

Where Organization Is Supposedly Least Likely to Exist*: Battlefield Archaeology

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Introduction: New Stories of the Recent Past

Even while archaeologists worldwide are still debating the definition and scope of historical archaeology, the discipline continues to explore subjects once confined only to the historian. In the process, it rewrites our past.

A defining characteristic of historical archaeology is that it looks at and speaks about the past in the small scale—as contextual social relationships of small groups during short time spans (Gilchrist 2005). Specifically, historical archaeology has succeeded in challenging our familiarity of the recent past, by casting light on the mundane and the ordinary—or anything and everything that did not end up written in our history books. As a result, the narratives produced by historical archaeology are very different from those written by the prehistorian. As Laurie Wilkie wrote in her article on prehistory and history in North American archaeology, “while prehistorians overwhelmingly looked at humans as components of coherent systems, acting culturally in cooperation, historical archaeologists looked at expressions of difference, [like] ethnicity and power (2005:343).

*The title of this paper is a phrase adapted from Scott and Hunt’s (1998) report on the Civil War at Monroe’s Crossroads, Fort Bragg, North Carolina.

What makes historical archaeology's subject matter seem all too familiar and mundane is that it is close to us temporally, and most of the time, emotionally (Thomas and Kelly 2006). Unlike prehistorians, historical archaeologists have to deal with the recent past's immediate historical antecedents, including descendants, heirs and social groups closely affiliated with the people and cultures being studied (Belmonte 2003). As a result, historical archaeology has made its practitioners more politicized and the discipline more engendered (Wilkie 2005). It has helped expose ideologies and structures that make our society what it is today by focusing on disenfranchised groups rarely represented in written documents. Thus, historical archaeology paints a very vivid and fascinating picture of cultures on the brink of modernity (Orser 1996).

Just over twenty years ago, a new branch of historical archaeology was born—not in the middle of the city or in the heart of a plantation, but on a grassy field in southeastern Montana. There were no standing structures or neatly arranged graves to investigate. There were only faint traces of the brief yet explosive episode that started it all and a myth.

Where Organization Is Supposedly Least Likely to Exist: Why Study Battle Sites?

Battles are usually seen as messy and chaotic affairs, as extreme expressions of our capacity for violence. The battlefield, the arena where such violence is played out, seems to be the least organized space to be occupied by humans. However, these scenes of turmoil are also the scenes where the courses of nations are charted, and where we can trace why and how we have become what we are today.

The study of battles has long been the domain of historians, who rely greatly on documents and written accounts (Oliver and Pollard n.d.). These historical accounts are often taken to be infallible and widely accepted that battlefield archaeology, like other domains of historical archaeology, may find itself embattled in justifying its existence. Why, therefore, should we study battlefields?

First of all, archaeologists can help test historical accounts and accepted truths about these pivotal historic events. There is an adage that says: "History is written by the victor," and this is largely true. Documents have biases just as the people who wrote them have biases. This is especially true with battle events with clear victors, wherein the dominant side has free rein to extol its glory and exaggerate its achievements (Oliver and Pollard n.d.).

But war is a nuanced phenomenon. There are instances when there are no clear victors and both sides claim to have prevailed. This often happens when two superpowers are at odds, with neither one willing to concede defeat. Such is what happened to the San Diego shipwreck, which I will touch on later. Also,

victory in the long run can assure that losses in the short term are underplayed or embellished to portray, instead, noble defeats against overwhelming odds. There are no better examples than colonialist conflicts, like the Battle of the Little Bighorn, which I will discuss later. Written accounts, while they are voluminous, are not always necessarily reliable and may be inherently biased (Rose 2005, Sutherland 2005). Archaeology provides an independent check on these past events.

Second, battlefields by themselves are unique sources of information about the past. In archaeology, different types of sites tell us different things. Habitation sites tell us how people lived and worked, what they ate, and where they lived. Cemeteries tell us how the dead were treated and what people thought about the afterlife. Battlefields, in turn, tell us how people fought and died. They were the settings of extraordinary “meetings of landscape, technology and people” (Carman 1997:6).

Typical of many historic sites, battlefield archaeology deals only with a small group of people—the military or other combatants—and a relatively brief time span that can be as short as a few hours. These two traits make the archaeological signature of battles distinct.

As the main actors in a battle, the military is an archaeologically recognizable unit because of its unique material culture. The expected assemblage from a military site would include weapons, uniforms, and other such paraphernalia. Even personal items are expectedly male-oriented.

The military, as a rigid structure, has rankings and prescribed modes of behavior. More significantly, individuals within this structure are trained to fight in culturally established manners and patterns. Using the proper analytical tools, these patterns are discernible and give us a glimpse of some form of order through the chaos of battle.

Another distinct trait of battles is the event’s time span. The duration of most battles is relatively short especially when compared to other kinds of sites. However, during those few hours, hundreds, if not thousands, of pieces of artifacts are dumped on the battlefield and the landscape is significantly altered by earthworks and other modifications of a military nature. No other event that abruptly begun and ended can leave such tangible physical remains (Foard 2004).

A third reason has to do with the practical benefits of studying battlefields. If preserved and documented properly they can serve as important tourism and educational resource, as with most other types of archaeological sites. Furthermore, since the outright purchase of battlefield lands is often impossible for government agencies, it is inevitable for some tracts of land to end up in private hands. A rich narrative based on meticulous study of the battlefield can

encourage prospective buyers to preserve it once they decide to acquire it (ABPP 2000).

A final reason for studying battlefields lies in the intangible. They evoke vivid images of the nation's many struggles and stir the shared emotions of the descendants of those who participated in the battle. Like many historical archaeological sites, battlefields deal with our "immediate historical antecedents" (Belmonte 2003:31) with whom many still-existing groups feel some form of affinity. This all points back to how battlefield archaeology, as historical archaeology, deals with the recent past and affects us in a profound way. The stories that archaeology can weave from a battlefield are unique. They cannot be woven by any other means.

Behind the Trenches: What Is Battlefield Archaeology?

Battlefield archaeology is the systematic archeological investigation of sites of armed conflict, recognizing the unique characteristics of battlefields and the intense emotional pull it has on existing social groups that were once involved with it in one way or another.

Battlefield archaeology is incorporated within the emerging discipline of conflict archaeology. The latter is an all-encompassing term that pertains to the archaeological study of human conflict, warfare and violence, from the distant past and even into modern times. Conflict studies seek to address questions on the causes of war, patterns of violent behaviour, the evolution of strategies and technology and so forth from an archaeological perspective. Battlefield archaeology, then, clearly falls under this category but can also be considered as historical archaeology because of its utilization of written documents and is engaged in issues of modernity and the recent past.

And unlike the historians who have tended to overlook the fact that the figures moving on the battlefield were people just like us, battlefield archaeology humanizes the seemingly inhuman phenomenon of warfare (Oliver and Pollard n.d.). We get to go beyond the sanitized higher-echelon reports. We get to see the battle not from the point of view of the men behind desks, but the point of view of the men behind the trenches.

Myth and Method: The Battle of the Little Bighorn

A mystery and a myth started this all. For more than a hundred years, what took place on the Little Bighorn where Lieutenant Colonel George Custer and 210 of his men were utterly defeated by Lakota and Cheyenne Indians, one day in June 1876, has been heatedly debated (Batten 2002).

What prevailed was the myth of “Custer’s last stand.” This last battle has been immortalized in many popular depictions such as paintings and movies. They all invariably depict a valiant Custer standing erect in the face of death, with his men organized around him, disciplined to the end. This version was hugely popular then, and is, arguably, still so today (Fox 1993).

Before archaeology stepped in, it seemed there was no way to tell exactly what happened at the Little Bighorn. This changed when an accidental brush fire in 1983 burned off 600 acres of vegetation on the Little Bighorn battlefield. This cleared the way for the systematic investigations on the site. Archaeologists Richard A. Fox Jr. and Douglas Scott developed new survey techniques that could adequately deal with the many questions left unanswered at the Little Bighorn.

This was, indeed, pioneering work. Notably, this marked the first time a battlefield has been systematically plotted into a grid to chart the fight’s progress, the first time that modern ballistic techniques have been applied to archaeological artifacts and one of the few times that precise locational information was recorded for every relic found (Jordan 1986).

These new methods, coupled with more traditional archaeological approaches, have significantly reinterpreted the battle events. Contrary to the gallant “last stand” myth, Custer and his men seemed to have suffered from a breakdown in stability or tactical disintegration on the battlefield, with men desperately trying to escape or bunching together in disorderly formations.

This result was predictably controversial. It stirred strong reactions from Custer aficionados as well as descendants of the Lakota and Cheyenne who fought at the Little Bighorn. For Custer buffs, it went against more than a hundred years’ worth of accepted truth. For the Native Americans it felt like regaining a victory that was rightfully theirs. It is important to explore, therefore, how exactly were these conclusions made and what specific methods were used to support these results.

Old and New: Methods of Battlefield Archaeology

As Oliver and Pollard (n.d.) note, this first intensive study of a battlefield at the Little Bighorn opened the way for other battlefield investigations around the world and new methods to be tried out. Battlefield archaeology methodology is an interesting combination of old and new techniques. While battlefield archaeologists are quick to embrace cutting edge technologies they have never abandoned good old-fashioned tools and methods, like excavations.

A primary goal of battlefield archaeology is to define the limits of the battlefield, the key to which lies in artifact distribution. Determining the distribution

of battle-related artifacts and features on the horizontal plane can help determine the extent of the battle site as well as the position and movements of the troops as the battle played out. This determination is important in confirming or contradicting written accounts and maps and is invaluable for cultural resource management purposes. Another important factor to be considered regarding distribution is the location of battle-related artifacts on the vertical plane. Tim Sutherland (2003) is correct when he points out that the key layer for battle-related deposits is the topsoil. Most battle sites are only a few hundred years old with no significant sediment deposition at most sites, leaving artifacts only centimeters from the surface of the ground. He continues on to say that "destroying this resource is comparable to the unrecorded emptying of every feature on a stratified archaeological site" (2003: para. 9). These considerations have largely determined the methods that had to be developed for battlefield archaeology.

Metal Detectors

Metal detectors have a spotty record when it comes to archaeology. In Europe it is generally frowned upon and, until now, much of the debate has centered not on the instrument's actual usefulness, but on the difference in attitudes of metal detector operators and archaeologists (Dobinson and Denison 1995). But this position may well change with battlefield archaeology. According to battlefield archaeologists Neil Oliver and Tony Pollard (n.d.), the main form of archaeological evidence from most battlefields takes the form of metal artifacts dropped during the fighting, sometimes scattered over a wide area. Determining the extent of the distribution of these metal artifacts, such as bullets and cartridge casings, effectively delineates the battleground. This has made metal detectors indispensable in battlefield research.

Metal detector surveys generally consist of three phases. First, metal detector operators walk along transects with pre-determined intervals on the battlefield, sweeping their instruments across the ground. When their instruments pick out a metal object in the ground by beeping, this area is marked with a pin flag. Behind the metal detector operators, recovery crews excavate at that spot carefully using trowels and small tools. When the metal artifact is found, the excavator exposes it but leaves the object in place. The final phase involves survey crews taking note of where exactly on the battlefield was each artifact found, its angle in the ground, and how deep it was. Instruments such as the theodolite and more recently, total station transits are used to maintain what Scott calls "precise locational control," (Scott and Hunt 1998: chap. 2, para. 3). The data are then

downloaded into computers to be digitally mapped. Only after meticulous recording is the artifact collected.

Remote Sensing and Geophysical Surveys

Metal detectors can be considered a remote sensor in the sense that it gives us a picture of what lies underneath the ground without having to dig. Remote sensing is technically defined as “the measurement and interpretation of electromagnetic radiation reflected or emitted by a target from a receiver located at a distance from the target” (Donoghue 2000:555). In short, remote sensing is the archaeological equivalent of CAT scans – an array of photographic and geophysical techniques that is able to give us non-intrusive data (Thomas and Kelly 2006).

Various remote sensing techniques, like ground penetrating radar, magnetometer surveys, resistivity surveys, high altitude imagery (aerial and satellite photography) (Nishimura 2001, Dolphin n.d.), have been applied to archaeology in general. They offer many advantages to archaeological research, mainly that they are non-destructive and can provide lots of information in a comparably short time. This allows archaeologists to pinpoint particular areas where there are likely buried features, thus saving precious excavation time. Another important use for remote sensing is in exploring areas where excavations are impossible for one reason or another.

Archaeological Excavations

Despite the advent of various cutting edge techniques in archaeology today, down to earth systematic and controlled excavations are still irreplaceable in gathering data about an archaeological site. Excavations at battlefield sites are carried out with the same care and precision as with other types of sites.

In battlefield archaeology excavations are conducted on structures that played pivotal roles in the battle event, if these are still extant. Surveys are done to locate those that have since disappeared. These are the structures that stood in the middle of the encounter such as forts, earthworks and trenches, which directly affected the outcomes of battles. Also of interest are features such as roads, field hospitals and cemeteries. While these might not have been the scene of actual combat they can contribute to a more holistic view of how warfare was conducted, even away from the frontlines.

Firearms Identification

Ballistics, in its broadest sense, refers to the science of the motion of projectiles. It can further be defined more specifically as the science of firearms

identification (del Rosario 1996). Identifying firearms depends on the unique markings each individual gun leaves on the ammunition (both the bullet and the cartridge casing) it expends. Generally speaking, these marks (also called signatures) are caused by individual microscopic differences in the contact surfaces of firearms such as the barrel or firing pin. What is sure is that no two firearms can possess exactly the same toolmarks because no two guns are made and maintained in exactly the same way. Therefore, these signatures serve as the fingerprints that can lead to their identification.

In ballistics analysis final identification is dependent not just on one or two markings, but ideally, based on a pattern or a combination of these markings. The more marks in common, the more unlikely that samples were fired from different firearms.

Ballistics is used to determine the firing positions and movements of both sides in combat. The types of firearms used can be identified from historical accounts or inferred from what weapons are historically known to have been used for certain time periods. However, ballistics analysis is not confined to identifying what types of arms were fired during the battle. From the metal detector survey, each expended bullet and spent cartridge can be plotted onto computerized maps. The patterns gleaned from this distribution can enable battlefield researchers to trace the positions the forces took and chart the flow of the battle. In the Little Bighorn, ballistics analysis was so precise that even the movements of individual weapons and hence, combatants, over the battlefield, could be followed (Jordan 1986).

Skeletal Analysis

Another important source of information on the battle event are human remains that might be encountered during the course of the excavation. The forensic analysis of human remains from battlefields generally follows the same procedures as with the analysis of remains from other contexts. General attributes like sex, age, stature, and overall health are noted. Some researchers also believe that ethnicity can be discerned from skeletal features (Byers 2002). This is important in battles where the opposing groups involved in the conflict are recognized to have been of different ancestry.

Since we are dealing with violent deaths, perhaps the most significant skeletal attribute to look out for is trauma. Trauma refers to injuries caused to living tissue by outside forces (Byers 2002). Though not all injuries may have been the cause of death, each of them gives us interesting clues as to what the individual experienced during and around the time of death. They can also provide us with

subtle cultural clues, such as weapons of choice and how these were wielded. They can also illuminate the ritualized aspects of warfare, such as scalping and the taking of body parts as trophies.

Ultimately, skeletal analysis gives us an intimate picture of the casualties of war be they actual combatants or civilians and the times in which they lived and died.

Geographic Information Systems

Geographic Information Systems (GIS) is an integrated set of computer-based techniques for the storage, manipulation, analysis and display of spatial, often map-based data (Gillings 2001), including artifact distribution, environmental conditions, topography, cultural features, and other such themes. According to Thomas and Kelly (2006), archaeological data are inherently spatial; more so for battlefield archaeology wherein artifact distribution and terrain conditions are crucial to site interpretation. While relatively new to archaeology its impact has been considerable.

Oral Traditions

So far the methods discussed deal with the physical evidences—the artifacts, the landscape, and the human remains. Another important source for elucidating a battle, or any socially significant event at that, is oral history. This kind of source is particularly significant for battles where one or both sides traditionally rely on oral narratives to pass on knowledge. An example is North America, where Native American accounts often proved to be more accurate than embellished Army reports (e.g. Fox 1993 and Smiley 1999).

Bringing the Battle home: Battlefield Archaeology in the Philippines

In the Philippines no studies have, so far, been done with a battlefield as the focal point. Many excavations have been undertaken at military-oriented sites like forts (Tatel 2002) and shipwrecks but nothing similar to battlefield archaeology as it is practiced in North America and Europe today.

Strangely enough, the closest example we have of battle-related archaeological investigation took place not on terra firma, but out on the open sea. The work conducted by the National Museum on the Spanish galleon San Diego served to clarify the plentiful, yet vague and contradicting, account of the ship's last mission, and enlightened us more on how it was to wage a war at sea (Dizon 1993). The wreck also proved to be a trove of military artifacts and technology, albeit maritime in nature.

There are valid reasons why we should pursue these kinds of studies in the Philippines. Battlefield archaeology can help us understand our colonial past better and go beyond the knowledge already produced by traditional historians. Many battles fought on Philippine soil were between Filipinos and colonizers and, compared to these foreigners who were required to write battlefield reports and keep meticulous records of their exploits, we are hard put to find Filipino accounts of these battles. It is not a complete dearth, but the documents that have survived lack regularity especially when compared to what is available for the other side. For example, for this particular study it had been so easy for me to track down pertinent documents from the American side but it was a struggle to find any Filipino sources. I will discuss this dilemma further later. For now, suffice it to say that through archaeology, perhaps we can fill this gaping hole by making Filipino combatants speak to us—not through documents, but from the material culture they left behind.

Like many other heritage sites our battle sites are on the brink of being obliterated. Many pivotal battles were fought on now-urbanized land, mostly in Manila like Zapote, San Juan and Pinaglaban, where archaeological investigations are next to impossible and where deposits are most probably disturbed. Perhaps there are more promising sites especially in rural areas. But unless they could be subject to documentation and preservation efforts they are still at risk of disappearing forever.

Insurgent Stronghold: Historical Background of the Battle of San Mateo

The Battle of San Mateo has gained prominence in the history of the Philippine American War because this was the campaign where the highest-ranking American officer to be killed in this war, Major General Henry Ware Lawton, fell. The following account of the fighting and events immediately before and after the battle is derived from several written primary sources, and, not surprisingly, there are some inconsistencies. These points are properly noted as they are mentioned and, far from being nuisances, have actually made this phase of the research exciting and thought-provoking. As for the rest of the account, it is based on points and details all accounts agree on or where there is no evidence to the contrary.

San Mateo had long been a solid base for Filipino fighters, even as early as the Philippine Revolution of 1896 (Salazar 1994). It served as launch points for offensives and was a critical link to the Marikina and Montalban areas, with all three towns connected by the Marikina River. With the invasion of the Americans, this town remained an obstinate “insurgent” stronghold. San Mateo’s capture, therefore, was vital in the course of pacifying the island of Luzon. This responsibility

fell on Lawton's shoulders and he embarked upon this mission on the stormy night of December 18, 1899.

The heavy torrent had prompted some higher officials, including General Otis, the Military Governor of the Philippines at that time, to suggest postponing the attack on San Mateo, but Lawton would have none of it. Riding from Otis's quarters in Manila his contingent joined up along the way with the infantry from La Loma. Lawton's force was made up of two squadrons—one mounted and one dismounted (206 men)—of the Eleventh Cavalry, one battalion of the Twenty-Seventh Infantry (326 men) and one¹ battalion of the Twenty-Ninth Infantry (346 men). Before daybreak they arrived on the bluffs overlooking San Mateo, around 2.4 km away from it, with only the swollen Marikina River separating them from their objective—the town of San Mateo.

San Mateo was a large town and had a number of natural defenses to its advantage. The Marikina River surrounded it on three sides, with the Montalban Mountains—a possible escape route—behind the town. San Mateo was under the charge of General Licerio Geronimo, a veteran of the revolution against the Spaniards. Having grown up and worked in the area, Geronimo knew the Marikina River well, making him a capable commander of the defense.

With around 250 to 300 fighters², Geronimo prepared the defense of the town. Among Geronimo's men were the Spanish-trained snipers called *Tiradores de la Muerte* (literally, gunners of death). The Filipinos were armed with Spanish-purchased Mausers—smokeless, repeating rifles that were superior to the US army-issued firearms at that time. The Filipinos had hidden themselves in entrenchments (around twelve to fifteen positions) on the riverbank, one of which abutted a stone house. Well-built these trenches were, for even from the vantage point of the bluffs across the river, they were quite difficult to find.

Lawton ordered the cavalry squadrons to move north in the direction of Montalban, and ford the river to cut off the possible escape route of the defending Filipinos. The Twenty-Ninth was to move downstream to the right to attract the Filipino fighters's attention as well as to cross the river and execute a flank movement to the south of San Mateo. The Twenty-Seventh was to hold the center line. It was estimated that the entire frontline had covered around a 1.6 to 2.4 km line up and down the river. During the fighting, both battalions were positioned on ricefields no more than 183 to 274 meters³ from where the Filipinos were entrenched. It was on these ricefields that Lawton would die by midmorning.

The documents claim that the movements were carried out as planned but were not to be seen through by General Lawton. With his tall frame, white helmet and yellow rain slicker, he was an easy target for the Filipino snipers. At around 9:15 am he was shot through the lungs.

The town of San Mateo was finally taken after a few hours' fighting⁴, at around 11 am, when the Twenty-Ninth Infantry, after much difficulty, was finally able to cross the river from the south, and the Eleventh Cavalry swept down from the north. There were reportedly half a dozen Filipinos killed and several more taken as prisoners. Notably, most American accounts do not mention of other casualties on their side, aside from Lawton himself⁵.

Post-battle accounts mostly dealt with securing the town, which was reportedly done with ease, and the transport of Lawton's body, first to the town itself, then back to Manila.

The Site Today

Today, San Mateo is a first class municipality with a population of more than 135,000 people. The floodplain where the Filipino defense line was located is now under the jurisdiction of Barangay Sta. Ana and divided into several plots privately owned by local families. While there are some spots still overgrown with cogon (*Imperata cylindrical* L.), most of the floodplain is agricultural land. A variety of crops, like maize (*Zea mays* L.), camote (*Ipomoea batatas* L.), pepper (*Capsicum frutescens* L.), and white radish (*Raphanus sativus* L.), are planted. Portions of the floodplain, especially those near the houses, have also been utilized as garbage disposal sites.

Aside that earthworks may still be visible on the floodplain where the Filipino fighters were supposed to be entrenched from its historical significance, I chose San Mateo as a study site for a variety of reasons. First, there are anecdotal accounts.

Second, the San Mateo floodplain is still structure-free and appears to have changed but little, especially when compared to the bluffs across the river where American troops were positioned. The bluffs (which are actually low terraces according to available NAMRIA maps) no longer fall under San Mateo's jurisdiction but is under Barangay Bagong Silangan of Quezon City. It is now heavily populated and the terrain has been modified to accommodate the urban expansion, although its elevation compared to the floodplain is still apparent. A monument to the Battle of San Mateo stands next to the Barangay Hall of Bagong Silangan, supposedly on the spot where Lawton fell. An investigation of this area, along with the San Mateo side of the riverbank, would have been desirable to create a more complete picture of the battle. At this time, however, it is not feasible.

My last reason is more for practicality: the town's accessibility was an advantage, considering the limited resources and time for this study.

Surveying San Mateo

For the purposes of this paper, The American Battlefield Protection Program Battlefield Survey Manual of 2000 was used as a tool in surveying the site. Initially developed to assist the Civil War Sites Advisory Commission in 1990, this manual has recently been updated and revised by the ABPP for use in other American Wars such as the Revolutionary War and the War of 1812. This manual was created to provide guidelines in surveying and documenting battlefields. More specifically, these surveys aim to locate the historic extent of the battlefields on modern maps, determine the site integrity, provide an overview of surviving resources and assess short and long-term threats to integrity. The results of the survey can then be provided to preservation offices and local planners for heritage management purposes.

According to the manual, a battlefield survey's primary goal is to collect baseline information about the location, condition, and threats to a battlefield landscape and its component resources, including related structures and deposited artifacts. A minimum level of documentation is expected at the end of the survey, which is expected to contribute to the battlefield's preservation by making authorities and residents aware of the significance of the site.

Though developed primarily for cultural resource management purposes, I used the ABPP Survey Manual in this study as the first step for this research project.

To this end the survey methodology for this paper follows the five-step outline provided by the ABPP Survey Manual: (1) Research the battle event; (2) Develop a list of defining features; (3) Visit the site; (4) Take photographs; (5) Prepare maps and survey form.

Following the ABPP methodology, archival research and site visits were conducted in San Mateo. The work concentrated mainly on the floodplain on the eastern bank of the river where the Filipino defense of the town was concentrated. The particulars of the survey are as follows:

Research the Battle Event

This first step entails gathering all accessible documents pertinent to the battle. These include official battle reports, personal accounts like letters or veterans' memoirs, orders of battle, historic maps and secondary volumes.

Various primary and secondary accounts were culled from the University of the Philippines Main Library, the American Historical Collection at the Rizal Library in Ateneo de Manila, and the Internet.

I was fortunate enough to get a hold of copies of the official after-action and supplementary reports on the Battle of San Mateo from the Report of the War Department records. Of importance were other contemporary accounts, such as news articles from the *Manila Times* and the *St. Louis Republic*.

An extremely detailed account was written by William Dinwiddie, a correspondent and Lawton's personal friend. Though melodramatic at times, this article in *Harper's History* has been called "the best account" (Le Roy 1914:159) of the event and continues to be cited by historians until today (e.g. Linn 2000). A complete bibliographical list is provided at the end of this paper.

These accounts generally agree on many items. One of these items, and an important one at that, is the battleground's topography—the locations of the town, river, and other natural landforms. Included also are the positions and movements of the American troops. The only discernible difference was the degree of how detailed these descriptions were. In this respect I was fortunate, for an ample and detailed description of the landscape is vital in conducting the survey of the battleground. Their chronology for the event is also consistent especially from the time of Lawton's death to the conclusion of the battle. However, there are disagreements on some key details, like the number of troops with Lawton that day and the number of casualties. It is worthwhile noting that with the American accounts only Lawton is the mentioned casualty, and a celebrated one at that. On the other hand, the Filipino sources speak of other American troopers killed (San Miguel 1900, Manuel 1955, NHI 1989).

All of these materials dwelt heavily on the American point of view of the Battle of San Mateo and, notably, focused much attention on Lawton's death. The American side of the battle has been documented in detail, from troop movements to actual conversations that took place on the battlefield.

In contrast, it has not been easy to access the Filipino side of events. There are a couple of short biographies of Licerio Geronimo that mentions only the general circumstances of the battle with little detail (Manuel 1955, NHI 1989). Perhaps the best collection to look through is the voluminous Philippine Insurgent Records (PIR). However, this collection is limited at the outset. It is comprised mainly of *captured* documents that were intercepted by the Americans or recovered from scenes of fighting. Thus, there is no uniformity in the type or forms of documents. Some are incomplete or fragmentary, some are long tracts and others, short notes. Some also appear to have been misplaced, perhaps somewhere down the line as they were being archived. As mentioned, the PIR is voluminous, which is both its advantage and disadvantage. The pertinent documents may be in there somewhere, but more effort and time would be needed to thresh them all out.

At this point several primary sources have already been collected from which we could accomplish the second step of the battlefield survey.

Develop a List of Defining Features

Although biased toward one side and sometimes differing these documents are still able to provide several defining features of the battlefield terrain at the time of the conflict. A defining feature may be any feature mentioned in battle accounts or shown in historic maps that potentially may be located on the ground. Using the ABPP manual's guidelines, a Defining Features List was produced for San Mateo (Table 1).

The Defining Features List is a simple and convenient device for the researcher to organize the archival information and to keep track of the features he or she will later try to locate on the field.

Visit the Battlefield

Visiting the battlefield is the best way to familiarize oneself with the landscape and the battle event. This is the chance to note the general and the specific characteristics of the battlefield as it currently appears and to identify the defining features that might still be extant.

The San Mateo site was visited four times between late August and October of 2005. All research activities were accomplished with the knowledge and permission of the Sangguniang Barangay.

During these field visits interviews were conducted with the locals regarding the utilization of the land. According to them this area is frequently inundated with some anecdotal estimates of the occurrence of flooding as often as once each year. Because of this, the floodplain has remained free of permanent structures and retained its agricultural characteristics noted over a hundred years ago by the attacking American forces. Also, some locals mentioned earth-moving activities although the reasons for these are not clear. Some claimed the earth was gathered for reclamation projects elsewhere while others mentioned that the earth was collected for garden soil.

Some potential battle-related features could still be discerned along with contemporary features that affected the overall landscape. There are a few huts scattered on the floodplain that function not as permanent residences but as rest areas for the farmers. There are depressions in the ground forming a line along the riverbank that correspond to the written accounts of the positioning of the Filipino trenches (Figure 1). When asked what these depressions were, the locals

would generally reply that they don't know or that these depressions had been around for as long as they can remember.

These possible trenches have been designated Features A, B, and C and plotted on a NAMRIA map. Their linearity suggests that they are cultural products although nothing definite can be said yet.

As for artifacts none of the local farmers ever reported seeing any battle-related artifacts such as bullets and cartridges despite the regular plowing of these lands. A possible explanation for this is the thick sedimentation caused by floods – typical of alluvial environments. There is a possibility that the rate of accumulation of sediments on this plain is quick enough to bury any artifacts although further testing is needed to confirm this.

Take Photographs

For complete documentation the battlefield area must be thoroughly photographed from selected vantage points. It is ideal to be able to take 180-degree or 360-degree panoramas of the site to provide a balanced coverage of the entire area. However, each battlefield differs from another and the photographer is encouraged to use his or her own judgment for each case.

Documentation by photography was done with each visit, notably of potentially significant features (Plates 3, 4, 5, and 6). However, the test area being a plain, an ideal vantage point was not found. Taking 180-degree or 360-degree panorama shots revealed nothing new regarding the area's topography. The elevated terrace across the river, where Barangay Bagong Silangan currently stands, was of little help. Potential vantage points have sadly been obscured by man-made structures and the town of San Mateo can hardly be seen when one is standing on the opposite bank.

Prepare Maps and Survey Form

All the information from the archival work, field visit, and photo documentation should then be transferred onto a contemporary map in order to assess the conditions of the battlefield. This map should note troop movements, positions, and defining features associated with the battle event, as well as contemporary usage of the land for commercial, industrial, residential purposes, etc. These maps, photos, and written records will be of help especially if preservation work is planned for the future. They delineate the battlefield, and, when possible, identifies the Study Area and the Core Area of the battlefield.

The Study Area is the "maximum delineation of the historical site," (ABPP 2000:25)—all places that are related to or have contributed to the battle event

including encampments, field hospitals, approach and withdrawal routes, locales of preliminary skirmishing, locations of deployed units even if they did not engage in combat, etc. The Study Area should also include what is known as the Core Area, which is the area of direct combat. This marks the ground where forces were directly engaged and where soldiers fell. The demarcation of such areas serves several purposes. They facilitate further study of the sites, guide preservation efforts and enable intelligent modifications to the landscape, if needed.

Defining these areas seems not at all difficult because since the battle event took place only a little more than a hundred years ago the geography and topography of the San Mateo floodplain have, expectedly, remained virtually unchanged. It is still an agricultural area and is structure-free. A quick glance at the 1899 map and contemporary maps confirms that the landscape appears essentially the same. In fact, transferring the troop positions and some features from the 1899 map to a modern NAMRIA map is easy to do. However, the absence of surface finds or artifact concentrations hamper the pinpointing of troop positions and movements. This unfortunate circumstance prevents us from pinpointing which areas were or were not definitely part of the Study Area.

Also, at this point I must note that there is actually one significant change in the topography, and that is the “disappearance” of the island to the south where the Twenty-Ninth Infantry forded the river. This alteration can be explained by the geology of the area. There is a real possibility that the strong currents of the Marikina River have eroded this island. An intensive geological survey of the area is needed to answer this question.

Adapting the Method

Like other methods that we have tried to adapt from elsewhere, the ABPP method has its advantages and disadvantages when transferred to the Philippine setting.

Though primarily developed for cultural resource management purposes, I have used the ABPP survey manual as a research tool, and I am convinced that it can be a good start for further battlefield archaeology projects. The baseline information that this method seeks to generate, particularly the geographical location and extent of a battlefield, are themselves potential jump-off points for research. For example, if the historical accounts and the survey results do not jive, what can account for this discrepancy? Were there clashes in places where none have thought to have been fought? Are there any unrecorded features possibly related to the event that were identified? The baseline information it provides not only helps the planner or heritage authorities, but can also guide in formulating

research questions about the site. This can then contribute to designing research projects that can illuminate the battle event from an archaeological point of view. This particular survey has resulted in the identification of possible battle-related features, which can be the focus of a question-driven research project (time and resources permitting) in the future.

However, the ABPP Survey, as a research tool, has its drawbacks as well. One has to keep in mind that the method was used primarily to study American Civil War sites and was, therefore, initially focused on such a type of warfare. This method is wholly applicable to deal with battles fought with organized armies, which were engaged in a positional type of warfare. It also works better with battles for which there are plenty of documentation, because it relies heavily on identifying the defining features of a battle site—the descriptions of which largely survive only through written documents.

While we do have instances of positional warfare in our history, other more important engagements were not fought in such traditional ways. For example, by 1902 the Filipinos were engaged in full-scale guerilla warfare against the Americans. Unlike traditional forms of warfare, guerilla warfare is highly mobile, characterized mainly by ambushes and “hit-and-run” operations fought by small groups. The engagements may have lasted even briefer than a few hours. More importantly, guerilla-type engagements rarely, if ever, have defined frontlines. It may be reasonable to expect that an event spread over a wide area, with less participants, would leave a vague archaeological signature.

Another issue would be the availability of written documentation, which I already discussed above. To use a methodology that leans on documents one would have to rely heavily on accounts written by non-Filipinos (and usually, the opposing side), for they are the ones that are readily available. This is what happened as I researched the Battle of San Mateo. Fortunately, such “neutral” information and descriptions—for example, the topography and natural landforms—appear to be free of bias, at least for the battle at hand. As always, therefore, written documents must be used with caution. The researcher must be able to discern what biases and motivations underlie it all and to sift through the references accordingly.

Why Filipinos Were Shooting Too High: Some Final Remarks

This study makes for a great historical detective story but underneath it all, where is the behaviour? Where are the people?

What is so exciting about historical archaeology is that it stands in the middle of the confluence of three disciplines: history, archaeology and anthropology. Wilkie (2005) was correct when she wrote that “Historical

archaeology is an anthropological endeavor that is deeply entwined with historical process and method" (342 – 343). We may be using historical methods and historical documents but the bottom line is to get to the people behind those documents. The problem is that people easily get distorted or erased in these documents that can lead one to false conclusions about the society or culture being studied.

This problem is all the more amplified in a setting of blatant conflict between unequal forces. In the Battle of San Mateo, entire conversations, personal praises and even facial expressions are abundant in the American accounts. The Filipinos have remained the nameless and faceless "enemy." A point that struck me was the American claim that the Filipinos were not adept with their firearms and were "shooting too high" over the heads of the American troops (Sargent 1899:198) and was thus carrying out an ineffectual defense. But one of those shots killed a Major General.

Many portions of our past especially the conflicts that shaped our nation into what it is today need re-understanding. War was an integral part of our colonial past and it is high time archaeology and anthropology got involved where only historians once had a monopoly over. In depth archaeological investigations on our battlefields are therefore imperative, in the same way that we enthusiastically pursue investigations at other historic sites such as churches, forts, and other structures.

Recommendations

The investigations conducted on San Mateo are only preliminary and much more can be done.

First of all, the archival work needs to be followed up and missing documents tracked down. As for the site itself, further archaeological investigations in the area are advisable, specifically more fine-tuned mapping and excavations. The survey area can still be widened to include areas further up the headwaters of the Marikina River, across the river in Barangay Bagong Silangan, and other spots mentioned in the written reports. One could also concentrate on other problematic locations like the eroded "island" in order to fully define the extent of the site.

A detailed contour map of the floodplain can be generated to incorporate the entire battleground, especially those areas mentioned above. This contour map can also help find out if the "trench" features, indeed, show signs of being human-made, such as linearity.

Furthermore, we have to resolve the question of why no surface finds are reported in the area despite it being tilled agricultural land. Is it because the alluvial deposits are thick and that the targeted cultural layer lies deeper in the ground?

Test excavations can definitely answer this question. This is a potentially productive endeavour worthy to be followed up in the future.

Endnotes

- ¹ Sargent (1899) and Beach (1900) state that there was only one battalion of the 29th, though Dinwiddie's (1900) account mentions two.
- ² Sargent (1900) estimated that there were actually 500 insurgents, yet only 250 to 300 actually had rifles.
- ¹ The American reports originally used the English system in measuring distances. These have been converted into the metric system for this paper, thus, yards have been converted to meters and miles into kilometers.
- ² However, San Mateo's official surrender did not take place until March 29, 1901.
- ³ Only one American source, the *Manila Times* dated December 20, 1899, mentions fatalities other than Lawton. According to this news report, there were "fifteen to twenty men killed or wounded," with four of the dead coming from the 29th Infantry. The official RWD reports mention no other casualties. Geronimo's biographies, meanwhile, claim that the Filipinos had killed thirteen American soldiers that day, and an intercepted Filipino letter (San Miguel) dated January 3, 1900 says nine others had been killed with Lawton.

References

- Anon. 1899. General Lawton killed in battle. In *The Manila Times*. December 20, 1899.
- Anon. 1899. Lawton falls in battle. In *The St. Louis Republic*, December 20, 1899. Retrieved August 2005 from www.culbertsonmansion.com/Lawton_Bio.htm.
- American Battlefield Protection Program. 2000. *ABPP Battlefield Survey Manual*. Retrieved August 2005 from National Park Service Cultural Resources American Battlefield Protection Program website: www.cr.nps.gov/hps/abpp/revwar/pdfs/ManualSect1.pdf.
- America's Hidden Battlefields protecting the Archaeological Story*. n.d. Retrieved August 2005 from www.cr.nps.gov/hps/abpp/index.htm.

- Battlefield Archaeology*. n.d. Retrieved August 2005 from www.emill.com/connorconsulting/crm.html.
- Batten, Derek. 2002. *Custer and the Battle of the Little Bighorn*. Retrieved August 2005 from www.bbc.co.uk/history/war/custer_battle_01.shtml.
- Beach, W.D. 1900. Extract from report of Major WD Beach, Inspector-General, United States Volunteers, giving particulars of the death of Major General H.W. Lawton, United States Volunteer, Colonel, Inspector-General, United States of America. In *Annual Report of the War Department* Vol 1 Part 3, pp. 192–193.
- Belmonte, Ma. Josefina G. 2003. "Issues in Historical Archaeology in the Philippines," in *Proceedings of the Society of Philippine Archaeologists* Vol. 1. Edited by Amalia A. de la Torre and Victor J. Paz, pp. 30–41. Manila: A.V. Diaz Printing.
- Buck (Cpt.). 1900. Report No. 89. In *Annual Report of the War Department* Part 6, pp. 311–312.
- Byers, Steven N. 2002. *Introduction to Forensic Anthropology*. Boston: Allyn & Bacon.
- Carman, John. 1997. "Introduction: approaches to violence," in *Material harm: archaeological approaches to war and violence*. Edited by John Carman, pp. 1–23. Glasgow: Cruithne Press.
- Concerned Citizens for the National Museum, Inc. 1993. *Saga of the San Diego*. Vera-Reyes Inc.
- Conflict Archaeology*. n.d. Retrieved August 2005 from www.projectpast.org/cdrexler/ConflictArchaeology/conarch.html.
- Defining battlefield archaeology*. n.d. Retrieved August 2005 from www.web.telia.com/~u86517080/BattlefieldArchaeology/ArkeologENG_3.html#anchor2816921.
- Del Rosario, Domingo R. 1996. *Forensic ballistics*. Metro Manila: KSY Enterprises.
- Dinwiddie, William. 1900. "General Lawton's Last Fight," in *Harpers History of War in the Philippines*. Edited by Marrion Wilcox, pp. 325–331. New York: Harper.
- Dizon, Eusebio. 1993. "War at Sea," in *Saga of the San Diego*. pp. 21-26. Vera-Reyes Inc.
- Dobinson, Colin and Simon Denison. 1995. *Metal detecting and archaeology in England*. Retrieved August 2005 from Council for British Archaeology web site: www.britarch.ac.uk/detecting/cont.html.

- Dolphin, Lambert. n.d. *How geophysical methods can help the archaeologist*. Retrieved August 2005 from www.ldolphin.org/Geoarch.html.
- Donoghue, DNM. 2001. "Remote sensing," in *Handbook of archaeological sciences*. Edited by D. R. Brothwell and A. M. Pollard, pp. 555–564. Chichester: John Wiley & Sons.
- Foard, Glenn. 2004. *Field offensive*. Retrieved August 2005 from Council for British Archaeology web site: www.britarch.ac.uk/ba/ba79/feat1.shtml.
- Fox, Richard Allan Jr. 1993. A new view of Custer's last battle. *American History Illustrated* 28 (4):30+. Retrieved August 2005 from Academic Search Premier database.
- Gilchrist, Roberta. 2005. Introduction: scales and voices in world historical archaeology. In *World Archaeology: Historical Archaeology* 37 (3):329–336.
- Gillings, M. 2001. "Spatial information and archaeology," in *Handbook of Archaeological Sciences*. Edited by D. R. Brothwell and A. M. Pollard, pp. 671–687. Chichester: John Wiley & Sons.
- Jordan, Robert Paul. 1986. Ghosts on the Little Bighorn. *National Geographic* 170 (60):786–813.
- Le Roy, James A. 1914. *The Americans in the Philippines* Vol. 2. Boston and New York: Houghton Mifflin Company.
- Linn, Brian McAllister. 2000. *The Philippine War*. Lawrence, Kansas: University Press of Kansas.
- Manuel, E. Arsenio. 1955. *Dictionary of Philippine biography*. Quezon City: Filipiniana Publications.
- National Historical Institute. 1989. *Filipinos in history*. Manila: NHI.
- Nishimura, Y. 2001. "Geophysical prospection in archaeology," in *Handbook of archaeological sciences*. Edited by D. R. Brothwell and A. M. Pollard, pp. 543–554. Chichester: John Wiley & Sons.
- Oliver, Neil and Tony Pollard. n.d. *Battlefield archaeology*. Retrieved August 2005 from www.bbc.co.uk/history/archaeology/two_men.html.
- Otis, Ewell S. 1900. Otis Report, *Annual report of the War Department* Part 2, pp. 366–367.
- Orser Jr., Charles E. 1996. *A historical archaeology of the modern world*. New York and London: Plenum Press.

- Pratt, G. Michael. 1995. *The archaeology of the Fallen Timbers Battlefield: A Report of the 1995 Field Survey*. Retrieved August 2005 from Heidelberg College web site: www.heidelberg.edu/FallenTimbers/FTFinalMaster.html.
- Rose, Mark. 2005. "Introduction," in *The Archaeology of War*, pp. xv–xix. NY and London: Hatherleigh Press.
- Salazar, Z.A. 1994. *Agosto 29-30, 1896: Ang pagsalakay ni Bonifacio sa Maynila*. Quezon City: Miranda Bookstore.
- San Miguel. 1900. Letter to Sr. ERD Magpuci, in *The Philippine insurrection against the United States Vol V* Compiled by John RM Taylor, pp. 152–154. Pasay City: Eugenio Lopez Foundation.
- Sargent, Lieut. Col. H. H. 1899. Report of the battle of San Mateo, Luzon, PI, in which Gen HW Lawton was killed, December 19, 1899, in *Report of Lieutenant General Commanding the Army*, pp. 194–201.
- Sargent, Lieut. Col. H. H. 1900. Supplementary report of the battle of San Mateo, Luzon, PI, December 19, 1899, in *Report of Lieutenant General Commanding the Army*, pp. 155–157.
- Schurman, J. G. and Peter MacQueen. 1900. General Lawton as warrior, statesman, and man. *Leslie's Weekly* January 6, 1900 pp. 10–11. Retrieved August 2005 from www.culbertsonmansion.com/Lawton/Info/Leslies-1900Jan06.htm.
- Scott, Douglas D. and William J. Hunt. 1998. *The Civil War battle at Monroe's Crossroads, Fort Bragg, North Carolina A historical archaeological perspective*. Tallahassee: Southeast Archaeological Center National Park Service. Retrieved August 2005 from National Park Service Cultural Resource web site: www.cr.nps.gov/seac/mc-archweb/mc-index.htm.
- Smiley, Brenda. 1999. Sand Creek Massacre [Electronic version]. *Archaeology* 52 (6). Retrieved August 2005 from www.archaeology.org/9911/newsbriefs/sand.html.
- Sutherland, Tim. 2005. *A Guide to the Archaeology of Conflict*. Retrieved December 2005 from Conflict Archaeology Research Network web site: www.cairnworld.free.fr_guideindex.php.
- Sutherland, Tim. 2003. Topsoil: key battlefield layer. Retrieved August 2005 from Council for British Archaeology web site: www.britarch.ac.uk/ba/ba79/feat1.shtml.
- Tatel, Carlos P. Jr. 2002. *Patterns of external exchange in Porta Vaga: Morphometric analysis of excavated tradeware ceramics at Porta Vaga Site, Cavite City*. Unpublished Masters Thesis. Quezon City: UP Archaeological Studies Program.

Taylor, John RM. 1971. *The Philippine insurrection against the United States* Volume V. Pasay City: Eugenio Lopez Foundation.

The Battle of the Little Bighorn. n.d. Retrieved August 2005 from www.cr.nps.gov/mwac/libi/index.html

Thomas, David Hurst and Robert L. Kelly. 2006. *Archaeology*. United States: Thomson Wadsworth.

Wilkie, Laurie. 2005. Inessential archaeologies: problems of exclusion in Americanist archaeological thought. *World Archaeology: Historical Archaeology* 37(3):337–351.

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This is for my Lolo Nino, who I never met, who was once an "insurrecto."

Abstract

While the archaeological study of battlefields has developed considerably in other countries, no research of this kind has ever been done in the Philippines. This paper summarizes the rationale behind battlefield archaeology and its methods as it is practiced abroad. It also identifies the town of San Mateo, Rizal Province, as a potential test site for this kind of study. Using the American Battlefield Protection Program Survey Manual as a guide, the author conducts an exploration of the said battlefield. The results are still preliminary but it is a potential start in developing this sub-field in Philippine archaeology.

Feature No.	Defining Feature	Source No.	Importance in Battle	Field Condition	Shown on Map?
1	Bluff escarpment 548 meters from the town's high ground	1, 1b, 7, 9	Initial position of American troops	Still visible but heavily populated and modified	Yes
2	River (Marikina)	1, 1b, 2, 2b, 3, 4, 5, 6, 7, 8	Runs between bluffs and town, natural barrier	Extant	Yes
3	Insurgent trenches	1, 1b, 2, 5, 6, 7, 8	Occupied by Filipino soldiers	Possibly discernible	Yes
4	Small sharpshooter's trench 274 meters away from the American Position	5	Occupied by Filipino soldiers	Unknown	No
5	Narrow trail leading from Manila	1, 1b	Path followed by American soldiers and initial position of troops	Unknown	No
6	Small alluvial floodplain 60 ft below No. 5	1	Initial position of troops	No longer visible, possibly eroded	No
7	Sugar cane fields	1, 1b	To the left of Nos. 5 and 6, crossed by the cavalry	Agricultural land	Yes
8	Rice fields	1, 1b, 2, 5, 7, 8	To the front and right of Nos. 5 and 6; Where Infantry was deployed	Agricultural land	Yes
9	Tiny, densely verdured island/ sandbar	1, 1b, 2b, 5, 7	Held and crossed by the 29th Infantry	Probably eroded	No
10	Stone building and heavy wall abutted by a trench	1, 1b, 8	Part of defensive Filipino earthworks	Unknown	No
11	Gulch	1	Shelter for wounded officer Breckinridge	Unknown	No
12	Swollen stream to the south	1, 1b	Where Lawton's body was carried over after the battle	Uncertain, can be one many Marikina River tributaries	?
13	Mounds of earth/ ridge of earth	6, 7	183 to 228 meters away from Filipino trenches; Provided cover for American troops	Unknown	No
14	High mountains behind the town	5	Provides locationality of the town	Visible	Yes
15	Stream north of San Mateo flowing west into the Marikina River	7	Forted by Cavalry squadron	Unknown	No
16	Rebel outpost/ barracks one mile from San Mateo	3	Encountered by American troops the month before the battles	Unknown	No

Table 1
Defining Features of the San Mateo Battlefield

Source Numbers for Table 1

- 1 – Dinwiddie, William. 1900. "General Lawton's Last Fight" in *Harper's History of War in the Philippines* edited by Marrion Wilcox. New York: Harper.
- 1b – Map from Dinwiddie 1900 (See Plate 1)
- 2 – Beach, W.D. 1900. "Extract from report of Major WD Beach, Inspector-General, United States Volunteers, giving particulars of the death of Major General HW Lawton, United States Volunteer, Colonel, Inspector-General, United States of America" in *Annual Report of the War Department* Vol 1 Part 3.
- 2b – Map from Beach 1900 (See Plate 2)
- 3 – Buck (Cpt.). 1900. "Report No. 89" in *Annual Report of the War Department* Part 6.
- 4 – Otis Report, *Annual Report of the War Department* 1900 Part 2
- 5 – *The St. Louis Republic* dated December 20, 1899
- 6 – Le Roy, James A. 1914. *The Americans in the Philippines* Vol 2. Boston and New York: Houghton Mifflin Company.
- 7 – Sargent, Lieut. Col. H.H. 1899. "Report of the Battle of San Mateo, Luzon, PI, in which Gen HW Lawton was killed, December 19, 1899" in *Report of Lieutenant General Comanding the Army*.
- 8 – *The Manila Times* dated December 20, 1899

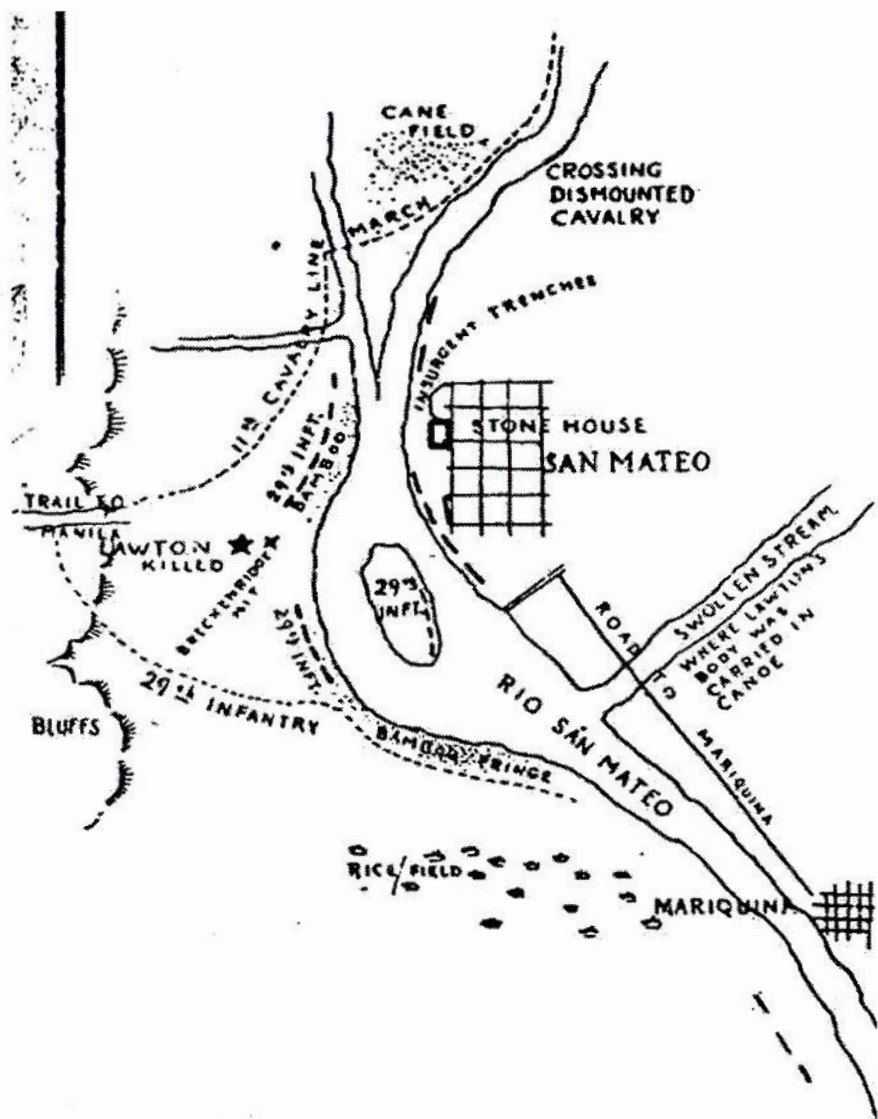


Plate 1

1899 campaign map showing troop positions at the Battle of San Mateo (From Dinwiddie 1900)

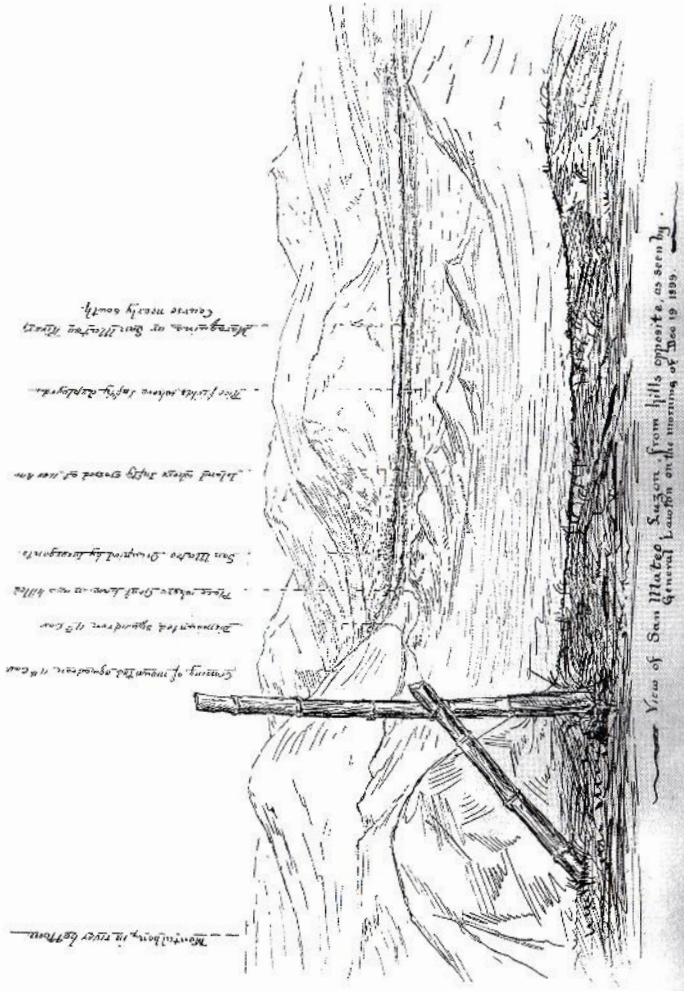


Plate 2

Sketch of the vista from the bluffs where the Americans were positioned. Caption reads: *View of San Mateo, Luzon, from hills opposite, as seen by General Lawton on the morning of Dec. 19, 1899.* Notes read: (from left to right) *Montalbon, in river bottom; Crossing of mounted squadron 11th cav.; Dismounted squadron 11th cav.; Place where Gen. Lawton was killed; San Mateo occupied by insurgents; Island where Infantry. Crossed at 11 am; Rice fields where Infantry. deployed; Mariquina or San Mateo River course nearly south (From Buck 1900)*



Plate 3
Possible trench



Plate 4
Possible trench



Plate 5

View of Marikina River facing north, Montalban mountains in the background



Plate 6

View of western bank where the Americans were positioned; note the elevation and the human modifications



Plate 7

Aerial photo of San Mateo town and Marikina river (approx. 1:4700, from NAMRIA); note different land uses and compare with Plate 1

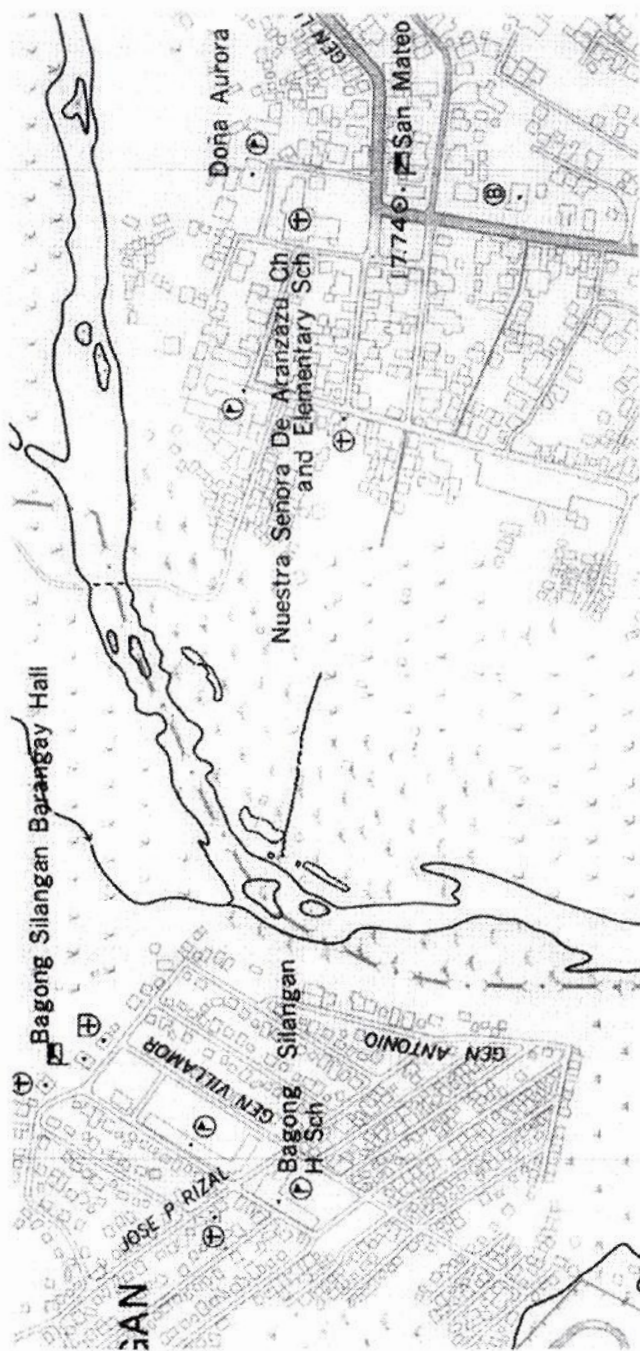


Figure 1
Contemporary map of San Mateo and Marikina River with plotted features [1:10,000] (After NAMRIA)