) immediately behind the ditch-set stockades when the braces were installed, but before the horizontal planked walk was finished, especially near cannon embrasures (Hodges 1992b, 1993). Thus the wall was probably strengthened in several ways. In order to fire proof the base of the exterior wall, either turves were added or the exterior stockade was slaked with daub. Daub, some fire reddened, was found in ditch-set palisade trenches. A more entirely timber system would tend to rot less

quickly due to air circulation and, by the same token, could be more easily fired.

### Terrepleins

We have already introduced terrepleins and cannon mounts in the historic context by using orthography to understand what was being done at Flowerdew between 1622 and 1623. Terrepleins are yet another Roman or classical system, originally designed to help prevent mining and house siege engines (Hodges 1993; Milner 1993:115). This zone contains the very area where most of the large cannon were mounted based on archaeological documentation. Comparative inspection of Vauban's (1969:59, Plate VII) fort profile is important because he shows a comprehensive rampart and terreplein system in profile. This comparison indicates that the stockade revetment locations at Flowerdew correspond exactly to the specific prescribed locations of the dotted structural lines shown in Vauban's illustration, as do the integral terreplein trenches (see Figure 57). By the same token, Vauban's massive earthwork profile would offer little or no protection against stealthy and nimble Native Americans, hence a shift back to earlier Renaissance models employing the box rampart base plan selected for the Flowerdew interpretation of contemporaneous threats. Such a profile as at Flowerdew is therefore more in keeping with Paul Ive's (1589:93c), "Bulwarkes [earthworks reveted with entire small trees], with Palizadoes vpon their Parapets." According to Ive, in English fortification such a system

was primarily employed in zones especially vulnerable to assault. While assault was infrequently a serious threat to the well-fortified and watchful



English after 1607, one Native American with a firebrand or with a leather bag containing fire coals packed in moss could destroy an entire settlement.

### The Parapets

Ive's notion of "Palizadoes vpon their Parapets" noted directly above brings us to a brief discussion of the parapets which protected militia from bodily injury while on top of the rampart walk. At Flowerdew the parapet area is associated with the outer stockade revetments. One good example of a similar system is notable on a 17<sup>th</sup>-century German work associated with box ramparts, which is similar to the interpretive profile of Pope's Fort (Miller 1986). It shows a wattled stockade revetment that is also integral to

the parapet as has been tentatively interpreted at 44PG65 (Carson et al. 1981; Hodges 1993) (Van Creveld 1989:118–119) (see Figure 58). Note the visible horizontal lintels and upper ribands (thick planks) on the inside of the parapet (Hinds and Fitzgerald 1996:72). The top of the parapet posts here also ran well above the height of the gun ports, helping to protect against assault. The inner stockade revetment, surely present, is completely buried



Figure 58

The Siege of Althona, near Hamburg, Germany 1691. Here stockade revetments with a turve or earthen "batter" poke out above to form parapets and gun ports

(Van Creveld 1989:118–D).

in earth to help stabilize the system.

After comparison with the German system and Ive's system of parapets, it may be inferred that at 44PG65 the outer stockade revetment trenches were integral to the raised parapet. The parapet wall was employed to protect small cannon and musketeers manning the rampart walk. This



portion of the site was probably excavated with a spade or large trenching mattock, as indicated by the paired bifurcations along the bastion and terminal northeast wall exposed and dramatized by deep plow shearing. The doubling of the trenches, which are typically twice the width of the inner stockade revetment or counterfort, caponier, and west stockade, almost certainly indicates either extensive repairs to the outer envelope or an intentional double wall on the exterior side to "bear out" musket balls along the parapet and considerably strengthen the entire unit. The profile of the 1699 French Fort Maurepas clearly shows that the main fort walls were of a doubled stockade set into a builders' trench (Robinson 1977:Figure 8). Paired post molds were found in the north terminus of the parapet ditch at Flowerdew on the east side associated with the earthworks.

There is a real chance that, given the double outer revetment trenches noted above, the double vertical wall as indicated by bifurcated outer revetment trenches was quite possibly filled in between with a series of staggered horizontal posts pinned with tree nails into all three walls (inner vertical, center horizontal, outer vertical) to create a very strong lamination which may have been made of cypress. In addition to tree nails, 17<sup>th</sup>-century versions of "fish plates" may have held the laminations together (Brackenbury 1888:Plate VII, Figures 13, 16, 18). Stanley South (1983) has found some zones of paired palisades indicating strengthening at San Felipe only along a sample bastion. In contrast, at Flowerdew the consistent nature

of the double trenches seems to encourage the notion of a more comprehensive repair or just plain strengthening from the beginning. The latter notion may have been appreciated by Yeardley, a man who had seen many Chesapeake fortifications fall into ruin through composting of green wooden members in association with earthworks, general erosion, and wood rot; and surely he saw many a parapet top lose its turf cladding or earthen batter to rain and storms, thus leaving meager strength to the parapet.

In addition to protecting musketeers, the parapet protected artillery mounted on the top of the rampart walk as opposed to those fired through embrasures which pierced the earthworks from the terreplein ("mounts" or cavaliers" (Hale 1964:Xcvii). Typically "rampart guns" were the smaller cannon and would include the archaeologically recovered robinet and falconette or potentially wheel-mounted murderers documented in the Muster of 1624–5. All three of these types were sufficiently small that they could be wheeled any where along the flat rampart "walk" (Jester and Hiden 1956:22; Wagner 1979:144). Thus, there was quite possibly no great need for a firing step, as this would impede use of rampart guns. Accordingly, in compensation for a firing step, the parapet was extensively perforated with periodic gun porting or "loop holes." The parade curtain or counterfort (inner of the two paired stockade revetment walls) may have been run up to shoulder height to allow militia to also fire inside the fort should things deteriorate to that point during a foreign assault. One incarnation of the fort

at Blackwater of 1597 shows a similar English rampart walk system with defensive parapets on both sides to allow fire in all directions, and no firing step to aid the use of rampart guns (Rowse 1973:Figure 3 above).

If shelled by artillery, the militia or "small shot" (musketeers) were expected to crouch behind the counterfort (inner stockade revetment) although this improvement may have had a ramp of earth behind it or "talus" to help counter-brace the whole unit. It is unlikely that foreign troops would shell the fort during an assault without risking killing their own men; hence the rampart walk was generally useful.

#### **The West Stockade Parapets**

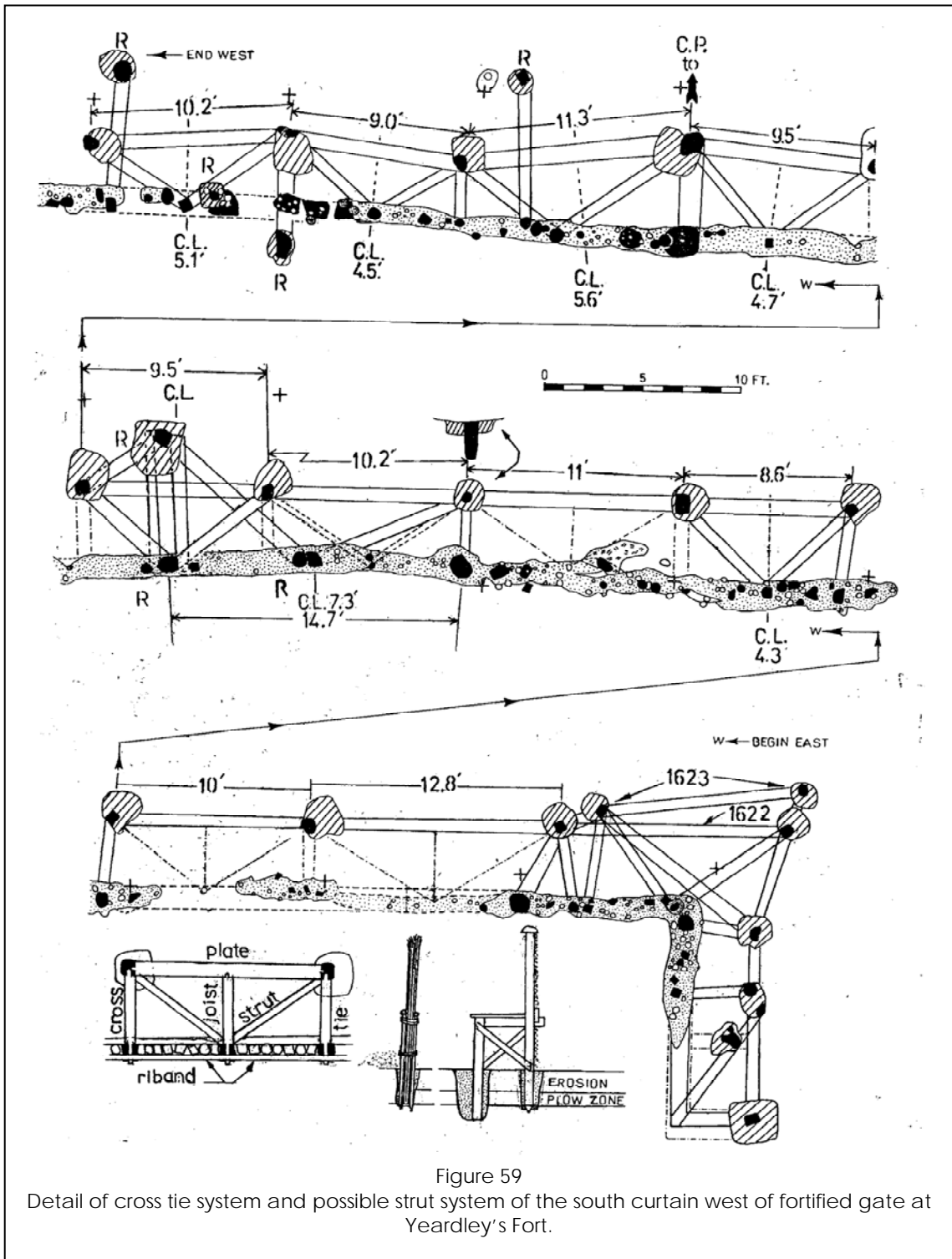
Along the western stockaded perimeter, where the wall walk was also present, the area of the exterior stockade above the actual footpath constituted a technical parapet. Here, the tops of posts or higher elevations of posts, were cut in triangular or V-shaped notches with or without wattle embellishments periodically in order to provide gun ports. This also prevented sentries on routine watch duty along the wall walk from being easy targets as they made their "rounders."

#### **The Relationship between the West Stockade and Its Wall Walk**

This area consists of an outer ditch-set stockade which has a hole-set scaffolding system behind it west of the ravelin (cf. Brain et al. 1976). We have no clear evidence that there were earthworks west of the bastard caponier and ravelin since fortification ditches were not found here. Turves

may have been used in the Roman and Dutch style to build up areas in front of the stockade. The interior hole-set posts can be interpreted as simply holding up planks that held in rammed clay or turve banks behind the exterior stockade wall. Lets take a closer look at this area to see if we can determine what Yeardley and Rossingham did.

Figure 61 shows the majority of the south curtain of the fort beginning with the west half of the bastard caponier and ravelin but east of the southwest flanker. Here, all post molds larger than 0.4 feet wide have been blackened, as have been all angular (man-made) post molds. White areas within the blackened molds show smaller posts in reverse. Many of the largest molds clearly were butt sawed based on their shallow depth. Hard lines represent structural sensitivity between ditch-set and hole-set posts—many of which are squared—while dotted lines indicate areas where the inferred pattern has been obscured by plow shearing. What is happening here? It seems that the majority of post molds that have survived did so because they had dead weight on them during the ca. 1619–32 period so they, like house posts, sank a little bit, many sinking below the builders' trench and preserving their true size if they were butt sawed.



Structural analysis of this area indicates not only clear traces of large stockade posts, but traces of architectural cross-strengthening between the wall walk (hole-set interior posts) and the exterior ditch-set stockade. The most obvious pattern is large or huge post molds within the stockade that correspond with opposite hole-set units which are part of the wall walk. It is inferred that joists attached by scabbled or notched joints or mortises were present here in order to create a raised platform for musketeers or "shott" to shoot through the stockade through loopholes in the latter. The structural evidence suggests a raised wooden platform (a "catwalk" or "boardwalk") rather than a turf or clay bank. Having said this, the need for counterforts would still be present, whether or not an earthen bank or wooden platform was used.

A second, weaker pattern suggests diagonal struts between the crossties. Once these were observed, the center line ("CL") in the drawing was demarked to see if there was an empirical pattern. When struts join the stockade, frequently a reasonably large post mold (most were blunt cones indicating ax felling) was pushed into the ground. When this does occur, it is almost always at the centerline.

A third pattern suggests no right-angle crossties between the wall walk and stockade, but rather diagonal reinforcements more in keeping with a greatly simplified version of Vitruvius' recommendations. These are especially evident near the bastard caponiers' right-angle turn toward the

west stockade curtain. The lines inscribed here may be somewhat arbitrary, but overall these would relieve structural tension between the strong caponier and the relatively weak wall and stockade. Notice how the wall walk is doubled in this area to relieve additional structural tensions created by the elevated 1623 ravelin. There is a strong hermetic quality to the ravelin, wall walk, and caponier here, again showing planned anticipation of future improvements.

Sensitivity to the planning of an anticipated southwest flanker is also evident in this drawing. Note how narrow the wall walk becomes as it gets near the southwest flanker. This section of the wall walk is just an elevated "rounders" path—no one is really planning to shoot muskets from here.

There are good examples of repairs in this area also. These are demarked in the drawing with "R" symbols. In one area (center line left) two stockade post molds were installed on either side of a cross-tie anchor also in the stockade, indicating that two or more horizontal planks were scabbed in and nailed to them and the interior opposite wall walk post. Weight on the whole nailed unit pulled the paired stockade posts down. Elsewhere (top row upper left) new postholes were added to the interior of the fort, almost certainly to up-brace a sagging planked section of the cat walk rather than an earthen embankment. Figure 60 shows three wall walks from early times to medieval and to the early 17<sup>th</sup> century.

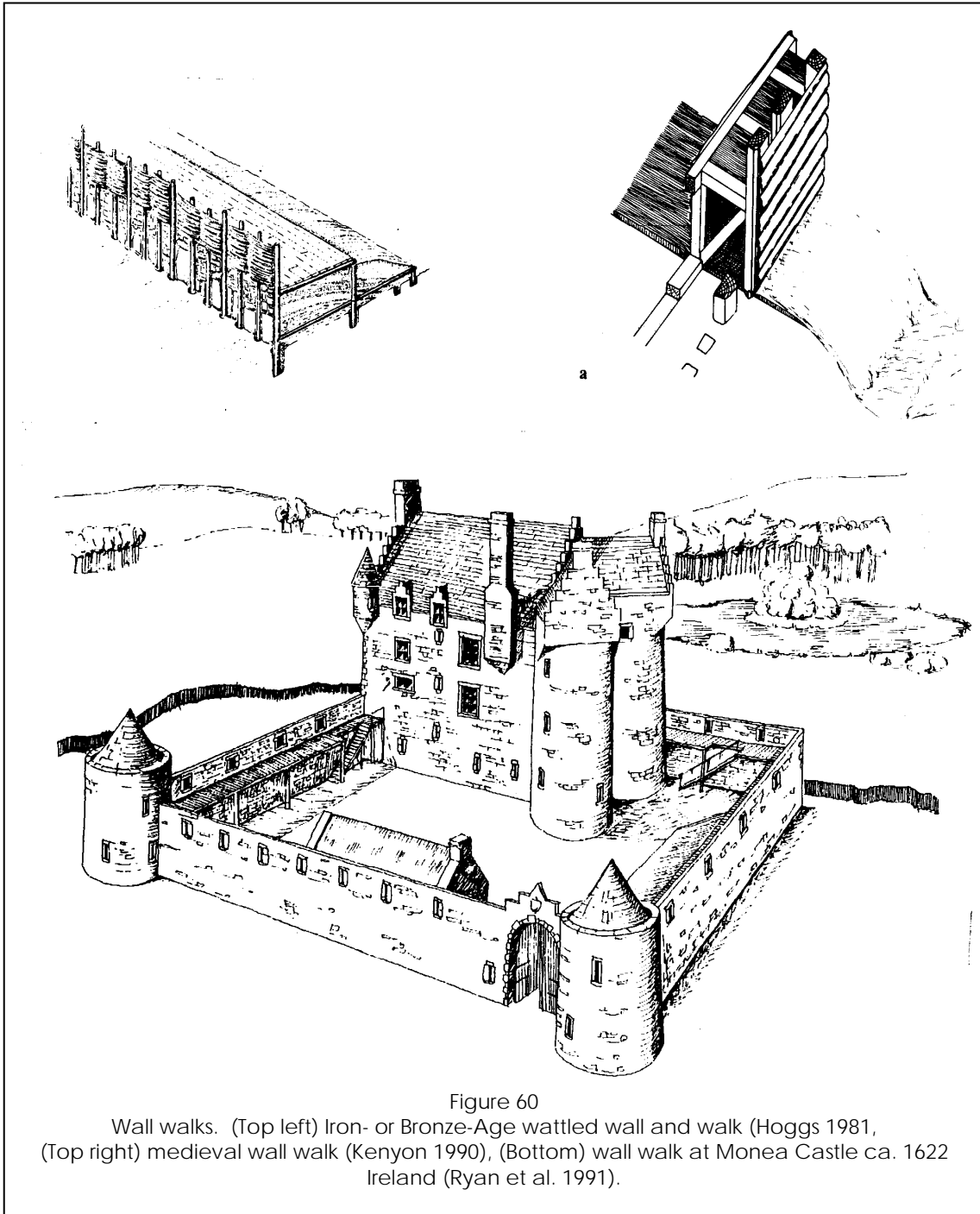


Figure 60

Wall walks. (Top left) Iron- or Bronze-Age wattle wall and walk (Hoggs 1981, (Top right) medieval wall walk (Kenyon 1990), (Bottom) wall walk at Monea Castle ca. 1622 Ireland (Ryan et al. 1991).



What precedents are there for timber wall walks. Kenyon (1990:212) defines a medieval wall walk as "a sentry path immediately behind the battlements of a castle or town wall." In fact, the medieval "wall walk" dates back to classic times, where it is analogous to a rampart walk. In other words, this type of defensive improvement is a matter-of-fact part of town design. Unfortunately for us, after the Norman Conquest, most wooden wall walks were replaced by rot-and fireproof earth and masonry works. Medieval wall walks would have been familiar to many or most of the immigrant population at Flowerdew through masonry castle and town walls which still dot the English landscape. Moreover, Ryan's (et al. 1993:191, 202, 216) illustrations of Ulster bawns and defensible tower house courtyards indicates that a Kenyon's Norman hole-set-supported timber wall walk system had survived at sites like Monea Castle, and Derryhivenny Castle well into late 16<sup>th</sup>- and early 17<sup>th</sup>- century Ireland as a living wooden building tradition. Similar activity is likely to be the case for portions of Europe, where timber was readily available and temporary wooden fortifications were still needed. Carson (et al. 1981:Figure 5) and colleagues have provided an illustration of such an apparent wall walk system in use at Casco Bay Fort in Maine in 1705. Russian works use the same system and, indeed, the ditch-set outer wall and hole-set wall walk combination is something of a military cliché (Upton et al 1986:82). In terms of periodic massive posts supporting palisade lines, Duffy (1979:Figure 36 [redoubt with exterior palisade barrier]) shows

just this sort of system with periodic massive posts with at least two interior runners bolstering the smaller palisade posts along the same line.

Kenyon's research on hole-set-founded timber wall walks indicates that they both braced and elevated such walks while they anchored the vertical palisades in a derrick-like or "hurdle"-like fashion similar to half a wooden bridge. Thus, the relative shallowness of the western sides of the ditch-set stockades indicate that this is probably due to the fact that they are borrowing some of their vertical strength from the parallel hole-set anchors - of and internal to the wall walk.

#### **The Southwest Flanker**

At the southwest corner of the fort is an expansion defining a series of efforts to better flank this portion of the fort. Figure 61 depicts not a normal archaeological plan, but rather a compilation of all the drawing made in this area as one mental template package. In this drawing, north is the top of the page, west is left. The drawing includes reference points pertaining to the master grid.

We can make several inferences from this drawing. First of all, we can see at least two or three incarnations of flanking efforts through time. During the first phase there was just a turn in the stockade line since this area was flanked by the missing northwest bastion and the bastard caponier by at least 1622. Probably during this initial period, very simple efforts were made to defend this corner. This consisted of a 12- (north to south) by 3-foot

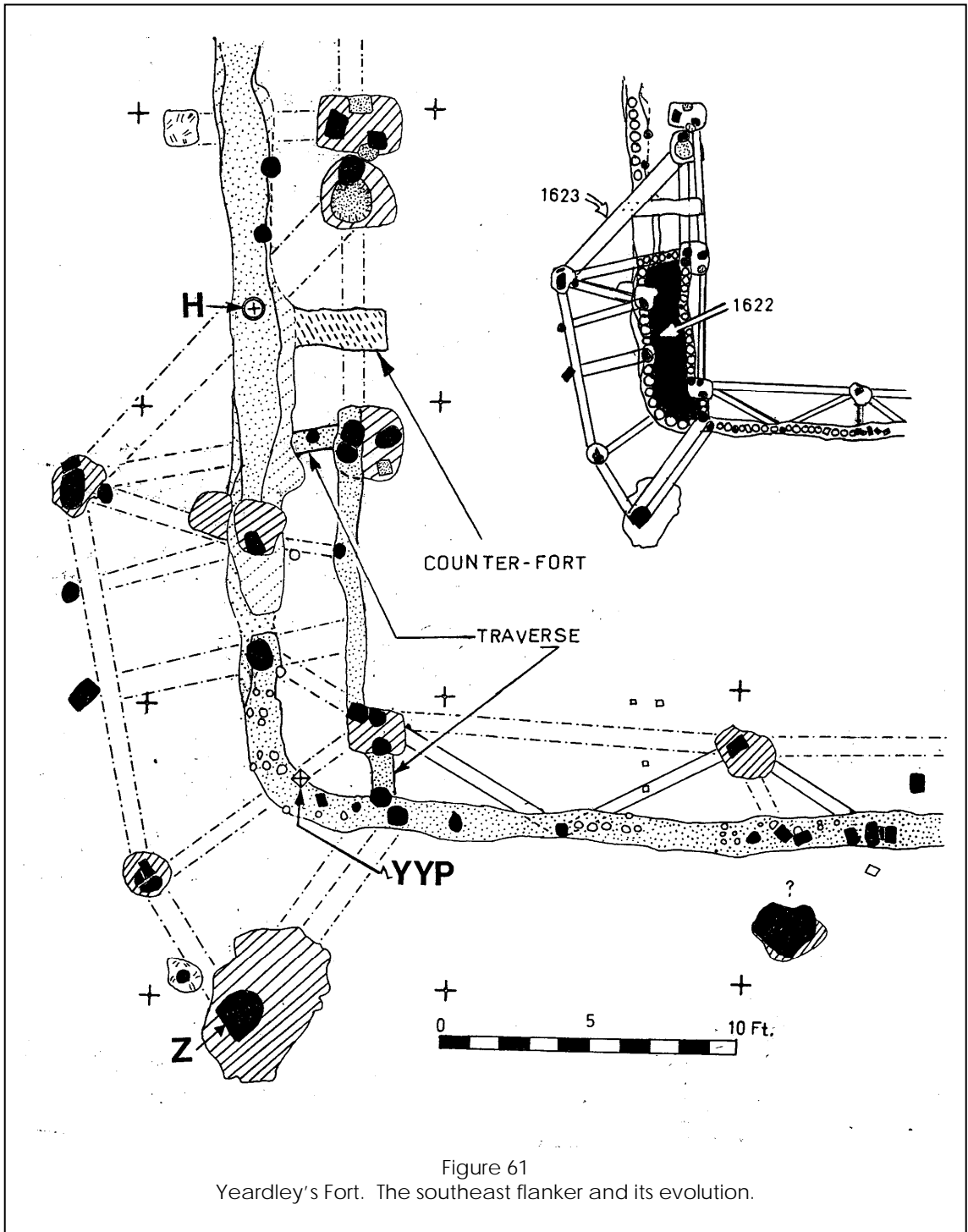


Figure 61  
Yearley's Fort. The southeast flanker and its evolution.

(east to west) fully stockaded unit whose exterior wall was identical to the original fort wall and corner. A very narrow trench 0.6 to 0.8 feet wide defined the interior wall. Although this trench could be a ground sill, a single post mold within, combined with post molds at its terminus, together with its slightly curvilinear nature, suggest a weak ditch-set stockade. The terminal north posts intrude on the earlier wall walk posthole here. At the southern terminus at least one post mold suggests this improvement was anticipated when the wall walk post was installed. Two equally narrow trenches link up with the exterior stockade at right angles where, at the south, one post intrudes into the original stockade. These right-angle improvements define simple gun-ported traverses. Their purpose was to prevent attackers who had reached either side of the wall walk from entering the other. Simultaneously, they prevent anyone from enfilading the corner of the fort here. Since it is unclear how access to this area was obtained, we can presume a ladder was present.

During a second stage of building, a deltoid flanker was installed which was 7 feet wide east to west by 20 feet long north to south. It is defined by five post molds, only three of which retain the original postholes (the one defined by master grid point Z is about to break up). We know it was added later, since one scaffolding post (a sixth post), and posthole associated with it, intrudes upon the original stockade line. This was probably a story-and-a-half framed feature which now could create a cross-

fire to the east in concert with the caponier. Framing pairs are shown as dotted lines in the drawing. Clipping on the southern post demarked Z may suggest that the hewn cladding was horizontal rather than vertical. Perhaps the first stockaded chamber phase had now become a staircase providing access to the upper deck. Because of the presence of hole-set founded works, the flanker may have been constructed of nailed (or tree nailed), mortised, or halved cornering of thick-riven planks (cf. Noel Hume 1982; Shurtleff 1939: Figure pg. 11:1–2). It is likely that there were two levels to this work, with the ground level containing housing for militia guards and an upper parapeted deck roofed over or not. Given its essentially deltoid form, this unit may have also doubled as a watch tower, as the essentially triangular form is similar to the derrick watchtower at Bermuda Isle (Arber 1910 II:624). Note how this deltoid flanker form is repeated in the hole-set timber piles inside the ditch-set demi-bastion, both of which in the latter face east.

Despite its crudeness, a similar vernacular deltoid flanker, which cleverly eliminates a fourth wall, was built in masonry at the ca. 1692 Fort William Henry in Maine, as recorded by Romer (Bradley 1981:9, Figure 9). Note the double walls including the counterfort, which performs the same function as the double stockade revetment and wall walk at Flowerdew. This plan is like some Roman fort corner towers such as one at Kunzing in Raetia, suggesting that reductive function does determine form (Bradley 1981; Johnson 1983:Figure 30).

The final stage of the southwest flanker is an effort to make this shabby flanker look more like the bulwark to give a superficial sense of symmetry to the fort's southern corners. Consequently, a new 14.8-foot north flank was added which expanded the flanker another 12 feet and angled into the stockade and wall walk system via a new posthole. Here, the post mold is 1.45 foot thick, indicating a portion of a tree trunk, which closely matches the massive size of the post mold at Z. Opposite where this flank angle crosses the stockade, a trench had to be dug to bolster this area with a silled counterfort angle brace set into a builders' trench. It is doubtful that the entire unit now was at the same height as a watchtower, so the new north flank may have been lower, creating a stronger overall frame.

It looks like part of the original ditch-set stockade was robbed, especially in the north area of the drawing to accommodate later improvements. The southern sections appear to be retained to help brace a ladder or the staircase we noted above.

**The West Curtain Wall Musketeer or Reentrant or Re-entering Angle and Its Hypothetical Opposite East Rampart Redan**

When observing the north terminus of the west ditch-set palisade wall, a turn 6.0 feet long toward the east is notable. Nearby, the last post hole moving north (deemed "z prime" or z') appears to turn east in order to seemingly correct and maintain this parallel relationship which would be lost in the arbitrary z-t line (see archaeological "master plan"). Of particular

interest also, the hole-set posts ending with z' stop their typical 10-foot center sequence before they reach the intrusion of a modern duck blind (dotted square). Nonetheless, just below the turn in the ditch-set palisade, a dark post hole or mold is found at an approximate 20 feet from z'. Thus, it is somewhat unclear that the north terminal hole-set original wall here is really discontinuous. Since we now know that Structure 3 is part of the same master plan as the southern hole-set wall, it doesn't make sense that a paramilitary palisade or stockade here would suddenly stop without closing the line any more than it makes sense that the ditch-set stockade would have a corner here.

Therefore, this elbow-shaped work may be a musketeer or minimally a "re-entering or re-entrant angle" entrenchment perhaps associated with a flanked entry feature such as that at Ralph Lanes' fortified encampment at Puerto Rico (See Hulton 1984:Plate 3, 173). A re-entering angle is one that points inward toward the interior of a fortification or, stated in a different way, pointing in the opposite direction of a "salient" (outward) angle (Robinson 1977:204). A musketeer is simply an internal flank or traverse in the line created by a reentering angle (David Hazard, pers. comm. 1991). Thus, the common denominator in either military interpretation (musketeer or re-entering angle) is that both interpretations feature an effort to flank the west stockade line with defensive fire to the north and an attempt to prevent anyone from enfilading the wall walk at points south. The military

functional interpretation noted above is supported by a discreet military midden deposited specifically in this area which is otherwise largely barren of artifacts other than nails and lead shot (cf. Barka 1993:330). No less than 10 musket parts and 5 sword trappings (scabbard/frog parts mostly for an officer's rapier or sword rapier) are concentrated in this area (Flowerdew Hundred Foundation Archives). Unfortunately, except by the 10- by 10-foot excavation unit, the author does not presently know exactly which features these came from. We know that Scot Speedy (pers. comm. 1992) has indicated that hardly anything was found in the hole-set palisades besides pipe stems, so we can assume this means the artifacts came from either the plow zone or the ditch-set palisades. In either case, this would suggest this debris indicates a primary military midden deposit analogous to the cannon ball deposit associated with the terreplein and cannon embrasures.

The location of a musketeer similar to that at the Harbor View Fort is also supported by recourse to the larger site picture. The musketeer (or retrenchment area) corresponds with a very small redan (a military work with two faces forming a "V-shape" open at the back) or fire control station (a ground-level observation/firing point) along the opposite east outer stockade revetment and parapet (Robinson 1977:204). Fort Raleigh has no less than three similar redans, of which the smallest or the northeast is the most similar to the meager footprint in the Yeardley Fort (Harrington 1984:8). If a legitimate identification at all, the east Flowerdew redan is so small that its



main purpose was to allow militia to see and shoot anyone hiding at the base of the parapet (outer stockade revetment).

#### **The Fort Ditch and Ramparts as a Package: Toward A Sense of Scale to Yeardley's Vernacular Fort**

Compared to more massive Roman and Renaissance systems, the scale of the Flowerdew earthworks works was just large enough to permit movement on the ramparts and protect soldiers and cannon. This is based seemingly on similar scaling down of more ambitious works that are familiar from the Isle of Wight (militia) orders. These latter orders recommended "close-beaten" earth mixed with manure eight feet wide (Broyndon 1967:131). Such building material may have been employed at Flowerdew because the light alluvial soil present meant that if manure was not added as a binder, clay soils would have had to have been transported from river cliff zones elsewhere at Flowerdew near 44PG64, or from the deepest sections of the fort ditch.

The scale of the earthworks at Flowerdew is also similar to entrenched military encampments. Clayton (1591:40) noted, "if you looke not to manie enemies to assayle you, then it shall be sufficient to make the Trenches of your Leagar [fortified camp], but eight foot or nine foote deep and seven foote broade, and such times all men shall helpe the best they can." At about five to seven feet wide, we can assume that the fortification ditch at 44PG65 was at least seven feet wide before the hurricane of 1667. The relative

shallowness of the ditch, at about three feet below plow zone, was the Dutch model of entrenchment since it was probably a wet ditch (if modern sea level rise of 3 feet+ has not confused us here) (Duffy 1979:91–93, Andrew Edwards, pers. comm. 1995; William and Mary Archives). We do know that one of the hole-set timber piles (perhaps from the para-military palisade) associated with the northern section of the rampart was set so deep that it was preserved by continuous water inundation. This post was set more shallowly than the fort ditch, thus it appears to have been a wet ditch—analogueous to a moat (but more modern).

It should be noted here that the majority of the fort ditch was not fully understood or exposed and drawn between 1971 and 1978. Most of it was under the high-tide level and the limits of excavation on the master grid near where the ditch was found do not clearly show the limits of drawing and cleaning here. The ditch contained burned flint and, near its top, blackish concentrations, reflecting either cow manure slaking debris (relating to the fireproofing of wood or as a binding agent for close beaten earth) or eroded sods which slumped into the depression when the fort fell into total neglect (1632+).

Ive (1598:34) notes for small forts such as "flankered redoubts" built of earth, that to "raife a parapet five or fome fiue or fixe [5 or 6] foote broade," was sufficient. These are dimensions which match the Flowerdew find, spanning somewhere between a Clayton's camp and (ditch) and Ive's small

fort (parapet and associated rampart) and the militia ramparts of the Isle of Wight orders.

#### The Articulation of the Fort and Atrophic Town

Architectural historians have shown increasing interest in how movement occurs in and among architectural forms. Our objective here is to very briefly introduce the concept of spatial movement within the site.

1. The Main Street or Cross Passage Line (A-B): This avenue of movement was probably the key zone of articulation, not only for the interior community, but for visitors. The avenue, beginning with the bastard caponati/postern leading to the entrance of Structure 3, is our concern here. In order to make this path, two "lobby entrances" were installed. The caponier/postern allowed soldiers to edit entry from two raised parapets, which form a "V" within the unit. Entry might have required a "watch word" verbally negotiated between the "Challengers and Challenged," in order to "passe the ports" (Flaherty 1969:32). People who did not come and go out the main gate were severely punished at Jamestown (Flaherty 1969:33, 48). Light ordnance such as the murderers, robinets, or falconettes (all documented at the site) could be wheeled forward to the port or back, as a secondary-entrance editorial component. At Jamestown Gates noted less mobile cannon but similar tactics, for "at every gate [there was] a demi-culvern" (Purchas 1926:66). At Structure 3, a second lobby entrance is broadly inferred from a basic building type (Robinson 1983:50–52).

After 1622, these avenue articulations were hypothetically barricaded using methods that were still documented in the 19<sup>th</sup> century. Two types of street barricades are employed, baffle barricades and a quick-set hedge. The baffles are walls extending from the northwest corner post of Structure 1 east to a hole-set which is in line with the north facade and two post molds which

extend west from the south wall facade of Structure 2 (Brackenbury 1888: Figures 15, 16). While the post hole associated with Structure 1 might be considered a wind brace to prop up the house, as the prevailing wind runs southeast here, the holes associated with Structure 2 (deemed b2) and projecting west negate this argument. Only by blocking the street A-B do these units occur and their alternating complimentary rhythm appears clear. Here the reader is reminded we are dealing with a fort intended to be defended against Native American and Spanish soldiers.

2. The blinded or quick-set hedge avenue: The quick-set hedge is made of bundles or post molds 0.15 feet to 0.3 feet (double fascines) set into a shallow trench 129 feet long and 1.8 feet to 4.7 feet in width to subdivide the settlement between structure 3 and Structures 1 and 2 (Barka 1993:330; Vauban 1968:Plate III). One tenant at Moneymore had "a double or treble quicksett, and wth a good hege or pole" associated with ditches (Robinson 1983:61). This street barricade deliberately terminates at the cattle pound (almost certainly because it postdates it) and runs toward the terreplein in a east-west orientation. It is denoted by points BL1 and BL2 on the master grid. Thus, cannon from the terreplein could rake either side of this internal partition. In the plan, the hedges are angled toward the north-northwest in order to give the cannon control of the entire unit. This also provided a sort of two-lane highway between Structures 2 and 1 that was negotiated by a sharp turn at the terreplein. Thus movement toward Structure 3 tended to underscore the real power of the plantation commander. Moreover, cannon removed from the terreplein could rake down the street facing south along the A-B line by trimming the hedge for an embrasure to face toward B from the north side of the hedge opposite A. This is inferred from the precedent at Jamestown where there was a cannon not only at every gate, but "so in the marketplace" and thus just opposite the "principle gate" or "point B" at Flowerdew (Purchas 1926:66).

Such bundles of light wood as the quick-set hedge would stop an arrow or a musket ball and allowed a last stand in protecting the high-status tenement at the heart of the community. Da Gama (1649) suggests a footprint of a turf wall would be identical to a ditch-set hedge due to frequent use of vertical faggots to hold the "V"-shaped sods together. Military tracts recommend "blindes," which are similar works to the quick-set hedge although they are held up by wattles. These were employed to prevent the enemy from seeing what is going on the opposite side (Norton 1973:132–133).

As Barka (1975) has suggested, the quick-set hedge does demarcate a boundary between the high-status tenement and the quarter and storage units which may have served to separate functional and social purposes within the cramped settlement. Interestingly, this seems to define the boundary between the exploded west English longhouse and the seat of the plantation commander (Hodges 1987, 1993). Barka's suggestion may indeed be the case or was a secondary function to creating a series of lines of defense. The point is that the avenue served a practical purpose and there was no need to conspire to overawe visitors; rather, there were few other tactically necessary places to put the cannon or interior defensive screens in the cramped settlement.

In the Norman model the town looked to the feudal castle stronghold occupied by the nobility to defend them by admission into the castles. Thus,

we should avoid a Marxist perspective on reading "social exclusiveness" and elitism into this practical plan. Barka's argument still has purchase in that movement toward Structure 3 could be subject to careful monitoring.

Another late medieval or specifically military aspect of this plan is how the quick-set hedge precludes surveillance of the lower settlement. Sergeant Fortesque was in charge of this area so that a person who was part of the command system lived on the south side of the quick-set hedge (see discussion below). According to Strachey, in 1611 sergeants were also in charge of "opening the ports" for the discovery of ambush or foul play, so he was in charge of the bastard caponier and probably everything south of the hedge pertaining to monitored articulation (Flaherty 1969:75).

3. The southern avenue extends along the avenue spanned by and just north of t-v-u (archaeological master plan). Two probable gates allowed entry into the cattle pound. The smaller gate for human entry is arbitrarily scribed within the right-angle symbol at point v (cf. Hodges 1993). This avenue, which acts as a surrogate street, could be easily defended by light mobile cannon (murderer, robinets, or falconettes) from the southeast demi-bastion. Until the cattle pound received a separate gate, cattle could be driven down this avenue without interfering with Structure 1 or the well, which had its own protective enclosure. After the whole peninsula was railed in, the somewhat uncertain "cattle gate 2" may have been embellished as a sally port that could be "seconded" (defended by the southwest flanker (Noel Hume, pers. comm, 1993). A "sallie" [sally] port allowed the militia to sally forth—that is, charge out—from a point of relative safety to counter attack the enemy on foot (Barett 1598:glossary in appendix).
4. The wall walk/rampart walk for "Rounders": This is a more or less continuous walk around the earthen ramparts on the west side and the rampart wall on the east side. Vitruvius (Morgan 1926:22)

recommends that, "the thickness of the wall...be such that armed men meeting at the top of it may pass by one another without interference." At 5 feet wide, the rampart here barely met the minimal classical ideal. Such was not the case for the typically 3-foot-wide west wall walk typically called "lines for shot" which was more or less a one-way road for all intents and purposes. On the west side "small shot" (musketeers) could only move in single file. Movement between the flanker and demi-bastion with a projecting caponier in between suggests that this work was attempting to humbly follow the design principles of a quadrangular Renaissance fort. "Rounders" is the military vernacular for soldiers on watch duty who continuously walked around this exterior wall potentially 24 hours a day in order to prevent a surprise attack (Flaherty 1969:55–56). During the Anglo-Dutch military regime, drilling on marching and handling weapons, as well as accommodating to armor wearing, typically occurred when men were on watch duty. In this clever system, through constant rotation of watches, the plantation could function while comprehensive training gradually accumulated among the hapless "ordinary beginners" (Shea 1985:16).

Therefore, we can say that there were at least 3 to 4 passages forming a grid pattern that negotiated the site as it has survived. The colonists could say that 44PG65 had three streets when reporting back to London. We know they were just very basic passages. However, these meet the minimal requirements of Renaissance planning ideals for both gridded streets and cannon-supported streets. The main street A-B and the probable common east-west orientation of the "new classical" master plan all compliment and underscore that the core master plan was built on specific ideals well documented in Garvan (1951) and Reys (1972).

#### **SUMMARY OF YEARDLEY'S FORT AND TOWN CENTER AT FLOWERDEW**

Three small-scale variant models seem to come together here—the Romano-Norman, Renaissance, and exploded West English longhouse.

Similar to the Romano-Norman model, Structure 3 like the principia is placed in a dominant position over the two subordinate structures within a courtyard. By analogy with Magherafelt or Flint, Structure 3 takes the position of a bawn or castle. Structures 1 and 2 take the position of houses along a bi-linear street with the cross passage equivalent of the road.

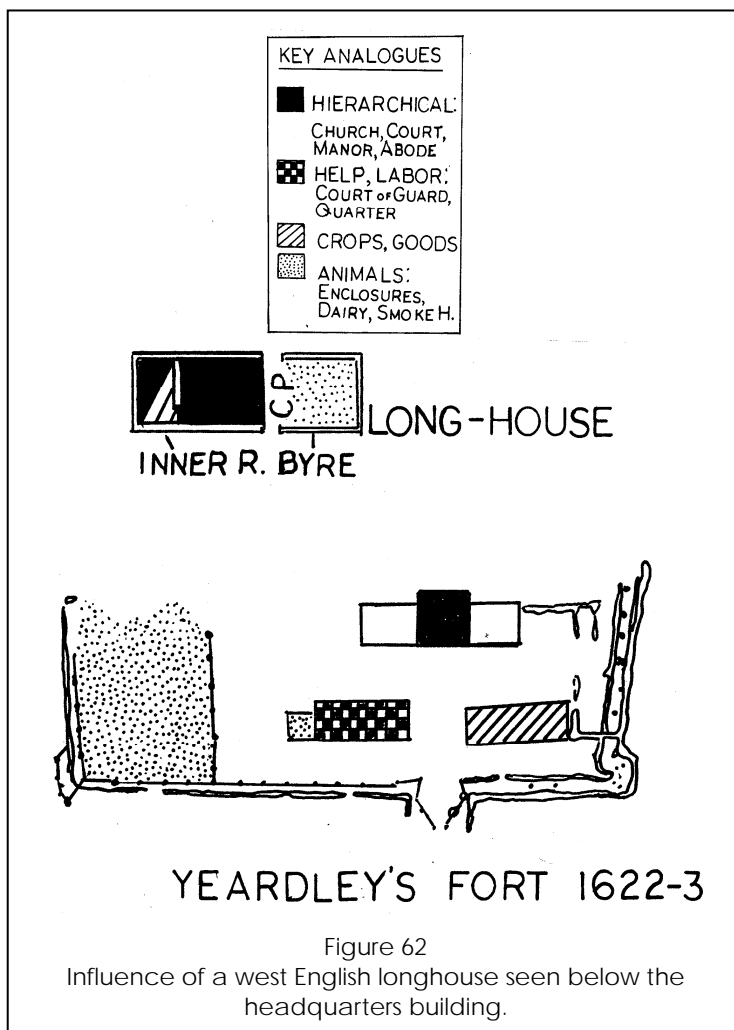
Renaissance influence is seen through this road leading directly to a bastion, and indeed a grid of movement both along wall and rampart walks and various ground-level paths offers a spare sensitivity to the Renaissance quadrangular fort model. The right triangular base plan (A-C-D) indicates anticipation of indefinite expansion of the fort and town as growth could be permitted. But Native American warfare forced the settlement to disperse tenants in a long linear plan away from the fort to protect crops of corn and tobacco. Despite this, there is a possibility the settlement had originally 5 main structures, with Structure 3 forming the core unit centered within the group of four.

The overall portions of the southern half of the settlement capture the essence of the spatial code of a west English longhouse (see Figure 62).

Beresford and Hurst (1991:137) note that the medieval longhouse model, comprising a typical living room/and an inner room for sleeping and dairying, often had a third room likely to have been made for farm storage. In 1993, the author turned this into a spatial code which by analogy grouped this unit as byre/hall/service storage grouping appropriate to all units below the hedge



partition (H1-H2). If this association has any purchase at all, it is one seemingly which has been exploded into separate components as an enlarged or "exploded" spatial/architectural model or, if the reader prefers, spatial/conceptual model. So the central street takes on, by analogy, the aspects of a cross passage.



Interestingly, Cary Carson (1969) has suggested that the cross passage in the West English house became the central hall of the 18<sup>th</sup>-century Palladian-influenced Virginia house. A second connection with the 18<sup>th</sup> century has been indicated by the similarity of this spatial tripartite code with Shirley plantation, built during the first quarter of the 18<sup>th</sup> century. The main difference between the layout of Shirley and Yeardley's Fort is that at Flowerdew the subordinate buildings are staggered (two hypotenuses) within the right triangle, while at Shirley they are parallel to a single hypotenuse.

By analogue amplification of Carson's cross passage/central hall evolution, we can with caution suggest that the macro-cross passage (street) at both Flowerdew and Shirley lead to the entrance to the main house (Structure 3, Shirley Mansion) in a similar fashion that would make a cross passage in a west English house shift to a central hall in an 18<sup>th</sup>-century dwelling. If Yeardley's fort is also a responsible identification as an atrophic town, then we can suggest that there is a linkage between small-scale variant planning models dating from the early 17<sup>th</sup> century which have much older connections with the 18<sup>th</sup>-century elite tripartite plan than we may have realized.

The architectural statement marked by praxeological constraints makes a very simple series of statements about real settlement needs:

1. You need a place to house the military and religious leaders of the settlement which is architecturally superior to the other units. Superficial window dressing is clay roofing tiles and possibly a lobby entrance hall and chamber-type house set up as a chapel and commander's house (Seat Plantation Commander and Chapel).
2. You need a quarter to house non-officer male militia and male and female servants who help provision the settlement (Hall).
3. You need a safe place for catchment of agricultural products including corn, seed corn, and tobacco in cask (Service and Storage).
4. You need a place of safety for cattle during Indian threats, until especially the whole peninsula can be railed in (Byre). After that, an appended enclosure is still useful to drive cattle into the cattle pound simply because it is the least labor-intensive way of gathering concentrated manure and obtaining milk for dairy

products, which are at a premium during warfare as a protein and fat source.

An examination of the military architecture indicates that this unit was consciously planned from the beginning to accept artillery based on the model of an irregular flankered redoubt. The settlement strives to imitate a quadrangular Renaissance fort only in shorthand by the addition of one demi-bastion (demi-bulwark), one wooden flanker, which is a type of demi-bastion (with one face and two flanks), and one flat bastion. At one stage the latter was built in the shape of a classic arrow-shaped bastion. While there is an absurdly small grid within the fort envelope provided by four articulations, several are greatly compromised. The design of the ramparts are, despite the presence of modern earthwork modifications, nonetheless based essentially on a box rampart model at least 2,000 years old on the east side and about 800 years old on the west side and replete with a timber wall walk behind a wooden stockade. Governor Wyatt's father recommended regarding, "Amminge Defensives and Offensives"..."[which] In bothe I must refer you to the exact Pen of Viagetius [Flavius Vegetius, Roman soldier and engineer]" because of his experience in the Low Countries where the Roman style of field work was in vogue (Fausz and Kukla 1977:123). More modern original Dutch influence (not necessarily Roman) is observed in the use of wet ditches and right angles in one bastion, the flat bastion (slaughterhouse), and obtuse flank angles half-bulwark (Ramm et al. 1962:101–102). Particularly at the fortified entrance, evidence of repair and modification is extensive (ravelin,

slaughterhouse, bastard/full bastion), suggesting the fort was rebuilt repeatedly as the tangled historic context suggests it had to be.

The classical influence on the fortification provided in construction details also extended into the fort and atrophic town plan, suggesting that the details of physical "infrastructure" are complimentary to the classical planning ideals of the architectural statement of the "superstructure." This motif even extended into imitation of Roman battlefield tactics that anticipate the Industrial Revolution. An association with corn and tobacco production took on an odd form of commerce bent toward warfare and patronage support to bind the commercial/Machiavellian unit together. Examination of historic records indicates that this fort/town center—like the Elizabethan soldier and Flowerdew Hundred Plantation itself—as to modern eyes, "a strange mixture of private contract and public servant." The agglomeration began as a patriotic liberal Virginia Company and Charles City Corporation Anglo-Dutch fort (1622–24) and ended its life as a conservative stronghold controlled by the English Crown and Charles City Corporation (1624–32) as the last vestiges of the Anglo-Dutch military regime were broken up and reassembled as English royal patriots to more than a Machiavellian commercial venture.