Fields of Conflict: Battlefield Acheology from the Roman Empire to the Korean War.
Edited by Douglas Scott, Lawrence Babits, and Charles Haecker.
Potomac Books, Washington. 2009. pp. 193–207 ISBN 978-1-59797-276-5

Tatars, Cossacks, and the Polish Army: The Battle of Zboriv

Adrian Mandzy

IN EVERY NATION'S history certain events take on mythological significance. Names like Queenston Heights and Dieppe, Rorke's Drift and Agincourt, Verdun and Dien Bien Phu, Gettysburg and San Juan Hill have taken on almost mythological status. Perception, more than fact, create national myths. Victories and defeats were massaged to serve current political considerations and the identities of the combatants shift in accordance to a regime's ideologies.

Ukrainian history has not been immune to such manipulations. Situated on the crossroads between Berlin, Moscow, Vienna, Istanbul, Stockholm, Warsaw, and Bucharest, each foreign "liberator" rewrote Ukraine's history for its own purpose. Conversely, Ukrainians used their past as a source of identity and modified it to fit their needs. Perhaps no myth is as enduring in Ukraine as that of the events of the late 1640s.

In 1646, a Ukrainian (or, to use the seventeenth-century term, Ruthenian) land-owning Cossack[1] by the name of Bohdan Khmelnytsky had his property raided and his youngest son killed by a Polish nobleman. He tried to find redress to his claims in the courts of the Polish-Lithuanian Commonwealth,[2] which then ruled Ukraine. In January 1648 Khmelnytsky fled to the Zaporozhian Sich[3] and persuaded the local Cossacks to seek out justice through the use of force. Unlike other previous Cossack rebellions, which failed due to the lack of cavalry,[4] Khmelnytsky created an alliance with the Muslim Crimean Tatars. Together, these two traditional enemies faced the largest and one of the most powerful states in Europe—the Polish-Lithuanian Commonwealth.

In April 1648, Hetman[5] Khmelnytsky defeated the Polish-Lithuanian army at Zhovti Vody and in May 1648, he was again victorious at Korsun. Ukrainian regiments, who served in the Polish-Lithuanian armies, defected to Khmelnytsky's banner. Invigorated by the success of the Cossacks, serfs, peasants, and urban dwellers also rebelled. In this "Great Revolt," Jews, Catholics, and Polish nobles were killed or driven out from what is today central Ukraine. Polish nobles responded to the massacres in kind and

employed their own terror tactics. Following the destruction of a third Polish-Lithuanian army at Pyliavtsi, Khmelnytsky returned to Kiev where the Ukrainian Orthodox hierarchy treated him as a liberator.

Yet in spite of these dramatic victories, the relationship between the rebellious Ukrainians and the Commonwealth remained unclear. The Cossack elite and long-serving rank-and-file had fought to secure the rights and privileges of noblemen. Others within the Orthodox hierarchy fought for parity with Catholics. Serfs, peasants, and the lower urban classes struggled against economic exploitation. Since neither Khmelnytsky nor the monarch could propose a peaceful solution to the ongoing conflict, the war continued into 1649.

Following the initial successes of the previous year's rebellion, Cossacks, Tatars, peasants, and nobles engaged the forces of the Polish-Lithuanian Commonwealth. A Polish-Lithuanian army attacked, but quickly became trapped in the city fortress of Zbarazh. The king personally led a second army to free this trapped army. Khmelnytsky's forces ambushed the monarch's army as it crossed the Strypa River outside the town of Zboriv, less than a day's ride from Zbarazh. Suffering heavy losses, the Polish-Lithuanian forces established a defensive perimeter and as evening fell, the king's army constructed earthworks in preparation for the coming battle. In the morning, Cossacks and Tatars breached the partially completed defensive works. German troops in the service of the crown successfully counterattacked and sealed the breaches in the line, but in doing so the king exhausted his only remaining military reserves. Surrounded, outnumbered, and with no hope for rescue, the crown opened negotiations with the rebels. The resulting Treaty of Zboriv created an autonomous Ukrainian Cossack state.[6]

Although this conflict did not end with the Treaty of Zboriv, the images of the Cossack Wars would be manipulated to further political agendas. With the dismemberment of the Polish-Lithuanian Commonwealth at the end of the eighteenth century, Poles looked to the past for inspiration to build a national Polish state. Despite the Commonwealth's inability to ever suppress the Cossack movement, particular military events, such as the 1649 siege of Zbarazh, were to become important elements in contemporary Polish national consciousness. Although Jan Casimir had made a strong effort to claim the Battle of Zboriv as a major victory for the Polish-Lithuanian Commonwealth, it was the nineteenth-century romantic writer Henryk Sienkiewicz who turned the seventeenth-century Siege of Zbarazh into a call for the restoration of the Polish state. In his work, Poles are noble, civilized, and honorable while the Cossacks are barbarous, petty, and cruel. On the cusp of the twenty-first century, Sienkiewicz's 1884 novel *With Fire and Sword* remained mandatory reading for Polish students. Jerzy Hoffman's recent adaptation of the novel to film strove to address some of the worst excesses of the novel and made the Great Revolt accessible to yet another generation.

Both the Tzarist and Soviet governments have used the Cossacks and Khmelnytsky for their own political purposes. In 1654, Khmelnytsky,

unable to secure a lasting peace with the Commonwealth, signed a treaty with Moscow. Russians have traditionally interpreted this 1654 Treaty of Pereiaslav as the natural culmination of the events of 1648. Though early Soviet historians had no purpose for a land-owning "aristocrat," by the late 1930s Khmelnytsky was recast as a national military hero who led his people to unification with the Tsar of Moscow. In October 1943, the Soviets created the Order of Bohdan Khmelnytsky, the only Soviet military order to include a non-Russian hero in Stalin's hagiography of "our great ancestors."[7] In 1954, the Soviet regime celebrated the 300-year anniversary of the Treaty of Pereiaslav to commemorate "the everlasting friendship between two people."[8] Works, such as Kozachenko's, made it clear that the purpose of the 1648 conflict was to bring about Ukrainian unification with Moscow and the liberation to the poor.[9] To this day, many scholars in Ukraine continue to look at Khmelnytsky's action in terms of a "War of National Liberation."

Part of Moscow's long-standing view of Ukrainians and Cossacks was that these people were backward provincials. As early as the eighteenth century, when during the reign of Catherine II the Imperial government sought to modernize by abolishing regionalism, the Cossack elite circulated copies of their own histories which strove to underline their ancient nobility. By the beginning of the nineteenth century, as the Ukrainian Cossack elite became assimilated into Russian society, a new romantic image of Cossack emerged—that of a frontiersman. As the century progressed, new tales of wild and exotic Cossacks riders were popular in the Russian Empire and the world. Although the line between Russian and Ukrainian Cossacks became blurred at the beginning of the twentieth century, Ukrainians during the Revolution of 1917 drew inspiration from the Cossack era. Many Ukrainian military units used the names of Cossack generals and at least one leader, Hetman Skoropatski, based the legitimacy of his rule on the claim of being from the old Cossack elite.

Yet for most of the twentieth century, the terms "Ukrainian" and "Cossack" became synonymous with plebeian. For all the rhetoric of cultural equality, high culture in the Soviet state was Russian. Russian literature, music, ballet, art, and architecture were elevated to the equal of those in the West, while ethnic achievements were considered in the best of times as "rustic." Those who pushed the envelope too far in trying to gain recognition for non-Russian achievements were often branded as "nationalists," a crime which carried the penalty of losing one's job or one's life. Thus, the Soviet pantheon reduced the Cossacks to simple, primitive farmers.

Over the course of generations, the Cossacks, in popular imagery, are often portrayed as simpletons, but an examination of the Battle of Zboriv illustrates the sophistication of the Cossack forces. Although scholars have provided differing analyses of the events at Zboriv, little work has been previously attempted to incorporate the local landscape, the documentary

evidence, and the archaeological record into a holistic interpretation.[10] The first endeavor to link the historical accounts of the battle with the topography was undertaken by the Ukrainian historian Ivan Krypiakevych, who in July 1929 created a series of maps of the battle based on his two-day visit to Zboriv.[11] The Soviet regime made a concerted effort to downplay the significance of the events of 1649 and Krypiakevych's initial survey work did not continue. While new information related to the Treaty of Zboriv was published in the West, it was only in the early 1990s that Ukrainian and Polish scholars had the opportunity to focus on the 1649 campaign.[12] Perhaps the most important contribution of the last decade was the publication of two engineering field military maps created during the 1649 campaign (one from Zboriv and one from Zbarazh), which illustrate the disposition of forces and the extended fieldworks.[13]

In Ukraine, battlefield studies have a long tradition, but as elsewhere, it has focused almost exclusively on sites such as camps, castles, and fortresses. The best-known exception to this was Shveshnikov's excavations at the 1651 Battle of Berestechko, where, over the course of multiple field seasons, he excavated numerous graves from a swamp bog.[14] The waters of the swamp prevented the looting of the dead and preserved significant amounts of organic materials. These particular environmental conditions preserved significant quantities of military arms and accoutrements as well as many personal items. By focusing on the swamps to the rear of the actual battlefield, Shvechnikov recovered items such as stocked muskets, arrows with preserved shafts, belts, and leather cartridge boxes. Since he found these artifacts with individual combatants, it is possible to reconstruct how these forces were armed and equipped.[15]

While the Berestechko excavations provide an unparalleled look at the peasants and Cossacks who died while fleeing after their defeat, Shvechnikov's excavations follow the traditional archaeological field methods of digging in a very small area. Since battles occurred over a wide area, sometimes encompassing hundreds of square kilometers, an excavation method that relies on the analysis of a few square meters produces, in most instances, very few results. At Berestechko, researchers did not subject the rest of the battlefield to significant testing.[16] Even with the identification of individual artifacts, no research methodology existed at that time which could document the distribution of artifacts over many square kilometers. Not surprisingly, when in the mid-1990s, archaeologists employed traditional testing methods at Zboriv, they failed to find any material from the seventeenth-century battle.[17]

The study of open warfare, besides a few well-publicized successes such as Berestechko or Wisby,[18] began in earnest only after the work on the Little Bighorn battlefield was published.[19] The use of metal detectors at the Little Bighorn provided a way for archaeologists to deal with the limitations of identifying the distribution of battlefield artifacts over great distances. This data, coupled with extensive primary historical research and topographic

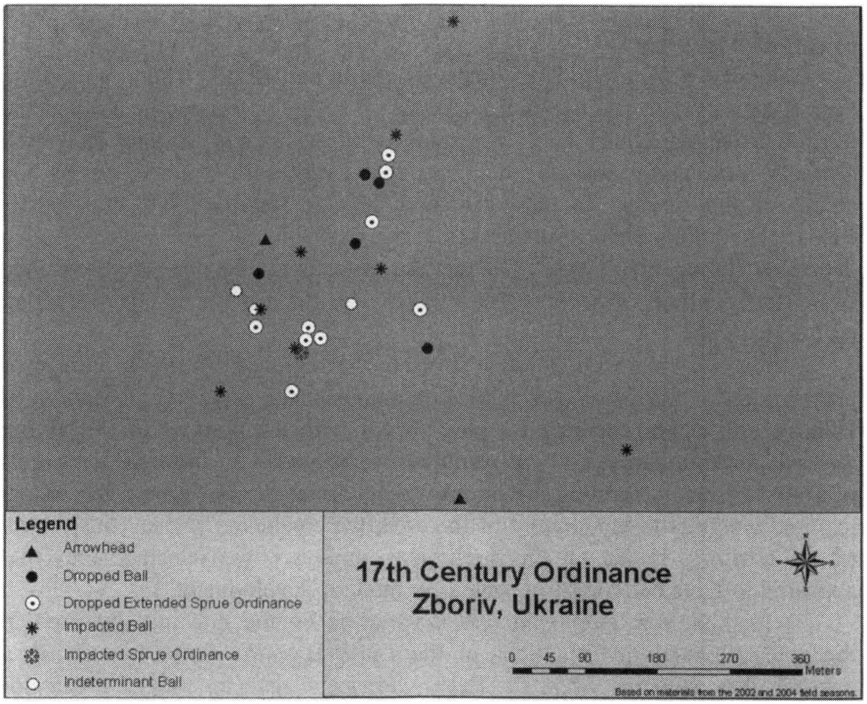
information, allowed scholars to deal with the conditions specific to the study of battlefields.

Unlike the area around the Little Bighorn battlefield, where very little human activity had taken place before or after the battle, people farmed the territories around Zboriv and Zbarazh for centuries. Thus scholars recovered artifacts from many periods, including the seventeenth century, during the course of the survey. As on seventeenth-century English Civil War battlefields, generations have used the same areas and many objects were lost or deposited during manuring.[20] On the European continent, military ordnance from later conflicts, especially from the two world wars, is likely to overlay earlier materials.[21]

In 2002, working with Bohdan Strotsen, the regional director in charge of preservation of historical and cultural monuments for the Ternopil Region in Ukraine, the author conducted a joint survey with the purpose of identifying any possible remaining cultural resources associated with the military events of 1649.[22] After integrating the primary accounts of the battle with the historical and geographic topography of the area, we conducted a visual inspection of the territory. Based on this preliminary analysis, we selected areas that appeared to have been least impacted by modern development.[23]

The methodology employed was a variation on the one initially used in the archaeological investigations at the Little Bighorn. After identifying a possible area, students swept the fields with metal detectors. Once a detector registered an object, the artifact was retrieved from the disturbed soil to identify its relevance to the battle. Since locals plowed the areas around Zboriv for generations, all the artifacts lacked stratigraphic provenience and essentially came from the surface. Using a handheld global positioning system (GPS) unit, we recorded the co-ordinates of each find and collected the artifacts from the field. Given the scale of the battlefield and number of square kilometers associated with it, an accuracy of ±5m provided by the GPS was considered to be acceptable. Following the cleaning of the finds, members of the project weighted, measured, drew, and photographed each artifact. At the end of the field season, Bohdan Strotsen presented all of the artifacts to the local regional museum in Zboriv.

Unlike medieval battlefields where very little datable material exists, seventeenth-century battlefields provide quantities of lead shot and iron shot. We recovered quantities of musket balls and iron shot during the survey, but the recovery of hundreds of WWI shrapnel balls, which are only slightly smaller and lighter than the majority of seventeenth-century musket balls, complicated our work. In spite of the contamination of the battlefield with modern lead shrapnel balls, when we plotted out the distribution of musket balls along an X and Y grid, we identified two distinct lines of seventeenth-century ordnance. Based on this preliminary information, we believed that we had discovered the eastern portion of a battle line in an area not yet subject to residential or industrial development (see figure).



Spatial distribution of seventeenth-century military ordnance at Zboriv.

If we take this distribution of military artifacts and compare them with the local topography, we see that one line of ordnance is on top of a military crest of a small hill. Since the "choice of ground on which to fight and the exact deployment of troops in battalia were based on sound military principles," it is clear that the topographic environment predetermined the establishment of the firing line in this particular location.[24] The fragmentary primary sources provide the historical context in which to further interpret this battle. If we add to our dataset the existing contemporary map of the 1649 battle, which unfortunately is out of scale, we see that these artifacts are all found along what appears to be the eastern defensive line of the Polish camp. The map also shows the disposition of particular units, but it remains unclear to what degree units shifted during the course of the engagement.

To recognize the implications of the distribution patterns of the recovered ordnance, it is essential to understand the way firearms were used in the seventeenth century and how military units functioned. The reorganization of Polish infantry in the 1630s borrowed from both Swedish and Dutch models, which divided regiments into six companies.[25] In the 1640s, musketeers generally represented only two-thirds of a European infantry regiment, as the remaining one-third were pikemen. Within each army this arrangement may

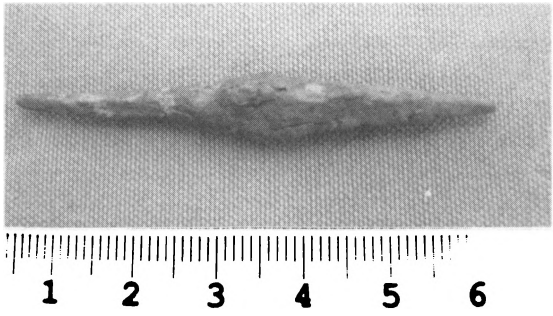
have been slightly different. The Swedish armies of King Gustavus Adolphus maintained a theoretical proportion of 216 pikes to 192 musketeers, while slightly larger Dutch battalions strove to maintain a ratio of 250 to 240.[26]

Scholars encounter additional difficulties when trying to link a particular military unit to the recovered ordnance distribution pattern. The general military practice of the period placed pike-armed troops in the center, with musketeers on each flank. Thus when we notice gaps between groups of lead balls it may indicate the space occupied by pikemen, rather than two separate units. Similarly, as throughout the century the number of ranks within particular types of units decreased, the frontage of the same type of unit occupied increased accordingly. Thus, an infantry battle line from the 1630s may have presented a completely different appearance from an infantry battle line of the 1660s. Finally, since most military units were rarely at full strength, the distribution of balls will not necessarily coincide with the theoretical dimensions of a combat unit.

According to a contemporary account of the battle, written shortly after the end of hostilities, the Crown forces built earthen fortifications to strengthen their battle lines.[27] Although the eastern line of these earthen fortifications witnessed no major military engagements, the fragmentary documentary record is quite clear that Tatar troops demonstrated in this area to draw attention of the enemy.[28] The recovery of buttons and metal buckles among dropped musket balls, which we believe troops dropped when they prepared for battle, confirms the location of the eastern section of the Polish defensive earthworks.

The construction of the earthen walls on the night between the first and second day of the battle, while undertaken primarily by attached servants, required the assistance of combat troops. The dire situation in which the Crown army found itself required haste and they would have used any item to build up a barricade. The Commonwealth commonly used heavy military wagons, similar to the fifteenth-century *wagenburg* initially developed by Jan Ziska, the commander of the Hussite Armies of Bohemia, as mobile field defenses. The recovery of so many metal hardware wagon parts found alongside seventeenth-century military ordnance suggests that the army added any broken or damaged wagons to the defensive barriers.

Contemporary descriptions of the Cossack regiments suggest that up to a third of the peasant troops lacked proper armaments during the 1649 campaign. The Cossack army fielded at Zboriv, however, consisted of Khmelnytsky's best troops. Since it was necessary to maintain an active siege of Zbarazh, only a fraction of the army made the march to Zboriv. The majority of these troops, we believe, carried projectile weapons. Cossacks often made use of Tatar-style bows which had a faster rate of fire than a seventeenth-century firearm, could fire in adverse weather, and did not give away the position of the bowman.[29] The recovery of seventeenth-century Tatar style arrowheads from both Zbarazh and Zboriv confirms the continued use of bows in warfare (see figure).



Seventeenth-century Tatar arrowhead recovered at Zboriv.

In the middle of the seventeenth century, there was a great variation in the types of infantry weapons in use. Along the northeastern frontier of the Commonwealth, flintlocks replaced hazardous matchlocks and expensive wheel locks. Excavations at the Berestechko battlefield indicated the overall dominance of flintlock weapons, while the recovery of large quantities of iron spanners suggests the use of wheel locks. The lack of matchlock weapons, however, is surprising. Cheap and somewhat reliable, matchlocks were the dominant firearm during the English Civil War (1642–1648)[30] and remained in use by Austrian military units at least until the 1683 Siege of Vienna.[31] French and English armies retained matchlocks until the turn of the century. Yet among the "poorly armed Cossacks," matchlocks were obsolete by the middle of the seventeenth century.

Another common assumption is the lack of firearm standardization. Rebel armies often have logistical nightmares and given the significant variations in the firearm calibers, one would expect to find a wide range of musket ball calibers. Since all seventeenth-century gunpowder left a residue of unburned soot after only a few shots, the barrel quickly became fouled and increasingly difficult to load. Conventional wisdom is that soldiers usually carried a variety of smaller balls to use as the battle progressed. Yet the recovery of complete bullet pouches and cartridge cases from Berestechko indicates no significant variations of ammunition calibers carried by each combatant. From this information we can make a much stronger argument that the caliber of ball corresponds closely to the weapons used.

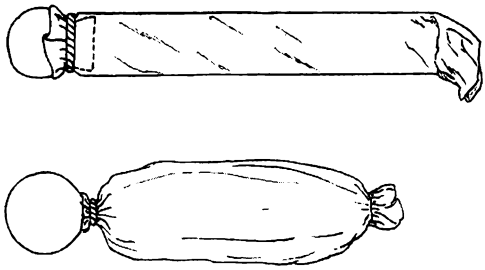
A study of collections of seventeenth-century military arms in both the National Army Museum in Warsaw (Poland) and the Historical Arsenal Museum in L'viv (Ukraine) clearly illustrates that seventeenth-century armies standardized their weapon systems. Muskets, usually of Western European design, were predominantly large-caliber weapons with a bore diameter between 24 and 18 mm, with 20 mm being the most common. In 1649 and at the beginning of 1650 the arsenal in Warsaw acquired 1,300 muskets from Holland and 210 Dutch muskets.[32] Most Oriental "Turkish" weapons in the museums of Poland and Ukraine have a much smaller caliber bore, while

mid-seventeenth-century Dutch muskets have a barrel bore that approaches 21 mm.[33] Given latitude for windage—that is, the difference between the actual barrel diameter and the size of the ball—the large-caliber musket balls recovered from Zboriv may have come from the Dutch guns imported by the Polish Crown. The battlefield museum at Berestechko identified similar large musket balls as "bullets that killed Cossacks."[34]

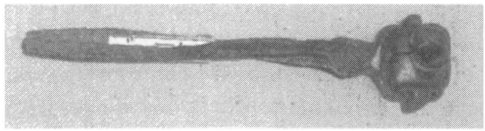
Most musket balls recovered from this area of the battlefield of Zboriv are between 11 and 16 mm. Given the close proximity of these finds along a line of battle, it is possible that these rounds all belonged to a particular military unit. In the seventeenth century, dragoons carried a specific type of firearm, called a *bandolet*. This weapon was of a smaller caliber and preserved examples in the museums of Poland and Ukraine have a bore diameter of between 11 and 18 mm, with diameters of 15 to 16 mm most common. At the same time, however, other cavalry units used smaller caliber weapons. In addition, Eastern firearms tended to be of a smaller caliber. While some have suggested that it may be possible in the future to identify certain types of units by the caliber of the shot, the use of small-caliber weapons on both sides of the conflict precludes such an analysis.

During our survey we discovered a great variation in the actual musket balls. Unlike most projectiles that are round or exhibit uncut sprue from their casting, many of those recovered at Zboriv had an added or modified tail along the sprue, which is far more elaborate than a simple by-product of the casting process (see figure). Such additions are unusual, and besides being recovered at Berestechko and Zbarazh, are rarely recognized as such in the archaeological record.[35] Saint Remy, an eighteenth-century French scholar, noted that these tails were previously used to facilitate the construction of paper cartridge.[36] Unlike eighteenth-century cartridges, however, where both the ball and powder were inside a paper tube, makers of these earlier cartridges attached the paper tube to the sprue (see figure on page 202). Sometimes they added a special flange to the ball to help tie the paper cartridge. It is more than likely that the musket balls recovered at Zboriv were modified in such a manner to allow for the production of semi-fixed ammunition. An examination of the Cossack bullet molds recovered at Berestechko indicates that at least some of the molds were specifically modified to create extended sprue musket balls (see lower figure on page 202).

Examples of seventeenth-century bullets recovered at Zboriv.



Early type of paper cartridge used with bullets with flanges (after Saint Remy). (Pierre Surirey de St Remy, Memoires d'Atillerir, Paris 1707)



Single cavity bullet mold for the creation of extended sprue ordnance. (Berestechko, Ukraine)

The production of cartridges simplified the loading process. Previously, musketeers relied upon bandoleers of pre-measured powder charges. Lord Orrery, a seventeenth-century military writer, noted that "bandeleers are often apt to take fire, especially if the matchlock musket be used."[37] The results of such accidents could be quite lethal. Although mounted units used small metal cartridge boxes as early as the second half of the sixteenth century,[38] the overwhelming majority of European infantry continued to rely on bandoleers. The numerous leather and wood cartridge boxes recovered at Berestechko are among the earliest known examples of infantry cartridge boxes used in Europe but it is more than likely that the Swedes first developed infantry cartridge boxes. Cartridge boxes quickly became popular and in 1656, 17 cartridge boxes were included in an inventory list of munitions sent to the South River of New Netherlands.[39] Nevertheless, the lack of the recovery of any traces of wooden or metal powder holders from Zboriv, Zbarazh, or Berestechko suggests that these types of containers were no longer used along Europe's eastern frontier. Conversely, the recovery of gunflints from Zbarazh and Berestechko is a good indication that the more modern ignition system, one based on a spark rather than a match, was common along the Pontic Steppe.

While some may argue that the reduced diameter of the barrel reduced the overall effectiveness of "Eastern" firearms (an inherent low muzzle velocity and an increased tendency for the fouling of the barrel), the addition of an extended sprue to the musket ball may have produced a weapon system as

effective as Western models. The result of adding an extended sprue to a small-caliber bullet is that when it is fired at a low muzzle velocity, the bullet may not fly symmetrically but rather wobbles through the air. Upon striking its target, the tumbling round bounces through the soft tissue of the body, while large-caliber bullets simply tear through both flesh and bone and exit the body. While such a small-caliber tumbling weapon system does not have the range of a more powerful large-caliber firearm, the wounds inflicted in such a manner can be horrific. Provided that the barrel had not become fouled after repeated firing, such small-caliber weapons could have proved to be just as effective as their larger-caliber counterparts. At this time, ballistic testing of this hypothesis is needed to verify the effectiveness of the "sprue ordnance."

The recovered military ordnance challenges many of the commonly held assumptions of the Cossack armies of the mid-seventeenth century. Most scholars agree that the Cossack rebels wanted to create a new political system that replaced the religious, economic, and cultural elite in the southeastern territories of the Commonwealth, but few also note that the military innovations employed by Cossacks were just as revolutionary. Not only were the rebel armies under the direction of innovative leaders who had significant military talent and expertise in engineering, but the weapon systems used by the rebels were among the most modern and technically developed in both Europe and Asia. Clearly, these armies may have looked rather raggedy, especially when compared to the silver and gold encrusted troops of the Commonwealth, but the Cossack army was a professional force equal to any on two continents.

Without a doubt, the Cossack army was a professional fighting force. The image of a rag-tag mob, although burned in the collective memory, is a stereotype of questionable utility. Rather, while turned out in non-regulated clothing and perhaps intermittently fed, these rebel long-serving Cossacks, former serfs, nobles, and Orthodox clergy adapted new military tactics and weapon systems. This may not be all that unusual, since these same revolutionaries were by their very nature vying to bring about a new social reality. Although existing military establishments are often among the most conservative segments of society, the results of the research from this program suggest that this rebel army, much like earlier and later revolutionary armies, adapted and incorporated the most recent and successful of the new technologies.

The identified section of the Polish defensive earthworks serves as a point of reference for further research. By taking into consideration any minute topographic features in the terrain that contemporary military commanders would have exploited to their advantage, it is possible to correlate the terrain with the features noted on the preserved 1649 map. Using this information, it becomes much easier to see how the actual battle developed. Additional analysis will allow us to identify sections of the battlefield where cultural resources may be present and will let us extrapolate the locations of fieldworks even in areas significantly impacted by modern development.

When compared with other battlefield surveys, our results at Zboriv were not unusual. For 10 years Dan Sivilich and his group of excavators have been returning to the same areas of the American Revolutionary War battlefield of Monmouth (New Jersey) and continue to flesh out the original model. After a decade's worth of research, they are now able to show how and why the battle developed the way it did. Clearly, the results achieved at Zboriv reflect the possibilities offered in studying battlefields and need to be continued. By using new technologies, coupling them with local topography, and comparing this information with the available documentary evidence, it is possible to gain new insights into one of the most important events in the history of Ukraine and East Central Europe.

NOTES

1. The term Cossack has evolved over time. Initially the term was used as a verb to indicate a specific part-time activity that men undertook when in the wild lands of the steppe. Throughout the sixteenth century, as magnates began to place ever increasing restrictions on peasants and subjugate them to ever-increasing servitude, many villagers fled to the steppe frontier. Not all Cossacks, however, were previously farmers—nobles, burghers, and former priests could also be found among this social estate. Though the majority of the Cossacks were ethnic Ukrainians, not all were, as Poles, Germans, Tatars, Russians, and even a few West Europeans joined their number. Over time, as these social outcasts became ever more skilled in the military arts, Cossack year-round fortified camps developed. Royal officials of the Commonwealth, fearful of the growing number of armed Cossacks, began recruiting these freemen as border guards.

2. While the modern-day Polish state considers itself to be the direct successor of the Polish-Lithuanian Commonwealth, it was in fact a multi-ethnic and multi-religious state where class was more important than nationality or religion. During the mid-seventeenth century, many old established Ukrainian nobles held key offices within the Polish-Lithuanian Commonwealth.

3. The Zaporozhian Sich refers to the Cossack armed camp located south of the Dnipro River rapids. Cossacks who chose to live in the Sich did so in stern simplicity without wives or families. The men were organized into military units and worked together for a common good.

4. Although most people think of Cossacks as horse-mounted troops, their earliest renown was as sailors who raided the Ottoman settlements along the Black Sea coast. During the middle of the seventeenth century, most Cossacks fought on foot or served as artillerymen.

5. Originally from the German word *Hauptmann*. Among the Ukrainian Cossacks, the Hetman was the highest military, administrative, and judicial office. This is not to be confused with the use of the title in the Commonwealth, where the term of hetman simply meant commander-in-chief and the highest military authority in the realm.

6. Although the text of the Treaty of Zboriv has survived and the register of Cossacks has been previously published, Ukrainian scholars such as the eminent historian Mykhailo Hrushevsky has interpreted the Zboriv Agreement as "hopeless" (2002: 575–654) or "compromised" (Krypiakevych 1954:165–172). More recently, the Canadian Ukrainian historian Frank Sysyn has indicated that "the guarantee of a forty-thousand-man Cossack army ensured Hetman Khmel'nyts'kyj his place as an almost independent ruler of the Ukraine" (Sysyn 1985:173).

7. As illustrated in a letter from Khrushchev to Stalin, Khmelnytsky was chosen not because he fought for Ukraine's liberation, but because of the union of Ukrainian and Russian peoples (Yekelchyk 2002:69).

8. Basarab 1982.

9. Kozachenko 1954.

10. While many scholars have devoted their attention to the battle of Zboriv, among the earliest and most influential studies remain Kubala 1896 and Fras 1932.

11. I. Krypiakevych published five separate accounts of the battle of Zboriv, but the most detailed description appears in 1929. A later account published by the same author in 1931 includes two maps, one which showed the disposition of forces at the time of the initial ambush and the second map illustrates the attacks of the second day. These two maps were later reprinted by Tyktor (1953).

12. Matskiv 1985.

13. Alexandrowicz 1995:15–23.

14. Sveshinkov 1993.

15. Vasyl'ev and Dzys 1988:2–6.

16. Such a result is not unexpected, since archaeologists who have relied on traditional testing methods of digging in depth rarely have been successful in identifying resources related to military engagements. Using traditional archaeological field methods at the American Civil War First Manassas (Bull Run) battlefield, for example, "only one artifact was found by shovel testing, while several hundred were found using metal detectors" (see Babits 2001:118).

17. Artifacts from these excavations are on display at the local museum in Zboriv.

18. Excavations of a burial pit from the Battle of Wisby, for example, provided a good indication of medieval warfare (Thordeman et al. 1939).

19. Scott and Fox 1987; Scott et al. 1989.

20. Foard 2001:90.

21. The most common artifacts recovered from the 2002 and 2004 survey are from later battles fought at Zboriv. Shrapnel balls, rifle cartridges, bullets, and artillery shell fragments litter the area of the 1649 battlefield. While the majority of these finds are thought to relate to an engagement fought during WWI, the recovery of dated American-manufactured Mosin-Nagaunt rifle cartridges from 1918 indicates that at least some of this early twentieth-century military ordnance relates to an engagement fought during the Chortkivs'ka Offensive in the summer of 1919, almost exactly on the 270th anniversary of the 1649 Battle of Zboriv.

22. The battlefield research at Zboriv was undertaken as a component of Strotsen's 2002 survey of the Zboriv region and was sanctioned by the archaeological license (*vidkrytyj lyst*) No. 216 (Strotsen 2003).

23. As during Scott's (Scott et al. 1989) research at Little Bighorn, where both Native Americans and European Americans took part in uncovering their joint history, the research of the 1649 campaign included both Polish and Ukrainian team members. Since the initial funding for this research project came from a Fulbright-Hays Faculty Research Fellowship, peace building and preservation of historical memory was a critical component of the research and thus it was important that all sides be represented. The students from the departments of history and archaeology who took part in this research came from various institutions, including the University of Warsaw, L'viv Polytechnic University, and Drohobychskyj Pedagogic University.

24. Foard 2001:89.

25. Wimmer 1978:202.

26. Griess 1984:48.

27. Valerij Smolij and Valerij Stepankov, *Bohdan Khmel'nyts'kyj*, Kiev, 2003, 200.

28. Ivan Krypiakevych, "Z Istorii Zborova," 25.

29. Guillaume Le Vasseur, le Sieur de Beauplan, *Description D'Ukranie* [1660], L'viv, 1998.

30. Pollard and Oliver 2002:211.

31. Das Heeresgeschichtliche Museum (Museum of Military History), Vienna, Austria.

32. Górski 1902:121.

33. For a discussion of exported arms from Holland, see Puype 1985.

34. Museum of the "Cossack Mounds," National Historical Memorial Preserve "Field of the Berestechko Battle," Pliasheva Village, Radyvylivs'kyj Region, Rivnens'ka oblast, Ukraine.

35. A sprue is normally created as part of the casting process, but usually it is removed before the ball is fired. As such, unless a scholar is specifically looking for such sprues, they would most likely conclude that these were unfinished balls.

36. Saint Remy 1707.

37. Peterson 1956:63.

38. Krenn and Karcheski 1992:88.

39. O'Callaghan 1855:645.

REFERENCES CITED

Alexandrowicz, Stanislaw. 1995. Plany Obronnych Obozów wojsk Polskich pod Zbarażem i Zborowem z Roku 1649. *Fortyfikacja*, Vol. 1.

Babits, Lawrence E. 2001. Book Archaeology of the Cowpens Battlefield. In P. W. M. Freeman and A. Pollard (eds.), *Fields of Conflict: Progress and Prospect in Battlefield Archaeology*, 117–126. BAR International Series 958.

Basarab, John. 1982. *Pereiaslav 1654: A Historiographic Study*. Edmonton.

Foard, Glenn. 2001. The Archaeology of Attack: Battles and Sieges of the English Civil War. In P. W. M. Freeman and A. Pollard (eds.), *Fields of Conflict: Progress and Prospect in Battlefield Archaeology*, 97–104. BAR International Series 958.

Fras, Ludwick. 1932. Bitwa pod Zborovem w r. 1649. *Kwartalnik Historzcynz* 46.

Górski, Konstanty. 1902. *Historya Artyleryi Polskiej*. Warszawa.

Griess, Thomas E. (ed.). 1984. *The Dawn of Modern Warfare*. West Point Military History Series, Wayne.

Hrushevsky, Mykhailo. 2002. *History of Ukraine-Rus'*. Canadian Institute of Ukrainian Studies Press, Vol. 8. Toronto.

Kozachenko, A. I. 1929. *Zhyttia i Znannia*, No. 10–11, L'viv.

Kozachenko, A. I. 1931. *Litopys Chervonoi Kalyny*, No. 10, L'viv.

Kozachenko, A. I. 1954. *Bor'ba Ukrainskoho naroda za vossoedinenie s Rossiei*. Moscow.

Krenn, Peter, and Walter J. Karcheski Jr. 1992. *Imperial Austria: Treasures of Art, Arms and Armor from the State of Styria*. Munich.

Krypiakevych, I. 1954. *Bohdan Khmelnyts'kyj*. Kiev.

Krypiakevych, Ivan, 1942. Z Istorii Zborova, In Istoriia Ukrainy by Ivan Krypiakevych. Vernyhora, Vienna.

Kubala, L. 1896. *Oblężenie Zbaraża i pokój pod Zborowem, Szkice historyczne*. Krakow.

Le Vasseur, Guillaume le Sieur de Beauplan, 1998. *Description D'Ukranie* [1660], L'viv.

Matskiv, Teodir. 1985. Zborivs'kyj Dohovir u svitli nimets'koi j anhlijs'koi presy z 1649. *Zborivshchyna*, Naukove Tovarystvo im Shevchenka, Ukrains'kyj Arkhiv, Vol. 38. Toronto.

O'Callaghan, Edmund B. (ed.). 1855. *Documents Relative to the Colonial History of New York*, Vol. 1. Albany.

Peterson, Harold L. 1956. *Arms and Armor in Colonial America 1526–1783*. Stackpole, Harrisburg, PA.

Pollard, Tony, and Neil Oliver. 2002. *Two Men in a Trench: Battlefield Archaeology—The Key to Unlocking the Past*. London.

Puype, Jan Piet. 1985. Dutch and Other Flintlocks from Seventeenth Century Iroquois Sites. Proceedings of the 1984 Trade Gun Conference, Research Records, No.18, Vol. 1. Rochester Museum and Science Center, Rochester, NY.

de Saint Remy, Pierre Surirey. 1707. *Memoires d'Artillerie*, second edition, 2 vols. Paris.

Scott, Douglas D., and Richard A. Fox Jr. 1987. *Archaeological Insights into the Custer Battle: An Assessment of the 1984 Field Season*. University of Oklahoma Press, Norman.

Scott, Douglas D., Richard. A. Fox Jr., Melissa A. Connor, and D. Harmon. 1989. *Archaeological Perspectives on the Battle of the Little Bighorn*. University of Oklahoma Press, Norman.

Smolij, Valerij and Valerij Stepankov, 2003. *Bohdan Khmel'nyts'kyj*, Kiev.

Strotsen, B. S. 2003. *Zvit pro arkheolohichni rozvidky v okolytsiakh m. Zborova (Ternopil's'ka obl.) u 2002 r.* Ternopil's'ka oblasna komunal'na inspektsia okhorony pam'iatok istorii ta kul'tury, Ternopil.

Sveshnikov, I. K. 1993. *Bytva pid Berestechkom*. L'viv.

Sysyn, Frank. 1985. *Between Poland and Ukraine: The Dilemma of Adam Kysil 1600–1653*. Cambridge, MA.

Thordeman, Bengt, Poul Noörlund, and Bo E. Ingelmark. 1939. *Armour from the Battle of Wisby, 1361,* Vol. 1, Kungl. Vitterhets Historie OCH Antikvitets Akademien, Stockholm.

Tyktor, Ivan. 1953. *Istoriia Ukrains'koho Vijs'ka*. Winnipeg.

Vasyl'ev, Aleksej, and Igor Dzys. 1988. Bytva pod Berestechkom, *Zeughaus* 8(2)1988:2–6.

Bytva pod Berestechkom'', *Zeughaus* No 8. Moscow.

Wimmer, Jan. 1978. *Historia Piechoty Polskiej do 1864*. Warsaw.

Yekelchyk, Serhy. 2002. Stalinist Patriotism as Imperial Discourse: Reconciling the Ukrainian and Russian ''Historic Pasts,'' 1939–45. *Kritika* 3(1):51–80.