

AN INTERPRETATION OF FIREARMS IN THE ARCHAEOLOGICAL RECORD  
IN VIRGINIA 1607-1625

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Of the Requirements for the Degree of

Master of Arts

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by

Bruce J. Larson

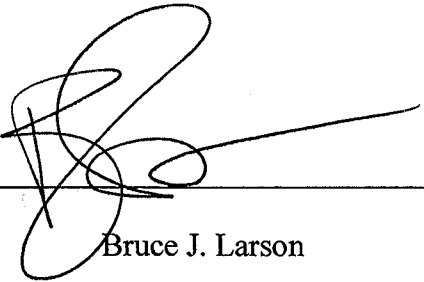
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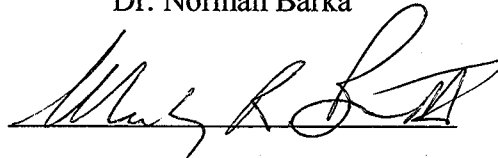


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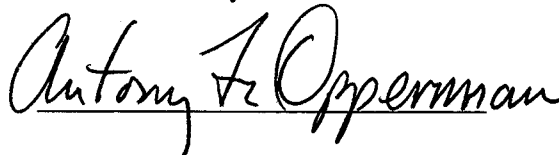
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## ABSTRACT

This paper provides a detailed justification for the interpretation of firearm terminology presented in period documents associated with the establishment of the Colony of Virginia. The primary documentary source for this study is the Muster of 1624-25 prepared at the dissolution of the Virginia Company of London.

The analysis of the late sixteenth and early seventeenth-century documentary sources was compared to the artifact data generated by archaeological investigations on sites that have components that relate to the first quarter of the seventeenth-century English settlement of Virginia. These data have provided insight to how the firearms terminology of the first quarter of the seventeenth-century can be interpreted and equated to contemporary firearms definitions.

The conclusions of this study suggest that self-igniting firearms were the dominant type used by the first settlers of Virginia, this is in contrast to the long held belief that the matchlock ignition form was the principle arm during the period. Evidence indicates that approximately nine of ten firearms in the colony by 1625 were self-igniting flint types, specifically, the snaphaunce.

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## INTRODUCTION

The original English adventurers and settlers in what is now the Commonwealth of Virginia arrived here with a large variety of tools, supplies and trade items useful in establishing viable communities. Among the items brought to the colony in the first quarter of the seventeenth-century was a wide selection of arms and armor. The most important and useful weapons for defensive as well as offensive purposes were firearms. This thesis will explore the relationship between the existing period descriptions of small arms, particularly the Virginia Company Muster of 1624-25 (Jester 1964) and other contemporary documents that describe firearms in all their various text descriptions and what we know about firearms from Virginia excavated archaeological contexts to provide a definitive typology of arms terms, which in turn can be related to a specific firearm ignition system. It is hoped that this approach will be of use to archaeologists as well as historians and material culture researchers.

Until recently the archaeological community has interpreted firearm related artifacts found in early seventeenth century archaeological deposits in Virginia using many of the conventional arms histories published over that past fifty years (Blackmore 1965; Brown 1980; Peterson 1956; 1964). While much of the information contained in these general studies is fundamentally sound, there is not sufficient specific analysis to allow for detailed interpretations of firearms material found in the early seventeenth-century archaeological context. By using generalized information to analyze and interpret



early firearms related artifacts an opportunity to clarify the myriad of period descriptions of guns in the written record has been missed. Firearm parts found in archaeological deposits not only are the tangible evidence of the firearm technology used in the early seventeenth-century, but may indicate that an arms industry was present in early Virginia, specifically, beyond the known recorded gunsmiths John Jackson and George Clarke at Jamestown (McIlwaine 1924; Gill 1974; Horning 2001). Archaeological deposits containing gun parts and deliberately disassembled guns point to the likelihood that there were gunsmiths active in settlements along the James River and Tidewater Virginia.

The archaeological record, it was hoped, could supplement the period documentary evidence and shed light on the exact types of firearms present during the first quarter of the seventeenth-century in Virginia. While sites dating to the first decades of the seventeenth-century have been investigated archaeologically, the data that has been obtained from those studies is not sufficient to allow for an accurate statistical analysis. The number of known archaeological sites dating to the early seventeenth-century is limited and those containing firearm related artifacts is lower still (Horning and Wehner 2001; Noel-Hume 1982; Outlaw 1989).

With the lack of significant quantities of hard artifact data to analyze, an alternative methodology was developed to address the question of what firearms were actually in use in the first three decades of the seventeenth-century in Virginia. The records of the early explorers, adventurers and colonists were full of references to the use of firearms, it therefore seemed that if systematically assessed, the period terms for guns would reveal typological categorizations which in turn could be used to supplement analysis of firearm material identified in the archaeological record. The document

assumed to possess the best chance of providing such interpretive insights is the Muster of 1624-25 prepared at the dissolution of the Virginia Company of London. As a comprehensive inventory of personal property in Virginia in 1624-25, the descriptions contained in this document would be compared to firearm terms found in other period discourses and narratives. The archaeological record is an important interpretive database that can tangibly add to our understanding of social and economic realities of a community, but if the archaeological data are not there, an alternative data set must be explored to help resolve interpretive problems. Therefore, it was hoped that the methodology used in this study would shed light on interpreting these valuable material assets of the first European colonists in Virginia.

## CHAPTER I

### FIREARMS CONTEXT

Firearms are one of the more enigmatic categories of colonial material culture. The use of firearms is multifaceted; they can be used for food procurement, personal and community safety, offensive and defensive military roles, status symbols and representations of real or imagined power. Therefore guns in the earliest years of settlement in Virginia were an integral part of the material culture of each resident. Traditionally, historians have suggested that the dominant type of firearm to be used in early settlements in Virginia followed a chronological sequence that reflected the various developmental stages of small arms ignition types coming out of Western Europe (Blair 1962: 51). This scenario would suggest a reliance on the matchlock musket in the earliest years of settlement, and would be evident in the archaeological record from deposits dating to the first years of settlement. The seventeenth-century archaeological record in Virginia does confirm the presence of matchlock firearms (Fig. 2), however these same sites contain representative specimens of other firearm ignition types. Self-igniting arms such as the wheel-lock (Fig. 5) and snaphaunce (Fig. 3,6,11-13) are found in the context of these early deposits as well. By the second half of the century, the English-lock (Fig. 15) and later in the century the French (true) flintlock become the dominant ignition types represented archaeologically.

While there is no doubt that the matchlock was present in the Virginia colony, it does not appear that it was ever the primary firearm in use during any period of the seventeenth-century. In fact, it is likely that the vast majority of guns in the possession of the colonists, certainly by 1620, were in fact self-igniting flint arms, specifically the snaphaunce and towards the end of the 1620s and into the 1630s, a distinctive form of the flintlock known as the English lock, Type I (Godwin et al 2003b: 53). The period of time to be considered in this paper is roughly from the turn of the seventeenth-century to about 1625. The rationale for the focus on this period is two-fold. There is great interest in identifying archaeological deposits from the first decades of settlement in Virginia, popularly referred to as the "Virginia Company" period. Archaeological deposits dating to this earliest period of English settlement of Virginia are hard to discern from later periods of occupation, and as such, another tool in the archaeologists' interpretive body of work is of value to assist site analysis. Also, this is an era where arms technology is changing in Europe, earlier forms of ignition such as the matchlock are on the wane, being overtaken or replaced by more efficient self-igniting arms.

During the sixteenth-century, undoubtedly in response to the limitations of the matchlock, development and refinement of self-igniting firearms based on flint (snaphaunce) or pyrite (wheel-lock) sparking mechanisms provided much more reliable firearms particularly suited for the circumstances that faced the Virginia colonists. These changes in ignition mechanisms originated in Europe, with subsequent refinements and regional variations many of these self-igniting arms became quite distinctive in appearance and operation. It seemed likely therefore that there would be a relationship between the arms developments in Europe and arms being sent to and used by Virginia

colonists, and that, that relationship would be reflected in the archaeological record. Further, stylistic variations suggesting country of origin would be helpful in establishing the source of the colony's guns.

The archaeological record is not extensive for the period 1607 to 1625; however, several large sites have been investigated over the years. Currently the Association for the Preservation of Virginia Antiquities (APVA) Jamestown Rediscovery project has made significant progress in identifying elements of the first fort on Jamestown Island. Martin's Hundred and Piersey's (Flowerdew) Hundred are two other well-known excavations that have intact first quarter seventeenth-century archaeological deposits. Kingsmill tenement 44JC39, and 44JC41 Governor's Land "The Maine", excavations contained early archaeological deposits and firearm material as well. One site in particular, 44CC178, "Cawsey's Care" (Tyler 1896:148-9) has features that likely relate to forging and gunsmith activities. Although this site likely dates to the late 1620s or 30s through the 1650s, the firearms assemblage is quite remarkable and includes a wheel-lock (Fig.5), and the remains of at least four snaphaunce locks (Fig. 6,11-13). This site is associated with West and Shirley Hundred in Charles City County. The potential for this site to shed light on the early seventeenth-century arms assemblage in Virginia is very good.

At the turn of the seventeenth-century there were two basic ignition types of hand held personal firearms available, the matchlock and several types of self-igniting arms. Acquisition of firearms could have either been through direct purchase from armories or through the distribution process of the Virginia Company. John Smith notes that in 1609 the colony possessed "three hundred Muskets Snaphances and firelocks: Shot, Powder

and Match sufficient, ..." (Gill 1974:3), further, thirty-five men were equipped by the Virginia Company who sent "twenty muskets, 10 with snaphammers & 10 without and moulds unto them, 40 Swords and Daggers, Two Barrels of powder being 200 pounds which will allow to every man 10 pounds and more at 5 lb the barrel, Six hundred weight of lead and melting pans 3..." (Kingsbury 1933: 96). By 1622 the Virginia Company suggested that each man arriving in the colony should possess "one long Peece, five foot or five and a half, near Musket bore" which translates into 12 bore or approximately .75-inch diameter. In September of 1622 (six months after the massacre) the King presented the colony with a large supply of arms, included were "700 Callivers, 300 short pistols with fire locks, and 300 harquibussies..." and these were noted as "being unfit for any moderne service" in Europe (Gill 1974: 4). The response to this "gift" was related in a 1622 report titled "By his Majestys Counsell for Virginia; Report of the 1622 Anglo-Powhatan War in Virginia: A Promotional Tract"

And lastly wee desire of all well affected subjects, That they will seriously take into consideracion, how deeply the diligent and carefull prosecution of this and th'other Plantacion of the Somer Ilands, tendeth to the honour of his Majesty & of the whole Nation, dominions, the propagacion of Christian Religion, the enlarging and safety of his Majestys dominions, the ymployment of his subjects now idle at home, the increase of men, Marriners and shipping (And) the breeding of such needful and necessary commodities, for the ymportatiion whereof from foraigne countries, to the great diminution of the [Treasury of this Realme, and especially hauing as well his Majestys bounty, and goodness now heaped vpon vs, by a large & Princely supply of Municion & Armes of his highness one store, graciously conserued for the safe advancement and safety of the Plantaticion, as also his Royall favour amply extended in a large supply of men & other necessities throughout the whole kingdom (WEB Page; Hartlib Papers 1994)

It is interesting to speculate as to the nature of these arms and if they were ever delivered the colony, as the Muster, only two years later, lists 63 pistols and 57 long arms noted as

Matchlocks (often referred to as Harquebuses) and 46 Snaphaunces. For all other categories [Peeces fixt, Peeces, Peeces serviceable and Peeces not Fixed] the total is 829, which leaves a total of 1001 firearms of all types accounted for in the Muster (Appendix). The gift of 1622 totals 1200 firearms, with the population of males older than 14 years being 582, it seems that the probable total of all types of firearms in the colony by 1624-25, should have been closer to two thousand. It seems that if every man in the colony was supposed to possess a long gun and the early adventurers and ancient planters possessed guns that the Muster would reflect this projected total. Speculation on how to interpret the arms inventories suggests reuse and cannibalization of the 1622 gift containing firearms unfit for modern European military service. Evidence for this activity is likely to be encountered archaeologically in the form of miscellaneous gun parts (batteries, sears, cocks, serpentine triggers, etc) and stock furniture such as trigger guards, but plates and ramrod pipes.

Acquisition and distribution of arms by a parent organization (Virginia Company or the government) is a means by which relatively large quantities of a specific type of firearm could be acquired at a reasonable price and insure some semblance of uniformity of type (Parnell 1995). However no guarantee can be assumed that large-scale arms acquisition would equate to uniformity of style or ignition type. It was not until the early nineteenth-century that true uniformity and interchangeability of parts and components for small arms was accomplished. Prior to the nineteenth-century the major European powers instituted arms manufacturing requirements that attempted to standardize military small arms, in particular long arms. Firearms that conformed to a set of specifications such as weight length of barrel, bore size and ignition type became "pattern" types or

“models”. These attempts at standardization did not begin in earnest until the last decade of the seventeenth-century and were not really in place until the first quarter of the eighteenth-century, most notably in England, France, Spain and the German principalities.

Prior to the 1690s, firearms, specifically, musketry, was a basic design that conformed to very general descriptions of a type. This was not standardization of “type” as is currently understood (interchangeable parts, consistency in bore diameter, etc.), but rather an arm that represented a series of general requirements to fill a specific need for the military. Gill notes that the English government in 1630 established measurements for all arms of military use (Gill 1974:4); the arms identified are Muskets, Caliver, Harquebus and Carbine or Petronel. Although this does not establish “pattern” firearm types, it is the earliest record of specific dimensions being ascribed to a named type of firearm. Of particular note is “carbine or petronel”, it appears that these terms may in-fact be compatible and likely refer to a short horseman’s shoulder arm.

By the 1640s shoulder arms began to be seen as the principal infantry weapon of European militaries and had effectively replaced the pike as an offensive weapon. Firearms presented a great advantage over pikes and especially the bow. As early as the mid-sixteenth-century it became apparent to Europeans that the firearm properly used was a devastating offensive weapon far superior to the pike and the bow in two significant ways. One, the effective range of a Musket was at least 100 yards if fired in masse, and the striking power of the musket ball was far superior to the arrow, although penetration is another matter as noted by George Percy in 1606 “One of our Gentlemen having a target which hee trusted in, thinking it would beare out a slight shot, hee set it up



against a tree, willing one of the Savages to shoot; who tooke from his backe an arrow of an elle long, drew it strongly in his Bowe, shoots the Target a foote thorow, or better: which was strange, being that a Pistoll could not pierce it. Wee seeing the force of his Bowe, afterwards set him up a steele Target; he shot again, and it burst his arrow all to pieces, he presently pulled out another Arrow, and bit it in his teeth, and seemed to bee in a great rage, so he went away in great anger” (Percy 1606). Percy’s Narrative aside, another fact of the effectiveness of the musket was that an infantryman could be trained to shoot a musket in a very short time whereas the bowman requires a lifetime to acquire, and maintain, the necessary skill to be an effective archer.

The standard musket of the sixteenth and, up to the turn of the seventeenth-century, used a match to ignite the charge, this form of ignition is known as the “matchlock”. The matchlock was difficult to use in conditions other than ideal as witnessed by John White in 1590 on his voyage to the West Indies and America “The Admirals boat first passed the breach, but not without some danger of sinking, for we had a sea brake into our boat which filled us halfe full of water, but by the will of God and careful styrage of Captaine Cooke we came safe ashore, saving onely that our furniture, victuals, match and powder were much wet and spoyled” (White 1590: 415) and were not really conducive to battle tactics that required a charge towards the enemy, rather these arms were used to support pike-men and cavalry. The sixteenth-century really was the time when firearms were maturing as weapons of war and their role was being defined and redefined as technology changed, towards the end of the century, most notably in with regard to the ignition type.

While there were self-ignition types of firearms available by the middle of the sixteenth-century (Hoff 1970) they were not widely accepted for general military use until the turn of the seventeenth-century. In fact most were relegated to arms of the wealthy and nobility. The wheel-lock was one such ignition type. The wheel-lock is most widely associated with the German states and was extremely popular and was widely used on sporting arms and handguns of the period. The most significant drawback of the wheel-lock was the expense and complexity of the mechanism. These arms are not typically found in military configuration as they were expensive to produce and difficult to maintain, especially in battlefield conditions, further if the spanner (cocking devise) was lost the gun was useless.

The snaphaunce was another self-ignition type that made its appearance in the sixteenth-century. The origins of the snaphaunce are not well understood, but there are several specimens known that date to the last quarter of the sixteenth and turn of the seventeenth-century, which have an English provenance and likely stem from Northern European forms which found their way into Scotland (Godwin et al 2003a). The snaphaunce was superior to the wheel-lock in terms of economy and lack of complexity. The snaphaunce was to gain general acceptance in Europe at the turn of the seventeenth-century and remained a popular form of flint ignition until the second quarter of the century (Fig. 7-11). The success of the snaphaunce saw it surviving in some parts of Europe until the early nineteenth-century, and remarkably, surviving into the twentieth-century in parts of North Africa. The snaphaunce, while superior to the wheel-lock and certainly the matchlock for field use by the militaries of Europe, was ultimately replaced by the French or "true" flintlock (Lenk 1939). In England and the Colonies, there is

evidence that the snaphaunce did not remain in military use much after the mid 1630s. There is a compelling argument that snaphaunce locks were, on occasion, converted to flintlock, taking the form of the English-lock (Straube 1990). The concept of conversion has created debate over the past decade as to the occurrence of the practice of conversion as the practice relates to the early forms of the English-lock (Spencer 1997: 9).

During the 1620's in France, and elsewhere in Europe a development in firearms technology was to occur that would remain as the principal small arms ignition type for two hundred years. The development of the true flintlock and the English form was to force the snaphaunce into obsolescence by the 1640's. Although the snaphaunce was not totally discarded it never saw the popularity of the first decades of the seventeenth-century. The snaphaunce was characterized by a separate battery and sliding priming pan cover linked to the cock tumbler (Fig. 8 and 10), that, when activated by the cock snapping against the battery, the entire mechanism was set in motion thus exposing the gunpowder in the priming pan to the shower of sparks generated from the flint in the jaws of the cock striking the battery. While the snaphaunce was to prove effective as a firing mechanism, it still had the drawback of possessing too many small moving parts. If any one of the locks parts failed the mechanism was rendered difficult to use. The development of the flintlock further reduced the number and delicacy of the exposed parts. The flintlock omitted the sliding pan cover and delicate linkage to the battery in favor of an intergal priming pan cover/ battery; some modern sources refer to this part as the frizzen. This seemingly simple modification greatly enhanced the efficiency and practicality of the flint ignition lock mechanism.

De-accessioning out of date or obsolete arms and distributing them to colonists throughout the world was not an uncommon practice for Europeans up to and including the twentieth-Century. With the exception of those who could afford to purchase their own personal firearms, most early colonists had to use arms that were provided them. In the first decades of the seventeenth-century a choice of firearms types would have been limited. Self-igniting firearm types would undoubtedly be the first choice over the less efficient matchlock. It is possible also, that in areas away from core settlements, with their relatively large populations and fortified (pallisaded) plantations on the frontier, self-ignition arms would be the predominant type of firearm and more in evidence in the records of the period and significantly, in archaeological deposits (note that in the Muster the majority of matchlock arms are in locations known to be fortified [Appendix A]). Flint arms would provide dual service, both as a defensive and offensive weapon. Following this hypothesis, matchlock arms therefore would have likely served more as defensive weapons in fortified settlements, thus using the matchlock much as one would use a piece of ordinance. The following quotations relating events during the Uprising of 1622 serve to illustrate this hypothesis:

At Warrafqucake, one Mr. Baldwin, when his Wife was so wounded, that she lay for dead, yet by often discharging his Piece, drove them off, and saved both her and his Houfe, together with himself and divers others (Smith 1986:295).

And further Smith notes:

Mr. Hamer, having finished a Letter he was writing, ran out to see what was the Matter. But he soon received an Arrow in his Back, which obliged him to retire into the Houfe, and barricade the Doors. Hereupon the Indians set Fire to the Houfe; - but Harrifon's Boy, just at that Instant, finding his Master's Gun loaded, shot at Random (Smith 1986: 296).