## Architecture of a Tuscarora Fortress: The Neoheroka Fort and the Tuscarora War (1711—1715)

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After the outbreak of North Carolina's Tuscarora War in the late summer of 1711, three years of intermittent raids, sieges and running battles culminated in March of 1713 with the ferocious battle for the Neoheroka Fort (31GR4), a major Lower Tuscarora defensive fortification (Boyce 1978; Lee 1963). The fort site is located in the Contentnea Creek watershed, in present day Greene County, North Carolina. The Neoheroka Fort was one of at least four fortification complexes constructed by the Lower Tuscaroras during the conflict (Barnwell 1908, 1909) and combined historical and archaeological evidence suggests that the fort was constructed in the fall or winter of 1712. Although sporadic guerrilla warfare continued through the year 1716, the siege and final battle for the Neoheroka Fort marked the end of effective resistance by the Lower Tuscaroras and their Coastal Algonkian allies (Boyce 1978; Lee 1963). Archaeological excavations at the Neoheroka Fort site, under the co-direction of David S. Phelps and John E. Byrd, have resulted in a greater understanding of pre-Contact and post-Contact period, Cashie II phase (A.D. 1650—1715) material culture and lifewyas, the Tuscarora War and Tuscarora defensive architecture of the early eighteenth century.

The authors suggest that the design of the Neoheroka Fort represents both prehistoric cultural continuity and an *ad hoc* adaptation to hostile culture contact in eastern North America. The Neoheroka Fort incorporated elements of prehistoric, Cashie I phase (A.D. 800—1650) palisade architecture (see Byrd 1997; Phelps 1983; Phelps and Heath 1998[draft]) with the addition of defensive elements adopted from Colonial period European fortification designs observed by Tuscarora hunters and traders on their regular treks through eastern Virginia and the Carolinas. The Tuscarora "architects" further incorporated the more sophisticated defensive addition of hardened, semi-subterranean house-bunkers. While bastioned fortifications were constructed by various pre-Contact and post-Contact Native-American societies in eastern North America (e.g., Ashcraft 1996; Brown 1995; Muraca and Brudvig 1993; Solecki 1992-1993; Gramly 1988; Thwaites 1902), the authors believe that the Neoheroka Fort's bunker complex was a unique Tuscarora response to the nature of warfare on the North American frontier in the early years of the eighteenth century. The Neoheroka Fort's house-bunkers were not general habitation

structures, but rather, occupied as hardened defensive shelters only in time of siege and battle.

Archaeological data collected during field school excavations at Neoheroka Fort from 1990 through 1997 support these conclusions. Historical data (e.g., Graffenried 1920[1716]; Lawson 1967[1709]) indicate that Upper and Lower Tuscarora habitation structures were most commonly in the form of "longhouses," most similar to those originally depicted among the Carolina Algonkians by John White (Hulton 1984). Site excavations have resulted in the exposure and investigation of approximately 110-meters of palisade wall and bastion features and 17 house-bunker structures within the fort. A summary of these investigations, as specifically related to the fort's defensive features, is offered in this paper.

As with any archaeological site, cultural and natural transformation processes have altered the archaeological record at the Neoheroka Fort site. After the successful investment of the fortifications by Carolina militiamen and their Indian mercenaries, commanded by Colonel James Moore, in March of 1713, the fortress was looted, razed to the ground and the remains fired. Over the ensuing centuries, forest growth first returned to the land and it was later clear-cut and utilized for agricultural purposes. The site was repeatedly plowed and re-planted for over 80-years. Deep, mechanized plowing in more recent decades has homogenized features and artifacts deep below the present ground surface. Moreover, surface erosion has been highly significant, at least until the early 1990s. Such processes greatly altered the visible archaeological record of today. It is estimated that a minimum of one-meter of soil was lost from the surface of the site between 1713 and the early 1990s, when the landowners stopped deep plowing the site area at the request of the investigators.

When constructed in 1712, the location for the Neoheroka Fort was carefully selected as a centrally accessible location for the community, the people of the "town" of Neoheroka, it was to defend (see Byrd 1995; Byrd and Heath 1997), as well as to take advantage of natural terrain features that enhanced its designed defensive capabilities. The fortification was situated on a low knoll at the edge of a creek terrace overlooking what is known today as Fort Run, a tributary stream of the Contentnea Creek. The close proximity to the stream allowed the Tuscarora builders to incorporate a protected trench at rear

of the palisade for water access during siege situations. The narrow obstruction created by the adjacent stream and swampy flood plain served to augment the rear defenses of the fortification by providing a natural kill-zone where assaulting troops could become bogged down in a rear attack.

The sole surviving historical impression of the Neoheroka Fort is presented on an early eighteenth century map illustration, which incorporates a brief textual accounting of the battle and a bird's-eye view of the battlefield showing the disposition of the colonial forces and a general schematic of the fort (South Carolina Historical Society n.d.). The actual illustration date and map maker are unknown, but given the intimate detail presented, the cartographer may have been one of the South Carolina militia Captains who served under Colonel Moore in the Second Tuscarora expedition. The Neoheroka Fort map, while limited in some respects, and positively inaccurate in others, provides invaluable information for the interpretation of archaeological data from the site.

According to the plan view depiction presented on the map, the stockade incorporated at least four regular bastions (map captions: D, E, F, H), one semi-circular demibastion, defined as a "blockhouse" (map caption: K), a walled waterway trench (map caption: I), and a counter approach trench (map caption: M). While the historic map depicts the Neoheroka Fort with systematically rendered features and the geometric lines common to European-style defensive works, the actual configuration of the Tuscarora fort at Neoheroka was much less exacting. Excavations to date indicate that the trace of the stockade was asymmetrical in form with a series of irregular defensive projections and entryways constructed along a curved, frontal curtain wall. Although exposure of the trace is incomplete, the "corners" of the fort appear to have incorporated squarish bastions that lack the well-defined salient angles presented on the historic illustration. It is estimated that the fortification measured approximately 46x46 meters (153x153 feet) from curtain wall-to-curtain wall with a minimum interior occupation space of some 2,100 square meters (23,400 square feet[0.53-acres]) not including the areas within each projecting bastion or the blockhouse.

The present day signature of the palisade wall perimeter mainly consists of charcoal stained, dark grayish-brown, linear features in the contrasting, yellowish-brown subsoil, punctuated by sporadic bits of burned timbers and occasional post molds. The general lack of intact post molds or burned posts is due to both intensive plowing practices over the last half-century and the result of Colonel Moore's razing and burning of the fort in 1713. During the colonial era, captured palisade fortifications were commonly destroyed by pulling sections of curtain wall posts, stacking the posts against standing wall sections, and burning the stacks (see Harrington 1957).

The archaeological features interpreted in conjunction with limited historical information (Barnwell 1908, 1909; South Carolina Historical Society n.d.) have provided sufficient data to reasonably determine Neoheroka Fort's primary architectural attributes. Although sporadic post-molds within the palisade wall line features are found, the curtain walls were primarily constructed by the ditch-set or trench method. The trench method, while known prehistorically in western North Carolina (Ashcraft 1996), stands in contrast to the more common prehistoric practice of palisades constructed with widely spaced, individually set posts (e.g., Ashcraft 1996; Hulton 1984; Ward and Davis 1993; Gardner 1990). It is likely that the original trace of the work at Neoheroka, with its bastions and entryways, was initially scratched into the ground surface to form an ephemeral blueprint. The Tuscaroras then excavated the palisade trench line with a variety of tools that included wooden digging implements as well as iron hoes that have since been recovered from semi-subterranean house-bunker floors on the site.

The original depth of the palisade trench is unknown. Presumably more intact sections of the curtain wall features have been investigated on the wooded periphery of the site. The wooded area appears today as a low, artificial berm on the edge of the cleared agricultural field, but it is actually a remnant of the ancient stream terrace on which the Neoheroka Fort was constructed. Somewhat more intact sections of the undulating palisade line found on the terrace remnant indicate that the palisade trench was approximately 1-meter deep. As the 50-centimeter (approximate) wide trench line was excavated by a Tuscarora trenching party, other workers positioned 15-to-25 centimeter diameter pales in

the open trenches. The pales were made from small trees, primarily pine, felled either on the fort site or in the surrounding forests with iron axes, some of which have been recovered from house floors inside the fort. The logs were trimmed of projecting branches and close-set to form stout palisade curtain walls and bastions of vertically positioned pales. Since the fort's interior houses were partially roofed with pine bark, potentially all of the palisade posts were stripped of bark before being positioned in the trenches.

As was common for both European and Aboriginal palisades of the period (see Lounsbury 1994; Thomas 1989; Hinds 1981), it is likely that the palisade pales used to construct the Neoheroka Fort were sharpened at the top to enhance their defensive function.

A limited number of feature profiles recorded in the palisade trench suggest that individually set posts were further utilized in the palisade line. The tapered profiles of the individual post molds, which dip well below the base of the main palisade trench bottom, indicate that roughly sharpened posts were driven into the subsoil at the base of the open wall trench during the construction process. Such individual posts were likely positioned on systematic intervals or at critical points along the line as "keystones" to strengthen long sections of curtain walls between the bastions. During the colonial era, the vertical posts of European palisades were "...often braced with horizontal rails, which were sometimes, in turn, joined to posts" (Lounsbury 1994:256). More post mold bisections at Neoheroka Fort will be required in future excavations to clarify the function and spacing of the individually set posts.

Unlike many prehistoric palisades in the Southeastern or Mississippian cultures influenced regions of North Carolina (Ashcraft 1996; Polhemus 1987), there is no evidence of daub pits either inside the Neoheroka Fort or around its periphery. While the sandy clay subsoil found on the site could have been moistened and mixed with plant materials to make a daub suitable for chinking between gaps in the unplaned stockade pales, there is no evidence that any sort of earthen chinking was utilized. Post molds recorded in wall trench segments of two bastion features indicate that the primary palisade/bastion pales were backed, faced, or in-filled with smaller, 7.0-to-10.0 centimeter diameter, posts where 2.0-to-4.0 centimeter gaps existed in the primary curtain wall posts. A similar configuration of palisade wall in-

filling with small posts was observed in curtain and bastion trenches at the European built Fort Necessity (Harrington 1957), Fort Ligonier (Grimm 1970) and Fort Toulouse (Thomas 1989) sites.

The vignette account of the battle for the Neoheroka Fort indicates that the walls incorporated loopholes in the wall through which its defenders "...Fired very briskly..." (Barnwell 1909:38). The overall height of the curtain wall and bastions is unknown, but another Lower Tuscarora fort at Catechna Town was observed to have two levels of fighting positions behind the walls. During the First Tuscarora Expedition in 1712, the Irish born commander, Colonel John Barnwell, recorded that the Catechna Fort was "...strong as well by situation on the river's bank as Workmanship, having a large Earthen Trench thrown up against the puncheons with 2 teer of port holes; the lower teer they could stop at pleasure with plugs, & large limbs of trees lay confusedly about it to make the approach intricate..." (Barnwell 1908:43).

Only a minor frequency of post holes or post molds has been encountered paralleling the interior palisade line at Neoheroka Fort. As such, there is no present evidence as to what type of scaffolding or platforms were used for the fort's defenders to mount and fire from the loopholes or over the curtain walls. It is very likely that site plowing and erosion processes have eradicated evidence of more shallowly emplaced posts used in the construction of firing platforms. Scaffolding constructed of horizontally laid log supports, without in-ground support posts, or possibly earthen banquets (see Hinds 1981; Muller 1968 [1746]) were probably utilized if the loopholes at the Neoheroka Fort were two-tiered and exceeded the average warrior's firing height.

Much of the block excavation at the fort site through 1997 focused on the palisade's front wall and the interior house-bunkers. As such, our present understanding of the entirety of the fortification complex is incomplete. The historic map positions (see South Carolina Historical Society n.d.) designated as "Bastion D", "work K", (spur) "G", "wattering place I" and (trench) "M" were located and found to be relatively well-defined features. All traces of a (bastion) "H" have been obliterated and the limited excavations intended to define Bastions "E" and "F" provided inconclusive results. The areas will

be further explored in the upcoming field season. The walls about bastion "H" were initially subjected to a largely unsuccessful mining attack by Colonel Moore's men, but were later breached in a subsequent assault late during the first day of the final battle. These attacks and post-battle demolition apparently left this area a confused conglomeration of irregular subsurface features with amorphous concentrations of charcoal laden soil. The form of the fort's open gorge bastions can likely be inferred from the configuration of Bastion "D".

Bastion "D" was found to be roughly square in form with a slightly constricted neck or gorge. The flanks of Bastion "D" projected approximately 3.50 meters (flanks) from the curtain wall and the face measured approximately 3.80 meters in width at its outermost point from the gorge (opening).

Blockhouse "K" was found to be a roughly circular-to-teardrop shaped, detached bastion that was tied-in with the main frontal curtain wall. Unlike Bastion "D" with it's open gorge, Blockhouse "K', as the Colonial term "blockhouse" implied (see Lounsbury 1994:35), was a detached strong point with 360-degree protection. Although many structures defined as blockhouses during the colonial era were commonly constructed with horizontally laid logs (Lounsbury 1994), the Neoheroka Fort's blockhouse was built with ditch-set, vertically positioned posts in a fashion identical to the curtain walls and "corner" bastions. Blockhouse "K" was found to measure approximately 4.50 meters along its projecting flanks and 3.80 meters across its convex curved face. As Blockhouse "K" was found to have a 1.00-meter wide constricted neck at its juncture with the main palisade wall, the feature may have originated as an open gorge bastion, which was later modified into a blockhouse.

Bastion "F" was further described in the historic account as a "Block house" (Barnwell 1909:38) and may have been constructed similarly to Blockhouse "K." Although the historical accounts provide no additional information, it is likely that Blockhouse "K" was a two-tiered fighting position, as its principle function appears to have been focused on, in conjunction with interlocking fire from Bastions "D" and "H", the defense of the Neoheroka Fort's main entrances. As with the curtain walls of the fort, the original heights of the corner bastions cannot be determined. Feature profiles in the bastion trenches

indicate that the posts which formed the flanks and faces of the bastions were set at the same approximate depth as the curtain wall pales. These observations suggest that the bastion pales were not significantly taller than the adjacent curtain wall pales.

The historic map shows two "gates" or passageways that led into the Neoheroka Fort's interior; one on the northeast end and one on the southeast end of the front wall. The gates are portrayed as open, parallel overlapping wall segments. Archaeological features indicate that at least one narrow entryway or "sally gate" was apparently located adjacent to Blockhouse "D," while a series of palisade segments were organized to form a maze-like entryway to the north and rear of Blockhouse "K." These distinct gaps in the palisade trench line have been interpreted as entryways that were closed with log and timber barricades or dense brush piles. Similarly constructed maze-like entryways were observed by colonial soldiers in other regions during the early eighteenth century Indian wars of eastern North America (e.g., Thwaites 1902). Further excavations will be necessary to clarify the configuration of the gate complex of the Neoheroka Fort.

Additional defensive features included a counter approach or "sally trench," which was constructed as an *ad hoc* countermeasure after colonial forces took up primary siege positions in the vicinity of the Neoheroka Fort in early March of 1713. Trench "M" is approximately 68-to-76 centimeters wide at the base and projects 14.5 meters (flanks) from the front curtain wall. The head of the trench includes an ovoid fighting position that measures from 1.70-to-2.0 meters in diameter at the base. Presently, the bottom of the trench is 70-to-80 centimeters below the ground surface and was some 1.50-to-2.00 meters deep when originally constructed (assuming 1.0 meter of site soil column loss). The rear of Trench "M" further incorporated a sort of demibastion, which tied-in with the Blockhouse "K." The rough demibastion probably served as a shelter for the Tuscarora defenders when they entered or exited the counter approach during sallies against Colonel Moore's the siege forces in the early phases of the siege. The historic accounting of the battle makes no mention of the use of Trench "M," but Barnwell

(1908) reported a similar countermeasure, which was utilized to great effect by Lower Tuscarora defenders at the Catechna Fort in 1712.

A final key feature of the defensive works at the Neoheroka Fort was the waterway trench, "I," which served to provide protected water access for the besieged defenders. Limited excavations in the vicinity of the trench were inconclusive as to the precise form or dimensions of the original trench. Feature fill in the presumed trench waterway feature exceeds 1.10 meters in depth below the modern humic zone. The feature appears to have exceeded two meters width. Other features related to palisade post molds or ditch-set pales have not been found in the vicinity of the waterway trench. More excavations are needed in this area, where the historical account notes: "...about tenn of the Clock we were entirely Masters of itt the last place which was held out being the wattering place I which some of the Enemy had Fortified more strongly after the Fort had been sett on Fire" (Barnwell 1909:39).

Perhaps the most unique features of the Neoheroka Fort complex are the semi-subterranean house-bunkers. While shallow, semi-subterranean pit houses were common as habitation structures in the late prehistoric Southeast, deep, semi-subterranean houses or defensive bunkers were apparently unknown (see Hally 1997). *Ad hoc* "fox-holes" were known to have been employed by the Fox Indians inside their palisades during wars with the French, but these structures were apparently simple open pits, 4.0-to-5.0 feet deep, and not formally constructed bunkers (see Thwaites 1902). The Neoheroka Fort may have actually been the only Lower Tuscarora fortification of the 1711—1715 war period to include such unusual architectural features. Colonel Barnwell, generally meticulous in his observations of the enemy, did not indicate the presence of such houses in the fortifications that his forces encountered and subsequently destroyed at Torhunta, Innennits, and Catechna in 1712 (Barnwell 1908). It is likely that Tuscarora "architects" added the defensive bunkers to the Neoheroka Fort complex in response to Barnwell's somewhat successful deployment of artillery and explosive grenades against the Catechna Fort in 1712 (Barnwell 1908).

To date, seventeen house-bunkers have been exposed and thirteen completely excavated. Each house-bunker form is diverse in shape, depth, and floor size from the others. It is apparent that each structure was constructed by individual household groups and that the size of the structure varied accordingly to the number of members in each household. At least four of the house-bunkers were originally connected by subterranean tunnels. The tunnels may have served a purely defensive purpose or may be potentially indicative of house-bunkers occupied by related family units. The intact, relatively undisturbed remnants of the house-bunker features vary in depth from 25-to-75 centimeters. The estimated depth of the pits when the bunkers were constructed ranges from 1.50-to-2.00 meters (assuming 1.00 meter average soil loss over site) below the original ground surface of the fort. The historic account of the battle notes: "The Enemy made verry great resistance and chose rather to perish by Fire with(I)n the Bastion than to retreat in the Caves made under ground from whence some haveing timely-made their Retreat and gott in the Caves did verry much mischief the next day and part of the Day following..." (Barnwell 1909:38). A nineteenth century, secondary source indicated that the Tuscarora houses at the Neoheroka Fort were "six feet" deep (Schoolcraft 1847:110). Many of the iron hoes and other iron tools used to excavate and construct the houses have been recovered during recent excavations.

During the early twentieth century, the present landowner's family members recall seeing shallow depressions in the field where the house-bunkers are located. Through time, plowing and erosion erased the ephemeral house signatures from surface view, but local children continued to collect glass beads for jewelry and musket balls for fishing weights from the turned plow zone over the site. Today the house-bunkers appear as distinctive archaeological features below the plow zone, filled with "greasy" gray sandy loam and charcoal, which contrast distinctly against the natural, yellowish brown subsoil that surrounds them. During the final battle for the Neoheroka Fort, the house-bunkers became last lines of defense for the defenders, as colonial forces penetrated the outer walls and fought a pitched house-to-house melee. The fort's defenders were, however, efficiently executed by the Colonel Moore's men in the dark confines of their bunkers with grenades and musket ball and shot, fired through the entryways

and tunnels leading down into the earth. In many instances, the orientation of the house-bunker entryways can be determined by the high frequency of fired shot and ball smashed and imbedded in the walls and floors of the houses. House-bunkers that were not fired during the battle were put to the torch by the victorious colonial troops when looting was complete and the final destruction processes initiated.

In general, two basic house-bunker floor patterns have emerged. Five of the seventeen exposed houses are "double-bottomed," with roughly butterfly-shaped forms, while eight others are best described as roughly rectangular in form, *sans* entryways and peripheral storage pits. The remaining four are amorphous in plan view. Entryways appear to have been constructed as narrow, downward sloping ramps, which angled down from the original ground surface into the interiors of the pits. Three structures do not exhibit archaeological evidence of entryway ramps and may have been accessed by portable ladders passed through the roofs of the houses.

At least two houses were found to have distinct hearth features and it is probable that all of the structures incorporated rudimentary hearths, as historical accounts noted that a severe snowstorm blanketed the region in early March 1713 (Barnwell 1909). The post-battle burning and destruction of the house-bunkers blurred the archaeological signature of the hearth features as burning roof timbers fired many areas of the sandy clay floors in the bunkers. Six of the thirteen excavated houses incorporated circular or semi-circular storage chambers located on the outer perimeter of the structures. These pit features were primarily used for food provisioning, as evidenced by the high frequency of carbonized botanical remains (e.g., maize, beans, peaches, etc.) recovered from storage pit fill. House-bunkers without storage pits were found to be equally well-stocked, with high concentrations of charred botanical remains recovered at the floor level from burned baskets, bags and Cashie series storage vessels crushed by collapsed roof structures. A number of houses included sidewall cavities or "cubbyhole" storage areas near the floor level along the peripheries of the interior walls. One such cubbyhole yielded a diverse cache of personal goods from two carbonized cloth or leather bags. Cached materials include: cut copper

bracelets and ornaments, Tuscarora smoking pipes, lead buckshot, squash and pumpkin seeds, wooden comb, cut shell beads, glass beads, brass buttons, shoe buckles and other portable items.

Two of the house-bunkers were found to include deeper "bunkers," which extend well below the living floor levels of the two structures. These deeper pit features contained relatively few artifacts and were likely used as sheltering places for non-combatant elderly adults or children. Given the ferocity of the final battle at the Neoheroka Fort, women were as likely to have been involved in the combat as the male warriors. Indeed, Colonel Barnwell observed in the battle for the Torhunta Fort in 1712, that "...within the Fort were two Houses stronger than the fort...we forced them but the enemy were so desperate, the very women shooting Arrows, yet they did not yield untill most of them were put to the sword" (Barnwell 1908:32).

Although anthropogenic and natural site transformation processes have eradicated the upper levels of the house-bunkers, careful observation and recording of debris from collapsed roof structures in a number of the pits has generated sufficient data to determine the basic roof construction techniques. It appears that the majority of the houses inside the Neoheroka Fort were essentially subterranean, with roof superstructures that rested directly on the original ground surface. Only four of the excavated house-bunkers have interior post molds. The general absence of interior posts suggests that the roof support beams for most of the structures were supported by the ground surface around the house-bunkers in a fashion reminiscent of roof construction techniques employed in Pueblo II phase, subterranean "mealing rooms" in the Southwestern United States (see Mobley-Tanaka 1997:439-440).

Stratified roof fall profiles inside the Neoheroka Fort indicate that 12-to-20 centimeter wide timbers were positioned across the excavated bunker openings as load bearing beams. The rough beams were then covered with one or more layers of reed matting, followed by a deposit of pine bark of varying thickness. Sandy clay spoil from the excavated bunkers was then heaped over the superstructure support system to form what likely appeared as low earthen domes within the interior of the fort—hence, the "caves" that the colonial eyewitnesses claimed to have observed inside the fort. The minority of the

house-bunkers found with interior support posts may have been constructed with alternatively styled roof structures.

While one house-bunker included a row of five post holes, which bisected the length of the feature on an approximate one-meter interval, two houses simply had single 22-to-24 centimeter post holes in the central floor area. A fourth house was found to have four interior posts along the side walls in the entrance area. It is suggested that the shallower bunkers found on the site were more semi-subterranean in form with taller, above ground roof superstructures. The roof shape of the houses with internal supporting posts cannot be adequately addressed. Potentially, alternate roof styles for the shallow basin house-bunkers may have been constructed in a fashion not unlike those found among Thompson Indian pit houses of the western Plateau region of North America in the nineteenth century (see Nabokov and Easton 1989:176-179). Peripheral post molds have been observed on the outside edges of the bunker features in the Neoheroka Fort. While the post molds may be related to the original roof architecture, post pattern analysis is inconclusive. Future excavations will be required to provide additional data to clarify the observed architectural variations at the Neoheroka Fort site.

The architectural elements of the Neoheroka Fort materially reflect the Lowers Tuscaroras' adaptation to early eighteenth century warfare in eastern North America, particularly in response to the use of gunpowder propelled firearms, explosives and light artillery, by European organized forces on the Carolina frontier. While defensive palisade architecture was known to pre-Contact Tuscarora peoples (Cashie I phase), the incorporation bastions, blockhouses and house-bunkers at the Neoheroka Fort was certainly a post-Contact period adaptive response to a system of weapons technology and warfare that was alien to pre-Contact Native groups in the region. In one respect, the Lower Tuscaroras' response to colonial warfare was unique with the *ad hoc* fabrication of artillery resistant bunkers. In other defense related architectural manifestations, such as bastioned stockades, Lower Tuscarora defenses mirrored construction methods used by both European settlers and other Native groups in hostile post-Contact situations in eastern North America (e.g., Ashcraft 1996; Brown 1995; Muraca and Brudvig 1993;

Solecki 1992-1993; Gramly 1988; Thwaites 1902). In what proved a futile attempt to adapt to a technologically driven system of warfare, the Tuscaroras developed fortifications that were equal to, if not superior to, comparable Euro-American frontier fortifications of the same era. The fact that the Lower Tuscaroras could not produce or procure through trade the more advanced artillery and explosives utilized by their antagonists during the Tuscarora War unfortunately doomed their efforts in the end.