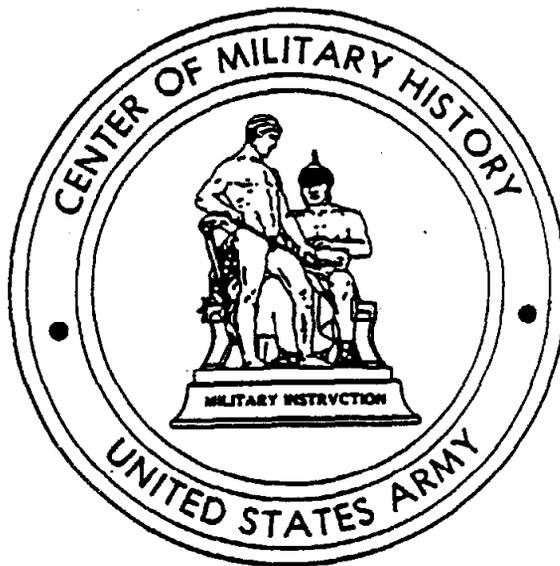
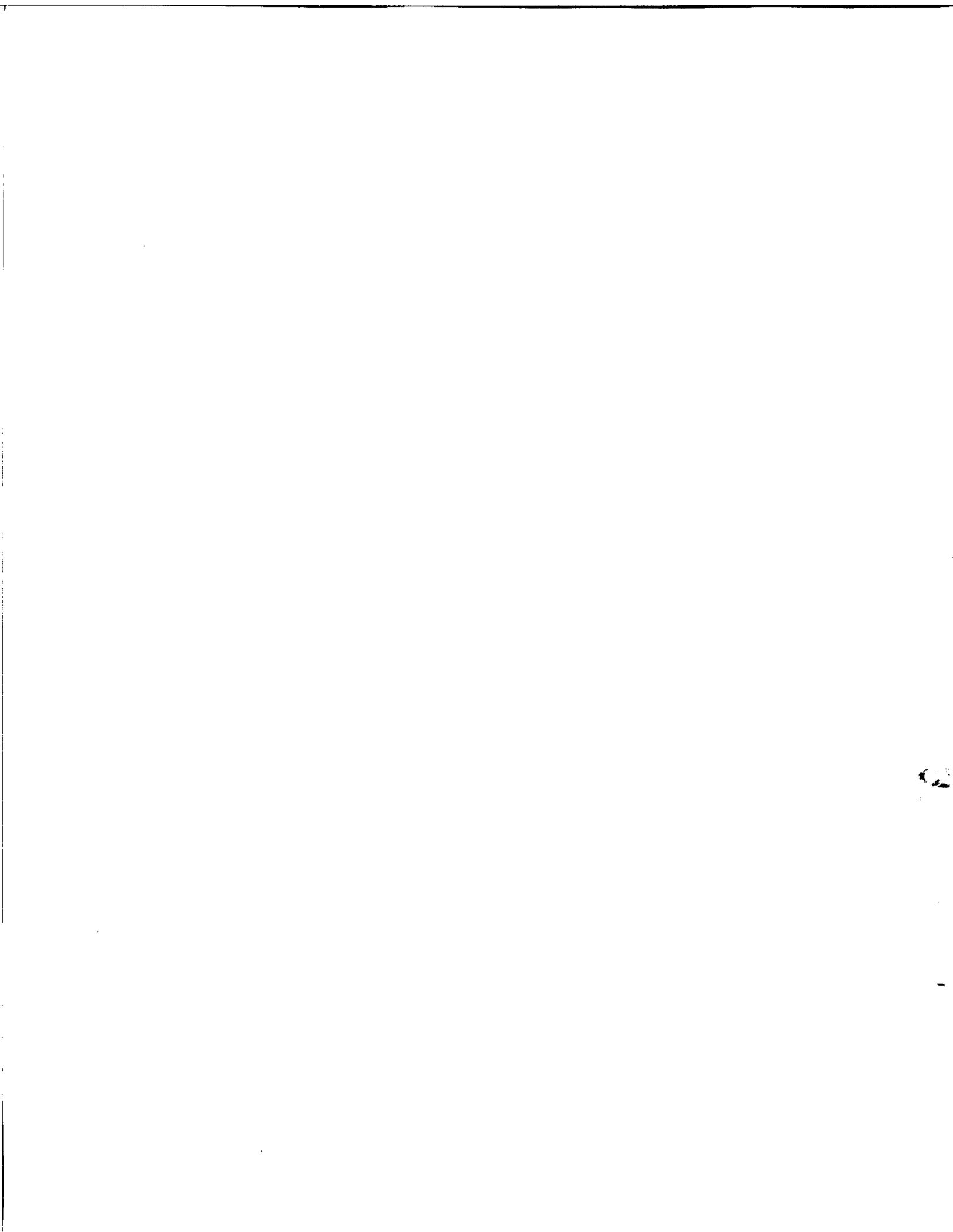


YORKTOWN STAFF RIDE



U.S. ARMY CENTER
OF
MILITARY HISTORY



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"Oh God. Oh God. It is all over. It is all over."

— Lord North on learning of Cornwallis'
surrender, 26 November 1781

ABOUT THIS STAFF RIDE

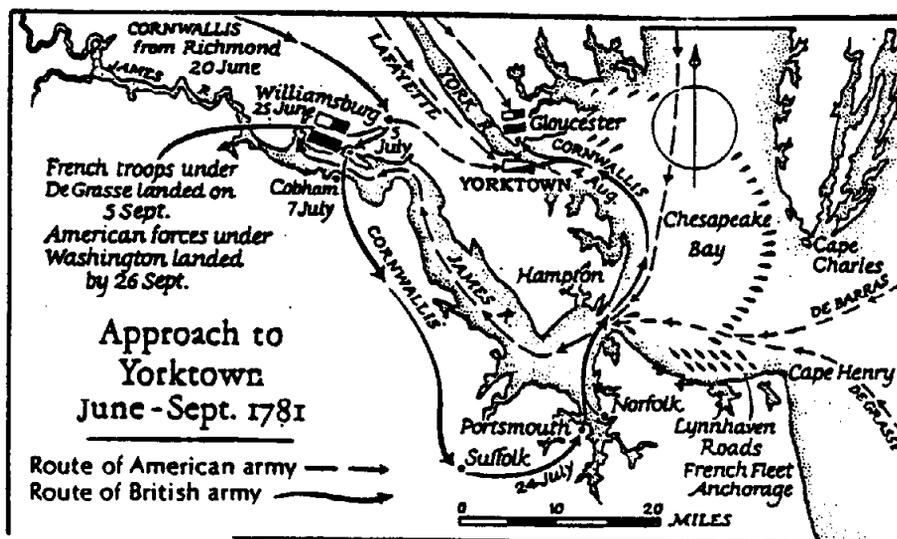
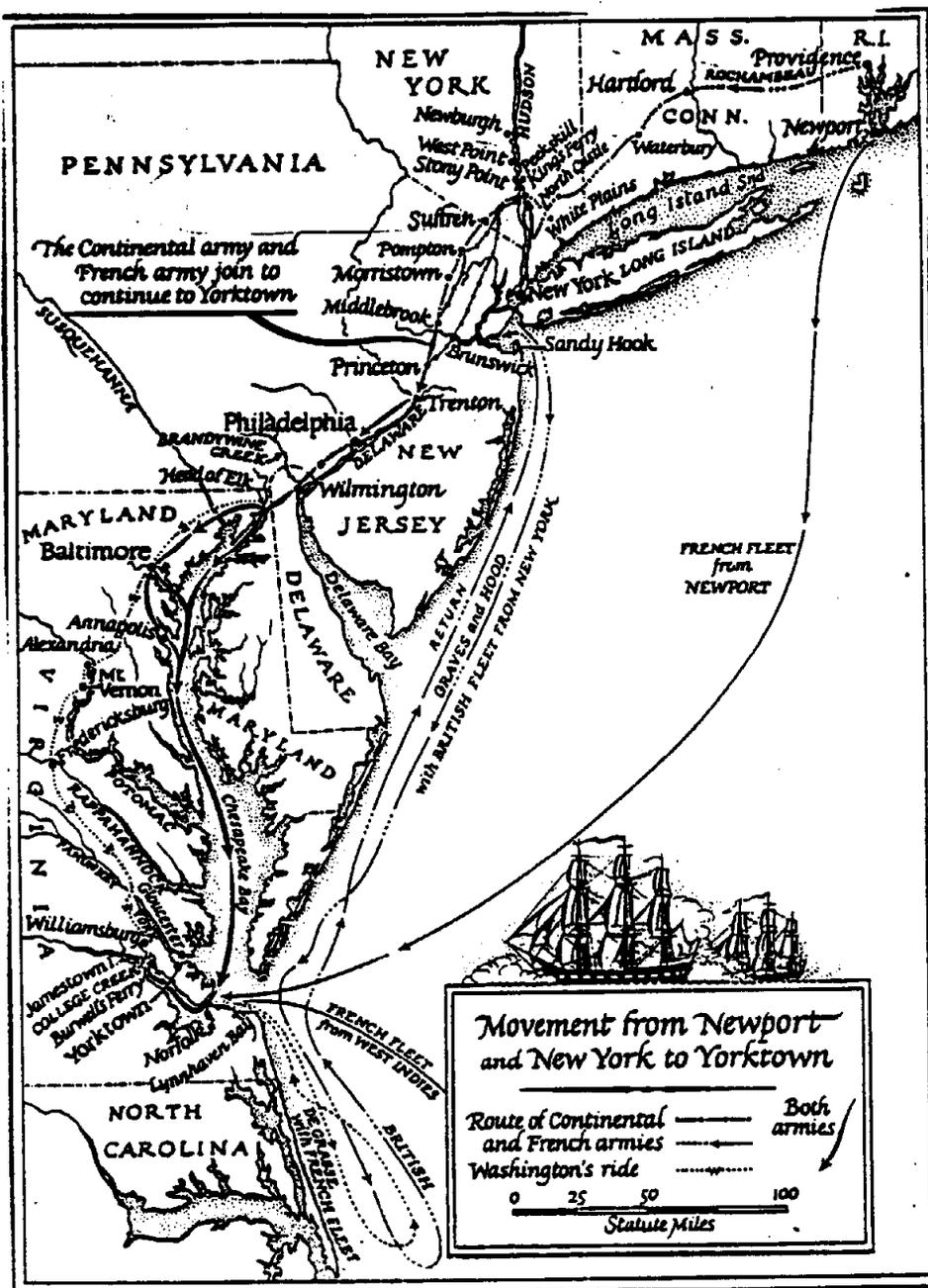
The staff ride is a formal educational technique with deep roots in the experiences of both American and European armed forces. It provides a method for the systematic study of military history to enhance the professional development of serving personnel of the armed services. As such, each ride is broken into three phases: Preliminary Study, Field Study, and Integration. The former requires that each participant familiarize himself with the context and events of the campaign and the state of the military art as it existed at the time of the campaign. The second phase involves the physical trip to the battlefield and allows each participant to visualize the terrain from approximately the same perspective as the original combatants. In the final phase responsibility passes from the instructional staff to the participants. Individual reflection on the applicable "lessons" begins during informal discussion on site and continues for the remainder of the participant's career as he seeks to enhance his abilities as a leader and planner.

This handbook provides a basic source to guide a participant through the preparatory phase and a handy reference tool to be carried during the staff ride of the site. Ample margins are provided throughout, along with a section of blank pages, to allow individual notes and observations to be recorded for future use during the integration phase. The completed handbook then becomes a part of each participant's professional library.

The campaign culminating with the siege of Yorktown, Virginia, in the fall of 1781 is particularly suited to study through the staff ride process. Involving soldiers and sailors drawn from most of North America and much of western Europe, and conditioned by events and geopolitical considerations on a global scale, it remains one of the most influential operations ever to take place within the confines of the Continental United States. It is especially useful for modern officers because it took place within a highly fluid context, requiring rapid adjustments by commanders and their staffs. On each side the combatants faced the enduring problems of joint and combined operations—including language barriers, interoperability, and national pride.

Logistical considerations, the state of preservation of the terrain, and the difficulty of translating a "by-the-book" eighteenth-century siege into a meaningful learning experience all dictate that the physical tour of the Yorktown battlefield will not follow a strictly chronological approach. Instead of tracing operations on a day-to-day basis, this tour's methodology employs topical discussions at each stop. The first ones review the campaign preliminaries, the factors behind the British decision to establish a base for joint operations at Yorktown, and the defensive scheme. The next series of halts shifts focus to the Franco-American side's preparations, marshalling of forces, operational security and intelligence activities, and development of a logistical base. The final stop with extended walk covers siege operations in general, the Yorktown siege highlights, and the surrender. General matters such as weaponry, tactics and organization are incorporated throughout. An integration discussion will take place at the National Park Service Visitor Center.

Although technology has changed a great deal since 1781, the Yorktown campaign demonstrates that the fundamentals of AirLand Battle are eternal.



CHRONOLOGY

1775

- 19 April War begins at Lexington and Concord
- 8 June Royal Governor Lord Dunmore flees Williamsburg for safety on the HMS Fowey anchored off Yorktown, marking start of Revolution in Virginia
- 14 June Continental Congress adopts the Continental Army (BIRTHDAY OF THE US ARMY); next day appoints George Washington as General and Commander in Chief
- 23 August George III proclaims colonies in state of rebellion
- 13 October Continental Congress directs fitting out of first two naval vessels (BIRTHDAY OF THE US NAVY)
- 10 November Continental Congress directs formation of two battalions of marines (BIRTHDAY OF THE US MARINE CORPS)

1776

- 10 June French government establishes Hortalez et Cie as covert means of supplying arms to Americans using French and Spanish funds
- 4 July Declaration of Independence
- 8-10 July Continental and militia forces in Virginia defeat Dunmore at Gwynn's Island forcing British withdrawal from last toehold in Chesapeake Bay

1777

- 15 August British under Howe enter Chesapeake Bay en route to Philadelphia, but do not attack Virginia
- 17 October Burgoyne's army surrenders at Saratoga
- 19 December Washington's Main Army enters camp at Valley Forge

1778

- 6 February France enters treaties of alliance and commerce with US
- 11 April d'Estaing's French fleet departs Toulon with orders to proceed to North American and attack British there
- 17 June War breaks out between France and Great Britain, without formal declaration, in naval skirmish off Ushant
- 8 July d'Estaing's fleet reaches Delaware Capes
- 29 December British begin new strategy with capture of Savannah

1779

- 9-11 May British amphibious force raids Hampton Roads
- 21 June Spain declares war on Great Britain
- 11 September-10 October Franco-American force under Lincoln and d'Estaing unsuccessfully besieges Savannah

1780

- 1 April-12 May Clinton captures Charleston from Lincoln after siege
- 10 July Rochambeau's expeditionary corps arrives at Newport
- 16 August Cornwallis defeats MG Horatio Gates at Camden S.C
- 25 September Arnold flees West Point as traitor
- 30 October Greene appointed new commander in south
- 20 December Great Britain declares war on the Netherlands
- 30 December Arnold enters Chesapeake Bay with British raiding force

1781

- 5-7 January Arnold briefly occupies Richmond
17 January Morgan defeats Tarleton at Cowpens, S.C
14 February Greene retreats across Dan River into Virginia
25 February Greene recrosses Dan and takes offensive
1 March Articles of Confederation ratified and go into effect
15 March Cornwallis "defeats" Greene at Guilford Court House, N.C.
16 March French and British North American naval squadrons engage in inconclusive "First Battle of the Capes" off mouth of Chesapeake Bay

22 March De Grasse sails from Brest for Martinique
9 March-9May Spanish capture Pensacola after siege
25 April Greene engages British in battle of Hobkirk's Hill
25 April Phillips's expedition arrives in Chesapeake Bay to reinforce Arnold
29 April Lafayette with Light Infantry Corps reaches Richmond

10 June Wayne's Pennsylvania troops join Lafayette
11 June Clinton orders Cornwallis to take up defensive in Virginia and send part of his force to New York
18 June Rochambeau begins marching from Rhode Island

4 July Cornwallis departs Williamsburg for Portsmouth
4 July British naval command at New York passes to Graves
5 July De Grasse leaves Martinique for San Domingo
6 July Washington and Rochambeau join forces at White Plains
6 July Lafayette and Cornwallis fight inconclusive action at Green Springs near Jamestown
7 July Germain in London orders Clinton to put emphasis on operations in Virginia and not to worry because Royal Navy will keep French fleet in check
10 July Continental Congress approves Superintendent of Finance Robert Morris' system to contract for supplies
16 July De Grasse arrives at San Domingo and absorbs separate squadron there
25-26 July Cornwallis is told by naval and engineer advisors that Yorktown rather than Old Point Comfort should be base

1 August Cornwallis begins occupation of Yorktown
5 August De Grasse departs San Domingo for Chesapeake Bay
10 August Hood departs Antigua for New York
15 August French frigate Concorde arrives with de Grasse's dispatch informing that he is heading for Chesapeake Bay
16 August Graves arrives in New York after unsuccessful cruise off New England
20 August Washington/Rochambeau force begins crossing Hudson
25 August Hood finds no French ships in Chesapeake Bay and continues on to New York
25 August Barras sails from Newport for Chesapeake Bay
26 August De Grasse enters Chesapeake Bay
28 August Hood arrives at New York and joins Graves
29 August HMS Richmond arrives in New York from Yorktown after 4-day voyage and reports all is quiet

1781

- 31 August Graves leaves New York for Chesapeake Bay
31 August Cornwallis writes Clinton that French navy is in Chesapeake Bay (received by Clinton on 4 September)
- 2 September Saint Simon's corps begins landing near Williamsburg
2 September Clinton writes Cornwallis to warn him of Washington's movement and promises that he will either try to relieve him or stage a diversion by attacking Philadelphia
- 4 September Lafayette occupies Williamsburg
5 September Graves arrives off Chesapeake Bay at 1000 hours; de Grasse leaves Bay and about 160^ hours "Second Battle of the Capes" begins
- 5 September Washington learns de Grasse definitely arrived
6 September Washington's lead elements arrive at Head of Elk
6 September British raid captures New London, Connecticut
8 September Storm batters both fleets in Atlantic
8 September Greene defeats Stuart at Eutaw Springs, S.C
9 September Clinton in New York learns of Graves' defeat
10 September Washington's troops begins embarking at Head of Elk
10 September Barras enters Chesapeake from Rhode Island
11 September De Grasse reenters Chesapeake, capturing two frigates
14 September Washington and Rochambeau reach Williamsburg
16 September Cornwallis writes to Clinton that Washington has arrived; estimates that he can hold out for six weeks
- 17 September Washington leaves Williamsburg to visit de Grasse
18 September First troops from Head of Elk reach Williamsburg
19 September Graves arrives back at New York from Chesapeake
22 September Washington returns to Williamsburg from conference
23 September Clinton receives Cornwallis' letter of 16 September
24 September Clinton and Graves hold joint council of war in New York and resolve to try a new relief expedition on or about 5 October; Clinton sends this news to Cornwallis
- 27 September Final elements from Head of Elk reach Williamsburg
28 September Washington's allied army advances from Williamsburg
29 September Investment of Yorktown completed; in evening British evacuate their outer line of redoubts
- 29 September At 2200 hours Cornwallis writes to Clinton acknowledging receipt of letter of 24 September and stating that as a result of the information contained in it he had decided to pull back from his outer lines and await relief
- 30 September/ 1 October This night allies break ground for the redoubts that will secure line of investment
- 2 October Allied heavy artillery and siege supplies from north reach Williamsburg
3 October Lauzun and Virginia militia skirmish with Tarleton outside Gloucester, completing investment on that side
6/7 October This night allies break ground for first parallel

1781

- 9 October At 1500 hours first siege battery opens fire; at 1700 hours the Continental Standard (flag) is hoisted over siege lines for first time
- 10/11 October French artillery fire in night sets HMS Charon and three transports on fire
- 11/12 October This night allies break ground for second parallel
- 12 October Germain in London writes Clinton instructing him to order Cornwallis to keep a naval base open in Virginia and use it to launch a raid on Baltimore after de Grasse returns to West Indies
- 14 October At 2000 hours allies storm Redoubts 9 and 10
- 15 October Cornwallis writes Clinton "My Situation now becomes very Critical."
- 15/16 October Cornwallis stages sortie in futile effort to destroy batteries on second parallel
- 16 October Batteries of second parallel open fire
- 16/17 October This night Cornwallis' desperate attempt to cross to Gloucester and escape overland is frustrated by a storm
- 17 October At 1000 Cornwallis opens surrender negotiations
- 18 October At 0500 the final cease-fire order is given; this evening at retreat a British band serenades the siegelines with the tune "Welcome Brother Debtor," a song traditionally sung to new arrivals in debtors' prisons in England
- 19 October At 1100 the surrender is effective with allied detachments occupying the gates of the British lines at 1400; the formal surrender ceremony begins at 1500
- 19 October Graves' fleet with Clinton's relief force aboard sails from New York
- 21 October Washington visits de Grasse to confer about future plans
- 21 October Prisoners of war leave Yorktown for camps inland
- 27 October Graves arrives off the Virginia Capes and learns of surrender
- 29 October Washington's troops begin leaving Yorktown for the north
- 29 October Continental Congress passes victory resolution
- 30 October Continental Congress elects Lincoln as Secretary at War
- 4 November De Grasse and Saint Simon sail for West Indies
- 4 November St. Clair leaves Yorktown with continentals to reinforce Greene
- 5 November Washington leaves Yorktown at 1000, stopping in afternoon at hospital in Williamsburg to visit casualties
- 10/11 November Graves and Hood leave New York for West Indies
- 18 November British evacuate Wilmington, N.C
- 20 November Surrender news reaches Paris
- 25 November Surrender news reaches Germain in London at noon; he reports it officially to Lord North
- 8 December Parliament votes to send only individual replacements to North America in 1782, conceding de facto defeat
- 23 December Cabinet decides to recall Clinton

1782

- 9 February Germain is dropped from Ministry as Secretary of State for America
- 27 February Parliament by majority of 18 votes passes motion to abandon policy of coercing America
- 20 March North Ministry topples on vote of confidence
- 27 March Rockingham Ministry, committed to peace, takes office
- 9-12 April De Grasse is defeated at Battle of the Saintes in West Indies
- 23 June Rochambeau starts movement north from Yorktown
- 11 July British evacuate Savannah
- 27 September Peace negotiations begin in Paris
- 30 November Preliminary treaties signed in Paris
- 14 December British evacuate Charleston
- 24 December Rochambeau's troops embark at Boston for West Indies

1783

- 20 January Britain, France and Spain sign armistice
- 4 February Britain proclaims cessation of hostilities with US
- 11 April Continental Congress proclaims cessation of hostilities
- 15 April Continental Congress ratifies preliminary treaty
- 19 April At 1200 hours on Washington's order the cease-fire goes into effect
- 3 September Definitive Treaties of Paris are signed
- 25 November British evacuate New York City
- 4 December Last British detachments leave Long and Staten Islands
- 23 December Washington returns his commission as General and Commander in Chief to the Continental Congress (in Annapolis)

1784

- 14 January Continental Congress ratifies definitive treaty
- 2 June Continental Congress votes to disband last remaining regiment of Continental Army (less one company of artillery)
- 3 June Continental Congress authorizes peacetime Regular Army

INTELLIGENCE at YORKTOWN

By Maj. Gen. Edmund R. Thompson, USA
*Assistant Chief of Staff for Intelligence
Department of the Army*

Two o'clock in the afternoon, October 19, 1781, Yorktown, Virginia. The victorious armies of the Grand Alliance, America and France, are formed on either side of the road leading out of town.

The French, resplendent in white uniforms with vari-colored regimental facings, are drawn up on the left. The Americans, in the tattered remnants of the uniforms of the Continental Line or the plain homespun of the militia, calmly face their French allies. All are soldierly, possessed of a bearing described as "commanding respect."

The British and German column marches out, arms shouldered and proud colors cased, to the old tune "The World Turned Upside Down." The world of the British in North America had indeed been turned upside down, by the diligence, patience, and skill of the Continental Army and its commander. Reflecting later, that commander found it difficult to believe "that such a force as Great Britain has employed for eight years in this country could be baffled in the plan of subjugating it, by numbers infinitely less, composed of men often times half starved, always in rags, without pay, and experiencing every species of distress which human nature is capable of undergoing."

Cornwallis, prominent in past victory, delegated the odious task of surrender

to his deputy. Washington, although new at victory, delegated receipt of the surrender sword to General Benjamin Lincoln, who had himself suffered defeat at the hands of Cornwallis one year before. Six years, six months, and a little over eight hours since Lexington Green, Washington's American Army stood proud in victory—a victory of spirit, of dedication, and of excellence. The war had been won, and in winning, a nation born.

The Campaign

The web ensnaring Cornwallis at Yorktown was composed of three strands, gathered together from afar. The first, Lafayette's 3,000 American troops, opposed and harassed Cornwallis during his retreat from an unsuccessful campaign in the Carolinas. As Cornwallis put his army into Yorktown in a vain effort to preserve his sea line of communications, the pursuing Americans were reinforced by two additional columns of 1,000 men each under Anthony Wayne and von Steuben. The combined force moved into a blocking position commanding the sleepy village during the first week of August and waited. The second strand, the French fleet of Admiral de Grasse, had been operating in the West Indies, under orders from Paris to cooperate with Washington should the opportunity arise. The third strand, the 6,000-man combined force of Washington and Rochambeau, held Sir

The battle was decided by
information and secrecy as
well as by muskets.

Major General Edmund R. Thompson, USA

Prior to assuming his present position in mid-1977, General Thompson was Commanding General of the Army Intelligence Agency. From October 1972 through July 1975, he was assigned to various high-level positions with the Army's Office of the Deputy Chief of Staff for Personnel. During the Vietnam Conflict, General Thompson was Special Assistant to the Assistant Chief of Staff, G-2, US Army, Vietnam, and Assistant Chief of Staff, G-2, 25th Infantry Division, US Army, Vietnam. He is a graduate of the US Military Academy and received MA and PhD degrees in Geography from Syracuse University.



Henry Clinton's troops in check from positions around New York. On August 14, Washington received word that de Grasse's fleet, its transports packed with 3,000 French soldiers, was sailing for Chesapeake Bay and Cornwallis' doomed army. Seizing the opportunity, Washington hurried to set his forces in motion south on the 19th.

De Grasse arrived, disembarked his troops, and turned back the British fleet on September 5. On September 14, Washington arrived at Lafayette's headquarters and assumed command. By the 28th, the entire force of 16,000 French and Americans was on hand. Washington now laid siege "in the regular way" to Yorktown, and in less than a month the campaign was over and with it, nearly 180 years of British dominion in the colonies.

Intelligence

The temporary web of troops spun about Cornwallis at Yorktown was made possible by another web, more lasting and secretive, skillfully spun around the British forces by the American commander. The web of Washington's intelligence network stretched from the dazzling courts of Europe to the warm bays of the West Indies to colonial taverns and even into the very camps and headquarters of the British Army.

As did most 18th century commanders, Washington served as his own Chief of Intelligence, retaining personal control over agent networks and the product of their efforts. Although two of the three components of the triad of modern intelligence, photographic and electronic, were unknown 200 years ago, the third component, human, was a highly developed art. Spies, counterspies, codes, cyphers, cryptography, secret inks, false documents, reconnaissance troops, and prisoner of war interrogators all played their parts in the deadly secret war which continued unabated between the better known campaigns and battles. So carefully did Washington and his agents guard their methods and secrets, their total contribution to the final defeat of Britain remains in part obscured to this day.

However, one thing is not obscured — that Intelligence was vital to the successful Campaign of 1781. This, then, is the story of that success.

Strategic Deception

For three years, ever since the French Alliance had forced the British to evacuate Philadelphia and retreat to New York, Washington had sought to bring the combined weight of French and American forces to bear in a decisive clash which would drive the British from the colonies. Realizing he still lacked sufficient troops to carry the British positions by direct assault, Washington's Army laid siege to New York, while both sides simultaneously conducted protracted warfare far to the south in the Carolinas and Georgia.

But during the spring and summer of 1781, the arrival of a sizable French army and fleet made Washington's dream of an attack seem nearer to reality. With his elaborate intelligence network in New York providing detailed reports on British dispositions and intentions, it seemed possible that the combined allied army could select a weak point to assault. Unfortunately, agents of the British commander, Clinton, also kept him well informed of the American commander's objective. Taking full advantage of interior lines, Clinton quickly reinforced threatened positions.

Nevertheless, Washington ordered Rochambeau to move the French from Newport to Westchester, determined as he was to attack the British someplace, anyplace. Once again Clinton smugly received detailed strength reports of both opposing armies as their units passed his watchful spies and readied his defenses. However, Washington's plans changed abruptly on August 14, with the arrival of de Grasse's message, reporting that he could depart the West Indies with 29 ships carrying three French regiments, but would not conduct operations further north than Chesapeake Bay. Quick to make a virtue of necessity, Washington immediately changed his plans and determined to concentrate all available forces against Cornwallis at Yorktown.

Since it would be impossible to conceal the movement of such a large force from the eyes of Clinton's agents, Washington realized he must rely on deceiving his opponent about the purpose of the move rather than its existence. Washington fully understood the essence of deception — to make an action appear to coincide with the enemy's preconception.

In this case, as Washington's agents informed him, Clinton

ferently believed he was about to be attacked in New York; so the ruse devised by Washington was to make the shift of the Continental Army toward Yorktown appear to be a ruse concealing a real attack on New York via Staten Island. Only too late would Clinton realize that his conceptions of ruse and reality were actually reversed. Furthermore, Washington realized that the surest way to strengthen his deception was by manipulating Clinton's intelligence system.

To further Clinton's perception of imminent attack, Washington carefully wrote letters to that effect addressed elsewhere but designed to fall into British intelligence hands. When these letters were duly brought to Clinton, his worst fears (of attack) were confirmed. Sir Henry's spies were quick to report the French Army's crossing of the Hudson and the beginning of the combined force's move south into New Jersey. However, British analysis continued to see the situation as orchestrated by Washington.

As Washington and Rochambeau started south on August 21, their route of march through New Jersey was beyond the range of British patrols. The crossing of the Hudson at King's Ferry had been screened by General Heath's forces, which were being left at West Point to continue to threaten New York. To lend credence to the cover story, Washington halted the force in New Jersey and laid out an elaborate camp, including a large bakery at Chatham. To reinforce British reports of these preparations, French troops were marched along the Palisades, their white uniforms clearly visible from the New York shore. Boats were assembled along the Jersey shore. Washington, himself, engaged a known British agent in conversation, asking him questions about landing beaches on Staten Island and the terrain around Sandy Hook. These efforts were successful, especially when reinforced by Washington's reputation for deception. As the march resumed southward, the British were convinced that it was itself a ruse and that Washington soon would double back to join with the French fleet to strike New York.

Only Washington and Rochambeau knew their armies' destination. Until the armies had passed New Brunswick, even the other generals believed their destination to be Staten Island, from which to launch an attack on New York; and Philadelphia was reached before the rank and file understood the plan. It was not until early to mid-September, by which time de Grasse had landed troops to reinforce Lafayette and Washington was approaching the Head of Elk in Maryland, that Clinton was willing to admit that he had been surprised.

While Washington spun his web of deception around Sir Henry Clinton, Lafayette sought intelligence on Cornwallis' forces and developed his own tactical deception. Aware that Cornwallis might escape the trap by transferring his army across the York River to Gloucester, Lafayette

sent Private Charles Morgan of New Jersey into Cornwallis' camp, posing as a deserter with the false story that the colonials had adequate numbers of boats to cross the York. This story confirmed a belief Cornwallis already held and dissuaded him from an immediate evacuation. Morgan later escaped to the American lines bringing several deserters to supplement his eyewitness account of the terrible conditions prevalent in the British camp.

Secret Messages

While Washington's deception of Clinton relied on manipulation of Clinton's intelligence network, the compromise of his own network was prevented by the utmost attention to the details of what is known as "tradecraft" today. Among the most important technical facets of this craft was the extensive use of invisible ink and chemical developer invented by James Jay, brother of the famous patriot and statesman, John Jay. The messages, even though written in invisible ink, were encoded and enciphered, transported by secret messenger, and deposited in a dead drop for later recovery. So effective was the procedure that although due to their own counter-intelligence efforts, the



Sir Henry Clinton (above), British Commander-in-Chief in America, and General Charles Cornwallis, British Commander at Yorktown.

British were well aware the messages were flowing, they were unable to stop them.

British Navy Signals

Major Allen McLane, one of Washington's agents, had been sent in early July as a confidential emissary to de Grasse to discuss plans for the French fleet. McLane sailed with the fleet to the Chesapeake, landing in Virginia on August 28. He was then sent to Long Island with instructions to obtain information on movements of the British fleet and to contact James Rivington, one of Washington's most effective agents in New York City. Rivington had obtained a copy of the Royal Navy signal code. McLane was successful and delivered the signal code to de Grasse in time for the French to use it to enable them to outmaneuver Admiral Graves' British fleet in the entrance to Chesapeake Bay on September 5. Graves, thoroughly discouraged, returned to New York, leaving the French in command of the bay and Cornwallis to his fate.

Cryptanalysis

General Nathaniel Greene captured some encrypted correspondence from Cornwallis to his subordinates. Greene sent the message to the Continental Congress, which received it on September 17. Within four days, the message was solved by Congressman James Lovell, who has been called "the father of American Cryptanalysis." The information was no longer current, but Lovell sent the keys to Washington in the hope that Cornwallis would continue to use the same cypher in his correspondence with Clinton. On October 6, Washington was able to confirm the continued use of the same system by the British commanders.

This correspondence between Cornwallis and Clinton was maintained by small boat. The boats sent out of New York on September 26 and October 3 were captured. On one was a Tory carrying encrypted dispatches. Lovell attacked the messages and by October 14 was able to write to Washington, confirming the continued use of the British cypher. Thomas McKean, president of the Continental Congress, sent copies of the clear text to both Washington and de Grasse. The letter

gave assurances that by October 12 Admiral Graves would sail by to attempt the relief of Cornwallis. In the meantime, Cornwallis surrendered on October 19. The next day, Washington received Lowell's solutions from McKean and immediately forwarded his copy to de Grasse. De Grasse maintained his blockade and continued to be watchful. Clinton arrived with supplies and reinforcements off the Virginia coast on October 24, but learning of Cornwallis' surrender and finding the French fleet alert to his movements, Clinton sailed back to New York. The British cause now was irretrievably lost.

Postscript

For two more years Washington continued to besiege the British forces in New York. During this long period of stalemate, American intelligence operatives remained active and continued to report details of British activities and intentions. When the glorious day finally came on which the triumphant Continental Army marched into New York City on the heels of the embarking British, among the first to enter was the 2nd Continental Dragoons, whose Major Tallmadge had supervised Washington's key agent network in the city. Tallmadge's orders were to protect his agents lest they be mistaken for Tories in the confusion.

Washington himself reportedly met secretly with several of his principal agents, notably Hercules Mulligan and James Rivington, prior to his emotional farewell to the officers of the Continental Army at Frances' Tavern. But the most secretive agent of all, Robert Townsend, remained unknown even to Washington. His identity was not revealed until the 1930s when modern handwriting analysis uncovered his secret. Townsend's role before Yorktown and throughout the war is surely one of the best kept secrets in American military history.

In comparison to warfare today, the scale of war in the 18th century was much smaller and more personal. Armies numbered in the thousands; campaigns were measured in weeks and hundreds of miles. Thus, it is easy to see the crucial role played by the daring intelligence activities of particular individuals. Today, warfare is conducted by tens of millions over vast areas and into space with technology undreamed of by our colonial forebearers. Yet, it is important to remember that conflict is still fought between men. Decisions are still made by individual leaders on the basis of their personal convictions based on such evidence as is available. There is, therefore, still a vital role for intelligence as it seeks to inform the friendly commander and confound the enemy. The individual intelligence agent and analyst today must be no less courageous, resourceful, and daring than were Washington's intrepid band. The commander must "think and see deeply" in order to ensnare his opponent while avoiding pitfalls himself. Intelligence activities in the Yorktown campaign and throughout the Revolutionary War are therefore worthy of careful study and emulation today. **81**

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OCTOBER

YORKTOWN:

Getting There Was Half the Battle

By Mary N. Bucklew

The science of transporting military equipment and personnel in time of war has come a long way since the days of the Continental Army. Today, rapid deployment of troops and equipment is accomplished through careful planning, using the most modern transportation facilities and sophisticated technology the military can muster.

In early America, however, shortly before the stunning American defeat of the British at Yorktown, the officer charged with the responsibility for transporting men and equipment from the New York theatre of war south to the Virginia peninsula had to overcome great obstacles. The transportation officer was plagued with problems such as limited assets, lack of navigable roads, and insufficient number of watercraft to ply the inland waterways. He also dealt with unskilled and often unreliable manpower to drive the few available wagons to military encampments which were scattered over great distances.

In all fairness to the Continental transportation officer, many of the problems in getting able transportation were compounded by the critical shortage of funds to purchase horses, wagons and oxen, and to commission the services of boatwrights and wagon masters. This situation was not alleviated until the French gave assistance in 1781. In addition to bringing with him 34 warships and 3,000 French soldiers, Admiral Francois, Comte de Grasse also provided the much needed capital and assets with which to continue the payment of transportation suppliers.

Another problem facing the transportation officer of the day stemmed from the fact that the military leadership, under the command of General George Washington, did not anticipate that the struggle for independence would last six long years. As the war dragged on, Washington realized the transportation of troops and supplies would play a vital role in colonial combat readiness. He took it upon himself, oftentimes throughout the war, to assure that the responsibilities of transportation management were in capable hands.

The transportation officer, under the Quartermaster, was held in high esteem by Washington, since the secrets of all military movements passed through his hands. Washington described him as a "man of great resources and activity, worthy of the highest confidence."

The transportation officer also furnished movement for troops and supplies, procured horses and wagons, commissioned the building of boats and watercraft, selected strategic sites for bridges, and examined inland waterways for the expeditious movement of heavy equipment. Since many of these resources were not readily available, they had to be contracted for or *impressed* from the local communities. The transportation officer, therefore, was required to be both a competent military officer, as well as an astute businessman.

As Washington planned for the allied operation against the British in April of 1781, he found there were fewer boats on hand than had been ordered. Most of them were badly in need of repair. When he received word that Admiral de Grasse's fleet would definitely arrive in the Chesapeake Bay in August, Washington made the decision to strike at Cornwallis at Yorktown, rather than engage in a battle with Clinton in New York, where the Continental forces were outnumbered. What ensued was a race against time in arranging for the transfer of troops, baggage, stores and equipment over a distance of 450 miles from Manhattan to the Virginia peninsula, near Williamsburg.

Although transportation was a primary function of the Quartermaster, the movement of troops by water for the Yorktown campaign was, for the most part, accomplished by direct orders from Washington to line officers in the field. Transports for 6,000 to 7,000 men were to be hired on the best terms available, in light of the shortage of capital, and on credit if at all possible. Washington instructed that 100 men experienced in water transportation be hand picked to load troops and supplies from Philadelphia and Tren-

ton. Supplies were to be dispatched to Head of Elk (Elkton), Md., where ammunition would be sorted out and sent ahead.

Since there were insufficient transports to carry both men and supplies onward from Head of Elk, heavy equipment and supplies were loaded aboard the vessels, and the troops marched south to Baltimore to await transport. An appeal was made to the boat owners on the eastern shore of Maryland to send their vessels to Baltimore for use as troop transports, because there would not be time for the troops to march the long distance from Baltimore to Williamsburg. Washington finally enlisted the assistance of Admiral de Grasse in moving troops down the Chesapeake Bay.



Loading horses, supplies and ammunition were crucial to the successful strategy of Washington's Continental Army and contributed to the British defeat at Yorktown.

On September 23, 1781, Washington wrote from Williamsburg that those who had departed from Head of Elk were unloading, and the remainder were expected shortly. Through the persistent efforts of Washington, with well-timed support from the French, the Continental troops arrived in Virginia.

Once the troops reached Williamsburg, the next step was to dispatch vessels to various depots and ports to gather all available supplies and provisions to sustain the allied troops stationed in the tidewater area. Here again, the principles of modern transportation management can be traced, as records were kept of the arrival and departure times of each vessel, with a load count taken by the boat masters. Missed delivery dates and improper handling of the vessels were cause for discharge.

With the arrival of the allied troops of Washington and Rochambeau, the knowledge that all available stores and provisions were safely stored, and the assurance that Admiral de Grasse and the French fleet

would remain until Cornwallis could be defeated, Washington began the siege of Yorktown. The rest is history.

But the story here is not so much the historical importance of the battle of Yorktown, although the significance of that event certainly cannot be overlooked. Rather, the story that needs to be told is how the transportation specialists of the young Continental Army overcame inconceivable obstacles to master more experienced, better equipped adversary and one of the world's most powerful nations. Today's transporters can look back with pride to their counterparts in the battle of Yorktown, whether they are strategists, port operators, stevedores, storage managers, documentation clerks, engineers or a host of vital transportation occupations.

The role of the transportation officer during the Revolutionary War came under the department of the Quartermaster General, who was responsible for, among other things, transportation, supply and logistics. Today, the mission of transportation management is accomplished by a separate major Army command, the Military Traffic Management Command, giving proof to the fact that the functions of the transportation officer have become even more complex and the responsibilities more arduous than they were 200 years ago.

Although the functions have grown proportionately with the size and scope of the Army, the basic duties and responsibilities remain the same for today's transportation commander as they were for the transportation officer during the Yorktown campaign. These include, but are not limited to, transportation management, storage control, strategic mobility planning, acquisition of transportation assets, and transportation engineering, not to mention control of the ports.

However more advanced our technology becomes, the functions of the military transportation officer have remained fundamentally the same. Every function of transportation management performed today has roots in the long march toward independence that ended with the American victory at Yorktown 200 years ago. (A)

(The author would like to acknowledge the invaluable assistance of the historians at the United States Army Center of Military History, and the work of Erna Risch, Supplying Washington's Army, from which she borrowed liberally.)

Mary N. Bucklew is a public information intern in the Office of Public Affairs, Headquarters, MTMC.

Cornwallis' official after-action report to Clinton dated
Yorktown, October 20, 1781

SIR,

I HAVE the mortification to inform your excellency, that I have been forced to give up the posts of York and Gloucester, and to surrender the troops under my command, by capitulation on the 19th instant, as prisoners of war to the combined forces of America and France.

I NEVER saw this post in a very favourable light: But when I found I was to be attacked in it in so unprepared a state, by so powerful an army and artillery, nothing but the hopes of relief would have induced me to attempt its defence; for I would either have endeavoured to escape to New York by rapid marches from the Gloucester side, immediately on the arrival of General Washington's troops at Williamsburgh, or I would, notwithstanding the disparity of numbers, have attacked them in the open field, where it might have been just possible that fortune would have favoured the gallantry of the handful of troops under my command: But being assured by your excellency's letters, that every possible means would be tried by the navy and army to relieve us, I could not think myself at liberty to venture upon either of those desperate attempts; therefore, after remaining for two days in a strong position, in front of this place, in hopes of being attacked, upon observing that the enemy were taking measure which could not fail of turning my left flank in a short time, and receiving on the second evening your letter of the 24th of September, informing me that the relief would sail about the 5th of October, I withdrew within the works on the night of the 29th of September, hoping by the labour and firmness of the soldiers to protract the defence until you could arrive. Every thing was to be expected from the spirit of the troops; but every disadvantage attended their labour, as the work was to be continued under the enemy's fire, and our stock of intrenching tools, which did not much exceed four hundred when we began to work in the latter end of August, was now much diminished.

THE enemy broke ground on the night of the 30th, and constructed on that night, and the two following days and nights, two redoubts, which, with some works that had belonged to our outward position, occupied a gorge between two creeks or ravines, which came from the river on each side of the town. On the night of the 6th (a.) of October they made their first parallel, extending from its right on the river to a deep ravine on the left, nearly opposite to the center of this place.

See -
Cornwallis - 1

and embracing our whole left, at the distance of six hundred yards. Having perfected this parallel, their batteries opened on the evening of the 9th, against our left; and other batteries fired at the same time against a redoubt over a creek upon our right, and defended by about one hundred and twenty men of the 23d regiment and marines, who maintained that post with uncommon gallantry. The fire continued incessant from heavy cannon, and from mortars and howitzers, throwing shells from eight to sixteen inches, until all our guns on the left were silenced, our work much damaged, and our loss of men considerable. On the night of the 11th (b.) they began their second parallel, about three hundred yards nearer to us. The troops being much weakened by sickness, as well as by the fire of the besiegers, and observing that the enemy had not only secured their flanks, but proceeded in every respect with the utmost regularity and caution, I could not venture so large sorties, as to hope from them any considerable effect; but otherwise, I did every thing in my power to interrupt their work, by opening new embrasures for guns, and keeping up a constant fire with all the howitzers and small mortars that we could man. On the evening of the 14th, they assaulted and carried two redoubts, that had been advanced about three hundred yards for the purpose of delaying their approaches, and covering our left flank, and during the night included them in their second parallel, on which they continued to work with the utmost exertion. Being perfectly sensible that our works could not stand many hours after the opening of the batteries of that parallel, we not only continued a constant fire with all our mortars, and every gun that could be brought to bear upon it, but a little before daybreak, on the morning of the 10th, I ordered a sortie of about three hundred and fifty men, under the direction (c.) of Lieutenant-colonel Abercrombie, to attack two batteries which appeared to be in the greatest forwardness, and to spike the guns. A detachment of guards, with the 30th company of grenadiers, under the command of Lieutenant-colonel Lake, attacked the one; and one of light infantry, under the command of Major Armstrong, attacked the other; and both succeeded, by forcing the redoubts that covered them, spiking eleven guns, and killing or wounding about one hundred of the French troops who had the guard of that part of the trenches, and with little loss on our side. The action, though extremely honourable to the officers and soldiers who executed it, proved of little public advantage; for the cannon having been spiked in a hurry, were soon ren-

dered fit for service again ; and before dark the whole parallel and batteries appeared to be nearly complete. At this time we knew that there was no part of the whole front attacked on which we could show a single gun, and our shells were nearly expended : I therefore had only to chuse between preparing to surrender next day, or endeavouring to get off with the greatest part of the troops ; and I determined to attempt the latter, reflecting, that though it should prove unsuccessful in its immediate object, it might, at least, delay the enemy in the prosecution of farther enterprizes. Sixteen large boats were prepared, and upon other pretexts were ordered to be in readiness to receive troops precisely at ten o'clock : With these I hoped to pass the infantry during the night ; abandoning our baggage, and leaving a detachment to capitulate for the town's people, and the sick and wounded ; on which subject a letter was ready to be delivered to General Washington. After making my arrangements with the utmost secrecy, the light infantry, greatest part of the guards, and part of the 23d regiment, landed at Gloucester ; but at this critical moment, the weather, from being moderate and calm, changed to a violent storm of wind and rain, and drove all the boats, some of which had troops on board, down the river. It was soon evident, that the intended passage was impracticable ; and the absence of the boats rendered it equally impossible to bring back the troops that had passed, which I had ordered about two in the morning. In this situation, with my little force divided, the enemy's batteries opened at daybreak : The passage between this place and Gloucester was much exposed, but the boats having now returned, they were ordered to bring back the troops that had passed during the night, and they joined in the forenoon without much loss. Our works in the mean time were going to ruin ; and not having been able to strengthen them by abatis, nor in any other manner than by a slight fraizing, which the enemy's artillery were demolishing wherever they fired, my opinion entirely coincided with that of the engineer and principal officers of the army, that they were in many places assailable in the forenoon, and that by the continuance of the same fire for a few hours longer, they would be in such a state as to render it desperate, with our numbers, to attempt to maintain them. We at that time could not fire a single gun ; only one eight-inch and little more than a hundred cohorn shells remained ; a diversion by the French ships of war that lay at the mouth of York river was to be expected. Our numbers had been diminished by the enemy's fire, but

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particularly by sickness; and the strength and spirits of those in the works were much exhausted by the fatigue of constant watching and unremitting duty. Under all these circumstances, I thought it would have been wanton and inhuman to the last degree to sacrifice the lives of this small body of gallant soldiers, who had ever behaved with so much fidelity and courage, by exposing them to an assault, which, from the numbers and precaution of the enemy, could not fail to succeed. I therefore proposed to (d.) capitulate, and I have the honour to inclose to your excellency the copy of the correspondence between General Washington and me on that subject, and the terms of the capitulation agreed upon. I sincerely lament that better could not be obtained; but I have neglected nothing in my power to alleviate the misfortune and distress of both officers and soldiers. The men are well clothed and provided with necessaries, and I trust will be regularly supplied by the means of the officers that are permitted to remain with them. The treatment, in general, that we have received from the enemy since our surrender, has been perfectly good and proper: But the kindness and attention that has been shewed to us by the French officers in particular, their delicate sensibility of our situation, their generous and pressing offer of money, both public and private, to any amount, has really gone beyond what I can possibly describe, and will, I hope, make an impression on the breast of every officer, whenever the fortune of war should put any of them into our power.

ALTHOUGH the event has been so unfortunate, the patience of the soldiers in bearing the greatest fatigues, and their firmness and intrepidity under a persevering fire of shot and shells, that I believe has not often been exceeded, deserved the highest admiration and praise: A successful defence, however, in our situation was, perhaps, impossible; for the place could only be reckoned an intrenched camp, subject in most places to enfilade, and the ground, in general, so disadvantageous, that nothing but the necessity of fortifying it as a post to protect the navy, could have induced any person to erect works upon it. Our force diminished daily by sickness and other losses, and was reduced when we offered to capitulate, on this side, to little more than three thousand two hundred rank and file fit for duty, including officers' servants and artificers; and at Gloucester, about six hundred, including cavalry. The enemy's army consisted of upwards of eight thousand French, nearly as many continentals, and five thousand militia. They brought an immense train of heavy artillery, most amply furnished with ammunition, and perfectly well manned.

Siege —
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Siege-
Cornwallis-5

THE constant and universal cheerfulness and spirit of the officers in all hardships and dangers deserve my warmest acknowledgements; and I have been particularly indebted to Brigadier-general O'Hara and Lieutenant-colonel Abercrombie, the former commanding on the right, and the latter on the left, for their attention and exertion on every occasion. The detachment of the 23d regiment and of the marines, in the redoubt on the right, commanded by Captain Apthorpe, and the subsequent detachments, commanded by Lieutenant-colonel Johnson, deserve particular commendation. Captain Rochfort, who commanded the artillery, and, indeed, every officer and soldier of that distinguished corps, and Lieutenant Sutherland, the commanding engineer, have merited in every respect my highest approbation: And I cannot sufficiently acknowledge my obligations to Captain Symonds, who commanded His Majesty's ships, and to the other officers and seamen of the navy, for their active and zealous co-operation.

I TRANSMIT returns of our killed and wounded; the loss of seamen and town's people was likewise considerable.

I TRUST your excellency will please to hasten the return of the Bonetta, after landing her passengers, in compliance with the article of capitulation.

LIEUTENANT-COLONEL Abercrombie will have the honour to deliver this dispatch, and is well qualified to explain to your excellency every particular relating to our past and present situation.

I have the honour to be, &c.

CORNWALLIS.

EIGHTEENTH-CENTURY MILITARY SCIENCE

Massive changes transformed warfare in western civilization between the start of the Thirty Years' War (1618) and the end of the Napoleonic Wars (1815). These changes reflected alterations in politics and society as well as substantive improvements in weapons technology.

The Thirty Years' War and other conflicts through the middle of the seventeenth century turned out to be Europe's last great wars of religion. Society and culture entered into a period when rationalism in all things was valued over romanticism and emotion. True national governments emerged anxious to pursue objectives more sophisticated than simple dynastic ambitions. By the wars of Louis XIV in the late seventeenth century, governments recognized that national economies could not withstand the heavy losses of manpower and agricultural and commercial disruption common in the earlier decades. In an effort to minimize destruction on a massive scale, wars increasingly focused on limited objectives.

The seventeenth century witnessed the gradual reemergence of infantry as the dominant factor on the battlefield as armies shifted gradually from a mix of matchlock arquebusses and pikes to the newer flintlock musket equipped with a socket bayonet. The armies of the Thirty Years' War employed regiments in which about half of the men carried pikes and half carried matchlock firearms. The latter had such a slow rate of fire that pikemen were required simply to provide protection from cavalry charges. Naturally, commanders had problems trying to come up with dispositions that made effective use of both weapons. The flintlock musket was a much simpler weapon with a higher rate of fire, simpler maintenance, and a host of other advantages. Development of the socket bayonet allowed a soldier to quickly transform his musket into a short pole arm without hindering his ability to fire, thereby eliminating the need for pikes. By the start of the eighteenth century during the zenith of John Churchill, the Duke of Marlborough, European armies had completed the transformation from the mix of matchlocks and pikes to the flintlock.

An army that used flintlocks enjoyed simpler logistics and greater freedom of maneuver than its predecessors, and commanders in the eighteenth century began exploring ways to avoid the siege-and-fortress warfare that had hobbled Louis XIV's generals. An ability to exploit the potential of the new weapon played a key role in Frederick the Great's emergence during the War of the Austrian Succession and Seven Years' War as the greatest general of the era.

The first area of concern was the search for a tactical organization that extracted the maximum benefit from the firepower of the musket. The solution arrived at over a period of time involved the reduction of the number of ranks from six or more, a carryover from the matchlock-and-pike era, to three. Actually, only the first two ranks could fire effectively, but most European generals still felt that the three-rank formation was preferable because it allowed more depth (defensively and offensively) for bayonet charges and because it allowed a unit to absorb more casualties without losing cohesion. Armies had to deploy in long lines (hence the term "linear warfare") to allow the full number of muskets to fire; a general would

normally deploy his infantry in several lines, each three men deep, and mass cavalry on the flanks as the primary maneuver element. Linear tactics restricted movement early in the century to direct advance or retreat. Frederick the Great's genius created an unbalanced deployment enabling an army to advance obliquely to achieve local concentration on one end of the line, roll up the enemy's formation, and open the way for a decisive cavalry charge.

Internal organization to make effective use of the musket led to the development of the platoon as the basic element of fire. A platoon consisted of the maximum body of men who could be controlled in combat by a single officer. Eight such platoons formed the tactical battalion, the basic infantry element of maneuver. All armies of the era arrived at the number eight through a basic learning process: eight platoons provided balance on the field, flexibility to adjust to a 360-degree defense, and an arrangement that allowed continuous controlled fire. Regiments and companies continued to be administrative echelons while the battalions and platoons functioned as tactical entities on the battlefield. Most armies gradually brought these two concepts together so that a regiment formed one or two battalions and a company one or two platoons.

Improvements in organization were matched during the eighteenth century by the reintroduction of the cadenced march step, and by the establishment of formal systems of maneuvers and drill regulations. A standard system allowed the commander to maneuver his men during a battle without risking throwing his formation into confusion. Further improvements on these trends opened the door to the sophisticated linear battles of the Napoleonic Wars at the end of the century.

The new flexibility, coupled with a return to larger armed forces as the power of nations to mobilize effectively expanded, set the stage for Napoleonic warfare. Theoreticians like Maurice, comte de Saxe, and the comte de Guibert produced textbooks on tactics and organization during the latter part of the century. Leadership in this sphere came from France, a nation that had rarely won on the battlefield, and therefore felt impelled to seek improvement. France's military version of the Enlightenment philosophes turned particularly to ancient history for guidance, selecting the Roman legion as the epitome of a trained armed force. In 1791 the ideas of Guibert were enacted as the official manual for the French Army, and they remained the basic system during Napoleon's reign. Guibert called for each individual soldier to be capable of performing either as a standard infantryman in line or as a light infantry skirmisher, thereby giving a commander flexibility to adjust to a changing tactical situation. Guibert also stressed that a commander should deploy in line when he wished to make maximum use of firepower, but in column when he needed to move rapidly such as when exploiting a breakthrough. His "school" of military thought was known as l'ordre mixte to distinguish it from advocates of sole reliance on either the line (l'ordre mince) or column (l'ordre profond). Napoleon would make his contribution not as a theoretician but as the great captain who took the new system and extracted its maximum potential on the battlefield.

STAGES OF A SIEGE IN THE EIGHTEENTH CENTURY

Command and Control in the Siege

Effective command was the single most important factor in bringing any siege to a successful conclusion. The commander usually had to referee ongoing arguments between his artillerists and engineers who were the trained technical experts in this type of warfare, and, in the eighteenth century, highly jealous of prerogatives. Control was exercised through general officers of the trenches (normally division commanders) who would be responsible for actual operations during the 24-hour period when a division was positioned in the trench lines. A "trench major" would supervise any specific task, including individual attacks.

The Choice of Attack

The attacking commander, in conference with his principal subordinates, his staff engineers, and his artillery commanders, would review the terrain, intelligence estimates of the defender's status, and visual observations of the design and state of the defenses, before selecting a specific sector to attack. Normally this process included very close observation by the commander and key subordinates. A siege of a permanent fortification in Europe usually concentrated on a single front between two bastions.

The Establishment of the Siege Parks

Once the commander decided upon his direction of approach, the artillerists, engineers, and logisticians created depots, called siege parks, in sheltered locations about 2,000 yards from the fortification where the workshops and storage facilities were established. Convenient access to roads played a key role in the site selection. From these points trails provided routes to move the supplies to forward mini-depots at the "tails" (rear entrances) of the trenches. During this phase of a siege work parties began accumulating stocks of wood and supple branches and constructing thousands of fascines, gabions, and similar items. A crew of two experienced men could assemble a gabion in about three hours; raw labor worked on the simpler fascines.

The First Parallel

Opening the initial section of transverse trench, called the first parallel, marked the beginning of the siege proper. Because it was situated about 600 yards out from the main defense the initial groundbreaking had to take place in the dark, and be far enough advanced by dawn to provide the workmen some measure of protection from artillery fire. Engineers would mark the line to be dug and supervise details of infantrymen who performed the actual labor, while other armed bodies of infantry stood guard in no-man's-land. After the first night, work parties would continue to improve on the positions for about a week and erect artillery batteries twenty yards forward. The heavy siege guns, howitzers and mortars placed in these positions began around-the-clock firing to silence the defender's artillery and to disrupt his interior areas. Zigzag trenches were also pushed forward to provide a covered approach to the site of the next transverse.

The Second Parallel

After long-range fire had begun to take its toll on the defenders, a second parallel, constructed like the first, was established about 300 yards out from the fortification. Once batteries were constructed along the new line, the guns would be moved forward from their positions in the first parallel, and some of the lighter weapons would be replaced by heavier ones. The artillery mounted along the second parallel was close enough to allow highly accurate direct aiming and had counterbattery fire as its primary function. If properly executed, a second parallel would rapidly limit the defender's fire to that of small arms and hand grenades.

The Third Parallel

If a garrison held out long enough, zigzags would be pushed forward to the edge of the defensive ditch, about twenty-five yards out, and a third or final parallel with batteries would be erected. The heaviest guns would be emplaced and through careful spotting and concentration of fire would create a breach in the works. If the defenders still held out, a final infantry charge would be ordered. Sometimes guns alone were insufficient and underground tunnels would be dug to place massive explosive charges under the walls. Only at this point would a siege's casualty rates begin to exceed those of open battle.

Tactics of the Defense

The commander of a fortification under siege had a relatively simple mission: hold out until either relieved by a friendly force or the attacker collapsed in frustration. Generally a tenacious defense required contesting every inch of advance, although there were wide differences of opinion on how best to accomplish this mission. Some generals favored conserving the force (both men and guns) until the lines closed in to point-blank range and a maximum number of casualties could be inflicted on the attackers; others espoused frequent sorties to try and disrupt work on the parallels and batteries, destroy stocks of siege materiel, and damage or "spike" the attacking guns.

Capitulation

Few defenses during the eighteenth century were prolonged enough to require a breach of the main ramparts, and the resulting bloodbath. Heroic, last-ditch stands were out of fashion, and most sensible commanders carefully weighed matters before determining the appropriate time to surrender. The normal objective was to force the attacker to expend a maximum of time and energy and then agree to terms that allowed the garrison to withdraw to friendly territory and fight again another day. Terms of the surrender became extremely important, with internationally agreed upon "honors of war" indicating professional respect between the combatants.

SIEGE OF YORKTOWN ORDER OF BATTLE

Cornwallis

British

Guards Brigade (Composite)
17th Foot
23d Foot
33d Foot
43d Foot
71st Foot
76th Foot
80th Foot
Light Infantry Battalion (Provisional)
Royal Artillery
Staff

German

1st Anspach-Bayreuth Regiment
2d Anspach-Bayreuth Regiment
Erb Prinz Regiment (Wesse-Cassel)
von Bose Regiment (Hesse-Cassel)
Feldjager Korps detachment (Hesse-Cassel)

Loyalists

British Legion
Queen's Rangers
North Carolina Volunteers
Miscellaneous detachments

Washington

French

Bourbonnais
Royal Deux-Ponts
Saintonge
Soissonnais
Gatinais
Agenois
Touraine
Lauzun's Legion
2d Battalion, Auxonne (Artillery)
Detachment, Metz (Artillery)
Detachments from "Ships' Garrisons"
Volontaires de Saint-Simon (Provisional)

Militia

Virginia State Regiment (Dabney's)
Lewis' Rifle Corps (Provisional)
Stevens' Brigade (Provisional)
Lawson's Brigade (Provisional)
Weedon's Brigade (Provisional)

Continental

Lincoln's Division

New York Brigade (Clinton)
1st New York Regiment
2d New York Regiment
New Jersey Brigade (Dayton)
1st New Jersey Regiment¹
2d New Jersey Regiment¹
Rhode Island Regiment

Steuben's Division

Gist's Brigade
3d Maryland Regiment
4th Maryland Regiment
2 companies, Delaware Regiment²
Wayne's Brigade
1st Pennsylvania Battalion (Provisional)
2d Pennsylvania Battalion (Provisional)
Gaskins' Virginia Battalion (Provisional)

Lafayette's Division

Hazen's Brigade
Canadian Regiment
Light Infantry Regiment (Provisional)(Scammell)³
Light Infantry Battalion (Provisional)(Hamilton)³
Muhlenberg's Brigade
Light Infantry Battalion (Provisional)(Vose)⁴
Light Infantry Battalion (Provisional)(Gimat)⁵
Light Infantry Battalion (Provisional)(Barber)⁶

Unbrigaded Units

2d Continental Artillery Regiment (Lamb's)
Detachment, 1st Continental Artillery Regiment (Harrison's)
Detachment, 4th Continental Artillery Regiment (Proctor's)
Detachment, 4th Legionary Corps (Moylan's)
Detachment, 1st Partisan Corps (Armand's)
Detachment, Artificer Regiment
Corps of Sappers and Miners
Marechausse Corps
Commander-in-Chief's Guard

- ¹ Temporarily consolidated 8 October as single large battalion.
- ² Attached to 3d Maryland Regiment until 6 October, when transferred to artillery park.
- ³ Regrouped on 8 October as a single regiment with two battalions under Hamilton and Laurens. Consisted of Light companies from 2 New York regiments, plus 5 Connecticut, 4 Massachusetts, and 1 New Hampshire provisional light companies.
- ⁴ Light companies from 8 Massachusetts regiments.
- ⁵ Light companies from 5 Connecticut, 2 Massachusetts, and the Rhode Island regiments.
- ⁶ Light companies from 2 New Jersey, 2 New Hampshire, and the Canadian regiments.

ESTIMATED STRENGTHS AT THE SIEGE OF YORKTOWN
(Excluding Naval)

Cornwallis

<u>British</u>	4,665
<u>Germans</u>	2,220
<u>Loyalists</u>	850
<u>TOTAL</u>	<u>7,735</u>

Washington

<u>French</u>	9,300
<u>Militia</u>	4,500
<u>Continental</u>	6,500
<u>TOTAL</u>	<u>20,300</u>

ORDER OF BATTLE¹
5 SEPTEMBER 1781 BATTLE OF THE CAPES

DE GRASSE			GRAVES		
<u>Ship</u>	<u>Guns</u>	<u>Built</u>	<u>Ship</u>	<u>Guns</u>	<u>Built</u>
Ville-de-Paris	110	1764	London	98	1766
Auguste	80	1778	Barfleur	90	1768
Languedoc	80	1766	Alfred	74	1778
Saint-Esprit	80	1765	Invincible	74	1765
Pluton	74	1778	Monarch	74	1765
Marseillais	74	1766	Centaur	74	*2
Bourgogne	74	1766	Resolution	74	1770
Diademe	74	1756	Bedford	74	1775
Cesar	74	1768	Royal Oak	74	1769
Destin	74	1777	Montague	74	1779
Victoire	74	1770	Terrible ³	74	1762
Sceptre	74	1780	Ajax	74	1770
Northumberland	74	1780	Alcide	74	1779
Palmier	74	1752	Shrewsbury	74	1758
Citoyen	74	1763	Princessa	70	*4
Scipion	74	1778	Belliqueux	64	*5
Magnanime	74	1779	America	64	1777
Hercule	74	1778	Europe	64	1766
Zelev	74	1763	Intrepid	64	1770
Hector	74	1755	Adamant	50	*5
Souverain	74	1757			
Reflechi	64	1776			
Caton	64	1777			
Solitaire	64	1774			

Unengaged (In Bay)

Glorieux	74	1762
Vaillant	64	1755
Triton	64	1747
Experiment	50	1774 ⁶

Unengaged (Barras)

Duc de Bourgogne	80	1751
Neptune	74	1778
Conquerant	74	1745
Ardent	64	1764 ⁶
Eveille	64	1772
Jason	64	1777
Provence	64	1763
Sagittaire	50	1761

- ¹ Ships of the Line and 4th Rates only; does not include frigates and small craft
- ² Captured from French in 1759
- ³ Sank 14 September 1781 as a result of damage sustained in the battle
- ⁴ Captured from Spanish in 1780
- ⁵ Date of construction not located
- ⁶ Captured from British in 1779

ESTIMATED CASUALTIES, SIEGE OF YORKTOWN
(Not Including Naval Forces)

WASHINGTON

		<u>Killed</u>	<u>Wounded</u>	<u>Captured</u>	<u>TOTAL</u>
American	Officer	2	8	0	10
	Enlisted	21	61	0	82
	Sub-Total	23	69	0	92
French	Officer	4	20	1	25
	Enlisted	65	190	0	255
	Sub-Total	69	210	1	280
GRAND TOTAL	Officer	6	28	1	35
	Enlisted	86	251	0	337
	Total	92	279	1	372

CORNWALLIS

		<u>Killed</u>	<u>Wounded</u>	<u>Captured</u> ¹	<u>TOTAL</u>
British	Officer	7	5	6	18
	Enlisted	98	190	39	327
	Sub-Total	105	195	45	345
German	Officer	1	1	0	2
	Enlisted	52	130	27	207
	Sub-Total	53	131	27	209
Loyalists ²	Officer	?	?	?	?
	Enlisted	?	?	?	?
	Sub-Total	?	?	?	?
GRAND TOTAL	Officer	8	6	6	20
	Enlisted	150	320	66	536
	Total	158	326	72	556

¹ Does not include at least 44 deserters.

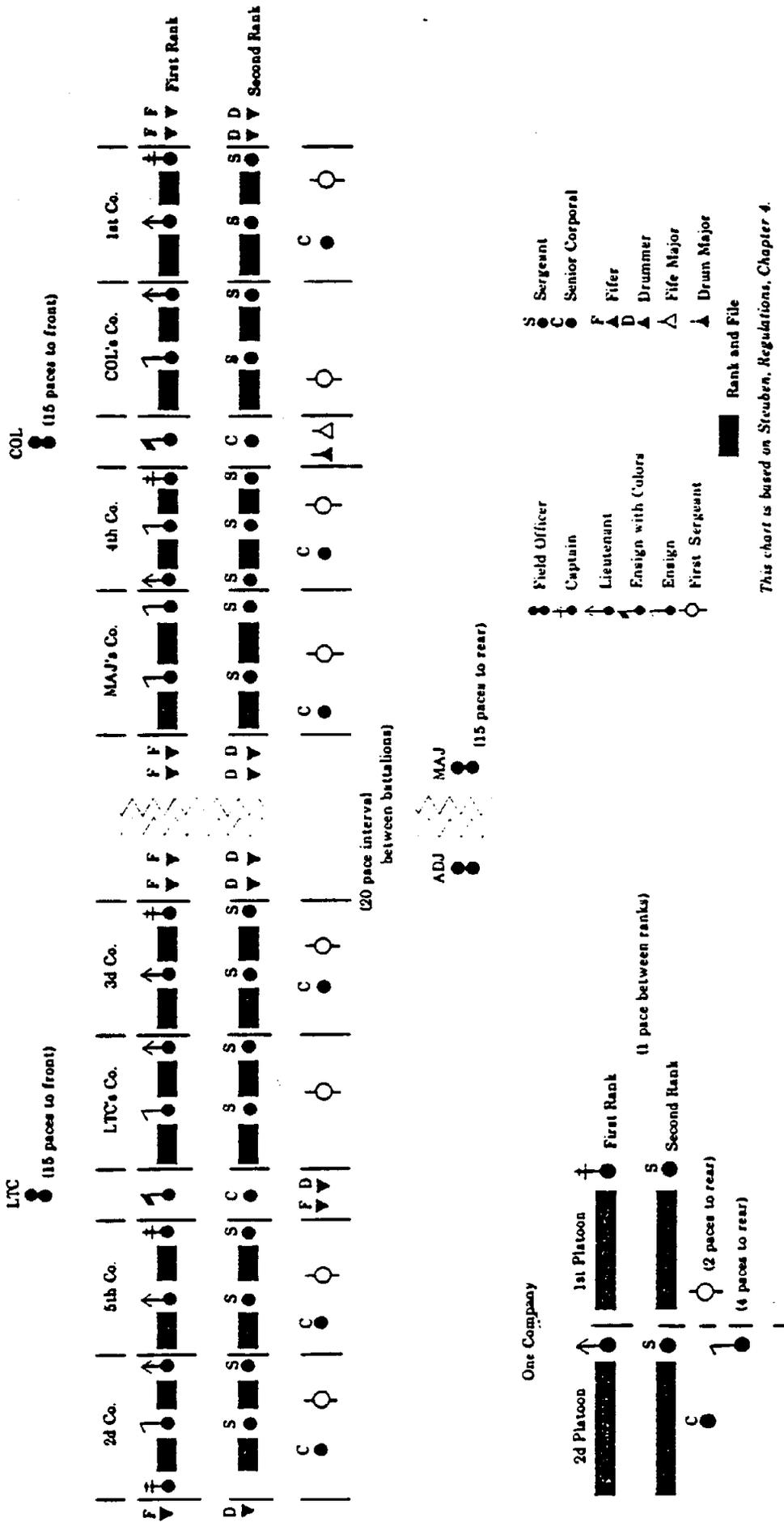
² Official reports submitted after surrender did not include Loyalists.

SURRENDERED

	Officers	Enlisted	Staff	TOTAL
British	217	4,002	100	4,319
German	84	1,885	15	1,984
Loyalists	108	657	0	765
TOTAL ³	409	6,544	115	7,068

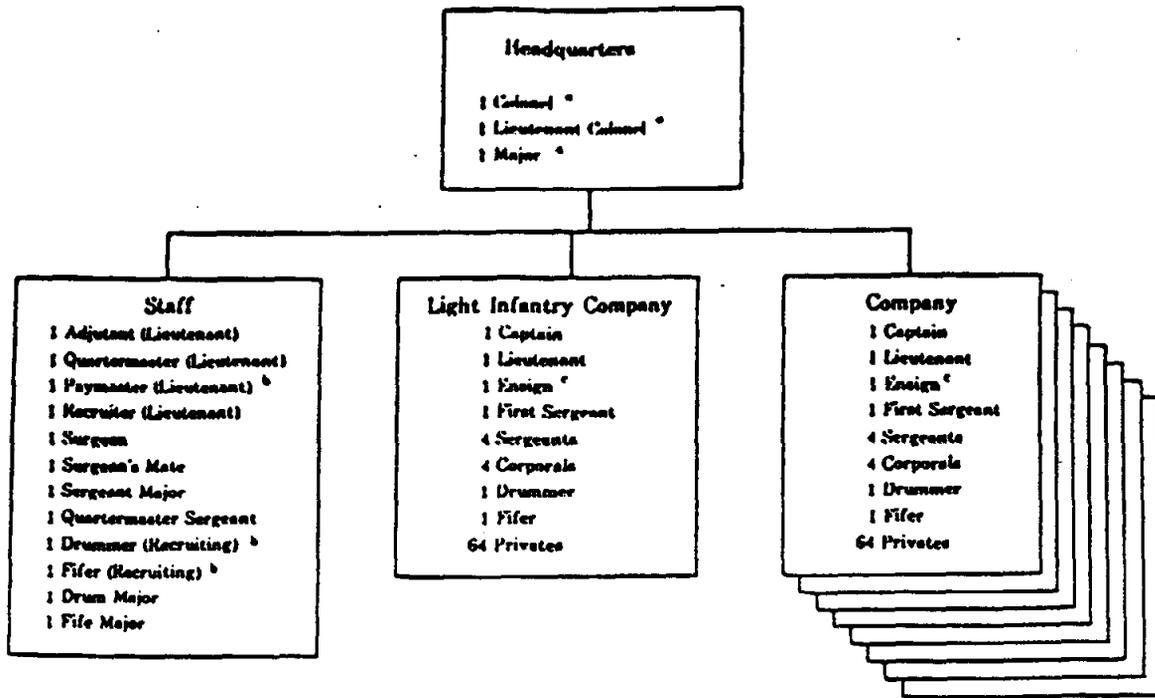
³ Plus at least 840 seamen and 80 authorized camp followers.

CHART 10—INFANTRY REGIMENT DEPLOYED IN TWO BATTALIONS 1779



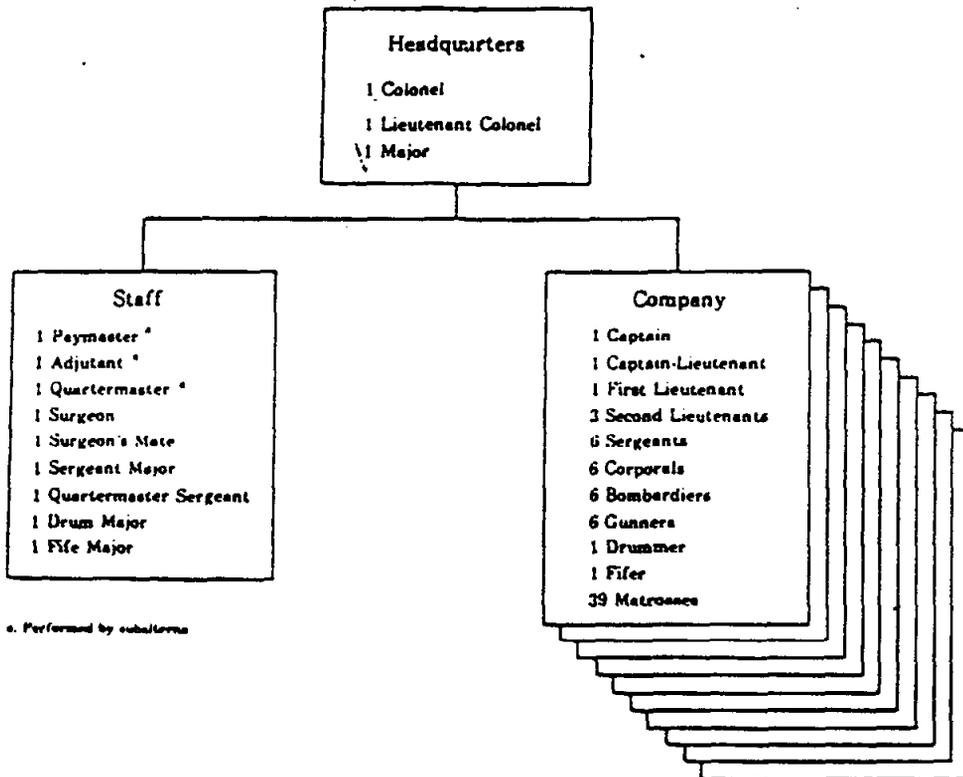
This chart is based on Steuben, Regulations, Chapter 4.

CHART 11—INFANTRY REGIMENT 1781



a. When regiment was commanded by a lieutenant colonel commandant, two majors were authorized.
 b. One lieutenant and a fifer and a drummer were permanently on duty in the regiment's home state on a recruiting party.
 c. Initially the temporary retention of a lieutenant in the ensign's position was authorized.

CHART 12—ARTILLERY REGIMENT 1781



a. Performed by substitutes

TENETS OF AIRLAND BATTLE DOCTRINE

- O Initiative: Initiative means setting or changing the terms of battle by action. Applied to the force as a whole, initiative requires a constant effort to force the enemy to conform to our operational purpose and tempo while retaining our own freedom of action. It implies an offensive spirit in the total force required to successfully dominate the opponent.
- O Agility: The ability of friendly forces to decide and act faster than the enemy is the first prerequisite for seizing and holding the initiative. Such greater quickness permits the rapid concentration of friendly strength against enemy vulnerabilities.
- O Depth: Depth is the extension of operations in space, time, and resources. Through the use of depth, a commander obtains the necessary space to maneuver effectively; the necessary time to plan, arrange, and execute operations; and the necessary resources to win.
- O Synchronization: Synchronization is the arrangement of battlefield activities in time, space and purpose to produce decisive combat power at the required time and place.

IMPERATIVES OF AIRLAND BATTLE DOCTRINE

- O Ensure Unity of Effort: The fundamental prerequisite for unity of effort within Army organizations is an effective system of command which relies upon leadership to provide purpose, direction, and motivation; emphasizes well-understood common doctrine, tactics, and techniques as well as sound unit standing operating procedures; and takes effective measures to limit the effects of friction.
- O Anticipate Events on the Battlefield: The commander must anticipate the enemy's actions and reactions and must be able to foresee how operations may develop. Predictions about the enemy and even our own troops can never be relied on with certainty, but it is nevertheless essential to anticipate what is possible and likely and prepare for those possibilities.

IMPERATIVES OF AIRLAND BATTLE DOCTRINE (CONTINUED)

- O Concentrate Combat Power Against Enemy Vulnerabilities: Commanders must seek out the enemy where he is most vulnerable to defeat. To know what his vulnerabilities are, commanders must study the enemy, know and take into account his strengths, find his inherent vulnerabilities, and know how to create new vulnerabilities which can be exploited to decisive effect.
- O Designate, Sustain, and Shift The Main Effort: In operations characterized by initiative, agility, depth, and synchronization, it is imperative that commanders designate, sustain and shift the main effort as necessary during operations. The main effort is assigned to the element with the most important task to accomplish within the commander's concept.
- O Press The Fight: Campaigns or battles are won by the force that is most successful in pressing its main effort to a conclusion. To sustain the momentum of early successes, leaders must deploy forces in adequate depth and arrange for timely and continuous combat support and combat service support at the outset of operations.
- O Move Fast, Strike Hard and Finish Rapidly: To avoid detection, our force concentrations must be disguised. To avoid effective counterstrike, they must be brief. Engagements must be violent to shock, paralyze, and overwhelm the enemy force quickly. They must be terminated rapidly to allow the force to disperse and avoid effective enemy counterstrikes.
- O Use Terrain, Weather, Deception, and OPSEC: Terrain and weather affect combat more significantly than any other physical factors. Battles are won or lost by the way in which combatants use the terrain to protect their own forces and to destroy those of the enemy.
- O Conserve Strength of Decisive Action: Successful commanders conserve the strength of their forces to be stronger at the decisive time and place. Commanders must minimize the diversion of resources to nonessential tasks and retain a reserve for commitment when needed most. Commanders must also keep troops secure, protected, healthy, disciplined, and in a high state of morale. In addition they must keep equipment ready and stocks of supplies available for commitment when needed.

IMPERATIVES OF AIRLAND BATTLE DOCTRINE (CONTINUED)

- O Combine Arms and Sister Services to Complement and Reinforce: The greatest combat power results when weapons and other hardware, combat and supporting arms, Army units, and other service elements of different capabilities are employed together to complement and reinforce each other. Arms and services complement each other by posing a dilemma for the enemy. As he evades the effects of one weapon, arm, or service, he exposes himself to attack by another.
- O Understand the Effect of Battle on Soldiers, Units and Leaders: Commanders and their staffs must understand the effects of battle on soldiers, units, and leaders because war is fundamentally a contest of wills, fought by men not machines.

Battlefield Operating Systems

- O Maneuver: The movement of forces supported by fire to achieve a position of advantage from which to destroy or threaten destruction of the enemy. (FM 101-5-1).
- O Fires: Support to those elements of ground forces which close with the enemy such as infantry and armor units, rendered by delivering artillery and mortar fire, naval gun fire, and Close Air Support (CAS). Fires may also be provided by tanks, air defense artillery, and Army aviation. (FM 101-5-1).
- O Air Defense: All measure designed to nullify or reduce the effectiveness of an enemy attack by aircraft or guided missiles in flight. Includes all active and passive measures, to include designating of priorities of protection and coordination of ADA units. (FM 100-5-1).
- O Mobility and Survivability: (Mobility) Obstacle reduction by maneuver and engineer units to reduce or negate the effects of existing or reinforcing obstacles. The objectives of mobility are to maintain freedom of movement for maneuver units, weapon systems, and critical supplies. (Survivability) The development and construction of protective positions such as earth berms, dug-in positions, overhead protection, and counter surveillance means to reduce the effectiveness of enemy weapon systems. (FM 101-5-1).

Battlefield Operating Systems (CONTINUED)

- O Intelligence: That knowledge of the enemy, weather, and geographical features required by a commander in planning and conducting combat operations. It is derived from analysis of information on the enemy's capabilities, intentions, vulnerabilities, and the environment. (FM 101-5-1).

- O Command and Control: The exercise of command that is the process through which the activities of military forces are directed, coordinated, and controlled to accomplish the mission. This process encompasses the personnel, equipment, communications, facilities, and procedures necessary to gather and analyze information, to plan for what is to be done, and to supervise the execution of operations. (FM 101-5-1).

- O Combat Service Support: The support and assistance provided to sustain combat forces, primarily in the fields of administration and logistics. It includes administrative services, chaplain services, civil affairs, food services, finance, legal services, maintenance, medical services, supply, transportation, and other logistical services. (FM 101-5-1).

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22 Oct 1985

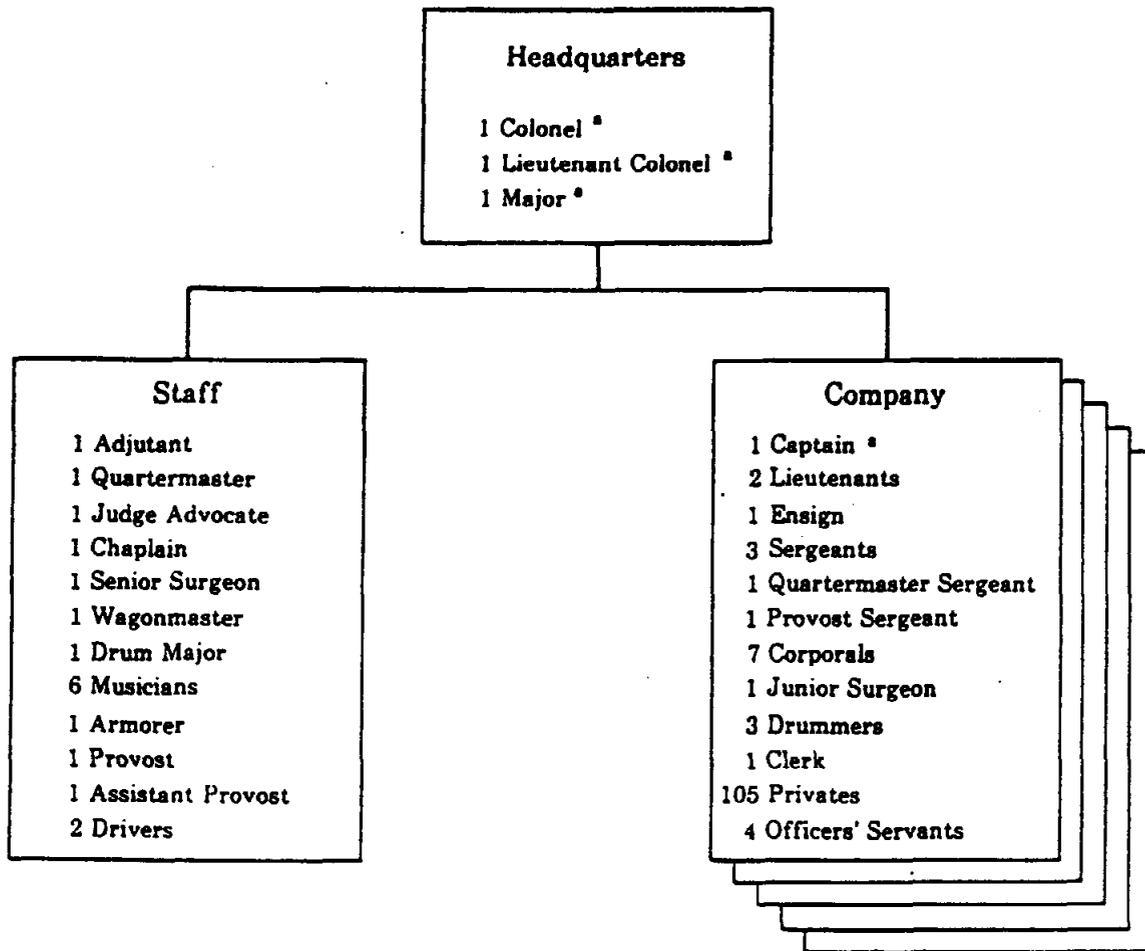
PRINCIPLES OF WAR

- O Objective: Direct every military operation towards a clearly defined, decisive, and attainable objective.
- O Offense: Seize, retain, and exploit the initiative.
- O Mass: Concentrate combat power at the decisive place and time.
- O Economy of Force: Allocate minimum essential combat power to secondary efforts.
- O Maneuver: Place the enemy in a position of disadvantage through the flexible application of combat power.
- O Unity of Command: For every objective, ensure unity of effort under one responsible commander.
- O Security: Never permit the enemy to acquire an unexpected advantage.
- O Surprise: Strike the enemy at a time or place, or in a manner, for which he is unprepared.
- O Simplicity: Prepare clear, uncomplicated plans and clear, concise orders to ensure thorough understanding.

TERMS OF OPERATIONAL ART

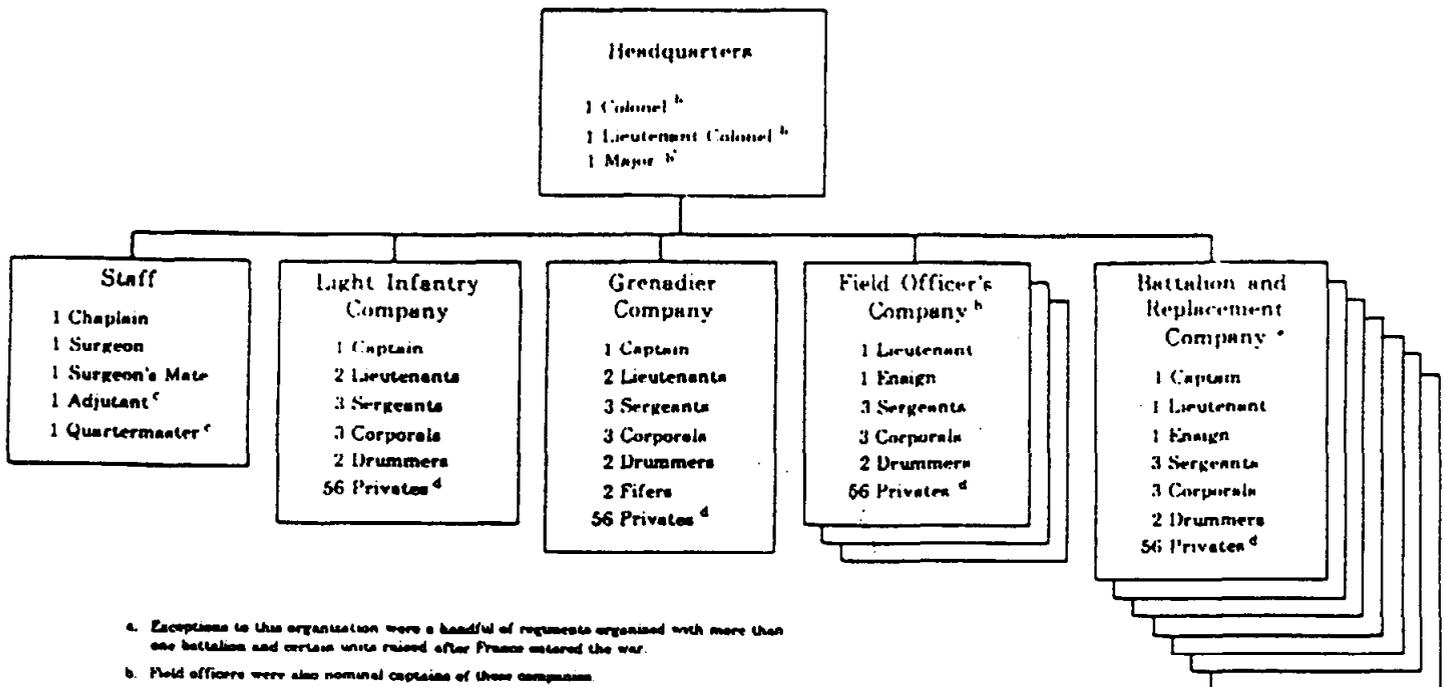
- O Center of Gravity: The center of gravity of an armed force refers to those sources of strength or balance. It is that characteristic, capability, or locality from which the force derives its freedom of action, physical strength, or will to fight.
- O Lines of Operation: Lines of operation define the directional orientation of a force in relation to the enemy. Lines of operation connect the force with its base or bases of operation on the one hand and its operational objective on the other.
- O Culminating Points: Unless it is strategically decisive, every offensive operation will sooner or later reach a point where the strength of the attacker no longer significantly exceeds that of the defender, and beyond which continued offensive operations therefore risk over extension, counterattack, and defeat. In operational theory, this point is called the culminating point.

CHART 6—HESSE-CASSEL INFANTRY REGIMENT 1776



a. Each field officer was also the captain of a company; only 2 of the 5 companies actually had all 4 company officers.

CHART 3—BRITISH INFANTRY REGIMENT 25 AUGUST 1775



a. Exceptions to this organization were a handful of regiments organized with more than one battalion and certain units raised after France entered the war.

b. Field officers were also nominal captains of these companies.

c. Performed by subalterns.

d. Including 3 fictitious "contingent men."

e. Five battalion companies, one replacement company in England and one replacement company in Ireland.

