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THESIS

REVISITING THE BATTLE OF THE LITTLE BIG HORN

by

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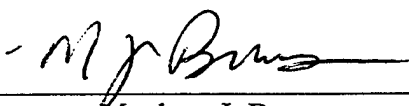
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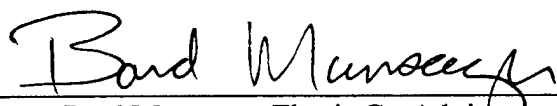
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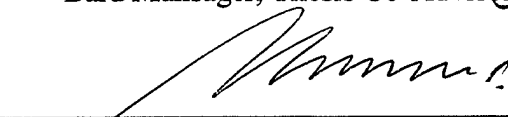
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ABSTRACT

The Battle of the Little Big Horn has captured the interest of historians, scholars, and military enthusiasts since the day that over 200 United States soldiers under General George Armstrong Custer's command were decimated by Crazy Horse and 2000 Indian warriors. Competing theories regarding the details of the battle have arisen, mostly due to conflicting first hand accounts.

The purpose of this thesis is twofold. The first purpose is to perform an historical analysis of the Battle of the Little Big Horn, using war-gaming. A series of controlled, comparative simulations of the battle will be carried out using the Synchronization Matrix, a war-gaming tool obtained from U.S. Army Field Manual (FM) 101-5. This analysis will evaluate three competing theories and interpretations of the battle, with the objective of categorizing the theories by degree of plausibility. The second purpose is to examine the impact of alternative notional leadership decisions on the outcome of the battle, e.g. what if Custer had not split his force? The result is a confirmation that war-gaming can indeed be utilized for the study of historical combat, as well as for future planning.

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I. INTRODUCTION

A. PURPOSE

This thesis will conduct a historical analysis of a portion of the Battle of the Little Big Horn using a decision model. The decision model is a variant of the Course of Action (COA) analysis (also referred to as war-gaming) outlined in U.S. Army Field Manual (FM) 101-5. Specifically, this study will examine the actions of General George Armstrong Custer and his men around what is now known as Custer Hill and the Custer Battlefield. Since all U.S. Army participants were killed, and Indian accounts are vague and contradictory, the specific events that led to this massacre remain in dispute. Various authors, scholars, and scientists have offered accounts that purport to explain how more than 200 U.S. Cavalrymen were slaughtered by what, historically, had been a militarily inferior foe. This analysis evaluates several competing theories and interpretations of the battle, with the explicit purpose of scrutinizing General Custer's decision-making processes within each proposed theory. It also offers an opinion regarding which theory reconciles best

with both the historical record and the results of the war-gaming. Finally, it examines the likely impact of alternative notional leadership decisions on the outcome of the battle in order to determine whether Custer's force ever had a chance for victory, or that their fate was sealed.

B. RELEVANCE

Special Operations Forces (SOF) draw heavily on prior operations to enhance existing doctrine and tactics. Although decision models and war-gaming are used for Joint Mission Analysis at the United States Special Operations Command level, those models are mostly applied to the planning of future operations (Collins, 1994, p. 33). A neglected utility for decision models and war-gaming is its application in the analysis of prior operations. The tactical "lessons learned" from previous operations are often produced by groups of individuals who analyze the doctrine, tactics, techniques, and procedures utilized before and during such operations. Using personal experience and subject matter expertise, these groups judge the merit of employed doctrine and tactics. Their

objective is to either validate the status quo, or make recommendations for changes. Decision modeling offers an important means of complementing the personal experience and expertise of SOF personnel, by facilitating the testing of recommended tactical modifications in a controlled reenactment of historic operations. Emphasizing that decision modeling is a tool used in concert with personal experience and does not produce doctrine itself is paramount. The desired result is a presentation of this method of analysis that is both interesting and reassuring in its applicability.

While the Battle of the Little Big Horn was not a "special" operation, it provides a unique venue for the employment of war-gaming. A full explanation of the decision model developed for my study of the Battle of Little Big Horn is included in Chapter III. The intrinsic mystery surrounding this battle has stimulated interest of a broad spectrum of professions and disciplines for several generations. Additionally, several minor engagements take place within the background of the larger battle, demonstrating relevance to small units, such as Special Operations Forces. The general techniques and procedures used to model the Battle of the Little Big Horn can easily

be utilized to analyze an urban hostage rescue or an over the beach raid, at a level of detail that is useful to SOF.

C. BACKGROUND

The Great Sioux War was "...a lengthy, disjointed struggle between the U.S. Army and allied tribes of Teton Sioux and Northern Cheyenne Indians that occurred in the span of fifteen months between March 1876 and May 1877." (Greene, 1993, p. xv) The conflict took place over a large portion of the Northern Plains, encompassing what are now parts of Montana, the Dakotas, Nebraska, and Wyoming. The war included fifteen battles of "varying magnitude and intensity", and the Battle of the Little Big Horn was the most prominent clash of the war (Greene, 1993, p. xv). The primary source of conflict that led to the war was the whites' violations of the Fort Laramie Treaty of 1868, which gave the Indians exclusive rights to the land in and around the Black Hills of the Dakota Territory. The possibility of gold and pressure from land-hungry settlers provided the impetus for the Army to violate the treaty by conducting a series of expeditions into the area in the summer of 1874. General George Armstrong Custer led these

expeditions, and the reports he wrote indicated the presence of substantial amounts of gold and natural resources, as well as the overwhelming natural beauty of the area. By 1875 the United States Government was insisting that the Sioux sell their interests in the Black Hills. A sufficient number of Sioux were willing to agree to the sale of the Black Hills to make an official agreement possible. A subsequent play by the government to include in the agreement most of the remaining Sioux hunting grounds, known as the unceded territory, caused a rupture within the Indian groups. The majority of Sioux saw this attempt by the U.S. Government to grab the remaining uncaded Indian territory in Wyoming and Montana as the end of their freedom, and resisted the official overtures from Washington. The discord among the Indians on this issue precluded the possibility of a legal transaction that could secure the Black Hills for the United States. Throughout this time, white settlers were streaming into the Black Hills and the surrounding area; by the spring of 1876 there were over fifteen thousand whites in the Black Hills area alone. Historian Stephen Ambrose says, "The United States Government was embarrassed, not at the way its citizens were violating the treaty but by its

failure to obtain some legal excuse to take the Hills."
(Ambrose, 1975, p. 394)

In late 1875 President U.S. Grant ordered all Indians back onto their reservations and off their hunting grounds. The order was accompanied by the threat of violence, a de facto declaration of war if the Indians chose to ignore the order. Obviously the U.S. surrendered hope of a peaceful, legal acquisition of the land. Under the pretense of protecting the Crows, another Indian tribe, from Sioux raiding parties, the government upped the ante and actually declared war on the Sioux just a short time later. As the deadline for the Indians to return to their reservations passed, the issue was turned over to the War Department (Brady, 1904, p. 183).

1. The Road to Little Big Horn

General George Armstrong Custer, as commander of the 7th U.S. Cavalry Regiment, led his unit out of Fort Abraham Lincoln on May 17, 1876. Custer's regiment was an element of a larger force commanded by Brigadier General Alfred H. Terry, whose charter was to locate and return all Sioux and Northern Cheyenne to their respective reservations. Major Marcus Reno, one of Custer's officers, "...discovered a big Indian trail leading westward toward the Big Horn country."

(Brady, 1904, p. 218) Those reports persuaded General Terry to detach Custer and his regiment from the column in an effort to trap the Indians. Custer's regiment contained approximately 600 men (Fox, Jr., 1993, p. 25). It was task organized into 12 companies. Custer would decide how those companies were grouped for the battle later in a somewhat ad hoc fashion. Custer refused the offer of four companies from the 2nd Cavalry Regiment. He also opted to leave behind his own Gatling gun platoon, believing they were "too cumbersome." (Welch, 1994, p. 127) The basic plan was for General Terry, with an infantry regiment and a cavalry regiment, to follow the Yellowstone River South to the Little Big Horn, and then proceed south along that river. Custer would move to the south of Terry, along Rosebud Creek, then cross the Little Big Horn. The objective was to catch the Indians between the two elements (Figure 1-1).

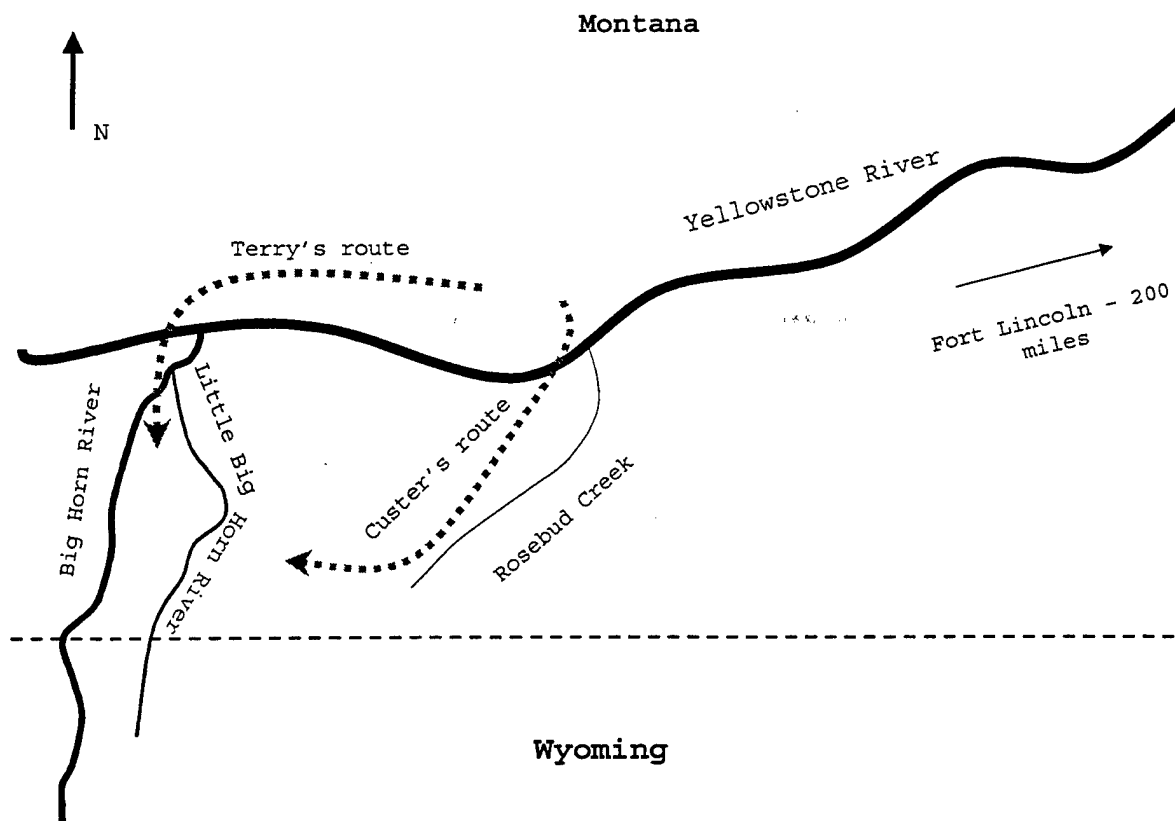


Figure 1-1. General Terry's Plan

2. Custer's March

On June 22nd, the 7th Cavalry struck out to the south along Rosebud Creek. Two days later, the regiment encountered physical evidence of a large Indian contingent on the move. A trail, described as "more than a mile wide" (Connell, 1984, p. 267), suggested the movement of thousands of Indians toward the Little Big Horn. This evidence was corroborated by Crow scouting reports, fixing

the location of the Sioux in the Little Big Horn Valley. After up setting camp on the evening of the 24th, Custer dispatched Lieutenant Charles Varnum and the Indian scouts to verify the presence of morning campfires in the Little Big Horn Valley. Eager to engage the enemy, Custer broke camp around 11 P.M. and led his regiment on a night march towards the Little Big Horn. It is important to note that the regiment had traveled some eighty miles in the last three days, on a limited amount of rest. Four hours later, at approximately 3 A.M., Custer ordered an extended break for the regiment. At this time, he received a report from Lt. Varnum confirming the existence of the suspected Indian camp.

The regiment was mobilized at approximately 8 A.M. on the 25th to begin making their way toward the river. Custer rode ahead to see firsthand the signs of the Indian encampment. Unfortunately, when he arrived at the Crow's Nest, an ancient vantage point about fifteen miles east of the Little Big Horn, "...a haze had settled over the Little Big Horn and he could see nothing". (Ambrose, 1975, p. 431) Custer then returned to the regiment, which was halted at the divide between the Rosebud and the Little Big Horn, and received reports of possible sightings of Sioux scouts. At

this point, he made the decision to attack immediately. His primary concern, it is clear, was that his approaching force had been spotted. Custer believed this would result in a dispersal of the Indian camp if he did not engage them as soon as possible. It was this belief that drove Custer toward the Indians, without considering the possibility of defeat.

In perhaps a manner that could have foreshadowed the confusion to come, Custer issued ad hoc orders to his company commanders (Graham, 1995, pp. 135, 157, 211). Captain Frederick Benteen and Companies D, H, and K were ordered to the south, presumably to cut off any escape routes in that direction. A packtrain of supplies and ammunition was guarded by Captain Thomas McDougall's Company B, as well as small contingents from each of the other companies, and lagged behind the advancing columns. The rest of Custer's regiment continued towards the river, travelling along what is now known as Reno Creek. Another possible sighting of Sioux scouts compelled Custer to further split his forces, as he ordered Major Reno and Companies A, G, and M to cross the river and attack the Indian camp from the south. Meanwhile, Custer would move

north along the river and, as he vaguely reassured Reno, support his attack (see Figure 1-2).

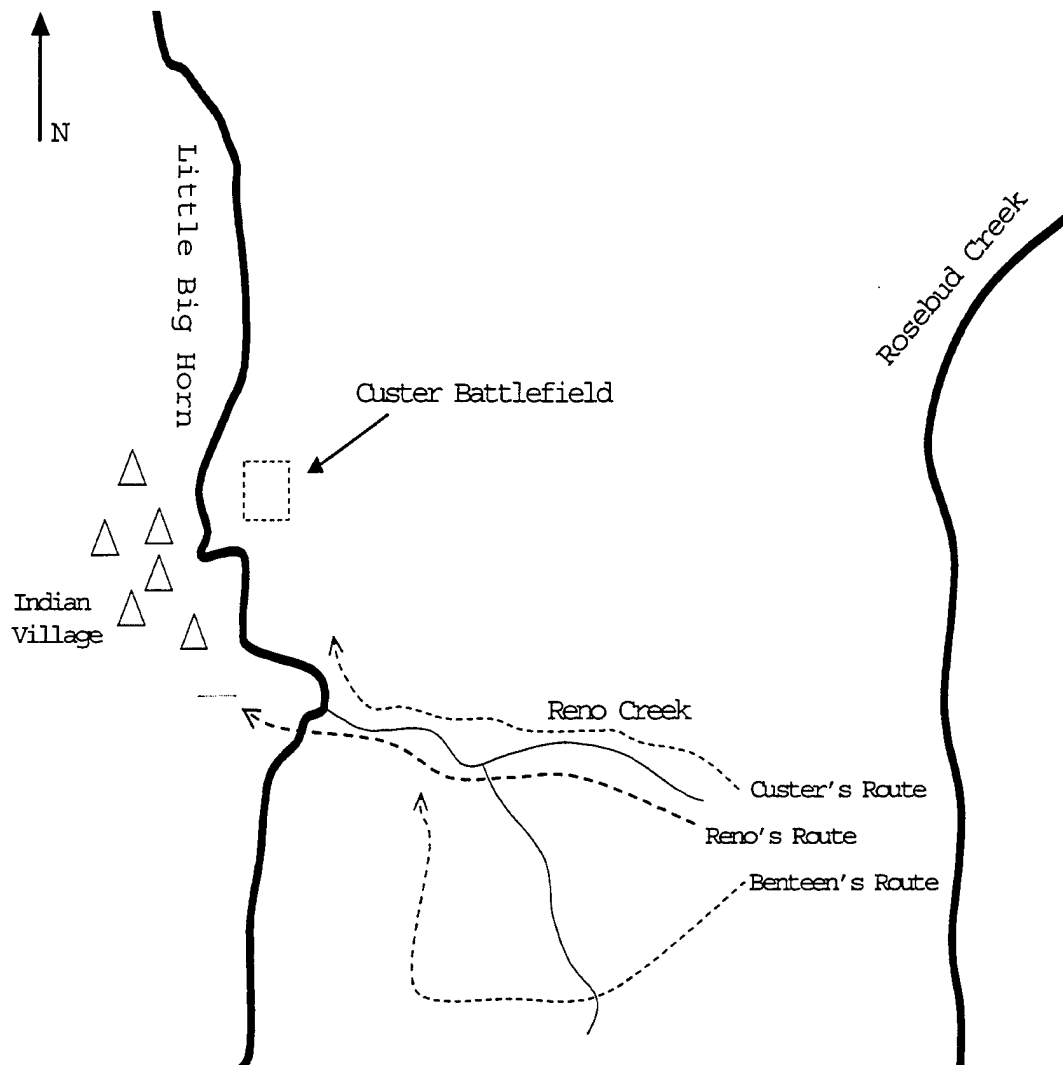


Figure 1-2. 7th Cavalry Approach to Little Big Horn

3. Reno's Battle

Major Reno crossed the Little Big Horn roughly two miles south of the Indian camp. He advanced toward the camp and set up a skirmish line about a half-mile from the

southernmost edge of the Indian concentration. Allegedly, Reno did not initiate a full charge into the Indian camp, as ordered, due to strong resistance (Graham, 1995, p. 213). The Indians responded by attacking Reno's line, gradually making their way both around his left flank and toward the river. Perhaps fearing a loss of routes back to Custer, Reno ordered his men back toward the river into a wooded area. Once Reno's troops were in the forest, the Indian attack strengthened. In the face of growing pressure, Reno then initiated a haphazard retreat across the river, onto some high bluffs. The retreat quickly turned into a rout, devoid of any tactical coherence. In the ensuing confusion, nearly 30 men were killed and a dozen or so left stranded in the woods (Graham, 1994, p. 47).

4. Custer's Initial Actions

Custer and the remaining companies (C, E, F, I, and L), approximately 210 men in all, headed north after parting company with Reno. Travelling just behind the high bluffs parallel to the river, it is unclear whether or not Custer ever saw the size of the camp or any of Reno's actions. He did receive messengers from Reno, sent off in the early stages of that battle, indicating the size and

disposition of the Indian force (Graham, 1994, p. 41). Around this time, Custer sent two messages of his own. The first was to Captain McDougall and the packtrain, ordering him to his position with the ammunition packs. The second message was to Benteen with the now infamous words written by Custer's adjutant, Lieutenant William Cooke: "Benteen - Come on - Big Village - Be Quick - Bring Packs. W. W. Cooke. P.S. Bring Pacs." (Graham, 1994, p. 54)

5. Benteen Happens Upon Reno

Benteen had been slowly making his way north toward the main group, after finding nothing to the south. He was met by Custer's messenger, and shortly thereafter, arrived in the area of Reno's retreat. Upon seeing the condition of Reno's remaining contingent, Benteen decided Reno's situation was more urgent than Custer's and remained there. Benteen dispatched another messenger to the packtrain to hasten the ammunition packs to the Reno-Benteen Battlefield. The combined group set up a defensive position in the face of sporadic, ineffective Indian attacks. After approximately 30 minutes, Captain Thomas Weir, one of Reno's company commanders, initiated an independent movement of one company towards Custer's presumed location. Weir, it appears, was incensed by the

decision to disregard Custer's requests for support, heard gunfire indicative of a battle, or both. What started as a quasi-mutinous act by one company commander, quickly gathered momentum (Graham, 1995, p. 139). After the packtrain arrived at the Reno-Benteen Battlefield, 3 more companies joined Weir, followed by the remaining troops. This group advanced perhaps $\frac{3}{4}$ of a mile, to a position of high ground now known as Weir Point. This vantage point offered a partial view of the Custer Battlefield, roughly three miles away. According to subsequent testimony, smoke and dust impeded their view of the action. Statements indicate, however, that remote figures were observed moving across the ridge and firing into the ground (Graham, 1995, p. 161). Before this group could gather itself and move toward the Custer Battlefield, they were forced back to the Reno-Benteen Battlefield area under mounting Indian pressure. The Reno-Benteen command formed a defensive perimeter and held off intermittent Indian attacks for the next 30-36 hours. Reno would lose almost 60 men under his command before the fighting ended (Graham, 1994, pp. 91-92).

6. What Happened to Custer?

The five companies detailed to Custer were completely decimated between 3 and 4 miles from the Reno-Benteen Battlefield. The details of Custer's actions, after dispatching the last survivor of his group to Benteen, are where consensus dissolves and controversy begins. We know how the battle began, and we know how it ended. What happened in the interim has been a source of speculation and continuing controversy for the past 123 years. The Battle of the Little Big Horn, specifically the "Last Stand" on Custer Hill, is one of the most chronicled battles in history. Battle reconstructions and analyses include romantic semi-fiction, oral historical records, pure speculation, archaeological interpretations, and any combination thereof. Today, the challenge that faces anyone daring to venture into the saturated market of Little Big Horn literature is to add meaningful insight by building upon the best theory or theories available.

D. METHODOLOGY

1. Selection of Theories

The first step in this study is the selection of theories that are appropriate for the modeling process. The modeling process requires a theory that does more than state the obvious facts and offers a vague summary of what might have happened during the disputed stages of the battle. This thesis established three key criteria for the selection of theories for modeling. First, the theory must have a sufficient level of detail. In order to construct the model consistent to the source theory, the theorist must have offered details concerning the movement/location of Custer's force prior to the battle, the size of the Indian force, the location where the actual fighting started, and the movement of both sides during the battle. Any theory without these variables would rely too much on independent extrapolation or assumptions of the modeler. Second, the theory must be an academic effort, with either science or primary and secondary sources as its foundation. Given the extensive collection of Little Big Horn literature, many theories are pure conjecture and selection from among those would be arbitrary at best. Last, the

theories selected must be dissimilar enough to present an interesting cross section of informed analysis on the subject. Additionally, this will allow for the greater possibility of divergent results from the modeling process and render ranking the theories by plausibility more conspicuous. Theories meeting these three criteria will enhance the quality of the analysis.

2. Building the Foundations for the Model

Chapter 5 of Army FM 101-5 is titled *The Military Decision-Making Process* (MDMP). One of the undertakings of the MDMP is "...to thoroughly examine numerous friendly and enemy courses of action (COAs)" (Army FM 101-5, p. 5-1) The examination of friendly and enemy COAs is used to logically reach decisions at critical points in planning operations. The analysis of COAs can take place within several methods offered in Chapter 5 of FM 101-5. The most appropriate technique for this thesis is the *Synchronization Matrix Method*. It allows the synchronization of COA's "...across time and space in relation to enemy COA." (Army FM 101-5, p. 5-19) The matrix is set up as with an operational timeline across the top row and a description of key events down the left column. The events column can include enemy actions,

required decision points, and friendly maneuver and support activities (Army FM 0101-5, p. 5-20). A typical example of the Synchronization Matrix is offered as Table 1-1. Within this framework, each individual theory will be war-gamed. A detailed discussion of the specific war-gaming process for this study is included in Chapter III.

Time	-6 hr	-2 hr	0 hr	+2 hr	+6 hr	+12 hr
Enemy action	Fortify defensive positions		Artillery barrage		Retreat	
Decision Points	Select attack point		Determine vulnerable points	Select envelopment route		Halt pursuit
Security		Move to set point		Secure lines of advance		
Deep	Recon routes	Move to set point	Attack artillery positions		Move to envelopment route	
Close			Attack		Push toward envelopment route	
Reserve			Prepare for movement	Move toward vulnerable points		Consolidate prisoners
Logistics	Establish ammo supply points			Move ammo supply points forward		Consolidate prisoners

Table 1-1. Example of Synchronization Matrix (FM 101-5)

3. Evaluation Criteria

According to FM 101-5, evaluation criteria "...are those factors the staff uses to measure the relative effectiveness and efficiency of one COA relative to other COAs following the war game." (p. 5-18) Suggested criteria include the principles of war, doctrine, commander's intent, and risk factors. Another key consideration for the matrix will be the operational history of and tendencies exhibited by Custer. Custer may not have applied actions prescribed by general military rules of war against a numerically superior force because of prior experiences with the Indians, and his own proclivity to attack regardless of enemy strength. Stephen Ambrose relates Custer's reputation from the Civil War, "...Custer had one basic instinct, to charge the enemy wherever he might be, no matter how strong his positions or numbers." (p. 195) Furthermore, Custer was of the opinion that Indians, regardless of numbers, were simply unable to stand up to the firepower of cavalry. (Ambrose, p. 283) The last criteria will consider Custer's prior engagements with Indian warriors to be a contributing factor to both his assumptions regarding the enemy and his subsequent COAs.

This thesis will use the COA analysis in two ways. First, the COA's attributed to Custer by each of the individual authors will be examined to determine how well the expected results correspond with the historical record, the author's sequence of events, as well as independent assumptions drawn from known variables of the battle. The study of each theory will facilitate the ranking of the theories by degree of plausibility. Second, COA analysis will allow the testing of alternative decisions by Custer at several stages of the battle, in an effort to ascertain whether or not the 7th Cavalry had a fighting chance to win, or if their demise was inevitable. Specifically, three alternative scenarios will be tested. The first is a massed attack on the Indian camp, with Custer and Reno's forces together. Second, the Benteen's battalion is dispatched toward Custer's position, bypassing Reno Hill in order to link the two groups. Last, several casualty thresholds are tested in conjunction with a Custer retreat toward Reno and Benteen's position to determine if and until what point retreat may have been an option.

Modeling the Battle of Little Big Horn using a decision model will not provide a crystal ball solution to the mystery of Custer's Last Stand. However, it will put

the chosen theories through a rigorous examination designed to determine the feasibility of each. The conclusion of this thesis will add credibility to the theories or theory whose assumptions can be reconciled with history through decision modeling.

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II. BATTLE OF LITTLE BIG HORN THEORIES

The theories selected for this modeling effort were chosen after an extensive review of both the classic and current literature. Stephen E. Ambrose wrote a dual biography of General Custer and Crazy Horse, *Crazy Horse and Custer: The Parallel Lives of Two American Warriors*, which culminates with the historic clash on the Little Big Horn River. While Ambrose's work lacks the meticulous analytical rigor evident in the other two works, it is important to include it. First, his theory is representative of the most widely held beliefs regarding the Battle of Little Big Horn. Specifically, the fatalistic theme that Custer was trapped from the moment he engaged the Indians on Custer Battlefield is widely supported among Custer historians. Second, his version draws from the most respected earlier accounts, and can be considered representative of the "traditional" view. John S. Gray penned the highly analytical work titled *Custer's Last Campaign: Mitch Boyer and the Little Bighorn Reconstructed*. Gray's work begs to be included due to its painstakingly detailed reconstruction of the battle's timeline. Finally, Richard Allan Fox produced a superb

blend of archaeological science and historical research in *Archaeology, History, and Custer's Last Battle*. It is not by coincidence Gray's and Fox's works were written within the last decade, and the Ambrose's within the last twenty-five years. Divorced from the bias of accounts written immediately following the battle, and bolstered by the information gathered in recent times through analysis of both all existing documents and the battlefield itself, these accounts uniformly represent the finest endeavors in Little Big Horn scholarship. Additionally, these accounts provided a level of detail, reliability, and diversity sought from the outset. Within this chapter, the theories advanced by these three authors will be presented in the form of a narration. Highlighted will be the points that both distinguish the theory in relation to the others, as well as points most emphasized by the authors. The chapter will conclude with a table that distills the crucial aspects of each theory down to concise descriptions and allows the reader to contrast each theory in a snapshot.

A. LITTLE BIG HORN THEORY 1 - STEPHEN AMBROSE

Stephen Ambrose paints a picture of the Battle of the Little Big Horn that credits the Indians with accurate intelligence, great foresight, and unprecedented organization. Ambrose's account portrays Custer as an unwitting victim of a clever Indian ambush, while Crazy Horse is seen as an opportunistic, charismatic leader who pulls off an exceptionally well-orchestrated tactical maneuver. Ambrose's theory rests on three main assumptions. First, the Indians had the advantage in battlefield intelligence. Although they were surprised by Reno's attack, they expected and were poised for the probe from Custer's forces, which is directly contrary to Fox's theory. Second, Crazy Horse was able to exert a unique amount of influence on the Indian warriors, both in scope and manner. Crazy Horse was able to restrain a substantial number of warriors from entering the skirmish with Custer's forces, as well as convince them to follow him on a circuitous route in order to surprise Custer from the rear. Third, Custer's tactical decisions were always one step behind the Indians' actions and the rapidly changing dynamics of the battlefield. Ambrose uses a combination of

interviews, classic historical accounts, and official government documents to construct his hypothesis. His theory exemplifies the conventional, romantic versions of Custer's Last Stand. Figure 2-1 will graphically portray Ambrose's version of the battle.

1. Reno's Battle

Reno began his trek towards the Sioux camp with the understanding that "...the whole outfit would support him" (p. 437) in his charge on the Indians. Reno stopped his group before charging the camp and formed a skirmish line at an impracticable distance from the encampment. The firing that ensued from Reno's lines did little more than alert the Indians to Reno's presence and provoke a counterattack. Reno and his men were weary and unprepared for a protracted battle, which may explain why he ordered a retreat after suffering only his first casualty (p. 439). An unfortunate (or lucky, depending on your perspective) shot during a pause in the retreat splattered the brains of Bloody Knife, an Indian scout working for the Army, all over Reno. Unnerved, Reno gave an inadequate call for a further retreat and abandoned his group without ensuring full dissemination of his orders. Reno led the withdrawal across the Little Big Horn River and onto higher ground.

The disorganized retreat soon regressed into a rout with Reno's group taking its heaviest casualties while crossing the river and climbing the bluffs. Ambrose estimates the Reno Battle to have taken approximately thirty minutes, with only sporadic fighting thereafter. (p. 439)

2. Custer's Battle

Custer's reason for splitting his command, according to Ambrose, was to gain the element of surprise (p. 437). Custer assumed strategic surprise was compromised by Sioux Scouts, and was endeavoring to mitigate that with a tactical surprise attack on the Indian camp after first drawing their attention to Reno's forces. Ambrose opines that Custer rode north after splitting from Reno, and signaled to them from the high bluffs as Reno began his attack (p. 439). This is important because at the start of Reno's attack Custer is still roughly two miles away from his first engagement with the Indians. With a generous estimate of five miles per hour over rough, unfamiliar terrain on exhausted horses, Custer was still close to thirty minutes away from engaging the enemy at this point, although it may have taken him longer. Reno's forces would have been disposed of and the preponderance of the Indian camp's attention turned towards Custer. Around this same

time, Custer dispatched a messenger with the now famous request, penned by the regimental adjutant for Benteen. "Benteen: Come on. Big village. Be quick. Bring packs. W. W. Cooke. P.S. Bring packs" (p. 439).

Custer took the five companies of approximately two hundred and twenty-five men under his command North, behind the bluffs and out of sight of the camp, then down Medicine Tail Coulee toward the Little Big Horn. His plan was to ford the river and attack what he thought to be the rear, with the hope that Indian attention would be focused on Reno. Before Custer could make the river, Ambrose contends he was met by a force of some 1500 warriors who had already crossed to Custer's side in anticipation of his arrival. Custer's Battle had started. Custer recognized the disparity in numbers and the Indians' offensive posture as a signal to search out a suitable spot to dig in and wait for reinforcements, ostensibly on the way with Benteen. (p. 440)

Roughly a thousand Indian warriors pursued Custer and his men as the troopers retreated up Calhoun Ridge and toward Custer Hill. Crazy Horse and one thousand more warriors, in an uncharacteristically calculated flanking maneuver, made their way unnoticed to Custer's rear. As

Custer and almost two hundred of his men were busy engaging the original group of warriors in the direction of the river, Crazy Horse and his horde crested Custer Hill and Custer Ridge from the East. The ensuing massacre took something like twenty minutes, resulting in the death of every last trooper. Ambrose describes it as a disorganized swarm, which would have precluded the troopers from using any disciplined formations to their advantage. Considering the distance covered by Custer's forces and the intense fighting alleged by Ambrose, Custer's entire Battle can be calculated to have taken somewhere between one and a half to two hours. Indian casualties are estimated by Ambrose to have numbered no more than forty. (pp. 440-442)

3. Ambrose's Critical Analysis

Ambrose presents four factors that contributed directly to Custer's failure. Custer's first mistake was his refusal to accept four augmenting companies from General Terry (p. 444). Ambrose contends that both the Reno and Custer Battles may have met with more success if two additional troops had been available for each element. The second error was a gross underestimation of the enemies' numbers and, more importantly, their resolve to fight (p. 444). Dealing with a massive number of Indians

presented its own problem, but Custer had no idea they would pick this particular meeting as their first to organize a large, seemingly well-coordinated offensive maneuver. Third, Custer did not accurately assess the condition of his men and their horses (p. 445). He may have let the thought of glory cloud his judgement in regard to their exhausted mental and physical states. The last series of errors Custer made could be characterized as poor generalship. Failure to conduct proper reconnaissance, overextension of his forces, and inadequate speed of decision-making are all pointed to by Ambrose as blunders by Custer. He caveats this scathing assessment of Custer's performance by adding that Crazy Horse's noteworthy leadership may have had more influence on the outcome of the Battle of Little Big Horn than Custer's errors. In this sense, Ambrose seems to suggest that there was not much that Custer could have done to avoid his defeat, once the fighting was underway. (pp. 445-447)

Ambrose supports his theory through a multitude of well-known historical accounts as well as recorded individual interviews. His is representative of the traditional view of the Battle of Little Big Horn, in that Custer is believed to have made the majority of his

mistakes before the battle took place. This view maintains that Custer had few, if any options once the fighting started. Ambrose's synopsis of the battle is captured in figure 2-1.

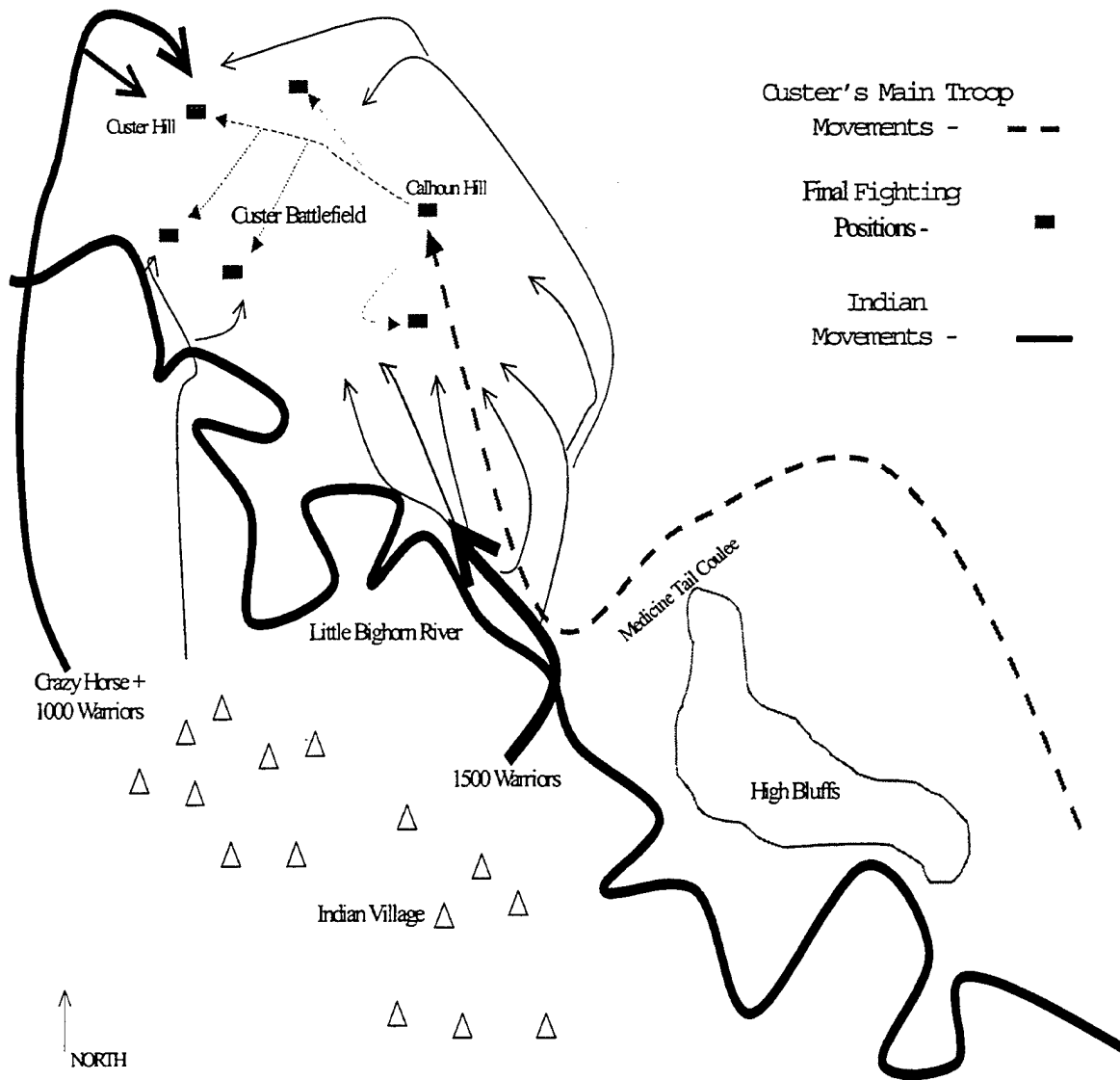


Figure 2-1 Ambrose Battle Map

B. LITTLE BIG HORN THEORY 2 - RICHARD ALLEN FOX, JR.

The theory advanced by Fox, which he supports with new archaeological evidence and historical facts, stresses three prominent aspects of the battle. First, Fox's theory rests on the assumption that Custer deployed his force in an offensive posture, ergo his forces were purposefully dispersed. Second, Fox asserts that Custer's forces did not assume a defensive posture until relatively late in the battle. The cause for this switch to the defense was the culmination of a massive, yet stealthy Indian infiltration coupled with a surprise attack by the fairly organized group of warriors with Crazy Horse. Breaking with the traditional flanking maneuver attributed to Crazy Horse, Fox has Crazy Horse and a multitude of warriors penetrating between two dispersed elements of Custer's force, adding to the confusion of the battle. Lastly, Fox portrays the famous "Last Stand" as the chaotic culmination of a slow but steady disintegration of the confidence and cohesion of Custer's men. Fox uses gravesites, shell casings, bullets, arrowheads, and other physical remains of the battle to reconstruct his version of the Battle of the Little Big Horn. The entirety of Custer's Battle can be

seen, through Fox, as a probing offensive action, seemingly unaware of the mounting threat, which switches a defensive posture too late. The battle according to Fox, is depicted in Figure 2-2.

1. Reno's Battle

Fox has Reno riding down toward the Little Big Horn and the Indian encampment with the understanding that Custer's force will support him from the rear (p. 28). Whether Reno assumed this was to be accomplished by Custer's force following the same route, or by way of a separate ford further north is uncertain. Regardless, Reno moved toward the Indian camp from the south and dismounted his force to form a skirmish line. A unique feature of Fox's theory is his argument that the Indians were expecting Reno, but were unaware of Custer's presence (p. 333). Faced by the prospect of being cut off from Custer by a flanking maneuver, Reno ordered a tactical retreat to a wooded area near the river. Reno's force spent approximately 30 minutes in this position and experienced increasing pressure from Indian attacks. A decision by Reno to retreat across the river, according to Fox, coincided with a particularly concentrated Indian attack on the center of Reno's force. In the ensuing confusion, the

disorganized retreat, characterized as a rout, allowed the Indians to exact a heavy toll on Reno's command. Reno's remaining troops made their way up a ravine on the east side of the river and established a defensive position. Indian opposition dwindled, at this point, to sporadic harassment.

2. Custer's Battle

Contrary to what Reno might have thought, Custer and his contingent had set out on a deliberate path to the north after dispatching Reno (p. 235). Custer's battalion, according to Fox, was broken down into 2 functional wings. The "left wing" was comprised of companies E and F commanded by Captain Yates. The "right wing" contained companies I, C, and L, and was commanded by Captain Keogh. An advance detail, from the left wing, preceded the main force down Medicine Tail Coulee (p. 333). The left wing followed the advance guard, and proceeded to probe the ford at Medicine Tail Coulee, while the advance guard was dispatched to the north. The right wing remained behind in the vicinity of Calhoun Hill to receive Benteen and block any Indian penetration (p. 333). The left wing departed Medicine Tail Ford without actually crossing, due to the sight of villagers fleeing to the north. Presumably,

crossing at that point would not have served to pinch the majority of the Indian camp between Custer's and Reno's battalions. Custer's two battalion wings then converged on Calhoun Hill. The right wing deployed L company in a skirmish line facing south, with the remainder in reserve. This skirmish line scattered groups of infiltrating Indians with volleys of fire (p. 225). The Indians, at this time, were crossing the river at several points, gradually filling the ravines and depressions surrounding Custer's troopers. The left wing continued to move along what is now Custer Ridge and then northwest down Cemetery Ridge toward the Little Big Horn. Ostensibly, the left wing was still attempting to find a desirable ford that would enable them to trap the majority of the Indians. It was during this extreme separation of Custer's forces that Crazy Horse and a multitude of warriors shot the gap between the two wings (p. 299). Crazy Horse and a large group of Indians rode covered and concealed up Deep Ravine, and positioned themselves to the north of Custer's entire force. At this point, there was a pause in the offensive actions of the left wing. They may have made it as far as the river, but then backtracked to higher ground at the western end of Cemetery Ridge (p. 305). All the while, the Indians crept

closer and their disorganized attacks were incrementally mounting. Conceivably, Custer was awaiting the arrival of Benteen to bolster his force sufficiently to enable him to attack. This would serve to explain the 20 minutes spent in this extended offensive posture. The right wing, now surrounded on 3 sides, by Crazy Horse to the north and infiltrating warriors from the west and south, sent C company to the west to suppress Indian attacks from Calhoun Coulee and Greasy Grass Ridge. Concurrently, Custer and the left wing began to move up toward still higher ground at Custer Hill in an effort to close the distance with the right wing. In right wing action, C company was repelled, and their jumbled retreat left the right flank of L company exposed. L company answered this with a redeployment of their line to cover the retreat. This allowed the Indians to press forward from the south. At this time, according to Fox's account, Crazy Horse and his warriors brought the full force of their attack from their concealed infiltration route, and the right wing is overwhelmed and disintegrates. C and L company were overrun in place along Calhoun Hill, while Keogh and I company deployed along the northeast side of Custer Ridge in an attempt to secure a path of retreat. I company was attacked from the

east and the Indians cut off most of the right wing soldiers fleeing toward the left wing. Most of I company died along Custer Ridge, barely 20 troopers from I company made their way to Custer Hill.

Meanwhile, the left wing had also been forced to the defense. E company formed a skirmish line facing west toward Greasy Grass Ridge and Calhoun Coulee, in response to the Indian activity in that direction. F company was holding reserve. F company's attention was diverted by the warriors that broke through I company and crested Custer Ridge. They no sooner started firing at this new threat to the east, Fox argues, than they are faced with a simultaneous attack from the west. E company then retreated to consolidate with F company, and both made their way up towards Custer Hill. This is the group that met the I company survivors on the west side of Custer Hill.

This desperate group deployed into haphazard defensive positions to fight it out, surrounded now on practically all sides. E company initiated out a hopeless charge toward the river to possibly secure an escape route (p. 220). The remaining 50-60 troopers on Custer Hill were overwhelmed. Perhaps 15 men fled Custer Hill in order to

consolidate with the E company group in the vicinity of Deep Ravine, where the remainder of Custer's force was annihilated. Fox estimates that the duration of the battle, from the probe at Medicine Tail Coulee to the conclusion of the fighting at "Last Stand Hill" was on the order of 2 hours.

3. Why the Loss?

Fox offers a thorough critical analysis of the reasons behind Custer's failure. He suggests that the Indians released from Reno's Battle directly foiled Custer's plan of envelopment (p. 290). Also, the Indians displayed a willingness to stand and fight that was inconsistent with Custer's experience (p. 234). Finally, Fox concludes that Custer exercised poor judgment in a rapidly changing environment (p. 292). Specifically, Custer failed to identify an infiltrating offensive by the Indians, failed to recognize Indian resolve, ignored the odds, and maintained a dispersed offensive posture until he ran out of options.

Fox's theory is grounded in physical science and merges well with the historical record. His theory will represent the set of theories that espouse an offensive posture by Custer, slow attrition, and a later and smaller

culmination than is traditionally promoted. Especially provocative are the actions attributed to Crazy Horse by Fox, which defy conventional thought and add an interesting dynamic to the battle. The battle sequence, as related by Fox, is presented in figure 2-2.

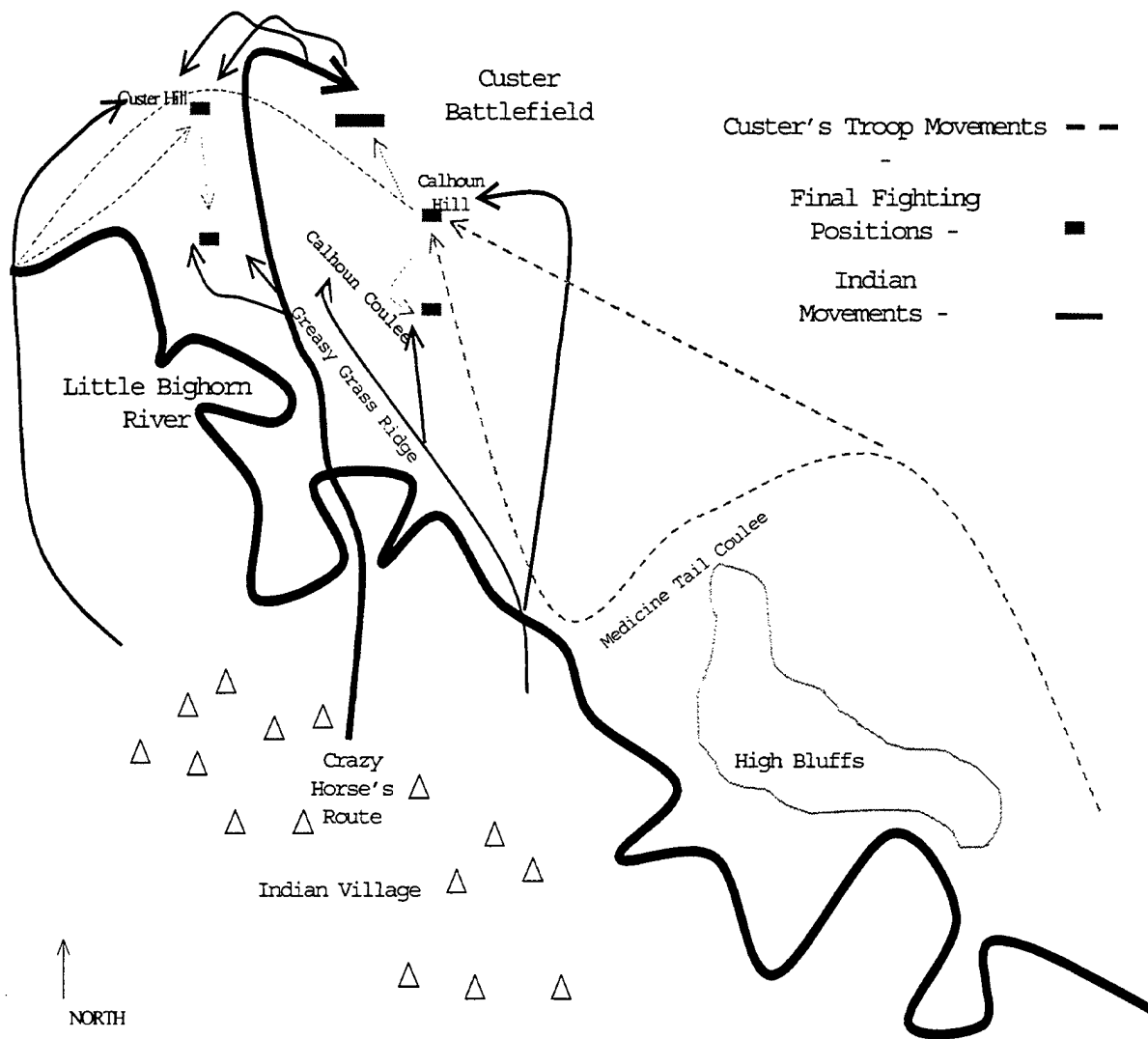


Figure 2-2 Fox Battle Map

C. LITTLE BIG HORN THEORY 3 - JOHN S. GRAY

John Gray appends his analysis of the Little Big Horn with a guarded caveat. He offers that his "...hypothesis cannot qualify as a theory, for it is only a trial hypothesis, to be checked against further evidence." (Gray, 1991, p. 395) Gray's modest qualification aside, his reconstruction of the battle through exhaustive comparisons of primary sources and time-motion analysis is both thorough and feasible. Gray's account of the events on the Custer Battlefield is put together through a tightening circle of constraints derived from the cumulative comparison of "...frequent interconnections between the numerous parties, resulting from separations, meetings, and courier messages, as well as cross-sightings and hearings." (Gray, 1991, p. xv) Within these constraints Gray follows Custer through the most feasible courses of action with an additional check of viability through probable rates of movement. An aspect of Gray's account that makes it especially suitable for modeling is the fact that he offers time hacks for nearly every significant action during the battle.

Gray dubs his hypothesis the "elastic counterclockwise hypothesis". (1991, p. 395) This particular moniker refers to the direction of travel, as they were slain, of the entirety of Custer's force. From a nominal feint at the river, by one or two of Custer's companies, down Medicine Tail Coulee to the last desperation sprint toward Deep Ravine, Custer's force followed a counterclockwise path that left bodies strewn in a relatively uniform circular pattern over an area not quite a square mile. From the start of the feint, Gray makes it clear that Custer has no intention of attacking the Indian village until reinforcements and resupply arrive. The entire purpose of the feint was to draw the Indians away from Major Reno. However, Custer did not intend to engage the village until Benteen arrived. The final moments of the battle seem almost anticlimactic in Gray's account. While he credits the troopers with stiff resistance, the methodical attrition of the cavalry soldiers makes an Indian victory seem a foregone conclusion nearly from the outset. Gray's hypothesis breaks with the classic tradition and Ambrose's account in that Custer was in a semi-offensive posture until after the feint at the river. That offensive posture ends when the two elements of Custer's force link up at the

southeast end of the Custer Battlefield, and a retreat ensues. The general movement attributed to Custer's force is similar to that espoused by Fox, with one important distinction. Fox has Custer's forces spread about the mile square battlefield for an offensive before any significant fighting takes place. Gray's depiction scatters Custer's dead along similar lines, but as the result of a circular retreat. The differences may seem slight at first glance, but the modeling process will show differences in how the two scenarios play out. The battle according to Gray is captured in Figure 2-3.

1. Reno's Battle

The action attributed to Reno by Gray is very similar to the accounts offered by Fox and Ambrose. The abundance of survivors from this portion of the battle makes reconstructing these events relatively simple. The singular distinction of Gray's account of Reno's battle is the detailed timeline he offers. Through time-motion analysis, Gray offers a minute-by-minute account of Reno's actions. Most importantly, he submits specific times for Reno's charge(3:03), attack(3:18), and subsequent retreat(3:53) (Gray, 1991, p, 290). This will be critical

because Reno's hasty departure frees countless warriors to shift their attention to Custer.

2. Custer's Battle

As in the other two accounts, Gray has Custer heading north after his split with Reno. Battalion assignments were identical to those posited by Fox, with one exception. Gray places Custer with the battalion commanded by Capt. Keogh, while the battalion that approaches the river is under the control of Capt Yates. Custer got his first look at the Indian camp five minutes before Reno deployed his initial skirmish lines (p. 338) and dispatched the first of two messengers to Benteen. The disposition of the Indian camp (tepees still erected) gave Custer reason to believe the Indians meant to fight it out. While moving north, his next significant action was the dispatch the second messenger to Benteen, exhorting Benteen to make haste to Custer's position with men and supplies (p. 338). Custer's next call was to send a contingent of two companies down Medicine Tail Coulee to perform a feint assault, in order to alleviate the certain pressure on Reno's forces (p. 368). Little did Custer know, Reno's forces had already been routed by this point and were struggling to make it up toward Reno Hill. Custer continued north as his

counterfeit assault, led by Capt. Yates, moved toward the river. Capt. Yates followed the river north for ½ mile, then turned east to link up with Custer. On his return to Custer, Yates' contingent was pressed from both sides by infiltrating Indians on horseback. Custer did not have an uneventful ride either. Indians, crossing the river and infiltrating from the south were giving Custer reason for concern. He initiated a suppressing volley in their direction, and then made haste for a rendezvous with Yates (p. 368). The Custer and Yates groups were reunited on the southeastern side of the Custer Battlefield, just south of Calhoun Ridge. Just four minutes later the constant infiltration of Indians, some 1600 strong by now, reached a critical mass and resulted in a heavy increase in gunfire. Gray suggests that Custer led his force on a somewhat orderly retreat, evidenced by the proximity of company members' gravestones. The retreat led up Custer Ridge to Custer Hill, then on to the South Skirmish Line, with a few wayward souls finally attempting a dash back toward the south from there. The location and identification of gravestones indicates the order of march. This portion of the battle lasted approximately 35 minutes, which would indicate the rate of advance for Custer's troops around the

battlefield with fighting halts. Also integral to this hypothesis is the departure of more than a company's worth of men from Custer Hill before the final massacre began, and the fact that they took no casualties for over a hundred meters after leaving the hill. Gray proposes that it is quite possible that General Custer's Last Stand could have happened either earlier than or concurrently with the demise of the last of his troopers near the South Skirmish Line and Calhoun Ravine. Either way, from the time that Yates' force approached the river to the end of the battle was slightly more than an hour. Conspicuously absent in Gray's account is the famous end-around led by Crazy Horse, as the Indians are seemingly relegated to mass, individualized infiltration. In Gray's defense, his study was primarily concerned with the actions of Custer's forces, and he refers to an independent Indian attack from the north and east. This oversight of Crazy Horse's role seems to be a product of analytical focus rather than disregard.

3. Why?

Gray avoids directly critiquing Custer's actions, but a couple of inferences can be drawn from his book. First, Custer had no excuse for underestimating the strength of

the enemy. Many of the first-hand accounts used by Gray suggest that Custer knew early on that he was confronting an unusually large force. Also suspect was Custer's decision to split his command three separate times. In all, Custer's decision-making appears quite dubious. Gray qualifies his hypothesis as a work in progress, as he constructed his argument after the archaeological excavations had taken place at the battlefield, but before the results had been made public. In spite of his protests to not consider his work a "theory", Gray's research and logic produce a work that is more than worthy of further examination through war-gaming. The battle according to Gray is laid out in figure 2-3.

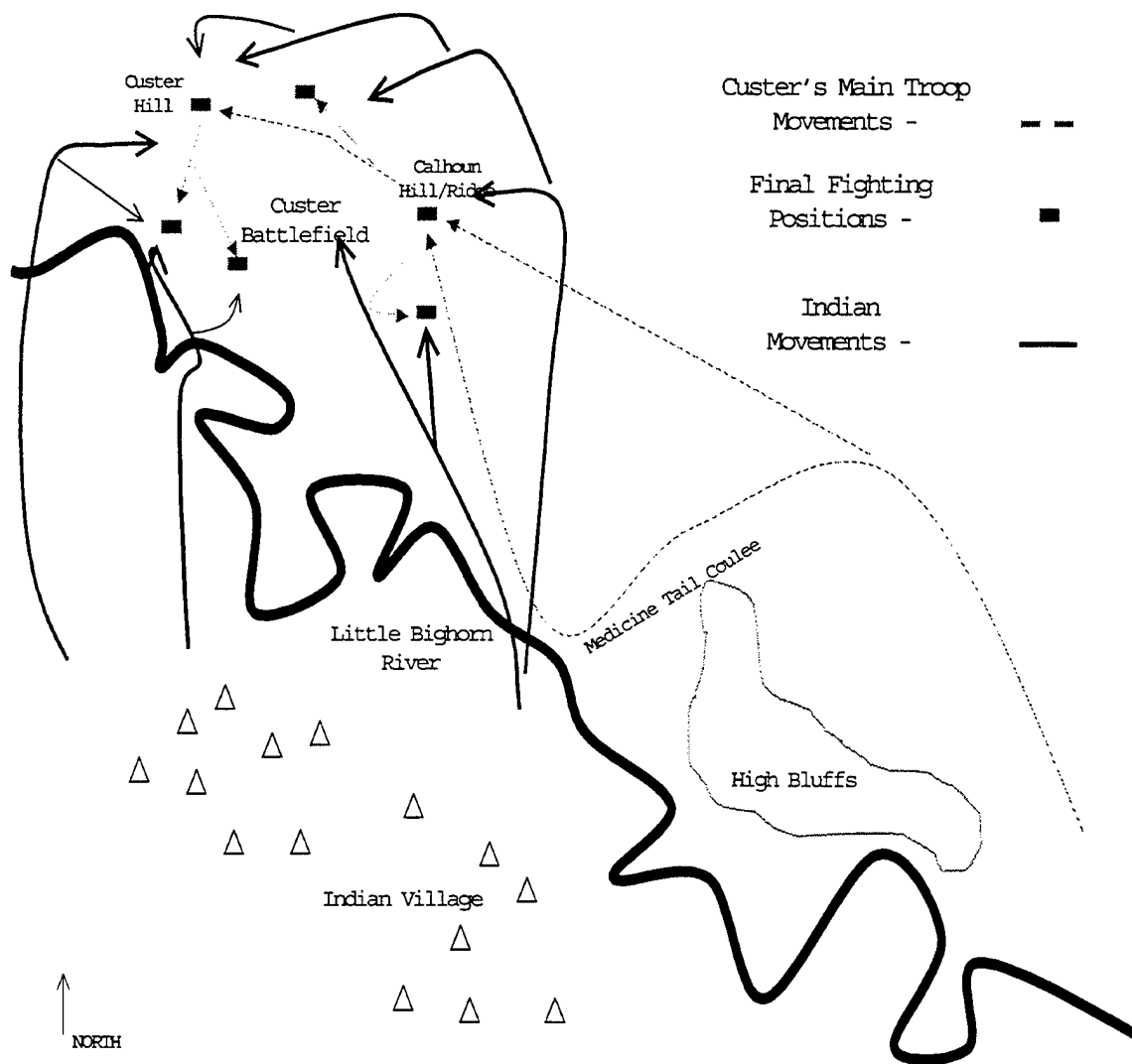


Figure 2-3 Gray Battle Map

D. COMPETING THEORIES

Each theory ascribes distinct actions and intentions to Custer and his forces. These differences will provide an opportunity for this modeling endeavor to substantiate and/or challenge each of these models, as well as rank them

by degree of plausibility. A careful examination of the decisions and subsequent actions attributed to Custer and his soldiers by each author will allow the examination of each theory in relation to the historical record and the assumptions made by this author. In order to provide a clearer understanding of how these theories differ, Table 2-1 is offered as a snapshot of Fox's, Gray's and Ambrose's theories, methodologies, and critical arguments.

Action	Ambrose	Fox	Gray
Number of Indian Warriors	2,500	2,000	1,600
Actions at Medicine Tail Coulee	All 5 of Custer's companies attack, and are repelled by 1500 Warriors.	Probe by 2 Companies (attack possible), no crossing due to villagers fleeing North.	Feint attack by 2 Companies to alleviate pressure on Reno and freeze Indians in place.
Custer's intent	Cross the river at Ford B in full force to attack the camp.	Postured for an offensive until overrun by Crazy Horse.	Attempted to freeze Indians in place until reinforcements/re supply arrive (containment).
Methodology	Primary and secondary accounts and official documents.	Primary reconstruction through archaeology, supported with primary accounts.	Time-motion analysis with supporting documentation and accounts.
Crazy Horse's Role	Crazy Horse with 1000 warriors surprises Custer's troops from the rear/north 30 minutes into the battle, and effectively ends the fighting within 20 minutes of his arrival.	Through a covert infiltration route, Crazy Horse splits Custer's forces, surprises the right wing of Custer's forces, and produces a subsequent disintegration of order in Custer's ranks.	Fails to mention any special tactics used by Crazy Horse. Indians overwhelm troops by a swarming, enveloping method.
Elapsed Time of Custer's Battle	Less than an hour	Approximately one hour of intense fighting. Custer's battalion maneuvered around the battlefield for up to two hours.	1 Hour 7 Minutes
Indian Casualties	Approximately 40 men.	Between 30 and 100	Not noted.

Table 2-1. Comparison of Three Competing Theories

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III. THE METHODOLOGY OF WAR-GAMING

A. DEVELOPING COURSES OF ACTION (COAs)

As stated earlier, the method chosen to analyze the competing theories of the Battle of Little Big Horn is the Synchronization Matrix of FM 101-5. In order to convey a clearer understanding of how it will be employed within the framework of my study, the following discussion of the purpose and structure of war-gaming, and more specifically the Synchronization Matrix is offered.

The original intent of the Synchronization Matrix, within the military decision-making process (MDMP), was to facilitate the development of operational plans. Specifically, the Synchronization Matrix lays out assumptions regarding enemy strength, actions, and reactions along an operational timeline, with the express purpose of developing optimum friendly COAs at each sequential stage of battle. There are six specific steps suggested by FM 101-5, in the development of COAs. This development takes place exclusive of the Synchronization Matrix. They are as follows:

1. Analyze Relative Combat Power

As defined by FM 101-5, combat power is the fusion of elements of maneuver, firepower, protection, and leadership, in relation to enemy strength. The analysis of force ratios should shed light on the types of operations feasible against enemy forces, enemy strengths and weaknesses, and how to allocate friendly resources. The general conclusions drawn from this analysis should provide planners with possible COAs, but not one specific COA.

2. Generate Options

Based on the results of the combat power analysis, COAs should be generated with the explicit requirement that all friendly COAs advanced are capable of defeating all enemy COAs.

3. Array Initial Forces

The ratio of friendly to enemy forces is determined, with the purpose of identifying the total number of friendly units needed.

4. Develop Scheme of Maneuver

This step describes how the arrayed forces will accomplish the mission. During this stage, generic units are transformed into task-oriented units (i.e. armor,

infantry). During this phase of planning, forces not actively employed in the main maneuver schemes may be earmarked as reserves and positioned accordingly.

5. Assign Headquarters

This step assigns headquarters to forces in a manner that best suits the task organization of the group as a whole. It also identifies special command and control requirements, such as crossing friendly lines or coordination of supporting fires.

6. Prepare COA Statements and Sketches

The COA statement must explain each step of the operation, to include the expected end-state of the battle. The sketches should convey a clear portrayal of the maneuver facets of the COA. Expected enemy locations and command post positions should also be depicted in the COA sketches.

B. THE SYNCHRONIZATION MATRIX

Once the requisite number of COAs has been developed for any given scenario, they are then put through a competitive analysis within the framework of war-gaming. In this thesis the framework used is the Synchronization

Matrix, and the COAs are represented by the three selected theories. The COA analysis endeavors to identify "which COA accomplishes the mission with minimum casualties while best positioning the force to retain the initiative for future operations." (Army FM 101-5, p. 5-16) With a few modifications, this thesis uses the Synchronization Matrix to war-game each selected Little Big Horn theory. The concept is to compare the war-game results with several preliminary assumptions made with respect to the battle. The theory that most closely reconciles itself, through the war-gaming process, with the initial assumptions advanced in Chapter II will be deemed most plausible. There are eight steps identified by FM 101-5 that are necessary in the construction of a Synchronization Matrix. The following is a description of each step, according to Army FM 101-5, and the manner in which it will be adapted for this study.

1. Gather the Tools

Tools required include maps of the Area of Operations, a method of recording events, and a method of recording friendly and enemy movements. The events throughout each theory are logged in the Synchronization Matrix, and

expanded dialogue is recorded in both battle maps and a parallel discussion of the war-gaming.

2. List All Friendly Forces

The friendly force list must remain consistent throughout all COAs. This is of no consequence, as the force level of Custer's group is not a point of contention amongst the authors.

3. List Assumptions

A review of the assumptions made during COA development ensures their validity. In this case, the assumptions advanced regarding the battle are points of reference that assess the feasibility of each author's theory. The assumptions made by the respective authors constitute the COAs for Custer's force.

4. List Known Critical Events and Decision Points

Army FM 101-5 defines critical events as "...those that directly influence mission accomplishment." (p. 5-18) They can include actions that require shifts in forces, crossing friendly lines, or other complicated maneuvers. Critical events can also include casualty thresholds that indicate the impracticality of a COA. In this study of Little Big Horn theories there are junctures where each theory will provide information, via the war-gaming process, relative

to the independent assumptions. These junctures are considered the critical events within each theory. Decision points are situations that require major command and control judgments. Within the war-gaming of each individual Little Big Horn theory, both explicit and inferred decision points are highlighted. Only the critical events and decision points that distinguish each theory vis-à-vis the others will be evaluated.

5. Determine Evaluation Criteria

Evaluation criteria are the factors used to measure the effectiveness of one COA relative to others. The criteria can include the principles of war, doctrinal fundamentals for specific operations, and in this case, reconciliation with the independent assumptions regarding the outcome of the battle. This study is concerned with determining the degree to which each theory reconciles with three factors, not necessarily which COA may have been most effective. The competing theories will be judged relative to the Little Big Horn historical record, select hypotheses advanced by this study, and Custer's operational history and tendencies. Establishing a single, authoritative historical record for the Battle of Little Big Horn is nearly unattainable. The conflicting primary accounts and

interpretive nuances associated with the examination of physical evidence preclude the inclusion of such a qualification. Instead, during the war-gaming of the theories, each author's application of historical analysis will be objectively judged. The latter two criteria will be discussed, in detail, later in this chapter.

6. Select the War-game Method

As stated earlier, the chosen method will be the Synchronization Matrix.

7. Select Method to Record and Display Results

The Synchronization Matrix provides a built-in method of recording key battle events. In addition to the matrix, battle maps and a concurrent discussion of the simulated action details critical points in a manner that enhances understanding of the sequential analysis process.

8. War-game the Battle and Assess the Results

Fm 101-5 describes the war game as "an action-reaction-counteraction cycle." (p. 5-22) Actions are the initiating events within a war game. Reactions are the opposite side's counter to that action. Finally, counteractions are the initial side's response to a reaction. This sequence is maintained until the completion of the simulated critical event, or a determination is made

that the current COA is inadequate. The theories selected for this study provide a full account for the battle events, so the action-reaction-counteraction cycle is derived entirely from the respective authors. As each Little Big Horn theory is war-gamed, critical comments will be provided regarding the scenario on several levels. First, the actions ascribed to Custer and the Indians by each author will be examined in order to gauge if the actions are consistent with any physical evidence available. Second, the decisions and actions attributed to Custer by each author will be separately examined in order to compose three complete strategic pictures of the battle through Custer's eyes. In this form, an analysis of Custer's actions and decisions compares Custer's actions at Little Big Horn with his operational history. This is done in order to ascertain the degree of consistency between the two. Last, this thesis will compare the critical events within each theory to the independent assumptions made earlier as a complementary test to the other analyses. The result is a ranking, by degree of probability, of the three theories.

C. DESCRIPTION OF EVALUATION CRITERIA

1. Custer's Operational History and Tendencies

Two aspects of Custer's early military career seemed to lay the foundation for his future actions. First, he gained a reputation for being fearless in the face of any odds. Second, Custer had a penchant for taking innovative risks and succeeding at will. After a particularly daring raid on a Confederate outpost during the Civil War, General George McClellan wrote this of Custer: "Custer was simply a reckless, gallant boy, undeterred by fatigue, unconscious of fear..." (Ambrose, p. 173) That gallantry came with a price, though. Custer lost more men during the Civil War than almost any other commander at his level. (Connell, p. 116; Ambrose p. 196) Ambrose's charge that Custer would charge the enemy anywhere, regardless of relative strength seems to sum up this characteristic. (p. 195)

Custer incorporated his personal daring into an impressive array of enterprising military maneuvers. During the Civil War, he led numerous daring cavalry charges. One such charge, against Confederate General Jeb Stuart's troops, netted Custer several hundred captured troops, various enemy artillery pieces, and a spot

promotion to Major General (Ambrose, p. 203). His proclivity for audaciously successful operations, casualties notwithstanding, resulted in the adoption of the term "Custer's Luck" as a Union aphorism. Later, during several encounters with Indians, he would push this military audacity to new limits.

Custer was initially frustrated by his first few attempts to engage Indian warriors. He found them to be a wily foe, more concerned with distracting the soldiers long enough for their women and children to escape, and then evading capture themselves. Custer's first anticipated great battle with Indians was to have taken place in Kansas in 1873. A tribe of Cheyenne was posturing for a big fight (Ambrose, p. 266). But in true Indian fashion, the bravado displayed was a smokescreen for a stealthy withdrawal. The toughest part of fighting Indians, according to Custer, was finding them (Ambrose, p. 284). Once found, though, Custer was convinced that Indians could never stand up to the firepower of cavalry.

Custer's ultimate *modus operandi* regarding combat with the Indians seemed to be established during his first significant fight with them, the Battle of the Washita. Much like the Little Big Horn excursion, in 1868 Custer was

on the trail of a large group of Indians. His objective was to force them back onto their reservation. Driving his men doggedly, Custer tracked the Indian group through harsh winter conditions, just south of the Kansas Territory. Upon discovering a Cheyenne village of unknown proportions in the Washita River valley, Custer crafted an ad hoc attack plan that was dreadfully prophetic of things to come. First, he insisted on preparing that night for a dawn attack, even though his men were exhausted and hungry. Second, he performed no reconnaissance on the village, for fear it would provoke an exodus by the Indians before his men were in position. Third, he divided his 800-man regiment into four separate assault units, and spread them around the perimeter of the village. Custer was about to launch a four-pronged attack on a target of unknown strength, with a regiment of men who were driven to the limits of physical exhaustion. It was pure madness; it was pure Custer. (Ambrose, pp. 317-322)

The surprise and shock of the maneuver paid off. The Indians were stunned, and many of them were gunned down while running out of their tipis. Some escaped to a far riverbank to return some harassing fire, but they were quickly suppressed. Custer's troops also gunned down many

women and children. More than 100 Indians were killed, and a herd of 900 ponies and the village were captured. The strength of the Indian camp probably did not exceed 300 warriors, but it was a satisfying victory for Custer. The troopers burned everything they could and shot all of the ponies before withdrawing. This battle reinforced what had become a simple truism for Custer. Victory was assured against the Indians, if only you could find them. (Welch, pp. 62-64)

Several disturbing elements of the battle went unnoticed, obscured by the collective joy at the first tangible victory against the Indians in this region. Custer's disregard for a reconnaissance and the physical condition of his men could have cost him dearly had he met a larger or more prepared Indian force. Indeed, "Custer's Luck" had been operating in full force, as thousands more warriors were camped just miles downstream from the village Custer attacked. Indians from the downstream encampments began gathering on the high bluffs surrounding Custer's troops. Concerned with the growing number of hostiles, Custer again displayed remarkable gumption. He gathered his troops and set out down the river, *in the direction of the remaining Indian villages*. Custer ventured, correctly,

that the Indians on the bluffs would become alarmed and return to their villages to protect them. As night fell, Custer reversed the direction of his march and withdrew from the river valley, his victory intact. This triumph against the Cheyenne only reinforced the feeling of invincibility that Custer felt when fighting Indians.

2. Independent Hypotheses

In order to provide more clarity regarding the events on and around Custer Hill, this study proposes several hypotheses derived from an analysis of battlefield grave markers and other evidence. It is important to note that these hypotheses were arrived at independent of the explanatory theories of Ambrose, Fox, and Gray. While information contained in all three authors' works was utilized in the formation of these hypotheses, they represent detached analysis. Figure 2-4 is a depiction of the grave markers on the Custer Battlefield. There are 252 grave markers indicated in this figure, even though roughly 210 men fell at Custer Battlefield. Fox explains that in some instances, a single burial plot was mistaken for two. In any case, the general pattern of the grave markers is still useful for establishing a gross pattern of movement around the Custer Battlefield.

Custer's force fell. Despite aspersions cast on the placement and exact number of grave markers, archaeologist Richard Allan Fox, Jr. contends that gross patterns derived from the locations of the grave markers are legitimately representative of where most of the soldiers fell (pp. 73-77). Working off the hypothesis that the grave markers represent the general configuration of Custer's force throughout the battle, and other physical evidence, this thesis advances the following assumptions.

a. *Escape Was Impossible*

The number of grave markers versus the number of troopers assigned to Custer's force provides a full account of personnel. That is to say, there are no credible claims that any significant number of Army personnel escaped beyond the boundaries of the battlefield area. A few bodies found in the Indian camp area appear to have been taken there by the Indians (Graham, 1926, p. 140). The apparent containment of the troopers' deaths to the battlefield area suggests that either there was no attempt to escape the Indian onslaught or that escape was effectively impossible. Given the skirmish line disposition of grave markers on the left and right flanks of the battlefield, as well as the massed concentration of

the grave markers around Custer Hill itself, it is concluded that any attempt to flee the area by soldiers was not possible (Figure 2-4). While Custer certainly had a predilection for charging superior numbers in battle, there is nothing to suggest that he was suicidal. Therefore, it should be expected that Custer, or any one of his officers, would have initiated an orderly retreat in the face of an assured rout. Surely, any possible humiliation incurred from a retreat would be preferable to the annihilation of his command. At the very least, Custer could have been expected to seek a link to Benteen and the rest of his regiment, save Reno. Because of the reasons listed above, the author is persuaded to offer the hypothesis that *Custer's command was overwhelmed in place because by the time they recognized the situation for what it was, an inevitable slaughter, they were surrounded.* Exactly how and at what point they were surrounded will be discussed after the war-gaming process is complete.

**b. The "Last Stand", for All Intents and
Purposes**

The general layout of the grave markers is a clear indication that Custer's forces were overwhelmed from the south and east first (Figure 2-4). In what was

essentially the conclusion of the battle, the clustered remaining troops fought to their death, in place, at the infamous Custer Hill location. That location was the approximate place where Custer and his men realized they were surrounded. There are several authors who advance the notion that the fighting at Custer Hill was not the end of the battle (Fox, p. 220; Gray, p. 394; Welch p. 171). They postulate that groups of men were either sent out in a skirmish line to the south, or simply fled the carnage at Custer Hill. Some of the grave markers to the immediate south and west of Custer Hill are thought to represent survivors from Custer Hill. This is an insignificant detail to either of these independent hypotheses. The men who supposedly fled Custer Hill did not get very far, so the initial hypothesis remains unaffected. Additionally, the number and layout of the grave markers at Custer Hill itself is unquestionably representative of a surrounded group. No skirmish lines are evident in this location, as the grave markers represent a group of 54 men in a haphazardly clustered arrangement. Judging from the disposition of the grave markers in every location except Custer Hill, the outlying gravesites most closely resemble skirmish lines, with varying degrees of organization. This

suggests that in every location except Custer Hill, there were deployments that would correspond to typical offensive or defensive maneuvers. Custer Hill stands alone as a frantically disorganized constellation.

The fact that the pressure on the battlefield first came from the south and east, and Custer's retreat routes were north, is easily established by three factors. First, nearly all of the primary Indian accounts support the perception that the initial Indian attacks were mounted from the south (Fox, pp. 143-145; Gray, pp. 366-367; Brady pp. 253-254). It is difficult to discern a definitive directional source for the Indian attacks due to their swarming, infiltrating nature. However, it is generally accepted that, initially, the Indians were crossing the river at several points and slowly enveloping the troopers from the south. While the troopers were most likely being slowly surrounded from the east and west as well, the dominant threat came from the south. Second, it is logical to presume that the Custer Ridge and Calhoun Hill locations, where grave markers indicate company cohesion (Fox, pp. 156-161), can be considered the earlier stages of the battle. The comprehensible defensive formations and unit solidarity suggested by identifying grave markers

signify methodical maneuvers that were absent at Custer Hill. Fox suggests that the lines of troopers at Calhoun Hill and the Keogh sector should be interpreted as a tactical disintegration. He considers the dispersed nature of the lines, marked by small bunches of troopers, as a sign of a fleeing force. Again, this is irrelevant to my hypothesis, because all indications are that the direction of movement for these soldiers was toward Custer Hill. Conversely, The jumbled mix of over 50 troopers from five different companies on Custer Hill has to indicate a desperate bunching. It would be illogical to imagine that out of the chaos of Custer Hill, several companies deploying over distances in excess of half a mile in cohesive company groupings.

Finally, given that the initial Indian attack had advanced primarily from the south and slowly encroached the east and west flanks, why then are the bodies on Custer Hill clustered midway down the western slope of the hill? One would assume that in the face of a massive attack from the south, at least some of the soldiers would have made their way toward the top of Custer Hill, even cresting it to the northern slope in an effort to escape. The answer is clear. The group on Custer Hill, preoccupied with

engaging enemy from the south and possibly west, was surprised and overwhelmed from the northeast and effectively corralled. As a corollary to this hypothesis, it is logical to assume that while the pressure that resulted from the Indian attacks from the south were substantial; it was the Indian force that crested Custer Hill that provided a swift coup-de-main. Again, the reference for this assertion is the group of soldiers who apparently left Custer Hill and fled south. Whether these soldiers were dispatched in a planned defensive maneuver, or fled in terror is not pertinent. The fact remains that they were able to advance to the south, however frantically, ostensibly following the path of least resistance. Coupled with the fact that no significant movement up Custer Hill, beyond the clustered grave markers, can be discerned, the author is persuaded to offer that *an overwhelming force surprised Custer from the northeast, while he was engaging a substantial threat from the south, and effectively ended the fighting at that point.* Any survivors who left Custer Hill were merely delaying the inevitable, as there was no way out at this point.

c. The Deliberate Positioning of Custer's Forces

The final hypothesis regarding the Battle of Little Big Horn pertains to the disposition of Custer's force prior to any significant fighting. First, an examination of the battlefield map, with grave markers indicated, reveals a highly attenuated and segmented force (Figure 2-4). From the group of markers at Custer Hill to the skirmish lines at Calhoun Hill and Calhoun Ridge, there is a distance of over 1000 meters. From Custer Hill to the center of the next largest concentration of grave markers, the Keogh sector on Custer Ridge is a distance of 600 meters. Even from the northern edge of Keogh's skirmish line to Custer Hill is over 300 meters. The distances between groups, considering the weaponry of the day and the troopers lack of combat training, are hardly indicative of a robust defensive posture deployed from a central location.

A further examination of some of the outlying defensive positions is also useful. The line of grave markers indicating Keogh's I company position is in a very interesting place. The I company line is on the eastern side of Custer Ridge, and any view of the river and the

bulk of infiltrating Indians would have been impeded. Two explanations are offered for the curious location of Keogh's I company. Fox (p. 166) contends that Keogh held I company in reserve, as a backup for the companies engaged on Calhoun Hill. Gray (p. 392) argues that Keogh's company was deployed in a rearguard action, to facilitate a complete retreat toward Custer Hill. An interpretation of the Keogh sector grave markers deduces that the directional orientation of the line is such that two explanations remain possible. One possibility is that the troopers along Custer Ridge were deliberately placed there either in reserve or as a defensive skirmish line facing east. The other possibility is that the line of grave markers represents a panicked flight toward Custer Hill, with troopers being overtaken and killed from the rear. Two inferential assumptions facilitate the preference of one of these scenarios.

First, the degree of separation between the groups on Custer Hill and Calhoun Hill tends to support a purposeful spreading of forces across the battlefield. If it is to be accepted that Custer's force was retreating en masse across the battlefield, one must also accept that he left his rearguard to die, and offered no substantial

support while he was fleeing. This supposition seems improbable, as it goes against everything we know about Custer's fighting style. If the Indian force was overwhelming at the outset, why would Custer retreat toward a distant topographic feature while stringing his forces out hopelessly? A more plausible explanation is that Custer's force was initially spread about the battlefield under light, if any pressure, in some type of paused posture. They were either waiting for reinforcements from Benteen or simply surveying the village in an attempt to craft an effective strategy of attack. Second, the orientation of the grave markers also best supports a purposeful spread of the forces with the Calhoun and Keogh sector elements providing alternately oriented static security positions. If indeed the Custer battlefield indicates a total retreat from Calhoun Hill to Custer Hill, with Keogh's troopers as a rearguard to support the Calhoun troopers, why then is there no semblance of a skirmish line facing south in the Keogh sector? In all likelihood, the retreating soldiers from Calhoun Hill passed through Keogh's defensive position, which was facing east. Specifically, this thesis proposes that the troopers in the Calhoun sector were primarily charged with keeping watch

and repelling the infiltrating Indians from the south, while Keogh's contingent was positioned to provide a rearguard toward the east. While these two elements held their position, the rest of the Custer contingent was moving northwest, either tracking the Indian village or setting up another defensive position. Calhoun's position was overrun, and the survivors began to flee, chased by scores of Indians along Custer Ridge. Keogh's line, oriented to the east to ostensibly observe for infiltrating Indians and/or Benteen's group, joined in the flight toward Custer Hill. Concurrently, Custer and his group recognized the impending danger and sought suitable terrain to prepare a defense. Their position on the western side of Custer Hill suggests they were to the west of that position before retreating up the hill. It seems doubtful that a large force approaching Custer Hill from pressure in any other direction would choose the western side as a place to make a "stand". It also seems quite likely that the group with Custer encountered some resistance from the west, underpinning the orientation of the grave markers on the west side of Custer Hill. In short, *Custer's force was purposefully spread out, and converged on Custer Hill from two different directions.*

d. Putting the Assumptions Together

The amalgamation of these three assumptions falls dreadfully short of a coherent theory of the Battle Of Little Big Horn. They are, however, useful as a yardstick by which to measure the plausibility of existing theories. In doing so, it is necessary to communicate the three assumptions in a concise, cogent manner. Custer's fateful odyssey began with a deliberate division of his forces across the battlefield site. Part of his command was to hold an Indian infiltration, initially interpreted as inconsequential, at bay and wait for Benteen. The rest of the command continued to scout further north. The troopers at Calhoun Hill and in the Keogh sector were overrun from the south, and fled toward Custer Hill. At the same time, Custer's northern group recognized the increased danger and moved onto the west side of Custer Hill to affect a defense. Shortly after reaching Custer Hill, the command was surrounded, overwhelmed from the north, and slaughtered. These operating assumptions will help to guide the following war-gaming effort and critique of the three chosen Little Big Horn theories.

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IV. WAR-GAMING THE THEORIES

The analysis of each theory will begin with a Synchronization Matrix. Condensing the critical points and major decisions that distinguish each theory from the others will provide a reference for the discussions following the matrices. Viewing the battle as a mixture of command decisions and multiple, simultaneous events provides a much different perspective than a running narrative alone. This method facilitates an enhanced analysis of decisions on a background of rapidly changing circumstances. Following the Synchronization Matrix for each theory will be a sequential evaluation of that theory in relation to the historical record, Custer's operational history and propensities, and the independent hypotheses.

A. SREPHEN AMBROSE

Ambrose's account of the Battle of Little Big Horn is written in the descriptive prose of a talented writer. Rather than belabor the reader with minutia regarding precise battle progressions, he chronicles the events of the battle in an illustrative narrative. As such, it is

necessary to infer many of the time periods for the battle sequence. The Synchronization Matrix depicting Ambrose theory is Table 4-1.

Time	0 hr	+:30	1:00	+1:15	+1:30
Custer's Commands/Decisions	Dispatch Reno toward Indian Camp, turn battalion north.		Attack Indian Camp while Reno distracts them.	Retreat toward Calhoun Hill/Custer Hill. On the defense.	Consolidating survivors on Custer Hill. Intending to dig in and wait for Benteen.
Reno's Actions	Ride toward Indian camp	Approaching Skirmish line	In full retreat	Effectively out of the fight	
Battalion Actions			Battalion repelled at Medicine Tail Coulee by 1500 Warriors.	Calhoun's company rearguard. Retreat toward Custer Hill.	Strung out along Calhoun Hill, Custer Ridge, and Custer Hill, focused on southern threat.
Southern Indian Infiltrators	Crossing River at Medicine Tail Coulee, to prepare for Custer.		1500 Indian Warriors on eastern bank of river to greet Custer.	Attacking in force, overwhelming rear of Custer's Battalion.	Pressing battalion from the south, enveloping positions along Calhoun Hill.
Crazy Horse Contingent		Engaged with Reno.	Crazy Horse and 1000 leave Reno fight, race through village to begin flanking maneuver.	Continue on flanking route to north of Custer's battalion.	Gathering to attack, on the northern side of Custer Hill.

Table 4-1. Synchronization Matrix - Ambrose

Elapsed Time	+1:45	+ 2:00
Custer's Commands/Decisions		
Battalion Actions	Survivors clustered on Custer Hill	Annihilation complete
Southern Indian Infiltrators	Sweeping over battalion's southern positions on Calhoun Hill/Custer Ridge.	Annihilation complete
Crazy Horse Contingent	Attack Custer's group on Custer Hill	Annihilation complete

Table 4-1 continued. Synchronization Matrix - Ambrose

1. Reconciling Ambrose's Theory with History

Stephen Ambrose wrote *Crazy Horse and Custer* after a four-year research hiatus devoted to gathering and analyzing records, interviews, and surveying battlefields. Ambrose declares that his primary guides in the re-enactment of the Battle of Little Big Horn are Colonel W. A. Graham, who wrote *The Custer Myth*, and Edgar Stewart, who wrote *Custer's Luck* (Ambrose, p. 436). As such, Ambrose's theory regarding the battle can be said to typify the traditional view, described by Fox as the fatalistic theme. The connotation of this description is derived from

the notion that Custer engaged the Indians immediately upon entering the Custer Battlefield area, and was immediately on the defensive until the rout was complete. In this vein, the fatalistic component is that Custer's destiny was sealed from the outset. Due to the voluminous and often contradictory nature of the primary Indian accounts regarding the battle, it can be understood that each of the authors has incorporated specific accounts that tend to support their own arguments. Further confounding the utility of primary Indian accounts is their narrow, personal nature. Many of the accounts detail only individual encounters and are difficult to amalgamate into a coherent strategic narrative. Given this, it is a folly to deconstruct the use of these accounts or attempt to compile accounts to counter each theory. Suffice to say that all of the authors' theories use first-hand descriptions of the battle for support, and all of the theories fall within the realm of possibility vis-à-vis these accounts. While Ambrose's theory may lack some of the detail and detached analytical quality of the other two theories, it is important to include it because of its widely accepted credibility. It does, in fact, represent the conventional view of the Battle of Little Big Horn.

a. *The Clash at Medicine Tail Coulee*

Ambrose suggests that Custer's entire battalion rode down Medicine Tail Coulee, where some 1500 Indian warriors met them. The battalion was repelled from their objective, an attack on the Indian village, and immediately went on a defensive retreat up toward higher ground (Figure 4-1).

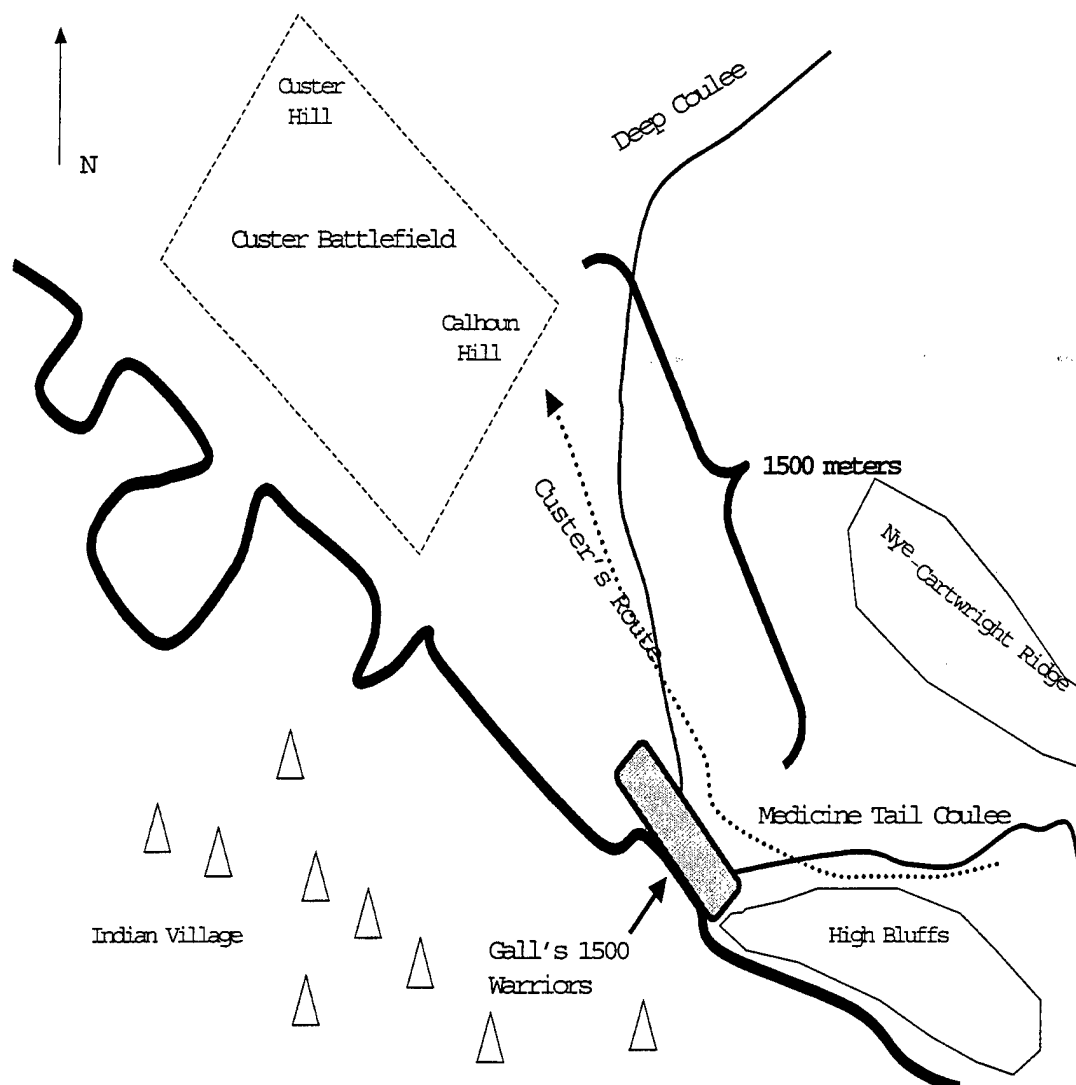


Figure 4-1. Custer's Retreat from Medicine Tail Coulee

After examining the general layout of the area under consideration, several aspects of Ambrose's contentions bear examination. First, if it is assumed that Custer recognized the looming threat of Gall's blocking force as he descended Medicine Tail Coulee, the choice to

turn and retreat north, further away from any supporting units appears questionable. However, the terrain in that area may have very well contributed to that decision. The bluffs to the south precluded any movement in that direction. A retreat back up Medicine Tail Coulee would severely inhibit the proper employment of defensive skirmish lines due to the channelized topography. Given the circumstance as Ambrose presents them, it seems possible that Custer may have indeed initiated a retreat toward Calhoun Hill, over more amenable terrain.

A second aspect of this scenario appears a little more dubious. The route of Custer's retreat from the opening of Medicine Tail Coulee to Calhoun Hill covers some 1500 meters. To visualize Custer's battalion of over 200 soldiers meeting a force of 1500 Indian warriors, and retreating for close to a mile without taking any casualties is difficult to accept. Granted, it may be possible that Custer recognized the threat early enough to turn toward higher ground before the groups were at within weapons range, but that chance seems slim. A group of 1500 warriors, some on horseback, would be spread over a considerable area. Their fresh ponies would have been able to close on the weary horses of the 7th Cavalry with little

difficulty. Any route Custer could have taken to Calhoun Hill would certainly have presented a great chance of skirmishing before the battalion reached Calhoun Hill. On balance, while it seems possible for the events at Little Big Horn to have unfolded as Ambrose suggests, that possibility is somewhat remote.

Finally, Ambrose's description of the action at Medicine Tail Coulee fails to account for the numerous government shell casings found to the east of Medicine Tail Coulee, along Nye-Cartwright Ridge (Fox, p. 139; Gray pp. 362-363; see Figure 4-1). The surveys that located the artifacts in this particular area were done well before Ambrose wrote *Crazy Horse and Custer*, so his exclusion of this data is worthy of note. This portion of Ambrose's hypothesis seems contentious.

b. The Retreat Across Custer Battlefield

As Custer's battalion entered the bounds of the battlefield proper, the first evidence of a deployed skirmish line is reflected in the grave markers on Calhoun Hill. The analysis of this portion of Ambrose's theory will refer to Figure 4-2, as it represents the gross pattern of where people fell during the battle.

Custer's battalion, according to Ambrose, was already on the defensive as they crested Calhoun Hill and began making their way toward Custer Hill. With Custer at the head of the column, Lt. Calhoun's company was deployed along Calhoun Hill/Ridge to check the advance of the tracking Indian force. The rest of the battalion was strung out in between Custer Hill and Calhoun Hill. Ambrose contends that as Custer reached Custer Hill, Crazy Horse crested Custer Hill from the northeast and the battalion was overwhelmed from both ends. Like the episode at Medicine Tail Coulee, there are several aspects of this situation that bear examination.

The first feature of this scenario that taxes the explanation given is the size of the battlefield. The grave markers indicate a force that was exceedingly spread out. If the battalion was in a retreat, one would expect the deployed lines to be within supporting distance of one another. At first glance, it appears that Calhoun's company on Calhoun Hill was left with no support from the other companies. However, according to the prescribed cavalry tactics of the time, a company may be deployed with additional reserve elements positioned 300 meters to the rear (Fox, p. 44). The layout of grave markers does not

discount the possibility that some portion of them located on the southern half of Custer Ridge may have been a strategic reserve for Calhoun's company. However, two observations regarding the location of these grave markers seem problematic. First, if Custer's battalion had been operating as a single unit, which Ambrose seems to intimate, then the retreat must have broken the battalion into two maneuver elements. Since Custer was obviously at the head of the battalion, it makes tactical sense that the next senior officer would be commanding the rearguard element. That officer would have been Capt. Keogh. Also supporting this assumption is the fact that Capt. Keogh is the closest officer to Calhoun Hill who held the rank of Captain. The two officers slain on Calhoun Hill were both junior lieutenants. Capt. Keogh's body was found some 450 meters to the north of the closest flank on Calhoun Hill, hardly in a good position to observe the fighting and direct a supporting reserve element. To accept Ambrose's scenario is to accept the fact that Capt. Keogh did not reinforce the positions on Calhoun Hill, and may have fled the scene altogether. This goes against Keogh's character, as we know it. Keogh had a colorful military history as a mercenary in Africa, a member of the papal army, and as a

decorated officer in the Civil War, as well as being one of Custer's most trusted soldiers (Connell, pp. 290-293). As a seasoned combat veteran of multiple wars, it is unlikely that he failed his duties as miserably as Ambrose's account suggests.

The second feature that raises questions is the entire string of markers along Custer Ridge. If indeed Custer had deployed sequential defensive lines to facilitate the retreat, we must accept that only Calhoun's lines held in place. The directional orientation of the grave markers along Custer Ridge offer no hint of coherent defensive lines oriented toward the south. The possibility exists that after Calhoun's troopers were killed in place, all defensive positions to the north of them panicked and began streaming toward Custer Hill. The sheer number of Indian warriors in such close proximity could indeed have caused such a panic, but the fact that only one company's worth of men stood firm is somewhat suspect.

Finally, the number of Indian casualties, estimated by Ambrose to be 40, hardly seems indicative of a massed clash between two well-armed groups. Custer's battalion, armed with accurate Springfield carbines, should have been able to inflict more casualties on such a

concentrated group of adversaries. The 1500 Indians charging from the south would have presented ample targets for the troopers. The superior organization and discipline of the Custer's battalion should have allowed them to hold off the Indians, at least temporarily, and inflict more casualties. This, of course, assumes that Custer's troops were following orders and operating efficiently. Ambrose's theory, when combined with the grave markers, tells the story of a panicked rout. Efficiency and discipline went out the window, and serve to explain the dearth of Indian casualties.

c. The Last Stand at Custer Hill

Ambrose's account of the last fighting at Custer Hill dovetails nicely with the preceding events offered. With Custer at the head, nearly half of the battalion was ascending Custer Hill. The retreat was halted by a torrent of warriors pouring over the crest of Custer Hill, from the northeast. Ostensibly, the throng of 1500 Indians who had enveloped Calhoun Hill was now making its way along Custer Ridge. The clustered mass of grave markers on Custer Hill, and the smattering of grave markers trailing to the southwest of this position correspond well with Ambrose's theory. As Custer led his men up Custer Hill, they could have bunched up when the Indians rode over them from their concealed position. Any troopers not gunned down in this crowd would have had to flee southwest, as all other avenues of escape were shut off (Figure 4-3).

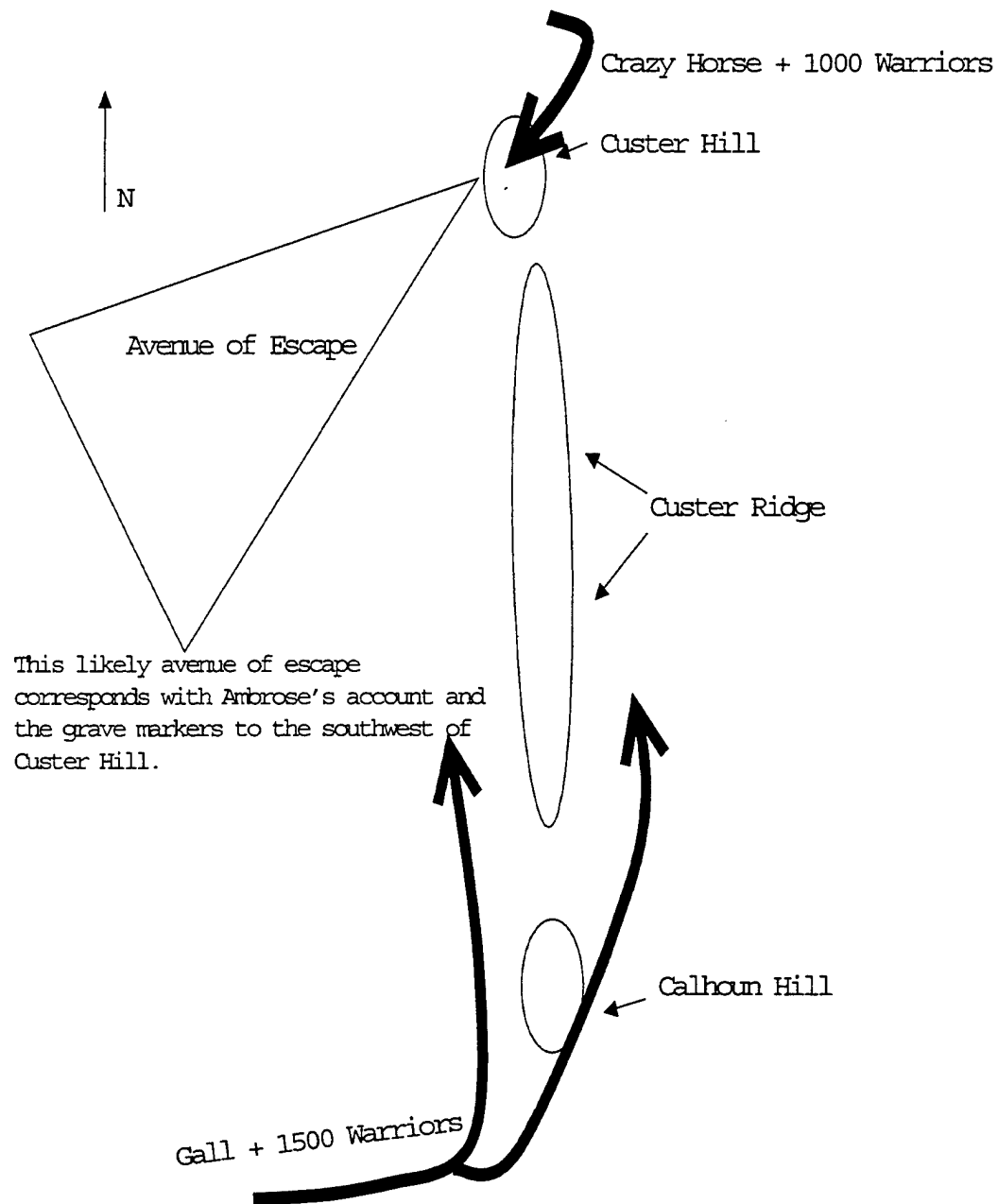


Figure 4-3. The Final Moments on Custer Battlefield

2. Ambrose's Battle through Custer's Eyes

The decision that Custer made, to split the regiment into three battalions as the 7th Cavalry approached the Little Big Horn Valley, is consistent throughout all three theories. Given that these portions of the accounts are consistent, the only comment offered in regard to them pertains to Custer's mindset. By splitting his regiment in such close proximity to the enemy, Custer displayed a preference to find and engage the enemy over any concerns about their strength. The maneuver is also consistent with his actions at the Battle of Washita, where he split his force into four elements for a hastily coordinated attack.

Ambrose asserts that Custer and his battalion met a force of 1500 Indians as he descended Medicine Tail Coulee. Since Custer had already sent Reno ahead to engage the Indian village from the south, it would seem prudent for him to follow up on his promise to support that attack. There is, however, a precedent for Custer withdrawing in the face of a superior force. During the Battle of Washita, Custer abandoned the Cheyenne village he had just overrun due to a growing number of warriors from downstream villages gathering on the overlooking cliffs (Ambrose, p. 321). Then again, the main objective of the Washita

operation had been achieved, so Custer enacted the retreat with the knowledge that his reputation would remain intact. All things considered, it appears odd for Custer to have immediately initiated a retreat without mounting a major attack first. The fact that Custer's battalion took no casualties until they reached Calhoun Hill suggests that the retreat call came early without much hesitation.

After the retreat command, given that Custer's battalion was fiercely pursued the enemy, it seems unlikely that a distant objective like Custer Hill would serve as a defensive rally point. Admittedly, it is the highest ground in the area, but at what price would occupying it be deemed acceptable? As the battalion crested Calhoun Hill, it would seem prudent to enact a strong defense as soon as possible, but Ambrose submits that Custer, at the head of the battalion, pushed on toward Custer Hill. With Calhoun's company deployed as rearguard over 1000 meters to the south against 1500 pursuing warriors, Custer and a good half of the battalion were in no position whatsoever to provide supporting fire for a complete retreat. It seems valid to offer that 200+ troopers in a decent tactical position stand a better chance of fending off 1500 warriors than the single company speed bump suggested by Ambrose.

In Ambrose's defense, however, it is likely that Custer was considering the task of defending a position for an indefinite amount of time. Pondering that point, making way toward the most suitable terrain in the area may very well have taken precedent. Also mitigating this criticism is the possibility that fully half of the battalion may have been allotted for the rearguard. The grave markers along Custer Ridge represent the collapse of the rearguard and their subsequent flight toward Custer Hill. Regardless, it appears that Ambrose contends that Custer left only 100 or so troopers at the southern end of the battlefield to intercept a mob of 1500 Indians. Custer and the other half of the battalion would have been in no position to support them, despite the strategic attractiveness of Custer Hill. While on the balance it seems possible for Custer to have made the decisions attributed to him by Ambrose, several of those decisions would have gone against the temperament that contributed to the legend of Custer's Luck.

3. Reconciling Ambrose's Theory with the Independent Hypotheses

Chapter II advances three independent hypotheses concerning the Battle of Little Big Horn. Concisely

stated, these hypotheses provide a second level of critical analysis to apply to Ambrose's theory. First, escape was improbable, if not impossible. Second, Custer Hill was the point in time and space where the force ran out of options, their destruction assured. Third, the distribution of Custer's forces over such a great area was purposeful. Examining Ambrose's theory with regard to these hypotheses will assist in evaluating its relative credibility.

a. *Escape Impossible*

Ambrose's theory contends that Custer and his battalion were on the defensive immediately upon descending Medicine Tail Coulee. They were pushed or drawn toward the most suitable ground on which to make a stand. Pursued by 1500 Indian warriors to the south, the leading element of the battalion ran into another 1000 warriors at Custer Hill. Some survivors evaded the slaughter on Custer Hill, but only briefly. The refugees fled southwest and were wiped out before they made it very far. In sum, the moment Custer decided to enact a retreat toward Calhoun Hill, there was no chance for his battalion. Ambrose's theory squares precisely with the first independent hypothesis.

b. Custer Hill was the Fundamental End

Again, Ambrose's theory is in line with the independent hypothesis offered here. While it can be said that Ambrose's account relegates Custer's battalion to its fate relatively early in the battle, the premise that they did not realize they were surrounded until reaching Custer Hill still stands. The group of troopers ascending Custer Hill and fixated on the threat to the south bunched together as an unexpected attack was initiated from their rear. The fact that some of the troopers fled Custer Hill to the southwest is incidental. Their flight does not change the fact that the battle was effectively over at this point.

c. Spread Out by Design?

Ambrose's positioning of Custer's battalion, while the product of decisions made by Custer, is tough to classify as a deliberate spread across the battlefield. Specifically, the distance between the group on Custer Hill and the group on Calhoun Hill precludes any notion that they could have been actively supporting one another. Ambrose's explanation of a ragged retreat indicates that no particularly robust stand was made toward the southern group of Indians, except for Calhoun's single company. As

stated before, Custer may have been envisioning a defensive stand for an indefinite period. This would explain his fixation on attaining the best defensive position available. He did this, however, at the cost of a crumbling rearguard. All in all, the probability that Custer positioned his forces across the battlefield intentionally, within Ambrose's scenario, is relatively low.

B. RICHARD ALLAN FOX, JR.

Fox has advanced a number of unique propositions pertaining to the intent and disposition of Custer's troops prior to the actual battle. These fresh ideas combine to form an interesting study that challenges the conventional school of thought on the topic of Little Big Horn. The timetable offered for Fox's theory is deduced from his account. The Synchronization Matrix depicting Fox's theory is Table 4-2.

Elapsed Time	0 hr	+: 15	+1:00	+1:15	+1:30
Custer's Commands/Decisions	Dispatch Reno toward Indian camp	Turn remaining troops North	Send Left Wing to probe Ford B		Consolidate on Calhoun Hill
Reno's Actions	Ride toward Indian camp	Ford river	Approaching skirmish line		Begin Retreat
Right Wing Actions		North with Custer	North toward Calhoun Hill		Consolidate on Calhoun Hill
Left Wing Actions		North with Custer	Probe Ford B	Light skirmishing across river	Consolidate on Calhoun Hill
Southern Indian Infiltrators					Cross river at several points, slow, steady infiltration
Crazy Horse Contingent			Engaged with Reno		

Table 4-2. Synchronization Matrix - Fox

Elapsed Time	+1:45	+2:00	+2:15	+2:30
Custer's Commands/Decisions	Hold Calhoun Hill, continue probe north	Halt northern probe, return to Cemetery Ridge	Deploy defensive lines below Custer Hill	Retreat toward Custer Hill
Reno's Actions	Effectively out of the fight			
Right Wing Actions	Hold Calhoun Hill	C co. sent to suppress attacks from west	E co. west skirmish line, F co. east	Retreat toward Custer Hill
Left Wing Actions	Probe north along river	Halt northern probe, backtrack to Cemetery Ridge	Tactical disintegration in the face of 3-sided attack.	Haphazard flight along Custer Ridge toward Custer Hill
Southern Indian Infiltrators	Increasing pressure on right wing	Surround right wing on south and west. Also firing at left wing	Overwhelm right wing	Pursue left wing and move attention toward Custer Hill
Crazy Horse Contingent	Disengage from Reno, head toward Custer	Infil up Deep Coulee between wings, and over Custer Ridge	Overwhelm right wing from northeast	Kill stragglers along Custer Ridge, and move toward Custer Hill

Table 4-2 continued. Synchronization Matrix - Fox

Elapsed Time	+2:45	+3:00
Custer's Commands/Decisions	No options, surrounded on Custer Hill	Obliteration complete
Right Wing Actions	Desperate flight by E co. to south	Obliteration complete
Left Wing Actions	Effectively annihilated	Obliteration complete
Southern Indian Infiltrators	Pressing Custer Hill from south and west	Obliteration complete
Crazy Horse Contingent	Overruns Custer's group from east	Obliteration complete

Table 4-2 continued. Synchronization Matrix - Fox

1. Reconciling Fox's Theory with History

Fox wrote the book, both literally and figuratively, on modern physical evidence gathered on the Custer Battlefield. His theory is derived, in part, from an original re-creation of events as told by bullet slugs, shell casings, grave markers, and other relics found in an archaeological excavation of portions of the battlefield in 1984-1985. The following discussion evaluates the actions attributed to Custer's forces by Fox vis-à-vis the historical record.

a. *Custer's Route and Disposition After Leaving
Reno*

Fox relates that after Custer sent Reno to charge the Indian village, he turned his troops north. Custer led the battalion behind high bluffs, paralleling the river. This is not a point of contention among Little Big Horn scholars, as primary accounts from U.S. Army participants all support this assertion. Fox does, however, advance the arguable notion that Custer's battalion was split into two wings. One wing advanced down Medicine Tail Coulee toward the river, while the other wing traversed the high ground parallel to the river, known as Nye-Cartwright Ridge. Fox's assertion is supported on three levels.

First, cavalry tactics used at this time included a standard breakdown of forces. Fox reconciles all of his proposed force structures for Custer's regiment with Emory Upton's *Cavalry Tactics, United States Army* (1874), which served as the manual for cavalry operations at the time. Custer's regiment was broken down into three battalions, with each battalion wielding between four and six companies. Each battalion was further broken down into two functional wings, which could operate independently. Table 4-3 is borrowed from Fox (1993).

Company	2 nd -4 th	3 rd -5 th -1 st
Wing Assignment	Left Wing	Right Wing

Table 4-3. Standard Cavalry Battalion Assignments

The number assigned to each company is indicative of the relative seniority of each company commander, with the most senior company commander designated 1st. The orientation of the battalion when moving in line formation (all abreast) is toward the top of the page. When moving in column formation, the battalion would be in a file toward the right side of the page. (Fox, p. 43) An assignment of Custer's officers and their companies within this framework is indicated in Table 4-4.

Commander	Capt. Yates, F co. (2 nd) Lt. Smith, E co. (4 th)	Capt. Custer, C co. (3 rd) Lt. Calhoun, L co. (5 th) Capt Keogh, I co. (1 st)
Wing Assignment	Left Wing	Right Wing

Table 4-4. Custer's Battalion Assignments

Thus, standard cavalry tactics employed at the time of the battle indicate that it was indeed possible for Custer to operate his battalion in this manner.

The second factor supporting Fox's two-wing theory is archaeological. Fox points to artifacts found along the mouth of Medicine Tail Coulee and the ridge to the southeast of it as an indication of separate movement. Figure 4-4 indicates the general area under discussion.

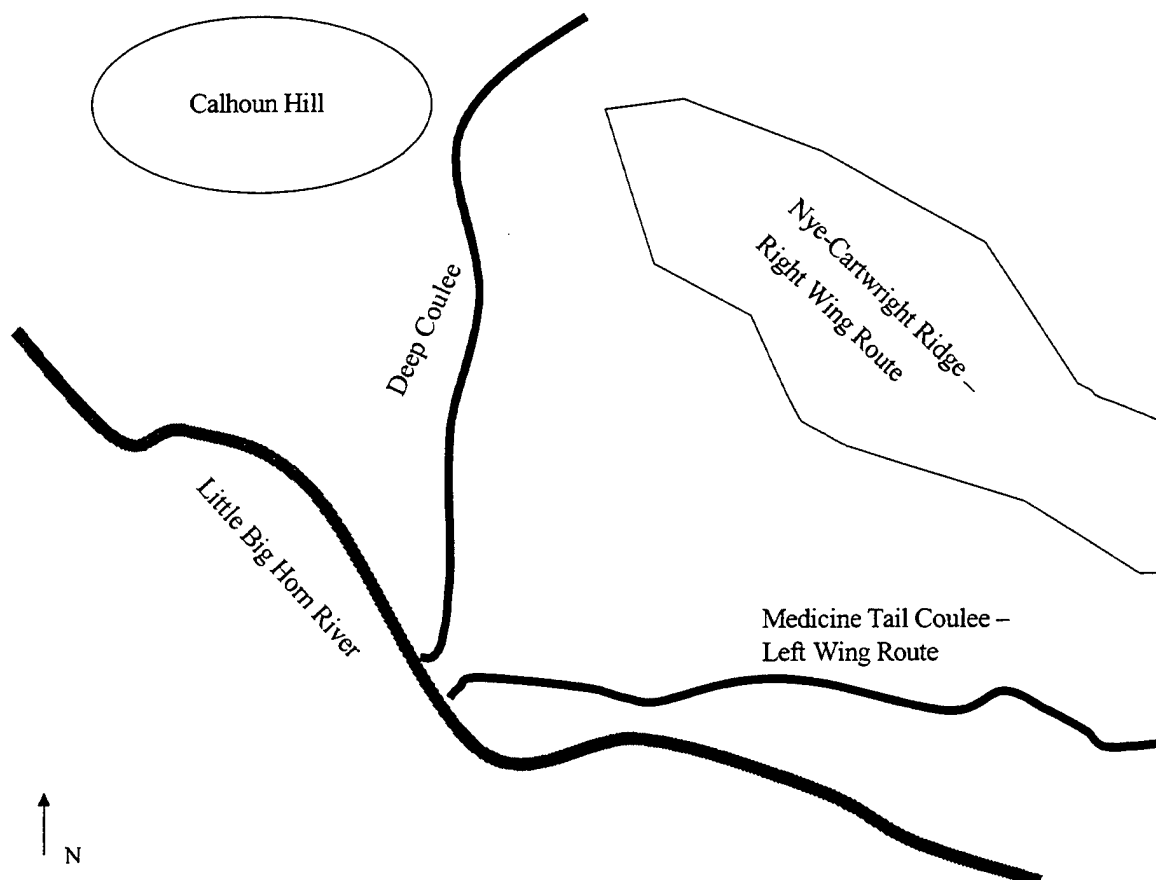


Figure 4-4. Dual approach to Calhoun Hill

The artifacts found "...primarily consist of expended government cartridge cases and corresponding evidence for Indian firing." (Fox, p. 139) These two areas of supposed skirmishing are separated by rough, uneven terrain, and traversing directly between the two would not be feasible for cavalry companies. Two explanations are possible at this point. One is Fox's suggestion of a split force, with Custer's left wing advancing down Medicine Tail Coulee to the river and the right wing maintaining the high ground along Nye-Cartwright Ridge. Another possible explanation, albeit unlikely, is that Custer's entire force traversed both of these areas while exchanging fire with the Indians. The second explanation seems impractical, because there is no logical explanation for a circular route of travel in this particular area.

The third factor supporting Fox's two-wing theory is first-hand Indian accounts. Fox relates separate Indian accounts that indicate independent movement of Custer's force down Medicine Tail Coulee and the ridges to the east of the river. (pp. 139, 142) Furthermore, these Indian accounts also identify E company, by virtue of their distinctive gray horses, as one of the units that approached the river. (pp. 139-140) Fox's theory regarding

dual wing operations, and more specifically his apportionment of company assignments, seem solidly supported by the historical record. While other possibilities exist, it seems Fox has advanced the most likely case.

b. Right Wing Holds Calhoun Hill While Left Wing Probes Northwest

Perhaps the most unique facet of Fox's theory is his claim that Custer's battalion was in an offensive posture throughout much of the battle. Part of this argument states that the left wing of Custer's battalion moved north, after leaving the right wing in the vicinity of Calhoun Hill, to search for a suitable place to ford the river. Presumably, Custer was less concerned with what he considered a negligible threat from the Indians, and more interested in ensuring the capture of the fleeing village.

Half of Fox's contention regarding this issue is not disputed. The overwhelming evidence in the form of grave markers (Figure 4-5) and primary accounts leads all of the authors to concede that nearly half of Custer's battalion was slain in the area encompassing Calhoun Hill and Custer Ridge. The physical evidence also indicates that there is a substantial degree of separation between

Figure 4-5. Custer Battlefield Grave Markers

How such a great distance came about between these two groups is where Fox parts company with convention. Fox's contention that the left wing continued northwest past Custer Hill, and approached the river, relies mostly on primary accounts and oral histories. Don Rickey, the chief historian at Custer Battlefield, presented Fox with Cheyenne oral history that details a contingent of Custer's battalion investigating a ford on the river, well north of Custer Hill. (pp. 175-176) Additionally, separate primary accounts also indicate that the left wing "...rode beyond where the monument stands [Custer Hill] down into the [Little Big Horn] valley until we could not see them any more." (Fox, p. 177) Finally, Lt. Philo Clark, who was investigating the battle in an official capacity in 1877, copied a battle map from a Sioux participant he interviewed on a reservation. Regretfully, a narrative does not accompany the map, but it clearly indicates troop movement from the vicinity of Custer Hill down to the river. A general depiction of the accounts provided by Fox, for Custer's left wing movements past Custer Hill, is displayed in Figure 4-6.

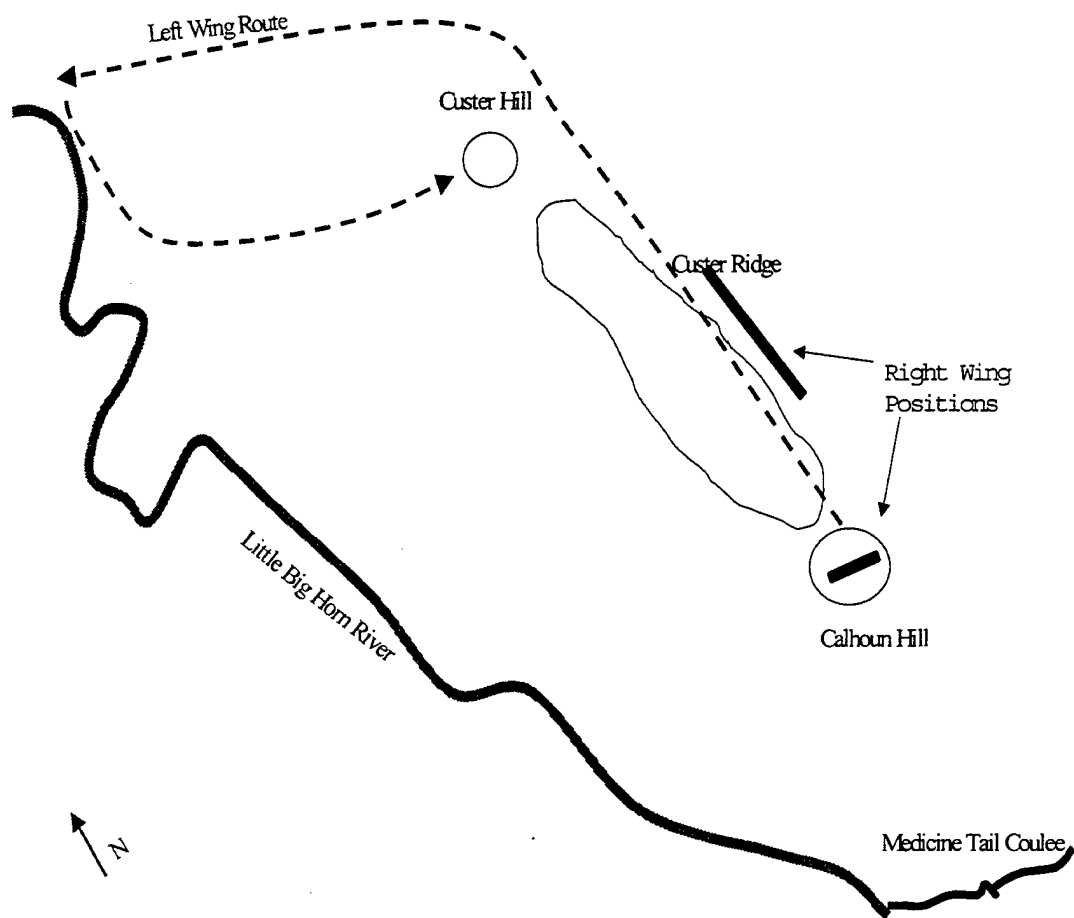


Figure 4-6. Left Wing Movements North of the Battlefield

Finally, in one of the most detailed accounts of the entire battle, an Indian named Runs the Enemy recounts an episode of skirmishing some 200-300 meters west of Custer Hill during the early stages of the battle. Runs the Enemy describes an Indian attack that broke through

cavalry lines and captured a substantial number of horses (Fox, p. 181). After this episode, Runs the Enemy goes on to detail his involvement in the rout of the right wing on Calhoun Hill. This, Fox argues, establishes the fact that left wing operations did indeed progress beyond Custer Hill well before the fabled "Last Stand". The troopers encountered by Runs the Enemy were, therefore, not refugees from the Custer Hill slaughter, but part of an earlier coordinated movement to the northwest of the battlefield.

Fox's claim of left wing operations beyond the traditional bounds of the battlefield seems well supported. While the exact routes and intentions of the left wing are conjectural, Fox's thesis regarding this northwestern excursion makes sense and fits well with the evidence provided. Perhaps the most compelling reason to accept Fox's claim of offensive maneuvering by Custer is the magnitude of separation between the battalion wings. From a tactical standpoint, the defensive positioning of units that far apart essentially precludes them from realistically supporting one another. There seems no logical reason for Custer to spread his forces so thinly across such a vast area, other than he was initially

offensively probing and unconcerned with the threat posed by the Indians.

*c. Left Wing Moves to Custer Hill, Met By
Survivors of Right Wing*

The final facet of Fox's theory that will be examined in relation to the historical record is the disposition of the troops on Custer Hill. Fox contends that pressure from the west drove Custer's left wing up Cemetery Ridge to the western slope of Custer Hill. Some 20 stragglers from the now annihilated right wing soon joined them. There were approximately 100 men gathered on Custer Hill in the closing stages of the battle. Roughly half of these men left Custer Hill and fled to the west, toward the river and the Indian camp. For Fox, this represents the practical end of fighting in the battle. While almost half of the men fled Custer Hill before the "Last Stand", the manner and direction of their flight indicate the futility of that action.

There are two foundations that underlie Fox's explanation concerning the arrangement of grave markers on Custer Hill (Figure 4-2). First, the fact that the grave markers are clustered on the western slope of Custer Hill suggests that the group was maneuvering from the west

toward the most advantageous defensive position, relative to a threat from the west. It would make no tactical sense to ensconce a large force in that particular location for a threat from any other direction. The western slope of Custer Hill would have afforded the troopers there the high ground and a clear view of Indians approaching from the west. Second, the opportunity for escape was gone. The fighting at this point was desperate, and the troopers huddled in a confused mass with no escape route. There seems incontrovertible evidence that the command was completely surrounded at this time. The fact that no bodies were found attempting to crest Custer Hill to the north or east clearly suggests that this path was blocked. The grave markers also indicate that the preponderance of force in the final attack came from the north and the east. Whether the grave markers to the south and west of Custer Hill represent a frantic flight or a defensive deployment, the fact remains that some forward movement was possible to the west and south. Contrarily, the huddled mass at Custer Hill proper show that flight in any other direction was impossible.

2. Fox's Battle Through Custer's Eyes

Viewed within Fox's theory of the Battle of Little Big Horn, General Custer is an aggressive, daring commander who seems to take the enemy for granted. While these may seem like scathing charges made in hindsight, when compared with prior operations Custer took part in, his actions at Little Big Horn seem consistent with his experience and character.

As mentioned in the analysis of Ambrose's theory, the events up to and including Custer's division of the regiment into three battalions are analogous to his previous encounter with the Cheyenne at the Battle of Washita. The actions attributed to Custer at Medicine Tail Coulee and beyond, particularly the division of the battalion into wings, also seem quite feasible. Furthermore, the offensive actions undertaken by the left wing, to ensure the capture of the entire village, are in keeping with Custer's primary concern - escaping Indians. With Reno supposedly engaging the enemy from the south, Custer saw no reason for an extensive defensive posture. The audacity with which Custer parceled his forces out in dwindling numbers, in the face of such overwhelming numbers, may seem illogical and unconscionable to the basic student of military principles. While Custer may have been

familiar with those principles, he consistently displayed an inclination to dismiss them. On the contrary, the scornful regard he held for Indian fortitude, cultivated in earlier encounters, encouraged him to stretch his command with nary a worry. The picture of Custer, painted by Fox, is absolutely consistent with his fabled, impudent past.

3. Reconciling Fox's Theory with the Independent Hypotheses

A quick review of the three independent hypotheses advance in Chapter II will assist in the comprehension of this section. First, escape was doubtful. Second, Custer Hill was effectively the place and time where General Custer ran out of options. Third, the positioning of Custer's forces across the battlefield was purposeful. Examining Fox's theory with regard to these hypotheses will assist in evaluating its relative credibility.

a. *Escape Impossible*

Fox confers substantial freedom of movement to Custer's left wing throughout the initial stages of the battle. This should not be interpreted as contradicting the first independent hypothesis. The assumption that escape was impossible is rooted in the location of grave markers. According to Fox, only light skirmishing marked

the early stages of the battle, granting Custer the liberty to continue offensive maneuvering in hopes of capturing as many Indians as possible. It was not until later in the battle, with the right wing collapsing and pressure on the left wing mounting, that Custer moved to the defense. From the time Custer moved to the defense, it appears that all escape routes were blocked. Consequently, the fact that Custer's left wing had few restrictions on their movement early in the battle does not detract from the notion that *they could not escape when the tide turned against them.*

b. Custer Hill was the Fundamental End

The grave markers across Custer Battlefield are helpful in reconstructing the action that took place there. Perhaps the most unique collection of grave markers is the cluster of over 50 that adorn the western slope of Custer Hill. While other groupings of grave markers indicate varying degrees of huddling by presumably terrified soldiers, no other location conveys desperation like Custer Hill. Other sectors of the battlefield can alternatively be interpreted as groups in flight or skirmish lines; and either way implies a degree, however slight, of hope. The 50 troopers who died on Custer Hill are bunched together, leaving a sense of imminent implosion. There are no

discernable battle lines here, nor is there a trail of markers indicating an attempt to escape. The explanation for this is that they were completely surrounded. Fox relates this succinctly, as the left and right wings converged to Custer Hill under pressure from different directions. Fox posits that while any number of the markers to the west may represent troopers who fled the hill *before* the final slaughter, the final 50 were obviously unable or unwilling to follow their compatriots to the west. Rather than undermine the concept of total envelopment, Fox's explanation for the men who escaped Custer Hill actually strengthens it. Given the choice to flee danger, these men chose to move down toward the Indian village, the source of the warriors who were overrunning them. This was because there was nowhere else to run.

c. Spread Out by Design?

Fox's entire theory rests on two major points. First, the movements of the left wing beyond the northern boundaries of the battlefield were offensive maneuvers designed to survey the outlying edges of the Indian village. Second, the initial level of Indian activity was judged by Custer to be insignificant enough to let half of his battalion check the advancing infiltration. This

scenario explains the spread of Custer's battalion as a misreading of the strategic environment, not as a panicked rout from the outset. Fox's account of left wing offensive maneuvering beyond the battlefield fit well within the independent hypothesis of a deliberate spread of Custer's battalion.

C. JOHN S. GRAY

The chief underpinning of Gray's theory of the Battle of Little Big Horn is a time-motion analysis of primary accounts. Working under the commonsensical assumption that "...anything that actually happened had to be possible", Gray set out to fashion a filter that would recognize those accounts that were consistent with likely rates of advance for a cavalry battalion, and were therefore feasible. The product of Gray's time-motion analysis is a meticulous account with a *precise* timeline. The Synchronization Matrix representing Gray's theory is Table 4-5.

Time	0 hr	+ :17	+: 20	+: 50	+1:25
Custer's Actions/Decisions	Dispatches Reno toward Indian camp	Turn battalion north, behind bluffs on east bank			Split Battalion
Reno's Battalion	Ride toward Indian camp		Initiate charge on Indian camp	Retreat underway	Effectively out of fight
Keogh's wing	Halt to water horses	North behind bluffs			North along Nye- Cartwright Ridge
Yates' wing	Halt to water horses	North behind bluffs			Down Medicine Tail Coulee
Southern Indian Contingent					Massing at River near Medicine Tail Coulee
Northern Indian Contingent					?

Table 4-5. Synchronization Matrix - Gray

Time	+1:35	+1:42	+1:50	+2:03
Custer's Actions/Decisions		Suppress Indian Pursuit of Yates' wing	Reunite with Yates	Reunited battalion just south of Calhoun Hill
Keogh's wing		Suppressing fire toward river	West toward Calhoun Hill	Reunited battalion just south of Calhoun Hill
Yates' wing	Light skirmishing over river near mouth of Medicine Tail Coulee		Turn north toward Calhoun Hill under mounting pressure	Reunited battalion just south of Calhoun Hill
Southern Indian Contingent	Engaging Yates' wing at Medicine Tail Coulee	Crossing river to east bank	Pressuring Yates' flanks	Pressing primarily from the south, enveloping the battalion
Northern Indian Contingent			Flanking Maneuver to north	Flanking Maneuver to north

Table 4-5 continued. Synchronization Matrix - Gray

Time	+2:07	+2:22	+2:30	+2:42
Custer's Actions/Decisions	Deploy rearguard, continue retreat toward objective of Custer Hill	Arrive at Custer Hill, deploy reinforcements for rearguard	Massed on Custer Hill	Annihilation complete
Reunited Battalion	Lt. Calhoun's company deployed as rearguard	Retreating toward Custer Hill, select companies sent to reinforce rearguard	Some troopers escape Custer Hill toward river	Annihilation complete
Southern Indian Contingent	Heavily engaging Custer's rear flank	Enveloping rearguard, progressing toward Custer Hill		Annihilation complete
Northern Indian Contingent	Flanking Maneuver to north	Attacking Custer Hill position from northeast		Annihilation complete

Table 4-5 continued. Synchronization Matrix - Gray

1. Reconciling Gray's Theory with History

Gray's work filters the profusion of primary accounts with his time-motion analysis. Using a standardized prescription for the advance of Custer's troops, which accounts for terrain, tactics, and the condition of Custer's men and horses, Gray devises an intricate recreation of the events on the battlefield. He also incorporates early archaeological surveys done on the battlefield (Gray, pp. 362-363). He chose to forego inclusion of the modern archaeological survey completed in

1985 (p. 384). Thus, there are important questions that can be posed from a historical perspective in relation to Gray's theory.

a. Custer's Action after Reno's Departure

A revealing disclosure in Gray's account of this period is the claim that Custer's battalion stopped to water their horses after Reno had been sent to charge the village. This seems to indicate no sense of urgency on Custer's part. This is wholly consistent with his subsequent action of probing the river at Medicine Tail Coulee, as opposed to charging the village at first opportunity.

The battalion separation, which closely mirrors Fox's theory, is corroborated by the presence of government shell casings at both Medicine Tail Coulee and Nye-Cartwright Ridge. It was still too early in the fight for the Indians to have brandished captured weapons from Reno's battalion, in any significant number, in this vicinity. The most feasible explanation for the presence of spent cartridges in these two locations is a two-element operation (Figure 4-7). On a related point, the separation of Custer's battalion enhances the notion that Calhoun Hill would serve as a rally point for the divided group. With

the Indians pressing Yates' wing from the south, Calhoun Hill is the first practical rally point which would have afforded both a consolidation site and suitable terrain for a defense.

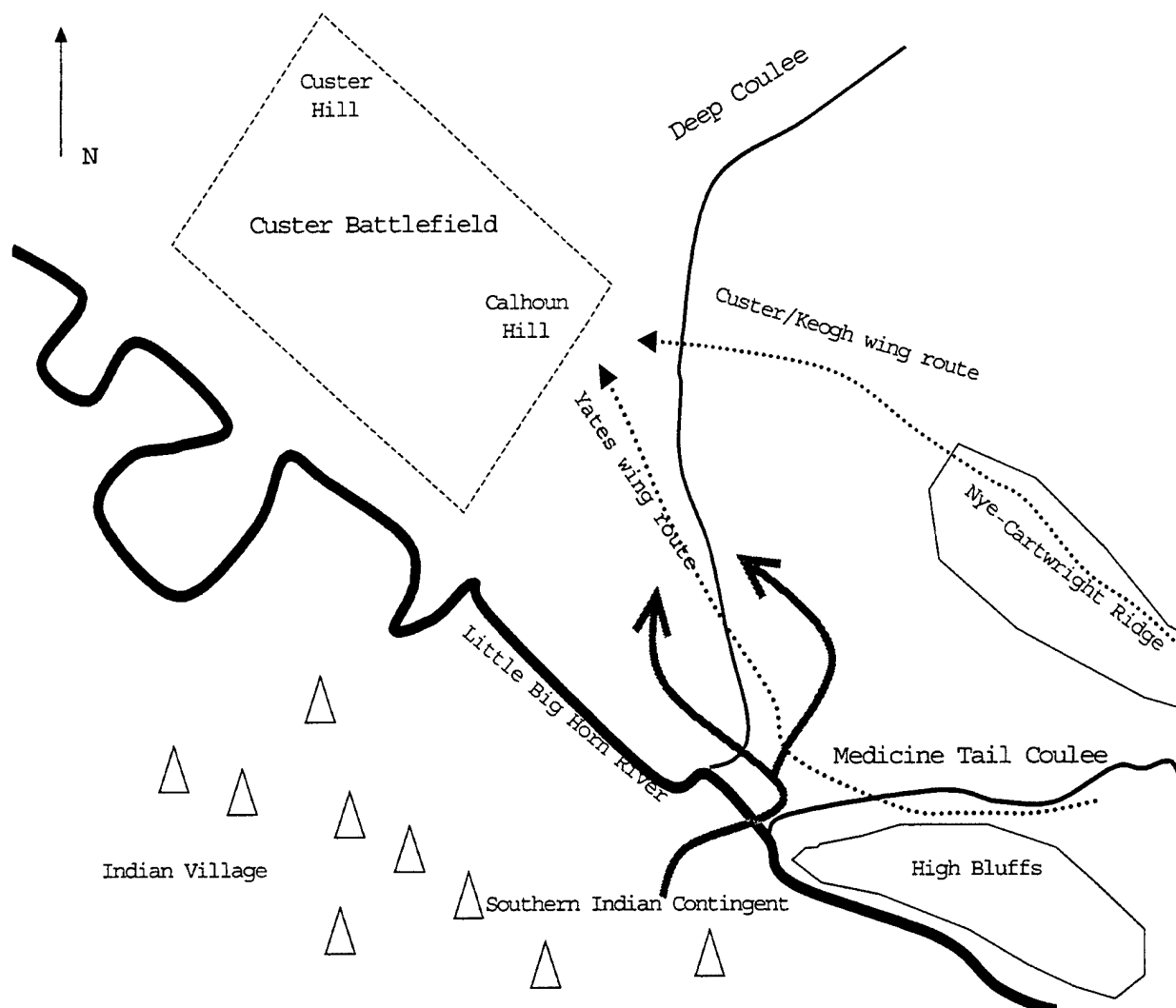


Figure 4-7. Custer Battalion Separation and Reunion

b. *The Retreat Across Custer Battlefield*

Much of Gray's recounting of the retreat across the battlefield is consistent with the explanation offered by Ambrose. The gist of the scenario is that Custer deployed Lt. Calhoun's company as rearguard, and proceeded to make way toward Custer Hill. Gray further explains that the weakening of Calhoun's line prompted subsequent deployments of companies from the vicinity of Custer Hill, back in the direction of Calhoun Hill. There seem to be two possible inconsistencies presented by this argument.

First, the state of affairs that bring Custer over 1000 meters away from his rearguard, in search of the perfect defensive terrain, contradict a statement made by Gray regarding Custer's mindset at this time. "Custer must have realized that the adverse circumstances demanded that he keep his small force together, at least within mutual supporting distance." (Gray, p. 390) Gray has Custer leading most of the battalion toward a distant topographic feature, while sending reinforcements to his rearguard as an afterthought. In particular, there can be no mistaking that the Custer Hill and Calhoun Hill locations are not mutually supportive vantage points, especially in the case of an infiltrating mob of Indians from the south. This

criticism is dampened by the likelihood that communication was poor, and confusion high. It is entirely possible that as Custer pressed ahead to the most suitable defensive terrain, Lt. Calhoun dropped at the first decent defensive position available, unaware of Custer's distant objective.

A consistent theme between Gray and Ambrose's accounts is the fact that if the scenario unfolded as they suggest, there was little, if any, tactical cohesion except for at Calhoun Hill. The lines of grave markers along Custer Ridge, according to Gray, represent troopers sent to reinforce Calhoun's position and curtail the advance of the Indians from the south. The orientation of these grave markers show that no significant defensive deployment was accomplished, and the troopers there were cut down while in flight (Figure 4-8). As was stated, it is entirely possible that the presence of so many Indians overrunning Calhoun's position induced a panic throughout Custer's ranks. It is a little more difficult to accept that Calhoun's single company held comparatively intact, and the other units along Custer Ridge uniformly broke ranks.

Another aspect of the Gray account that seems odd is the dearth of Indian casualties, generally estimated between 30 and 50. From the time Custer's battalion crests Calhoun Hill to the end of the battle is 35 minutes. This scenario leaves relatively little time for a slow, infiltrating envelopment of Custer's positions and concurrent attrition of his forces. Although the terrain around the battlefield is rife with gullies and ravines, with so little time allotted for the actual fighting the Indians would have had to initiate some substantial charges at Custer's positions. Considering the large number of Indians concentrated to the south, more Indian casualties inflicted in the early stages of the battle should be expected. Two possibilities diminish the force of these contemplations. First, efficient Indian shooting may have produced enough attrition in the early stages to induce an early panic. Second, the sheer number of Indians may have precipitated that panic without much attrition, and the ensuing chaos negated any tactical, cohesive advantage the troopers may have held.

Finally, Gray's details relating to the final minutes of the battle wane to reluctant speculation. He refers to a discrete Indian group that attacks Custer Hill

from the northeast, and another that comes from the northwest to finish off the refugees from Custer Hill (Figure 4-9). This setting, as in Ambrose's account, make perfect sense in relation to the grave markers in that sector.

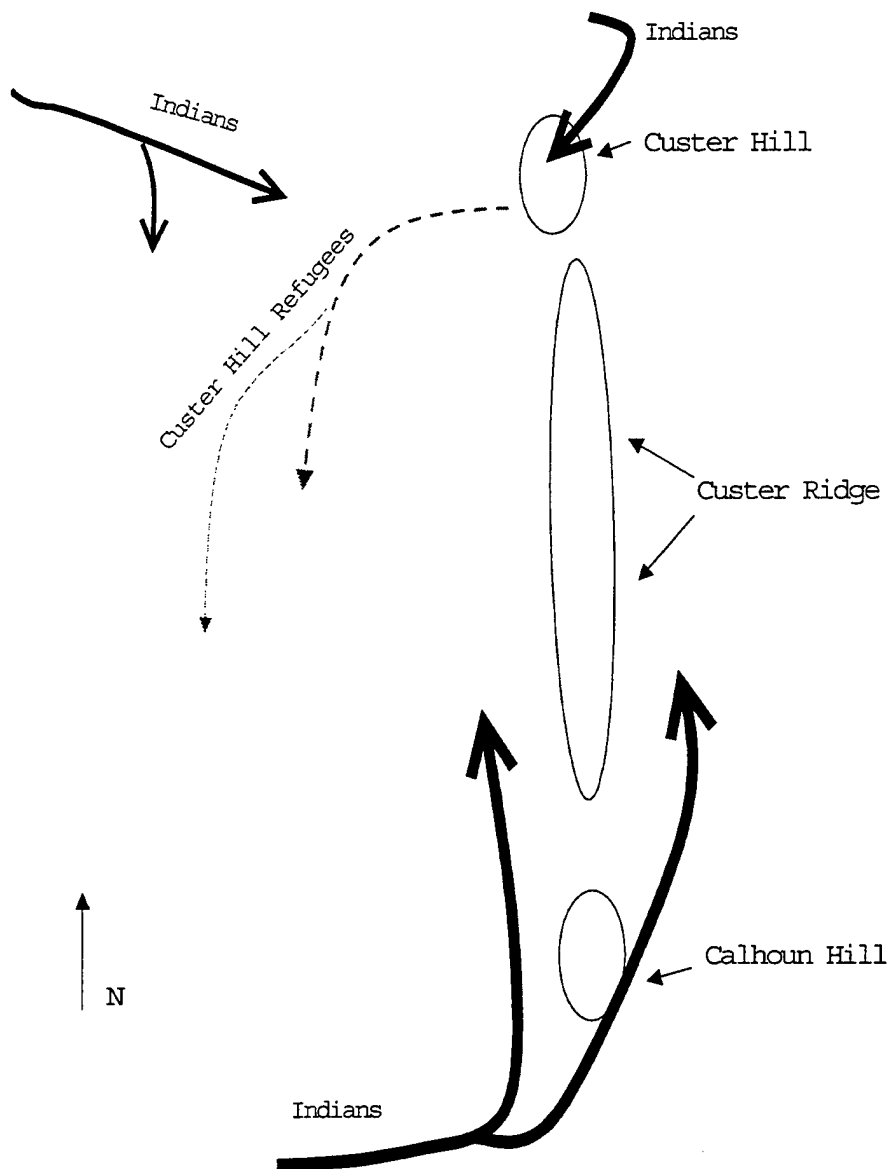


Figure 4-9. The Final Minutes

In sum, Gray's theory of the Battle of Little Big Horn merges well with the historical record. Regardless of the questions raised concerning the orientation of the grave markers, the explanations given by Gray for their disposition seem entirely feasible.

2. Gray's Battle through Custer's Eyes

The actions attributed to Custer, after his dispatch of Reno toward the Indian camp, reveal a lack of concern for enemy strength. Custer paused to water his battalion's horses, knowing he had a considerable distance to cover before he could engage the enemy. It seems likely that Custer believed Reno's attack would spur a slow moving retreat of the Indian village to the north. Taking this into consideration, the decision to split the battalion and probe the ford at Medicine Tail Coulee in search of a rear flank seems consistent.

The next major decision made by Custer, to press north and reunite the battalion at the high ground around Calhoun Hill corresponds with his thoughts at the time. The high ground would afford him an advantageous position to repel the infiltrators, track the movement of the village, and wait for Benteen and the packtrain, who had orders to

hasten to Custer's position. Unlike Ambrose's scenario, which had Custer's entire battalion retreating from the mouth of Medicine Tail Coulee, Gray's scenario of two companies making haste without much of a fight makes more sense.

As Custer crested Calhoun Hill, his mind must have been calculating where the best site for his entire battalion to maneuver was. Either an improper fixation on Custer Hill, or a lack of communication with his rearguard led to the tactically unsound spread of the battalion over Custer Battlefield. The notion that Custer was retreating to save his own skin, and indifferent to the plight of his rearguard is diametrically opposed to his character. Thus, it seems the fog of war clouded the events long enough for Custer to allow his forces to become hopelessly strung out. This precluded his ability to bring the full combat power of the battalion to bear on the pursuing Indians. While this was obviously Custer's worst showing as a troop commander, the actions and decisions attributed to him by Gray are consistent with his daring history.

3. Reconciling Gray's Theory with the Independent Hypotheses

Examining Gray's theory vis-à-vis the independent hypotheses developed in Chapter II will provide the final measure of feasibility.

a. *Escape Impossible*

Gray's theory, much like Fox's, maintains that Custer was probing north, not intending to attack immediately. Instead, Custer's plan was to seek out the best vantage point to envelop the Indian camp. The retreat enacted toward Calhoun Hill does not appear to be an all out attempt by Custer to flee the area. Initially, it seems that Custer was most likely looking for a place to hole up and wait for reinforcements. As the situation on the battlefield deteriorated, Custer made his way toward the infamous spot on the hill that bears his name. It is clear that any designs that Custer may have entertained regarding an escape, after beginning the ascent to Calhoun Hill, would have been futile. In summary, Gray's theory squares precisely with this hypothesis.

b. *Custer Hill was the Fundamental End*

The stragglers that left Custer Hill and fled to the west are not contraindicative of the hypothesis that

Custer Hill was the point in time and space where Custer's force ran out of options. With the massive throng of Indians kept in one general direction, Custer still had a chance, albeit remote, of either escaping or holding out. With the introduction of the Indian contingent from the north, all bets were off. Gray's theory shows, in concert with this hypothesis, that Custer Hill marked the end of hope for the troopers on the battlefield.

c. A Deliberate Spread?

Despite the fact that Gray contends that Custer approached Calhoun Hill with the intent of locating terrain suitable for "mutually supporting" battalion maneuvers (p. 390), the spread of the battalion was either an accident or negligent. The negligence, if indeed the spread was deliberate, is apparent because of the inability of the companies making way for Custer Hill to support the rearguard. Gray indicates that the companies along Custer Ridge may have been backtracking to aid Calhoun's company. This appears to signify a mistaken spread by either an overeager lead element, or a wayward rearguard. In either case, the evidence provided by Gray points toward a gaffe in relation to the positioning of supporting units. While this seems feasible, the hypothesis that the spread of the

units was premeditated takes precedence in this portion of the analysis. Referring back to Custer's operational history, it seems unlikely he would be at the head of a retreat that left behind a paltry rearguard. It would be more consistent with his temperament to be at the head of a counterattack at the earliest opportunity. The notion that Custer spread his forces intentionally, within Gray's scenario, seems remote.

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V. CONCLUSIONS

The examination of the three theories in Chapter IV demonstrated the analytical worth the techniques provided in the U. S. Army's FM 101-5. In particular, the Synchronization Matrix technique provided a flexible and efficient medium that could be readily modified from its original purpose of developing potential COAs into a useful tool to examine historical combat. The following discussion will evaluate the results of Chapter IV's analyses, and order Ambrose, Fox, and Gray's theories by degree of feasibility. Furthermore, the theory considered most feasible will supply a vehicle to support several theoretical "what-ifs".

A. RANKING THE THEORIES

Richard Allan Fox, Jr. has the distinct advantage of being involved, in a direct manner, with the revelations that the archaeological excavations of 1984-1985 uncovered. The access to this new information allowed Fox to liberate his thinking from the conventional assumptions that have stifled innovative thought in this genre. It is clear that

this fact contributes to his theory most closely merging with the combination of the historical record, Custer's disposition as a commander, and the independent hypotheses developed for this thesis. Gray rates a close second to Fox, with his only real shortcoming being an inconsistency with the independent hypothesis of a deliberate spread of Custer's forces across the battlefield. Ambrose finished last in the ranking, due to some inconsistencies with the historical record, Custer's temperament as a military commander, and the independent hypotheses. The discrete evaluation criteria are subsequently reviewed in order to identify the specific circumstances that led to this ranking.

1. The Historical Record

Fox sifted meticulously through the primary accounts in order to make sense out of their incongruous nature. His use of the grave markers in reconstructing the movement of Custer's forces across the battlefield is also persuasive. The actions attributed to Crazy Horse, while contradictory to the standard view of a protracted flanking maneuver, offer an explanation that is more compatible with past Indian actions in battle. Fox's theory allows Crazy Horse to lead an effective attack that indeed surprised and

overwhelmed Custer's forces from the rear, without having to consider the improbable persuasion of a thousand Indians to ride miles away from the battle to flank the troopers. There are no apparent inconsistencies between the factual historical record and Fox's theory.

Gray also did a fantastic job filtering the primary accounts through an independent assessment, with his time-motion analysis. This technique permitted Gray to discount, further interpret, and confirm many of the recollections of battle participants, as well as the distant observations of Reno Hill veterans. While Gray neglected to specify the origin of the Indians who overwhelmed Custer Hill from the northeast, his account is feasible within the historical record, as we know it.

Ambrose utilized voluminous primary accounts to support his version of the events on Custer Battlefield. Perhaps the most striking weakness of his description is the disregard of artifacts that do not coincide with his story. Specifically, the government shell casings found well to the east of Medicine Tail Coulee indicate that, in all likelihood, Custer's battalion approached the Custer Battlefield in two discrete elements. The actual events on the battlefield seem feasible with regards to the location

of the grave markers. Ambrose takes the traditional view of Crazy Horse's involvement, as he recounts the celebrated "end-around" from the north. In light of Fox's novel revision of this flanking maneuver, the conventional scheme of Crazy Horse's involvement seems less likely. Of the three theories, Fox's appears to have the most inaccuracies in relation to the historical record.

2. Custer's Disposition

Fox and Gray both portray Custer in a manner most closely correlated with his history as a military fighting man. Both men correctly identified that Custer was more concerned with capturing the entire Indian village and less concerned with charging ahead to support Reno's attack. While Gray's account tends to suggest egregious errors in the maneuver of the battalion about Custer battlefield, those errors are no more serious than the errors suggested by Fox's far-flung offensive probe. The only appreciable disparity between the two appears to be a lack of offensive maneuvering by Custer in Gray's account, which seems out of character.

Ambrose, on the other hand, attributes a ragged retreat to Custer, before any genuine fighting took place. Remember, Custer's entire battalion met the Indians at

Medicine Tail Coulee, and retreated without taking any casualties for close to a mile. While the retreat may make tactical sense, Custer's experience told him an Indian force would not stand up to the firepower of a cavalry unit. The disconnect here is that in Ambrose's scenario, Custer never initiated any offensive action. Of all the accounts, Ambrose's portrays Custer in a manner most inconsistent with his character.

3. The Independent Hypotheses

All of the theories met two of the criterion established from independent analysis. Gray, Fox, and Ambrose each portrayed the events on Custer Battlefield to be effectively over with the introduction of the northeastern attack over the apex of Custer Hill. Additionally, each of the authors represents the possibility for escape as impracticable. It was the final hypothesis, advocating a deliberate spread of Custer's forces across the battlefield that produced a distinction between the theories. Both Ambrose and Gray portray the spread of Custer battalion across Custer Battlefield as a product of confusion and panic. Only Fox paints a picture of calculated positioning. His explanation of a dual offensive/defensive operation explains the range between

the two wings of Custer's battalion, and satisfies the independent hypothesis.

Given that Fox's theory of the Battle of Little Big Horn stood up to the evaluation criteria best, it is apparent that his theory can be considered the most feasible of the three. Gray's theory runs a close second, and as his discrepancies with the evaluation criteria are mostly in the conjectural realm, his theory can also be considered quite possible. Ambrose had some inconsistencies with the historical record, as well as other evaluation criteria. It seems unlikely that Ambrose portrays Custer's approach and initial skirmishing with the Indians correctly.

B. RE-FIGHTING THE BATTLE OF LITTLE BIG HORN

As was stated earlier, the final endeavor of this thesis will attempt to ascertain whether or not Custer could have emerged alive from the Battle of Little Big Horn. Originally, three notional scenarios were to be tested. After the analysis of each of the three theories, it is concluded that enacting a speculative retreat at an earlier stage of the battle within all of the scenarios

would be nonsensical. In Gray and Ambrose's theories, the retreat was initiated at the first sign of danger and any attempt push back the point in time Custer called for a retreat would appear senseless. In Fox's theory, it could be argued that Custer ignored considerable, impending danger when pushing on with his offensive probe to the north. However, altering the decision to probe north would stray too far afield from the scenario offered by Fox. Foregoing Custer's probe north would essentially transform Fox's theory into one approximately matching Gray's. The only appreciable difference would be a few extra moments before the pressure mounted on the southern flanks of the battlefield. Therefore, any chance for the battalion's escape would require Custer to enact a retreat before any serious danger was apparent. Being so incongruent with Custer's character as a troop commander, such an endeavor would be of no use. Overall, each of the theories has Custer effectively cut off from any feasible retreat path toward his other battalions after descending Medicine Tail Coulee. It is clear that Custer's fate was indeed sealed early on in the action.

Nevertheless, two alternative scenarios will be reviewed in order to estimate their impact on the outcome

of this notional battle. The scenarios will progress from the least intrusive on history, to a complete revision of Custer's attack plan.

1. Benteen to the Rescue

The first hypothetical scenario is one that propels Benteen, with his 3 companies of approximately 125 men, past Reno's bloodied command and on to the Custer Battlefield. Many critics charge Benteen with indifference to Custer's appeal for reinforcements. These detractors contend that Benteen's willing disregard for Custer's orders contributed directly to the debacle at Little Big Horn. However, it is unclear if Benteen could have altered the outcome of the battle. The most accurate estimates regarding Benteen's itinerary have him arriving at Reno Hill at roughly the same time Custer is sending Yates' Battalion down Medicine Tail Coulee (Gray, pp. 272, 310). In order to test the feasibility of Benteen affecting the outcome of Custer's fight, it is valuable to display the speculative movements in a Synchronization Matrix (Figure 5-1). The time estimates used will be obtained from Gray's account. While Gray and Fox both estimate battle progression in similar time hacks, Gray's time-motion analysis accounts for Benteen's whereabouts in a much more

scrupulous manner. The rates of advance, which dictate the notional timeline, are also drawn from Gray's estimates in his study.

Time	0	1:15	2:05	2:20	2:45
Custer's battalion	Turn north	Arrive Medicine Tail Coulee	Calhoun Hill and Custer Ridge under heavy attack	Battalion quickly collapsing	Battle over
Benteen's battalion	Southern excursion	Arrive Reno Hill	Arrive Medicine Tail Coulee	First chance to engage flank of Indians to south of Calhoun Hill	25 minutes to become heroes

Figure 5-1. Synchronization Matrix of Benteen Rescue

As can be seen in the matrix, if Benteen had not paused at all at Reno's position, he would have arrived at the flanks of the Indians attacking Calhoun Hill when the rout in that sector was already underway. The Indians would have already enveloped much of Custer Ridge as well. With circumstances already grim, no avenue to directly link up with Custer's battalion, and only 125 additional troops it is highly unlikely that Benteen could have prevented the disaster at Custer Battlefield. On the contrary, the most

likely outcome would have been the addition of another 125 grave markers to the battlefield.

2. Charge!

The last alternative scenario to be discussed will be a notional charge, by the entire 7th Cavalry, over the route taken by Major Reno's battalion. This scenario presents what could be the best possible chance for victory that Custer could have hoped for. There are two advantages that this attack would have had over the actual battle. First, the most obvious advantage is simple numbers. As illustrated in a simple Lanchester combat model, smaller forces engaging a large force discretely will either suffer more losses, or die more quickly than if they were fighting in conjunction. (Giordano, pp. 411-419)

Second, the terrain encountered by Reno during his foray toward the Indian camp was much more suitable for large-scale cavalry maneuvers than the ravines, gullies, and hills dotting the Custer Battlefield. Lastly, with no considerable terrain features between the troopers and the Indian village, the Indians may have felt that their women and children were more threatened, and possibly have begun to retreat with them. In the actual battle, Custer could not have made a charge at any part of the village without

negotiating difficult terrain and fording the river, which would have made such a charge very vulnerable. Reno's efforts were feeble at best, and certainly presented no significant threat to the Indians' families, but his terrain would have been conducive for such an attempt if the numbers were there.

The prospects of survival, had Custer's regiment remained intact throughout the battle, seem quite good. While a victory, defined by Custer as capturing the entire village, seems unlikely, the prospect of living to fight again may not seem a bad alternative to Custer, given the luxury of hindsight.

C. THE UTILITY OF WAR-GAMING

The use of the U.S. Army's war-gaming methods, presented in FM 101-5, has proven an interesting, flexible means of examining historical combat. The advantage provided by the Synchronization Matrix is the concise representation of simultaneous, major actions. Viewing combat through this method allows for a more controlled, logical analysis of concurrent events. Furthermore, by modifying the Synchronization Matrix from its original

purpose, developing potential COAs, to a tool to examine previous operations, an innovative function for this war-gaming method becomes evident. The examination of prior operations, via the Synchronization Matrix method, is opened up to the free reign of notional variations in tactics, strategy, and force structure within a controlled, coherent system of analysis. From the Battle of the Little Big Horn to the hostage rescue attempt over the desert in Iran, war-gaming can release lessons from the past to be incorporated into battles of the future.

LIST OF REFERENCES

- Ambrose, Stephen E., Crazy Horse and Custer: The Parallel Lives of Two American Warriors, Doubleday, 1975.
- Brady, Cyrus, Indian Fights and Fighters, Doubleday, 1904.
- Connell, Evan, Son of the Morning Star, Promontory Press, 1984.
- Fox, Jr., Richard Allan, Archaeology, History, and Custer's Last Battle, University of Oklahoma Press, 1993.
- Giordano, F., Weir, M., and Fox, W., A First Course in Mathematical Modeling, 2d ed., Brooks/Cole Publishing Company, 1997.
- Graham, W. A., The Reno Court of Inquiry: Abstract of the Official Record of Proceedings, Stackpole Books, 1954.
- Graham, W. A., The Story of the Little Big Horn, Stackpole Books, 1926.
- Gray, John S., Custer's Last Campaign: Mitch Boyer and the Little Big Horn Reconstructed, University of Nebraska Press, 1991.
- Greene, Jerome, Battles and Skirmishes of the Great Sioux War, 1876-1877, University of Oklahoma Press, 1993.
- Moquin, Wayne and Van Doren, Charles, Great Documents in American Indian History, Praeger Publishers, 1973.
- United States Army Field Manual (FM) 101-5.
- Welch, James, Killing Custer, W. W. Norton and Company, 1994.

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BIBLIOGRAPHY

Keegan, John, The Face of Battle, The Viking Press, 1976.

Sandoz, Mari, The Battle of the Little Big Horn, J. B. Lippincott Company, 1966.

Upton, Richard, The Custer Adventure, Custer Battlefield Historical and Museum Society, 1981.

Wert, Jeffry, Custer, Simon&Schuster, 1996.

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