

# Battlespace: Archaeological Applications of a Strategist's Concept

by

Peter Bleed, Douglas Scott, and Amanda Renner

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At this gathering and in the midst of this wonderful array of exciting presentations, it is not necessary to point out that modern archeologists have discovered battlefields and conflict. As in consideration of any topic, archaeologists studying conflict depend on conceptual tools that can help with the discovery and interpretation of materials evidence. This paper presents for archeological consideration a conceptual model of combat called "battlespace" that has been developed by contemporary military planners. We explore the possibility that battlespace can help archaeologists appreciate the specific factors that shaped past military operations with a discussion of fighting that occurred at the Battle of Mud Springs, Nebraska in 1865.

## Battlespace Defined

Compared to concepts like strategy, logistics, and command, the military concept of battlespace has had a brief history. Ngram searches for the term indicate that it was being presented in public documents in the 1970s. By the turn of the 21<sup>st</sup> century, battlespace had become a regular part of military, policy jargon, and appropriation requests. To complete its public presentation, a series of computer based simulation game have appeared in recent years carrying some variations of the word battlespace.

Although the term had been finding utility without specific definition for some time, the 2001 edition of the US Army **Field Manual 3-0 Operations** finally defined battlespace as "the environment, factors, and conditions commanders must understand to successfully apply combat power, protect the force, or complete the mission." In essence, battlespace presents a conceptual means of linking material, behavioral, cognitive, and geographic aspects of combat. This is obviously a broad topic with nebulous elements so the 2001 edition of **FM 3-0** describes battlespace with a series of conceptual subdivisions aimed at sensitizing commanders to the diverse contextual factors that can impact military operations.

Figure1, Battlespace model from FM3-O

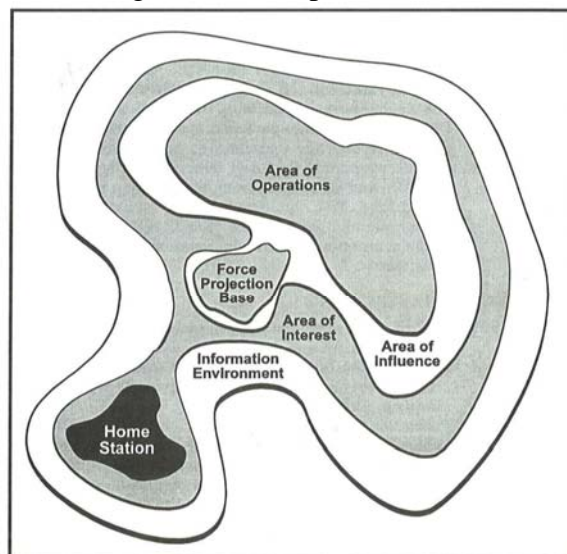


Figure 4-5. Battlespace Components

The specific geographic space where a force is engaged is called its “area of operations” or **AO**. As the zone where forces are located, it is occupied territory. Around that immediate operational area, the battlespace approach encourages commanders to visualize an area of influence. This may not be completely occupied, but it includes the zone that an operational force can effectively project force. It is in their control. Beyond that zone, a battlespace includes an area of interest that might include potential objectives for the force occupying the AO. It could as well be occupied by enemy forces.. Information on even broader areas, called the information environment can also shape events in a battlespace. Information is central to the battlespace approach. The mplicite assumption is that, following strategic priorities, command decision will be invariably be shaped by the available information.

Facilities can be central features of military operations so battlespace is also shaped by deployment of resources, forces, and military facilities. Facilities that can impact battlespace include force projection bases which are staging posts from which forces can be deployed to an operational area and Home stations were forces are based and from which they can be deployed. Obviously, access to support is an important element that has to guide the decisions and movement of forces in the field.

Finally, in discussing battlespace, **FM 3-0** shows that commanders may undertake operations that are short of simply destroying opponent forces, but aimed instead at the short term goal of improving or “shaping” a battlespace. Shaping actions can include improving security, actions that limit enemy capabilities, or gathering information. The immediate goal of such actions is to support a mission by improving a force’s battlespace. They are not themselves expected to be decisive.

### **The Battle of Mud Springs and the North Platte Campaign as Battlespace**

Fighting in the North Platte valley in 1865 followed the November 29, 1864 destruction of Black Kettle’s village of Cheyenne (McDermott 1996; 2003; Greene and Scott 2004) by a regiment of Colorado Volunteers. In the wake of that assault, a large community of Cheyenne, Lakota, and Arapaho coalesced and moved toward the security of the isolated Sandhills and the Black Hills. With limited opposition, this group attacked Julesburg, Colorado and a number of ranches and other facilities to avenge the massacre and to gather resources. The mobile community included some 2,000 to 3,000 people. They reached the North Platte in early February, 1865 with a substantial store of captured arms and resources. By no later than February 5, they established a camp at the headwaters of the spring-fed Rush Creek, now known Cedar Creek. For a couple of days the Rush Creek camp appears to have been an operational base from which fighters attacked Mud Springs, a telegraph station and watering stop some 8 miles to the east.

The North Platte valley was home to the Cheyenne. As mobile hunter/herders they operated across and even larger zone. They had an area of interest that covered a huge portion of the west central Plains including the valley. There were military threats present within this zone, but extensive movements by groups and individuals assured that information about opportunities and problems of this zone was generally available to the community. Their deep historical familiarity and ample experience with the resources and features of this environment gave them a very large information environment.

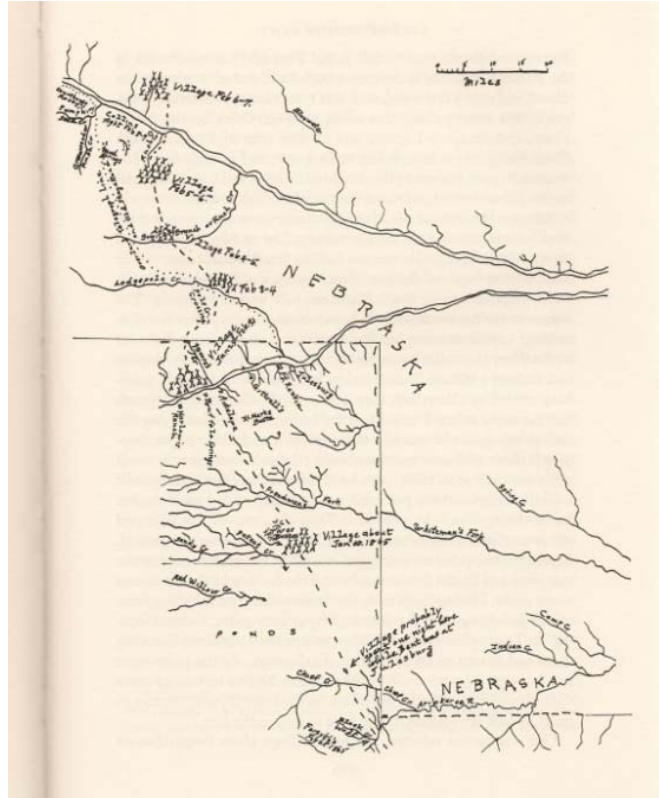


Figure 2, George Bent's Map of the Post Sand Creek Events

In battlespace terms, between Feb 4 and 7<sup>th</sup> 1865 Mud Springs would have presented Cheyenne fighters with a magnificent AO. Their families and community were well supplied and securely camped in a home station at the head of Rush Creek. This location was entirely unknown to U.S. forces but it was within a rather easy horseback ride of Mud Springs. For this reason, as many as 1000 Indian warriors were engaged at Mud Springs (McDermott 2003:38). Mud Springs also offered a large herd of both horses and cattle that were highly value war booty to Cheyenne warriors. Finally, Mud Springs was a compact target. Initially, and even for a short time after the reinforcement arrived, Army forces at Mud Springs were clustered in a very small area that was bounded on several sides by hills and ridges. Concentrating their forces in this broken area of operations increased their power and presented Cheyenne fighters with opportunities for valorous display which was a strategic goal for Plains communities.

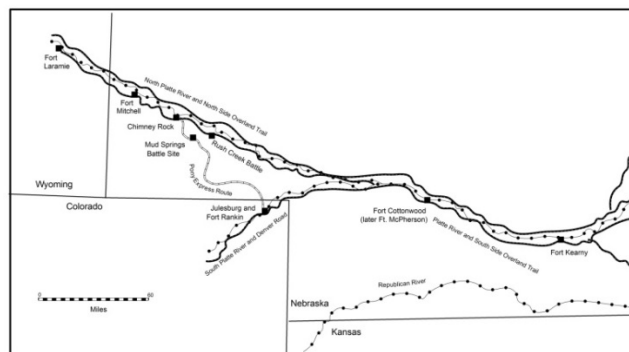


Figure 3 The Overland Trails that defined US Army areas of interest

The Mission of the frontier army during the Civil War was of keep the Overland Trail open. Their areas of interest and information were truly narrow, extending not far from the overland trail itself. In battlespace terms, on February 4, 1865 the Mud Springs Station was US Army a force projection base. It was occupied by a nine troopers from the Eleventh Ohio Volunteer Cavalry, telegrapher Richard Ellsworth, and four civilian cowboys ensconced in a log structure built between a hill and low ground of a spring. The Station, and especially the corral full of horses and cattle on its west side, had to be an attractive objective for Indian fighters. Early in the fight, the defenders loosed their stock hoping that would redirect the attention of the Indian attackers. This plan worked. When the corralled stock was free, most Indian attackers left the Station in a melee aimed at capturing horses and cattle.

Using their own cutting edge information system, the Mud Springs defenders telegraphed for help. Relief forces, composed of elements of the Eleventh Ohio Volunteer Cavalry and Seventh Iowa Volunteer Cavalry arrived on February 5. By the 6<sup>th</sup> there more than 200 troopers and at least than number of horses, several wagons and a small cannon were congregated with in a very small area clustered near the Station. This must have been a truly crowded **AO**.

The opposing sides were also very close to one another and engaged over the same ground. Warriors were able to use the hill immediately south of the Station to get within 100 yards of where the newly arrived force was clustered. This put the crowded base in easy rifle and even bow and arrow range of their attackers. Initially, the sides seem to be involved in essentially individual contests between fighters who crept close and to the Station and individual soldiers who took part in “bo-peep” fighting. That is, individual Troopers seem to have left the Station to engaged Cheyenne Warriors in showy duels. Valorous displays may have been a goal for Indian warriors, but this tactic suggests that Army command and controlled was relaxed. But on the 6<sup>th</sup>, even before his force had completely arrived, a dismounted force assaulted the hill and was followed by a cavalry sweep. This fighting took less than a couple of hours but when the hill was taken a rifle pit was dug and occupied for at least the next couple of days. “Digging in” may strike modern observers as a unusual tactic for a cavalry unit, but the U.S. Army in the West usually operated as mobile infantry so that they would have been comfortable and effective dismounted. Still, looked at long after the fact, the archaeology of this rifle pit raises questions about why it was excavated and why it was located where it was. It is also a feature that opens consideration of the fighting that took place at Mud Springs Station to application of the battlespace model.

### **Shaping the Mud Springs Battlespace**

The actions the Cavalry took once reinforcements had arrived and had time to organize after their arduous journey can easily be described as “shaping operations”. That is, they seem not to have been directly aimed at opening the Overland Trail or even chasing the Cheyenne away from Mud Springs. Instead, they created conditions that enhanced the success of those decisive goals. In battlespace terms, the assault on the south hill was a security operation that shaped the condition of the Mud Springs **AO**. Depriving Indian fighters of use of the hill as a firebase increased the security and effectiveness of the force that was crowded together near the Station. It increased the area where the Army could comfortably operate as they organized for decisive action.

Occupying the top of the hill also reduced the capability of Cheyenne forces to operate. It reduced their AO.

**Figure 4** uses LiDAR topographic data to present the viewshed that would have been available to standing soldiers at the Mud Springs Station. In the broken terrain near the Station individual warriors could get close, make a sudden showy presentation, fire some shots, and quickly retreat to a secure location, all with their friends and associates present to witness. By moving carefully, Cheyenne warriors could approach to within easy rifle range of the Station from a couple of directions. The possibility of getting close to the Station also, of course, afforded advantages to fighters intent on capturing stock – horses or cattle – held in the Mud Springs corral.

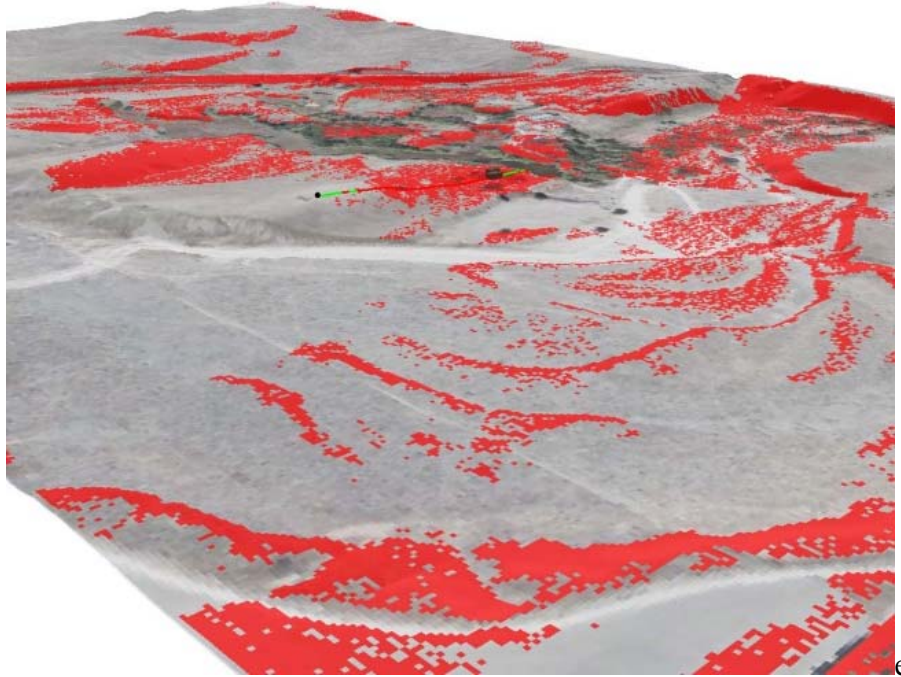
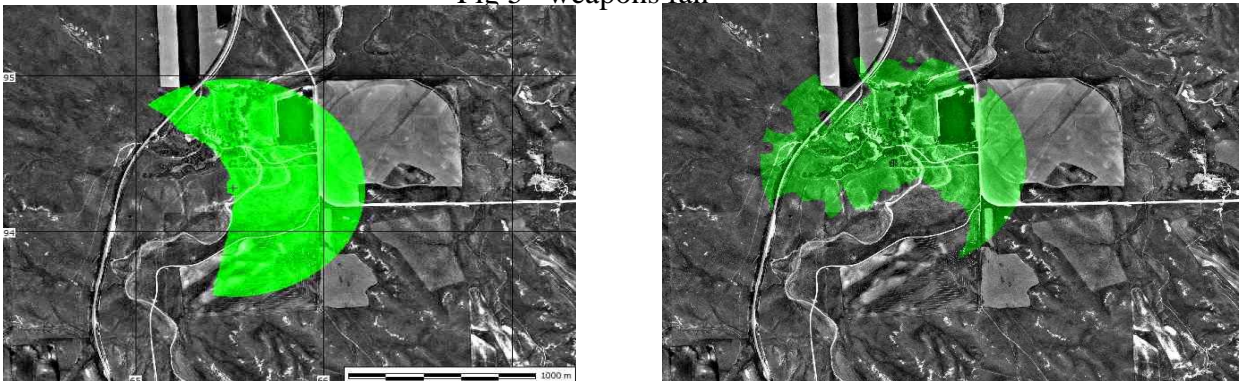


Figure 4 Viewshed available from the Mud Springs Station

As a shallow pit dug in sandy soil, it would not have offered good cover as a firing position. The view from the rifle pit and the top of the hill also deserves consideration. Fig 5 shows that a soldier hunkered down in the pit would not see the slopes of the hill, and areas as close as 20m. from the pit. Men assigned to this duty could not even see the Station itself. With more than 200 men at the Station when the pit was created, men assigned to that post probably could hear their colleagues, although crouching in the pit would have been lonely and isolated duty.

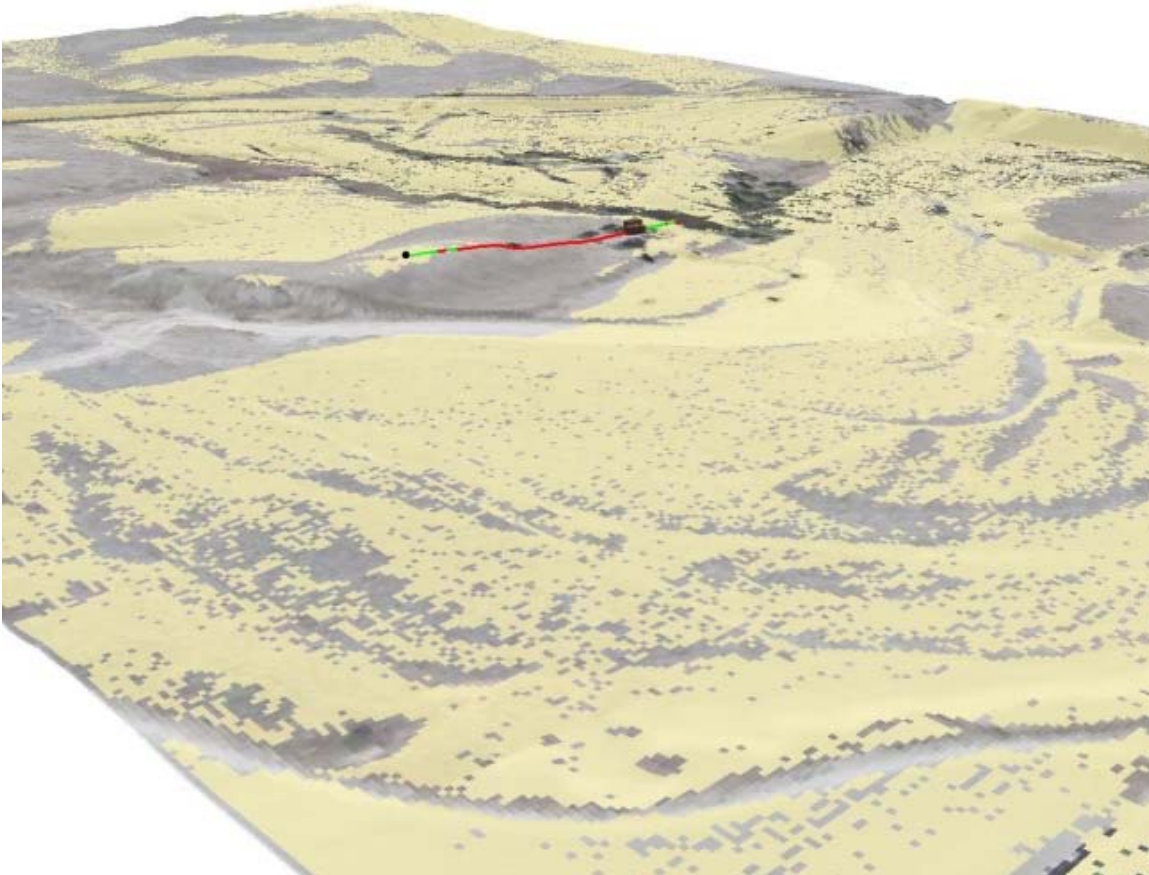
Fig 5 –weapons fan





The rifle pit would also not significantly increase the area that a rifleman could command. **Fig 5** presents “weapon fans” for soldiers shooting from the Station and the riflepit. If we estimate the maximum range of the Wesson carbines they carried at 700m rifle range, a rifleman on the top of the hill could cover a bit more of the south side of the Station site, but otherwise could cover a few areas that could not be defended by a rifleman at the Station. The rifle pit did not significantly increase the offensive capability of the newly arrived troops.

Fig 6 Riflepit viewshed



If the rifle pit did not completely cover the area Army troops could see and command near the Station, it greatly enlarged their view of the terrain surrounding the Station. **Fig 4** presents the viewsheds that was available to a person standing at the Station site and to one standing at the rifle pit. These viewsheds are based on LiDAR mapping and both reflect the broken country that marks the south side of North Platte valley. From the hill top, however, even a lookout sitting out of the wintry wind in the rifle pit would see a much wider area that would have been apparent from the Station. The large hill directly east of Mud Springs provided cover for Warriors riding from the Rush Creek camp until they were a mile east of Mud Springs. Within that range, they could use small features to draw even closer. But, a lookout in the rifle pit had a nearly full eastern view and could see riders approaching Mud Springs for from a couple of miles to the northeast and southeast. Getting that information to their colleagues at the Station required an exposed run down the hill. But the lookouts assigned to the rifle pit

expanded the Cavalry's area of influence. They would have also significantly diminished the sporting potential and tactical value of bo-peep fighting for Cheyenne warriors

### **Discussion and Conclusions**

The vocabulary and concepts of the battlespace model can easily be applied to the events of Feb 4 – 9, 1865. The area of the Mud Springs Station is easily viewed as an **AO** for both the Cheyenne and the Cavalry. Nesting that **AO** in the context of the information and interests the two sides brought to the fighting makes it clear why conflict broke out here. From the Army perspective, combat at this location would do little to open the Overland to safe travel. It also changed the appeal and suitability of the Mud Springs as an AO for the Cheyenne forces. The social and material benefits of combat there had been greatly reduced. A rested and organized cavalry detachment – with a cannon (!) – only a few miles from their community camped at the head of Rush Creek also significantly altered the Cheyenne area of interest. Moving away from the North Platte valley and moving into the Sand Hills, an area outside Army influence or interest,

Battlespace also offers a reasonable basis for understanding why the battle developed as it did. Battlespace emphasizes the importance of information available to military commanders and the Mud Springs case neatly shows how modern techniques of terrain analysis, the Mud Springs case reveal the kinds of information that were available to past commanders.

Battlespace is well positioned to support archeological investigation of war, combat, and battlefields in part because it accommodates the material residues and patterned distributions that reflect combat. It provides a theoretical framework for interpreting weaponry and fortifications. Beyond its topical fit, battlespace provides conceptual means of linking conflict residues to operational decisions and the behaviors combative actions. It provides, in other words, an interpretive structure that can help archaeologists make military sense of combat debris.