toon. The BFV platoons would be capable of operating as either light armor platoons or as companies. The larger infantry platoons would be identical to conventional infantry platoons and just as powerful when dismounted.

POSSIBILITIES

The possibilities would be great. Conventional infantry units could then be quickly integrated into mechanized operations without reorganizing, an impossible feat with the present four-BFV platoon.

Once the infantry elements had dismounted, the BFVs could withdraw and pick up an additional platoon, shuttling it under armor too. Thus, not only would we have the tremendous potential of the fighting vehicle, but we would finally have an excellent "battlefield taxi," which we know is essential on the modern battlefield.

Disadvantages? I'm sure there are a few, but I can't think of any major ones. Triangular organizations are habitually nice, but I would hardly consider this balanced team to be a disadvantage. Control of the expanded BFV platoons would actually be simplified since the PL would be a mounted warrior all the time, instead of the "jack of all trades" he is now—sometimes a TC, other times a ground pounder, always changing his role and position. The infantry platoon would be stronger and more strongly led. The soldiers would no longer need to wonder where the PL or PSG might be. They would know. The PL and PSG would be with their platoons on the ground where they belong, leading.

The one issue begging, of course, is proponency. Would the BFV platoon be an Infantry organization or an Armor formation? Frankly, that's an issue for some high ranking people to decide. I don't care which they choose so long as they do choose and let us get on with the business of fielding an effective fighting force.

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Divide and Conquer

ROBERT E. ROGGE

Mass, firepower, and maneuver—these have been the basic tenets of war since the first cavemen threw rocks. These principles, manipulated by a knowledgeable and personally forceful commander using the right tactics, can win a battle—even against a superbly trained, disciplined, and equipped force commanded by an officer of demonstrated battlefield ruthlessness.

One such battle was fought on American soil some 200 years ago—the Battle of The Cowpens during the Revolutionary War. As a classic study in command and tactics, this battle deserves the attention of today's small unit commanders. It was fought on a purposefully selected site that offered no real avenue of escape. On one side was a mixture of infantry and cavalry composed of regulars and militiamen, all of whom were ill-fed, ill-clothed, and randomly armed. On the other was an intensely disciplined infantry and cavalry force, supported by field artillery—a force, moreover, that had come to believe in its own invincibility when facing such an inferior enemy.

Yet the rag-tag force defeated the better disciplined one. Why? Because its commander knew his own troops, knew what to expect of certain formations when the fighting came to close quarters, and knew the enemy's training and discipline and what they were founded upon. He also understood how to use maneuver to achieve a decisive victory. Using all this knowledge, he sited his troops to take advantage of their strengths and their weaknesses.

It is these facets of command—the use of firepower, maneuver, and mass—that are worthy of our consideration. Although the battle took only about an hour, it was a decisive victory for the American colonists, and so altered the enemy's strategic planning that his surrender at Yorktown came in less than a year.

The American Revolutionary War was primarily a land war, and battles were mostly fought in the European fashion by massed ranks of infantry volley-firing their muzzle-loading, smoothbore muskets at ranges of less than 200 yards. Since those muskets were notoriously inaccurate, a bayonet charge determined the battle. This charge, the classic example of mass as opposed to firepower and maneuver, was always the British Army's final tactic.

Highly trained and eminently skilled in such mass tactics, the British soldiers rarely lost a battle when they could come to grips with their enemy. But the American war was a new kind of war fought mostly in wooded terrain with few clear spaces large enough for forming up dense

ranks of infantry. The British were, therefore, tactically limited in their maneuverability.

There was yet another factor that the British had not come to grips with—aimed rifle fire that decimated the ranks of the officers and sergeants, the battle leaders. The American rifle, a product of a backwoods environment that demanded highly accurate shooting in defense of hearth and home, could not be fitted with a bayonet. The colonial militia, accordingly, was prone to break and run when British bayonets came close. But when used in its sharpshooting role and then combined with the volley fire of massed muskets, the rifle was a deadly weapon. (British officers called it "the widow maker.")

Few British commanders could adapt to the turnabout in their European-style tactics imposed by the combination of American wilderness and the hit-and-run tactics used by the militia forces of their foe. They were more comfortable fighting the American Continentals, the regulars, who had been trained in European drill and formal battlefield evolutions. A few British commanders did adapt to the new conditions, one of whom was Lieutenant Colonel Banastre Tarleton, who commanded a ruthless, mobile strike force in the Carolinas known as Tarleton's Legion. It was composed of dragoons and mounted infantry augmented by British regulars and by Tories, colonial Americans who remained loyal to the British Crown.

SAVAGE

In the sixth year of the Revolution, the war in the South, from Georgia to Virginia, had become a savage civil war. There were few American Continentals in the theater, because most of them had been captured when Charleston, South Carolina, fell on 12 May 1780.

Defeat followed crushing defeat for the Colonists, and even their singular victory at King's Mountain, South Carolina, on 7 October 1780 did little to improve their fortunes. The battles that were fought—Camden, Guilford Court House, Hobkirk's Hill, Eutaw Springs—were particularly bloody. Tarleton firmly believed that the only way to defeat an enemy was to destroy him in the field, and when his dragoons and mounted infantry struck, they sabered their enemies unmercifully, earning for him the infamous title "Bloody Tarleton."

Major General Nathanael Greene had replaced Major General Horatio Gates in command of the Colonial forces in the South after Gates' defeat at Camden in August 1780. Greene's principal subordinate was Brigadier General Daniel Morgan, who commanded a force of some 900 men. Although it was militia-heavy, it was leavened by Continental and militia cavalrymen under the command of Colonel William Washington, a distant cousin of George Washington.

Slogging through the forests and swamps with Morgan were also some Maryland Continental infantry troops under Colonel Otho Williams and two companies of veteran Virginia militiamen. This motley force was later joined by Georgia and South Carolina militiamen, some of whom were mounted, under Colonel Andrew Pickens. In all, Morgan commanded about 1,100 men, a force slightly smaller than that of "Bloody Tarleton," who was in hot pursuit.

In December 1780, Colonel Washington's cavalry made a quick strike at a Tory force at a place called Ninety-Six, provoking Cornwallis into ordering Tarleton to move against Morgan. Tarleton moved out on New Year's Day 1781 with his Legion, which then numbered some 200 dragoons and 200 mounted infantry. He also had a 300-man battalion of the 7th Regiment of Foot, another battalion of the 71st Highlanders, a 100-man force from the 17th Light Dragoons, and a detachment of the Royal Artillery with two three-pounder guns. In all, Tarleton commanded about 1,200 men.

When a commander deliberately divides his force in the face of an equally strong enemy, he must have absolute confidence in his knowledge of his own troops' actions under fire, and he must also be well-versed in the psychology of the enemy forces. Such unorthodox tactics can win—if every man in the divided force is told what is being done, how the battle is being planned, and what he will be expected to do in that battle. Additionally, he must have total confidence in his own powers of command. Morgan had that confidence.

By 16 January Morgan, knowing that Tarleton was close on his heels, decided to make a stand at The Cowpens, a place that offered good forage for his horses and was swamp-free and open. The Thicketty Creek lay to his front (south), the Broad River was some five miles to his rear, and there was a knoll upon which he could place his main battle line of Continentals and his trained Virginia militia.

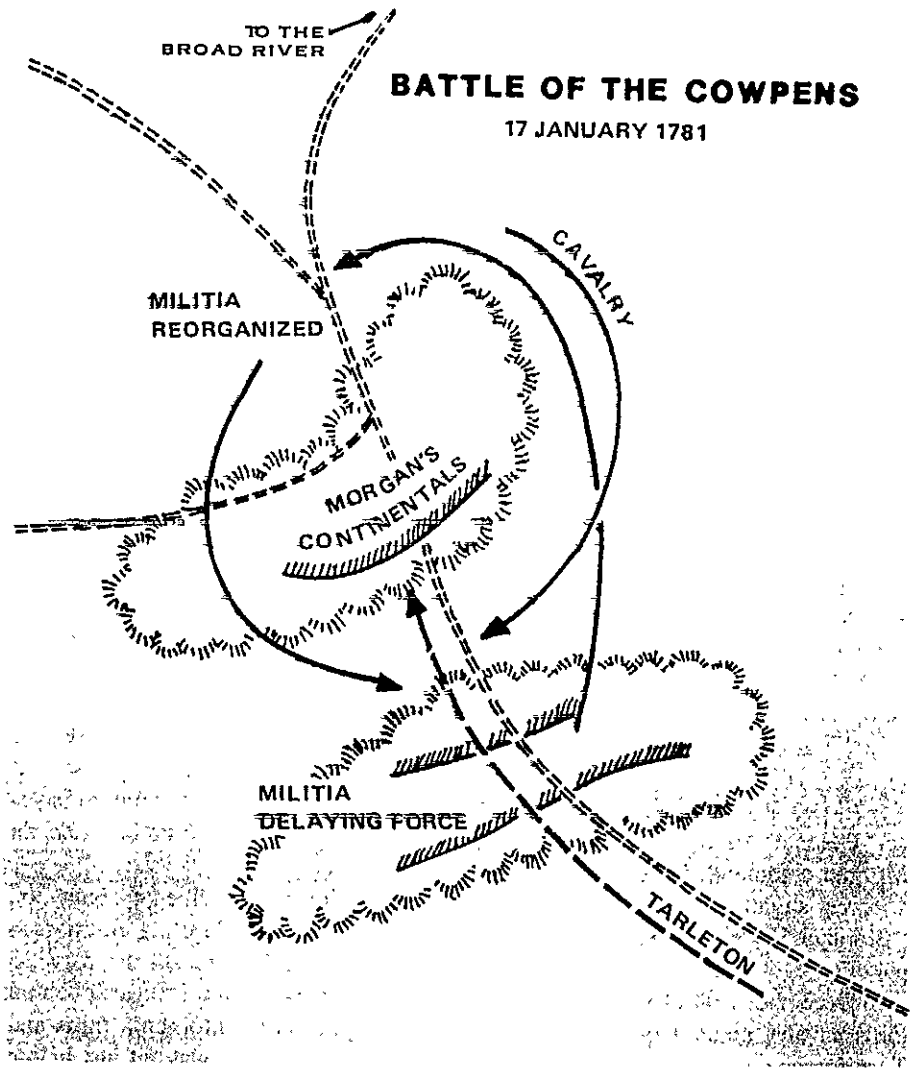
BAYONETS

Now Morgan drew upon his knowledge of how American militia reacted when British bayonets came close. He placed a line of about 150 Georgia and North Carolina militiamen as sharpshooters at the foot of the knoll, facing Thicketty Creek. He expected these men to run when the British got within bayonet range since they had no bayonets on their rifles.

He set his second line of about 300 North and South Carolina militiamen under Colonel Pickens on the forward slope of the knoll some 150 yards behind the sharpshooters. Morgan's third and final line of infantry was set just below the crest of the knoll with the Maryland and Delaware Continentals under the command of Lieutenant Colonel John E. Howard, Morgan's second-in-command, as the center lock of the battle line. On the right flank were nearly 200 Virginia militiamen, and on the left flank were the best of the Georgia militia.

Colonel Washington's cavalry force of about 140 horsemen, almost half of whom were militia, took position behind a second, smaller knoll some distance behind the main battle line. This area was also to be the rallying point for the militia.

After he had set out his battle lines, Morgan spent most of the night going from campfire to campfire telling his troops how he planned to fight in the morning and how he expected them to perform. To the front-ranked militiamen he repeated, "Two volleys at killing range," and told them that they could



then retire into the second line and fight there until the time came to retire to the spot where Colonel Washington's cavalry was waiting. There they were to re-form and await further orders. This was a retrograde movement, to be sure, but one with a specific purpose—to re-form and fight again.

When he spoke to Pickens' men, Morgan exhorted them, "Look for the epaulets! Pick off the epaulets and the sergeants!" Morgan knew that the soldiers of the British Army relied heavily on the leadership of their officers and sergeants.

Tarleton attacked at dawn on 17 January 1781. On his right flank were his Legion dragoons and next to them his light infantry. A three-pounder gun went into battery next in line. The Legion infantry was next, then the second gun swung into position, while the 300-man battalion of the 7th Regiment of Foot anchored his left flank. The 71st Highlanders and some 200 cavalrymen were held in reserve.

The two artillery pieces opened fire on the Americans but with little effect. Fifty of Tarleton's green-jacketed Legion cavalry spurred toward the American lines, and the backwoodsmen's rifles began cracking. Twelve horsemen went down, then fifteen. The survivors wheeled and galloped back.

Now the British infantry began to advance in the steady, seemingly irresistable, regimented pace in which they had been drilled. It was an awe-inspiring sight to the rough-and-ready militiamen who watched the bright regimental flags flying and heard the drummers beating the cadence. Morgan, riding along Pickens' line, which was already receiving some of the forward sharpshooters into its ranks, exhorted his men: "Hold your fire until they're a hundred paces away. Give them two volleys. Then you can move off to the left and get around behind the hill and straighten yourselves out!" Knowing his militia, he was giving them an honorable way out.

The British infantry advanced until they came into Morgan's killing zone. The first volley from Pickens' line shredded the attackers. At a range of 100 paces, even the muzzle-loading smoothbore musket of the Revolutionary War was a dangerous weapon.

The militia delivered a second smashing volley and began to retire as Morgan had ordered. British cavalrymen, as they went around the left flank of the Continentals on the knoll's military crest, broke into pursuit but were met head-on by Washington's mounted force and were routed. It was a complete surprise to the British and was a well-executed protective maneuver than enabled the militia to retire to the forming-up rendezvous. After a brief flurry in which they gave better than they received, Washington's cavalry trotted back to their assembly point.

Morgan's battle plan was working. He had used his militia to blunt the ponderous British infantry advance and, as his militiamen retired and re-formed, his disciplined Continentals on the crest began volley fire by company into the British ranks.

Tarleton ordered the 71st Highlanders forward to turn the American's right flank, and Colonel Howard turned his Virginians on that flank to meet the threat. Morgan's main battle line was shrouded in musket smoke as volley fire erupted from the Continental line, company by company, into the British. The decisive point of the battle had arrived, and Morgan ordered every unit to advance against the British.

The Virginians delivered a point-blank volley at 30 paces that swept away the front ranks of the kilted Highlanders and charged home with the bayonet. As the Virginians struck, Washington's cavalry went into action once again and smashed the British right flank. The Continentals poured in a final destructive volley and charged, and the re-formed militia swung around to the American right flank and struck the failing Highlanders, pinning them against the Virginians.

Morgan had achieved the classic dou-

ble envelopment, and the battle was won. Tarleton, after an ineffectual exchange of saber blows with Washington, escaped with the remnants of his force. His losses amounted to 230 dead and 600 prisoners, many of whom were wounded. Morgan counted 12 dead and 61 wounded.

Aside from the fact that the Battle of The Cowpens was a signal victory for the Americans, one that led directly to Yorktown ten months later, it stands as a classic example of a commander who knew precisely how the various formations of his force would react in battle and how to maneuver them so as to take the fullest advantage over the enemy.

Knowing his militia would run, Morgan made the correct provision for that event: He *told* them that he expected them to retire after delivering the two volleys at "killing range." And he told them *where* to retire and what they were to do next. Because he knew that his Continentals could stand up to the British infantry, he used them as his anchor force.

Morgan also knew that no army in the world, not even the British Army, could withstand simultaneous assaults on its front and both flanks. His orders to his riflemen to pick off the British officers and sergeants ensured the quick collapse of the British ranks when the final combined American assaults struck home.

Morgan's knowledge of troop psychology and his consummate skill in dividing and maneuvering his forces are attributes that today's small unit commanders should study, because tomorrow's battles may be fought against an enemy who outnumbers them in personnel and equipment.

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SWAP SHOP

In open areas, such as at the National Training Center, accurately determining your location is often difficult. By using an artillery technique called graphic resection, you can find your location on a map to within 200 meters of your true location.

First, you need these items to perform a graphic resection:

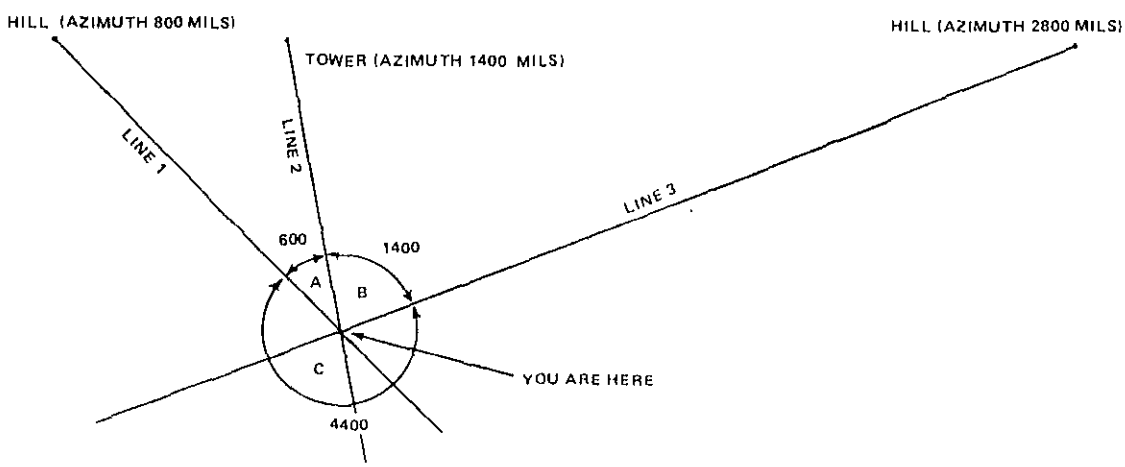
- A Bradley fighting vehicle (BFV).
- A protractor with a mil scale on it.
- A piece of acetate or onionskin paper.
- A pen or pencil.
- A map of the area.
- Three features you can locate on the map (hills, towers, and the like).

To start, point the gun tube/sight at the first feature, and record the azimuth from the ring beside the commander's leg. Call this Line 1. Traverse the turret clockwise to the second feature, and record the azimuth to it. This is Line 2. Subtract Line 1 from Line 2. (If your answer is negative, add 6400 mils to Line 2 and try the subtraction again.) The angle from Line 1 to Line 2 is Angle A.

Do the same thing from Line 2 to Line 3, and determine Angle B. Go from Line 3 to Line 1, moving clockwise; this is Angle C. The sum of your three angles is 6400 mils, a complete circle.

Get your acetate, protractor, and pen. In the middle of the acetate, draw Angle A, and label Lines 1 and 2. Using Line 2 as a reference, measure off Angle B, and draw and label Line 3. Check to see that the measurement between Lines 3 and 1 equals Angle C.

Place the acetate on your map. Move the acetate around until the correct lines are over the features you sighted in on. The point where the three lines meet is your location.



(Submitted by Captain John M. Shaw, ISO, 2d Squadron, 7th Cavalry, Fort Hood, Texas.)