

historic resource study and
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THE ALLIES AT YORKTOWN:

A BICENTENNIAL HISTORY OF THE SIEGE OF 1781

NATIONAL HISTORICAL PARK / VIRGINIA

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HISTORIC RESOURCE STUDY
AND
HISTORIC STRUCTURE REPORT
THE ALLIES AT YORKTOWN:
A BICENTENNIAL HISTORY OF THE SIEGE OF 1781
COLONIAL NATIONAL HISTORICAL PARK
VIRGINIA

by
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DENVER SERVICE CENTER
HISTORIC PRESERVATION DIVISION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR
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PREFACE

The following discussion of the Allies at Yorktown, 1781, embraces three programmed combined historic resource studies and structure reports, those for the British Outer Works, the First Allied Siege Line, and the Second Allied Siege Line. The Siege of Yorktown in many respects evolved entirely around these three important themes. Because of the obvious interrelationships I deemed it logical to incorporate otherwise separate reports into one lengthy study that would allow the parts to give perspective and added dimension to the whole story of the siege.

In many ways this study represents a synthesis of the voluminous body of materials, both published and unpublished, bearing on this singular event. When I began my work I was immediately overwhelmed by the vast number of studies that already existed and that in one way or another related to mine. In addition, I searched through innumerable documents and a large number of manuscript maps that bore directly or indirectly on my task. The result, after nearly a year and a half of research and writing, lies in the pages that follow. I have attempted to produce a thorough account of the Yorktown Campaign that emphasizes the participation by the French and American forces from the time of their initial investment of Cornwallis's command, through the construction and occupation of their own earthen defenses during the course of the Siege, to the British surrender and its aftermath. It is hoped that the material presented here will be of value to park planners and park interpreters, and through them, to the American people.

I owe a debt of gratitude to the many people and institutions who facilitated my work on this project. Chief among these is my friend and colleague, Erwin N. Thompson, whose own research on the main British defenses at Yorktown parallels and complements my own. Together we visited many repositories and discussed at length the various facets of our respective tasks. "T"'s helpfulness and cheerful nature made the work seem easier and my study has benefited from our association. I must also thank my supervisor, John F. Luzader, Chief, Historic Preservation Division, National Park Service, for sharing with me his expertise in colonial military history and for translating several important German documents from his personal collection that relate to Yorktown. My colleague, James D. Mote, of the Historic Preservation Division, also translated several German documents that helped my study, and I acknowledge his assistance. And Arnold H. Gustavson, Landscape Architect, Historic Preservation Division, deserves thanks for keeping me informed on the archeology and reconstruction efforts now in progress at the Yorktown Battlefield.

The staff at Colonial National Historical Park gave wholehearted support to this endeavor. I would particularly like to thank Superintendent James R. Sullivan, Chief Historian James N. Haskett, Park Historian James Gott, and Park Technician Laura J. Feller for their assistance in orienting me in the use of materials available at the

park. They also helped me locate obscure maps and documents and generously forwarded pertinent materials to Denver for my examination. Miss Feller also translated a French journal of some consequence to my study. The work of reconstructing key parts of the Allied defenses at Yorktown was recently undertaken by the Southside Historical Sites Foundation of the Department of Anthropology, College of William and Mary, Williamsburg. I must thank Director Norman F. Barka and his staff, and especially Arthur W. Barnes and Edward Ayers, for their enthusiastic aid in the early stages of my work. At the Colonial Williamsburg Foundation, Director Edward M. Riley allowed me full access to maps, documents, and books, and Archivists Nancy Merz and Linda Rowe gave unstinting assistance in locating these materials.

A work of this nature required a visit to the William L. Clements Library at the University of Michigan. The Clements Library houses probably the world's largest private collection of colonial and Revolutionary War sources. I acknowledge the friendliness and cooperation of Director Howard H. Peckham and his staff, and in particular Curator of Manuscripts John Dann, Curator of Maps Douglas W. Marshall, and Assistant Manuscript Curator Arlene Klesb. They all helped make my first visit to Ann Arbor a warm, rewarding experience. I also want to thank individually Gertrude A. Fisher, Massachusetts Historical Society, Boston; John L. Lochhead, The Mariners Museum, Newport News, Virginia; Edward B. Russell and John M. Dervan, United States Army Engineers Museum, Fort Belvoir, Virginia; John S. Aubrey, The Newberry Library, Chicago; Joseph P. Tustin, Tuckerton, New Jersey; and Mary A. Thompson, the Paul Mellon Collection, Upperville, Virginia.

I must acknowledge the assistance of the staffs at the following institutions: Princeton University Library, Princeton, New Jersey; John Carter Brown Library, Providence, Rhode Island; Virginia State Library, Richmond; Maryland Historical Society, Baltimore; Map Division, Library of Congress, Washington; Map Division, National Archives, Washington; The New-York Historical Society; New York Public Library; The Pierpont Morgan Library, New York City; Fordham University Library, Bronx, New York; Morristown National Historical Park Library, Morristown, New Jersey; Historical Society of Pennsylvania, Philadelphia; University of Colorado Libraries, Boulder; and the Denver Public Library.

Special thanks go to Mrs. Helen C. Athearn, who typed the entire rough draft of this manuscript with patience, precision, and accuracy; to Sharon Spera, who is responsible for the final typed copy; to Robert H. Todd, Branch of Mapping, Denver Service Center, National Park Service, who prepared the excellent maps accompanying this study; and to Linda Wedel Greene, who applied her unique editing abilities to the final copy. And last, I would like to acknowledge the great service rendered this account of the Siege of Yorktown by the late Thor Borresen, for many years during the 1930s and 1940s a historical aide and technician at Colonial National Historical Park. During his tenure, Borresen undertook considerable research and completed a great many monographs

relating to the siege fortifications at Yorktown. The products of his interest and devotion have immensely promoted my own study. To his memory the present work is affectionately dedicated.

Jerome A. Greene
January 1976

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*From Yorktown's ruins, ranked and still,
Two lines stretched far o'er vale and hill:
Who curbs his steed at head of one?
Hark! the low murmur: Washington!
Who bends his keen, approving glance
Where down the gorgeous lines of France
Shine knightly star and plume of snow?
Thou too art victor, Rochambeau!*

--John Greenleaf Whittier

CHAPTER I: THE CAMPAIGN OF THE ALLIES

A. The Epic Event

At about three o'clock in the afternoon of Friday, October 19, 1781, a large British army commanded by Lieutenant General Charles Cornwallis marched forth from heavily damaged works at Yorktown, Virginia, and formally surrendered prisoners of war to a combined French and American force under the supreme command of General George Washington. Pleading illness, the British general did not personally accompany his troops. Across York River, a short distance away, a similar ceremony marked the capitulation of the British-held garrison at Gloucester Point. The solemn pageantry of that autumn day bore significant implications. In its immediate aspect, the victory of the Allied armies over Cornwallis represented the culmination of good fortune and coordinated military-naval strategy that permitted the final tactical success. In its broader sense, Yorktown signified the ultimate accomplishment of American arms in a five-year revolutionary struggle and virtually assured Great Britain's recognition of independence for her former colonies.

B. Problems Preceding Yorktown

The victory at Yorktown revitalized American morale and afforded a striking contrast to the harrowing times experienced by Washington's army scarcely a year earlier. By mid-1780 American defeats in the Revolutionary War had become all too common occurrences, provoking serious doubts about the survival of the new nation. Grievous military setbacks had occurred in the South, and the culmination of Major General Benedict Arnold's treason in September 1780 had dealt a severe psychological blow to the Patriot cause.¹

Moreover, problems in organizing and maintaining an effective army had proved especially vexatious for General Washington. While the timely arrival in July 1780 of 6,000 French regulars under General Jean Baptiste Donatien de Vimeur, Count de Rochambeau, had greatly augmented Washington's dwindling force, by late that year enlistments in the Continental Army had declined drastically. This occurred primarily because of difficulties in paying and provisioning the troops and because of competition from the various States, which provided more lucrative inducements for enlistment in the militia. Whereas in mid-1778 Continental Army strength stood at nearly 17,000 men, two years later it approached only 8,000 effectives, a force supplemented by the numerous provincial units. By that time, however, a major army reorganization was underway, with special consideration being given

1. A handy chronological summary of the Revolutionary War is in *Harper's Encyclopaedia of United States History, From 458 A.D. to 1902*, 10 vols. (New York: Harper and Brothers, Publishers, 1902), 7:410-15.

the problems of subsistence, supply, and payment of troops. Despite some short-lived mutinies within the ranks and the fact that recruiting for the Continental force continued to decline throughout early 1781 (the period from January to May produced only 2,574 enlistees), the fortunes of the American Army were decidedly improving at the start of that year.²

C. British Southern Strategy

The improving fortunes for the Americans, so soon to culminate at Yorktown, were accelerated by British strategy in America, and particularly that affecting the South. By 1780 inactivity in the North made a concerted British effort in the South more tenable than ever before. General Henry Clinton, commander of all British forces in North America, had harbored designs against the South and mainly against Virginia since 1779. Early in his scheme he hoped to establish at least one base in the Chesapeake Bay from which he could command the region and also launch a drive against Pennsylvania. A British raid in the area in 1779 had succeeded in temporarily arousing Loyalist sentiment, and Clinton, headquartered at New York City, hoped to capitalize on the situation. British civil and military leaders believed that by virtually paralyzing Virginia the colonies would be severed and more easily defeated.³ Thus armed with a plan for subduing and ending the rebellion, the British home government looked to Clinton's army and the superior British Navy for its execution.

1. Cornwallis vs. Clinton

Arguments that Clinton and his subordinate, Lord Cornwallis, held widely opposing views on the question of taking Virginia are unfounded. Whatever differences existed concerned degree and procedure. Both men realized Virginia's potential contribution to a British victory, but Clinton adhered to a conservative philosophy in determining the best means of reducing the State. Furthermore, his position at New York seemed under threat of imminent attack early in 1781, and he was reluctant to divert his energies. At the same time Clinton probably envisioned greater consequences from controlling the Chesapeake than did

2. Russell B. Weigley, *History of the United States Army* (New York: The Macmillan Company, 1967), p. 42; Maurice Matloff, ed., *American Military History* (Washington: Office of the Chief of Military History, 1969), pp. 89-90; Marshall Smelser, *The Winning of Independence* (New York: New Viewpoints, 1973), pp. 322-23; Louis Clinton Hatch, *The Administration of the American Revolutionary Army* (New York: Longmans, Green, and Company, 1904), p. 113.

3. Matloff, *American Military History*, p. 94; Henry P. Johnston, *The Yorktown Campaign and the Surrender of Cornwallis* (New York: Harper and Brothers, 1881), p. 18.

Cornwallis, for his initial raiding policy had been designed to control Virginia's waterways and establish a base in the Chesapeake vicinity.⁴ To Cornwallis, such attention seemed fleeting and incidental, and he advocated that Virginia become the major theater for British operations.⁵ Yet on the question of ultimate control over the province Clinton and Cornwallis were in essential agreement.

Complicating their relationship, however, was the fact that Cornwallis had managed to interest Colonial Secretary Lord George Germain in his views and had pressed for immediate military attention to the South. The Secretary's intrusion had offended Clinton, although his own negativism and lack of imaginative policy doubtless figured in London's growing alignment with Cornwallis's views. The entire matter created a schism between the men, which, compounded by geographical separation and communication problems, practically insured misunderstanding and a breakdown in cooperation.⁶ Despite the gulf between them, Clinton remained confident of the military judgment of his junior. Probably this, coupled with Clinton's own passivity and preoccupation with defensive arrangements, influenced the final shift of British strategy from the North to the South.⁷ That Clinton did not share Cornwallis's immediate enthusiasm for the control of Virginia is certain; by 1781 his own interest for prosecuting the war in the South lay in recruiting to the King's cause the sizable Loyalist population in the Carolinas, Maryland, Delaware, and southeastern Pennsylvania.⁸

2. British Success in the South

To that end, Clinton's Southern strategy was partially successful. Charleston, South Carolina, succumbed to the British on May 12, 1780, after a month-long siege by Clinton and Cornwallis; the following June

4. Matloff, *American Military History*, p. 94.

5. Hoffman Nickerson, "Yorktown, 1781," *American Mercury* 24 (September, 1931): 84.

6. *Ibid.*, p. 83.

7. Piers Mackesy, *The War for America, 1775-1783* (Cambridge: Harvard University Press, 1965), p. 409.

8. Don Higginbotham, *The War of American Independence: Military Attitudes, Policies, and Practices, 1783-1789* (New York: The Macmillan Company, 1971), pp. 378-79; For a psychological assessment of Clinton and his role in the campaign of 1781, see William B. Willcox and Frederick Wyatt, "Sir Henry Clinton: A Psychological Exploration in History," *William and Mary College Quarterly Historical Magazine* 16 (January, 1959): 3-26; and also Willcox's evaluation in his *Portrait of a General: Sir Henry Clinton in the War of Independence* (New York: Alfred A. Knopf, 1962), pp. 492-524.

the commander proclaimed the State again under British control. Clinton's subsequent strategy was to secure South Carolina while rallying the Loyalists of that province in order to further solidify his gains.⁹ Left largely to his own designs after Clinton's departure for New York, Lord Cornwallis proposed to invade North Carolina and make that State a protective barrier for the reconquered provinces below it. Clinton reluctantly agreed to this course. He himself would launch a campaign in the Chesapeake to distract forces in Virginia and keep them from joining in a reconquest of the southernmost States.¹⁰ The British plans appeared to succeed with Cornwallis's rout of the Americans under Major General Horatio Gates at Camden, South Carolina, on August 16, 1780. To British minds that victory spelled an end to major conflict in the deep South. Cornwallis could now turn his attention northward.

D. The Americans Strike Back

Such a view proved illusory. British hopes for easy victory were shattered with the sudden American win at Kings Mountain, South Carolina, on October 7, 1780. That success partly rejuvenated Patriot determination. Shortly thereafter, Major General Nathanael Greene replaced Gates as American commander in the South. Greene proceeded to implement vast changes and in a short time restored the army, much demoralized after Camden, to fighting condition. Greene's presence cast strong doubt on the outcome of British operations in the South, for the Americans now took an aggressive stance and lashed out vigorously with potent attacks against Cornwallis's army. With dissipation of the expected Tory support in the wake of Kings Mountain, Cornwallis was left to fend for himself.¹¹ Under harrassment from State militia, he retreated to Wimsboro, South Carolina, to await reinforcements from Clinton. Clinton diverted a force of 2,500 men, scheduled to establish a base in Virginia, to support Cornwallis, who then struck forth again to invade North Carolina.¹² To impede the Americans, the general divided his command into three units. He sent one to Camden to temporarily divert Greene's attention. He sent another, under his cavalry corps commander, Lieutenant Colonel Banastre Tarleton, to seek out Brigadier General Daniel Morgan's army in the Carolina backcountry. Cornwallis with the rest of his command headed north to engage and capture any of Morgan's troops that escaped Tarleton.¹³ On January 17, 1781, the British Legion cornered Morgan west of Kings Mountain near the North Carolina

9. Johnston, *Yorktown Campaign*, p. 21; Higginbotham, *War of American Independence*, p. 376.

10. Johnston, *Yorktown Campaign*, p. 21.

11. Matloff, *American Military History*, p. 90; Jacob Harris Patton, "The Campaign of the Allies: The Surrender of Lord Cornwallis," *Magazine of American History* 7 (October, 1881): 243.

12. Matloff, *American Military History*, pp. 90, 91.

13. *Ibid.*, p. 91.

border at a place known as Cowpens. But Morgan deployed his force skillfully, quickly took the initiative, and drove Tarleton's soldiers back in utter confusion. The American victory instilled even further confidence among the troops. Morgan now made a determined effort to rejoin Greene, who had preceded Cornwallis's army into North Carolina. Cornwallis, resolved to stop and destroy Greene, burned all extra provisions and equipment and took off in pursuit. The British dogged Greene through North Carolina to the Dan River. Here Greene crossed into Virginia, shortly reentering North Carolina.¹⁴ Finally reinforced, Greene turned and met the British at Guilford Court House on March 15, 1781. The hard-fought encounter ended in negative victory for Cornwallis; nearly a quarter of his 3,000-man force had been killed or wounded when Greene at last withdrew from the field. Physically staggered by events at Guilford Court House, the depleted British Army pushed on to the seacoast at Wilmington to recuperate, refusing either another try at Greene or a return to South Carolina. Confident in the ability of remaining British troops to hold Charleston and Camden and to contend with Greene, Cornwallis now grew enamored of taking Virginia, for only by that strategy, it appeared, could American resistance be effectively contained.¹⁵ At the Wilmington depots he outfitted his tired soldiers for what was to be the final campaign of the war.

E. The New "Seat of War"

The presence in Virginia of 3,800 British soldiers under Generals Arnold and William Phillips beckoned Cornwallis northward. These troops had been sent by Clinton, still adhering to his raiding policy, to foment discord among the inhabitants and to divert attention from the British operations in the Carolinas.¹⁶ Early in 1781 Arnold had caused considerable damage at Richmond and had withdrawn to Portsmouth on Chesapeake Bay.¹⁷ To counter Clinton's plan, Washington sent 1,200 American troops with the young French nobleman Marie Jean Paul Roch Yves Gilbert Motier, Marquis de Lafayette, to Virginia with orders to

14. *Ibid.*, p. 93; Johnston, *Yorktown Campaign*, p. 24.

15. Matloff, *American Military History*, p. 93; Smelser, *Winning of Independence*, p. 321; Lucien Agniel, *The Late Affair Has Almost Broke My Heart* (Riverside, Conn.: The Chatham Press, Inc., 1972), p. 109; A standard treatment of Greene's campaign in the South, 1780-81, is in Henry Lee, Jr., *The Campaign of 1781 in the Carolinas* (Philadelphia, 1824; reprint ed., Chicago: Quadrangle Books, Inc., 1962); Greene has been unduly criticized for falling back into South Carolina instead of re-engaging Cornwallis. Actually, he occupied 7,000 British troops who eventually were sorely needed in Virginia. Agniel, *Late Affair*, p. 110.

16. Matloff, *American Military History*, p. 94; Higginbotham, *War of American Independence*, p. 376.

17. Edward C. Haynes, "The Siege of Yorktown," *Chautauquan* 15 (April, 1892): 3.

chastise Arnold. The plan went awry when a supporting French naval squadron, sailing from Newport, Rhode Island, to prevent Arnold's escape by water, was forced back by a superior British fleet. In response to the American buildup, Clinton dispatched 2,600 more troops under Phillips to aid Arnold. Then, in April, Cornwallis wrote Clinton informing the British commander of his intention to enter Virginia. That province, he maintained, should now become "The Seat of War," even if New York must be abandoned. Cornwallis clearly misconstrued the presence of Arnold and Phillips, for Clinton had never envisioned the Chesapeake as a major theater while the locus of British power continued in the Carolinas.¹⁸

A shift in British military policy occurred with Cornwallis's march into Virginia on April 25, 1781. Thereafter, New York and the Carolinas became secondary considerations, intentionally for Cornwallis and eventually out of desperation for General Clinton. From April on, the tidewater Virginia region loomed paramount in British strategy, regardless of whether Clinton approved or not.¹⁹ On May 20 Cornwallis joined General Phillips's command at Petersburg and learned that Phillips had died from fever only five days before. Cornwallis assumed command from Arnold, thereby increasing his force to about 7,000 British and Hessian soldiers. Arnold shortly returned to New York.²⁰

Fully committed to the course he had taken, Cornwallis proceeded to consolidate his position. He had acted forthrightly, he believed, albeit without the permission of his superior. As he later put it, "I was most firmly persuaded, that, *with* Virginia was reduced, we could not hold the more southern provinces, and that after its reduction, they would fall without much difficulty."²¹ Clinton disagreed heartily, fearing that even a temporary loss of sea power would cause grave setbacks. "Operations in the Chesapeake," he observed, "are attended with great risk unless we are sure of a permanent superiority at sea. I tremble for the fatal consequences that may ensue."²² As much as he feared a strong French navy in the Chesapeake, Clinton additionally

18. *Ibid.*, pp. 3-4; Higginbotham, *War of American Independence*, p. 376; Matloff, *American Military History*, p. 94.

19. William B. Willcox, *The British Road to Yorktown: A Study in Divided Command*, reprint from *American Historical Review* (October, 1946): 2; An explanation by Cornwallis of his motives in moving into Virginia is contained in Johnston, *Yorktown Campaign*, pp. 26-28.

20. Agniel, *Late Affair*, p. 111; Johnston, *Yorktown Campaign*, p. 26.

21. Quoted in Charles E. Hatch, Jr., *Yorktown and the Siege of 1781* (Washington: United States Government Printing Office, 1957), p. 2.

22. Quoted in Alfred Thayer Mahan, *The Influence of Sea Power Upon History, 1660-1783* (Boston: Little, Brown, and Company, 1908), p. 385.

feared the prospects of a summer campaign in that fever-ridden zone.²³ Unfortunately for Clinton, Cornwallis's intrigue with Lord Germain had borne fruit. "I am well pleased," Germain wrote Clinton in early June, "to find Lord Cornwallis's opinion entirely coincides with mine of the great importance of pushing the war on the side of Virginia with all the force that can be spared, until that province is reduced."²⁴

F. Cornwallis's Strategy for Virginia

Cornwallis had contemplated the manner of reducing Virginia. He hoped, of course, that Clinton would join him with troops from New York. Starting at the Chesapeake the army would ascend the navigable rivers, dominate town and countryside, and reassert British control. Any American forces encountered would be defeated by the sizable British Army. Cornwallis's scheme also called for aid from the considerable Loyalist population that he thought existed in the State.²⁵ By mounting a campaign in the most prominently rebellious province of any outside New England, besides being the most populous of all, Cornwallis hoped to strike a military blow upon an active center of political opposition to British rule.²⁶

G. Lafayette in Virginia

In Virginia Cornwallis now contended with the Marquis de Lafayette and about 3,000 American soldiers. In late April the marquis arrived at Richmond to protect the new State capital from British incursions. Cornwallis meantime prepared his army and sent selected units to protect the British station at Portsmouth. Then he headed north towards Richmond with a main force of 5,300 to expel Lafayette and to destroy American supplies.²⁷ Realizing his numerical weakness for a stand at the capital, and that his prime role was "that of a terrier baiting a bull" while awaiting reinforcements, Lafayette retreated generally northward.

23. Higginbotham, *War of American Independence*, p. 376.

24. Reproduced in Henry Clinton, *The Narrative of Lieutenant-General Sir Henry Clinton, K.B., Relative to His Conduct during Part of His Command of the King's Troops in North America: Particularly to That which respects the Unfortunate Issue of the Campaign in 1781* (London: John Debrett, [1785]), p. 50; See also Germain to Clinton, May 2, 1781, reproduced in Johnston, *Yorktown Campaign*, p. 19n.

25. Johnston, *Yorktown Campaign*, p. 29.

26. Nickerson, "Yorktown, 1781," pp. 81-82.

27. Hatch, *Yorktown and the Siege of 1781*, pp. 2-3; Franklin Wickwire and Mary Wickwire, *Cornwallis: The American Adventure* (Boston: Houghton Mifflin Company, 1970), p. 329.

keeping one step ahead of Cornwallis's command but alternately threatening and withdrawing from his front. He purposely kept his troops situated between the British and the American Capital at Philadelphia.²⁸ Eventually Lafayette's command was bolstered by the arrival of militia from western Virginia and on June 25 by about 800 Pennsylvania Continentals sent by Washington under Brigadier General Anthony Wayne. To these was added a detachment commanded by Major General Frederick William Augustus, Baron Von Steuben, which gave Lafayette a total complement of nearly 4,000 soldiers.²⁹

II. Cornwallis Changes Direction

The swift increase in Lafayette's strength coincided with a renewal of difficulties between Cornwallis and Clinton. The senior British commander ordered Cornwallis to move back from the interior to the Virginia coast, to take a defensive station at either Yorktown or Williamsburg on the Peninsula, and to dispatch the majority of his troops northward by transport ship to help repel an expected siege against New York.³⁰ The grand offensive Cornwallis longed for seemed shattered, as he now endeavored to resurrect Clinton's earlier design of holding a naval station and launching periodic forays into the State. With the Portsmouth base now exposed in the face of the American buildup, the British general returned to Richmond while Lieutenant Colonel Tarleton made a dash on Charlottesville. Tarleton disrupted the State legislature then in session and almost captured Governor Thomas Jefferson. Cornwallis also sent the "Queen's Rangers" under Lieutenant Colonel John Graves Simcoe to intimidate Baron Steuben's troops on the upper James River. Meantime, Lafayette continued to pursue and harrass Cornwallis's retreating main army.³¹ From Richmond Cornwallis continued down the Peninsula, alarmed by the growing American numbers and dismayed by prospects of suffering the tidewater humidity through the summer. He planned eventually to rest his tired soldiers while simultaneously consolidating the British position on the Chesapeake. On June 26 Simcoe fought a segment of Pennsylvania troops at Spencer's Ordinary, a short distance from Williamsburg, where Cornwallis soon halted his main command and dispatched patrols along the York and James rivers. Lafayette's soldiers hovered cautiously.³²

28. Hatch, *Yorktown and the Siege of 1781*, p. 3.

29. Higginbotham, *War of American Independence*, p. 378; Patton, "Campaign of the Allies," pp. 246-47; Haynes, "Siege of Yorktown," p. 2.

30. Hatch, *Yorktown and the Siege of 1781*, p. 6.

31. *Ibid.*, pp. 3-4; Wickwire and Wickwire, *Cornwallis*, p. 326; Haynes, "Siege of Yorktown," p. 2; Patton, "Campaign of the Allies," p. 247; Agniel, *Late Affair*, p. 111.

32. Hatch, *Yorktown and the Siege of 1781*, pp. 4, 6.

1. Cornwallis Rejects Yorktown and Meets Wayne

On June 30 Cornwallis reconnoitered Yorktown amid a wild bombardment from American artillery across the York at Gloucester.³³ He found the site unsuitable for a naval station, fearing its inevitable susceptibility to French attack, and returned to Williamsburg. Four days later, on the anniversary of the American proclamation of independence, Cornwallis moved his command from Williamsburg toward Jamestown Island, planning to ford the James there, march for Portsmouth, and embark the reinforcements Clinton requested for New York. On July 6 Anthony Wayne, desirous of striking the British as they prepared to cross, was himself attacked by the wary general. At the Battle of Green Spring Wayne barely escaped, his force finally eluding British pursuit over boggy terrain. American casualties in the futile exercise numbered about 140 killed, wounded, and missing.³⁴

Unruffled by the defeat, Lafayette continued to embarrass British intentions, his ubiquitous soldiers especially hampering Cornwallis's foraging parties. The Americans followed Cornwallis across the James and along the south side of the river towards Portsmouth, and effectively checked Tarleton's plundering Legion. When the British reached the Portsmouth station the young Frenchman stopped and waited.³⁵

2. Clinton's Orders to Hold the Peninsula

Lord Cornwallis's withdrawal across the James to Portsmouth virtually freed the Peninsula of British troops, a situation that seemed compatible with Henry Clinton's desire to de-emphasize active operations in Virginia.³⁶ By July 17 the troops for Clinton were prepared to sail, but a message from Sir Henry suddenly suspended the embarkation. Cornwallis was instructed to keep his troops together pending further instructions, which arrived July 21. Completely reversing his policy in view of remonstrations from Lord Germain and anxiety over Washington's movements toward New York, Clinton now stressed the importance of holding the Peninsula to protect British ships anchored in the Chesapeake. Because Portsmouth, the principal protective station for the British Navy in the region, was now deemed unhealthy, he especially

33. Johann Ewald, "Diary of the American War," trans. and ed. Joseph P. Tustin, transcribed excerpts furnished by Joseph P. Tustin, Tuckerton, N. J., pp. 824-25; Wickwire and Wickwire places the reconnaissance on June 28. *Cornwallis*, p. 339.

34. Mackesy, *War for America*, p. 411; Hatch, *Yorktown and the Siege of 1781*, p. 6.

35. Hatch, *Yorktown and the Siege of 1781*, p. 7; Matloff, *American Military History*, p. 96.

36. Arnold Whitridge, *Rochambeau* (New York: The Macmillan Company, 1965), p. 208.

urged Cornwallis to fortify Old Point Comfort, the station situated at the extreme tip of the peninsula that guarded Hampton Roads and the entrance to the James. Clinton cancelled his urgent request for troops and directed Cornwallis to use all he needed to garrison Old Point Comfort. Once that base was secure, the remaining soldiers might be forwarded to him at New York. As additional protection, Cornwallis was instructed to take and hold Yorktown if he believed it would increase the security of Old Point Comfort.³⁷

3. Yorktown Again

On examination by the Royal Engineers, however, Old Point Comfort proved unsatisfactory from the standpoint of ease in fortifying the place and successfully securing the mouth of the James. Moreover, works erected there could easily be attacked and destroyed by an enemy fleet.³⁸ The need for a deep-water station that could accommodate British warships as well as enable effective defense turned Cornwallis's efforts again to Yorktown. Accordingly, in late July he wrote Clinton of his intention "to seize and fortify York and Gloucester, being the only harbour in which we can hope to be able to give effectual protection to line of battle ships."³⁹ The river at Yorktown lent itself admirably to the purposes of a British naval rendezvous point. At Yorktown the channel of the stream narrowed to less than a mile as Gloucester Point jutted from the northern shore. Above Gloucester it broadened again. Thus the river could be commanded easily by guns mounted both at Yorktown and Gloucester, while its elevation above the water precluded a successful enemy naval assault on Yorktown. With the narrow channel of

37. Nickerson, "Yorktown 1781," p. 84; Hatch, *Yorktown and the Siege of 1781*, p. 7; Agniel, *Late Affair*, p. 113; Wickwire and Wickwire, *Cornwallis*, pp. 326-28; Mackosy, *War for America*, p. 411; Clinton later maintained that Cornwallis "was at liberty to add York Town as an additional security to old fort Comfort [*sic*] . . . but not to remove the station from James River to York River[.]" Clinton's marginal notes in Charles Stedman, *The History of the Origin, Progress, and Termination of the American War*, 2 vols. (London: Printed for the Author, 1794), 2:396. Copy in the Henry Clinton Papers, William L. Clements Library, University of Michigan, Ann Arbor.

38. Whitridge, *Rochambeau*, p. 208; Clinton, *Narrative*, pp. 22-23.

39. Quoted in Hatch, *Yorktown and the Siege of 1781*, p. 7; For a critical view of Cornwallis's decision against fortifying Old Point Comfort, see Willcox, *Portrait of a General*, p. 408. "Cornwallis [instead] chose . . . a position where an outnumbered British fleet would have maximum difficulty in reaching him and getting out again, and where the York River cut his army in two without providing an escape route." *Ibid.*

the York closely guarded, British warships might float upstream unmolested.⁴⁰ In addition, the terrain south of Yorktown, cut by numerous ravines, could easily be defended by an army deployed in semicircular fashion.⁴¹ Conversely, however, the rising nature of the ground south of the village constituted a disadvantage by making an outer defensive position mandatory in order to preserve the inner one.⁴² On August 1 the first of Cornwallis's army arrived at Gloucester.⁴³ Next day Lord Cornwallis with two regiments, the Corps of Queen's Rangers, and the Hessian Anspach unit landed at Yorktown. Cornwallis settled on a general defense of both places. Meantime, Tarleton and his cavalry crossed Hampton Roads in small boats, reaching Yorktown on August 7. The last detachment of troops, left behind to level the works at Portsmouth, arrived under Brigadier General Charles O'Hara on August 22.⁴⁴ That day Cornwallis wrote Clinton: "The engineer has finished his survey and examination of this place, and has proposed his plan for fortifying it, which appearing judicious I have approved of and directed to be executed."⁴⁵

Cornwallis was not preparing to withstand a siege when he relayed to Clinton his plans for fortifying Yorktown. Rather, the village would assume the character of a military bulwark to defend the navy from attack by land or sea by the French or Americans. Furthermore, Gloucester, located off the Peninsula, was not expected to become the object of an Allied attack, and arrangements there were directed towards the establishment of an effective blockade against enemy vessels and towards facilitating forage operations by British troops. In event of emergency, Gloucester Point might also provide a means of escape from Yorktown.⁴⁶ By late August the Yorktown-Gloucester area fairly bustled with activity. At Yorktown the beach became a tented encampment for troops and for sailors recruited to help erect fortifications and move cannon and

40. Robert Arthur, *The End of a Revolution* (New York: Vantage Press, 1965), p. 108.

41. Ewald, "Diary of the American War," pp. 825-26.

42. Arthur, *End of a Revolution*, p. 108.

43. *Ibid.*, p. 109.

44. Ewald, "Diary of the American War," p. 856; Wickwire and Wickwire, *Cornwallis*, p. 353; Hatch, *Yorktown and the Siege of 1781*, p. 7.

45. Quoted in A. H. Burne, "Cornwallis at Yorktown," *Journal of the Society for Army Historical Research* 17 (Summer, 1938): 72.

46. John Marshall, *The Life of George Washington, Commander in Chief of the American Forces . . . and First President of the United States*, 5 vols. (London: Richard Phillips, 1805), 4:539; Charles E. Hatch, Jr., "Gloucester Point in the Siege of Yorktown, 1781," *William and Mary College Quarterly Historical Magazine*, 2d ser. 20 (April, 1940): 268.

equipment from the ships. Operations of the British Army dominated the entire waterfront as Cornwallis's men occupied homes, stores, wharves, and warehouses.⁴⁷ In correspondence with Clinton, the British general estimated it would take six weeks to adequately fortify the site. Lacking men and entrenching tools, he wrote on August 27 that his defense "will be a work of great time and labour, and after all, I fear, [will] not be very strong."⁴⁸

As Cornwallis uneasily entrenched his army his every action was observed by Lafayette's soldiers. When the earl had departed Portsmouth, Lafayette, suspecting a British attempt on Baltimore, hastened up the Peninsula to Fredericksburg. Then when Cornwallis took position at Yorktown the Frenchman stationed himself near West Point, where the Pamunkey and Mattaponi rivers met to form the York. Meantime, General Wayne camped south of the James, expecting shortly to move south to cooperate with Greene in the Carolinas. In late August Wayne's orders were abruptly rescinded because of sudden strategical developments among the Allied leadership far to the north.⁴⁹

I. The Allied Threat

Since June General Washington had been alerted to Cornwallis's presence in Virginia. His immediate objective, Clinton's army, occupied defenses around New York. The movement of French troops under Rochambeau towards the Hudson early that summer had alarmed General Clinton, leading him to suspect that a major offensive against him was imminent, and he immediately applied to Cornwallis for reinforcements. Clinton repealed his request only after the French Navy clearly posed a danger to the British force in the area of Chesapeake Bay.⁵⁰

47. Charles E. Hatch, Jr., *York Under the Hill, Yorktown's Waterfront, Colonial National Historical Park, Virginia* (Denver: National Park Service, 1973), p. 58.

48. Quoted in Mackesy, *War for America*, p. 412; Henry Clinton, *Observations on Mr. Stedman's History of the American War* (London: John Debrett, 1794), p. 22. (This publication is affixed in the rear of Clinton's personal copy of volume 2 of Stedman's work in the William L. Clements Library, University of Michigan, Ann Arbor.); Despite his selection of the post as the best available, Cornwallis harbored serious reservations about its ultimate potential for defense. As he later wrote, "A successful defense . . . in our situation was perhaps impossible, for the place could only be reckoned an intrenched Camp, subject in most places to enfilade, & 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." Cornwallis to Clinton, Oct. 20, 1781, Gold Star Box, Henry Clinton Papers, William L. Clements Library, University of Michigan, Ann Arbor.

49. Hatch, *Yorktown and the Siege of 1781*, p. 9..

50. Agniel, *Late Affair*, p. 112; Patton, "Campaign of the Allies," p. 247.

The threat comprised a fleet of warships commanded by Admiral Francois Joseph Paul, Count de Grasse-Tilly. Sailing in March from France, de Grasse had reached Martinique by the end of April. By late July he was in Haiti and there received dispatches from Rochambeau outlining Allied needs in the way of naval support. Given the alternatives of aiding in operations at New York or in the Chesapeake, de Grasse, at the private urging of Rochambeau and under pressure from his own officers, declined to participate in the campaign against New York. He cited the presence of sandbars in the harbor at that place as probable obstacles to his success there. Furthermore, the shorter distance to the Chesapeake and the easier navigation once in those waters influenced his decision, for de Grasse informed Rochambeau that his participation would necessarily be limited to the period between mid-July and mid-October when he must resume his defensive posture around the French West Indian possessions.⁵¹

1. De Grasse Sails for the Chesapeake

After sending word of his objective to Rochambeau, de Grasse on August 5 set sail with twenty ships of the line for the Chesapeake, expecting to arrive there by September 1. The British Navy, which had let him leave France without interference, remained ignorant of his destination.

Cognizant of the Allies' need for troops and money, de Grasse managed a loan of £15,000 from the Spanish governor of Havana and brought with his fleet the 3,000-man French garrison of Santo Domingo.⁵² De Grasse successfully eluded the British admiral, George Brydges Rodney, stationed in the Indies to prevent any such French naval assistance to the rebellion in the colonies. On learning of de Grasse's departure, Rodney directed Admiral Samuel Hood with fourteen ships of the line to the American coast to prevent his union with the Allies. But de Grasse predicted this action; instead of taking the direct route east of the Bahamas, he steered through the Old Bahama Channel, skirting Cuba, and pressed on with the Gulf Stream between the Bahamas and the Florida Peninsula. Rodney subsequently dispatched six more warships from Jamaica to join Hood, but their commander disobeyed instructions and stayed behind. Rodney himself fell ill and in mid-August sailed home to England.⁵³

51. Nickerson, "Yorktown, 1781," pp. 81, 83; Clinton's marginal notes in Stedman, *History . . . of the American War*, 2:397; Mahan, *Influence of Sea Power*, p. 388.

52. Smelser, *Winning of Independence*, p. 323; Nickerson, "Yorktown, 1781," p. 83; Higginbotham, *War of American Independence*, p. 381.

53. Nickerson, "Yorktown, 1781," pp. 83, 84; Mahan, *Influence of Sea Power*, p. 389.

2. Washington Responds

Washington learned on August 14 of de Grasse's decision to cruise for the Chesapeake with 3,000 French troops. Earlier that month the general had marched down the Hudson and had been joined by Rochambeau's troops from Newport. Most of Washington's force now stood poised before New York. But the news from de Grasse suddenly dashed Allied prospects for an assault on that city, a design originally intended to chastise Clinton and prompt him to bring reinforcements north from Virginia and relieve British pressure on Lafayette.⁵⁴ Word of de Grasse's destination changed Washington's objective. Cornwallis in Virginia now presented an alternative goal for the Allies. The possibility of eluding Clinton, concentrating his force, and cornering Cornwallis intrigued Washington. On August 17 he and Rochambeau sent a message to de Grasse informing him of their new destination.⁵⁵ The enterprise entailed much uncertainty. For one thing, Washington feared that a British fleet from New York or the West Indies might seal off the Chesapeake before de Grasse arrived. For another, Cornwallis might divine the Allies' intentions and escape into North Carolina. And there remained the risk that Clinton might somehow detect and disrupt the strategy.⁵⁶ Cooperation between Washington's land and sea forces would be mandatory if the plan was to succeed. Accordingly, Lafayette was ordered to hold the British in Virginia at all costs. Count Louis de Barras, admiral commanding the French squadron at Newport, was ordered south with Rochambeau's siege artillery. De Barras would also aid de Grasse against any incursions of the British Navy into the Chesapeake.⁵⁷

54. Haynes, "Siege of Yorktown," p. 5; Higginbotham, *War of American Independence*, p. 380.

55. Higginbotham, *War of American Independence*, p. 380; Agniel, *Late Affair*, p. 112; Washington later maintained that he would not have laid siege to New York unless the garrison was sufficiently decreased in strength, because some great advantage was needed at that critical juncture "to revive the expiring hopes . . . of the Country." Furthermore, his imminent strike against the city was in reality a long-standing ruse designed for "inducing the Eastern & Middle States to make greater exertions in furnishing specific supplies . . . as well as for the interesting purpose of rendering the enemy less prepared elsewhere. . . ." Washington to Noah Webster, July 31, 1788, in *1781 Yorktown. Letter from Noah Webster to George Washington, and from George Washington to Noah Webster* (Brooklyn: Privately printed, 1881).

56. Nickerson, "Yorktown, 1781," p. 85.

57. Matloff, *American Military History*, p. 96; Higginbotham, *War of American Independence*, p. 380; A recent discussion of the alternative strategies presented to Washington and the Allies contingent on British maneuvers in 1781 appears in Theodore Thayer, *Yorktown: Campaign of Strategic Options* (Philadelphia: J.B. Lippincott Company, 1975), pp. 3-50.

3. The Allies Deceive Clinton

Washington took extreme measures to convince Clinton of an impending move on his position and thus deceive him as to the true plan. He conveyed the secret to only a few of his most trusted subordinates; he contrived fictitious correspondence; he summoned large supplies of provisions and forage, along with many bake ovens and boats--all indicative of a prolonged drive against New York.⁵⁸ He assigned a diversionary army of 2,000 Americans under Major General William Heath to protect West Point on the Hudson and to complete the deception of General Clinton. Then on August 21 Washington and Rochambeau crossed the Hudson and slipped away with approximately 7,000 French and American soldiers.⁵⁹

Washington's confidence increased as his troops left New York farther behind. At Trenton, however, he learned there were too few ships to carry the soldiers south and he decided to march for the upper reaches of Chesapeake Bay. At Philadelphia the troops passed in review before members of Congress, whom the French warmly saluted. At Chester, Pennsylvania, Washington received happy news--de Grasse was safely anchored in the Chesapeake. Robert Morris, the new Superintendent of Finance, now arranged a loan from Rochambeau with which to partially pay American Continentals, many of whom had gone months without compensation. Through the efforts of Morris and John Laurens, Washington also secured clothing, flour, meat, salt, rum, and other supplies sorely needed by his soldiers.⁶⁰ The troops marched on to Wilmington, Delaware. Clinton as yet remained unaware of the movement.

4. The Battle of the Capes

Admiral de Grasse with his twenty-eight ships of the line had reached the Virginia Capes on August 26. The British fleet under Hood, pursuing from the West Indies by the direct route, had arrived a few days earlier and after vainly looking for sign of French vessels in the Chesapeake had left for New York, leaving two frigates to hurry forward should de Grasse appear. When de Grasse entered the bay on August 30 he captured one frigate and chased the other up the York River to Cornwallis before dropping anchor. Meantime, Hood reported to his superior, Admiral Thomas Graves, at New York and learned of de Barras's departure from Newport with eight ships of the line, four frigates, and eighteen transports bearing artillery. Seeking to prevent de Barras's union with

58. Patton, "Campaign of the Allies," p. 256; Washington to Webster, July 31, 1788, in *1781 Yorktown*.

59. Matloff, *American Military History*, p. 96; Higginbotham, *War of American Independence*, p. 380.

60. Agniel, *Late Affair*, p. 124; Smelser, *Winning of Independence*, pp. 323-24; Nickerson, "Yorktown, 1781," p. 85; Patton, "Campaign of the Allies," p. 257.

de Grasse, Graves determined to move to the Chesapeake with Hood's squadron of fourteen ships and five of his own. Graves sailed from New York on August 31. Five days later he arrived at the Chesapeake to find not de Barras, who remained at sea, but de Grasse with his superior fleet of twenty-four ships mounting 1,800 guns. Four other French vessels blocked the mouth of York River and protected the continuing disembarkment at Jamestown of the West Indian troops under Claude Anne, Marquis de St. Simon, begun September 2.⁶¹

Then followed the most crucial naval engagement of the war. Despite his numerical inferiority, Graves gave battle. Only his forward vessels participated in the fight, largely because of bungling by his captains in carrying out the admiral's plan. After several days of maneuvering and ineffective cannonade by both sides resulting in diminutive damage and only one British ship being scuttled and sunk, the skirmish ended. Meantime de Barras's squadron slipped by the belligerents and entered the Chesapeake. De Grasse shortly joined him in blocking the bay. His efforts frustrated, Graves at last turned his fleet towards New York.⁶²

5. The Allies Converge

Meanwhile, de Grasse had communicated with Lafayette, now close by Williamsburg, and had directed nearly eighty transport vessels to the head of Chesapeake Bay (near present Elkton, Maryland) to meet the greater part of Washington's and Rochambeau's armies. The other troops marched to Annapolis. Some of them then moved south on boats while the remainder took up the march along the west side of the Chesapeake. The horses of the Allies were also taken south by land. All converged on Williamsburg. Leaving the command to subordinate officers, Washington and Rochambeau rode on to Mount Vernon, the American general's first visit to his home in six years. On September 14 the two officers reached Williamsburg, where Washington took supreme command of both armies. Eight days later the troop transports arrived and unloaded their cargo at nearby Jamestown.⁶³

61. Nickerson, "Yorktown, 1781," pp. 85-86; Haynes, "Siege of Yorktown," p. 6; Mahan, *Influence of Sea Power*, p. 389.

62. Mahan, *Influence of Sea Power*, p. 389; Matloff, *American Military History*, pp. 96-97; Higginbotham, *War of American Independence*, pp. 381-82; Smelser, *Winning of Independence*, p. 326; Nickerson, "Yorktown, 1781," pp. 86-87; A concise account of this most significant encounter appears in Burke Davis, *The Campaign that Won America: The Story of Yorktown* (New York: The Dial Press, 1970), pp. 147-66.

63. Higginbotham, *War of American Independence*, p. 380; Haynes, "Siege of Yorktown," p. 6; Agniel, *Late Affair*, p. 124; Patton, "Campaign of the Allies," pp. 258-59; Smelser, *Winning of Independence*, p. 324.

6. Cornwallis's Growing Predicament

Through most of these developments Cornwallis remained passive at Yorktown, largely oblivious to the forces closing about him. Only the arrival of de Grasse's fleet, together with intelligence of the armies approaching from the north, shook him to feverish activity fortifying his position.⁶⁴ Cornwallis's decision to remain at Yorktown elicited considerable criticism from his superior at New York. As Clinton later put it: "No orders under which He acted[,] no Instructions he had received[,] nor any intelligence [I] . . . had sent could justify his neglecting to beat [escape] an Army or detail which was coming to besiege him[.] He could not have lost 12 hours in making the attempt."⁶⁵

But by now escape had become a difficult proposition. French naval dominance of the Chesapeake placed the British in a potentially desperate military situation. Superior French sea power permitted the convergence of Washington's land forces and made a clash with Cornwallis's army inevitable. At the moment, French and American siege guns now lay secure on the James River, only six miles from the British garrison at Yorktown.⁶⁶

64. Smelser, *Winning of Independence*, p. 259.

65. Clinton's marginal notes in Stedman, *History . . . of the American War*, 2:407; Clinton himself became convinced of the destination of the Allied force only on September 2, twelve days after its departure from the Hudson. Mahan, *Influence of Sea Power*, p. 389; A concise treatment of the Southern campaign of 1781 is in Howard H. Peckham, *The War for Independence: A Military History* (Chicago: University of Chicago Press, 1958), pp. 164-82; Contemporary maps showing the region of Chesapeake Bay and the James-York River configuration, including place-names, are those numbered 4B, 13F, 20B, 39B, 42F, 44F, and 62B. (Numerical designations for maps are keyed to the listing contained in the Bibliography.)

66. Mackesy, *War for America*, p. 428; For the importance of army-navy coordination during the Yorktown Campaign, see John F. Shafroth, "The Strategy of the Yorktown Campaign, 1781," *United States Naval Institute Proceedings* 57 (June, 1931): 721-36.

A. Siege Warfare

By his success in the Battle of the Capes, Admiral de Grasse effectively secured the entrance of York River against future British attempts to relieve Cornwallis's army by that route. The Allied troops now menacing the isolated British garrison anticipated its reduction by heavy artillery employed in the classic warfare style of the eighteenth century: the siege. Properly defined by contemporary theorists, a siege occurred "when an army approaches a fortified place, and surrounds it on all sides, endeavoring to oblige the garison [sic] to surrender, either by destroying the works of the fortification, or those which defend them."¹ Siege warfare differed from conventional modes of battle, demanding the adherence of both the besieged and besieging forces to fixed standards of endurance, determination, and procedure. Prosecuting a successful siege constituted a complex operation that required leaders of both sides to exercise considerable resourcefulness. Leaders of the besieging army must possess administrative acumen, unrelenting patience, and familiarity with all of the methodological tenets siege warfare embraced. On the opposing side, the assailed leader resisted the besiegers' efforts to dislodge his command. He strove to instill and maintain confidence among his men under often trying conditions. Ideally, he possessed a thorough knowledge of defensive warfare, displayed constant vigilance, and worked in the face of tactical adversity to promote the security of his soldiers. The besieged men had to prepare themselves for hunger, disease, boredom, and prolonged exposure to the concentrated artillery attack of the besieging army. Furthermore, as the principal targets of the siege, the soldiers must meet the consequences of probable defeat, capitulation, capture, and punishment at the hands of the victors. Clearly, the attacking army possessed the initial advantage in a siege. Only the chance of outside intervention prolonged the hopes of the besieged, enabling them to last against desperate odds.² Besieging forces sometimes abandoned the siege for logistical reasons, because of changes in strategy, or because the objective was not worth the time and effort required.

1. Siegecraft and Vauban

Siege warfare followed explicit procedures evolved over several centuries. Generally, a besieging army advanced in three periods.

1. John Muller, *A Treatise Containing the Elementary Part of Fortification, Regular and Irregular* (London: J. Nourse, 1746; reprint ed., Ottawa: Museum Restoration Service, 1968), p. 230.

2. Eversley Belfield, *Defy and Endure: Great Sieges of Modern History* (New York: Crowell-Collier Press, 1967), pp. 4, 5, 6.

The first ran from the investment of a town or fortress until the opening of the first trench, or parallel, from which artillery bombardment began. The second period continued through the construction of usually two additional parallels up to the army's nearest approach to the enemy works, which was just below the enemy glacis. The third period lasted from completion of the third parallel until either the enemy works were stormed or capitulation occurred.³

Rules and techniques governing siegecraft were perfected during the seventeenth century by the Frenchman Sebastien le Piètre de Vauban, possibly the greatest influence on military technology throughout world history. Born at Saint Leger in 1633, Vauban entered the army at age seventeen and rose to the rank of general in 1688. By the time of his death in 1707, he was Marshal of France. Best known for his development of a system of attack in siege warfare, Vauban also devised the ricochet fire of artillery, invented a practical bayonet, urged adoption of flintlock muskets by infantry troops, experimented with stone mortars, sought to improve the recruitment and compensation of troops, and urged the formation of a corps of engineers as a regular branch of the French Army.⁴ But his work in the area of siegecraft overshadowed all else. During his army career Vauban fortified thirty-three places and conducted fifty-three sieges. He created his system of parallels during the siege of Maestricht in 1673.⁵

2. Vauban's Procedures

Primarily contrived as a means to approach enemy defense fortifications preparatory to breaching them with artillery fire, Vauban's innovation established at once a formalized procedural undertaking designed to insure success with the fewest casualties.⁶ According to Vauban, whose various "systems" evolved from one basic plan, the assailants collected stores and equipment beyond range of the besieged and under cover of natural obstacles. Sappers, those men assigned to open the ground ahead, dug the initial trenches obliquely or zigzag towards the place under assault. From the heads of these ditches the troops dug the first parallel at right angles at a specified distance from the enemy. Once artillery had been moved into place on the parallel and had battered the defenses of the besieged, the sappers again zigzagged trenches forward, establishing a closer parallel. The process was

3. H. Lallemand, *A Treatise on Artillery*, 2 vols. (New York: C. S. Winkle, 1820), 2:137.

4. A. F. Lendy, *Treatise on Fortification* (London: W. Mitchell, Military Bookseller, 1862), p. 516; Henry Guerlac, "Vauban: The Impact of Science on War," in Edward Mead Earle, ed., *Makers of Modern Strategy: Military Thought from Machiavelli to Hitler* (Princeton: Princeton University Press, 1941), pp. 38, 39.

5. Lendy, *Treatise on Fortification*, p. 517; Guerlac, "Vauban," in Earle, *Makers of Modern Strategy*, p. 40.

6. Guerlac, "Vauban," in Earle, *Makers of Modern Strategy*, p. 39.

normally repeated a third time. Finally the assailants advanced on the enemy's glacis, a risky project accomplished with the help of *cavaliers de tranchées*: temporary earthworks (also invented by Vauban) erected so the besiegers might employ firepower while continuing their advance. After capturing the covered way, the attackers brought forward other siege cannon and proceeded to breach the fortress.⁷ So successful were Vauban's precepts that they became widely adapted throughout Europe in the century after his death, despite the fact that only a few of his manuscripts ever reached publication.⁸

3. The Engineers in America

The American and French armies that besieged Yorktown in 1781 essentially followed the principles laid down by Vauban a century before. Foreign influence pervaded the establishment of the Continental Army, and in 1778 a tiny Corps of Engineers was formed, headed by Brigadier General Louis Lebigne, Chevalier Du Portail, and staffed by lesser-known French officers. From this nucleus there developed an elite group of specialists known as the Corps of Sappers and Miners. The corps contained companies of mature and experienced soldiers trained both in conventional and siege warfare. The Sappers and Miners were commanded by members of the Engineers Corps when they were present, otherwise by ranking officers. All of the engineers, including the sappers and miners, embraced the tenets of Vauban.⁹ Much knowledge of siegecraft came to American officers through the writings of the English theorist John Muller, who translated many works from the French. Muller's translation of *The Field Engineer of M. le Chevalier de Clairac* appeared as early as 1760, and his own works, influenced greatly by French refinements of Vauban, became

7. *Ibid.*, p. 39-40.

8. *Ibid.*, p. 33; Lendy, *Treatise on Fortification*, p. 517.

9. Weigley, *History of the United States Army*, p. 70; John W. Wright, "Notes on the Siege of Yorktown in 1781 with Special Reference to the Conduct of a Siege in the Eighteenth Century," *William and Mary College Quarterly Historical Magazine*, 2d ser. 12 (October, 1932): 299; Thor Borresen, "Orientation Report on the Yorktown Battlefield Area Containing the Fortifications, Encampment Areas, Headquarter Sites and Artillery Parks Constructed by the British, French and American Armies in the Year 1781," typescript dated Feb. 21, 1940, in the library of CNHP, p. 25; By coincidence, a great-grandnephew of Vauban served as an aide to Rochambeau at Yorktown. Whitridge, *Rochambeau*, pp. 214-15; The names of those French officers who served with the American sappers and miners are included in "List of French Officers Who Served in the American Armies with Commissions from Congress Prior to the Treaties Made Between France and the Thirteen United States of America," *Magazine of American History* 3 (July, 1879): 364-69.

authoritative texts for both the British and American armies.¹⁰ The Siege of Yorktown progressed according to these maxims governing protracted siege operations in the eighteenth century.¹¹ Archeological discoveries at Yorktown support this conclusion.¹²

B. Conducting the Siege

1. Investment

The first action by the assailing army in a siege consisted of investing the enemy--surrounding his garrison to prevent communication with the outside and to prohibit the entrance of all external resources.¹³ Next, the engineers of the besieging army plotted an encampment, with specific locations assigned to each of the participating units. All were situated well beyond range of enemy artillery. The troops took position so that they might easily assume battle formation.¹⁴

2. Permanent Fortification and Field Fortification

The process of fortification, accomplished with scientific exactness, took time and resolution and theorists often learned that their calculations on paper failed to suffice in the field. Permanent fortification for the defense of large cities entailed the construction of large enduring works, such as were found in many European cities. On

10. A contemporary reference to Muller's works appears in Roderick Mackenzie, *Strictures on Lt. Col. Parleton's History "of the Campaigns of 1780 and 1781, in the Southern Provinces of North America"* (London: R. Faulder, 1787), p. 143.

11. Higginbotham, *War of American Independence*, p. 382; For an example of how closely the unfolding events at Yorktown paralleled procedures prescribed for the successful prosecution of a siege, see "Journal of the Attack and Defense of a Fortress," in Lallemand, *Treatise on Artillery*, 2:207-20. A similar journal is in Hector Straith, *Treatise on Fortification and Artillery*, 2 vols. (London: William H. Allen and Company, 1852), 2:382-89.

12. Southside Historical Sites Foundation, "Archaeology/Restoration/ Reconstruction of the Yorktown Battlefield, Colonial National Historical Park, Virginia: Preliminary Thoughts and Recommendations," mimeographed, College of William and Mary (Williamsburg: Department of Anthropology, 1974), p. 28.

13. Muller, *Treatise Containing the Elementary Part of Fortification*, p. 224.

14. J. G. Tielke, *The Field Engineer: or Instructions Upon Every Branch of Field Fortification*, trans. Edwin Hewgill, 2 vols. (London: J. Walter, 1789), 2:210-11.

campaign, however, military engineers practiced field fortification--the development of temporary earthworks such as redoubts, redans, and, in conjunction with members of the artillery corps, gun emplacement batteries.¹⁵ The erection of suitable fieldworks facilitated the successful conduct of a siege, and their proper construction took time--at least three days for the strongest, most substantial fortifications.¹⁶

3. Component Materials

a) Fascines, Saucissons, and Gabions

Field fortifications utilized several specialized materials in their construction. Fascines, hurdles, saucissons, and gabions strengthened an earthwork, while fraises, palisades, and abatis aided in its defense. *Fascines* were composed of tree branches about six feet long that were tied with withes into bundles of six- to eight-inch diameter and staked in layers along the interior of earthworks as revetment to firm the slopes. The pickets to secure fascines were approximately three feet long.¹⁷ Larger fascines--those approximately fifteen feet long with diameters of twelve inches--were called *saucissons* and were used chiefly in the construction of batteries that normally required greater strength than the trenches and redoubts. Saucissons served to revet the walls of batteries and to repair breaches in parapets. To make a saucisson, clusters of trimmed, straight branches were tied tightly together at ten-inch intervals along their length. Saucissons were then staked in ascending rows on the insides of batteries in much the same manner as fascines, with six pickets per saucisson.¹⁸

Closely related to saucissons and fascines in their stabilizing attributes were *gabions*, the large, bottomless wicker-basket-like structures employed especially in the excavation of trenches and approaches. Gabions measured about 3 feet high by 2-1/2 feet in diameter, and were fashioned by weaving pliable branches around nine pickets driven into the ground. The

15. *Ibid.*, 1:177-78; Epaphras Hoyt, *Practical Instructions for Military Officers* (Greenfield, Mass.: John Denio, 1811; reprint ed., Westport, Conn.: Greenwood Press, Publishers, 1971), p. 32.

16. Tielke, *Field Engineer*, 1:202.

17. Muller, *Treatise Containing the Elementary Part of Fortification*, p. 219; Bingham Duncan, "Notes on Auxiliary Siege Materials," memorandum to Mr. Cox, Mar. 23, 1934, in the files of CNHP, Yorktown, Virginia, p. 1.

18. Duncan, "Notes on Auxiliary Siege Materials," p. 2; Muller, *Treatise Containing the Elementary Part of Fortification*, p. 231; Louis de Tousard, *American Artillerist's Companion, or Elements of Artillery*, 3 vols. (Philadelphia: C. and A. Conrad and Company, 1809; reprint ed., New York: Greenwood Press, Publishers, 1969), 1:21; Detailed treatment of the construction of saucissons is in Lallemand, *Treatise on Artillery*, 1:258-60.

pickets were sharpened to ease placement of the finished gabion. These devices were often used during the digging of saps and parallels, for when placed alongside the workers and filled with dirt, they proved an effective shield against enemy bullets. Trench sappers, when moving perpendicularly toward the enemy works, often rolled extra-large gabions stuffed with wood ahead of them.¹⁹

b) Hurdles and Sandbags

Yet another means of strengthening earthen fortifications was the use of *hurdles* or *clayes*--rectangular mats formed by interwoven branches, each measuring about three feet long by five or six feet wide. Each one held in place by nine pickets, hurdles were useful in revetting slopes in redoubts and batteries and in preparing the way across swampy terrain.²⁰ Finally, *sandbags* helped strengthen the walls of earthworks, but these were not employed as often as fascines and hurdles. Sandbags varied in size, with some sources specifying a diameter of thirteen to sixteen inches and a length of twenty-seven to thirty inches. Others claimed sandbags should be smaller, eighteen to twenty inches long and eight to nine inches in diameter. When used torevet interior slopes, sandbags were staggered at intervals along horizontal courses.²¹

c) Fraises

For protection against sorties by the enemy, retrenchments were usually fitted with a number of purely defensive features. *Fraises* were composed of nine-to-ten-foot-long branches, each about four or five inches thick and sharply pointed at one end. The opposite ends were fixed to a six-inch-diameter square rafter and planted three to four feet deep at the berm of the exterior slope of a work, with their points projecting outward towards the enemy. A second rafter, nailed near the berm to further connect the fraises, prevented their being torn apart by an attacking force. The points of the fraises declined towards the surrounding ditch in order to impede an advance on the breastwork and to cause shells and grenades striking the fraise to roll into the ditch rather than lodge and explode on the parapet. Armies fraised their works particularly along the fronts and sides most exposed to infantry assault. The fraises were mounted close together to keep enemy soldiers from crawling through and gaining the work.²² One eighteenth-century

19. Duncan, "Notes on Auxiliary Siege Materials," pp. 1-2; Details of construction are in Lallemand, *Treatise on Artillery*, 1:260-62.

20. Lallemand, *Treatise on Artillery*, p. 262; Duncan, "Notes on Auxiliary Siege Materials," p. 2.

21. Lallemand, *Treatise on Artillery*, 1:263; Hoyt, *Practical Instructions*, p. 39.

22. Tielke, *Field Engineer*, 1:265-66; Muller, *Treatise Containing the Elementary Part of Fortification*, p. 221.

writer on field retrenchments underscored the defensive value of the device:

The fraize, especially when not exposed to the enemy's cannon, is a great security to the parapet, as there is no forcing them but by cutting them, which cannot be easily done, even when the works have no flanks, considering the position of the stakes, and the destruction which hand-grenades thrown from behind the parapet must necessarily make among the men employed in such an operation.²³

d) Palisades

Palisades were another protective device commonly employed to further impede an enemy assault on a position. Palisades were strong pointed stakes of split wood, each about nine feet long and five inches thick, which were planted a third of their length in the ground parallel to the base of the exterior slope of a battery or redoubt.²⁴ Normally palisades were placed at three-inch to six-inch intervals in the ditch surrounding an earthwork. Most theorists advocated fixing them oblique with the ground at a 45° to 60° angle, which provided adequate defense against grenades while hindering their removal by the enemy with axes and ropes. In many instances, however, palisades were placed perpendicularly. At all events, any incline of palisades was directed away from the work and towards the enemy. Only a few inches of the points were to be exposed above the ditch, because enemy artillery could easily shatter them. When emplacing palisades, the defending troops prepared a gutter three feet deep in the ditch. The palisades, attached to a rafter, were lowered into the excavation, which was then refilled and the earth rammed tightly into place. An additional rafter, or stringer, secured the palisade row about eighteen inches from the top.²⁵

While commonly erected in the center of the ditch of a retrenchment, palisades were sometimes fixed at the base of the exterior slope, forming a kind of secondary fraising to impede an enemy's advance. Sometimes

23. Lewis Lochée, *Elements of Field Fortification* (London: T. Cadell, 1783), p. 25.

24. Muller, *Treatise Containing the Elementary Part of Fortification*, p. 227; George Smith, *An Universal Military Dictionary: A Copious Explanation of the Technical Terms etc. Used in the Equipment, Machinery, Movements, and Military Operations of an Army* (London: J. Millan, 1779), p. 103. On military maps a series of dots or points indicated the presence of palisades. Lochée, *Elements of Field Fortification*, p. 23.

25. Lochée, *Elements of Field Fortification*, pp. 21-22, 23; Tielke, *Field Engineer*, 1:221-22, 266-69; Alexis H. Brialmont, *Hasty Intrenchments*, trans. Charles A. Empson (London: Henry S. King and Company, 1872), p. 69.

rows of them were placed across the ditch at intervals to disrupt simultaneous attacks on a redoubt from several directions. And palisades were often employed to close an entranceway in a detached work such as a redan. Occasionally a double row of palisades, one vertical and one oblique, was established in hilly country as a further check to enemy assaults.²⁶

e) Abatis

Beyond the ditch, on the glacis, builders ringed the work with fallen trees to further obstruct attackers. Termed *abatis* by the French, the trees were placed with their stripped and sharpened branches facing the enemy. The tree trunks were sunk four or five feet deep in the ground to discourage their removal, and the larger branches were additionally secured with stakes.²⁷ "Trees of the middle size, and especially fruit trees," wrote Lewis Lochée, "are deemed most proper for forming an abatis. When the trees . . . happen to be very large, the larger branches will answer the purpose full as well as the trunks."²⁸ Abatis was also used to defend ravines effectively.²⁹ When placed

26. Brialmont, *Hasty Intrenchments*, p. 69; Tielke, *Field Engineer*, 1:267-68; Lochée, *Elements of Field Fortification*, pp. 23-24; Henry Yule, *Fortification for Officers of the Army and Students of Military History* (London: William Blackwood and Sons, 1851), p. 42.

27. Lochée, *Elements of Field Fortification*, pp. 28-29; Duncan, "Notes on Auxiliary Siege Materials," p. 2.

28. *Elements of Field Fortification*, p. 29.

29. Tielke, *Field Engineer*, 2:91-92; Other defensive devices, such as *cheveaux de frizes* and *trous-de-loups*, were commonly used in eighteenth-century siege warfare. The *cheveaux de frize* consisted of a ten- to twelve-foot-long beam through which many six-foot-long, sharpened wooden pins were driven to project at various angles. They were normally used to block entrances to redoubts or batteries and to barricade frontal ditches. *Trous-de-loups* were pitfalls dug in the ground and shaped like inverted cones. Measuring six feet in diameter at the top and six feet in depth, the pits narrowed at the bottom where one or more pointed stakes were securely fixed. *Trous-de-loups* were usually constructed beyond the ditch and were staggered along three rows in order to increase the difficulty of an enemy's approach. Lochée, *Elements of Field Fortification*, pp. 26, 27-28. There is no evidence that *cheveaux de frizes* or *trous-de-loups* were employed by either the French, British, or American armies at Yorktown. However, one Frenchman, commenting on the large pine trees in the vicinity of Yorktown, noted "that the tops of these trees form naturally what we are in the habit of calling *chevaux de frise* [*sic*]." Warrington Dawson, trans., "Extract from the Journal of Chevalier Duplex de Cadignan, Lieutenant-Colonel in the Agenois Regiment during the War for American Independence at the Siege of Yorktown," Enclosure to Memorandum No. 26, New Series, Warrington Dawson Papers, in the library of CNHP, Yorktown, Virginia, p. 3.

around fieldworks, however, abatis often became the object of intense artillery fire intended to weaken a position preparatory to a sally upon it by troops.

4. Building the Parallel

Aided with such auxiliary materials, besieged and besiegers might prolong their respective offensive or defensive operations. In any event, fascines, gabions, fraises, and palisades remained secondary to the earthworks themselves. An attacking army directed its chief efforts toward the planning and construction of durable, functional field fortifications. Part of this entailed the excavation of the siege line, or *Parallel*. Eighteenth-century technical manuals referred to parallels, or places of arms, as "deep trenches 15 or 18 feet wide, joining the several attacks together: they serve to place the guard of the trenches in, to be at hand to support the workmen [on the redoubts and batteries] when attacked."³⁰ The parallel also served as a communicating facility through which soldiers might pass in safety among the various earthworks.

a) Earthwork Construction

Once the trench forming the parallel was finished, army engineers plotted the construction of the principal line fortifications. Most important for guarding the parallel were *Redoubts*, to be occupied by infantrymen. Redoubts commanded the adjacent terrain, and while they possessed certain singular characteristics, they also reflected the uniformity of all types of earthen retrenchments. The prime components of a redoubt were its *parapet* and surrounding *ditch*, both designed to facilitate defense of the work. On the interior of the parapet and adjoining its *rampart*, or base, was the *banquette*, a step enabling troops to fire over the parapet at an approaching enemy. The banquette stood anywhere from 6 inches to 3 feet above the redoubt floor, from which it sloped up gradually, and it was always situated at least 4-1/2 feet below the crest of the parapet so that men of average height (considered to be 5 feet 8 inches in 1783) might fire with ease. Measuring from 3 to 4-1/2 feet in width, the banquette accommodated two ranks of soldiers, thus permitting larger occupancy of the redoubt.³¹

30. Smith, *Universal Military Dictionary*, p. 206.

31. *Ibid.*, p. 99; Muller, *Treatise Containing the Elementary Part of Fortification*, p. 211; Lochée, *Elements of Field Fortification*, pp. 10-12.

The parapet stood at least six, and usually seven, feet high above the rampart in order to protect even the tallest troops from enemy fire.³² Thickness depended largely on the type of projectile employed by the enemy against the structure. "Experience proves," wrote Lochée, "that when the parapet is 3 or 4 feet broad at the top, it can resist a three-pounder [cannon shot]; when 4 or 5 feet, a six-pounder; and when 7 feet, a twelve pounder. . . ." ³³ Thus the penetrating power of eighteenth-century artillery directly affected the planning and construction of parapets. The following table indicates more precisely factors considered by military engineers of the period:

[If] a musket ball fired near at hand penetrates 1 foot, the parapet is made 2 feet thick.

A 3 pound ball	do	3 to 4 feet	do	5 to 6 feet.
A 6 pound ball	do	5 to 6 feet	do	8 to 9 feet.
A 12 pound ball	do	7 to 9 feet	do	10 to 12 feet.
A 24 pound ball	do	12 to 14 feet	do	15 to 18 feet.
A hollow 24 pound ball, or 5-1/2 inch howitz, fired from a short piece, penetrates to 5 feet. ³⁴				

The parapet was formed from dirt removed during excavation of the earthwork's interior and its exterior ditch. Correct slope was important; that at the base of the parapet was always steeper than that at its top. On the inside the slope was made as perpendicular as possible--normally one-third the parapet height on a base fully equal to that height--in order to permit the soldiers to stand closer to the crown of the work. For this reason fascines, gabions, and hurdles were used to stabilize the soil and create as little slope as possible.³⁵ Likewise, workmen

32. M. le Chevalier de Clairac, *The Field Engineer of M. le Chevalier de Clairac*, trans. John Muller (London, 1760), p. 266; Tielke advocated reduction in parapet height, believing that short soldiers might find this convenient and that tall ones seldom stood upright anyway. "I am persuaded," he wrote, "that if the generality of them had a parapet as high as their chins, they would soon feel a degree of dissatisfaction at not being totally concealed." *Field Engineer*, 2:2-3.

33. *Elements of Field Fortification*, p. 9.

34. Lallemand, *Treatise on Artillery*, 2:36. See also Tielke, *Field Engineer*, 2:1-2.

35. Clairac, *Field Engineer of . . . Clairac*, pp. 272-73; Lochée, *Elements of Field Fortification*, pp. 15-16; Muller stated that revetted walls should maintain a slope "one fifth of their height." *Treatise Concerning the Elementary Part of Fortification*, p. 48.

often revetted the exterior slope, or *scarp*, in order to sharpen its angle, thereby increasing the difficulty for an enemy bent on forcing the parapet. Usually the base of the exterior slope equalled two-thirds its height.³⁶ Between the parapet proper and the frontal ditch lay the *berm*, a six- to eight-foot space designed to keep soil on the exterior slope of the parapet from sliding into the ditch. Because the berm sometimes provided a foothold for an attacking force during an assault, most engineers by the late eighteenth century rejected it as not mandatory to field fortification.³⁷

The top of the parapet, called the *superior talus*, or *plunge*, declined slightly outward to allow for descending fire by the redoubt occupants. In a well-built fortification the decline occurred on the same line as the incline of the *glacis* beyond the ditch. The surrounding ditch ideally measured from seven to ten feet in depth. In width it measured from nine to twenty-four feet at the top, gradually narrowing to from two to eleven feet at the bottom.³⁸ The side of the ditch joined the parapet to form the scarp, while the opposite side was termed the *counterscarp*. As in the case of the scarp, the counterscarp was sloped as sharply as possible, because "the difficulty of passage of the ditch, is greater, in proportion to the less slope both of the scarp and counterscarp. . . ."³⁹ The top of the counterscarp met the *glacis*, that terrain gently sloping away from the work toward the open country.⁴⁰

The entrance to a redoubt was located on the side facing away from the enemy position. A break in the parapet, known as the *gorge*, provided access for the troops. A *traverse*, or detached length of parapet, covered the opening just inside the entrance. (Traverses also served

36. Muller, *Treatise Containing the Elementary Part of Fortification*, p. 48; Lochée, *Elements of Field Fortification*, p. 15; The height of the exterior slope was measured from the bottom of its adjacent ditch; thus, a parapet seven feet high with a ditch seven feet deep possessed a scarp, or exterior slope, totaling fourteen feet. Muller, *Treatise Containing the Elementary Part of Fortification*, p. 48.

37. Lochée, *Elements of Field Fortification*, p. 16; Smith, *Universal Military Dictionary*, p. 99.

38. Smith, *Universal Military Dictionary*, p. 101; Muller, *Treatise Containing the Elementary Part of Fortification*, p. 217; Lallemand, *Treatise on Artillery*, 2:40, 43.

39. Lochée, *Elements of Field Fortification*, p. 17.

40. *Ibid.*, p. 20; Smith, *Universal Military Dictionary*, p. 102.

to guard against enfilade or flanking fire from enemy artillery, particularly when placed between cannon in gun batteries.⁴¹⁾ As indicated, the interior surface of a parapet was strengthened with a revetment of fascines, gabions, and hurdles. For more permanent fortifications the theorists recommended revetment with clods of turf fastened grass-side down with wooden pegs.⁴²

b) Redans

Field entrenchments most often took the form of redoubts and batteries. Small detached works called *Redans*, *Fleches*, or *Arrows* constituted the simplest type of earthen fortification used in advanced or detached positions. A redan was formed of two earthen parapets, each up to 200 feet long, placed to make a salient 90° angle facing an enemy position. Open at the gorge, redans served to cover approaches through ravines, along rivers and causeways, and across bridges. Like the more sophisticated works, redans and arrows possessed ditches at their fronts. Occasionally erected to guard redoubts on the glacis, these structures were more often employed in outer positions expressly designated to keep an enemy at a distance.⁴³

c) Building Redoubts

Stronger than redans were the redoubts, which secured advantageous ground and, when placed along a parallel, guarded its length and protected its supply depots from enemy sorties. Each redoubt possessed a parapet and a ditch, and normally was guarded with fraises, palisades, and abatis.⁴⁴ Although redoubts played an essential role during the Siege of Yorktown, their construction proved a laborious, disagreeable enterprise to Washington's soldiers. In 1778 General Du Portail commented on the structures:

As for Redouts [*sic*] I must confess that I am altogether discouraged from proposing and undertaking them--altho' I love them as much as any body--but every body knows

41. Yule, *Fortification for Officers*, pp. 37-38. Small traverses for protection against shell splinters were sometimes fashioned from sandbags and gabions. *Ibid.*

42. Tielke, *Field Engineer*, 1:217-18, 247.

43. *Ibid.*, pp. 240-41, 287; Smith, *Universal Military Dictionary*, pp. 99, 102, 103; Hoyt, *Practical Instructions*, p. 44; Yule, *Fortification for Officers*, p. 41; Straith, *Treatise on Fortification and Artillery*, 1:102-3.

44. Muller, *Treatise Containing the Elementary Part of Fortification*, pp. 44, 217, 299; Wright, "Notes on the Siege of Yorktown," p. 232n.

that I have never been able to accomplish half a redoubt--officers and Soldiers finding the work too long, and taking disgust at it--⁴⁵

Construction of a redoubt involved plotting the work and building its ditch and parapet. For a square redoubt the engineers traced the desired interior dimensions on level ground, then ran a parallel line three or four feet outside the first, representing the position of the banquette. From 9 to 20 feet beyond this the engineers traced the parapet. The surrounding ditch was measured and outlined in an arc plotted by using a string stretched from the middle of the proposed work.⁴⁶ Actual building began with the digging of a trench, six inches deep along the innermost line, in which fascines were placed to support the dirt forming the banquette. At the same time similar procedures started along the outside line, or scarp, of the parapet. On the least-exposed side of the work a space was left for an entrance, or gorge. This space measured from 3 to 6-1/2 feet wide if the structure was to house infantry, or up to 13 feet wide if intended as an access for artillery pieces. The entrance would be protected by an inside traverse, and defending troops might cross the ditch by means of a small bridge or by steps carved in the scarp and counterscarp.⁴⁷ Once the fascines were placed along the lines of the banquette and scarp, workmen began digging the ditch and throwing the excavated earth into the area marked for the parapet. Other men spread and tamped the soil into the desired formation, picketing fascines into place to further stabilize the structure while at the same time obtaining the requisite slope on its walls.⁴⁸

In size and shape redoubts varied greatly. Interior perimeter should never have been under 50 yards and seldom more than 150; small works caused congestion among the defenders, while very large works were too cumbersome to manage efficiently.⁴⁹ Calculation of the size of a redoubt, based on the proposed number of occupants, differed little among the theorists, the only appreciable variance being whether to allot 2 or 3 feet to each soldier defending a wall. Using the latter as a guide, 200 men in double file might be employed to defend a redoubt

45. "Chev. duPortail's Opinion on redoubts, April 7, 1778," Thomas A. Emmet Collection of Washington and the Generals of the Revolution, item 9019, New York Public Library.

46. Hoyt, *Practical Instructions*, p. 36.

47. *Ibid.*, p. 37; Brialmont, *Hasty Intrenchments*, p. 69; Lochée, *Elements of Field Fortification*, p. 36.

48. Hoyt, *Practical Instructions*, pp. 37-38. See also Sebastien LePrestre de Vauban, *A Manual of Siegecraft and Fortification*, trans. George A. Rothrock (London, 1740; reprint ed., Ann Arbor: University of Michigan Press, 1968), pp. 60-61.

49. Lochée, *Elements of Field Fortification*, p. 46.

with an inside perimeter of 100 yards.⁵⁰ In cases where artillery was present in a redoubt, each piece would utilize a space normally occupied by 4 or 5 men. "Therefore," wrote the engineer J. G. Tielke,

if I am ordered to throw up a square redout for 300 men with two field-pieces, I can find the necessary length of their sides in the following manner: --Three hundred men will make 150 file; consequently, they will require 150 paces [or yards];

The cannon - 10, and
The sortie - 8
Total 168 : 4 = 42

paces, or the length of each side. But as the banquette will take off two or three paces; I ought to add that number to the length of the sides, which will increase them to about forty-five paces.⁵¹

Assuming Tielke's pace to equal one yard, the redoubt specified above would contain an interior perimeter of 180 yards, somewhat larger than normal because of the artillery complement. A redoubt with sides 40 yards long would require about 320 men (two ranks of 160) to man the parapet, while a strong reserve force of up to 700 men might occupy the interior.⁵² A simple formula for projecting the linear dimensions of a redoubt was to "multiply the rank and file of the detachment by 3, the number of feet to a man, and it will give the number of feet in the circumference, or interior *pourtour* of the parapet, this divided by 4 will give the side."⁵³

d) Varieties of Redoubts

Redoubts assumed seven basic shapes in field fortification: (1) *Square* (2) *Pentagonal*, and (3) *Triangular* were most common because each front could provide strong, sustained, and perpendicular musket fire. These type structures were usually built into or along the parallel; (4) *Hexagonal*, (5) *Octagonal* or *Circular*, and (6) *Irregular-shaped* redoubts were more often built in locations away from the parallel, as were (7) *Star* redoubts, which contained anywhere from three to eight points.⁵⁴

50. *Ibid.*, p. 47.

51. *Field Engineer*, 1:288-89.

52. Lallemand, *Treatise on Artillery*, 2:63.

53. Hoyt, *Practical Instructions*, p. 35. See Appendix A.

54. Straith, *Treatise on Fortification and Artillery*, 1:104; Charles E. Hatch, Jr., "On Reconstructing Earthworks (with Application to the Grand French Battery)," Mar. 3, 1964, MS signed by S. Michael Hubbell, in the files of CNHP, Yorktown, Virginia, p. 35.

Among the earthworks built by the British and Allied armies at Yorktown, square, pentagonal, and triangular redoubts were most common, both in the siege lines and in detached locations. In eighteenth-century fortification manuals, square redoubts are mentioned as being the most frequently preferred shape. The principal objection to square redoubts was the void produced at each salient angle when soldiers fired in lines perpendicular to the faces. These undefended corner spaces afforded enemy soldiers a means of advancing on the work virtually unmolested by the musketry of its occupants. To remedy this defect, Clairac devised the system of *en oremaillere*, whereby the interior of the parapet was indented in a sawtooth manner, permitting each soldier three alternative fields of fire.⁵⁵ When used in detached situations, both square and pentagonal redoubts found special application on level ground and in slightly hilly terrain.

Some theoreticians, including M. de Clairac, recommended the use of circular (octagonal) redoubts because all points on the circumference were equally defensible and because "the assailants are every where equally exposed." Circular redoubts, easily established on level terrain, proved valuable adjuncts in defensive situations where the direction of imminent attack was uncertain. In areas of uneven terrain, and wherever works were raised for the defense of roads and streams, square, pentagonal, and triangular redoubts were preferred, mainly because their sides could parallel the objects of defense.⁵⁶ By all standards, the worst redoubt design was that of a star. The eminent European military intellect Antoine Henri Jomini called it "the very worst description of fortification" because the structure had no flanks and because the reentrant angles reduced interior space. Moreover, "they are especially exposed to be enfiladed from one end to the other, which precludes the possibility of their making a long defence."⁵⁷ The construction of star redoubts proved a complex operation compared to the simple undertaking of a square, pentagonal, or triangular design. The complexity of tracing and erecting the banquette, parapet, ditch, and berm of a star redoubt increased in proportion to the number of points desired on the structure.⁵⁸

e) Artillery Batteries

The artillery counterpart to the infantry redoubt on a siege line was the *Battery*. John Muller described a battery as

55. Yule, *Fortification for Officers*, pp. 43-44; Hoyt, *Practical Instructions*, p. 41; Lochée, *Elements of Field Fortification*, pp. 42-43.

56. Hoyt, *Practical Instructions*, pp. 41-42.

57. Quoted in Straith, *Treatise on Fortification and Artillery*, 1:109. Ironically, the British-built star redoubt at Yorktown was successfully defended throughout the length of the siege.

58. For the tracing of star forts, see Hoyt, *Practical Instructions*, p. 43.

a work made to place guns or mortars on it; it consists of an epaulement or breast-work of about 8 feet high and 18 or 20 thick; when it is made for guns, openings or embrasures are made in it for the guns to fire through them.⁵⁹

Classified according to their design, construction, ordnance complement, or type of fire, artillery batteries assumed the dual function of protecting the encampment and lines of the besieging army while at the same time subjecting the enemy to a sustained artillery barrage. Batteries designed for specific ordnance fell into two categories: *Gun* (cannon) and *Mortar* (mortar and howitzer). Those categorized by design were termed *Parallel*, wherein the guns stood diagonally opposite the enemy position, or *Redan*, in which the batteries flanked each other at both salient and reentrant angles.⁶⁰ Classified by construction, batteries built high above the general terrain became *Cavalier* units; those built at ground level were called *Level* or *Horizontal*; those in which the ordnance area was excavated below ground surface to a depth of up to two feet ten inches became *Half-Sunk Batteries*; and those excavated to a maximum depth of three feet eight inches were termed *Sunken Batteries*.⁶¹

Most often, artillery batteries were arranged according to the type of fire their guns discharged. *Enfilading Batteries* were those so situated to sweep their fire across the entire length of a face or flank of the enemy works. *Direct Batteries* were constructed directly opposite the intended mark of their pieces in order to batter and breach the besieged position and to destroy enemy artillery. The fire from direct batteries struck the enemy at nearly right angles. *Reverse Batteries* were used to attack the rear of the besieged army, and their pieces normally fired over the enemy defenses to strike behind the line. The guns in *Glancing Batteries* dispensed shot that struck its target at about a 20° angle and glanced off to strike elsewhere on the line. Similarly, the artillery of *Oblique Batteries* sent forth missiles to angle obtusely after striking the enemy line, thus affording greater destructive impact. Of great effect were *Ricochet Batteries*, designed to fire shot at low elevations so that it might skip across the terrain, bounce over the parapet of the besieged force, and roll along the rampart, wrecking cannon and injuring troops.⁶² By employing howitzers and

59. *Treatise Containing the Elementary Part of Fortification*, p. 211.

60. Smith, *Universal Military Dictionary*, p. 23; Hatch, "On Reconstructing Earthworks," p. 36.

61. Hatch, "On Reconstructing Earthworks," p. 36; Smith, *Universal Military Dictionary*, p. 23; Sunken batteries were most often used for mortars, seldom for cannon. Tousard, *American Artillerist's Companion*, 1:2.

62. Smith, *Universal Military Dictionary*, p. 23; Tousard, *American Artillerist's Companion*, 1:3; Lallemand, *Treatise on Artillery*, 1:254.

small mortars in addition to cannon, ricochet batteries proved destructive to an enemy's physical well-being and to his morale as well. "They are of singular use in the day of battle," observed one authority, "to enfilade the enemy's ranks; for when they [the enemy] perceive the shells rolling and bouncing about with their fuzes burning, expecting them to burst every moment, the bravest among them will hardly have courage to wait their approach and the fatal event."⁶³

Ideally, ricochet batteries were built perpendicular to the face of the enemy works so that their shot might land on the banquette of the besieged's parapet.⁶⁴ Finally, *Cross Batteries* consisted of two or more units whose armament played on a single target, the fire forming an angle at the point of impact. As Louis de Tousard described cross batteries, "what one shot shakes another beats down."⁶⁵

When any number of batteries fired on a particular object in unison they were called *Joint*, or *Comrade, Batteries*. These caused the utmost demolition of enemy works.⁶⁶ In most batteries the guns fired through openings made in the parapets to admit the muzzles. Such embrasures usually began about three feet above the base of the parapet. When cannon were placed in batteries without embrasures, the parapets were lower, with a height of three feet, and the carriages of the weapons were correspondingly raised so that the gun muzzles rested on the top of the parapet.⁶⁷ Guns thus placed fired *en barbette*, "so named by the French, because the ball in flight shaves the superior talus of the parapet."⁶⁸ *Barbette Batteries*, commonly used, possessed both advantages and drawbacks, as J. G. Tielke explained:

A parapet without embrasures will undoubtedly withstand the fire of the enemy's artillery better than any other, and enable you, at the same time, to fire in any direction: but, on the other hand, it will neither afford the cannon nor their men a sufficient defense . . . because the

63. Smith, *Universal Military Dictionary*, p. 23.

64. Ricochet fire was invented by Vauban, who first employed it at the Siege of Ath in 1697. Tousard, *American Artillerist's Companion*, 1:2.

65. *Ibid.*, p. 3; Lallemand, *Treatise on Artillery*, 1:254.

66. Tousard, *American Artillerist's Companion*, 1:3; Smith, *Universal Military Dictionary*, p. 23.

67. Tousard, *American Artillerist's Companion*, 1:3; Muller, *Treatise Containing the Elementary Part of Fortification*, p. 210; Lallemand, *Treatise on Artillery*, 1:254; Tielke, *Field Engineer*, 1:307-8.

68. Lochée, *Elements of Field Fortification*, p. 15n.

gabions, which are usually placed upon the parapet for that purpose, are by no means capable of resisting a cannonade.⁶⁹

Ricochet batteries were similarly fashioned, with incomplete embrasures cut from the top of a normal parapet and running down the inside to approximately carriage height (termed the *genouillere*), thereby shielding the weapons from enemy surveillance. Shot emanating from these structures curved sharply in order to ricochet properly, precluding "the need for embrasures, otherwise necessary for more direct firing."⁷⁰ Often ricochet batteries were sunk in the parallels to save the time otherwise expended erecting a major parapet. The same held true for mortar batteries.⁷¹

f) Battery Construction

During the eighteenth century, construction of batteries was the work of the military engineers, although sentiment existed for the transfer of that responsibility to the artillery, which used the fortification.⁷² The battery earthwork consisted of an *epaulement* or parapet, a ditch, and a number of *embrasures* to accommodate the armament of the structure. The embrasures were segregated one from another by intervening lengths of the parapet called *merlons*. The first task of the field engineers was to plot the size and position of the projected battery, basing their calculations on the particular target in mind for the guns of the unit and on the retaliatory firepower capability of the enemy weapons. The battery was then outlined with cord, its front plotted parallel to the parts of the opposing fortification its guns were to demolish, a task accomplished by taking a "prolongation" of the exterior faces of the enemy works. In addition, a decision was made at this time as to whether the battery should be built level with the ground or sunken--a determination dependent on the topography of the immediately surrounding terrain and of that occupied by the enemy batteries.⁷³

Because of the range and effectual power of late-eighteenth-century armaments, the usual distance from the enemy position for batteries placed along the first parallel was between 400 and 500 yards. This distance permitted the maximum effect and accuracy of cannon fire.

69. *Field Engineer*, 1:307.

70. *Ibid.*, pp. 309-10. The *genouillere* was more formally defined as "that part of the parapet between the platform and the embrasure, [and] is from 2-1/2 to 3-1/2 feet in height. . . ." *Ibid.*, p. 305.

71. Tousard, *American Artillerist's Companion*, 1:70.

72. Smith, *Universal Military Dictionary*, p. 22.

73. Tousard, *American Artillerist's Companion*, 1:7, 69-70.

Beyond that range ordnance capability diminished proportionately.⁷⁴ Once the battery was properly laid out, the soldiers broke ground at the places designated by the engineers. A small trench was dug around the inside perimeter of the battery area and in it the troops staked a row of fascines or saucissons. An earthen layer then followed, then another saucisson layer, until the parapet reached the height of the genouillere. Next the embrasures were marked and the epaulement finished, leaving the openings intact as the dirt and fascine layers continued.⁷⁵

Embrasures were important features in large batteries and their construction was no simple matter. Normally they were placed 3 feet from the base of the parapet or from the gun platform. Embrasure dimensions varied according to the type of soil used and the height and thickness desired for the epaulement, as well as to the caliber of the particular weapon intended to fire through the embrasure, the height of its wheels, and the type of carriage it used.⁷⁶ Under no condition should the inside width of the embrasure have exceeded the space necessary to receive the muzzle of the piece, and normally this measured between 1-1/2 and 2-1/2 feet, depending on the gun employed.⁷⁷ On the exterior of the parapet, however, embrasure breadth ran between 7 and 9 feet. The opening was lower on the outside, so that it began 1-1/2 to 2-1/2 feet above the edge of the frontal ditch.⁷⁸ The confined breadth within allowed for greater security against enemy guns, while the extended breadth without provided greater horizontal range and better command of the countryside.⁷⁹ Embrasures were located anywhere from 12 to 18 feet apart, according to the types of ordnance employed in the battery.⁸⁰ The solid earthen areas between and separating the embrasures were called merlons, measuring 12 to 18 feet long and at least 6 feet thick. The dimensions of merlons usually corresponded conversely with the embrasures they separated. Embrasures 18 feet apart would thus be flanked by merlons measuring about 16 feet long on the inside of the parapet and about 7 feet on the outside.⁸¹

74. *Ibid.*, p. 4.

75. Guillaume Le Blond, *A Treatise of Artillery*, trans. from the French (London: E. Cove, 1746), pp. 67, 68.

76. Lochée, *Elements of Field Fortification*, p. 14.

77. Tielke, *Field Engineer*, 1:305; Muller, *Treatise Containing the Elementary Part of Fortification*, p. 218.

78. Muller, *Treatise Containing the Elementary Part of Fortification*, p. 218; Tielke, *Field Engineer*, 1:305.

79. Tielke, *Field Engineer*, 1:305; Lochée, *Elements of Field Fortification*, p. 14.

80. Lochée, *Elements of Field Fortification*, p. 14.

81. Tielke, *Field Engineer*, 1:306; Le Blond, *Treatise of Artillery*, p. 67; Smith, *Universal Military Dictionary*, p. 22.

Inside the battery, in accordance with specifications furnished by the artillery officers, workmen prepared platforms to receive the heavy weapons and prevent their sinking into the ground. First the earthen floor was rammed and leveled at the site proposed for each artillery piece for a length from the parapet of 18 feet and a width of 10 feet. To strengthen the platform, three, four, five, or six heavy beams⁸²-- each from 4 to 7 inches square and up to 18 feet long--were laid lengthwise in the ground with their ends to the parapet. These entrenched sleepers, so placed with their innermost ends raised 6 to 10 inches to help retard recoil of the piece, were firmed in place with wooden stakes along their lengths. Sleepers were sometimes placed radiating from the foot of the parapet, especially if the gun was expected to fire in an oblique direction. In a battery so arranged, a given platform would measure 7-1/2 feet wide near the parapet and 13 feet wide at its inner extremity. At the foot of the parapet, and adjoining the sleepers perpendicularly, a large, heavy 6- to 8-inch-square girder known as the heurtoir (hurter) or knocker was placed to prevent the carriage wheels of the piece from slamming into the epaulement after each firing.⁸³

Across the sleepers the workmen pegged or nailed planks, ideally 2-1/2 inches thick, 12 or 13 inches wide, and 15 or more feet long. In a typical gun battery, twelve to fifteen oak or elm planks completed one platform. Battery nails consisting of special wooden pins were used to secure the planks to the sleepers, because iron nails, on contact with the iron carriage wheel rims, might produce sparks and consequent disaster.⁸⁴ The last, or rearmost, plank was strongly secured with four stakes, one at each end and two along its outer edge. The ends of the stakes were cut level with the platform and earth was packed firmly to the platform's height.⁸⁵ Tousard offered the following figures for one siege cannon platform:

82. The number of sleepers depended much on the firmness of the earth, with more used in situations where the soil appeared unstable. Lallemand, *Treatise on Artillery*, 1:277.

83. Tielke, *Field Engineer*, 1:303-4, 305; Smith, *Universal Military Dictionary*, p. 206.

84. Smith, *Universal Military Dictionary*, p. 23. Sometimes if planks of unequal length were used, the shortest would be mounted on radiating sleepers at the front of the platform (foot of the parapet), while the largest would be placed at the rear. Lallemand, *Treatise on Artillery*, 1:277-78.

85. Lallemand, *Treatise on Artillery*, 1:277-78.

	length		breadth inches	thickness inches	weight pounds
	feet	inches			
3 sleepers	14	10.99	5.33	5.33	150
1 hurtor	8	6.28	8.52	8.52	210
14 planks	10	7.85	12.79	2.13	106 ⁸⁶

As in the case for redoubts, the epaulement of the gun battery was fashioned from dirt excavated from the surrounding ditch. At the same time traverses--the bulky earthworks adjoining the inner slope of the parapet about midway between embrasures--were formed. Battery traverses were designed to semicompartamentalize individual pieces in order to prevent their being damaged by enfilading fire from the enemy.⁸⁷

On completion, a properly built gun battery had a parapet at least 18 to 20 feet thick at the top, 22 to 24 feet thick at the base, and 7-1/2 to 8 feet high. The area behind the epaulement that contained the gun platforms measured anywhere between 12 and 24 feet, allowing for both recoil of the pieces and for greater facility in servicing them. On the average the forward ditch ran between 4 and 7 feet across, but in depth reached only about 2-1/2 feet (sometimes much more).⁸⁸ On the interior of the work, at either side of the embrasures, small banquettes were fashioned to enable the men handling the guns to view the results of their fire.⁸⁹ If possible, both sides of the parapet were lined with gabions and saucissons for its entire height, and in almost every instance the inside of the work was so treated. One rule held that eight saucissons placed one atop another, each 10 inches in diameter, would suffice for the height of the epaulement. If their diameter measured 1 foot, seven saucissons completed the job. Despite variations in parapet height from one battery to another, "the revetement must be at least six feet in height above the level of the platform, which consequently determines the number of saucissons to be placed one upon another."⁹⁰ Similarly, the traverses underwent saucisson revetment. For protection against enemy sorties, the exteriors of the battery and the ditch were fraised respectively and palisaded.⁹¹

86. *American Artillerist's Companion*, 1:399.

87. Tielke, *Field Engineer*, 1:306; Le Blond, *Treatise of Artillery*, p. 67.

88. Le Blond, *Treatise of Artillery*, p. 67; Lallemand, *Treatise on Artillery*, 1:256; Hatch, "On Reconstructing Earthworks," p. 37; Smith, *Universal Military Dictionary*, p. 22.

89. Tielke, *Field Engineer*, 1:311.

90. Tousard, *American Artillerist's Companion*, 1:21.

91. Wright, "Notes on the Siege of Yorktown," p. 233.

Overall structural dimensions naturally varied among batteries, reflecting differences in design, use, and number and type of guns employed. For example, a battery of seven pieces might run 50 yards in width.⁹² Louis de Tousard offered the following measurements for a typical gun battery:⁹³

DIMENSIONS OF A GUN BATTERY

	ft.	in.	dc.
Breadth of the ditch	12	9	42
Depth of do.	8	6	28
Breadth of the berme	3	2	35
Height of the berme above the soil	0	6	39
Thickness of the coffre, or epaulement,			
at the base	24	8	28
" " " do. do. at the top	19	2	13
Inner height of the epaulement	7	5	49
Exterior height of do.	6	8	97
Inner talut 2-7 of the height	2	1	57
Exterior talut 1-2 of the height	3	4	48
Depth of the trench to lay the first saucisson according to the number, whether 9 or 7,	0	6	29
	0	4	26
Height of the genouillere (or 4 or 5 saucissons) above the superior plan of the middle sleeper	3	10	88
Inner talut of the genouillere	1	0	78
Length of the side merlon	9	7	06
Distance of the middle of an embrasure to the middle of the other	19	2	13
Breadth of the inner opening of the embrasure	1	9	21
Breadth of the outward opening of do.	9	7	06
Breadth of the platform at the hurtoir	10	7	85
Breadth of the same at the recoil	17	0	56
Talut of the platform towards the coffre, three inches to six feet,	6	4	71
This talut is only two inches to six feet in the school practice batteries. There is no talut to the platforms for ricochet batteries.			

92. *Ibid.* Wrote Tielke regarding interior dimensions:

The space within ought also to be large enough to enable the men to move and lie down; which may be easily ascertained by the following calculation.

Every soldier requires 18 square feet, and each field-piece 216; therefore, if the number of men are multiplied by 18, and 216 by the number of field-pieces, the necessary dimensions are found.

Field Engineer, 1:289.

93. Tousard, *American Artillerist's Companion*, 1:109.

Distance between the three parallel sleepers	2	8	00
Talut of the inside of the embrasure towards the enemy	1	0	78
In breach batteries, the thickness of the epaulement is sometimes only	12	9	42
Then the exterior opening of the embrasure is made	7	1	30

The breakdown of tools, men, and materials required to erect gun batteries of varying dimensions generally followed Vauban's precepts:⁹⁴

No. of cannon	Length of battery		Soldiers for construction	Soldiers to make fascines and stakes each with a knife and axes	Other varied tools
	yds.	paces of 2-1/2 ft.			
2	14	17	50	15	70
3	20	24	60	20	85
4	26	31	70	25	100
5	32	38	80	30	115
6	38	46	90	35	130
7	44	53	100	40	145
8	50	60	110	45	160
9	56	67	120	50	175
10	62	74	130	55	190
11	68	82	140	60	205
12	74	89	150	65	220
13	80	96	160	70	235
14	86	103	170	75	250
15	92	110	180	80	265
16	98	118	190	85	280

94. *Manual of Siegecraft and Fortification*, pp. 60-61.

No. of cannon	Fascines		Fascines 5' to 6' long, 5" to 6" thick	Stakes 3' to 6' long, 1-1/2" to 3" thick on top	Sledge- hammers to drive stakes
	8' to 9' long & 8" to 9" thick	12' long & 8" to 9" thick, for embrasures			
2	120	40	200	520	10
3	165	60	300	740	14
4	210	80	400	960	18
5	255	100	500	1180	22
6	300	120	600	1400	26
7	345	140	700	1620	30
8	390	160	800	1840	34
9	435	180	900	2060	38
10	480	200	1000	2280	42
11	525	220	1100	2500	46
12	570	240	1200	2720	50
13	615	260	1300	2940	54
14	660	280	1400	3160	58
15	705	300	1500	3380	62
16	750	320	1600	3600	66

No. of cannon	Knives for the embras- ures	Timbers 2" to 2-1/2" thick for platforms	Men to serve the guns	Soldiers to supply the guns
3	6	48	6	18
4	8	64	8	24
5	10	80	10	30
6	12	96	12	36
7	14	112	14	42
8	16	128	16	48
9	18	144	18	54
10	20	160	20	60
11	22	176	22	66
12	24	192	24	72
13	26	208	26	78
14	28	224	28	84
15	30	240	30	90
16	32	256	32	96

No. of cannon	Powder for a day's firing, figuring 100 rounds each using 12-lb. charge (lbs.)	24-lb. ball for a day's firing
2	2400	200
3	3600	300
4	4800	400
5	6000	500
6	7200	600
7	8400	700
8	9600	800
9	10,800	900
10	12,000	1000
11	13,200	1100
12	14,400	1200
13	15,600	1300
14	16,800	1400
15	18,000	1500
16	19,200	1600

Additional and more contemporary data was given by Tousard:⁹⁵

95. *American Artillerist's Companion*, 1:29.

TABLE
 OF EVERY THING NECESSARY IN THE CONSTRUCTION OF
 A BATTERY.

Exclusive of Sergeants.	Number of Pieces.	1	3	11	12	23	46	30	210	8	3	1	1	3	15	4	720
	Number of Yards.	2	6	14	24	38	76	44	308	12	6	1	2	6	30	8	1056
	Number of Gunners.	3	9	17	36	53	106	58	406	16	9	2	3	9	45	12	1392
	Number of Fatigue-men.	4	12	20	48	68	136	72	504	20	12	2	4	12	60	16	1728
Total.	Shovels and Pickaxes, half of each.	5	15	23	60	83	166	86	602	24	15	3	5	15	75	20	2064
	Number of Saucissons.	6	18	26	72	98	196	100	700	28	18	3	6	18	90	24	2400
Number of Pickets.	7	21	29	84	113	226	114	798	32	21	4	7	21	105	28	2736	
	Number of Rammers.	8	24	32	96	128	256	128	896	36	24	4	8	24	120	32	3072
Large Saws.	9	27	35	108	143	286	142	994	40	27	5	9	27	135	36	3408	
	Double Hurters, Six feet Rules, Masons' Levels; of each.	10	30	38	120	158	316	156	1092	44	30	5	10	30	150	40	3744
Beams for the Platforms.	11	33	41	132	173	346	170	1190	48	33	6	11	33	165	44	4080	
	Planks for the Platforms.	12	36	44	144	188	376	184	1288	52	36	6	12	36	180	48	4416
Pickets to fasten the Hurters and Platforms.																	
Number of Bands to tie the Saucissons, 24 to a Saucisson of 20 feet.																	

96. Smith, *Universal Military Dictionary*, p. 22; Lallemand, *Treatise on Artillery*, 1:282.
97. Smith, *Universal Military Dictionary*, p. 23; Muller, *Treatise Containing the Elementary Part of Fortification*, p. 171.
98. Muller, *Treatise Containing the Elementary Part of Fortification*, p. 172.
99. Smith, *Universal Military Dictionary*, p. 23.

Mortar batteries differed from most gun batteries in that they required no embrasures through which to aim and fire the weapons. Mortar batteries exhibited standardized height and thickness, but varied in length according to the number and size of the mortars used in them. Normally the parapet was 18 to 20 feet thick, stood 7-1/2 feet high at the front and 6 feet high at the rear, and had a berm before the ditch measuring 2-1/2 feet or 3 feet in breadth. The surrounding ditch was 24 feet across at its top, sloping to 20 feet across at the bottom. On the average, one mortar occupied 12 to 15 feet of battery length along the parapet.⁹⁶ More quickly constructed than a gun battery, the mortar battery was often sunk 2 or 3 feet into the earth, thereby permitting erection of the parapet from dirt excavated from both the interior floor and the ditch. The sharp inner slope of the emplacement allowed the weapons to be better aimed with the aid of two directing pickets, one driven into the top of the parapet and the other fixed about midway on its slope.⁹⁷ Mortar platforms were less elaborate than those for cannon, though they were built much the same way. According to the manuals of the day, mortar platforms stood 5 to 8 feet back from the parapet and at least 8 feet from one another. John Muller, whose word on the subject found wide acceptance during the period, stated that the platforms should measure "about 6 feet square," should slope forward, and should be "composed of 6 planks of 6 feet long, one [foot] broad, and 2 or 2.5 inches thick, 4 sleepers, and about 28 pickets."⁹⁸ Another source recommended that mortar platforms be 9 feet long and 6 feet wide, and that "they are not to be sloping like the gun-platforms, but exactly horizontal."⁹⁹ Lallemand explained the construction of a mortar platform using 8-inch-square sleepers, each measuring 7 feet in length:

The construction of platforms is begun by determining the directrix, by means of a plumb line and two rods [pickets] placed perpendicularly, one upon each crest of the emplacement. . . . Three trenches are then dug, 7 feet long, 10 inches square, and 14 inches below the level that is to be given to the soil of the battery. The middle one is made in the line of the directrix, the other two parallel to it, and at the distance of twenty

inches on each side. . . . A sleeper is placed in each trench. . . . They are levelled, and the intervals filled with earth rammed hard. The others [sleepers] are laid upon these three, and at right angles to them. . . . They are held in their places by 4 stakes planted at the head, and 4 at the foot of the platform. The earth is raised around them, hard rammed, and regulated in such a way as to leave a drain for the water to run off. . . .¹⁰⁰

Overall dimensions for mortar batteries during the eighteenth century closely approximated those given by Tousard in 1809:¹⁰¹

DIMENSIONS OF MORTAR BATTERIES

	ft.	in.	dc.
Length of the epaulement for each mortar	12	9	42
or	15	11	77
Breadth of the ditch	9	7	06
These batteries are often sunk below the level.			
Depth of the ditch (according to the quantity of earth which may be wanted)			
Breadth of the berme	3	2	35
Height of the berme above the level		6	39
Thickness of the epaulement at the top	19	2	13
" " " " at the base	24	6	15
Interior height of the epaulement	7	5	49
Inner talut of the epaulement	2	1	57
Exterior talut of the epaulement	3	4	48
Depth of the trench to lay the first saucisson		6	39
Breadth of the square platform for ten or twelve inch mortars for long ranges	7	5	49
Breadth of do. for ten inch mortars for short ranges; eight inch and stone mortars	6	4	71
Distance of the platforms from the epaulement	7	5	19
Distance between the platforms	6	4	70
Distance of the end platforms to the end of epaulement	6	4	71

h) Howitzer Batteries

In many instances howitzers were fired in mortar batteries; more often part of the battery was modeled to accommodate these weapons, which fired their charges at a much smaller angle than the mortars and thus required embrasures to facilitate their operation. The bottom of the embrasures was 3-1/2 to 4 feet above the platform, and sometimes

100. *Treatise on Artillery*, 1:282-83.

101. *American Artillerist's Companion*, 1:110. Again, the measurements given by Tousard are based on the French foot of 12.8 inches.

these batteries were sunk in the ground to that depth, in which case the ground level became the sill of the embrasures. Because of the relative shortness of the howitzer in comparison to cannon, the inner opening of the embrasure was but 32 inches wide, while the outer opening measured about 10 feet wide. Platforms for howitzers were the same as those for guns but lacked their slope.¹⁰²

1) Powder Magazines

Powder magazines were built behind the various batteries, and their construction received as much attention as that for the batteries because of their special stores and function. Generally speaking, one small powder magazine serviced three pieces of heavy ordnance. Small magazines were built twenty-five to thirty-six feet to the rear of the epaulement. Larger ones lay up to fifty-five feet behind and were sometimes placed to the right or left of the battery in order to deceive enemy gunners as to their correct locations.¹⁰³ Powder magazines were solidly constructed for protection against enemy shells. They were made in holes excavated to about five feet beneath the ground surface and were lined and roofed with heavy beams and boards. Completed magazines were covered with a twenty-four-inch layer of earth, fascines, and straw if available, and were surrounded with gabions and sandbags. In addition, an earthen traverse was erected in front of the magazine to insure its security. An entrance lay in the rear. Barrels of black powder and prepared cartridges rested inside on square pieces of wood or on specially prepared benches. Cannonballs were not kept in the magazines, but were stacked in readiness alongside the merlons in the battery proper. Two sentinels were specifically assigned to stand beside each powder magazine.¹⁰⁴

5. Sapping

After the redoubts and batteries of the first parallel were completed and the batteries, fitted with their respective weaponry, had commenced firing, the infantry prepared approaches for establishing a second parallel closer to the retrenchments of the besieged. This process was called sapping, and the trench approach itself, a sap. The soldiers who completed the operation were sappers--specially-trained members of the engineer and artificer corps who received extra pay for their expert labor. Ideally, in the European tradition, eight men made up a brigade of helmeted sappers who worked in two teams of four each.

102. *Ibid.*, pp. 281-82. A schedule of battery construction is presented in Appendix B.

103. *Ibid.*, p. 278; Smith, *Universal Military Dictionary*, p. 22.

104. Smith, *Universal Military Dictionary*, p. 22; Lallemand, *Treatise on Artillery*, 1:278-79; Tielke, *Field Engineer*, 1:306-7.

While one party performed the task of digging and advancing the sap, the other provided fascines and gabions and took charge of other equipment. At work, the teams alternately relieved each other.¹⁰⁵ The trench they advanced was deep enough for safety and measured from ten to twelve feet across;¹⁰⁶ it was excavated gradually, with other team members in turn widening the ditch. The sappers proceeded to advance obliquely, in zigzag fashion, so that their progress would not be thwarted by enemy artillery that might otherwise clear the trench with one direct round. When a sap was exposed to fire on only one side, it was termed a single sap and was consequently lined with dirt and gabions on that side facing the enemy; when liable to enfilade on either side, it became a double sap and was appropriately guarded on each side by an earth and gabion defense. The head of the sap was usually protected by a particularly large stuffed, or rolling, gabion. This item, filled with dirt and fascines, stood six or seven feet high and measured four or five feet in diameter and was rolled along the ground as the lead sapper advanced the trench. When enemy fire grew slack the sappers might advance the sap more quickly. Such rapid construction was termed a flying sap and enabled troops to push forward their approaches under cover of darkness in a single night.¹⁰⁷ At Yorktown the work of the sappers differed only subtly from the European model. The objectives were the same.

The successful prosecution of a siege resulted from the joint enterprise of the engineers, who largely planned the attack and the fortifications; the infantry, who constructed the fortifications and who guarded the parallels; and the artillery, upon whose firepower the vanquishment of the enemy finally depended. With the artillery rested the prime responsibility for silencing opposing guns and ending the siege.

105. Tousard, *American Artillerist's Companion*, 1:510.

106. Muller, *Treatise Containing the Elementary Part of Fortification*, p. 230.

107. Lallemand, *Treatise on Artillery*, 1:261; Straith, *Treatise on Fortification and Artillery*, 1:137, 138; Smith, *Universal Military Dictionary*, p. 234; Yule, *Fortification for Officers*, pp. 33-34.

CHAPTER III: THE ARTILLERY

A. The American Artillery Corps

1. Development

The main task of the engineers during the initial stages of a siege was to render the terrain suitable for the artillery operation against the enemy fortifications. If all went well, the imminent siege of Yorktown in September 1781 promised to become the supreme example of the coordination of American and French heavy weaponry to effect a British capitulation. The siege would also provide the ultimate test for the American artillery, a five-year-old fledgling service by 1781. In 1776 the American artillery corps had consisted of less than 600 men roughly organized into independent companies. The branch was later reorganized into four artillery regiments, which by 1780 contained ten companies each. Total authorized strength for the artillery in 1780 stood at 2,646 men; effective strength was about 1,000 men below that figure.¹

2. Henry Knox

The man chiefly responsible for the development of the American artillery corps was Henry Knox. A Boston bookseller prior to 1775, Knox belonged to a Massachusetts artillery company at the time of the Battle of Lexington. His innovative spirit and intelligence quickly attracted the notice of his superiors, and in November 1775 he became overall commander of American artillery. Little more than a year later Knox was appointed Brigadier General; he continued to direct the burgeoning artillery of the United States throughout the war and at Yorktown his genius for organization aided the victory.² Knox received guidance in developing the American artillery system from the French, who by the late eighteenth century had become the finest artillerists in Europe.³

3. French and British Influence

The development of artillery as a military science had accelerated in many European capitals since the middle decades of the eighteenth century.⁴ By the 1780s the French were considered the preeminent

1. Weigley, *History of the United States Army*, p. 69.

2. Biographical treatments of Knox are in North Callahan, "Henry Knox, General Washington's General," *New-York Historical Society Quarterly* 44 (April, 1960): 151-66; and Noah Brooks, *Henry Knox, A Soldier of the Revolution* (New York: G. P. Putman's Sons, 1900).

3. Higginbotham, *War of American Independence*, p. 382.

4. *Ibid.*

masters, largely because of the early planning by Vauban and others and because the French Army possessed a great number and variety of field and garrison pieces, some of which arrived in America at the time of Rochambeau's debarkment in 1780. While the French artillery exercised considerable influence over its evolving American counterpart, so did the British, especially in regard to the actual manufacture of cannon in the American States. Probably the prime British contributor to American artillery thought and development was John Muller, the English theorist whose *A Treatise of Artillery* (1757) appeared in Philadelphia as early as 1779 as the American artillery corps labored in the throes of its initial organization. Appropriately dedicated to "George Washington, General Henry Knox and Officers of the Continental Artillery," the printed edition of Muller became the sole English language technical manual accessible to the American Army. (Eleven copies of Muller's book were included in an inventory of American artillery supplies taken at the start of the 1781 campaign.) As the standard British authority on the subject, the book exerted a measurable impact, and Britain's artillery procedures were soon emulated in the former colonies.⁵

4. American Weapons and Their Manufacture

Muller's recommendations, including those pertaining to the calibers of guns, were strictly adhered to by the Americans. Consequently, the earliest gun foundries cast a wide variety of calibers despite the fact that the English themselves had somewhat modified many of Muller's suggestions.⁶ At the outset, Knox's artillery consisted mostly of old, outmoded British weapons either left over from the colonial government or taken from British ships. Calibers reflected the weight of the ball fired, and the young American artillery boasted as many as thirteen calibers at the beginning of the Revolutionary War. Four-, eight-, twelve-, eighteen-, and twenty-four-pounders predominated.⁷ French pieces were also used, which added to the diversity of the artillery arm because their calibers differed from the British. French guns used by the Americans had to be either rebored to the British specifications or altogether segregated from other pieces.⁸ American foundries for the

5. Harold L. Peterson, *Round Shot and Rammers* (Harrisburg: Stackpole Books, 1969), p. 57; Albert Manucy, *Artillery Through the Ages: A Short Illustrated History of Cannon, Emphasizing Types Used in America* (Washington: Government Printing Office, 1949), p. 10.

6. Peterson, *Round Shot and Rammers*, p. 57. In 1764 the Board of Ordnance in England had acknowledged eleven calibers for cannon: 1/2-, 1-1/2-, 3-, 4-, 6-, 9-, 12-, 18-, 24-, 32-, and 42-pounders. *Ibid.*, p. 41.

7. Alan Kemp, *American Soldiers of the Revolution* (London: Almark Publishing Company, Ltd., 1972), p. 45.

8. Peterson, *Round Shot and Rammers*, p. 57.

home production of cannon, mortars, and howitzers grew quickly following the curtailment of imports at the opening of the conflict with Britain. Notable contributors to the American artillery were foundries located in eastern Pennsylvania: the Durham Iron Works, producers of cannon tubes and ordnance, and the Warwick and Cornwall furnaces, which manufactured sixty twelve- and eighteen-pounders in 1776.⁹ Foundries in Philadelphia produced both iron and bronze guns early in the war. But the center for Continental Army cannon manufacture came to be Springfield, Massachusetts.¹⁰ After the Franco-American Alliance of 1778, more French bronze pieces arrived across the Atlantic, along with vast quantities of French shot, shells, and black powder. Washington's artillery soon comprised a contingent of bronze and iron mobile field guns ranging from three- to twelve-pounders and a large number of howitzers, whose calibers were 5-1/2 and 9 inches as gauged by the diameters of their muzzles. Iron siege pieces consisted of eighteen-, twenty-four-, and thirty-two-pounders (no thirty-two-pounders were used at Yorktown) that fired round iron shot, grapeshot, and cannister shot.¹¹

B. The Cannon

1. Field and Siege Pieces

Cannon fell into three categories. An army on the move utilized field guns, lighter in weight than the standard siege pieces and consequently shorter with thinner bore walls than the heavier guns. Because of the necessity for firing these weapons hurriedly in emergency situations, fieldpieces were mounted on light, two-wheeled carriages. Field guns ranged in caliber from three- to twenty-four-pounders.¹² By contrast, siege cannon were heavier, were designed to batter and breach the enemy defenses, and displayed calibers ranging from three- to forty-two-pounders, although eighteen- and twenty-four-pounders were most widely desired by artillerists in siege conditions. Mounted on two-wheeled traveling carriages built larger than those for field guns, siege pieces could be employed in combinations against a fortified place, yet they were mobile enough to be moved into succeeding parallels and usually

9. Kemp, *American Soldiers of the Revolution*, p. 45.

10. *Ibid.* American cannon were generally of simple design and sometimes even crude. Some, especially the bronze pieces, were more elaborate and exhibited ornamentation similar to the European manufactures. Certain guns were stamped "US" and "UC" (United Colonies) and some displayed the date and place of manufacture and the maker's name. Peterson, *Round Shot and Runners*, p. 60.

11. Manucy, *Artillery Through the Ages*, p. 10.

12. *Ibid.*, pp. 54-55.

proved the key determinant in the outcome of the contest.¹³ Ship and garrison cannon, on the other hand, were quite immovable and were usually employed to defend either a fortress or a vessel. Their small-wheeled, low-slung carriage made mobility difficult. Heavy and cumbersome, garrison guns were dismounted by hoists and placed on wagons or on a special carriage for removal elsewhere.¹⁴

2. Iron and Bronze Guns

Guns were also classified according to their construction--either iron or bronze. Although contemporary works speak of brass rather than bronze, the alloy employed often contained copper and tin and sometimes even zinc. The result was a bronze piece.¹⁵ Bronze guns proved more costly than iron ones, a bronze twenty-four-pounder costing more than twice as much as an iron piece. But the durability of bronze over iron compensated for this disparity. Moreover, a worn-out bronze gun might be recast time and again, while an iron piece could only be sold for scrap purposes. In a siege, bronze guns could withstand great heat during lengthy cannonades, while iron pieces could not.¹⁶

3. French Ordnance

Most of the French siege pieces used at Yorktown were made of bronze. French units of weight and measure differed slightly from the British (and American): the French inch was a bit longer than the American; the French *livre* weighed a little more than the American pound. As a result, French ordnance was slightly larger than the American and British pieces of the same caliber. For example, the French eight-pounder actually equalled in nearly all respects the British nine-pounder.¹⁷ In terms of artillery caliber, the French Valliere System had brought a degree of standardization to French weaponry. Since 1732, French pieces had been organized into calibers of four-, eight-, twelve-, sixteen-, and twenty-four-pounders. Mortars were categorized into eight- and twelve-inch varieties and all the ordnance assigned specified weights, lengths, and proportions. The Valliere System even prescribed

13. *Ibid.*, pp. 52-53; Tousard, *American Artillerist's Companion*, 1:131-32. Before the start of the southern campaign the Americans requested a traveling and a garrison carriage for each of their eighteen- and twenty-four pounders. Consequently most of their guns probably had both types of carriages at Yorktown.

14. Manucy, *Artillery Through the Ages*, p. 51.

15. Peterson, *Round Shot and Rammers*, p. 45.

16. Manucy, *Artillery Through the Ages*, p. 46; Tousard, *American Artillerist's Companion*, 1:131.

17. Peterson, *Round Shot and Rammers*, p. 51. The French livre equalled 1.1 pound English weight.

specifications for the elaborate ornamentation on the gun barrels that came to characterize French artillery. The various designs accomplished a utilitarian purpose, allowing for easy identification of pieces. Under the Valliere System, the breeches of the various calibered weapons were designed accordingly:

four-pounder	face in a sunburst
eight-pounder	monkey's head
twelve-pounder	rooster's head
sixteen-pounder	Medusa's head
twenty-four-pounder	Bacchus

In addition to these decorative aspects all Valliere pieces were easily recognized by the handles of the guns, which were always sculptured to represent dolphins. All functional and design distinctions among French field, siege, and garrison pieces were abandoned for the sake of standardization and uniformity.¹⁸ Per caliber, the Valliere guns all looked alike and remained identical in weight:

<u>Caliber</u>	<u>Weight (pounds)</u>
four-pounder	1,265
eight-pounder	2,310
twelve-pounder	3,520
sixteen-pounder	4,620
twenty-four-pounder	5,940 ¹⁹

Most of the French guns used at Yorktown in 1781 seem to have been of the Valliere design.

A reorganization of French artillery began in France during the Revolutionary War. This produced a new design that forsook the decorative attributes of the Valliere System in favor of a smoother, more streamlined look. Known as the Gribeauval System, the new French ordnance type seemingly never found extensive use in America, and its presence at Yorktown in 1781 is debated.²⁰

18. *Ibid.*, p. 48.

19. *Ibid.*

20. *Ibid.*, p. 54. At least one source specifically refers to Gribeauval artillery being present at Yorktown in 1781. A writer identified only as General de Cugnac noted that "the French artillery has the pieces of the Gribeauval system," and that "the artillery of Gribeauval was excellent and marked a great improvement on the previous artillery systems." *Yorktown (1781). Trois mois d'opérations combinées sur terre et sur mer dans une guerre de coalition (Nancy-Paris-Strasbourg; Imprimerie Berger-Levrault, 1932)*, pp. 36, 36n.

4. Gun Carriages

The carriages on which the field and siege guns used at Yorktown rested were themselves often elaborate devices. American gun carriages were fashioned from young, pliable oak when obtainable, otherwise from walnut and chestnut. For the large wheels, elm, beech, and hickory were used.²¹ Traveling carriages transported nearly all calibers, including the frequently used eighteen- and twenty-four-pounders. Whenever weight threatened to strain or break a carriage, the guns were shifted into large block carriages or wagons for movement. Sometimes four-wheeled carriages called trucks were utilized to move pieces. These truck, or garrison, carriages were standard equipment for ordnance aboard ships. Field and siege carriages, fixed at their trail to a two-wheeled limber, were pulled with their gun cargo by horses or oxen whose number for the task was commensurate with the weight of the piece being towed.²² John Muller computed the number of animals required to transport guns of different calibers:

A 3 pounder requires but 1 horse, a 6 pounder 2, a 12 pounder 3, and a 24 pounder 6, of the light [field] sort; and the heavy [siege] 3 pounder 4 horses, the six 7, the twelve 10, and twenty-four 17, or 18.²³

Besides carrying the cannon, gun carriages conveyed much of the gunners' equipment attached to hooks on the heavy wooden cheeks. The carriages were fixed with rings and bolts to facilitate moving of the piece by men in the field. To insure stability and to resist wear, the wood at stress points was reinforced with iron stripping.²⁴ The guns and carriages were nearly always painted, the cannon tubes and mountings normally black and the carriages gray or red-brown. By 1780 it appears that some carriages were being painted blue; by 1783 that color had become standard on American carriages as it had on the French.²⁵

5. Firing Cannon

The proper firing of field and siege cannon during the late eighteenth century required intelligence and vigilance on the part of

21. Peterson, *Round Shot and Rammers*, p. 60; Manucy, *Artillery Through the Ages*, pp. 49-50.

22. Manucy, *Artillery Through the Ages*, pp. 50, 53; Thor Borreson, "Report on American Guns and Carriages," MS, December 1939, in the files of CNHP, Yorktown, Virginia, p. 58.

23. John Muller, *A Treatise of Artillery* (London: John Millan, 1757), pp. 260-61.

24. Manucy, *Artillery Through the Ages*, p. 55.

25. Peterson, *Round Shot and Rammers*, p. 60.

officers and gunners. Some understanding of scientific trajectory was necessary to accurately discharge the pieces and to gauge their success against the enemy. Their metallic composition determined that cannon could not be fired infinitely without pause: the heat could cause the tube to bend or even burst. The softening of the metal also widened the touchhole of the piece, creating too great a vent for the powder and thus diminishing the thrust of the projectile.²⁶ As Guillaume Le Blond noted,

A 24 pounder may be fired 90, 100, or even 120 times in 24 hours, as is usually done in sieges, which is 5 times an hour; but great care must be taken to cool, or refresh the piece, after firing 10 or 12 times. This is done by dipping the maulkin [sponge] into water, and passing it several times up and down the bore of the piece.²⁷

a) Powder and Cartridges

The propellant for all artillery was black powder, composed of saltpeter (potassium nitrate), charcoal, and sulphur at a 75:15:10 ratio.²⁸ The amount of powder in a charge fluctuated according to the distance from the enemy and the type of fire intended. For battering opposing defenses the usual charge comprised one-third the weight of the shot. For ricochet firing the powder charge varied with distance.²⁹ By the time of the Revolutionary War, advances in artillery component materials rendered the task of firing a piece much easier. Flannel and paper cartridges that utilized measured powder charges appeared and quickened the loading process. Cylindrical time measures permitted exactness in determining the charge to be placed in the cartridge and expedited the whole firing process. The paper or flannel cartridge burned at discharge and its residue was cleaned out after several firings.³⁰

26. Le Blond, *Treatise of Artillery*, p. 28.

27. *Ibid.* The usual rate of fire from artillery pieces during a siege was nine rounds an hour per gun. Tousard, *American Artillerist's Companion*, 1:100.

28. Manucy, *Artillery Through the Ages*, p. 23.

29. Tousard, *American Artillerist's Companion*, 1:130.

30. *Ibid.*, pp. 340, 345; Manucy, *Artillery Through the Ages*, p. 25. Sometimes the cartridges caused problems by building up residue to such an extent that it blocked the vent opening of the piece and had to be removed with a wormer or wad hook. Sometimes it smouldered even after the bore had been sponged and this threatened to prematurely ignite the next charge. Artillerymen preferred flannel cartridges over paper ones. Peterson, *Round Shot and Rammers*, pp. 63-64.

Further embellishment of the firing procedure appeared in the form of fixed ammunition that combined ball and propellant into one simply constructed unit. Fixed ammunition developed from the invention of the sabot, a wooden disc slightly hollowed on one side to accommodate the base of the shot, which was attached with tinned iron cross straps. The sabot replaced the traditional cannon wad and provided a base for attaching a flannel powder bag or cartridge. The advent of fixed ammunition was made possible by the standardization of artillery calibers. Similarly, grapeshot and canister (or case) shot became fixed ammunition, too, and, like cannonballs, were used almost exclusively in situations demanding rapid fire. For normal shooting, siege and field guns employed a semifixed load incorporating a separated projectile and powder bag.³¹

b) Elevation

Aiming the guns took time and demanded precise mathematical calculation. Of course direction was considered first, during erection of the cannon platforms, and usually was set before the guns ever arrived in the battery. Yet distance necessitated elevating the pieces to heights appropriate for striking particular targets. A gunner's quadrant aided the aiming process. Shaped like a carpenter's square with a quarter-circle joining the lengths, the quadrant allowed an artilleryist to determine the correct angle of elevation for his cannon. The gunners accomplished the elevation with the aid of a quoin, a small wooden wedge driven between the cannon breech and the carriage bed. The device raised the rear of the breech and lowered the muzzle to the properly calculated position.³² Siege gun elevation normally stayed under twelve degrees.³³ Elevation was closely correlated with powder charge to enable a cannon to hit enemy targets. Furthermore, guns that fired pointblank necessarily lacked the distance achieved with elevation of the pieces, as the following figures demonstrate:

Caliber	Distance (Point Blank) in feet	Distance (Elevated 45°) in feet (greatest extent of range)
2-pounder	370	3,709
4-pounder	741	7,419
8-pounder	803 to 989	8,902 to 11,128
12-pounder	927 to 1,112	10,880 to 12,364
16-pounder	1,978	19,783
24-pounder	1,051 to 1,978	12,550 to 14,837
32-pounder	1,236 to 1,442	14,837 ³⁴

31. Tousard, *American Artillerist's Companion*, 1:345-46; Peterson, *Round Shot and Rammers*, p. 63.

32. Le Blond, *Treatise of Artillery*, p. 20.

33. Manucy, *Artillery Through the Ages*, p. 53.

34. Tielke, *Field Engineer*, 1:227.

Artillerists also had to keep in mind that greater elevation of the piece resulted in more inaccurate fire.

c) Types of Fire

Eighteenth-century theorists delimited two general types of fire based on the course of discharged shot and on the overall topography of the target site. Grazing fire was that in which the discharged cannonball directly paralleled the horizon, destroying all in its path. Plunging fire was that which arced significantly in its course or which traveled from a higher to a lower area. Destruction from plunging fire was limited to what was hit near the point of contact.³⁵ Within this framework, artillerists classified functional responsibilities of their pieces. The purpose of direct firing was to dismount opposing guns and destroy the enemy fortifications. Direct firing most often occurred from the first parallel to cover the advancing of the approaches and the construction of later parallels. With his guns out of commission the enemy exposed himself to further artillery and musket attack from the second and third lines.³⁶ Direct firing constituted an enfilade whenever the attack was part of a concerted sweeping operation, either direct or flanking in character, wherein the besiegers' shot raked along the inside of the enemy parapet.³⁷

The term enfilade could also apply to ricochet firing in which the powder charge of the guns was diminished to the point where the shot merely cleared the muzzle to bounce ungracefully over the intervening terrain and along the face of the opposing works. Guns fixed to fire *en ricochet* in a siege were elevated between eight and twelve degrees to obtain maximum effect. In the field, where the principal targets would likely be infantry or cavalry, guns firing ricochet were seldom elevated beyond three degrees.³⁸ In either case the discharged shot "goes rolling and bounding, killing and maiming all it meets in its course, and creates much more disorder by going thus slowly along, than it could if thrown from the piece with great violence and speed."³⁹ As Tielke put it, a ball sent forth in ricochet fashion would "do incredible mischief wherever it goes."⁴⁰

35. Lochée, *Elements of Field Fortification*, p. 9n.

36. Tousard, *American Artillerist's Companion*, 1:100.

37. Tielke, *Field Engineer*, 1:228-29; Muller, *Treatise Containing the Elementary Part of Fortification*, p. 218.

38. Muller, *Treatise Containing the Elementary Part of Fortification*, pp. 229-30; Tielke, *Field Engineer*, 1:228-29n; Tousard, *American Artillerist's Companion*, 1:9-10, 100.

39. Le Blond, *Treatise of Artillery*, p. 23.

40. *Field Engineer*, 1:229n.

Most destructive of all forms of cannon fire, however, was that resulting from guns situated to cross fire. Two or more gun batteries arranged for cross fire unleashed merciless barrages of shot against enemy fortifications that crippled the opposing artillery and usually led to the breaching of the enemy defenses. The target battery of a besieger's cross fire rarely survived intact.⁴¹

d) Hot Shot

For action against enemy shipping, offensive artillery often resorted to the use of hot shot--red-hot cannonballs fired to set enemy vessels ablaze. Shot was heated in a pit excavated in the ground four feet deep and six feet in diameter. The gunners built a fire in the pit in which they placed the shot. Meantime, the cannon was attentively readied with a quantity of powder, wadding, and either a wooden disc or a thick chunk of sod to prevent premature ignition of the powder charge by the heated ball. The artillerymen fired the piece as soon as the hot shot was heated and before it cooled to the point of ineffectiveness.⁴² When practiced with skill and patience, firing hot shot had a telling effect on enemy shipping and gunboats and took a toll in lives and equipment that often foretold final defeat.

e) Auxiliary Equipment

Special equipment aided in maneuvering and actually firing the cannon. There appeared little difference between the apparatus for siege cannon and that for the field type. One manual enumerated the items necessary to the performance of field artillery:

1st. A lint-stock, 2d. A portfire-stock, 3d. A powder-horn and hammer, pincers, priming wyers and gimblets; these are fixed in the gunners [*sic*] belt: 4th a tube-box and thumb-case; this is made of leather, which the bombardier [gunner] puts on his left thumb, to prevent the heat of the piece, in quick firing, from burning him: 5th. A haversack, 6th. A sponge and rammer, 7th. A ladle, 8th. A worm: sometimes the ladle and worm are fixed on one staff: 9th. A sett of drag ropes, 10th. A trail spike, to guide the piece with, or tiller, which is a more suitable term for it, as the gunner steers the piece with it. . . . Also, limbers, gears, horses, &c.⁴³

41. *Ibid.*, pp. 229-30.

42. Peterson, *Round Shot and Rammers*, p. 64.

43. William Stevens, *A System for the Discipline of the Artillery of the United States of America; or, the Young Artillerists' Pocket Companion* (Albany: Websters and Skinners, 1815), p. 44.

Maneuvering the heavy cannon around in a battery was accomplished with the aid of drag ropes and handspikes. The latter were large wooden crowbars sheathed in iron that helped in moving the gun carriage and in lifting the breech for insertion of the quoin during elevation. Handspikes for siege cannon measured about six feet in length; some were fitted with rollers at the end so that the heavy trail of the carriage might be raised and moved with relative ease.⁴⁴

f) Loading the Piece

When cartridges were either unavailable or not being used, a long-handled lantern, or ladle, accomplished the process of loading powder into the breech of the piece. Fashioned of thin copper, the ladle served both as a powder measure and as the best means of getting the propellant into the weapon.⁴⁵ The thumb-piece mentioned above was very important to prevent burns to the gunner who stopped up the vent during the loading procedure. As described by Tousard, the thumb-piece was "a kind of small bag, about three inches square, made of strong skin or leather, and stuffed with hair: one of the sides is recovered with a piece of leather, so that the cannonier may lodge his fingers in it while stopping the vent. . . ."⁴⁶

The loaders next pushed the powder, wad, and shot home with a cylindrical, long-handled wooden instrument called a rammer. Usually made of elm, the rammer exhibited variously-spaced marks on its handle to permit the loaders to see whether the components of the charge were exactly seated.⁴⁷ In the American Army (though not in the French) the rammer was sometimes mounted on the same handle as the sponge, a somewhat smaller cylinder covered with lambskin and used to swab water into the barrel to cool and clean it after each firing. Sponging insured that no sparks lingered in the breech and muzzle to set off ensuing rounds. Sometimes, instead of the lambskin-covered cylinder, the sponge consisted of a bristle brush. The diameters of both the rammer and sponge equalled exactly that of the shot for a particular caliber piece.⁴⁸

g) Igniting the Charge

The artilleryist ignited the charge at the touchhole with the aid of slow match, or cord match, a three-strand cotton rope impregnated with

44. Manucy, *Artillery Through the Ages*, pp. 55, 75.

45. *Ibid.*, p. 73; Tousard, *American Artillerist's Companion*, 1:390.

46. Tousard, *American Artillerist's Companion*, p. 394.

47. *Ibid.*, pp. 272, 391; Manucy, *Artillery Through the Ages*, p. 74.

48. Manucy, *Artillery Through the Ages*, p. 73; Tousard, *American Artillerist's Companion*, 1:391.

saltpeper and treated with lead acetate and lye to burn at a rate of four or five inches an hour. Occasionally slow match was produced from flax tow or smooth hemp. The cannoneer firing the gun held the slow match in a lintstock, a wooden forked stick three feet long, in order to stay clear of the recoil of the piece.⁴⁹ The slow match was applied to the loose priming powder at the vent of the gun.

By the middle of the eighteenth century portfires began to be favored over slow match in discharging cannon. Portfires were thin cylindrical paper cases containing a highly flammable mixture of gunpowder, saltpeper, and sulphur fixed in a consistency of linseed oil. Some portfires were created in molds, while others were simply rolled and filled by artificers in the field. Portfires burned with a flare and produced extremely hot flames. In place of the lintstock, portfire stocks served to light the priming powder. Portfire stocks made from sheet iron measured about eleven inches in length.⁵⁰ Sometimes priming tubes replaced the loose, black priming powder. These devices were narrow tin tubes containing portfire substances. When paper or flannel cartridges were used instead of loose powder in the charge, sharpened priming tubes were inserted in the vent of the piece to prick the cartridge and provide access for ignition. Priming tubes usually measured between 4 and 6-1/2 inches in length. During the Revolutionary War the American artillery employed both the slow match and portfire means of discharging cannon.⁵¹

h) Cleaning the Piece

Another indispensable piece of cannon apparatus was the worm, or wormer. Long-handled like the sponge and rammer, the wormer in effect was a type of double corkscrew used to clean wads and residue of cartridges from the bore after firing. Occasionally wormers were fastened to the same pole as the sponge, enabling a piece to be washed and wormed simultaneously.⁵²

6. Gun Crews

The men who formed the gun crews brought experience and skill to their work; at the time of the Revolutionary War British and French gunners were among the finest in the world. Records suggest that British

49. Tousard, *American Artillerist's Companion*, pp. 366-67; Manucy, *Artillery Through the Ages*, p. 26.

50. Tousard, *American Artillerist's Companion*, 1:386, 393; Peterson, *Round Shot and Rammers*, p. 64.

51. Peterson, *Round Shot and Rammers*, p. 64. When slow match ignited cartridges in cases where priming powder was used, a needlelike instrument called a priming wire penetrated the cartridge prior to discharge. Tousard, *American Artillerist's Companion*, 1:393.

52. Tousard, *American Artillerist's Companion*, p. 392; Manucy, *Artillery Through the Ages*, p. 73.

and Hessian crews were so expert they could fire up to fourteen shots per minute. The French performed equally well.⁵³ By the time of Yorktown American artillerymen had approached expertise and their work during the siege won plaudits from the French.

a) Duties

Generally, field gun crews were larger than those for servicing siege pieces. A field gun crew consisted of fourteen or fifteen men, each assigned specific tasks. Numbers 1 through 6 were mostly unskilled and controlled the drag ropes to maneuver the piece. When the cannon was ready for firing they stood three on either side of the carriage wheels. Number 7 cleaned and sponged the barrel between shots and rammed home the wad and shot. Number 8 stood opposite him, left of the muzzle, and placed the powder or cartridge and ball into the piece. The man designated number 9 thumbed the vent to keep out residue while number 7 worked the bore with sponge and rammer. Number 9 also primed the vent, either with loose powder or with a priming tube, and number 10 actually discharged the round with slow match or by means of a portfire. Numbers 9 and 10 stayed outside the wheels, clear of recoil, although 7 and 8 remained near the muzzle and had to keep their mouths wide open to protect their ear drums from the splitting blast of the cannon. No. 11 operated a handspike on the trail transom to aim the piece in accordance with an officer's directions. Another man, number 12, stood to the right rear of the piece with a water bucket and the lighted lintstock. Number 13 brought ammunition from a supply managed by number 14 and turned it over to number 8 for placement down the muzzle. Number 15 likewise managed an ammunition supply and at the same time looked after the limber horse.⁵⁴

Most siege pieces were much too heavy to be maneuvered easily by drag ropes. Consequently, their crews became smaller; for example, a gun crew for a twenty-four-pounder siege cannon numbered eight (occasionally nine) men⁵⁵ whose responsibilities entailed the following exercises:

- 1st. The gunners duty, who directs the piece to the object aimed at.
- 2d. The gunner's duty who fires the piece off.
- 3d. The bombardier's duty who tends the vent.
- 4th. The gunner's duty who handles the sponge and rams down the charge.

53. Peterson, *Round Shot and Rammers*, p. 66.

54. *Ibid.*

55. *Ibid.*

- 5th. The gunner's duty who handles the cartridge, or charges the piece.
- 6th. The matross's [assistant] duty who carries the haversack.
- 7th. The matrosse's [sic] duty who man's [sic] the drag-ropes.
- 8th. The matross's duty who carries the side-boxes of the pieces.⁵⁶

b) Commands

The gun crew completed its duties in an orderly manner by following the direct commands of an artillery officer. For a field gun these would have been the following:

Attention!

Unlimber pieces!

Secure side-boxes!

Man out - the pieces!

From right to left - dress!

Advance sponge!

Tend - vent!

Sponge piece!

Handle cartridge!

Charge - Piece!

Ram down - Cartridge!

Prime!

Take Aim!

Fire!

Change - Drag-ropes! (sometimes indicated by the flam of a drum.)

Unhook - Drag-ropes!

56. Stevens, *System for the Discipline*, pp. 44-45.

Mount - Side-boxes!

Limber pieces!

Shoulder rammer!

Carry - Lint-stock!⁵⁷

For heavy siege cannon the commands were:

Gunners and Matrosses! To your posts - march.

Front - face.

Prepare - battery!

To - handspikes!

Enter - handspikes!

From - battery!

To the knob - To the wedge! [depending on whether a quoin or an elevating screw was used with the piece]

Lay down - handspikes!

To - sponge! Stop - vent! To - cartridge!

Sponge - gun!

Return - sponge! To - rammer!

Cartridge - gun!

Ram - cartridge!

Shot - gun!

Ram - shot!

Return - rammer!

[This exercise with sponge and rammer was common in the French service; among American and British artillery it differed negligibly.]

To - handspikes!

57. *Ibid.*, pp. 62-64.

Enter - handspikes!

To - battery!

Point - gun!

Lay down - handspikes!

Clear - vent! Prime!

To - lintstock! To - wedge!

March!

Front - face!

Lintstock - march!

Make - ready!

Fire!⁵⁸

C. The Mortars

Next to cannon in importance were mortars, whose large truncated bores threw exploding bombs on the enemy with deadly precision. The mortar's purpose, recorded Tousard, "is to throw hollow shells filled with powder, which, falling on any building, or into the works of a fortress, burst, and its fragments destroy every thing within its reach."⁵⁹ The measurement across the mouth of the bore gave the caliber of particular mortars; by the late eighteenth century calibers became standardized and ranged from an extreme 20-inch piece to one of only 4-1/2 inches. Most mortars used at Yorktown were calibered at 12-inch, 10-inch, and 8-inch. Weight varied with size, with the largest (13-inch) piece weighing 4,500 pounds. Twelve-inch mortars weighed about 3,150 pounds, while 10-inch weapons ran anywhere from 1,620 to 2,050 pounds, depending on whether the piece was intended for medium or long-range fire. Eight-inch mortars weighed on the average 550 pounds.⁶⁰ The smallest mortar, a 4-1/2-inch piece called a cohorn for its Dutch inventor, Baron Van Menho Coehoorn, became a favorite among troops because of its portability; two men could lift and transport it easily. A 5-1/2-inch piece (technically 5.8-inch), known as a royal, answered

58. Tousard, *American Artillerist's Companion*, 1:298-304.

59. *Ibid.*, p. 219.

60. *Ibid.*, pp. 220, 221n; Wright, "Notes on the Siege of Yorktown," p. 247n.

much the same purpose as the coehorn. In siege operations, however, both coehorns and royals remained subordinate to the heavy 8-, 10-, and 13-inch mortars commonly employed.⁶¹

1. Mortar Beds

Instead of using carriages, mortars were mounted on heavy wooden beds sufficiently strengthened with iron molding to withstand the direct vertical recoil of the pieces. Timber mortar beds were made in four sections, except those for the smaller coehorns and royals, which consisted of single blocks of wood. Basically, a mortar bed consisted of two stout wooden cheeks joined by two transoms. Some cheeks were manufactured of iron. Lacking wheels, mortar beds were transported on specially built mortar wagons or in slug carts. On arrival in a battery, the beds were set on level, square, wooden platforms preparatory to receiving the mortar. American-made mortars usually had their beds permanently attached, unlike the French ones that could be removed from the beds for transporting.⁶²

2. Knox's Mortar System

During the Siege of Yorktown General Knox devised a system for firing mortars from carriages similar to those used for howitzers. The idea was not novel, having originated with one Count Buckeburg who invented traveling carriages for mortars in order to discharge bombs at low elevations in the manner of howitzers.⁶³ William Stevens gave some data regarding the Knox enterprise at Yorktown:

General Knox ordered . . . some 8 inch mortars mounted on carriages constructed similar to travelling carriages with truck wheels, which answered a very good purpose. But they require the carriages to be made very strong,

61. Manucy, *Artillery Through the Ages*, p. 60; Peterson, *Round Shot and Rammers*, p. 41. There also existed 2-1/4- and 3-1/2-inch mortars, apparently designed exclusively for shooting hand grenades. *Ibid.*

62. Tousard, *American Artillerist's Companion*, 1:254-55, 325n; Muller, *A Treatise of Artillery*, p. 191; Manucy, *Artillery Through the Ages*, pp. 58-59.

63. Stevens, *System for the Discipline*, p. 196; Tousard wrote: "The method of firing *en ricochet* out of mortars was first tried in 1723 at the artillery school at Strasburg, [France] and with success. At the battle of Rosback, in 1757, the king of Prussia had several six inch mortars made with trunnions and mounted on travelling carriages, which fired obliquely on the enemy's lines, and amongst their horse, loaded with eight ounces of powder, and at an elevation of one degree and fifteen minutes, which did great execution." *American Artillerist's Companion*, 1:2n.

as the trunnions being on the breech of the mortar, will naturally cause a greater pressure or shock, when fired, than it would do if the trunnions were more proportioned in the middle, as a howitzer.⁶⁴

Essentially, the Knox mortar carriage differed from the standard howitzer type in that the recesses where the trunnions rested were greatly strengthened to better absorb the more direct shock of recoil.

3. Bombs

Mortars fired large, hollow bombs made of iron and filled with varying amounts of black powder. On bursting, a mortar shell fragmented into a myriad of pieces, causing death or destruction to men, animals, and buildings. Bombs were of different weights; that for a twelve-inch mortar weighed upwards of 150 pounds, while an eight-inch missile might weigh as much as 44 pounds or as little as 42.⁶⁵ Bomb globes were pierced with a hole, or eye, into which artificers poured black powder. At the minimum, a twelve-inch bomb took 5 pounds of powder to explode it, a ten-inch bomb 3 pounds, and an eight-inch bomb 1 pound. At the maximum, a twelve-inch bomb could accommodate 17 pounds of powder, a ten-inch bomb 10 pounds, and an eight-inch bomb 4 pounds 1 ounce.⁶⁶ The amount of powder placed in a bomb varied between these extremes according to need and desired effect. To destroy earthen fortifications, for example, the sphere should be filled; as an anti-personnel weapon, a moderate charge would suffice. "In a regular siege," wrote Tousard, "the charge for twelve inch bombs is from four to six pounds, and that for eight inch bombs from one to two pounds."⁶⁷ The insertion of the fuse followed the charging of the bomb. For this a special fuse driver and mallet were used to implant the frustumlike wooden fuse containing a composition of gunpowder, sulphur, and saltpeter.⁶⁸ The composition was intentionally slowburning to allow the projectile to reach its target before bursting.⁶⁹ The larger mortar bombs had ring-type handles to facilitate moving them and loading them into the piece. Some mortar ammunition was marked for identification, and archeological work at Yorktown has disclosed at least one French shell fragment displaying in relief a *fleur-de-lis*.⁷⁰

64. Stevens, *System for the Discipline*, p. 196.

65. Tousard, *American Artillerist's Companion*, 1:260.

66. *Ibid.*, pp. 220, 255-56.

67. *Ibid.*, p. 96.

68. *Ibid.*, p. 395; Le Blond, *Treatise of Artillery*, p. 50.

69. Tousard, *American Artillerist's Companion*, 1:395.

70. Peterson, *Round Shot and Rommers*, p. 63.

4. Handling and Firing Mortars

a) Equipment

The articles used to tend mortars resembled some of those used for cannon. An iron ladle called a curette aided in cleaning the chambers of both mortars and howitzers. One end of the curette was spoon-shaped, while the other contained a concave scraper for removing rust and residue from the bore of the piece. A wooden spatula enabled the bombardiers to pack earth or wedges around the bomb in order to center the ammunition prior to firing it. Sponging the mortar was unnecessary because the nature of the bore enabled the men to reach into it with their hands to dislodge accumulated matter. A piece of heavy, coarse canvas was used to clean the inside of the bore. For loading the ring-handled bombs into the ten- and twelve-inch mortars, double S-shaped iron hooks were used.⁷¹

b) Loading

Mortars were fired according to strict procedures by a select corps of noncommissioned artillery officers called bombardiers.⁷² These soldiers supervised the entire process of loading, directing, and discharging the weapons. Mortar chambers were loaded with black gunpowder; a twelve-inch piece took five pounds at its fullest capacity, a ten-inch three pounds, and an eight-inch mortar one pound.⁷³ Once the charging was completed and a wad placed over the powder, the loaded bomb was carefully centered in the bore to rest directly on the wad or upon loose earth packed atop the wad. In either case the bomb, fuse outward, was steadied at exact center with more dirt packed around it or with four to six wooden wedges appropriately placed. When dirt was used both to cover the wadding and to center the bomb, the discharge was called double firing because the fuse of the missile had to be ignited prior to firing the mortar proper. When wedges alone were used to center the bomb, the fire of the discharging mortar triggered ignition of the bomb fuse.⁷⁴ Probably this safer process of firing mortars was practiced at Yorktown in 1781. In flight, the discharged bomb left a trail of black smoke during the day and one of flames at night. The length of the fuse had to be coordinated with the intended length of the missile's flight in order to prevent either a premature or a belated explosion. Sentinels in the besieged garrison might give ample warning of approaching bombs, permitting the troops to dive for cover. If upon impact the missiles

71. Tousard, *American Artillerist's Companion*, 1:261-62, 394, 395.

72. Stevens, *System for the Discipline*, p. 237.

73. Tousard, *American Artillerist's Companion*, 1:220.

74. *Ibid.*, pp. 95, 262, 263-64, 395.

failed to explode, the men might try to douse the fuse with water or to lessen the impact of explosion by covering the bomb with sandbags thrown from a safe distance.⁷⁵

c) Test Shooting

The besieging artillery could usually avoid much of this by conducting test shots in which proof bombs were fired and the seconds counted until they reached their targets. Then the elevation of the mortars and the fuse length of the bombs could be adjusted accordingly.⁷⁶ Elevation proved essential for good mortar performance, and bombs prepared for use against buildings, magazines, and enemy batteries were launched not only with the greatest charges but with the greatest height. In this manner the bombs acquired greater force in their fall, resulting in maximum shock and execution.⁷⁷ Bombs were never fired point-blank at a target, as Le Blond noted:

As one of the effects of the bomb results from its weight, it is never discharged in the same manner as a ball from the cannon, that is, by directing or pointing the mortar at a certain object; but the mortar is a little inclined to the horizon, so that the bomb being thrown up obliquely, much in the same direction as a tennis ball struck by the racket, may fall upon the place intended. . . .⁷⁸

d) Commands

Four mattresses assisted the bombardier in the discharge of a mortar. They responded to the verbal commands of the appropriate battery officer:

Bombardier and Matrosses, to your posts - march!

To the Front - face!

Prepare Battery!

To - handspikes!

Enter - handspikes!

To - battery!

75. *Ibid.*, p. 256; Wright, "Notes on the Siege of Yorktown," pp. 246-47.

76. Tousard, *American Artillerist's Companion*, 1:256.

77. *Ibid.*, 1:101; Stevens, *System for the Discipline*, p. 196.

78. *Treatise of Artillery*, p. 39.

Lay down - handspikes!

Clean - mortar!

Raise - mortar!

To - powder! To - bomb!

Load - powder!

Load - bomb!

To - handspikes!

Give - degrees! Point!

Lay down - handspikes!

Clear - vent! Prime!

To - portfire!

March!

Front - face!

Portfire - march!

Make - ready!

Fire!

Bombardiers and Matrosses - to your posts - march! [if exercise is to be repeated]⁷⁹

D. Howitzers and Grenades

1. Use of Howitzers

Somewhat more versatile than either cannon or mortars were howitzers, a seventeenth-century invention of the Dutch. These popular weapons could throw bombs at trajectories lower than mortars and higher than cannon and were ideal for discharging bombs at an enemy *en ricochet* in the same manner as cannonballs.⁸⁰ Indeed, their use in firing bombs in this fashion endeared them to siege artillerists of the eighteenth

79. From Tousard, *American Artillerist's Companion*, 1:322-28. For details of movement consequent with each command, see *ibid.*

80. Manucy, *Artillery Through the Ages*, p. 56; Peterson, *Round Shot and Rammers*, p. 36.

century. The bomb, or howitze, "hoppes along the ground, and drops just over the enemy's parapet, destroying them where they thought themselves most secure."⁸¹ Moreover, the howitzer, a light weapon, used a short-trailed, two-wheel carriage and was therefore highly mobile, and could be used to fire grapeshot and cannister shot besides bombs. Like mortars, howitzer size was gauged by width across the muzzle. There were two main sizes, six-inch and eight-inch. An eight-inch howitzer weighed 2,625 pounds.⁸²

2. Firing Howitzers

When the howitzer was fired with great elevations at stationary targets, its wheels were sometimes removed from its carriage and the mounting placed astride timbers on the ground to avoid shattering the carriage on recoil.⁸³ The howitzer was fired essentially like a mortar, with the bomb placed in the bore after the weapon itself had been charged. Then the vent was cleared and the piece primed and fired,⁸⁴ all on command of the responsible officer:

Handle - handspikes!

Enter - handspikes!

From - battery!

To - knob! To - masse!

Lay down - handspikes!

Clean - howitzer! [with sponge]

Handle - cartridge! Handle - shell!

Load with - cartridge!

Load with - shell!

Handle - handspikes!

Enter - handspikes!

81. Stevens, *System for the Discipline*, p. 195

82. Peterson, *Round Shot and Rammers*, p. 36; Wright, "Notes on the Siege of Yorktown," p. 247n; Tousard, *American Artillerist's Companion*, 1:269. Technically, the calibers for howitzers were 8.52 inches and 6.53 inches. *Ibid.*, p. 261.

83. Tousard, *American Artillerist's Companion*, 1:272.

84. *Ibid.*, pp. 264, 272.

Take - elevation! Direct!
Lay down - handspikes!
Clean - vent! Prime!
To - lintstock! To - wedges!
March!
To the front - face!
Lintstock - march!
Make - ready!
Fire!⁸⁵

3. Grenades

Another type of antipersonnel ordnance sometimes fired from mortars were hand grenades. These small, hollow iron shells (sometimes made of tin or *papier maché*) were filled with extra-fine powder and fixed with a wooden fuse. Grenades measured about three inches in diameter and were generally hand thrown by soldiers, designated grenadiers, when nearly in contact with the enemy.⁸⁶

E. The Artillery Park

The artillery at a siege was organized in a special artillery park located some distance behind the first parallel. From the artillery park the guns and ammunition were advanced by wagons, horses, and by artillerymen who maneuvered the pieces in the trenches and batteries after the animals were detached. The park was guarded from enemy attack by fifty men drafted from the artillery corps.⁸⁷ Drum beats governed the movement of the pieces under the system adopted by General Knox and his staff in 1779. Firing of the artillery commenced on the right and moved through subsequent batteries to the left of the line.⁸⁸ Cannon,

85. *Ibid.*, pp. 330-32.

86. Muller, *Treatise Containing the Elementary Part of Fortification*, pp. 222-23; Lochée, *Elements of Field Fortification*, p. 22n.

87. Le Blond, *Treatise of Artillery*, p. 123.

88. Stevens, *System for the Discipline*, pp. 86, 97. For information on signaling artillery by drum beat, see *ibid.*, pp. 95-96.

mortars, and howitzers, when expertly employed, constituted a formidable array of weaponry that sooner or later made capitulation of an enemy inevitable. At Yorktown in 1781 the combination of fire from the elite French batteries and from untried but promising American ones proved the principal factor in the defeat of the British Army under General Charles Cornwallis.

CHAPTER IV: THE LION COMES TO YORKTOWN

A. The Village of Yorktown

The quiet little town of York, hugging the southern shore of its namesake river, suddenly came to life with the British occupation of August 1781. By late summer the trees had begun to assume their annual autumn hues and the dormant little tobacco port began to awaken to its destiny in world history. As described by contemporary observers, Yorktown harbored about 200 buildings, including several churches and an attractive red brick courthouse.¹ Four principal avenues surrounded the environs of Yorktown and gave access to the community. The Williamsburg Road approached from the west, somewhat paralleling the river, and led on to Williamsburg, twelve miles away. Goosley Road diverged from this just west of the town and ran east to intersect a third highway, Hampton Road, which went from York to Hampton. A secondary road entered Yorktown from the east. It too bordered the river for much of its distance.²

1. Land Features

Topographically, Yorktown afforded the British both good and bad defensive positions. Riverward, the high banks promised protection from enemy ships should they manage to penetrate the British blockade and ascend the stream to within striking distance of the town. However, the posture of the defenses at Gloucester on the northern shore and in the narrowed part of the channel was such as to make this possibility extremely unlikely. Gloucester served best by protecting Cornwallis's vessels and any other friendly ships that might arrive, and besides promised a safe haven should a retreat from Yorktown ever be necessary.³ On the landward side, British defense became more of a problem. On the right of the town York Creek ran down to the river cutting through several broad ravines and leaving an area of boggy swampland for a distance up from its mouth. To the left of Yorktown was Wormley Creek with its large dammed pond. This stream cut several deep ravines around the outer limits of the community as it followed its marshy course to the York about two miles below Yorktown. Together, York and Wormley creeks presented

1. See Charles E. Hatch, Jr., *Historic Resource Study, Yorktown's Main Street (From Secretary Nelson's to the Windmill), and Military Entrenchments Close In and Around the Town of York, Colonial National Historical Park, Virginia* (Denver: National Park Service, 1974), pp. 160-67. For contemporary maps of Yorktown at the time of the siege, see 3A and 10F.

2. Wickwire and Wickwire, *Cornwallis*, pp. 365-66.

3. *Ibid.*, p. 358.

a network of ravines, ditches, and bogs that in appearance approximated the tongs of a giant caliper flanking the town. Between the streams lay broad, fairly level, high terrain covered with trees and grass that stretched on for nearly half a mile. Approach to the town, especially from the northwest, would be difficult but not impossible. In some places the ravines of York and Wormley creeks could hide an enemy almost up to the village itself, necessitating the construction of an outer perimeter if an adequate defense was to be maintained.⁴

2. Early Defenses

Cornwallis's decision to fortify Yorktown was not novel. Since the town's beginning, its strategic location had been recognized, and defensive arrangements of one sort or another had existed long before the British presence in 1781. Fear of attack from the York River shortly after the town was established (1691) prompted the erection of a battery on the waterfront to complement an earlier one built on the Gloucester side to ward off enemies. In 1710-11 a threatened attack by the French caused the Governor of Virginia to order construction of a strong fort, mounting cannon, at Yorktown to aid in protecting the colony.⁵ By 1755 the batteries at Yorktown and Gloucester and a fort at the mouth of the James River constituted the sole coastal defenses of Virginia. They saw no action, either against enemies or pirates, but their location assumed great significance after the beginning of the Revolutionary War.

Yorktown's strategic importance was seen at the outset, and in June 1776 the Virginia Council of State ordered the village garrisoned by State militia. The troops did not remain long, however, and the barracks erected at the post were empty much of the time.⁶ An observer in 1777 commented: "Here is a battery of 12 pieces of heavy cannon to command the River and a Company of artillery stationed here, but they make a sorry appearance for so respectable a corps, as the Artillery ought to be."⁷ In that year a hospital was built for the soldiers stricken with smallpox in the epidemic of 1777.⁸ By the spring of 1778, however, the State council manifested some concern over the poor condition of the works and acted to remedy the problem after receiving recommendations that the fortifications be extended for use by the Allies both at Yorktown and at Gloucester.⁹ The works had apparently been improved by the winter

4. Hoyt, *Practical Instructions*, pp. 72-73; Arthur, *End of a Revolution*, p. 108.

5. Hatch, "York Under the Hill," pp. 23, 24.

6. *Ibid.*, pp. 27, 28; Hatch, *Yorktown and the Siege of 1781*, p. 37.

7. Quoted in Hatch, "York Under the Hill," p. 28.

8. Hatch, *Yorktown and the Siege of 1781*, p. 37.

9. Virginia Council of State, *Journals of the Council of the State of Virginia*, ed. H. R. McIlwaine, 4 vols. (Richmond: Virginia State Library, 1932), 2:138.

of 1779-80 when the French built fortifications at Yorktown to protect several of their vessels that had found refuge in the York River after a severe storm while en route to the West Indies.¹⁰ Although the garrison remained depleted in strength through much of the war, the Yorktown fortifications nevertheless continued as an active post manned by Virginia militia until the time of Cornwallis's arrival.¹¹

B. Cornwallis Digs In

1. Early Progress

British designs on Yorktown must have been discerned by the townspeople as early as April 1781 when Colonel Simcoe and his Queen's Rangers raided the place. Apprehension must have mounted again when Cornwallis personally surveyed the potential defenses of the town in late June.¹² Now, as Cornwallis undertook to establish a joint army-naval station in accordance with Sir Henry Clinton's wishes, many of the townsmen departed, some no doubt with portentous thoughts as to the fate of their community. As of late August Cornwallis believed it would take him at least six weeks to properly establish the base. The hot, humid climate was a consideration, as was the lack of entrenching tools for his army to work with. Oblivious to the Franco-American forces closing in by land and sea, the British general casually sent dispatches to Clinton requesting hundreds of spades and shovels and a wide assortment of carpenter supplies to aid in erecting fieldworks.¹³ On August 30 all illusions of security that Cornwallis entertained were abruptly shattered with the discovery of French ships in the mouth of York River. The vessels, "a French 74, a 64-gun ship, and a frigate," had driven the British frigate *Guadaloupe*, the sloop *Bonetta*, and some small boats back into the neck of the stream. A Hessian captain viewed the proceedings from his post on the Severn

10. Willcox, *British Road to Yorktown*, pp. 5-6.

11. Hatch, *Yorktown and the Siege of 1781*, p. 37.

12. *Ibid.*

13. Mackesy, *War for America*, p. 412; An order dated August 23, 1781, written by Cornwallis's chief engineer, Lieutenant Alexander Sutherland, asking for spades, shovels, nails, saws, chisels, chalk, squares, and smoothing planes, among other things, is in Henry Clinton Papers, vol. Aug. 23-Aug. 30, 1781, William L. Clements Library. Clinton later claimed that a disparity existed between the number of entrenching tools actually available for use by Cornwallis's army and the number Cornwallis reported he had on hand. Wrote Clinton: "There appears to have been a misapprehension . . . as [to] the number of intrenching tools; which, though computed by his Lordship to be only about four hundred . . . , I find by his engineer's reports . . . to have been 992 on the 23d of August. . . ." *Observations on Mr. Stedman's History*, pp. 20-21. See also Ewald, "Diary of the American War," p. 866.

River and, fearful the ships would move up the York at high tide and bombard the port, sent runners with the news to Cornwallis.¹⁴ Next day a naval lieutenant escorted by some dragoons rode to Old Point Comfort and counted between thirty and forty enemy vessels anchored within the Capes.¹⁵

2. The Pace Increases

The appearance of the French caused considerable consternation among the British Army at Yorktown in terms of both readiness and strategy. The work, which had progressed almost routinely because of disagreeable heat and a seemingly indifferent attitude, now went ahead furiously. As one officer recalled,

Now, head banged head in York and Gloucester. Now, they hastily began to unload all the magazines and guns which had been brought from Portsmouth, but which--through negligence and laziness--were still on board the ships lying at anchor in the York River between the two towns. Now, if the French had been in better readiness, or perhaps, had better intelligence, the ships could be shot to pieces.¹⁶

Cornwallis must now have recognized his growing predicament, especially with the news that French soldiers had arrived at Williamsburg to reinforce Lafayette. News from the north of Washington's approach compounded British troubles.¹⁷ Clearly the British Navy no longer plied the Atlantic waters unmolested. Relief from that direction appeared remote. Worst of all, the nearby enemy land forces severely limited Cornwallis's choice of alternate solutions.

The first week of September passed with feverish activity as Cornwallis sought to reinforce his position. The fortifications at Gloucester were weakly constructed piles of sand, nothing more, and efforts were directed toward improving these and procuring lumber from surrounding plantations for gun emplacement platforms.¹⁸ During the night of September 9 an American detachment of Lafayette's army occasionally harassed the British outposts at Gloucester, but no fighting occurred.¹⁹

14. Ewald, "Diary of the American War," pp. 864-66.

15. Mackesy, *War for America*, p. 412.

16. Ewald, "Diary of the American War," p. 866.

17. Arthur, *End of a Revolution*, pp. 113-14.

18. Ewald, "Diary of the American War," p. 871.

19. *Ibid.*, p. 874.

C. Cornwallis's Hopes Dim

1. Plans to Escape

By the middle of September Cornwallis's position had grown increasingly untenable. Admiral Graves had failed to defeat de Grasse and secure British access by sea. The news arriving daily was ominous, containing word of the disposition of troops under Lafayette and of the continuing approach of more men under Washington and Rochambeau. The British general sent Tarleton with his cavalry to reconnoiter Lafayette's position. He returned advocating an immediate attack to escape the closing network of troops. But instead Cornwallis waited, hopeful that the British Navy under Rodney could somehow bring troops from Clinton through the French blockade. Cornwallis's attitude changed remarkably during these days from one of active, energetic leadership to a strange mixture of reliance and passivity.²⁰ His options daily becoming more limited, Cornwallis, after consulting his officers, decided to heed Tarleton's advice. An attack on Lafayette might compel the young Frenchman to fall back, allowing Cornwallis room to fight through towards Richmond. The James River effectively blocked any retreat south to the Carolinas; thus a surprise movement against Lafayette seemed to be Cornwallis's only recourse. Two alternative schemes were advanced to accomplish this design. One was to march his army along the Williamsburg Road under cover of darkness and strike the marquis at dawn before he could bring his field artillery to bear. The other plan was to send 2,500 men in small boats up the York to Queen's Creek, which flowed from the area of Williamsburg, and strike Lafayette from the rear in complete surprise. Or, Cornwallis might execute both plans simultaneously.²¹ All these schemes were based on the belief that any such movement of the British force would go undetected by Lafayette--an extremely illusory supposition.

2. More Pressure from Clinton

On September 14, just as Cornwallis and his subordinates settled on a strategy of escape, a dispatch dated eight days previous arrived from Clinton. Cornwallis's offensive was postponed. Admiral Robert Digby would be off the coast "any day," and, in addition, Clinton spoke of sending 4,000 men from New York to effect Cornwallis's relief.²² This information tended to support Cornwallis's own philosophical view of the situation: he had taken post at Yorktown on Clinton's orders to establish a defensive station--orders he had carried out against his better

20. Higginbotham, *War of American Independence*, p. 381; Whitridge, *Rochambeau*, p. 209.

21. Nickerson, "Yorktown, 1781," p. 86; Agniel, *Late Affair*, pp. 127-28; Wickwire and Wickwire, *Cornwallis*, p. 361; Arthur, *End of a Revolution*, p. 114.

22. Wickwire and Wickwire, *Cornwallis*, p. 361; Agniel, *Late Affair*, p. 128.

judgment. Nevertheless, in deference to Clinton he took up the post and in effect transferred responsibility for its success or failure to Clinton, nearly three hundred miles away. On September 17 Cornwallis wrote the British commander: "The place is in no State of defense. If you cannot relieve me very soon, you must be prepared to hear the worst."²³ Cornwallis would not mount an attempt to escape the growing encirclement, thereby placing the fate of his army in Clinton's hands. As his position became increasingly desperate, the general depended completely on Clinton for extrication.

3. Fireships Against the French

Events picked up momentum as September passed. During the night of the seventeenth, American reconnaissance parties again alarmed the British outposts.²⁴ In the early morning darkness of September 22 Cornwallis sent fireships against the French vessels blocking the mouth of York River. "The sight was worth the trouble to see!" stated one witness. "The [fire]ships were set on fire and illuminated the area so brightly that we could easily detect the French ships at anchor in the very dark night. But since the fireships had been ablaze too soon, the enemy ships cut their cables and sailed away."²⁵

D. British Strength at Yorktown

As the days passed, Cornwallis pushed ahead with his fortifications at Gloucester and Yorktown, expecting relief at any time. As of September 15, his nominal strength stood at 8,885 men, excluding sailors attached to the armed British ships and the twenty-four transports and smaller vessels anchored off Yorktown. The addition of the seamen, who numbered 840, brought Cornwallis's nominal strength at mid-September to 9,725 men.²⁶ Actually, the land force comprised a much lower figure,

23. Quoted in Arthur, *End of a Revolution*, p. 114. Cornwallis believed that, if relieved early enough, the combined forces might strike a decisive blow against the French and Americans that would end the war. Wickwire and Wickwire, *Cornwallis*, p. 364.

24. Ewald, "Diary of the American War," p. 877.

25. *Ibid.*, p. 880.

26. These figures are taken from Douglas Southall Freeman's careful evaluation presented in *George Washington: A Biography*, 6 vols. (New York: Charles Scribner's Sons, 1952), 5:513-14. The Frenchman Cromot Du Bourg assigned the naval personnel an approximate figure of 1,500, which, in place of the 840 figure usually given, would boost the British force to a total exceeding 10,000. The figure given for land forces in the monthly strength report dated September 15, 1781, represented an inexplicable decline of 548 men from the previous month. *Ibid.*

as reflected in Cornwallis's strength reports. Minus the 840 sailors, the strength of the army in Virginia fluctuated little over the months and rounded off in the area of 5,500 men. Between June and October the reported effective strength was as follows:

June 1, 1781	5,312
July 1, 1781	5,250
August 1, 1781	5,580
Sept. 1, 1781	5,316
Oct. 1, 1781	4,987 ²⁷

The British force arrayed at Yorktown included a number of well-established units of untarnished reputation. The organization of the British Army under Cornwallis was as follows:

Headquarters

Lieutenant General Charles, Earl Cornwallis, Commanding.
Lieutenant Colonel Lord Chewton, Aide-de-Camp.
Major Alexander Ross, Aide-de-Camp.
Major Charles Cochrane, Acting Aide.
Major John Despard, Deputy Adjutant General.
Major Richard England, Deputy Quartermaster General.
Assistants: Captains Campbell and Vallancy, Lieutenant Oldfield, and Ensign St. John.
Lieutenant Alexander Sutherland, Chief Engineer.
Assistants: Lieutenants Haldane and Stratton.
Mr. Perkins, Commissary.
Majors Brabazon, Manley, Baillie, and Richardson, Majors of Brigade.

Engineers

Detachments Royal Engineers: Lieutenant Alexander Sutherland.

Artillery

Detachments Royal Artillery: Captain George Rochefort.
Captain-lieutenant: Edward Page.

27. Earl Cornwallis, *An Answer to That Part of the Narrative of Lieutenant-General Sir Henry Clinton, K. B., which Relates to the Conduct of Lieutenant-General Earl Cornwallis, during the Campaign in North America, in the Year 1781* (London: John Debrett, 1783), Appendix XX, following p. 236. Wickwire and Wickwire gives 5,129 officers and men as "present and fit for duty" at the opening of the siege in late September. In addition, there were 632 others from various small units and reduced detachments, like the guides and pioneers and some North Carolina loyalist volunteers. *Cornwallis*, pp. 366-67. See also "State of the Army in Virginia under the Command of Lieut. General Earl Cornwallis, 1st October 1781," Henry Clinton Papers, William L. Clements Library. Figures presented in this document are considerably at variance with those cited above.

Cavalry

British Legion: Lieutenant Colonel Banastre Tarleton.
Queen's American Rangers: Lieutenant Colonel John Graves Simcoe.

Light Infantry

Lieutenant Colonel Sir Robert Abercrombie, Commanding.
Major Thomas Armstrong.

Brigade of Guards

Brigadier General Charles O'Hara, Commanding.

Yorke's Brigade

Lieutenant Colonel John Yorke, Commanding.
Seventeenth Foot: Lieutenant Colonel Henry Johnson.
Twenty-third Fusiliers: Captain Apthorpe.
Thirty-third Foot: Lieutenant Colonel John Yorke.
Seventy-first Foot: Lieutenant Colonel Duncan McPherson.
Majors Patrick Campbell and James Campbell.

Dundas's Brigade

Lieutenant Colonel Thomas Dundas, Commanding.
Forty-third Foot: Major George Hewitt.
Seventy-sixth Foot: Major Francis Needham.
Eightieth Foot: Lieutenant Colonel Thomas Dundas.
Major James Gordon.

Ansbach Troops

First Battalion: Colonel von Voit.
Second Battalion: Colonel von Seybothen.

Hessian Troops

Régiment Prince Héritaire (Erbprinz): Lieutenant Colonel
Matthew von Fuchs.
Régiment von Bose: Major O'Reilly.
Jägers: Captain John Ewald.

Detachments

Pioneers

North Carolina Volunteers: Lieutenant Colonel John Hamilton.²⁸

28. Organization based on that given in Arthur, *End of a Revolution*, pp. 173-74, and Johnston, *Yorktown Campaign*, pp. 118-19.

Cornwallis was noticeably deficient in superior officers in his command. Besides himself there was one other general officer present. Moreover, there were but two colonels, twelve lieutenant colonels, and a like number of majors in the entire Yorktown garrison.²⁹

All of these officers and men concentrated defensively around Yorktown and Gloucester offered a tantalizing reward to the converging French and American columns whose manpower totaled almost three times that of the British force. The coming contest was acquiring the characteristics of a one-sided enterprise, which was exactly what the Allies wanted.

29. Johnston, *Yorktown Campaign*, p. 111.

CHAPTER V: THE BRITISH POSITIONS

A. The British Fortify Gloucester

1. Importance of Defending Gloucester

Soon after his arrival at Yorktown Cornwallis directed Lieutenant Sutherland, his chief engineer, to draw up plans for fortifying Gloucester Point.¹ Work on this project began almost immediately, both because the point was more exposed than Yorktown and because holding it was essential to control of the river and Yorktown. The Yorktown defenses became a secondary consideration, the town's height above the water making it less susceptible to attack by enemy gunships. In addition the works at Yorktown were not improved or added to immediately because of the relative dearth of entrenching tools needed for their erection.² The spades and shovels all went to raise tenable works in the sandy soil of Gloucester Point. Cornwallis dispatched Lieutenant Colonel Simcoe to command a detachment of the 80th Infantry, some light companies of the 23d and 82nd regiments, one regiment of Hessian soldiers, the Jägers, the Volunteers from North Carolina, and his own Queen's Rangers in erecting the works. From Gloucester, Simcoe led his own unit on foraging expeditions to the north. The raids proved successful despite efforts of the Virginia militia to disrupt them.³

2. Redoubts and Batteries at Gloucester

The troops raised four redoubts based on specifications prepared by Sutherland, extending in an east-west line across the Gloucester peninsula and numbered from left to right. Three batteries interrupted the redoubt chain. One stood between, and south of, Redoubts 2 and 3 and faced in a southeast direction to command approaches from downriver. Another battery guarded the left flank of the line, and a third, located between Redoubts 3 and 4, protected the right flank. The redoubts were connected by a single shallow entrenchment extending the length of the works. In the front were several small picket redans and a continuous line of abatis. The three batteries mounted a total of nineteen cannon, none larger than eighteen-pounders. The right of the line was secured by Captain Johann Ewald's Jägers. Simcoe's Rangers took the left and the Eighth Regiment and the Prince Héritaire Regiment occupied the center. The right of the Gloucester line was later augmented by troops under

1. Thor Borresen, "Orientation Report," p. 5.

2. Arthur, *End of a Revolution*, p. 109; Nickerson, "Yorktown, 1781," p. 88; Wickwire and Wickwire, *Cornwallis*, p. 358.

3. Borresen, "Orientation Report," p. 6; Wickwire and Wickwire, *Cornwallis*, p. 372.

Lieutenant Colonel Thomas Dundas, sent over by Cornwallis after the siege began.⁴ Construction of the works at Gloucester apparently lacked the resourcefulness needed for such an enterprise, and Lieutenant Sutherland drew scorn for his seeming insensibility to their proper erection. Wrote Captain Ewald:

The English Vauban . . . laid more stress upon repairing the work afterward than on doing it thoroughly in the beginning. . . . Any sensible engineer thinks in advance of palisades, assault stakes, fascines, palings, and saucissons before he starts to break ground; but here, one thinks about it first when the work is constructed.

But the dalliance was not without purpose. "What is the reason?" Ewald continued. "The engineer gets a daily allowance of one pound sterling as long as his work lasts; hence, it is to his advantage if it drags on."⁵

B. The Defenses of Yorktown

Whether erection of earthworks at Yorktown promised similar lucrative rewards remains unknown, although the flimsy condition of those fortifications throughout the siege suggests as much. In late August, the Gloucester defenses readied (for all their scant worth), digging commenced across the river according to designs submitted by Lieutenant Sutherland and approved personally by Cornwallis.⁶ Sutherland's plan called for construction of a line of inner, or main, works around the town, and an irregular ring of detached outer fortifications to guard the approaches and to impede the Allies' advance.⁷ The design took maximum advantage of the surrounding terrain, especially of the two deep, swampy ravines cutting the ground around Yorktown. These natural obstructions allowed Cornwallis to build weaker entrenchments than he otherwise would have in areas bordering the ravines.⁸

4. Arthur, *End of a Revolution*, p. 109; Johnston, *Yorktown Campaign*, p. 108; Hatch, "Gloucester Point," pp. 269-70; Stephen Bonsal, *The Cause of Liberty* (London: Michael Joseph Limited, 1947), p. 146; Maps containing information on the construction of the British defenses at Gloucester are 1F, 2F, 5AB, 7A, 11F, 15F, 16F, 24F, 25B, 29B, 30B, 32F, 33F, 34F, 41F, 43F, 45F, 46F, 49F, 50B, 52A, 53F, 58B, 62F.

5. "Diary of the American War," pp. 7, 8. Ewald maintained that de Grasse could have easily knocked out the Gloucester defenses had he known of their weakness. Joseph P. Tustin to Historian James Haskett, 1970, in the files of CNHP, Yorktown, Virginia.

6. Arthur, *End of a Revolution*, p. 109.

7. Stedman, *History . . . of the American War*, 2:408; Arthur, *End of a Revolution*, p. 13.

8. Borresen, "Orientation Report," p. 3.

1. Importance of the Outer Works

In preparing the advance works the engineers ordered the trees along the York and Wormley Creek ravines to be felled.⁹ The outer works went up at varying distances from the town, depending on the topography and their potential vulnerability. The works west of Yorktown were 700 yards distant, while those to the southeast stood within 300 yards of the inner defenses. Realizing the importance of the outward position, Cornwallis concentrated his efforts on these detached works, determining to hold them while completing the inner ones.¹⁰ The raised tract between the ravines--the so-called "gorge"--was of crucial importance because there the roads from Hampton (and the sea) and Williamsburg converged. With diligent effort, Cornwallis believed he could hold the gorge until Clinton's promised relief arrived.¹¹

After September 20, when work began in earnest on the main line of fortifications directly around Yorktown, all houses lying outside the projected perimeter were torn down to aid in the erection of entrenchments, to remove all potential conveniences for the enemy, and to clear away any obstacles that might hinder British artillery fire.¹² The soldiers, helped by a large number of captured Negro slaves who had been promised their freedom, worked incessantly on the main fortifications, but time eventually ran out. Cornwallis's inner line was not complete when the siege opened, mainly because of the insufferable heat, the relatively few entrenching tools available, the lack of time,¹³ and perhaps Sutherland's own personal motives. Also, the work was occasionally disrupted by the appearance of Virginia troops who randomly fired on the British without warning. Cornwallis sent Tarleton to maneuver beyond the lines, check those militiamen, and keep them from interfering with his army's progress.¹⁴

9. *Ibid.*, p. 7.

10. Nickerson, "Yorktown, 1781," p. 88; Bonsal, *Cause of Liberty*, p. 147.

11. Bonsal, *Cause of Liberty*, p. 147; Wickwire and Wickwire, *Cornwallis*, p. 366; U.S., Congress, Senate, *The Story of the Campaign and Siege of Yorktown*, 71st Cong., 3d sess., February 17, 1931, S. Doc. 318, pp. 41-42 (hereafter cited as S. Doc. 318).

12. Borresen, "Orientation Report," p. 7; "Wertgetreue Abschrift eines Tagebuchs eines markgräflichen Soldaten [über] den Aufenthalt in Amerika" ["The true copy of a diary of a soldier of the Margrave [on] his sojourn in America.'], trans. John Luzader, Historical Society for Middle Frankonia, Ansbach State Library, Ansbach, Germany.

13. Baron Ludwig von Closen, *The Revolutionary Journal of Baron Ludwig Von Closen, 1780-1783*, ed. and trans. Evelyn M. Acomb (Chapel Hill: University of North Carolina Press, 1958), p. 139n.

14. Agniel, *Late Affair*, p. 129.

2. The Main Line

The hastily built inner defenses encompassed an area approximately 1,200 yards long and 400 yards deep, for a total perimeter length of 2,000 yards.¹⁵ "The whole position," wrote Louis Floxel de Cantel, Chevalier d'Ancteville, in his journal,

was formed of earthworks, with parapets twenty feet in thickness, all fraised, with ditches eight feet deep, enveloped or covered by well constructed abatis, which Lord Cornwallis had caused to be built immediately after the arrival of the fleet of Monsieur de Grasse. It appears that he had first made detached works, which he joined together later, seeing that he had the time. He worked later on the interior works of a second line at the left. His right being covered by a ravine impracticable for an attack, he had constructed there only detached works and batteries, joined together by a line of timbers, placed upright and firmly sunk in the ground, with continuous terraces behind.¹⁶

The stockaded line, slightly slanted inward and backed with earth to form a parapet, extended all along the right and center of the works behind an irregular system of redoubts and batteries. This log-and-dirt parapet had no ditch because the nearby York Creek ravine provided an added deterrent to attack from that direction. Along the far right, where an assault was unlikely, these fortifications measured about 9 or 10 feet in thickness and less than 4-1/2 feet in height. On the extreme right a row of palisades, probably with a gate someplace near the road, ran along the marshy bottom of the York Creek ravine to the stream's confluence with the river. Left of center along the main line the British built a large "hornwork," which jutted out to the south to command Hampton Road and other approaches along the gorge. The hornwork, ditched and fraised, had embrasures for cannon. The far left contained more redoubts and batteries connected by a fraised parapet but with neither the stockade nor abatis found on the right of the line.

15. Burne, "Cornwallis at Yorktown," p. 72.

16. "Journal of the Chesapeake Campaign," trans. Thomas M. Pitkin, transcribed copy in the library of CNHP, Yorktown, Virginia, p. 16; See also Warrington Dawson, "The Chevalier D'Ancteville and His Journal of 'The Chesapeake Campaign,'" *Légion D'Honneur* 3 (October, 1931), p. 94; Profiles of the British main fortifications appear in inset drawings on maps 1F, 2F, and 46F; Similar to d'Ancteville's description was Closen's: "All these works were fraised and provided with abattis. In some places there was a second line of trees, placed end to end and joined, and filled in from behind with earthworks." *Revolutionary Journal*, p. 141.

Instead, two forward redoubts guarded the weaker approaches from the southeast.¹⁷ The British also established within their main works a concentric line of ditches and parapets with logs arranged vertically to protect the confined encampment area.¹⁸ Indeed, the interior space behind the main works was so narrow (about 600,000 square yards) as to cause congestion among Cornwallis's soldiers, besides being easily subjected to enemy enfilade.¹⁹

3. Redoubts and Batteries of the Main Line

Eight redoubts, numbered from right to left, guarded the perimeter of the main works and extended through and around the town in semicircular fashion from river shore to river shore. At the west end, Redoubts 1 and 2, with fraising and abatis, flanked the sides of the river road near Windmill Point, slightly ahead of the line of epaulements. Redoubts 3, 4, and 5 guarded the center of the line to the right of the hornwork and were similarly armed. Two more, 6 and 7, protected the left of the line. They were fraised but lacked abatis. Redoubt 8 was a small, square structure terminating the left flank of the line at the York River.²⁰

Interspersed with the redoubts were eight land batteries. One of these stood to the left of the road, facing west, between Redoubts 1 and 2.²¹ Four more guarded the center of the line and some cannon also

17. Banastre Tarleton, *A History of the Campaigns of 1780 and 1781, in the Southern Provinces of North America* (Dublin: Colles, Exshaw, White, H. Whitestone, Burton, Byrne, Moore, Jones, and Dornin, 1787), pp. 384-85; Borresen, "Orientation Report," p. 26; Hoyt, *Practical Instructions*, p. 73; Querenet de La Combe stated in his journal that the ditches and fortifications on the right were only partially protected by abatis. "Journal of the Siege of York in Virginia in October 1781," transcribed and translated copy of original in the United States Army Engineers Museum, Fort Belvoir, Virginia. Querenet de La Combe commanded the French Royal Corps of Engineers at the siege; See also Hatch, *Yorktown's Main Street*, p. 117.

18. Hatch, *Yorktown's Main Street*, p. 117.

19. Tarleton, *History of the Campaigns*, p. 385; Arthur, *End of a Revolution*, p. 112.

20. Burne, "Cornwallis at Yorktown," p. 72; Arthur, *End of a Revolution*, pp. 109-12; Johnston, *Yorktown Campaign*, p. 106; Robert Arthur, *The Sieges of Yorktown, 1781 and 1862* (Fort Monroe, Virginia: The Coast Artillery School, 1927), pp. 12, 13; Hatch, *Yorktown's Main Street*, pp. 106-7; Detailed coverage of the British main works is presented in Erwin N. Thompson, *Historic Resource Study, The British Defenses of Yorktown, 1781, Colonial National Historical Park, Virginia* (Denver: National Park Service, 1976).

21. Arthur, *Sieges of Yorktown*, p. 12.

served the hornwork and Redoubt 5. The remaining guns occupied three batteries along the left flank.²² Four additional water batteries pointed their guns towards the river, and one of these mounted eight cannon to cover the stretch of river between Yorktown and Gloucester.²³ To arm his batteries, Cornwallis, who had transported little artillery with him from the Carolinas, stripped the frigates *Charon* and *Guadaloupe*, forty-four and twenty-eight guns respectively, of many of their cannon. In all, the British mounted sixty-five cannon in their works. Only one of the pieces was greater than an eighteen-pounder.²⁴

Close by, but beyond the main works and guarding the right front overlooking York Creek ravine, were several detached picket redans, some armed with light ordnance. Within the circle of entrenchments, Lord Cornwallis chose as his headquarters the fine brick home of "Secretary" Thomas Nelson, a retired colonial official whose nephew, Thomas Nelson, Jr., was the newly elected governor of Virginia and commander in chief of State militia.²⁵ The Nelson house stood along Hampton Road near the edge of town and just within the British line.

4. Problems with the Main Works

In the final analysis, the main British works at Yorktown were not substantial enough to withstand a lengthy siege. Cornwallis's initial delay in beginning entrenchments at Yorktown worked ultimately to his disfavor. Yet much of British security rested with the outer line of fortifications--the advance works. Development of these structures began earlier than that of the main line and seemingly entailed a thoroughness of construction not apparent elsewhere. Designed to face the brunt of an Allied approach, the British outer defenses assumed a more substantive character than the more transitory entrenchments set tightly around Yorktown.

22. Arthur, *End of a Revolution*, p. 112.

23. *Ibid.*; See also Borrosen, "Orientation Report," p. 8.

24. Bonsal, *Cause of Liberty*, p. 147; Johnston, *Yorktown Campaign*, p. 106; S. Doc. 318, p. 41; Agniel, *Late Affair*, p. 128; Arthur, *Sieges of Yorktown*, p. 13; Most of the British ordnance consisted of nine- and eighteen-pounders, with a smattering of six- and twelve-pounders and an extremely limited number of howitzers and mortars. See Map 7A, prepared by Major Sebastian Bauman of the American artillery, for a reasonable disposition of the British weapons.

25. Borrosen, "Orientation Report," p. 20. The foundations of the "Secretary" Nelson House can still be seen at Yorktown.

5. The British Outer Works

a) Fusiliers' Redoubt

The British outer works consisted of seven major earthen fortifications, several lesser ones, numerous field artillery emplacements and troop positions, and a clear foreground in front of all these to impede the enemy and to insure open fields of fire for British guns. Strongest of all the British outer works was a star-shaped redoubt (No. 1 on the accompanying map of the British outer works) that stood atop the high cliff overlooking York River 800 yards west of the main line. Defended at long range by the British artillery battery about 600 yards away on Windmill Point and by whatever ships could support it from the river, the structure effectively covered the British right against incursions along the river road from Williamsburg, which avenue the redoubt nearly adjoined at its southern extremity. The Star, or Fusiliers', Redoubt--named for the contingent of British troops that built and manned it throughout the siege--also provided protection against possible enemy thrusts in the areas of Yorktown Creek and Ballard Creek, between which two streams the fortification stood. By its station, it also guarded against the approach of enemy sorties along the beach front above Yorktown.²⁶

A commonly used earthwork during the Revolutionary War, especially by the Americans, who derived it from the French, the star fort saw limited use by the British, who recognized its inherent weaknesses. Varying in design from four to eight points, the lesser number was preferred.²⁷ "It is rather wonderful," wrote one theorist about star forts, "that such works should obtain commendation, and a preference to the [square] redoubt, if it is considered, that they are not of much greater defence, are more difficult in the construction, and give less inward space in proportion to their perimeter."²⁸ Although such forts differed in overall size depending on the number of troops intended to defend them, an average star redoubt during the eighteenth century would have had a parapet six feet or more high and from nine to eighteen feet thick at the top, depending on whether the structure was intended to resist cannon or musket fire. The ditch surrounding the redoubt was

26. According to Tielke, "The flanks are the weakest parts of every position, therefore great attention must be paid to their security, that they may neither be turned or commanded." *Field Engineer*, 1:124. In view of this statement, the purpose of the British star redoubt along the lower Williamsburg Road is readily apparent.

27. Lochée, *Elements of Field Fortification*, pp. 55, 60-61.

28. *Ibid.* See especially p. 60 for refutation of the angular advantages of star forts over square ones. Tielke echoed Lochée's sentiments: "Their salient angles are generally too narrow within, and the defence of the lines must be imperfect; because the shot can never fly parallel to them, unless the soldiers fire obliquely." *Field Engineer*, 1:242. See also *ibid.*, 2:19-20.

at least six feet deep, and probably more. Dirt from the ditch went both to raise the epaulement and to form a glacis and covered way along the outside of the ditch. In cases where the parapet was especially high, around seven or eight feet, the glacis might accordingly be raised as high as five feet.²⁹

Abatis surrounding such an outpost was essential, but did not need to be exceptionally strong; it merely made the defending troops less liable to surprise by an enemy and more likely to defend the work with dispatch.³⁰ In laying out a star redoubt the engineers first decided on the desired number of points. Then the size was determined and the basic geometrical shape plotted on the ground. Next, the points were located, a process accomplished by simple mathematics and linear division. Instructed Tielke:

Let fall a perpendicular from the centre of each side of your figure: that is to say, if it is a square, the perpendicular must be equal to one-seventh or one-eighth of the length of the side; if a pentagon, to one-sixth; and if an hexagon, to one-fifth.--Draw a line from the ends of each face to that of its perpendicular. . . .³¹

Construction of the parapet, banquette, ditch, and glacis followed along the lines as plotted above.

The Star Redoubt at Yorktown was built by members of the Twenty-third Foot, or Royal Welch Fusiliers, commanded by Captain Charles Apthorpe and aided by a number of marines. Cornwallis assigned the Fusiliers responsibility for defending the work and throughout the siege members of the Twenty-third enthusiastically supported their creation.³² In the later stages of the siege, command went to Lieutenant Colonel Henry Johnson who occupied the structure with successive detachments of 190 men, suggesting a perimeter of at least that many yards. According to one account, the Star Redoubt was armed with three coehorns and two twelve-pounders, the latter probably fired *en barbette*.³³

29. Lochée, *Elements of Field Fortification*, pp. 55-56.

30. Tielke, *Field Engineer*, 2:54.

31. *Ibid.*, 1:282.

32. Johnston, *Yorktown Campaign*, pp. 107-8; Rowland Broughton-Mainwaring, comp., *Historical Record of the Royal Welch Fusiliers Late the Twenty-third Regiment, or, Royal Welch Fusiliers (The Prince of Wales's Own Royal Regiment of Welsh Fusiliers)* (London: Hatchards, Piccadilly, 1889), p. 103.

33. Map 29B; Johnson was commander of the Seventeenth Foot, suggesting that some men occupying the Fusiliers' Redoubt actually belonged to that unit; Reference to the armament is provided by Ewald in Tustin to Haskett, 1970, in the files of CNHP, Yorktown, Virginia.

The redoubt possessed four points, two of which ended in a truncated manner along the edge of the cliff. According to most contemporary maps of the siege, the Star Redoubt was situated very close to the edge of the bluff. In some instances the structure is depicted as having little or no parapet on the side fronting the York River and in at least one case the side by the bluff is protected by only a row of palisades.³⁴ Quite possibly this side consisted of palisades sunk in the earth stockade-fashion and supported on the inside by earth raised against them, in the same manner as the right line of the British main defenses around Yorktown. The entrance, or gorge, stood in the reentrant angle at the rear of the redoubt, opposite York Creek.³⁵ A large traverse guarded the entrance inside the redoubt.³⁶

Most all the maps agree that the structure was surrounded by two rows of abatis; however, a large number suggest that the rows did not completely encircle the star but instead rested their ends on the edge of the cliff.³⁷ One map shows the abatis placed across the Williamsburg Road near the redoubt.³⁸ Several reveal that the abatis rows were connected at intervals by more felled trees, and one journal states that they were interally joined by "picketed buttresses," which comprised logs fixed with sharpened stakes. Captain Ewald said that the abatis surrounding the Fusiliers' Redoubt was "of pointed apple or peach trees."³⁹ The structure was also fraised all along its perimeter.⁴⁰

Below the Star Redoubt and midway between it and York Creek on the beach the British built a row of palisades extending from the bluff to beyond the water's edge.⁴¹ The redoubt received additional support from a reserve of troops of the Twenty-third stationed close by in the York Creek ravine near Williamsburg Road.⁴² Additionally, one map depicts

34. Maps 19F, 28A, 29B, 31F, 32F, 37F, 54F.

35. Map 17F.

36. Map 16F.

37. Maps 1F, 15F, 16F, 18F, 24F, 30B, 31F, 32F, 33F, 34F, 37F, 41F, 45F, 48F, 49F, 53F, 59B; See also La Combe, "Journal of the Siege of York," p. 2.

38. Map 53F.

39. See Maps 17F, 19F, 28A, 31F, 32F, 37F, 54F, 62F; French engineers, "Journal of the Siege of York in Virginia," *Magazine of American History* 4 (June, 1880): 450 (hereafter cited as *Engineers' Journal*); Ewald's quote is in Tustin to Haskett, 1970, in files of CNHP, Yorktown, Virginia.

40. *Engineers' Journal*, p. 450; La Combe, "Journal of the Siege of York," p. 2; Tarleton, *History of the Campaigns*, p. 382; Map 45F.

41. Maps 2F, 15F, 34F, 62F.

42. Map 29B.

what might be a small tented encampment area on the beach below the redoubt--perhaps a supply depot for the troops defending the Fusiliers' Redoubt.⁴³

Early in 1935 reconstruction of the Star Redoubt began. Workers determined the actual site of the structure by digging cross-sectional trenches, a process that revealed areas in the soil that had been disturbed by the original excavation in 1781. From this information the general trace of part of the redoubt became apparent. Constant erosion of the river bluff since 1781 had destroyed an estimated forty percent of the Fusiliers' Redoubt site, but it was decided to proceed with the reconstruction of what remained.⁴⁴ Accordingly, specifications for the dimensions of the redoubt were based on the established partial perimeter and data gleaned from eighteenth-century technical manuals on earthen fortifications.

The reconstructed work possessed a parapet 7-1/2 feet high and 8 feet thick at the top (superior talus). The interior and exterior slopes of the epaulement had to be modified to ensure a stable, permanent fixture, and a height-slope ratio of 1:1 resulted. The location of the entrance, or gorge, was speculatively determined to have been on the side least exposed to the enemy.⁴⁵ Reconstructed to show visitors how access to the earthwork was gained, the entrance may or may not be a faithful reproduction of the original. Data yielded by historical maps indicated that the gorge was masked inside the redoubt by an earthen traverse rather than by palisades. Besides the one at the entrance, other traverses were erected inside the work to reduce the effects of enfilading fire and to deflect the destruction wrought by bursting shells. Moreover, excavation of the moat ditch during reconstruction disclosed tentative evidence of the proper location of the gorge in the area now eroded away.⁴⁶

Following reconstruction of the part of the earthwork disclosed by the initial excavation, the floor of the redoubt was checked archeologically to a depth of from two to three feet. Project Superintendent A. E. Booth, of the Civilian Conservation Corps, described results of this work:

Various articles were found which were suitable for the museum. The dump where all refuse was buried was located and in addition a grave containing three bodies was found,

43. Map 1F.

44. A. E. Booth, "Fusiliers Redoubt," MS, November 4, 1936, in the library of CNHP, Yorktown, Virginia, pp. 1-2. Compounding the problem of erosion, wrote Booth, "the sea wall which was placed at the foot of these cliffs necessitated the construction of such steep slopes that maintenance [of the reconstructed work] will be exceedingly difficult." *Ibid.*

45. *Ibid.*, pp. 3, 6.

46. *Ibid.*, p. 7; Interior traverses appear on Map 16F.

presumably those of three of the defenders which had to be buried at once as a large number of shell fragments were found among the bones. The bones were placed in separate concrete caskets, numbered and reburied in the same spot where they were found.⁴⁷

The Fusiliers' Redoubt remained in the hands of the British Army throughout the entire siege and was surrendered only at the capitulation of October 19.

b) Long Neck Redoubt

On the finger of land between the forks of York Creek above the morass, the area designated "long neck," the British built a redoubt to cover the approaches leading through the ravines towards the right flank of the British position in Yorktown. This redoubt (No. 2 on the map) was small and, based on information from contemporary maps, circular or octagonal in shape.⁴⁸ A circular structure would seem appropriate at that point, overlooking as it did the terrain along all its sides. As Lochée noted in regard to this type,

the access will be more equally difficult in proportion as the redout [*sic*] has more faces: and it is on account of this that the circular form for the redout has the greatest number of advocates. Besides, all the points of the circumference of a circle being equally disposed, the soldiers post themselves throughout, which makes the space defended vary every moment, and so the enemy is no where in safety.⁴⁹

Easily traced by moving string in concentric circles from a central axis, circular redoubts afforded greater floor space and were quite easily defended against assault. The maps are not unanimous on the presence of abatis around the "Long Neck Redoubt," although the weight of the evidence suggests it existed.⁵⁰ Contemporary accounts contain no information bearing on the physical construction of this work or on its role during the days preceding the Allied investment, suggesting its use as a lookout by the British before the siege got underway. Nonetheless,

47. Booth, "Fusiliers Redoubt," p. 7.

48. Many of the maps consulted show this structure as being in the shape of a pentagon. See maps 24F, 25B, 35F, 48F, 49F, 62F. The majority, however, suggest it was round. See maps 1F, 2F, 11F, 15F, 16F, 17F, 50B, 51B, 57B, 59B. At least one map, 7A, indicates it was square, while two, 6F and 61F, give it no more shape than a redan.

49. *Elements of Field Fortification*, pp. 39-40.

50. Maps 15F, 16F, 17F, 25B, 41F, 48F, 50B, 57B, 59B.

the tiny Long Neck Redoubt evidently survived most of the other outworks, because its remnant lasted well into the twentieth century.⁵¹

c) The Pigeon Hill Redoubts

In a direct line southeast of the Long Neck Redoubt, in the area known variously as Pigeon Hill, Penny Hill, or Pigeon Quarter, stood two strategic and conspicuous British advance redoubts. One (No. 3) stood a short ways north of Goosley Road, the other (No. 4) just south of the road. Both structures, barely 250 yards apart, watched over the main route that stretched west towards Williamsburg and at the same time defended the western extreme of the throat of land running between the York and Wormley Creek ravines. Information on the Pigeon Hill Redoubts is sketchy at best.⁵² Neither work was solidly constructed in the sandy loam, neither possessed a very thick parapet, and both needed considerable reinforcement, probably with fascines, after the Allies took them. The British engineers traced the redoubts and fixed each with fraising and stout abatis made from pine trees deemed flammable by at least one observer.⁵³ The outposts also served to support each other, but neither apparently was strongly manned by troops when in possession of the British. Later, of course, the redoubts served to protect the French and American encampment area to the south. But neither structure became involved in any major action between the British and the Allies around Yorktown.⁵⁴ Perhaps most important, the Pigeon Hill Redoubts symbolized

51. Borresen, "Orientation Report," p. 20; C. L. Coston to Floyd Flickinger, May 22, 1934, in the files of CNHP, Yorktown, Virginia.

52. Borresen, "Orientation Report," p. 8; The Pigeon Hill Redoubts, when viewed in relation to the course of York Creek, fulfilled Tielke's theoretical maxim that "if one end of a ravine reaches our encampment . . . , while the other forms a debouche near the enemy; the heights on each side and the debouche itself should be defended by enclosed works. . . ." *Field Engineer*, 2:93-94.

53. Charles E. Hatch, Jr., "The Siege of Yorktown Opens," draft MS, undated, in the files of CNHP, Yorktown, Virginia, p. 7; Borresen, "Orientation Report," p. 8; Thor Borresen, "Report on the Proposed Reconstruction of a Pigeon Hill Redoubt," MS, dated October 27, 1939, in the library of CNHP, Yorktown, Virginia, pp. 2, 3-4; The observer was Count William de Deux-Ponts. See *My Campaigns in America: A Journal Kept by Count William de Deux-Ponts, 1780-1781*, trans. and ann. Samuel Abbott Green (Boston: J. K. Wiggin and William Parsons Lunt, 1868), pp. 135-36; Mention of the Pigeon Hill works and their role in consolidating the British outer line is in Tarleton, *History of the Campaigns*, p. 382; Specific mention of fraising and abatis for the structures is contained in *Engineers' Journal*, p. 449; La Combe, "Journal of the Siege of York," p. 1 (nearly identical to *ibid.*); and Closen, *Revolutionary Journal*, p. 139.

54. Borresen, "Pigeon Hill Redoubt," pp. 1, 2.

the confusion of the British leadership in the face of the Allied advance on the town, as evidenced by their precipitate evacuation by the British.⁵⁵

Nearly all of the historical maps consulted show Redoubt 3, that lying north of Goosley Road, as pentagonally shaped with the principal point towards the road and the entrance on the side facing Yorktown. Nearly every map depicts a single row of abatis around the structure.⁵⁶ This redoubt has not been reconstructed. If it were, the design would doubtless conform to the precepts expounded by the eighteenth-century theorists, with a parapet at least 6 feet tall and between 3 and 12 feet wide at the top, with the latter thickness probably evident along the southern and westernmost faces. Such an outer redoubt could have had even smaller dimensions--a 4-1/2- to 5-foot-high parapet, for example--if it was erected to withstand only fire from light artillery pieces rather than from siege ordnance.⁵⁷

Much data concerning Pigeon Hill Redoubt 3 can be derived from comparative information relative to structure No. 4--a reconstructed redoubt on the Yorktown field. This outpost was square in design according to the historical maps, although archeological investigation has disclosed that certain sides were made longer than others, giving the work a rather unequal appearance; its salient angles were less than forty-five degrees.⁵⁸ Almost all the maps confirm the placement of a single row of abatis around the redoubt.⁵⁹ This Pigeon Hill redoubt (No. 4) seems to have had a capacity for seventy-eight men, based on the formulation that each man occupied a yard of perimeter, or twice that figure if double file was used. Based on the former number, this redoubt had an internal circumference of roughly 234 feet. But historical evidence suggests that neither of the Pigeon Hill outposts was ever occupied to capacity. The British assigned but twenty-four men to each of these advance works. After the Allies captured them Rochambeau sent 100 grenadiers to one and 50 to the other, but no distinction was ever made as to which structure received which lot of French soldiers.⁶⁰

55. See Thor Borresen, "Memorandum for the Regional Supervisor of Historic Sites," dated April 5, 1940, in the library of CNHP, Yorktown, Virginia, p. 4.

56. See Maps 1F, 2F, 11F, 15F, 16F, 17F, 19F, 24F, 25B, 26F, 28A, 29B, 30B, 31F, 32F, 33F, 34F, 36F, 37F, 41F, 45F, 48F, 49F, 50B, 51B, 53F, 61F, 62F, and especially 57B, the official British engineers' map.

57. Borresen, "Pigeon Hill Redoubt," pp. 6-7.

58. *Ibid.*, p. 31; Maps 7A, 11F, 15F, 16F, 17F, 19F, 24F, 26F, 28A, 29B, 31F, 32F, 33F, 34F, 35F, 36F, 37F, 41F, 45F, 49F, 53F, 57B, 61F, 62F.

59. 1F, 2F, 15F, 16F, 17F, 19F, 24F, 25B, 29B, 30B, 31F, 32F, 33F, 34F, 41F, 48F, 49F, 50B, 53F, 57B, 62F.

60. Borresen, "Pigeon Hill Redoubt," pp. 2-3, 20.

The interior of the redoubt measured 3,310 square feet. Around the inside was a drainage ditch 12 inches wide by 30-36 inches deep to carry off rainwater. The parapet height and thickness differed markedly from one side to another. On the side facing northeast it stood the customary 6 feet high and was 5 feet thick at the top. Conversely, that facing southeast measured 5 feet high and 3 feet 8 inches in thickness at the top.⁶¹ Presumably the archeological disclosures reflected the condition of the redoubt after the French took it over, for the improvements necessarily included reinforcing the work on the sides facing Yorktown and constructing a new entrance. Furthermore, archeological findings preparatory to reconstruction revealed that the British intended the southeast face to be the rear of the work. At that point both the ditch and epaulement were smaller, probably because an entrance at one time stood there.⁶²

The redoubt appears to have been well guarded by the British; the northeast face was covered by the sister structure across Goosley Road; the easternmost angle drew protection from batteries in Yorktown and in the hornwork, while the southeast side was covered by a light battery on a hill near Hampton Road.⁶³ It is possible that either or both Pigeon Hill Redoubts possessed light-caliber guns. Journals of the siege mention grapeshot being fired at the investing army, but there is no positive proof that it came from guns stationed in these redoubts. Mr. Thor Borresen, the research technician responsible for designing the reconstructed work (No. 4) at Pigeon Hill in 1940, believed that the outposts were indeed so armed and planned the reconstruction accordingly.⁶⁴ At least one contemporary source, however, suggests that neither Pigeon Hill redoubt contained cannon.⁶⁵ It seems more likely that the fusillade of grapeshot and canister shot that met the French and Americans came from light pieces mounted between and near the Pigeon Hill works. The powder magazine that Borresen postulated for the redoubt could have been used to service these adjacent light pieces.

The reconstruction of the No. 4 earthwork included a powder magazine typical of the period of the siege, complete with a fascine-type floor and a roof covered with fascines, dirt, and rawhide.⁶⁶ In addition,

61. *Ibid.*, pp. 5, 10, 11-12.

62. *Ibid.*, pp. 8-9.

63. *Ibid.*, p. 8.

64. See *ibid.*, pp. 9-10. Borresen theorized that the guns would have been situated to fire barhette fashion. "Memorandum for the Regional Supervisor of Historic Sites," pp. 2, 3.

65. Mathew Gregory, "Diary of Mathew Gregory at Yorktown, 1781," typescript, in the library of CNHP, Yorktown, Virginia, p. 1.

66. See Borresen, "Pigeon Hill Redoubt," pp. 13-15.

Borresen proposed such embellishments as a bell tent, a shelter or hut, and a fireplace in the reconstructed work. Such conclusions were conjectural, however, and essentially lacked either the archeological or historical data necessary to support them.⁶⁷

d) The British Barbette Battery

About 760 yards southeast of the Pigeon Hill Redoubts, to the left of Hampton Road and just below its present intersection with Virginia State highway 704, the British erected a battery (No. 5) for field artillery to command the road in front.⁶⁸ Most of the maps indicate that this was a small work, or a redan open at the gorge, and some made a distinction between its shape when the British Army occupied it and that after the Allies took over and the Americans converted it into a redoubt.⁶⁹ One map states that two nine-pounders were placed in the work, and another states that these were fired barbette fashion, i.e., without embrasures.⁷⁰ When the British held the post they placed an abatis only around the front, or southern face, of the structure, and some maps show it lying across Hampton Road. Baron Von Closen termed the structure "a bonnet battery," which was a two-faced outwork with a salient angle. The battery was ditched and probably fraised like the other outer works, although there is no direct evidence of this.⁷¹ South of the battery, and between it and the Pigeon Hill advance works, the trees had all been cut down, their ends pointing outward to further impede an advancing enemy.⁷²

During the Allied occupation, the Americans simply constructed a V-shaped extension on the rear of the British work, cut an entrance in the

67. *Ibid.*, pp. 16, 18, 22, 23, 25-26, 27, 28, 29. Much of the early work on the Yorktown Battlefield was accomplished by individuals untrained in the principles of archeological excavation. That Borresen managed to amass a considerable amount of information derived in a wholly unscientific manner is to his lasting credit. In most instances he coupled the data with historical facts and with those gained from sources on the theory of eighteenth-century siege warfare. In many cases his conclusions are acceptable. In some, however, they are tenuous and resulted purely from unsupported speculation on Borresen's part.

68. Tarleton, *History of the Campaigns*, p. 382.

69. Maps showing the field battery before conversion to a redoubt are 15F, 16F, 51B, 58B. Map 48F calls the structure a "redan of the English"; See Closen, *Revolutionary Journal*, p. 139.

70. Maps 51B and 25B respectively.

71. Closen, *Revolutionary Journal*, p. 139; See maps 16F, 17F, 19F, 24F, 32F, 33F; See also *Engineers' Journal*, p. 450.

72. Maps 11F, 49F.

former front face, and ended up with a pentagonal-shaped redoubt.⁷³ Apparently the new occupants did not alter or add to the abatis around the structure, believing that they were reasonably safe from assault because of their distance from the British main works.

c) Other Planned Structures

This British battery and the Pigeon Hill Redoubts were the sole earthworks raised to cover the gorge of land between the main ravines of York and Wormley creeks. However, the British evidently planned to strengthen the position with the addition of at least three more works. One of these would have been erected between Pigeon Hill Redoubt 4 and the field battery along Hampton Road (No. 5). Two others would have been built, one to the south and another to the southeast, in order to consolidate the area. According to a map of these contemplated structures prepared by Lieutenant Sutherland probably after the siege, the additional "redoubts would have rendered his [Cornwallis's] exterior position respectable[,] holding at the same time . . . [the Pigeon Hill works] and within 300 yds of [the] marshes. . . ."⁷⁴

f) Redoubt 9

Defending the weakest stretch of the British main works--the southeastern flank--were two structures known as Redoubts 9 and 10, designations derived from the fact that they were considered by the British a detached part of the main line. Between them ran a secondary road to the home of a party named Moore slightly over a mile to the east. Located roughly 430 yards east of the main works and 265 yards south of its neighbor, Redoubt 9 was a pentagonal structure possessing a ditch, palisades, fraising, and a surrounding single row of abatis. Larger than its sister work situated at the edge of the bluff overlooking York River, Redoubt 9 covered the left front approach extending along the northern arm of the Wormley Creek ravines.⁷⁵

Both works were critical to British security: as long as they held, Cornwallis could direct his attention to the Williamsburg roads in front; should they fall they would expose the weakest part of the British stronghold to enemy attack.⁷⁶ Neither work, despite its fraising and abatis, was as soundly constructed as, say, the Fusiliers' Redoubt on the right of the British position. Because they were detached from the main line of fortifications, each structure depended to a large degree

73. Map 33F.

74. Map 57B.

75. Closen, *Revolutionary Journal*, p. 141; Maps 1F, 2F, 6F, 7A, 11F, 15F, 16F, 17F, 18F, 19F, 24F, 25B, 26F, 28A, 30B, 31F, 33F, 34F, 35F, 37F, 41F, 45F, 46F, 48F, 49F, 50B, 53F, 57B, 59B, 62F.

76. Agniel, *Late Affair*, pp. 128-29.

on the other, as well as on the main works, for protection.⁷⁷ There is evidence that two howitzers were mounted in Redoubt 9, and some accounts state that approaching Allied troops in that quarter were greeted by grapeshot fired by guns in the work.⁷⁸ Redoubt 9 was manned during the siege by about 125 British soldiers sent from the main works, a figure borne out by the 103-yard inside perimeter of the redoubt disclosed during archeological excavation prior to reconstruction.⁷⁹

Archeology also confirmed the location of the British gorge, or entrance, in the rear of the work, facing Yorktown. After the redoubt was captured by the French the night of October 14, this entrance was filled in and a new one cut in the northeast face.⁸⁰ Besides abatis and fraises, the redoubt had a palisade ditch. One contemporary source suggested these and more for both Redoubts 9 and 10: "These forts or redoubts were well secured by a ditch and picket, sufficiently high parapet, and within were divisions made by rows of casks ranged upon

77. U.S., Congress, Senate, *The Virginia Campaign and the Blockade and Siege of Yorktown, 1781, Including a Brief Narrative of the French Participation in the Revolution Prior to the Southern Campaign*, by H. L. Landers, 71st Cong., 3d sess., February 7, 1931, S. Doc. 273, p. 187 (hereafter cited as S. Doc. 273); Thor Borresen, "Final Report on Redoubt No. 9, Second Parallel," MS, dated December 23, 1938, in the library of CNHP, Yorktown, Virginia, p. 57; An interesting sidelight regarding the landscape in the area of Redoubt 9 concerns the existence of a "Remarkable Tree" located to the right of what was afterwards the Allied communication trench following the capture of Redoubts 9 and 10. This tree is depicted on an unusual sketch map entitled "This Place is what the Enemy had possession of. Within these lines is the Compact part of Little York in Virginia. Griffin Spencer, Lover of Learning and Ingenious Arts." Yale University Library, New Haven, Connecticut. Map 27F substantiates the existence of this "great tree" and also "two notable connected trees" standing nearby.

78. Borresen, "Final Report on Redoubt No. 9," p. 69.

79. Whitridge, *Rochambeau*, p. 219; Borresen, "Final Report on Redoubt No. 9," Plate 7. One account places 200 British in Redoubt 9, a likely figure if the soldiers occupied the work in double file. The figure would also have included twelve men to handle the two howitzers present. *Ibid.*, pp. 77-78; Claude Blanchard, *The Journal of Claude Blanchard, Commissary of the French Auxiliary Army Sent to the United States During the American Revolution, 1780-1783*, trans. William Duane, ed. William Balch (Albany, 1879), p. 150.

80. See Blanchard, *Journal*, Plate 4; Maps 25B, 30B, 50B, 57B, (all British maps). The British entrance has been placed elsewhere in the reconstruction.

end and filled with earth and sand."⁸¹ There is a further possibility that sandbags were used to bolster the redoubts, although no direct mention of them or of gabions being part of the British fortifications has been located. At least 1,000 sandbags were among the properties surrendered by the British at Yorktown, however, and it seems feasible that such items would have been routinely used in erecting redoubts.⁸²

Archeological work and reconstruction of Redoubt 9 proceeded between October 1936 and September 1937, during which time the location of the structure was positively determined by the discovery of disturbed soil and of eight human skeletons buried within the site.⁸³ Reconstruction began on the basis of available historical and archeological evidence and on the theoretical evidence suggested by the technical manuals.⁸⁴ The various redoubt dimensions incorporated into the reconstructed earthwork were, in effect, identical to those utilized in those reconstructions discussed earlier (see also Chapter II).

g) Redoubt 10

Redoubt 10, the so-called "Rock Redoubt," was a somewhat smaller structure, was square-shaped with abatis, fraising, and palisades, and stood a short ways north of No. 9 on the bluff overlooking the river. Approximately seventy British soldiers manned this station until its surrender after assault by the Americans the night of October 14.⁸⁵ The Rock Redoubt was armed with two or three cannon placed to fire on enemy ships ascending the river; consequently, the structure was fitted with three embrasures along the side nearest the bluff.⁸⁶

81. Ebenezer Denny, *Military Journal of Major Ebenezer Denny, An Officer in the Revolutionary and Indian Wars* (Philadelphia: J. B. Lippincott and Company, 1859), p. 42; See Thomas Balch, *The French in America during the War of Independence of the United States, 1777-1783*, 2 vols. (Philadelphia: Porter and Coates, 1891), 1:197, for a contemporary reference to palisades in Redoubt 9B.

82. Borresen, "Final Report on Redoubt No. 9," p. 63.

83. *Ibid.*, pp. iii, 48-49, plate 6. For a list of items disclosed by the archeological investigation, see *ibid.*, pp. 49-50.

84. See *ibid.*, pp. 51ff.

85. Whitridge, *Roanoke*, p. 219; James R. Sullivan, "A Documentary Study of British Redoubt No. 10 in the Yorktown Battlefield in Colonial National Historical Park," MS, dated November 1952, in the library of CNHP, Yorktown Virginia, pp. 14-15.

86. "Abstract of Operations of the Campaign of the combined French and American Army 1781," Berthier Papers, Princeton University, copy translated by Laura Feller in the library of CNHP, Yorktown, Virginia.

Historical maps confirm the shape of Redoubt 10 and also the presence of fraising and abatis, as do most journals recounting the events surrounding the structure and leading to its surrender.⁸⁷ The British Engineers' map shows abatis on the sides facing away from the river, but none between the redoubt and the edge of the cliff.⁸⁸ Abatis placed thusly emulated that around the Fusilier's Redoubt and apparently allowed for access of supplies and relief troops up the sloping bluff from the beach. Via this route the men had protective cover, thus avoiding the open ground between the main works and the "twin redoubts." Furthermore, at least one map suggests that the strip of beach running into the water immediately below Redoubt 10 was corduroyed, possibly to facilitate the conveyance of men and provisions by small boats from the waterfront at Yorktown.⁸⁹ After the redoubt fell, the Americans added their own armaments whose fire was directed against the main line.⁹⁰ Complete reconstruction of Redoubt 10 has been impossible because of the riverbank on which the earthwork originally stood. Only part of the ditch encircling the structure remained when the partial reconstruction began.⁹¹

h) Supporting Redans

Redoubts 9 and 10 completed the network of major British fortifications guarding the main position at Yorktown. Several smaller works, however, supported these and covered the approaches on the north side of the Wormley Creek ravine. Contemporary maps differ as to whether two or three redans were built on the tongue of land below the Smith residence overlooking the upper reaches of the Wormley ravine. Most maps indicate three fleches there,⁹² but a British headquarters plan indicates only two, each armed with two three-pounders.⁹³ Further down Wormley Creek, beyond its millpond on the north side of the big bend of the stream, the British soldiers raised three more redans specifically designed to cover the road crossing the dam at that point. One of these was situated directly opposite the crossing, the others flanking it on

87. For maps showing the square shape, the abatis, or the fraising, or a combination of two or more of these features, see 1F, 2F, 6F, 7A, 11F, 15F, 16F, 17F, 19F, 24F, 25B, 26F, 27F, 28A, 30B, 31F, 32F, 33F, 34F, 35F, 37F, 41F, 45F, 48F, 50B, 53F, 57B, 62F.

88. Map 57B. See also maps 33F, 34F, and 53F.

89. Map 2F.

90. Maps 24F, 29B, and 49F.

91. Borresen, "Orientation Report," p. 57.

92. Maps 1F, 2F, 11F, 15F, 16F, 17F, 19F, 29B, 32F, 34F, 48F, 59B.

93. Map 51B; Borresen, "Orientation Report," p. 19.

bluffs located across arms of the ravine to the right and left. These stations were occupied by sailors taken from British vessels anchored in Yorktown harbor.⁹⁴ Vestiges of these three works existed as late as 1934.⁹⁵ Another work, slightly southwest of these and nearly opposite an upper dam, was also in evidence in 1934.⁹⁶

Besides these redans, some maps suggest still other earthworks in the area. At least three maps confirm a redoubt complete with abatis near the edge of the southernmost extension of Wormley ravine at a location that evidently became the American field hospital.⁹⁷ What appears to be a long earthen epaulement is situated southeast of the Moore house as if to cover one of the arms of the Wormley ravine cutting into that area.⁹⁸ These works probably played a subordinate, if indeed any, role during the Siege of Yorktown. Possibly the latter position was erected, then abandoned, during early British operations in the vicinity. Chances are also that the British abandoned this work once the direction of the Allied attack became apparent.

6. Additional Security

a) Abatis

Consolidating the British outer position around Yorktown, troops and light artillery were placed strategically to intercept the enemy from all directions. Between the advance fortifications in the gorge, trees were felled with their branches outward to form abatis. Historical maps explicitly show the terrain leveled of all timber on both sides of Wormley Creek ravine and along its tributaries.⁹⁹ The area all around the York Creek ravines was similarly treated, as was the area west of the Fusiliers' Redoubt and along the south side of Williamsburg Road.¹⁰⁰ The British put more abatis for a length of almost a mile across the secondary route running from Goosley Road into Yorktown, besides destroying the small bridge fording York Creek by that approach.¹⁰¹

94. Borresen, "Orientation Report," p. 19; Maps 1F, 19F, 32F, 48F, 51B. Several maps show four redoubts in this vicinity (2F, 15F, 17F, 58B), while some others show but two earthworks (11F, 29B).

95. Memorandum, Coston to Flickinger, May 22, 1934.

96. *Ibid.*

97. See maps 6F, 11F, 49F, and 61F.

98. Map 59B.

99. Maps 1F, 25B, and 51B; Borresen, "Orientation Report," p. 19.

100. Maps 1F, 17F, 25B, 46F, 48F, 49F, 53F; Tarleton, *History of the Campaigns*, p. 382; Hoyt, *Practical Instructions*, p. 73.

101. Maps 1F and 26F.

b) Scuttled Shipping and Water Batteries

With his forces separated into contingents at Yorktown and Gloucester, Cornwallis saw the immediate importance of insuring British domination of the intervening stretch of river. Under no circumstances could the French Navy be allowed to reach the waters above the British position. It was also feared that Washington's force might attempt a landing from the York. Commencing September 16, Cornwallis's troops began to scuttle and sink British transport vessels to prevent any French naval incursions directly offshore.¹⁰² At least twenty-nine ships (transports and victualers) were sunk in the shallow water around Yorktown, the line of wrecks extending in an arc between the rows of stockade extended from the fortifications into the water at either end of the town.¹⁰³

To secure the area of lower York Creek and to support the Fusilers' Redoubt, Cornwallis ordered two ships of war with a total gun complement of seventy-two pieces to take station directly offshore from these locations. The *Charon*, earlier mounting forty-four twelve- and eighteen-pounders, hovered off the mouth of York Creek under the commander of the naval forces immediately at Cornwallis's disposal, Captain Thomas Symonds. Slightly upstream was moored the *Guadaloupe*, originally carrying twenty-eight twelve- and nine-pounders.¹⁰⁴ Both vessels occupied dangerous positions, being subject to direct attack by well-placed enemy artillery. Neither vessel, moreover, was armed to capacity, many of its guns having been stripped for use in the batteries around Yorktown.

Most of the smaller craft clustered across the strait off the southeast shore of Gloucester, while some hugged the beach before

102. Ewald, "Diary of the American War," p. 877.

103. Borresen, "Orientation Report," p. 21; Maps 24F, 26F, 31F, 37F, 41F, 49B, 53F, 59B; Hatch, "York Under the Hill," p. 60; In the river at the time of the siege, including sunken vessels, the British had at least five warships (*Charon*, *Guadaloupe*, *Fowey*, *Bonetta*, and *Vulcan*), twenty-nine transports, four sloops and brigs, one privateer, several schooners, and from twelve to fifteen galleys. In addition, there were two ships captured from the Dutch, at least four private vessels, and a number of other boats and cutters, some of which were sunk. An American schooner, captured by the British in the James River, was also present. For a detailed enumeration of these vessels, see Homer L. Ferguson, *Salvaging Revolutionary Relics from the York River*, reprinted from *William and Mary College Quarterly Historical Magazine*, 2d ser. 14 (July, 1939): 13-14.

104. Ferguson, *Salvaging Revolutionary Relics from the York River*, p. 13; Map 29B; Archeological salvage work in the York River in 1934 and 1935 disclosed that the general type armament of the British warships was light guns of four- to six-pounder caliber. One twelve-pounder was found, along with several swivel guns. Ferguson, *Salvaging Revolutionary Relics from the York River*, pp. 10, 12, 13.

Yorktown.¹⁰⁵ One American who viewed Cornwallis's preparations on the river described the scene thusly:

Ten or twelve large merchant ships have been sunk before York, and piles have been driven in front of these vessels, to prevent our ships from approaching the Town sufficiently to debark Troops, which they are infinitely afraid of-- The Charon and Quadeloupe [*sic*] are moored before York, in such a manner as to defend the Town rather than the passage of the River--¹⁰⁶

The river itself was defended by the four water batteries erected by the British on the high ground facing the watercourse. These batteries utilized much of the naval ordnance, as well as the seamen, from the vessels in the harbor. On the waterfront beach the British soldiers occupied themselves with enlarging and repairing the old battery already there; no new gun emplacements were established.¹⁰⁷ Inside the stockade at either end of the enclosed beach the British located their cemeteries. Prior to September 30 the burial ground was west of Yorktown, but on that date an observer noted that "the Burial Ground for the Right Wing is within the Stockade close to the Water side, the same on the left Wing."¹⁰⁸

7. Deployment of Troops and Light Artillery

a) Manning the Outer Position

By late September Cornwallis had amply secured his outer position on land and water and turned his attention almost completely to improving his faltering main works. The outward redoubts--Fusiliers' on the right, the Long Neck, Pigeon Hill outposts, and barbette battery in the center, and the twin redoubts on the left--amply ringed Yorktown. Detached redans guarded York and Wormley creeks and their adjacent ravines, and felled trees further blocked approach into the area.

105. Maps 1F, 11F, 18F, 24F, 25B, 26F, 29B, 32F, 34F, 61F, 62F.

106. George Washington Papers, vol. 185, Library of Congress.

107. Hatch, *York Under the Hill*, p. 59; Hatch, *Yorktown's Main Street*, p. 111; See Symonds to Graves, September 8, 1781, in Thomas Graves, *The Graves Papers and Other Documents Relating to the Naval Operations of the Yorktown Campaign: July to October, 1781*, ed. French Ensor Chadwick (New York: Publications of the Naval History Society, 1916; reprint ed., New York: Arno Press, 1968), p. 104.

108. Quoted in Hatch, *York Under the Hill*, p. 60; In July 1972 the remains of two British soldiers were found in the area of the easternmost cemetery, "approximately 150-feet upstream from the Point of Rocks and approximately 20-feet downstream from the remains of an old pier. . . ." Memorandum, Robert R. Madden to Files, July 17, 1972, in the files of CNHP, Yorktown, Virginia.

Besides the outer works and auxiliary defenses, segments of the British Army covered the terrain around Yorktown with troops and cannon. On the right, supporting the Star Redoubt and protecting the approaches of York Creek, were stationed detachments of the Twenty-third (Royal Welch Fusiliers) Regiment. Safeguarding the gorge behind the Pigeon Hill Redoubts and the barbette battery near the junction of Goosley and Hampton roads were the Seventy-sixth and Eightieth regiments. A battalion of each unit aided by light artillery closed Goosley Road. Between the Pigeon Hill structures and to the right of Goosley Road stood two medium twelve-pounders. Four three-pounders and a like number of six-pounders stood on either side of the highway about one quarter mile to the east. At the junction of the roads Cornwallis's Light Infantry manned four more light pieces--two three-pounders and two six-pounders. To their left, behind and covering the northward arm of Wormley Creek ravine, was the German Anspach Regiment, and to their left was placed the Seventy-first Regiment. Across and south of Wormley Creek, Tarleton's cavalry guarded the approaches. Midway between the regiments, sealing the gorge and the British main works, General Charles O'Hara's Guards took station. Far to the left, near Redoubt 9, the Regiment De Bose fulfilled a similar supportive function.¹⁰⁹

b) Manning the Inner Line

Inside the main works digging continued as the British prepared to receive the Allies. Once these fortifications were completed, and after Cornwallis withdrew from his outer position, command of the main works was divided between General O'Hara, who commanded the right of the line, and Lieutenant Colonel Robert Abercrombie, who took the left. On the right, facing upstream, Cornwallis posted the Regiment Prince Héritaire (Erbprinz) and part of Yorke's Brigade, with O'Hara's Brigade of Guards in reserve. Facing downstream on the eastern flank were the Seventy-first Regiment and Dundas's Brigade. The Thirty-third Regiment, along with the Regiment De Bose, faced York River, while the Light Infantry occupied the post of honor in the hornwork. Some of these positions changed during the course of the fighting as Cornwallis altered the disposition of his forces. Some units were brought over from Gloucester to support the line, while others, like Tarleton's, were sent to the north shore in response to arising exigencies.¹¹⁰ His defenses at least planned, if not exactly readied, Cornwallis awaited the advance of the forces under General Washington.

109. The British troop positions among the outer works appear most explicitly on Maps 25B and 51B. A good, though somewhat confusing, description based on these sources is in Borresen, "Orientation Report," pp. 19-21.

110. Johnston, *Yorktown Campaign*, p. 130; Arthur, *End of a Revolution*, p. 113; Arthur, *Sieges of Yorktown*, pp. 13-14.

CHAPTER VI: WASHINGTON TAKES COMMAND

A. The Allied Force Takes Shape

Major General Lafayette sent parties of Continentals and militia to reconnoiter the British position at Yorktown. The Americans watched Cornwallis's troops laboring in the sandy soil of Gloucester and Yorktown, reported the British general's every move, and contemplated his next ones. "There is no doubt," wrote Lafayette early in August, "but that the principal post will be at York."¹ The American presence did not greatly bother or deter Cornwallis, who continued his work safe in the knowledge that his own force was vastly superior to the Frenchman's and that after the hot season passed his troops would be secure.²

1. St. Simon's Troops Arrive

Cornwallis's confidence received a staggering blow when Admiral de Grasse entered the mouth of Chesapeake Bay August 30 with a large contingent of French soldiers to augment the troops of Lafayette. These soldiers, all commanded by Lieutenant General Claude Anne, Marquis de St. Simon, continued up the James River in longboats and went ashore at Jamestown³ in the early morning darkness of September 2. The new division from the West Indies comprised the Regiments Touraine, Agenois, and Gatenois, respectively commanded by the Viscount de Pondeux, the Marquis d'Andechamps, and the Marquis de Rostaing. The Regiment Touraine was nearly 150 years old. Lafayette's father had fallen leading this unit at the Battle of Minden, Germany. The Regiment Agenois outranked the others in terms of longevity. The Gatenois had seen previous service in the American war, having covered the withdrawal of French soldiers before Savannah, Georgia. General Rochambeau as a young man had served with this unit in Germany.⁴ All of these troops, about 3,000 strong, joined Lafayette at his Williamsburg base September 8.⁵

1. Lafayette to General Wayne, August 6, 1781, Wayne Manuscripts, vol. 14 (August 1781-January 17, 1782), Historical Society of Pennsylvania, Philadelphia. See also Lafayette to Wayne, August 16, 1781, in *ibid.*

2. Arthur, *End of a Revolution*, p. 113.

3. Whitridge, *Rochambeau*, p. 209.

4. Bonsal, *Cause of Liberty*, p. 145.

5. Hatch, *Yorktown and the Siege of 1781*, p. 15.

2. The Wounding of General Wayne

The arrival of the new troops was not without complications, however. General Wayne, hurrying to a nighttime appointment with Lafayette, was mistakenly shot. As Wayne recounted the incident:

About 10 O clock at night I arrived in the vicinity of his Encampment, when I was challenged by a Sentry & made the usual answer--but the poor fellow being panic struck & mistaking us for the British, immediately fired his piece & shot me in the middle of the thigh--The ball fortunately Only grazed [*sic*] the bone, & lodged pretty near the Opposite side to which it entered--the whole camp was allarmed [*sic*] & I had some difficulty (wounded as I was) to prevent the whole of the advanced guard from firing upon me.⁶

Yet even such adverse circumstances failed to dampen Wayne's optimism at the prospect of reducing Lord Cornwallis's army, and his remarks are an index of his thoughts on the arrival of St. Simon's troops:

We have the most glorious certainty, of very soon Obliging Lord Cornwallis, with all his Army to Surrender prisoners of War--everything is in readiness to commence the siege, our army is numerous & in high spirits, the French are the finest body of troops I ever viewd, & harmony & friendship pervades the whole.

6. Wayne to "Dear Polly," September 12, 1781, Wayne Manuscripts, vol. 14 (August 1781-January 17, 1782), Historical Society of Pennsylvania.

7. *Ibid.* That the Allies definitely planned to lay siege to Yorktown is evident from this letter dated September 12. Other intimations of such a design appear in the correspondence of Colonel Thomas Butler, who wrote from Williamsburg on September 14 that preparations for a siege were underway and that "all we can do is to circumscribe the British till the army arrives." Quoted in Wright, "Notes on the Siege of Yorktown," p. 235. On September 23 one soldier noted that "we are preparing for a siege," while on the same date an officer wrote, "Every vigilance in preparation for a siege." *Ibid.* It seems likely that the siege mentality had been prevalent ever since the Allies learned of de Grasse's presence off the Virginia Capes. Washington learned of the event September 5, the very day de Grasse and Graves battled for control of the Chesapeake. Washington to Greene, September 28, 1781, in George Washington, *The Writings of George Washington; from the Original Manuscript Sources, 1745-1799*, ed. John C. Fitzpatrick, 39 vols. (Washington: United States Government Printing Office, 1937), 23:149.

3. Troops and Artillery Arrive from the North

Generals Washington and Rochambeau reached Williamsburg and joined Lafayette on September 14, having ridden overland from Mount Vernon. Washington immediately began preparations for a movement against Yorktown and the next day notified Admiral de Grasse of the immediate need to transport the Allied soldiers from the upper reaches of the Chesapeake, the vessels sent earlier having been used mainly for carrying ordnance and supplies. In the meantime the armies had marched from Head of Elk to Baltimore and Annapolis to await transport. But already de Grasse, anticipating the situation, had sent the ships of de Barras to convey the soldiers. Rochambeau's men began landing at Archer's Hope, on the James south of Williamsburg, on September 18. The first Americans debarked two days later.⁸ Realizing the vital need for de Grasse to retain his position at the mouth of Chesapeake Bay, Washington and Rochambeau visited the admiral and solicited his promise to remain and assist the land forces until the end of October. The two generals returned to Williamsburg September 22, pleased at de Grasse's agreement. That same day the admiral sent heartening word that the artillery and provisions were beginning to arrive, and for several days thereafter the heavy siege pieces were unloaded at Trebell's Landing on the James two miles below the mouth of College Creek.⁹

4. Troops to Gloucester

One central concern of the Allied commanders was Gloucester Point. They believed Cornwallis planned to use that post not only as a place of deposit for supplies foraged throughout the Gloucester countryside but also as a possible route of escape for his soldiers from Yorktown.¹⁰ To forestall both schemes, Washington early ordered more troops to Gloucester, possibly with the belief, as one officer expressed it, that

8. Hatch, *Yorktown and the Siege of 1781*, pp. 15-16; Nickerson, "Yorktown, 1781," p. 87; Map 8F shows the area of College Creek around Williamsburg where the Allied Army debarked.

9. Nickerson, "Yorktown, 1781," p. 87; Hatch, *Yorktown and the Siege of 1781*, p. 16; Washington later reported to General Greene the situation of de Grasse by late September: "The Count de Grasse has, most happily and critically, effected a Junction with the Count de Barras from Newport, the conjoined Fleet are now in a good Position within the Capes of Chesapeak Bay, makg [*sic*] in Number 36 Capital Ships of the Line, four large french [*sic*] Frigates, with some smaller Ships, captured from the English, . . . Two British Frigates . . . have also been captured. . . ." Washington to Greene, September 28, 1781, in Washington, *Writings*, 23:150.

10. Lafayette to Wayne, August 16, 1781, Wayne Manuscripts, vol. 14 (August 1781-January 17, 1782), Historical Society of Pennsylvania.

"when he [Cornwallis] comes to be Closely Invested he will certainly Evacuate that side."¹¹ Washington dispatched some 300 French cavalrymen to Gloucester under Armand Louis de Goutant, Duke de Lauzun, who had come overland down the peninsula between the York and Rappahannock rivers. These soldiers backed up a force of 1,500 militia under Brigadier General George Weedon already present at Gloucester to check British activities there. Later Washington sent Brigadier General Claude Gabriel de Choisy to take charge, and on October 4, 800 French soldiers arrived to aid Choisy at Gloucester, loaned by de Grasse expressly for that purpose.¹²

B. The Franco-American Army

1. Appearance

The armies congregating around Williamsburg and south of the former capital presented striking contrasts in composition, training, and appearance. In their white breeches and jackets, their stockings and low-cut shoes, the French infantrymen drew notice seconded only by that accorded the deep blue waistcoats worn by their countrymen's artillery and special corps. But even the infantry and artillery troops paled next to Lauzun's legionaires, decked out in the boldest shades of red and green imaginable. Nearly all the French soldiers wore the black, three-cornered cocked hats popular in eighteenth-century Europe. Their regimental standards were nearly all divided by white crosses, with each quarter a different color.¹³

American uniforms offered greater variety than those of the French, reflecting the diversity of units composing that army. Most Continental infantry units wore dark blue coats with various colors of facing, such as red, white, light blue, and buff, corresponding to individual regiments. The light infantrymen were similarly garbed, but wore shorter coats and leather caps. Staff officers wore different colored feathers in their hats for identification purposes. Continental artillerymen dressed in dark blue or black coats faced with yellow satin, while cavalrymen wore short coats, buckskin breeches, spatterdashes or boots, and either the familiar cocked hat or a leather helmet decorated with a feather or a hair roach. American drummers wore uniforms in which the regimental colors were reversed, i.e., the drummer's coat was the color of the facing of the unit coat.¹⁴

11. Wayne to President of Congress (?), September 13, 1781, in *ibid.*

12. Lauzun himself arrived by ship, reached Williamsburg, and was sent to take charge of his cavalry at Gloucester. Cromot Du Bourg, "Diary of a French Officer, 1781," *Magazine of American History* 4 (June, 1880): 445; Engineers' Journal, p. 449; Bonsal, *Cause of Liberty*, pp. 144-45; Arthur, *End of a Revolution*, p. 119.

13. Servan Malo, *The Men of Yorktown. Uniforms and Flags Drawn After Official Documents* (Paris: George Bertrand, 1918), pp. 5, 8-9.

14. Kemp, *American Soldiers of the Revolution*, pp. 12-13, 16, 25-26, 27, 28, 39, 47.

Because of difficulty in acquiring new uniforms or material with which to make them, the clothing of many army units, and especially the militia, was in a bedraggled condition by late in the war. "They wear loose breeches and some have shoes," noted a commentator, "but a great many are without them."¹⁵ Washington's personal unit, called the Commander-in-Chief's Guard, which was responsible for the safety of the general's person and baggage, exhibited a distinctive white flag bearing a pictorial motif and a green scroll with the inscription "CONQUER OR DIE."¹⁶

2. Numbers

By September 26, when all of Washington's and Rochambeau's soldiers had arrived, Williamsburg teemed with the assorted colors of their uniforms. The French auxiliary force contributed seven infantry regiments (Bourbonnois, Royal Deux-ponts, Saintonge, Soissonois, Touraine, Agenois, and Gatenois); one artillery battalion (Auxonne), ten artillery companies of the Metz Regiment, plus some additional artillery troops that were with St. Simon; and a legion of horse and foot troops, all totaling well over 7,800 men. The 800 troops loaned by de Grasse and placed under Brigadier General de Choisy brought the final French land complement to about 8,600 men.¹⁷

The size of the American force is subject to debate. Early authorities placed the figure between 5,000 and 9,000 men. More recent analyses of the American strength revise these numbers upward, with roughly 14,000 given as the total of Continental and militia units.¹⁸ This figure encom-

15. Chevalier d'Anceville, quoted in Bonsal, *Cause of Liberty*, p. 145.

16. *Ibid.*, pp. 15, 67; For descriptions of Revolutionary War uniforms, see Rene North, *Military Uniforms, 1688-1918* (New York: Grosset and Dunlap, 1870), pp. 22-27, and John Mollo and Malcolm McGregor, *Uniforms of the American Revolution* (New York: Macmillan Publishing Company, Inc., 1975), passim.; By 1781 the authorized "Life Guard" for Washington consisted of 1 captain, 3 lieutenants, 1 surgeon, 4 sergeants, 3 corporals, 2 drummers, 1 fifer, and 136 privates. Baron Steuben frequently used the unit as a demonstration group in teaching drill, and it came to be recognized as extremely proficient in that discipline. Fred Anderson Berg, comp., *Encyclopedia of Continental Army Units, Battalions, Regiments and Independent Corps* (Harrisburg: Stackpole Books, 1972), p. 135.

17. Johnston, *Yorktown Campaign*, p. 110; Freeman, *George Washington*, 5:514; Arthur, *End of a Revolution*, p. 159.

18. Douglas Southall Freeman wrote: "Washington's American forces were more numerous than has been supposed. He had 7290 Continental infantry and staff of all grades, 514 artillerymen and 176 cavalry, a total of 7980, plus 3153 militia, an aggregate of 11,133. About 100 of these were absent sick, and approximately 700 were sick but present. Washington's effectives thus were, roughly, 9500." *George Washington*, 5:514. Higher figures are presented in Arthur, *End of a Revolution*, p. 159. See also Johnston, *Yorktown Campaign*, p. 109.

passes one regiment and two detachments of artillery; two cavalry units; Lafayette's Light Infantry Division plus Continental Infantry Divisions under Major Generals Benjamin Lincoln and Baron Steuben; a sizable contingent of Virginia State Militia commanded by General Thomas Nelson, Jr.; several detachments of Sappers and Miners; and a number of recruits from Delaware.¹⁹

Included with the militia were several hundred mountaineers, or "Sons of the Mountains," armed with rifles and a worthy reputation. They "form an excellent corps of sharpshooters," reported one observer,

very competent to skirmish in the brush but not at all to fight in line formation. Very few of these troops have tents and almost all of them camp under temporary shelters made of branches covered with dried foliage or bark. They are all sober and patient and subsist entirely upon corn meal. They meet privations and delays without murmuring and are capable of sustaining great fatigue and long marches, and these, of course, are admirable and most desirable qualities for an organization of real light infantry. They are all soldierly looking, and, for the most part, big men.²⁰

All told, the Allied force gathered at Williamsburg numbered as follows:²¹

Continental

Command and Staff	25
Artillery	325
Cavalry	110
Sappers and Miners	50
Delaware Company	60
Brigadier General Peter Muhlenberg's Brigade	1,280
Brevet Brigadier General Moses Hazen's Brigade	1,200
Colonel Elias Dayton's Brigade	1,400
Brigadier General James Clinton's Brigade	1,180
Brigadier General Anthony Wayne's Brigade	1,550
Brigadier General Mordecai Gist's Brigade	<u>1,100</u>
 Total Continentals	 8,280

19. Hatch, "Siege of Yorktown Opens," p. 6a (note); Johnston, *Yorktown Campaign*, pp. 108-9.

20. Chevalier d'Ancteville, quoted in Bonsai, *Cause of Liberty*, pp. 145-46.

21. Adapted from Arthur, *End of a Revolution*, p. 159.

Militia

Brigadier General George Weedon's Brigade	1,500
Brigadier General Edward Stevens's Brigade	1,600
Brigadier General Robert Lawson's Brigade	1,640
Lt. Colonel Charles Dabney's State Regiment	<u>200</u>

Total Militia 5,535

French

Lieutenant General Count de Rochambeau's troops	4,000
Major General Marquis de St. Simon's troops	3,800
Brigadier General de Choisy's troops from de Grasse's fleet	<u>800</u>

Total French 8,600

Grand Total Nominal Strength 22,415

Estimating about 1,500 of the American force and about 600 of the French absent because of sickness, the aggregate effective strength under General Washington at Williamsburg was approximately 20,300 men.²²

3. Order of Battle

Under the supreme command of Washington, the Allied armies became a single force capable of acting efficiently against Cornwallis. The American Continental and militia units composed the right wing, temporarily commanded by Major General Benjamin Lincoln (despite Lafayette's entreaties to Washington to let him command it). The Continentals formed three divisions of two brigades each, commanded respectively by Lincoln, Lafayette, and Steuben. The militia made up a fourth division under Brigadier General Nelson. The various artillery units fell into a single brigade commanded by Brigadier General Henry Knox, designated Chief of Artillery. The mounted force, the detachments of Sappers and

22. These figures are arrived at arbitrarily, but with knowledge gained from the previous enumeration and from Freeman's estimates in *George Washington*, 5:514. Freeman's breakdown was thus: 7,890 Continentals, 3,153 militia, and 8,600 French. *Ibid.* See also Whitridge, *Rochambeau*, pp. 211-12; S. Doc. 318, p. 43; and Nickerson, "Yorktown, 1781," p. 87, for lower estimates of the Allies' strength. According to one rationale, the numerical advantage of the Allies was offset among the British "by large experience, by the prestige of southern victories, by a well supplied magazine, and by the cheering expectation of an early reinforcement from New York." Edwin Martin Stone, *Our French Allies* (Providence: Providence Press Company, 1884), p. 430.

Miners, and the Delaware recruits all served with the newly formed right wing.²³ The left wing consisted of the entire French Army (seven infantry regiments, artillery, and cavalry). The infantry regiments were assigned two each to three brigades, while a single remaining regiment operated separately. Lieutenant Colonel d'Aboville commanded the artillery contingent of 600 men. The Duke de Lauzun and his 600 legionaires completed the French complement.²⁴

As determined by September 27, the disposition and order of battle of the Allied armies was as follows:²⁵

I. Headquarters and Staff

His Excellency General George Washington, Virginia, Commander in Chief.

Major General Frederick William Augustus Henry Ferdinand,
Baron von Steuben, Prussia, Inspector General.

Brigadier General Henry Knox, Massachusetts, Chief of Artillery.

Brigadier General Edward Hand, Pennsylvania, Adjutant General.

Brigadier General Louis Leveque, Chevalier Du Portail, France,
Chief Engineer.

Colonel Jonathan Trumbull, Jr., Connecticut, Secretary.

Colonel Samuel Elbert, Georgia, Superintendent of Materials in
the Trenches.

Colonel Ephraim Blaine, Pennsylvania, Commissary General.

Colonel Timothy Pickering, Massachusetts, Quartermaster General.

Lieutenant Colonel Henry Dearborn, New Hampshire, Assistant
Quartermaster General.

23. Arthur, *End of a Revolution*, pp. 117-18; Johnston, *Yorktown Campaign*, p. 108; Whitridge, *Rochambeau*, p. 212.

24. Arthur, *End of a Revolution*, p. 118; Whitridge, *Rochambeau*, p. 212; Johnston states that the organization of the American Continentals into brigades occurred September 27. *Yorktown Campaign*, p. 108. Wright maintains the assignments took place as early as the twenty-fourth. "Notes on the Siege of Yorktown," p. 236.

25. Adapted from Asa Bird Gardner, arr., "Disposition and Order of Battle of the Allied Armies on the March from Williamsburgh, to the Siege of York," *Magazine of American History* 7 (October, 1881): 267-69; Arthur, *End of a Revolution*, pp. 166-71; and Johnston, *Yorktown Campaign*, pp. 112-15.

Lieutenant Colonel Tench Tilghman, Maryland, Aide-de-camp.
Lieutenant Colonel David Humphreys, Connecticut, Aide-de-camp.
Lieutenant Colonel David Cobb, Massachusetts, Aide-de-camp.
Lieutenant Colonel William S. Smith, New York, Aide-de-camp.
Lieutenant Colonel John Laurens, South Carolina, Aide-de-camp.
Doctor James Craik, Virginia, Chief Physician and Surgeon.

II. Right (American) Wing

Major General Benjamin Lincoln, Massachusetts, Commanding.

First or Right Division

Major General Marie-Jean-Paul-Joseph-Roch-Yves-Gilbert du Motier,
Marquis de Lafayette, France, Commanding.

Major William Barber, New Jersey, Division Inspector.

Advance Guard

1. Pennsylvania Volunteer Battalion Riflemen, Major William Parr,
Pennsylvania, Commanding.
2. 4th Regiment Continental Light Dragoons, Colonel Stephen Moylan,
Pennsylvania, Commanding.
3. Armand's Partisan Corps, Colonel Charles Teffin Armand,
Marquis de la Rouerie, France, Commanding.

First or Right Brigade (1st Division)

Brigadier General John Peter Gabriel Muhlenberg, Virginia, Commanding.

Captain John Hobby, Tenth Massachusetts, Brigade Major.

First Battalion (8 Massachusetts Companies)

Colonel Joseph Vose, Massachusetts.

Major Cabel Gibbs, Rhode Island.

Second Battalion (1 Rhode Island, 2 Massachusetts, and 5 Connecticut Companies)

Lieutenant Colonel de Gimat, France, Aide-de-camp.

Major John Palsgrave Wyllys, Connecticut.

Third Battalion (1 New Jersey and 5 New Hampshire Companies)

Lieutenant Colonel Francis Barber, New Jersey.

Major Joseph R. Reid, Second Canadian Regiment.

Second or Left Brigade (1st Division)

Colonel and Brevet Brigadier General Moses Hazen, Canada, Commanding.

Captain Leonard Bleeker, First New York, Brigade Major.

First Battalion (1 Connecticut and 4 Massachusetts Companies)

Lieutenant Colonel Ebenezer Huntington, Third Connecticut.

Major Nathan Rice, Massachusetts.

Second Battalion (2 New York and 2 Connecticut Companies)

Lieutenant Colonel Alexander Hamilton, New York.

Major Nicholas Fish, Second New York.

Third Battalion (1 Massachusetts, 1 Connecticut, and 4 New Hampshire Companies)

Lieutenant Colonel John Laurens, South Carolina, Aide-de-camp.

Major John N. Cumming, New York.

Second Canadian Regiment (Hazen's)

Lieutenant Colonel Edward Antill, New York.

Major Tarleton Woodson, Second Canadian.

Second or Center Division

Major General Baron von Steuben, Prussia, I.G., Commanding.

Major Galvan, Massachusetts, Division Inspector.

First or Right Brigade (2nd Division)

Brigadier General Mordecai Gist, Maryland, Commanding.

Captain Lilburn Williams, Third Maryland, Brigade Major.

Third Maryland Regiment. Lieutenant Colonel Peter Adams, Maryland.

Delaware Recruits, Captain William McKennan (temporarily annexed to the Third Maryland).

Fourth Maryland Regiment. Major Alexander Roxburg, Maryland.

Second or Left Brigade (2nd Division)

Brigadier General Anthony Wayne, Pennsylvania, Commanding.²⁶

Lieutenant Richard Fullerton, Pennsylvania, Brigade Major.

First Pennsylvania Battalion. Colonel Walter Stewart, Second Pennsylvania.

Major James Hamilton, Pennsylvania.

Major William Alexander, Pennsylvania.

Second Pennsylvania Battalion. Colonel Richard Butler, Fifth Pennsylvania.

Lieutenant Colonel Josiah Harmar, Pennsylvania.

Major Evan Edwards, Pennsylvania.

Virginia Battalion. Lieutenant Colonel Thomas Gaskins, Third Virginia.

Third or Left Division

Major General Benjamin Lincoln, Massachusetts, Commanding.

26. For Wayne's role in the Revolutionary War in general, and in the Siege of Yorktown in particular, see Charles J. Stille, *Major-General Anthony Wayne and the Pennsylvania Line in the Continental Army* (Philadelphia: J. B. Lippincott Company, 1893); The disposition of the various Pennsylvania units throughout the war is contained in John Blair Linn and William H. Egle, eds., *Pennsylvania in the War of the Revolution, Battalions and Line, 1775-1783*, 2 vols. (Harrisburg: Lane S. Hart, 1880).

First or Right Brigade (3rd Division)

Brigadier General James Clinton, New York, Commanding.

Captain Aaron Aorson, First New York, Brigade Major.

First New York Regiment. Colonel Goose Van Shaick, New York.

Lieutenant Colonel Cornelius Van Dyke, New York.

Major John Graham, New York.

Second New York Regiment. Colonel Philip Van Cortlandt, New York.

Lieutenant Colonel Robert Cochran, New York.

Major Nicholas Fish, New York (detached).

Second or Left Brigade (3rd Division)

Colonel Elias Dayton, New Jersey, Commanding.

Captain Richard Cox, First New Jersey, Brigade Major.

First and Second New Jersey Regiments (combined).

Colonel Mathias Ogden, New Jersey.

Lieutenant Colonel William De Hart, New Jersey.

Major John Hollinshead, New Jersey.

First Rhode Island Regiment. Lieutenant Colonel Jeremiah Olney,
Rhode Island, Commanding.

Major Coggeshall Olney, Rhode Island.

Major John S. Dexter, Rhode Island.²⁷

27. For biographical information on American officers, see Francis B. Heitman, comp., *Historical Register of Officers of the Continental Army during the War of the Revolution, April, 1775, to December, 1783*, rev. ed. (Washington: The Rare Book Shop Publishing Company, Inc., 1914), and Mark Mayo Boatner III, comp. *The Encyclopedia of the American Revolution* (New York: David McKay, 1966). Data on particular American Army units that served at Yorktown appears in *ibid.* and in Berg, *Encyclopedia of Continental Army Units*.

(The precise order of battle of the French Army is unknown. The following principal officers and units comprised the French forces at Yorktown.)

III. Left (French) Wing²⁸

Lieutenant General Jean-Baptiste-Donatien de Vimeur, Count de Rochambeau, Commander of the King's Forces in America.

Major General Francois-Jean, Chevalier de Chastellux, Marechal de Camp.

Brigadier General Claude-Gabriel, Duke de Choisy.

Brigadier General de Beville, Quartermaster General.

Colonel Commandant d'Aboville, Chief of Artillery.

Colonel Commandant Desandrouins, Chief Engineer.

Colonel-en-Second Donatien-Joseph de Vimeur, Viscount de Rochambeau, Adjutant General.

Lieutenant Colonel Francois-Louis-Arthur-Thibaut, Count de Menonville, Aide-de-camp, First Deputy Adjutant General.

Lieutenant Colonel de Tarlé, Intendant.

Hans Axel, Count von Fersen, Aide-de-camp.

Marquis de Vaubon, Aide-de-camp.

Marquis de Damas, Aide-de-camp.

Chevalier de Lameth, Aide-de-camp.

Guillaume-Mathieu, Count Dumas, Aide-de-camp.

M. de Lauberdière, Aide-de-camp.

Baron de Closen, Aide-de-camp.

M. Claude Blanchard, Commissary General.

28. The French position in the order of battle had been determined over a year previously in Paris during the negotiations that culminated in the arrival of Rochambeau's auxiliary force. Rochambeau had been directed to yield the right to the Americans. When the French and American forces united for the first time in July 1780, the Americans assumed the right of the line. Wright, "Notes on the Siege of Yorktown," p. 236.

M. de Baulny, Finance Officer.
M. de Ronchamp, Provost Marshal.
M. de Mars, Superintendent of Hospitals.
M. de Coste, Chief Physician.
L'Abbé de Glesnon, Chaplain.
M. Robillard, Chief Surgeon.

Engineers

Detachments

Colonel Commandant Desandrouins, Chief Engineer.
Lieutenant Colonel Querencet de La Combe.
Major de Palys.

Artillery

Detachments

Colonel Commandant d'Aboville, Chief of Artillery.
Adjutant Manduit.

Cavalry

Lauzun's Legion

Brigadier General Armand-Louis de Goutant
Biron, Duke de Lauzun.
Count Arthur Dillon.

Brigade Bourbonnois

Major General Antoine-Charles de Houx, Baron de Vioménil,
Marechal de Camp.

Régiment Bourbonnois. Colonel Anne-Alexander-Marie-Sulpice-
Joseph de Montmorency, Marquis de Laval.

Colonel-en-Second Donatien-Marie-Joseph de Vimeur,
Viscount de Rochambeau, Adjutant General.

Lieutenant Colonel de Bressolles.

Major de Gambs.

Régiment Royal Deux-ponts. Colonel Christian de Forbach (German:
von Forbach), Count de Deux-Ponts (German: Zweibrücken).

Colonel-en-Second Count Guillaume de Deux-Ponts (German:
von Zweibrücken).

Lieutenant Colonel Baron d'Ezheck (German: von Ezbeck).

Major Desprez.

Brigade Soissonois

Major General le Count de Vioménil, Marechal de Camp.

Régiment Soissonois. Colonel Jean-Baptiste-Louis-Philippe
de Felix d'Olières, Count de Saint-Maisme.

Colonel-en-Second Louis-Marie, Viscount de Noailles.

Lieutenant Colonel d'Anselme.

Major d'Espeyron.

Régiment Saintonge. Colonel Adam-Philippe, Count de Custine
de Sarreck.

Colonel-en-Second Armand-Charles-Augustin, Count de Castries
de Charlus.

Lieutenant Colonel de La Vatielle.

Major M. Fleury.

Brigade D'Agénois

Major General Claude-Anne, Marquis de Saint-Simon Montbléru,
Marechal de Camp.

Régiment d'Agénois. Colonel Antoine-Joseph-Eulalie, Count de
Beaumont d'Autichamp.

Lieutenant Colonel Pierre-Marie, Chevalier Dulan d'Allemans.

Major Pandin de Beauregard.

Régiment Gatenois. Colonel Juste-Antoine-Henry-Marie-Germaine,
Marquis de Rostaing.

Colonel-en-Second Jacques-Eleanor, Viscount de Bóthisy.

Lieutenant Colonel de l'Estrade.

Major de Tourville.

Separate Regiment

Régiment Touraine. Colonel Mestre-de-Camp Henry-Francois Liamont,
Viscount de Pondeux.

Lieutenant Colonel de Montlezun.

Major de Ménonville.²⁹

IV. Intermediate Line

Right. Artillery Brigade. Brigadier General Henry Knox,
Massachusetts, Chief of Artillery, Commanding.

Detachment, First Continental Artillery. Lieutenant Colonel Edward
Carrington, Virginia.

Second Continental Artillery. Colonel John Lamb, New York.

Lieutenant Colonel Ebenezer Stevens, Massachusetts.

Major Sebastian Bauman, New York.

Detachment, Fourth Continental Artillery. Captain Patrick Duffy,
Pennsylvania.

Center. Engineers. Brigadier General Chevalier Du Portail,
Chief of Engineers, Commanding.

Detachment, Sappers and Miners. Captain James Gilliland, New York.

Left. First Virginia State Regiment Infantry in Continental Service.
Colonel Charles Dabney, Virginia, Commanding.

29. Data on some of the French officers that served at Yorktown is
in Heitman, *Historical Register*, pp. 644-68.

V. Reserve or Second Line

Militia Division. Brigadier General Thomas Nelson, Jr.,
Virginia, Commanding.

Right Brigade. Brigadier General Robert Lawson, Virginia.

Left Brigade. Brigadier General Edward Stevens, Virginia.

Weedon's Brigade. Brigadier General George Weedon, Virginia.

Lewis's Rifle Corps. Colonel William I. Lewis, Virginia.

Rear Guard

Major James (Joseph?) R. Ried, Second Canadian Regiment,
Commanding Rear Guard and Camp Guard.³⁰

C. Disposition of Allied Troops Around Williamsburg

Prior to the march on Yorktown, the Allied force stationed its units in the environs of Williamsburg. Lafayette's troops quartered themselves just west of town near St. Simon's light artillery between the roads to Jamestown and Richmond. Across the Richmond Road St. Simon's troops encamped, while further along the route were units of Royal Deux-ponts. A guard of St. Simon's volunteers took station near

30. Considerable disparity exists between the chief sources used for this "Order of Battle." What is presented here is pretty much a composite of data provided in Gardner, "Disposition and Order of Battle of the Allied Armies," and Arthur, *End of a Revolution*. For example, Gardner's Second Division is Arthur's Third, and Gardner's Third Division is Arthur's Second. Moreover, Gardner designates the brigades commanded by Gist and Wayne (units of the Second Division, according to Gardner) as the First and Second Brigades, respectively. Arthur has reversed their numerical designations. In instances where Gardner indicates line position (i.e., right, left, and center), his disposition has been accepted. Arthur does not mention the formation of either the intermediate line, the reserve line, or the rear guard; The annexation of the Delaware recruits to the Third Maryland Regiment is mentioned in Washington's General Orders of September 27, in Washington, *Writings*, 23:147. Washington's stated order of battle follows: "Muhlenberghs and Hazens Brigades to form The Division on the right under the Command of the Marquis de la Fayette, Waynes and the Maryland Brigade [Gist's], the Division of the centre for the present to be commanded by Baron de Stueben [sic], Dayton's and Clintons Brigades, that on the Left. The senior Continental Officer [Lincoln] will Command the Right Wing and his Excellency Count Rochambeau the Left Wing of which he will be pleased to make his own disposition." *Ibid.*, pp. 146-47.

the mill above Capital Landing on Queen's Creek. North of Williamsburg, near the landing, were posted some soldiers of the Regiment Bourbonnois. Rochambeau's main force guarded the eastern flank of the city and his artillery covered the western edge. The principal units of the American Army were stretched east of Williamsburg along the road to Yorktown for about a mile. Advance units of French and Americans stood farther away towards Yorktown.³¹

All of these troops secured the former capital against hostile incursions while concentrating their resources to lay siege to the British garrison twelve miles away. On September 27 the entire army marched east of Williamsburg and encamped for the night in order of battle. Washington had issued orders governing the march next day to Yorktown: it would start at 5:00 A.M. when the troops would move forth in a procession of one column still arrayed in battle order. The advance guard received specific directions for leading the march through the heavily wooded region in order to forestall a surprise assault.³²

D. Relief of Yorktown Citizens

Acutely aware of the events shaping before him, yet confident of relief, Cornwallis anxiously awaited the approach of the Allies, all the while bolstering his principal fortifications around Yorktown. In response to a plea from Governor (General) Nelson that Yorktown citizens be permitted to leave the community, the British general wrote courteously:

I have not the least objection to any of the Inhabitants at present in this place going out with their Families & effects; Nor to those who formerly resided here sending for their Wives & Families, who will likewise be permitted to take their effects with them, and any Waggon that you think proper to send to adjust them will be received at our Out-post on the Hampton Road.³³

Exactly how many Yorktown citizens took advantage of this opportunity is unknown. Those who chose to remain with Cornwallis must later have regretted their decision.

31. Maps 9F and 14F show the camps of the Allied armies near Williamsburg on September 26, 1781.

32. Wright, "Notes on the Siege of Yorktown," p. 236; Washington, *Writings*, 23:147.

33. Cornwallis to Nelson, September 26, 1781, Manuscripts collected by J. Pierpont Morgan, vol. 1, *The Siege of Yorktown and Surrender of Cornwallis*, Pierpont Morgan Library, New York City.

CHAPTER VII: INVESTMENT

A. The March from Williamsburg

Friday, September 28, broke clear, warm, and humid, promising to become intolerably hot before the Allied armies of France and the United States reached Yorktown. The soldiers struck camp before dawn and set out on the march at daybreak, leaving a detachment of 200 men behind in Williamsburg to mind the hospital and stores of the armies.¹ Leading the combined force was the Virginia corps of riflemen under Colonel Lewis and the light dragoons of Colonel Moylan, followed by General Muhlenberg's infantry with attached field artillery. The French advanced guard units composed of St. Simon's grenadiers and chasseurs commanded by the Marquis de Laval.² Then came the American Continentals followed by the French auxiliaries, as proscribed in the Order of Battle. The militia, acting in reserve, moved to the right two miles out of Williamsburg and followed the Harwood Mills Road (Warwick Road), escorting the wagons Washington had managed to find to transport provisions and entrenching tools. His own vehicles and horses had not yet reached the command and the troops were hard pressed to make do with the limited transportation available.³

The main Franco-American column continued along the direct Williamsburg-Yorktown Road, passing by the old Halfway House Ordinary located about midway between the communities. The march was slow and tiring and the heat became oppressive. Men staggered in the sandy roadbed and collapsed. Most of the officers lacked horses and were forced to share the privations of the foot troops. The French

1. Closen, *Revolutionary Journal*, p. 138. One account states that the troops marched at 4:00 A.M. "Journal of Jean-Francois-Louis, Comte de Clermont-Crevecoeur," in Howard C. Rice, Jr., and Anne S. K. Brown, eds., *The American Campaigns of Rochambeau's Army, 1780, 1781, 1782, 1783*, 2 vols. (Princeton and Providence: Princeton and Brown University Presses, 1972), 1:57. Another source maintained that the march to Yorktown began as late as 8:00 A.M. "Journal of Jean-Baptiste-Antoine de Verger," in *ibid.*, p. 138.

2. Washington's General Orders of September 27, in Washington, *Writings*, 23:148; Arthur, *End of a Revolution*, p. 118; George F. Scheer and Hugh F. Rankin, *Rebels and Redcoats* (New York: The New American Library, 1957), p. 551.

3. George Washington, *The Diaries of George Washington, 1748-1799*, ed. John C. Fitzpatrick, 4 vols. (Boston and New York: Houghton Mifflin Company, 1925), 2:261-62; Arthur, *End of a Revolution*, p. 118; Wright, "Notes on the Siege of Yorktown," pp. 236-37; DeB. Randolph Keim, *Rochambeau: A Commemoration by the Congress of the United States of America of the Services of the French Auxiliary Forces in the War of Independence* (Washington: United States Government Printing Office, 1907), p. 438.

soldiers halted frequently, the Americans at least twice during the trek, once for a period of two to three hours.⁴ Recalled a French officer of the ordeal: "I can testify to having suffered every affliction imaginable. We left nearly 800 soldiers in the rear. Two fell at my feet and died on the spot."⁵ These soldiers were under strict orders from General Washington to turn back any surprise attacks by the British with bayonets alone, "that they may prove the Vanity of the Boast which the British make of their particular prowess in deciding Battles with that Weapon."⁶

But the troops passed through the dense pine and cedar forests, intervalely cleared for homes and crops, without sign of the nearby British. No artillery train accompanied the column, the pieces of light ordnance instead being scattered throughout the units to be ready in case of ambush. A mile beyond Halfway House the American troops diverged to the right along a road that led, ultimately, toward Munford's Bridge to the south. The French proceeded towards Yorktown, four miles away, by the direct route. Near Munford's Bridge the American Army rejoined General Nelson's militia and together the units moved forward along Grove Road towards Yorktown. Throughout the movement the Allies encountered none of the enemy in force, although watching British cavalry detachments were occasionally spotted by the advance guard.⁷

4. Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, 1:57; "Siege of York and Gloucester, Virginia," *American Museum* (June, 1787): 475; The column halted at noon before reaching Halfway House and spent two or more hours cooking dinner. Davis, *Campaign that Won America*, pp. 190-91.

5. Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, 1:57. Johnston called this "a leisurely march of eleven miles under a fair sky." *Yorktown Campaign*, p. 105. Closen stated: "The day was so hot and the sand was so burning that the troops suffered a great deal. . . ." *Revolutionary Journal*, p. 138.

6. Washington, *Writings*, 23:147.

7. This account of the routes of the Allied Army from Williamsburg to Yorktown is compiled from Washington, *Diaries*, 2:262; Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, 1:56-57; De Verger Journal, in *ibid.*, p. 138; Dawson, "Extract from the Journal of Chevalier Dupleix de Cadignan," p. 3; Maps 9F, 14F, 21B, 23A, 40F, 47F, 60B; Johnston, *Yorktown Campaign*, p. 105; Keim, *Rochambeau: A Commemoration*, p. 438; Arthur, *Sieges of Yorktown*, p. 12; Wright, "Notes on the Siege of Yorktown," pp. 236-37; Borresen, "Orientation Report," pp. 16-17; Hatch, "Siege of Yorktown Opens," pp. 6a-6b; and Scheer and Rankin, *Rebels and Redcoats*, p. 552.

B. Arrival Before Yorktown

1. First Blood

The French Army arrived within two miles of Yorktown at about 3:30 P.M., having advanced by the most direct route. The soldiers approached the outskirts through a wooded area along the Williamsburg Road with some cultivated ground to their right.⁸ Nearing the route's juncture with Goosley Road, the troops fanned out left and right to cover their sector of the investment. British forward pickets fell back quickly at the initial approach,⁹ but the French investment was not without bloodshed. British troops occupied a number of advance posts in the area between Goosley Road and the Fusiliers' Redoubt, protecting the right flank of Cornwallis's line at Yorktown. As the French guards mounted a reconnaissance of the ravines around the British position they were met by grapeshot from a distant battery, causing them to fall back beyond range to the forest edge.¹⁰ At this, Rochambeau ordered Major General Baron Viomenil forward with six four-pounders to support the grenadiers and chasseurs under de Laval. Fifty mounted hussars led the advance. The fire from the ordnance effectively dispersed about fifty of the enemy and killed several of Tarleton's horses arrayed on the distant plain. The British withdrew to the protection of the Pigeon Hill Redoubts guarding Goosley Road and the French reconnaissance proceeded unmolested.

French light artillery continued its fire throughout the afternoon and three German officers among the British outer works were killed by two four-pounder balls. Far to the left, Rochambeau's soldiers flanked the British to the river and simultaneously felt, but did not attempt to take, the Fusiliers' Redoubt. Meantime, French grenadiers under the Chevalier de Lameth kept a close watch on the strong outer works at Pigeon Hill. Rochambeau's cautious troops had

8. Charles E. Hatch, Jr., and Jerome A. Greene, *Historic Structure Report, Combined Study: Developed Sites and Colonial Rural Fences, Yorktown Battlefield, Colonial National Historical Park, Virginia* (Denver: National Park Service, 1975), p. 23, Illustration No. 4 (Historic Base Map).

9. Accounts differ as to the time the French arrived before York, with some specifying 11:00 A.M., which is much too early, and some 6:00 P.M., which is much too late. A general consensus of the French recollections puts the time at between three and four o'clock in the afternoon. See Clozen, *Revolutionary Journal*, p. 138; Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, 1:57; and Brisout de Barneville, "War Diary, May, 1780-October, 1781," *French-American Review* 3 (October-December, 1950), typescript copy of pages 269-78, dated May 11, 1953, trans. Herhert Olsen, in library of CNHP, Yorktown, Virginia, p. 271.

10. Bartholomew James, *Journal of Rear-Admiral Bartholomew James, 1752-1828*, ed. John Knox Laughton (London: Publications of the Naval Records Society, 1896), p. 118.

yet to lose a man in the investment. Cornwallis anxiously waited.¹¹ "There was but one wish," remembered a British officer, "that they would advance."¹² An aged Scottish highland lieutenant drew his sword and uttered, "Come on, Maister Washington, I'm unco glad to see you; I've been offered money for my commission, but I could na think of ganging' hame without a sight of you. Come on."¹³

2. The Americans Engage the Enemy

Washington, with the American wing of the army, was not far away. Having taken a more indirect route than the French, the Continentals and militia emerged from the forested roads slightly after Rochambeau's army, at the approximate time the French forced the withdrawal of Cornwallis's pickets. The area was familiar to Washington; Yorktown stood on land once owned by his earliest American ancestors, and in his youth the general had gambled on cockfights there.¹⁴ Moving along Grove Road, the Americans approached Yorktown from the southwest, then left the highway and proceeded toward a section known as Nelson's Quarter (both Governor and "Secretary" Nelson owned land there). The troops stopped at Beaverdam Creek, or Great Run, because the British had destroyed the bridge over the morass at that point. Across the marshy rivulet on the open plain between Beaverdam and Wormley creeks, Colonel Tarleton's

11. This account of the French role in the investment of Yorktown is based essentially on data contained in Washington, *Writings*, 23:158; Barneville, "War Diary," p. 271; Dawson, "Extract from the Journal of Chevalier Duplex de Cadignan," p. 3; "Abstract of Operations"; "*Wertgetreue Abschrift eines Tagebuchs eines markgräflischen Soldaten*"; Closen, *Revolutionary Journal*, pp. 138-39; Mathieu Dumas, *Memoirs of His Own Time* (London: Richard Bentley, 1839), pp. 62-63n; James J. Graham, ed., *Memoir of General Graham with Notices of the Campaigns in which He was Engaged from 1779 to 1801* (Edinburgh: R. and R. Clark, 1862), p. 58; and Johnston, *Yorktown Campaign*, pp. 105-6; Du Bourg stated that two four-pounders were used against the British. "Diary of a French Officer, 1781," p. 445. De Verger mentions "several field pieces." De Verger Journal, in Rice and Brown, *American Campaigns*, 1:138. Clermont-Crevecoeur, who commanded two of the guns, said the total number was six. Clermont-Crevecoeur Journal, in *ibid.*, p. 57.

12. Graham, *Memoir of General Graham*, p. 59.

13. Quoted in *ibid.*

14. Davis, *Campaign that Won America*, p. 192. Captain John Pryor placed the time of arrival of each column at about 3:30 P.M., which seems correct. Pryor to Colonel William Davies, September 29, 1781, in William P. Palmer, ed., *Calendar of Virginia State Papers and Other Manuscripts, from January 1, 1782, to December 31, 1784*, 11 vols. (Richmond: Virginia State Library, 1883), 2:508. Washington indicated the time as "about noon," which was too early. Washington, *Diaries*, 2:262.

Legion, assigned to reconnoiter the Americans, paraded on the ground Washington's engineers intended his force to occupy. Grapeshot from field artillery ordered forward joined with the American advance pickets in sending Tarleton back towards Yorktown. Washington's sharpshooters also engaged in a lively contest with Hessian soldiers that lasted sporadically through the evening.¹⁵

Immediately the Americans began to repair the bridge and add others either missing or destroyed. Bridge-building lasted all night and some of the soldiers were probably detailed to make fascines for that purpose. Fascines would have served to support log stringers laid across the stream, being both flexible enough to withstand cannon weight and porous enough to allow the running water to pass through.¹⁶ One bridge was fixed almost immediately, and some of the soldiers, including Muhlenberg's light infantry, crossed to the east side.¹⁷ The Americans concluded their investment next day after the bridges were repaired. That night Muhlenberg's advance pickets took station well in front of the morass. Behind them the Continentals and militia doubled on part of the French line, deployed along Great Run, and laid on their arms without cover of any kind, ready for any possible

15. Washington to General William Heath, October 1, 1781, in Washington, *Writings*, 23:157; Washington, *Diaries*, 2:262; Glösen, *Revolutionary Journal*, p. 139; Keim, *Roehambeau: A Commemoration*, p. 439; Edward M. Riley, "The History of the Founding and Development of Yorktown, Virginia, 1691-1781," MS, dated March 20, 1942, in the library of CNHP, Yorktown, Virginia, p. 281; Johnston, *Yorktown Campaign*, p. 106; Arthur, *End of a Revolution*, p. 119; The brief contact with Tarleton's Legion on the afternoon of September 28 was not the first the Americans had experienced with the illustrious cavalry leader. That morning an American reconnaissance party belonging to Wayne's Brigade had a sharp engagement with Tarleton near Wormley Pond. Colonel Walter Stewart reported the occurrence: "This morning some of Tarletons Horse came within our Centrys in pursuit of Capt Herd with 20 Men[.] The Centrys fir'd, and the Guard having Let Capt. Herds party pass Wheel'd again to the right & left & threw in a Heavy fire[.] They on this retreated a small distance, but Our having accounts that they were 1500 strong prevented us Attempting to Cross the Mill dam." Stewart to Wayne, September 28, 1781, Wayne Manuscripts, vol. 14 (August 1781-January 17, 1782), Historical Society of Pennsylvania.

16. Thor Borresen, Memorandum to the Acting Park Historian, March 27, 1939, on Bridges, in the files of CNHP, Yorktown, Virginia.

17. Captain John Pryor to Colonel William Davies, September 29, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:508; Wright, "Notes on the Siege of Yorktown," p. 237; "Siege of York and Gloucester, Virginia," p. 475.

emergency. Some of the troops ran down hogs in the woods and enjoyed roast pork that evening. Others sought drinking water to slake their thirst.¹⁸

3. The French Guard Cornwallis's Right

By nightfall the right of the British position was fully dominated by the soldiers of Rochambeau. Near the fork of Goosley Road on either side of Williamsburg Road were the Regiments Gatenois and Agenois, the one north of the highway, the other south. The units were ordered to erect three redoubts "big enough to hold 200 men, in each of which two four-pounder campaign guns could be placed as well as two cannon 'a la Rotain'," as protection against British sorties.¹⁹ The Gatenois redoubt overlooked Ballard Creek and presumably thwarted any flanking movements of the British by that route. Guarding the rise between York and Ballard creeks was the Regiment Touraine, situated well back from the danger posed by the Fusiliers' Redoubt to its right front. The unit erected a long protective epaulement along its front, overlooking a branch ravine of Ballard Creek and to the left of the Williamsburg Road.²⁰ South of these regiments (two of which, Agenois and Gatenois, composed the Brigade Agenois), near an area called Lowell's Quarter, were the regiments of Saintonge and Soissonois (Brigade Soissonois). To the east a thin wood separated these regiments from those of the Royal Deux-ponts and Bourbonnois (Brigade Bourbonnois), camped west of Grove Road.

Thus placed, the French units closed all the principal highways and plantation roads leading in and out of Yorktown from the west and southwest. Because intervening forest thwarted communication between

18. Barnardus Swartwout, Jr., "The Journal of Barnardus Swartwout Junr. during the American Revolution from Nov. 1777 to June 1782--as Copied and corrected by himself in 1834," Swartwout Folder, New-York Historical Society, New York City; La Combe, "Journal of the Siege of York," p. 1; Axel de Fersen, "Journal of Operations," *Magazine of American History* 3 (July, 1879): 439; Freeman, *George Washington*, 5:345; Davis, *Campaign that Won America*, pp. 193-94; For a description of the historical terrain in this locale, see Hatch and Greene, *Developed Sites and Colonial Rural Fences*, pp. 16, 19, 20.

19. Dupleix de Cadignan, "Journal of Chevalier Dupleix de Cadignan," Warrington Dawson Papers, in the library of CNHP, Yorktown, Virginia; All of these structures remained as late as 1853. The Gatenois redoubt still existed in 1934. Borresen, "Orientation Report," pp. 12-13; The redoubt built north of the Gatenois position was "a pentagonal redoubt about seventy-five feet across. It is very shallow, being not much more than thirty inches between the top of the parapet and the bottom of the interior. . . ." Memorandum, C. L. Coston to Mr. Flickinger, May 22, 1934, in files of CNHP, Yorktown, Virginia; Map 12F shows a redan before the Agenois. Map 2F also shows such a redan, but places *two* small redoubts before the Gatenois.

20. Maps 1F, 46F.

Brigades Agenois and Soissonois, Major General Viscount Viomenil (substituting for St. Simon, sick at Williamsburg, and not to be confused with Major General Baron de Viomenil) ordered a swath cut through the thickets to facilitate contact ("a communication big enough for an advance through it by platoons").²¹ Baron Viomenil commanded the grenadiers and chasseurs out in front. By nightfall the French circumvallation ran from near the York River on the left around to the morass opposite the British center.²² The enemy, as Rochambeau described it, were confined "to within pistol-shot of their works."²³

4. Washington Consolidates His Position

During their inspection of the British position the afternoon of September 28, Washington and Rochambeau drew enemy cannon fire, "the shots," recalled an observer, "seeming rather to have been in their honor than to interfere with their operation."²⁴ Neither officer was hurt in the barrage, and they found Cornwallis's fortifications to be both extensive and apparently strong, the result of industrious digging by his soldiers in recent weeks.²⁵ On the basis of intelligence gained from the reconnaissance and from British deserters, and on word from his officers at James River that the water at Trebell's Landing was deep enough to land the siege guns, Washington estimated that siege operations would commence by October 1, less than four days away.²⁶ "I fear we shall have little

21. De Cadignan, "Journal of Chevalier Duplex de Cadignan"; Dawson, "Extract from the Journal of Chevalier Duplex de Cadignan," pp. 3-4; Borresen, "Orientation Report," p. 13.

22. Arthur, *End of a Revolution*, p. 119.

23. Rochambeau's account in Dumas, *Memoirs of His Own Time*, p. 62; Keim, *Rochambeau: A Commemoration*, p. 439.

24. Dawson, "Extract from the Journal of Chevalier Duplex de Cadignan," p. 3. The cannon shots possibly came from British ships in York River, because Brisout de Barneville maintained he heard reports from the vessels at five o'clock. "War Diary," p. 271.

25. Arthur, *Sieges of Yorktown*, p. 12.

26. Washington, *Writings*, 23:149; Freeman, *George Washington*, 5:345; Davis, *Campaign that Won America*, p. 193; Some of the officers sent to sound-test the waters of the James recommended that the artillery be debarked at the marshy peninsula called Mulberry Island. Trebell's Landing, a short distance upstream, was chosen probably because of its nearer proximity to Yorktown and because the water there was also deep enough to accommodate the French transport vessels. See letter written from the James River, near Mulberry Island, September 28, 1781, in "Extracts from the [John] Lamb Papers Relating to the Yorktown Campaign," transcribed copy (from the Lamb Papers in the New-York Historical Society) in the library of CNHP, Yorktown, Virginia, p. 13; See Map 4B for historical orientation to the Chesapeake Bay-James River-York River complex.

Hope to starve him into a Surrender," he wrote Greene of his prospects against Cornwallis. "My greater Hope is, that he is not well provided with Artillery and Military Stores for such Defence, not having had in Contemplation, the Situation to which he is now reduced."²⁷

Next morning, his bridges repaired, Washington marched the rest of his troops in column across the morass and extended the American sector far to the right. The line lay behind another morass to the left of Beaverdam Creek (Great Run), whose marshlands served to divide the Americans from the French, and to the right of the southern arm of Wormley Creek, within a half mile of Cornwallis's redans guarding the left bank of that stream. British cannon fire impeded the investment but little, although the Americans exchanged a lively musket fire with Anspach soldiers in their front most of the day. Most of the British artillery fire directed at Washington's troops came from one of the Wormley Creek redans and from the barbette battery emplaced on Hampton Road. Damage was light, however, because the encampment for the most part lay beyond the range of enemy guns. Nonetheless, Washington's officers ordered light ordnance forward to return the fire.²⁸

27. Washington, *Writings*, 23:150.

28. Tarleton, *History of the Campaigns*, pp. 383-84; Washington to President of Congress, October 1, 1781, in Washington, *Writings*, 23:158; Viscount de Rochambeau, "The War in America: An Unpublished Journal (1780-1783)," in Jean-Edmond Weelen, *Rochambeau, Father and Son: A Life of the Marechal de Rochambeau*, trans. Lawrence Lee (New York: Henry Holt and Company, 1936), p. 230; Roger Lamb, *An Original and Authentic Journal of Occurrences During the Late American War, from its Commencement to the Year 1783* (Dublin: Wilkinson and Courtney, 1809), p. 376; Reuben Sanderson, "Diary of the March from the Hudson to Yorktown, and Return, by Lieutenant Reuben Sanderson, Fifth Connecticut Continental Line, on Duty with Scammell's Light Infantry Corps," in Johnston, *Yorktown Campaign*, p. 171; Jonathan Trumbull, "Yorktown, Virginia, Aug. 12-Nov. 5, 1781," *Proceedings of the Massachusetts Historical Society*, 1st ser. 14 (1875-1876): 335; Ebenezer Wild, "Journal of Ebenezer Wild," *Proceedings of the Massachusetts Historical Society*, 2d ser. 6 (1890-1891): 151-52; Octavius Pickering and C. W. Upham, *The Life of Timothy Pickering*, 4 vols. (Boston: Little, Brown and Company, 1867-1873), 1:302; William Heath, *Heath's Memoirs of the American War* (1798; reprint ed., New York: A. Wessels Company, 1904) p. 329; "Journal of the Siege of York in Virginia by a Chaplain of the American Army," *Collections of the Massachusetts Historical Society* 9 (1804): 104; *Pennsylvania Packet*, October 16, 1781, quoted in *Magazine of American History* 6 (January, 1881): 40; Stedman, *History . . . of the American War*, 2:408-9; Arthur, *End of a Revolution*, p. 119; Freeman, *George Washington*, 5:347; One infantryman lost his leg from the British cannonade, apparently the only casualty sustained by the Americans during the investment. Captain John Pryor to Colonel William Davies, September 29, 1781, in Palmer, *Calendar of Virginia State Papers*, (continued)

a) Placement of American Troops

The American troops lay on their arms before the enemy until about 3:00 P.M., when they moved a short distance back to establish their encampment a mile from Cornwallis's outer works. Pickets were sent forward to watch the British.²⁹ Furthest to the right on the American line and closest to Wormley Creek (500 yards below the mill dam), General Lincoln--second in command to Washington and in charge of the whole right wing--set up his headquarters. Immediately to Lincoln's left, Lafayette's Light Infantry Division (Muhlenberg's and Hazen's brigades) made camp on land owned by a Mr. Inges, thereby becoming the closest to the British of all American units. Lafayette established his headquarters behind his division and just east of Hampton Road. Lincoln's Division (Dayton's and Clinton's brigades) next held the center, between Hampton and Warwick roads on the Allen and Dedman property, while Baron Steuben's Division (Wayne's and Gist's brigades) took up ground to the left of the latter highway and advanced from Knox's artillery and the quartermaster facilities. Directly behind Lafayette's men at the right and on the property of a Mr. Smith, General Nelson placed the Virginia Militia (Stevens's and Lawson's brigades) as a second line. In an intermediate position between the New York and the Rhode Island and New Jersey troops of Lincoln, the Corps of Sappers and Miners took station. Well behind the American artillery General Knox established his headquarters. Three quarters of a mile west from Knox, in somewhat of a median position behind both armies, and fully two and a half miles from the British outer works, General Washington established the headquarters from which he would exercise supreme command over the Allied forces.

28. (continued) 2:508; William Feltman, "The Journal of Lieut. William Feltman, of the First Pennsylvania Regiment, from May 26, 1781 to April 25, 1782, embracing the Siege of Yorktown and the Southern Campaign," *Pennsylvania Historical Society Collections* 1 (May, 1853): 315; Deux-Ponts, *My Campaigns in America*, p. 134; Feltman reported that "a nine pound and a three pound shot paid us a visit in camp. . . ." "Journal of Lieut. William Feltman," p. 316. The calibers indicated are precisely those of the British guns mounted in the barbette unit at Hampton Road and in the Wormley Creek redans.

29. Wild, "Journal of Ebenezer Wild," p. 151; "Siege of York and Gloucester, Virginia," p. 475; Swartwout, "Journal of Barnardus Swartwout," p. 34; Johnston, *Yorktown Campaign*, p. 120; S. Doc. 318, p. 44; Davis, *Campaign that Won America*, p. 195.

Washington's Life Guard occupied the ground close by.³⁰ To protect his army against surprise assaults by the British, Washington ordered General Du Portail to see to the erection of small earthworks before each brigade in the manner of the French. This line of countervallation served to secure the camp guards who might warn of enemy attack.³¹

b) Reconnoitering the Enemy

As Washington tightened his position around the British he sent troops to reconnoiter Cornwallis's defenses. Muhlenberg's Brigade on the right crossed the morass in its front, re-formed its line near an enemy redoubt, then shortly returned and resumed its former position in Lafayette's Division. Captain James Duncan of Hazen's command described the incident:

The First brigade, commanded by General Muhlenburg, crossed a small morass and paraded in order of battle, marched a small distance in front; but the enemy, not firing, they wheeled to the right and took their post in the line; a picket was now turned out . . . which advanced in front nearly halfway to the enemy, until they were obliged to retreat by the fire of a field piece from the enemy's [main] works.³²

30. James Duncan, "Diary of Captain James Duncan, of Colonel Moses Hazen's Regiment, in the Yorktown Campaign, 1781," *Pennsylvania Archives*, 2d ser. 15 (1890): 747; *Pennsylvania Packet*, October 16, 1781, quoted in *Magazine of American History* 6 (January, 1881): 41; Catherine R. Williams, *Biography of Revolutionary Heroes: Containing the Life of Brigadier Gen. William Barton, and Also, of Captain Stephen Olney* (Providence: Published by the Author, 1839), p. 274; S. Doc. 318, p. 46; Borresen, "Orientation Report," p. 14; Stone, *Our French Allies*, p. 423; Arthur, *Sieges of Yorktown*, p. 14; Arthur, *End of a Revolution*, p. 121; Keim, *Rochambeau: A Commemoration*, p. 444; Johnston, *Yorktown Campaign*, pp. 130-31.

31. Wright, "Notes on the Siege of Yorktown," p. 230; Washington, *Writings*, 23:152; William S. Stryker, *New Jersey Continental Line in the Virginia Campaign of 1781* (Trenton: John L. Murphy, 1882), p. 16; "Orderly Book kept during the Siege of Yorktown, Va. Sep. 26-Nov. 2, 1781," photostatic copy of the original (Henry E. Huntington Library, San Marino, California) in the library of CNHP, Yorktown, Virginia, p. 11; Muller defined the line of countervallation as "the work made by an army which besieges a place between their camp and the town, to cover it against any enterprise of the garrison. . . ." *Treatise Containing the Elementary Part of Fortification*, p. 224.

32. "Diary of Captain James Duncan," p. 746.

The feint was designed to feel enemy strength on the ground on which only yesterday the British had encamped. Now withdrawn wholly from the area between the redoubts, Cornwallis's outward resistance appeared to be waning.³³ That fact determined, Washington and Rochambeau conducted further surveys of the British through the rest of the day. Astute attention was paid the outer works at Pigeon Hill and along the Hampton Road. The capture of the former structures was considered vital to the Allied plans to confine the British within their main fortifications. "A Bridge is making to cross the Morass opposite Pigeon hill," noted a correspondent, "which place I conjecture will be taken by storm, within a few days--it is a very commanding post, and must be possest [*sic*] by us. . . ."34

During the day sporadic musketry occurred between the Americans and the British troops occupying the forward redoubts. One account states that American riflemen killed "ab't Eight of the Enemy in their works."³⁵ Throughout the reconnaissance American casualties numbered three killed and three wounded.³⁶ One of the clearest narratives describing the reconnaissance is that of the Chevalier d'Ancteville:

A large, deep ravine, cut by a stream [Wormley Creek], borders half the position on the right, for a distance of more than 800 toises [approximately 1600 yards]. The enemy had made abatis around it; in front the ground was strewn with felled trees, clear to the swampy [York] Creek which empties into the river York. Besides this, two redoubts [at Pigeon Hill], with fraising and enclosed with abatis, extended toward the center above the ravine, leaving between them the [Goosley] road to York. These redoubts occupied the high ground some distance from the town. About 350 toises [roughly 700 yards] in front of them the ground fell away in a slope toward the country. Their left was covered by three batteries placed likewise at three and four hundred toises [600-800 yards] from the town, with abatis in front, on the highest ground. Finally, they were supported by a wood filled with light infantry, with a masked battery in the wood on the bank of the river at the extremity of their left [right?], covered by a Creek [York] which served them as a ditch. The declivity in front of these pieces prevented our

33. Wright, "Notes on the Siege of Yorktown," pp. 237-38.

34. Captain John Pryor to Colonel William Davies, September 29, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:508.

35. *Ibid.*

36. Du Bourg, "Diary of a French Officer, 1781," p. 445.

gathering information on the works which the enemy had constructed behind them and with which they had covered the town of York.³⁷

From intelligence gathered in his reconnaissance, Washington realized that the British outer position commanded a nearly unobstructed view of the main defenses around Yorktown. Moreover, to his subordinates the earthworks surrounding the village appeared weak rather than strong and probably comprised an enclosure too large for Cornwallis to adequately maintain with his limited force. The British left seemed to possess a field of fire superior to either the right or center of the line, and this sector, too, had the added reinforcement of the two detached redoubts (Nos. 9 and 10). These structures, with their fraising and abatis, stood more than 400 yards from the main works. Surveying conditions, Washington also realized that the soil before Yorktown was sandy enough to make the construction and maintenance of strong earthworks exceedingly difficult without great quantities of fascines and gabions.³⁸

c) Differences with de Grasse

Washington's reconnaissance of the terrain between the Allied armies and the British position was necessary before commencing siege operations. Furthermore, it appears that the reluctance of Admiral de Grasse to allow boats to venture upstream past the British to safeguard the York River above Yorktown caused a divergence from Washington's previous plan of operations. The evening of September 29 he recorded in his diary, "Spent this day in reconnoitering the enemys [sic] position, and determining upon a plan of attack and approach which must be done without the assistance of the Shipping above the Town as the admiral (not withstanding my earnest sollicitation [sic]) declined hazarding any Vessels on that Station."³⁹ The entry suggests that Washington had earlier planned to attack the British from above their position, with approach trenches being prepared near the York River shoreline above the Fusiliers' Redoubt. De Grasse's declination to send ships to cover this operation from the river, principally because his vessels might be needed should another

37. "Journal of the Chesapeake Campaign," pp. 14-15. A highly questionable "du Chesony Diary," also in the CNHP library, appears to be an almost complete word-for-word copy of the d'Ancteville journal.

38. Freeman, *George Washington*, 5:347-49; Regarding the terrain before Yorktown, one observer noted that "the country about York is exceedingly level, a rise of five yards is called a hill. Our lines arc about the same height of the enemy's [British]. . . ." *Connecticut Gazette*, October 19, 1781, quoted in *Magazine of American History* 6 (January, 1881): 42.

39. Washington, *Diaries*, 2:262.

British fleet arrive and because he feared the British gun batteries and fire ships, spoiled Washington's design.⁴⁰ The all-day reconnaissance of September 29 was the result.

d) Disposition of French Troops

On that Saturday the French consolidated the positions they had assumed the day before. The Santo Domingo regiments guarded the left of the Allied line and completed their redoubts and the communication line through the woods between the Regiments Agenois and Saintonge. In addition, a small earthwork (indicated as a redan on historical maps) was raised between the bridges crossing Great Run and just before the encampment areas of the Regiments Soissonois and Deux-ponts. On the extreme left, near the river, French patrols of the Regiment Touraine surveyed the star redoubt and guarded against surprise by the enemy in the area of Ballard Creek.⁴¹ Late that afternoon units of French grenadiers and chasseurs (of Agenois and Gatenois, respectively) staged an attack on part of Tarleton's Legion to their front. They succeeded in forcing the Legion to withdraw under the cover of an advanced British artillery battery. Seven rounds of shot from several eighteen-pounders dispersed the French and ended the assault.⁴²

By evening the French units camped on the ground they occupied for the duration of the siege. The Brigade Bourbonnois, consisting of the Regiments Deux-ponts and Bourbonnois, moved forward from behind the marsh of Baptist Run and joined the other brigades in line, further tightening the investment.⁴³ To the right and a ways south, across Grove Road, the French artillery took up camp, close to the extreme left of Baron Steuben's American division. Count Rochambeau established his headquarters southeast of the artillery on the north side of Jones Run, a third of a mile east of General Washington's tent.⁴⁴ Together, the American Continentals and militia and the French regulars and volunteers fully enclosed Cornwallis on all sides, sealed all avenues of escape

40. See Wright, "Notes on the Siege of Yorktown," p. 237.

41. Dawson, "Extract from the Journal of Chevalier Duplex de Cadignan," p. 5; Barneville, "War Diary," p. 272; See Maps 1F, 2F, 6F, 59B, 61F.

42. James, *Journal of Rear-Admiral Bartholomew James*, p. 119; Davis, *Campaign that Won America*, p. 196; "Diary of French naval operations in America, January 5, 1779-September 2, 1782," MS Division, Library of Congress, translated typescript copy in the library of CNHP, Yorktown, Virginia, pp. 190-91.

43. Engineers' Journal, p. 449.

44. The disposition of the French line as of September 29 appears in Stone, *Our French Allies*, pp. 422-23; Keim, *Rochambeau: A Commemoration*, pp. 444-45; Arthur, *Sieges of Yorktown*, pp. 14-15; and Arthur, *End of a Revolution*, p. 121.

by Yorktown's landward side, and looked to the commencement of the siege that hopefully would produce the British general's capitulation. At Gloucester, one mile across the York River, Allied forces also completed their investment of the peninsula. The Duke de Lauzun joined with General Weedon to keep close watch on the enemy and to guard against British attempts to break out of the closing circle.

C. Preparations for a Siege

1. The Engineers

As the Allied forces made camp and while officers from both armies completed a reconnaissance of the ground between them and the British, the twelve qualified military engineers present in both armies were assigned among three groups, two of which were French and were commanded by Lieutenant Colonel Querenet de La Combe, vice Colonel Desandrouins being ill at Williamsburg. The other, which also contained Frenchmen, was headed by General Du Portail of the American Army. As assigned, the three engineer divisions, detailed respectively to the commands of Washington, Rochambeau, and St. Simon, consisted of the following:

First Division of Engineers

M. de Gouvion, Lieutenant Colonel, U.S.A.
Chevalier Doire (Doyré; d'Oyre), Captain, Royal Engineer Corps
Baron de Turpin, Captain, Royal Engineer Corps
M. de Plancher (Planchet), Lieutenant, Royal Engineer Corps

Second Division of Engineers

M. Palys de Montrepos, Major, Royal Engineer Corps
M. Crublier d'Opterre (d'Opter; d'Aubeterre), Captain, Royal Engineer Corps
M. de Rochefontaine, Captain, U.S.A.
M. de Fourrageola, Lieutenant (?), engineer of Santo Domingo, with St. Simon

Third Division of Engineers

Chevalier Cantel d'Ancteville (d'Anéteville), Royal Engineer Corps, with St. Simon
M. de Garavaque (Caravagne; Garavagne), Captain, Royal Engineer Corps, with St. Simon
M. de Bouhan (Bouan), Lieutenant, Royal Engineer Corps, with St. Simon
M. de Geaut, Lieutenant (?), engineer of Santo Domingo, with St. Simon⁴⁵

45. Adapted from d'Ancteville, "Journal of the Chesapeake Campaign," p. 14; Balch, *French in America*, 2:12, 13, 14; Heitman, *Historical Register*, pp. 644-68.

2. Castrametation

The encampment location of both the French and American armies was near perfect in many respects, having numerous qualities akin to those outlined for good camping position in the theoretical manuals of the day. Actually, Washington had decided where to place his force, on the basis of maps and suggestions of his engineers, even before he reached Yorktown.⁴⁶ In placing the American Army before Yorktown, Washington's officers must have relied heavily on the systematic measures devised by Baron Steuben and published in 1779 as *Regulations for the Order and Discipline of the Troops of the United States*.⁴⁷ Although there is no direct reference to this work in regard to the encampment at Yorktown, the fact that it existed, coupled with Steuben's presence with the American soldiers, indicates strongly that its tenets were adopted by at least the right wing of the besieging army; the French heeded similar regulations governing encampment procedures (called "castrametation"). In either case the armies were subjected to the rudiments of European discipline in the manner of laying camp.

a) Camp Layout

Washington's two headquarters tents, the shelters in which he had directed American operations for the previous five years, arrived and were pitched September 29 well beyond enemy artillery range.⁴⁸ Other baggage reached the American troops that day, and before evening the designated unit areas were dotted with tents of varying sizes able to accommodate between eight and sixteen soldiers.⁴⁹ The troops always laid camp in Order of Battle, and the quartermaster general always assigned blocks of ground to the various brigade units. Brigade quartermasters allotted space to the regiments; regimental quartermasters

46. Wright, "Notes on the Siege of Yorktown," p. 230; The encampment site before Yorktown approximated the ideal prescribed by Hoyt: "In the choice of a post the general rules to be attended are, that it be convenient for sending out parties, to reconnoitre, surprize, or intercept the enemy; that if possible it have some natural defence, as a wood, river, or morass, in front or flank. . . ." *Practical Instructions*, p. 33. See also Tielke, *Field Engineer*, 1:123.

47. The full citation reads: Baron Friedrich Wilhelm Ludolf Gerhard Augustin Von Steuben, *Regulations for the Order and Discipline of the Troops of the United States* (Philadelphia: Styner and Cist, 1779).

48. Davis, *Campaign that Won America*, pp. 195-96.

49. Dawson, "Extract from the Journal of Chevalier Dupleix de Cadignan," p. 5; Lallemand, *Treatise on Artillery*, 2:329. The tent for eight soldiers measured 12 feet long by 8 feet wide, with tent poles 6-1/2 feet long. Those for more soldiers ran 20 feet long by 13 feet wide, with but 6-1/2-foot poles. *Ibid.*

assigned tracts to their respective company units.⁵⁰ Within the detailed space, noncommissioned officers and privates of a company pitched their tents in two ranks separated six feet from each other, with two-foot intervals between the tents.

At Yorktown there are indications that not all the soldiers had tents, a shortage that necessitated the erection of some brush shelters. Junior grade officers located their tents twenty feet behind the men, while field commanders placed their shelters thirty feet still further behind their subalterns.⁵¹ Well to the rear of the field officers were placed the unit support offices, i.e., the regimental surgeon, paymaster, and quartermaster. Kitchens for the various companies were placed directly behind the units and some forty feet from the tents of the field officers. Between the kitchens the sutlers set up their tents. On arrival, the horses and wagons would be stationed in a line twenty feet beyond the kitchens. Latrines for the two ranks thus arranged were dug 300 feet before and behind the respective ranks. Camp guards took post about 900 feet in front of, and in back of, their regiment's lines, while a quarter guard was positioned 40 feet from the wagons.⁵²

b) Drumbeats

Most of the functions of the established army camp were controlled by drumbeats, with a specific beat accorded specific duties. The beats for camp (as for combat) began on the right of the line and were taken up by the successive drummers who in turn relayed the signal to the left until the entire army (or regiment or battalion) was apprised of the order.⁵³ General drumbeats affecting various aspects of camp life at Yorktown included the following, as stipulated by Baron Steuben:

The General is to be beat only when the whole are to march, and is the signal to strike the tents, and prepare for the march.

The Assembly is the signal to repair to the colours.

The March for the whole to move.

The Reveille is beat at day-break, and is the signal for the soldiers to rise, and the centries to leave off challenging.

The Troop assembles the soldiers together, for the purpose of calling the roll and inspecting the men for duty.

50. Steuben, *Regulations*, pp. 76-77; Lallemand, *Treatise on Artillery*, 2:328.

51. For details of this troop placement, see Steuben, *Regulations*, pp. 78-79.

52. *Ibid.*, pp. 79-80.

53. *Ibid.*, pp. 90-91.

The Retreat is beat at sun-set, for calling the roll, warning the men for duty, and reading the orders of the day.

The Tattoo is for the soldiers to repair to their tents, where they must remain till *reveille* beating next morning.

To Arms is the signal for getting under arms in case of alarm.

The Parley is to desire a conference with the enemy.⁵⁴

Each morning the soldiers assembled at the beat of the drum for inspection of their persons and their dress. Each day the men responded to drumbeats for roll call and parade, and even for drinking water, which was distributed to those desiring to fill their canteens only after the appropriate drum signal had been sounded.⁵⁵ The drumbeat fairly dominated life in eighteenth-century army encampments.

c) Sanitation and Health

Cleanliness and sanitation were paramount considerations for the maintenance of a healthy, ready army. The regimental quartermaster saw that the area surrounding an encampment was kept free of litter. He also insured that old sinks were filled up and that new ones were dug at three-to-four-day intervals. Dead animals were required to be buried at least one half mile from camp, and the commissary received directions to butcher cattle at least fifty yards behind the wagons and to cover the entrails immediately. For personal cleanliness among their troops, unit officers daily inspected the tents to make certain "that no bones or other filth be in or near them." As an added precaution against disease, the soldiers in good weather struck their tents and aired their bedding daily.⁵⁶

Two problems that faced Washington immediately upon his arrival before Yorktown threatened to compromise the health of his soldiers. Drinking water was scarce because the British had spoiled much of that available. A French officer present later recalled that

to stop the advance on York, Lord Cornwallis, instead of attacking our column as a soldier would have done, had recourse to ruses such as only savage Indians are capable of employing. He had thrown into the wells heads of steers, dead horses, and even the bodies of dead negroes. The result was the French [-American] Army was short of water; it could have been molested in a more worthy manner.⁵⁷

54. *Ibid.*, pp. 91-92.

55. *Ibid.*, pp. 85, 87, 88-89.

56. *Ibid.*, pp. 83, 85, 86.

57. *Mercure de France*, December 1781, quoted in Bonsal, *Cause of Liberty*, p. 144.

Another manifestation of British germ warfare appeared in Cornwallis's effort to spread the dreaded smallpox among the Allies. Washington urged preventive measures in his morning orders of September 29:

Our ungenerous enemy having as usual propagated the small pox in this part of the Country, The Commander in Chief forbids the officers or soldiers of the Army having any Communication with the Houses or Inhabitants in the neighbourhood or borrowing any Utensils from them.⁵⁸

Malarial fever, transmitted by mosquitoes, infected the Allied armies greatly, and by the end of the siege several hundred soldiers lay stricken with the disorder at Williamsburg, where an army hospital was established in the Governor's Palace.⁵⁹ To handle immediate casualties on the field, both the Americans and French established hospitals in the American encampment area. That of the American wing was set up in the vicinity of Lafayette's headquarters, just north of Hampton Road, under the supervision of Chief Physician and Surgeon Dr. James Craik of Virginia. Other surgeons on Craik's field staff included Drs. James Thacher and Aeneas Munson.

Southwest of the American hospital and east of Warwick Road, the French set up a medical unit under Physician in Chief M. de Coste and Surgeon in Chief M. Robillard. The French Superintendent of Hospitals was M. de Mars. This hospital stood just across the highway from the right flank of Steuben's Division, its site selected because of its location almost directly behind what would become the French sector of operations on the siege line and because of its proximity to a main thoroughfare conducive to the transportation of wounded soldiers. Both armies conveyed by ambulance to the evacuation hospital at Williamsburg those soldiers seriously ill or injured before Yorktown.⁶⁰

d) The Artillery Parks

About midway between Grove Road and Beaverdam Creek (Great Run) and a half mile west of Steuben's Division, the French traced the ground

58. "Orderly Book kept during the Siege of Yorktown," p. 10. By 1781 many Continental soldiers had been immunized to smallpox by vaccination, a process that had become routine as early as 1777. C. Keith Wilbur, *Picture Book of the Continental Soldier* (Harrisburg: Stackpole Books, 1969), p. 77.

59. The Williamsburg hospital (the Old Palace) was of stone, measured 40 by 130 feet, and had two wings each 30 feet wide and 50 feet long. Louis C. Duncan, *Medical Men in the American Revolution, 1775-1783* (Carlisle Barracks, Pennsylvania: Medical Field Service School, 1931; reprint ed., New York: Augustus M. Kelley, Publishers, 1970), p. 351.

60. Stone, *Our French Allies*, p. 431; Arthur, *Sieges of Yorktown*, p. 15; Arthur, *End of a Revolution*, pp. 121-22; Dr. Craik was ordered to specifically watch Lafayette and stay near at hand in case the marquis was wounded. Duncan, *Medical Men*, p. 351.

for their park of artillery, the heavy ordnance for which had not yet arrived. Rectangular in shape, the park measured roughly 700 feet along its front and 300 feet on its sides. The artillery encampment was placed to the right rear of the park, which would contain not only the heavy siege pieces of the French, but the carriages and limbers to transport them and powder carts and ammunition wagons for their service. An artificers' laboratory stood nearby, and a guard unit protected against enemy sabotage. The entire French artillery park and encampment was on property owned by General Nelson, and Colonel d'Ahoville made his headquarters in the Nelson plantation house. Adjutant of the French artillery was M. Manduit, while M. Nadal served as director of the French park.⁶¹ Several hundred yards to the rear of the park the French traced the ground that became their cemetery during the siege.

The American artillery park was located a short distance to the left of Warwick Road, somewhat behind Steuben's Division and to the right of Beaverdam Creek. Similar in arrangement to that of the French, according to the maps, the American park likewise had to await the arrival of siege ordnance from Trebell's Landing on the James River. Henry Knox's artillery command camped immediately before the park. Behind the park was the artificers' workshop and the central magazine to contain ammunition. General Knox made his headquarters behind all of these component units. Generally, the artillery and engineers' depots were established closest to the front in order to best serve the forces in a siege. The facilities of Commissary and Quartermaster, while vital to the well-being of the troops, by function necessarily occupied secondary stations to those of the artillery and engineers. Consequently, they were placed farther to the rear.⁶²

3. Making Ready for the Artillery

Other preparations were underway for the imminent receipt of the heavy artillery from the James six miles away. Special attention was paid to the construction of bridges across the streams and marshes that the guns and their horses would encounter en route to the parks. Even the older wooden bridges must have had reinforcement to withstand the great weight of the cannon in transport. While detailed building knowledge of these bridges is lacking, it seems probable that they were

61. Rock L. Comstock, Jr., "The French Artillery Park at Yorktown: A Report and Exhibit Plan," MS, dated January 13, 1957, in the library of CNHP, Yorktown, Virginia, pp. 1, 4, 5, 13; Borresen, "Orientation Report," p. 13; Johnston, *Yorktown Campaign*, p. 116; The French Artillery Park was laid out on September 30. Closen, *Revolutionary Journal*, p. 140; See also Hatch, "Siege of Yorktown Opens," p. 10.

62. Wright, "Notes on the Siege of Yorktown," p. 230; Maps showing the location of the artillery parks and the placement of troops around them are 1F, 2F, 6F, 7A, 11F, 15F, 17F, 18F, 19F, 24F, 26F, 29B, 32F, 33F, 41F, 46F, 49F, 52A, 59B, 61F.

fashioned from wooden beams and heavy planks perhaps made from timber already growing in the area and easily accessible for that use. Theoretically, construction probably conformed somewhat to that outlined by Tielke:

When a bridge is to be made for baggage-wagons and artillery, the principal beams or trunks must be very strong; and at least four of them will be necessary, even if it should not be above six or eight feet in breadth. As soon as they are properly placed at equal distances, rafters or planks must be laid cross them, and fixed to the ground. . . . The centre of the upper planks must cover the joints of those below; and if there is reason to apprehend that the pressure of the wheels may be too great, they must have their usual covering of earth, and a sufficient quantity of straw under it. The same precaution may be taken before they trust to old or weak wooden bridges; because the elasticity of the straw will add . . . much to their security. . . .⁶³

a) Unloading at the James

At Trebell's Landing, part of Knox's artillery brigade under Colonel John Lamb prepared to help unload the American ware from sixty-four sloops and schooners that had borne it from the head of Chesapeake Bay. Some of the French siege guns had also arrived from that point and were anchored off College Creek below Williamsburg. There was a problem of locating sufficient skows and flatboats in the neighborhood to transfer the guns and stores to shore, and the troops freely confiscated what vessels were available.⁶⁴ Soldiers were warned, however, against robbing or otherwise maltreating citizens. "Any Soldier who shall be detected in such Mal-Practices," read an order of September 29, "may depend on being punished, without being tried by a Court-Martial."⁶⁵ Once enough flatboats were acquired, the troops proceeded to unload the artillery and its provisions.

Supplies for the artillery included the following items:⁶⁶

63. *Field Engineer*, 1:39-40. See also pp. 41, 45-46.

64. Letter from unidentified correspondent, dated September 28, 1781, James River, in "Extracts from the Lamb Papers," in the library of CNHP, Yorktown, Virginia, p. 13.

65. Orderly Book, Second Artillery (August 4-October 13, 1781), Lamb Papers, New-York Historical Society, copy in the library of CNHP, Yorktown, Virginia.

66. "An account of Ordnance & Ordnance stores ship'd on board of several Vessels at the head of Elk, bound to James River--," dated 1781, Henry Knox Papers, Massachusetts Historical Society, Boston, photostatic copy in the library of CNHP, Yorktown, Virginia (hereafter cited as Henry Knox Papers [CNHP]).

Garrison carriages
Travelling carriages
Mortar beds
Various shells
Powder in barrels
Cannonballs
Smith's equipment
Paper cartridges for cannon
Puses
Slow match

Grape shot
Cannister shot
Port fires
Rammers & Sponges
Kegs of "Oyl"
Tar barrels
Spare carriage wheels
Coins
Wagons

Still other non-artillery-related articles included muskets, bayonets, musket cartridges, barrels of flour, flints, quartermaster and clothier stores, and numerous carpentry and entrenching tools.⁶⁷ But Washington's army was compelled to await the arrival of the horses, still en route overland from Baltimore, before the artillery or any of these provisions could be sent on to Yorktown.⁶⁸

b) Tools and Confidence

While waiting for the artillery to advance from the James, Washington decided to lose no time in preparing to open trenches before the enemy. In his evening orders of September 29 he called for 1,200 men to parade on the morrow for work with the engineers. He also directed the Quartermaster General to furnish the troops with 500 spades, 100 pickaxes, and 400 axes, hatchets, or bill hooks.⁶⁹ Siege preparations would begin immediately. Throughout the Allied force morale remained high, and a general feeling of impending victory pervaded both armies. "Unbounded confidence is reposed in our illustrious commanders," wrote one on the scene, "the spirit of emulation and military ardor universally prevail, and we are sanguine in our expectations that a surrender of the royal army must be his Lordship's fate."⁷⁰

67. *Ibid.*

68. Arthur, *Sieges of Yorktown*, p. 15; The French mustered only 30 wagons and 180 artillery horses while waiting for their equipment to arrive from the north. It came October 5. By September 30 almost all of Rochambeau's artillery had reached Trebell's Landing. Jean Baptiste Donatien, Comte de Rochambeau, *Relation, on Journal des Operations* (Colophon: A Philadelphie De l'Imprimerie de Guillaume Hampton, 1781; Facsimile: Americana Series; Photostat Reproductions by the Massachusetts Historical Society, No. 225. Boston, 1929) p. 4; Freeman, *George Washington*, 5:353; De Verger Journal, in Rice and Brown, *American Campaigns*, 1:138-39.

69. Washington, *Writings*, 23:152.

70. James Thacher, *A Military Journal during the American Revolutionary War, from 1775 to 1783*, 2d ed. (Boston: Cottons and Barnard, 1827), p. 270.

D. Cornwallis Abandons the Outer Works

Lord Cornwallis was just as sanguine in his expectations of relief from Sir Henry Clinton. His first full day exposed to the investing armies had brought him numerous light casualties, especially at the advanced posts. A German soldier with Cornwallis described the situation:

This morning about 10 o'clock Private Zeilmann of Quesnoy's Company was mortally wounded on his picket post by a small musket ball and he died soon afterwards. I helped bury him. About 12 o'clock, noon, Private Haemmerlein, also of Quesnoy's Company, was wounded on this same post. The ball was cut out from between his two shoulder blades. I saw it and helped hold him. At other times also on this post were 1 private, Gruenbeck of Eyb's Company and 3 others from the Anspach Regiment, severely wounded. Today over 30 men were shot and wounded on the English and Hessian detached outposts.⁷¹

Such reports must have caused Cornwallis increasing discomfort. But his hopes for relief were further bolstered at dusk on the twenty-ninth when a messenger from Clinton arrived, having slipped undetected through the French naval blockade at the mouth of York River. He bore dispatches promising that twenty-three ships of the line with 5,000 soldiers aboard would leave New York to effect Cornwallis's relief. "There is every reason," wrote Clinton, "to hope we start from hence the 5th October."⁷²

Cognizant of the increased prospects for more casualties in his outer works as the Allies tightened their investment, and just as aware that losses on his outward plane would ultimately jeopardize his inner position, Cornwallis pondered whether he might hold until Clinton's promised help reached him. By spreading his troops evenly along his main line he welcomed an Allied concentration at one place or another. And concentrating them at selected points meant exposing weak lengths to Washington's force. The American and French combined strength also limited Cornwallis's options, for the Allies could mass great numbers of troops

71. Johann Conrad Doehla, "The Journal of Johann Conrad Doehla, 1775-1785," typescript, dated September 1941, trans. Robert J. Tilden, in the library of CNHP, Yorktown, Virginia, p. 139.

72. Quoted in Wickwire and Wickwire, *Cornwallis*, p. 369. Much controversy later centered on the words "to hope" in this letter. Cornwallis accepted the total message as final, believing that help would embark October 5. Clinton, however, always maintained that the indefiniteness was purposely intended. As he later put it, "My words were [that] there is every reason to hope the Fleet would sail the 5th Oct^r as the tides were then high. These are the words of the letter." Clinton's marginal notes in Stedman, *History . . . of the American War*, 2:409. See also Johnston's evaluation in *Yorktown Campaign*, p. 332.

before any point of his line while simultaneously maintaining their encirclement at all other points. These questions made more acute Cornwallis's disposition of his outer works; heavy casualties out in front meant fewer soldiers to hold Yorktown in the end. By withdrawing from the advanced posts the British might conserve strength, enabling them to ward off the Allies until Clinton's arrival and reinforcement.⁷³

Later that evening Cornwallis penned a reply to Clinton, announcing his decision to "retire this night within the works."⁷⁴ In so doing Cornwallis proceeded to gamble that relief would arrive before the pounding guns of the Allied artillery batteries breached his main defenses around Yorktown. On hindsight, it was clearly a risk he could ill afford to take.

73. Wickwire and Wickwire, *Cornwallis*, p. 370; Arthur, *End of a Revolution*, p. 120; Nickerson, "Yorktown, 1781," p. 88; Agniel, *Late Affair*, p. 129; Bonsal, *Cause of Liberty*, p. 148; For a slightly different view of Cornwallis's reasoning, see Burne, "Cornwallis at Yorktown," pp. 73, 74.

74. Quoted in Burne, "Cornwallis at Yorktown," pp. 73, 74.

CHAPTER VIII: THE NOOSE TIGHTENS

A. The Scammell Affair

The night of September 29 passed quietly, interrupted occasionally by the detonation of British cannon, which went unanswered by the Allies. Out ahead of the French and American encampments, pickets approached as near the enemy redoubts at Pigeon Hill as prudence would allow. Sometimes the patrols of the British encountered those of the Allies and brief, lively skirmishes illuminated the darkness.¹ Sunday broke clear and warm. At sunrise Lieutenant Colonel Alexander Scammell, who was field officer of the day, advanced on horseback to reconnoiter changes in the British outer position made during the night. As he approached the vicinity of the Fusiliers' Redoubt and lower Yorktown Creek, the New Hampshire officer became separated from the picket guard accompanying him. Looking about, Scammell somehow mistook a party of Tarleton's dragoons for his guard and fell in with them, whereupon they captured him. Whether or not Scammell tried to resist this arrest is unknown. In any event, a treacherous episode followed. One of the legionnaires advanced behind Scammell as he was being led towards Yorktown. According to one account the British soldier then "put his pistol near his [Scammell's] back & shot him. The ball enter'd between his hip bone & his ribs & lodg'd in him."² Another firsthand source described the incident in like detail:

Two of them [the British legionnaires] addressed him in rather harsh terms, the one seized his bridle and the other presented a pistol to his breast. Thus situated he [Scammell] acknowledged himself a prisoner, when a third rode up, presented his pistol close enough to burn his coat, and shot him in the back; a fourth made a stroke at him with his sword, but the shot having weakened him, he fell from his horse, and the intention of the villains was frustrated.³

1. Denny, *Military Journal*, pp. 40-41; Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 1.

2. Henry Dearborn, *Revolutionary War Journals of Henry Dearborn, 1775-1783*, ed. Lloyd A. Brown and Howard H. Pockham (Chicago: The Coxton Club, 1939), p. 219. Lieutenant Colonel Dearborn (Assistant Quartermaster General) replaced Scammell as commander of the First New Hampshire Regiment. Frederic Kidder, *History of the First New Hampshire Regiment in the War of the Revolution* (Albany: Joel Munsell, 1868), p. 100. Lieutenant Cameron commanded the legion detachment that captured Scammell. Tarleton, *History of the Campaigns*, p. 386.

3. Colonel William S. Smith to Colonel Samuel B. Webb, October 10, 1781, in John Austin Stevens, "The Allies at Yorktown, 1781," *Magazine of American History* 6 (January, 1881): 21.

The British soldiers hurried Scammell into Yorktown, where Cornwallis's surgeons treated and dressed his wound. That afternoon a red-coated soldier with a white flag crossed into the Allied lines with a letter from Scammell saying he was being paroled and requesting that his servant and clothing be forwarded to the hospital in Williamsburg. There Scammell rested and hopes grew for his survival. On October 6, however, his condition worsened rapidly and at five o'clock that afternoon he died. Scammell's death was the first major setback for the Allies in their investment of Yorktown. A courageous, well-liked officer, his death cast a pall on American morale that lasted several days. "No officer of Colo. Scammell's rank," grieved his successor in the First New Hampshire, "that has been killed or died in the Army has been more, if so much, lamented by all ranks as he is. . . ."⁴

4. Dearborn to Meshech Weare, October 11, 1781, in Johnston, *Yorktown Campaign*, p. 175. Other than those sources already mentioned, this account of the Scammell affair is essentially drawn from data presented in Philip Van Cortlandt, "Autobiography of Philip Van Cortlandt, Brigadier-General in the Continental Army," *Magazine of American History* 2 (May, 1878): 293-94; Sanderson, "Diary of the March from the Hudson to Yorktown," in Johnston, *Yorktown Campaign*, p. 171; Benson J. Lossing, *Pictorial Field-Book of the Revolution*, 2 vols. (New York: Harper and Brothers, Publishers, 1855), 2:309; Johnston, *Yorktown Campaign*, p. 123; S. Doc. 318, p. 45; Arthur, *End of a Revolution*, p. 120; and Davis, *Campaign that Won America*, pp. 198-200. Scammell had served as Adjutant General of the Continental Army in 1780. Early in 1781 he took charge of the First New Hampshire Regiment. For a biographical sketch of Scammell, see Kidder, *History of the First New Hampshire Regiment*, pp. 102-4. Regarding the impact of Scammell's death, Lieutenant Colonel Henry ("Light Horse Harry") Lee wrote: "This was the severest blow experienced by the allied army throughout the siege: not an officer in our army surpassed in personal worth and professional ability this experienced soldier." *Memoirs of the War in the Southern Department of the United States*, rev. ed. (New York: University Publishing Company, 1870), p. 496. In contrast to the plaudits usually bestowed on Scammell's memory by his fellow officers, however, was the account offered by Asa Redington, a soldier in the First New Hampshire. Said Redington: "When he was sent to Williamsburg [with his wound], up York River, none of his men became enthusiastic about volunteering to accompany him, but Uriah Ballard finally consented to go. In a few days Scammel [sic] was dead, and none of his men regretted his loss, for they said it was a just punishment for the undeserved punishments he had inflicted on them while exercising his extreme tyranny. Patriotic men who thought they were American soldiers were shown that they were more dogs in that colonel's estimation." "Narrative of Asa Redington," typescript copy from an unidentified source, in the library of CNHP, Yorktown, Virginia, p. 12. Redington was from Wilton, New Hampshire. He enlisted February 27, 1781, and was discharged in December of that year. Kidder, *History of the First New Hampshire Regiment*, p. 154.

B. Discovery of the Abandoned Outer Works

The tragedy of Colonel Scammell's capture and shooting was shortly followed by the arrival of good news for the Allies. Noting a lack of movement in the British redoubts at Pigeon Hill, some French grenadiers and chasseurs (light infantry) marched forward at about eight o'clock to investigate. They reported both structures empty, abandoned during the night by Cornwallis's soldiers.⁵ Further inspection disclosed that the two-gun battery at Hampton Road, as well as all the redan units bordering the north side of Wormley Creek, were also empty, and that only the Fusiliers' Redoubt on the far left of the Allies remained in British possession.⁶ At this development General Rochambeau immediately came forward to personally survey the ground in front. He directed 100 chasseurs and grenadiers of the Regiment Bourbonnois to occupy one of the Pigeon Hill Redoubts, 50 chasseurs of the Regiment Deux-ponts the other.⁷ Both

5. Barneville, "War Diary," p. 272. The commander of the French bivouac, M. le Baron d'Esebeck, noted the British evacuation and reported it to Rochambeau in the morning. Closen, *Revolutionary Journal*, p. 139. Evidently the withdrawal occurred just before dawn. The troops that took Scammell constituted the rear guard for the evacuation. "Siege of York and Gloucester, Virginia," p. 475.

6. Fersen, "Journal of Operations," p. 439; General Nelson to David Jameson, October 1, 1781, in Thomas Nelson, Jr., *Letters of Thomas Nelson, Jr., Governor of Virginia* (Richmond: Virginia Historical Society, 1874), p. 47; Palmer, *Calendar of Virginia State Papers*, 2:513; Deux-Ponts, *My Campaigns in America*, pp. 134-35; Balch, *French in America*, 1:188; Captain Ewald, who was stationed with the British at Gloucester, mistakenly believed that Cornwallis burned his outer works before abandoning them. "Diary of the American War," p. 881; The Long Neck Redoubt (No. 2) was also abandoned at this time, although there seems to be no mention of the structure in the various diaries and journals consulted. Perhaps its close proximity to the British main works discouraged its reconnaissance by the Allies. Borresen states that the Long Neck Redoubt later served the Allies as a picket guard. "Orientation Report," p. 22.

7. D'Ancteville, "Journal of the Chesapeake Campaign," p. 2; Balch *French in America*, 1:188, 189; Du Bourg, "Diary of a French Officer, 1781," p. 445; General John Mitchell to Major H. H. Chapman, December 13, 1805, Manuscripts Collection, box 92, item 3190, Morristown National Historical Park, Morristown, New Jersey; None of the journals or diaries adequately distinguishes which redoubt was occupied by which body of troops. D'Ancteville simply says "100 men occupying Pigeon Quarter, 50 men Penny Hill." Because the terms were interchangeable and often applied to both tracts as well as to either, the final troop disposition will probably remain unknown. Perhaps an argument can be made that the larger number of soldiers went to the larger redoubt, which according to most maps was the pentagonal structure (No. 3) lying north of Goosley Road.

structures lay hidden in tall woods and the soldiers approached cautiously, anticipating action with British troops they feared were concealed in the forest growth.⁸ Behind the redoubts Rochambeau posted the remaining grenadiers and chasseurs of the Brigade Bourbonnois, and they occupied sloping ground so as to shelter themselves from Cornwallis's steady artillery fire.

Almost as important as the earthworks abandoned by the enemy ("within point blank shot of their main works," exclaimed Colonel St. George Tucker) was the ravine of York Creek, now unobstructed for nearly its entire length. Not only did it comprise a superior defense, but its stream promised water for the Allied work forces.⁹ To the right center the American light infantry formed in two battle lines and moved forward toward the enemy in order to take the battery adjacent to Hampton Road. The troops expected a feint from the British but none occurred.¹⁰ Throughout the American advance Cornwallis's artillery continued its bombardment with little effect. Actually, the British greatly feared a direct attack at a time when they were ill-prepared to withstand one. Lieutenant Colonel Tarleton later remembered that

an assault was more to be apprehended before ten o'clock that morning than at any precedent or subsequent period, till the completion of the second parallel. The unfinished state of the works, the want of abatis, the badness of the position, and the difficulty of arranging both the troops and the artillery, would have rendered the attempt not very hazardous, if General Washington had either been acquainted with these circumstances, or had reason to doubt the superiority of the French navy in the American seas.¹¹

Such fears were unfounded, however. Incredulous at their good fortune in the inexplicable development, Washington and Rochambeau surveyed

8. Balch, *French in America*, 1:188.

9. Deux-Ponts, *My Campaigns in America*, p. 136; *Pennsylvania Packet*, October 16, 1781, quoted in *Magazine of American History* 6 (January, 1881): 40; Colonel St. George Tucker to Frances Tucker, October 5, 1781, in "Letters to and from St. George Tucker, October 1 through October 15, 1781," ed. S. Michael Hubbell, typescript copy in the library of CNHP, Yorktown, Virginia, p. 8; For other accounts of the French occupation of Pigeon Hill, see St. George Tucker, "Journal kept by Col. St. George Tucker during the siege of Yorktown and Surrender of Cornwallis, Oct. 1781," photostat copy of original (in Department of Research and Record, Colonial Williamsburg Foundation, Williamsburg, Virginia) in the library of CNHP, Yorktown, Virginia, p. 7; Washington, *Diaries*, 2:262-63.

10. Johnston, *Yorktown Campaign*, pp. 121-22; Wright, "Notes on the Siege of Yorktown," p. 238; Arthur, *End of a Revolution*, p. 120.

11. *History of the Campaigns*, p. 386.

their new acquisitions and readied them for occupancy by their own troops. The works at Pigeon Hill seemed weak, having been built in a particularly sandy area and with especially thin parapets. Rochambeau determined that they needed reinforcement and his French soldiers later proceeded to convert and bolster these defenses for their own use. The surrounding abatis proved stout, although its construction from flammable pine trees meant that it could be destroyed quite easily.¹²

1. Advantages for the Allies

Cornwallis's precipitate withdrawal from the detached works to his front produced considerable speculation on the part of the Allies. "We must believe," wrote Baron Clozen, "that he feared being assailed in the rather extended position that he had fortified. . . ."¹³ General Wayne called the move "not only unmilitary but an Indication of Confused precipitation."¹⁴ Probably the consensus of opinion on the tactical value of the move was stated by Washington's Adjutant General, Brigadier General Edward Hand of Pennsylvania, who maintained that the British withdrawal "will save us much time and trouble, as it at once gives us ground which is as advantageous as that the Enemy possesses, and greatly shortens our approaches. . . ."¹⁵ Other benefits the Allies derived from the British evacuation included the ability to shorten their own line by moving its center forward even with Gossley Road and the Wormley Creek ravines; the opportunity to further restrict Cornwallis within the confines of his

12. Deux-Ponts, *My Campaigns in America*, p. 135; H. I. Landers, *Yorktown. The Investment of Yorktown, October, 1781* (Washington: Army War College, 1931), p. 189; Joachim Merlant, *Soldiers and Sailors of France in the American War for Independence (1776-1783)*, trans. Mary Bushnell Coleman (New York: Charles Scribner's Sons, 1920), p. 173; Davis, *Campaign that Won America*, p. 199.

13. *Revolutionary Journal*, p. 139.

14. Journal of Anthony Wayne, Wayne Manuscripts, Historical Society of Pennsylvania, p. 81 (hereafter cited as Wayne Journal); See also H. M. Moore, *Life and Services of Gen. Anthony Wayne* (Philadelphia: Leary, Getz and Company, 1859), p. 148.

15. Hand to Jasper Yeates, October 1, 1781, Edward Hand Papers, vol. 2, item 135, New York Public Library, New York City; Quartermaster General Colonel Timothy Pickering wrote his wife of the news: "The enemy have abandoned some of their outworks, which will probably, in some degree, shorten the siege." Quoted in Pickering and Upham, *Life of Timothy Pickering*, 1:302; Count William Deux-Ponts believed "that the enemy ought to have kept these redoubts until they were forced to abandon them. . . . It would have compelled us to feel our way, and would have held us in doubt. . . ." *My Campaigns in America*, p. 135; Washington wrote Congress that the abandoned fortifications commanded "in a very near advance almost the whole remaining line of [the British] defence." Quoted in Freeman, *George Washington*, 5:351.

main works; and, most important, the chance to move the Allied artillery closer to the British position once that ordnance could be brought to bear.¹⁶

2. Explanations for Cornwallis's Withdrawal

While general agreement prevailed as to the relative advantages for the Allies consequent with the British pullback, a variety of explanations for the withdrawal existed, all of them to a certain extent applicable. One was that the British lacked sufficient numbers to maintain their outer fortifications.¹⁷ Another was that Cornwallis feared the Allies might turn his left and somehow interject themselves between his outer defenses and his main ones.¹⁸ A third reason, completely plausible as later events proved, was that the abandonment constituted but a preparatory move in an elaborate escape plan by which the British would either cross by boat to Gloucester and fight their way through the Franco-American force stationed there, or attempt to concentrate enough men to break out somewhere along their right flank and flee up the peninsula towards Richmond. It was feared that de Grasse's refusal to post ships above Yorktown would bode ill for the Allies if Cornwallis selected this latter escape route.¹⁹ "I am far from laughing at the idea of the enemy's making a retreat," Lafayette informed General Washington. "It is not very probable; but it is not impossible."²⁰

Cornwallis's decision to abandon his outer position seemingly provoked as much comment among his own officers as it did among the Allies'. Tarleton judged the movement premature, believing that the posts were

16. John Andreus, *History of the War with America, France, Spain, and Holland; Commencing in 1775 and Ending in 1783*, 4 vols. (London: John Fielding, 1786), 4:205.

17. *Ibid.*, p. 204.

18. "Siege of York and Gloucester, Virginia," p. 475.

19. Freeman, *George Washington*, 5:351; Evidence of the Allies' apprehensions over the possibility of Cornwallis's trying to escape their closing forces is apparent in St. George Tucker, "Journal kept by Col. St. George Tucker," p. 7; Washington, *Writings*, 23:155-56; Washington to Weedon, September 30, 1781, Simon Gratz Autograph Collection, Historical Society of Pennsylvania; Brisout de Barneville noted: "we fear that the enemy may cross the river one clear night and throw himself on M. de Choisy, making up his mind to travel by land in order to give us the trouble (very great) of looking for him." "War Diary," p. 272.

20. Letter dated September 30, 1781, in "Letters from the Field," *Magazine of American History* 6 (January, 1881): 44. Also reproduced in Lafayette, *Memoirs, Correspondence and Manuscripts of General Lafayette*, 2 vols. (New York: Saunders and Otley, 1837), 1:531.

strong and well-defended by an appropriate number of British troops. Much time could have been bought had Cornwallis chosen to maintain the fortifications pending Clinton's arrival, for the Allies' only alternatives lay in storming the posts (an effort that might or might not have been successful) or in conducting regular siege approaches towards them. Either solution could have delayed Cornwallis's surrender several days--long enough for Clinton's soldiers and navy to relieve him.²¹ Cornwallis decided to spare the redoubts and thus save lives to defend his main position, banking heavily that Clinton would appear presently. The British general later explained his motives thusly:

After remaining two days in a strong position in front of this Place in hopes of being attacked, upon observing that the enemy were taking measures which could not fail of turning my left flank in a short time, & receiving on the second evening your letter of the 24th of Sept': informing me that the relief would sail about the 5th of October, I withdrew within the Works, . . . hoping, by the Labour & firmness of the Soldiers, to protect the defence untill [sic] you could arrive.²²

Yet this course proved as injurious to Cornwallis as that which he sought to avoid by his withdrawal. As one critic put it, "to coop the troops up in the contracted and unfinished works of York-town, unexpectedly hastened the surrender of the British army."²³

C. The French Attack the Star Redoubt

British fears of a general American-French attack on the main works around Yorktown must have heightened around ten o'clock that morning after the Allies' discovery of Cornwallis's withdrawal. Buoyed by this event, 100 French light infantry volunteers of St. Simon under Viscount Viomenil charged forward in an effort to seize the Fusiliers' Redoubt guarding the right flank of the British position. Two companies of grenadiers and chasseurs of Agenois supported the movement. St. Simon's men skirmished with pickets from the star redoubt who had been sniping at the French command to retard its movement and drove them out of hiding, but in so doing drew scattered musket balls and grapeshot from the redoubt. But the Frenchmen tried again, this time pushing ahead "sword in hand" through the abatis to the ditch. The troops of the Twenty-third Regiment held their fire until the French soldiers gained the ditch, then promptly

21. Borresen, "Orientation Report," pp. 21-22; Whitridge, *Rochambeau*, pp. 213-14.

22. Cornwallis to Clinton, October 20, 1781, Gold Star Box, Henry Clinton Papers, William L. Clements Library.

23. The opinion is Tarleton's, cited in Hoyt, *Practical Instructions*, p. 74.

sent them back towards their lines under a fusillade of small arms fire backed by a few rounds from the two twelve-pounders and three coehorns present in the fort. The French attacked for the third time. In this assault they apparently succeeded in forcing some of the British hiding beyond the redoubt into retreat, because Colonel St. George Tucker saw them "running very hastily across the sandy Beach into the town. . . ."24 At this, however, one of the British ships in York River (the *Guadaloupe*?) joined with the land batteries, opened on the French pursuers, and drove them back for good.²⁵

St. Simon's casualties were light, with but one man killed and ten wounded, including M. de Bouillet, an officer with the Agnois unit whose leg was struck and broken by a cannonball. But the French had succeeded in driving the enemy pickets from the field and thus in presenting St. Simon's troops with more advantageous ground.

Rochambeau now ordered the Brigade Bourbonnois forward to camp in the woods half a mile before its earlier station. The Regiment Touraine then took the advance post, well ahead of Agnois and Gatenois, and completely sealed the river road to Williamsburg.²⁶ One version of this episode states that the British allowed the French, unarmed, to remove their casualties under a flag of truce.²⁷ Cornwallis also received an

24. "Journal kept by Col. St. George Tucker," p. 7; General Weedon at Gloucester witnessed the French assault and described it in similar terms. Enclosure in Weedon to Washington, October 2, 1781, Washington Papers, vol. 185, Library of Congress.

25. Weedon mentioned "the Shiping [*sic*] firing [*sic*] when they Se [*sic*] our men runing [*sic*] after theirs[.]" Enclosure in Weedon to Washington, October 2, 1781, Washington Papers, vol. 185, Library of Congress.

26. This account of the French attack is based on data appearing in Du Bourg, "Diary of a French Officer, 1781," p. 445; La Combe, "Journal of the Siege of York," p. 2; Engineers' Journal, p. 450; Ewald, "Diary of the American War," pp. 181-83; Doehla, "Journal of Johann Conrad Doehla," p. 140; Closen, *Revolutionary Journal*, p. 140; Rochambeau, *Relation*, p. 5; Deux-Ponts, *My Campaigns in America*, p. 136; Jacob Smith, "Diary of Jacob Smith, American Born," ed. Charles W. Heathcote, in *Pennsylvania Magazine of History and Biography* 56 (1932): 263; *Pennsylvania Packet*, October 9, 1781, in Frank Moore, comp., *Diary of the American Revolution, from Newspapers and Original Documents*, 2 vols. (New York: Charles Scribner, 1860), 2:501. Secondary treatments appear in Johnston, *Yorktown Campaign*, p. 122; Davis, *Campaign that Won America*, pp. 199, 201-2; and Borresen, "Orientation Report," pp. 15-16.

27. Stephen Popp, *Popp's Journal, 1777-1783*, ed. Joseph G. Rosengarten, (from *Pennsylvania Magazine of History and Biography*; reprint ed., Philadelphia, 1902), p. 18.

American feint on his left against Redoubts 9 and 10, almost simultaneous with that of the French against the Fusiliers' Redoubt. One British naval officer concluded that the Allies intended to storm the flanking redoubts on either side of Yorktown.²⁸ However, the American effort, headed by Major Joseph R. Reid of Muhlenberg's Brigade, was disrupted by some well-aimed artillery fire, which forced the troops to retire without accomplishing anything.²⁹

D. Advancing Siege Preparations

1. Reconnaissance

Throughout Sunday morning Washington, with General Du Portail and his engineers, inspected the ground given up so easily. The engineers traced an intermediate redoubt midway between the structures at Pigeon Hill and Hampton Road, then moved forward to inspect the terrain intended for the first parallel and its batteries. Amid the steady bombardment of Cornwallis's artillery ("about 40 cannon to the hour," said one witness), Washington and his escort made a close reconnaissance of his new acquisitions and of the intervening tracts. Occasionally British shot struck nearby, causing the covering parties to scatter and reminding one Continental officer "of a play among the boys called Prison-base."³⁰ Washington appeared unruffled by the cannon fire. With Du Portail and the engineers, he surveyed one of the captured redoubts surrounded by a dense wood of poplar trees. While they were there, an enemy cannonball flew close by the heads of the party. Another sped by to lodge in the earth fifty feet distant, causing the officers to spur their horses rearward. Washington alone remained, watching the British through a spyglass. The enemy artillery ceased fire.³¹

2. Need for Artillery Platforms

The Allies did not answer the British. Their own heavy guns still awaited the arrival of horses to transport them to the front from Trebell's Landing.³² In preparation for the pieces, however, General Knox on September 30 sent Captain Thomas Shields on a mission to obtain the wood required for artillery platforms. "You are," instructed Knox,

28. James, *Journal of Rear-Admiral Bartholomew James*, p. 119.

29. St. George Tucker, "Journal Kept by Col. St. George Tucker," p. 7.

30. Denny, *Military Journal*, p. 41; Duncan, "Diary of Captain James Duncan," p. 747; "Itinerary of the Pennsylvania Line from Pennsylvania to South Carolina, 1781-1782," *Pennsylvania Magazine of History and Biography* 26 (1912): 284; Johnston, *Yorktown Campaign*, p. 122.

31. Davis, *Campaign that Won America*, p. 200. Freeman has this incident occurring October 1. *George Washington*, 5:353.

32. Riley, "Founding and Development of Yorktown," p. 284.

with the vessels appointed for that service, to proceed with all possible dispatch to Somerset on the Eastern shore of Maryland, and there load them with all the oak plank from 2 to 3 inches [thick] & from end 12 or 18 feet in length which you can find and also with as much pine plank from 1 to 3 inches as well [will?] complete the loading of said vessels. The plank being absolutely essential in the operations against the enemy, every method must be made use of to obtain it, and in case a sufficient quantity of it can not otherwise be had you are hereby authorized to impress as much as shall be wanting. . . . * * * * The great necessity for these articles will I hope be a sufficient inducement for you to make All possible dispatch to return to this place, at which you will inform me . . . the instant of your arrival.³³

3. Building the Line of Countervallation

The Allies passed the afternoon making other preparations that would culminate in opening the siege against Cornwallis. The French began altering the outposts on Pigeon Hill while the Americans took steps to convert the Hampton Road battery into a redoubt and to break ground on the planned intermediate structure.³⁴ The entire Allied position on the gorge was approximately 950 yards from the nearest British soldiers posted in the hornwork before Yorktown. Learning that day of Digby's arrival at New York, and apprehensive lest Clinton should soon embark to Cornwallis's aid, Washington accelerated his schedule as much as possible. Twelve hundred Americans were ordered into the forest to collect materials for

33. Knox to Shilds, September 30, 1781, Henry Knox Papers (CNHP). Shilds impressed some 13,540 board feet of pine during his assignment, but apparently contracted with Maryland citizens for the oak. All the wood was used by "the artillery and engineering departments." See Knox to Maryland Governor Thomas Lee, October 29, 1781, in *ibid.* Evidently the Americans brought no artillery platforms with their cannon from the north, but instead had to fashion them before Yorktown. At least there is no indication in the inventories of *ibid.* that platforms constituted part of the cargo being unloaded at Trebell's Landing. Presumably, however, the French had their own artillery platforms, sent south from Newport with de Barras.

34. There is evidence that the redoubt contemplated for the area between Pigeon Hill and the Hampton Road battery was likewise to be created from a British redan already there. Map 48F indicates such an earthwork in existence. This structure comprised, with the Hampton Road battery, what Map 48F calls "redans des Anglois convertis en redoutes contre la place par the Americains." Furthermore, a sketch map (27F) prepared by French engineers at the time of the investment shows an earthwork at this location.

making fascines, gabions, and saucissons. The general later ordered a like number to parade next morning, 400 to work on reinforcing the Pigeon Hill structures, 800 to continue fashioning fascines and gabions.³⁵

As the Allies consolidated their gains, spread out their camps, and otherwise readied for the military undertaking before them, George Washington again entreated de Grasse to give him the means to tactically secure Cornwallis. Once more he requested that the French admiral post ships in the river above Yorktown. De Grasse presently rejected that course, but did agree to loan 800 marines from his vessels for duty at Gloucester. He politely asked that no additional requests be made affecting the strength of his fleet.³⁶ Washington also turned down Lafayette's repeated request that he be named second in command to replace Lincoln. General Lincoln, maintained the Frenchman, should be transferred to Gloucester, leaving Lafayette in charge of the whole American wing. Washington demurred courteously but firmly and Lincoln remained in command of the United States forces.³⁷

4. Washington's Orders of the Day

During the afternoon Washington issued various orders affecting the administration of the Allied forces. Henceforth, soldiers not assigned to reconnoitering parties were to refrain from independently inspecting the enemy works. "The curiosity of such persons often interrupts [*sic*] the observation of officers particularly charged with this Business."³⁸ Deserters from the British ranks were to be checked scrupulously to prevent those infected with smallpox from spreading the disease.³⁹ Without citing the humor implicit in the statement, Washington also directed that "All officers and others are strictly forbid for obvious Reasons to wear Red Coats."⁴⁰ And the commanding general appealed to the chauvinism and personal honor of his soldiers when he told them: "The Liberties of America and the Honor of the allied arms are in our hands. Such objects

35. "Journal of the Siege of York in Virginia by a Chaplain," pp. 104-5; Washington, *Writings*, 23:155; Johnston, *Yorktown Campaign*, p. 126; Dumas, *Memoirs of His Own Time*, p. 64.

36. Freeman, *George Washington*, 5:352.

37. Davis, *Campaign that Won America*, pp. 200-201.

38. "Orderly Book kept during the Siege of Yorktown," p. 18.

39. *Ibid.*, p. 17. On October 2 Washington directed that "the surgeons of the army are to be particularly attentive to removing without an Instants [*sic*] delay any soldier in whom the syptoms [*sic*] of the small pox may appear." *Ibid.*, pp. 26-27.

40. *Ibid.*, p. 18.

must excite a patriotic emulation in the greatest actions, and exertions. Their consequences will amply compensate every danger and Fatigue."⁴¹

E. Converting the Captured Redoubts

1. Pigeon Hill

Baron Steuben served as Major General of the Day. Early, Washington ordered a picket of 24 officers and 300 men to take post in the gorge between the abandoned outer works and the ground previously camped on by Tarleton's command.⁴² These pickets composed the day cordon, so positioned to guard against surprise by the British garrison. Towards dusk General Muhlenberg's Brigade assumed picket duty, supported by some of Generals Hazen's and Wayne's soldiers. With their French counterparts under Baron Viomenil, the American sentinels soon advanced and spread to the left and the right so that the British were completely hemmed in through the night.⁴³ As the pickets watched through the darkness, the Allies continued adapting Pigeon Hill to their purposes and at the same time broke ground to build new structures to aid in further covering their approaches between the hill and the Wormley Creek ravine. In converting the Pigeon Hill Redoubts, the French essentially reversed the fronts; that is, filled in the former British openings and cut new ones in the opposite walls.

Besides completing the investment of Yorktown by the Allies, the earthworks--either those gained fortuitously or those constructed by the French and Americans--completed the countervallation Washington had prescribed for protecting the army encampment. In the darkness workmen cut forest boughs with which to fashion fascines necessary for bolstering the existing Pigeon Hill structures and building new ones. Meantime, 400 Americans paraded forward with spades, shovels, and pickaxes to the spots selected earlier by Washington's engineers. On signal they began to throw up the earthen defenses, their labor accompanied by occasional musketry and the boom of enemy cannon.⁴⁴

41. *Ibid.*, p. 16.

42. Washington, *Writings*, 23:154; Wild, "Journal of Ebenezer Wild," p. 152.

43. "Orderly Book kept during the Siege of Yorktown," p. 14; Van Cortlandt, "Autobiography," pp. 293-94; Wright, "Notes on the Siege of Yorktown," p. 239.

44. Duncan, "Diary of Captain James Duncan," p. 747; Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 1; Washington, *Diaries*, 2:263; Trumbull, "Yorktown, Virginia," p. 335; Wayne Journal, p. 81; Samuel Shute, "Sam^l Shutes Journal of the Cornwallis Expedition Commencing at Dobbs Ferry Aug^t 19th '81," General Revolutionary Manuscripts, Historical Society of Pennsylvania; *Rivington's Gazette*, November 24, 1781, quoting Cornwallis to Clinton, October 20, 1781, in Moore, *Diary of the American Revolution*, p. 513; Stedman, *History . . . of the American War*, 2:409; Keim, *Rochambeau: A Commemoration*, p. 444; Wright, "Notes on the Siege of Yorktown," pp. 238-39; Arthur, *End of a Revolution*, p. 121.

2. The Barbette Unit

Furthest to the right on the gorge between York and Wormley creeks, the 200 American laborers went to work converting the British barbette battery into a redoubt (No. 5 on the accompanying map), a process accomplished essentially by closing its entrance and raising its parapet to a protective height for American soldiers.⁴⁵ A majority of the contemporary maps consulted suggest that this structure, as altered by the Americans, was pentagonal in shape.⁴⁶ If the fleche-shaped battery contained but three sides, as at least two maps (15F and 16F) indicate, then the Americans erected only two sides in closing its entrance. Whereas the British occupants placed abatis only on the southern sides, so as to face an Allied rush from that direction, the Americans evidently either moved it north of the redoubt or continued it completely around the structure.⁴⁷

3. The Intermediate Redoubt

To the left of the former British battery and about equidistant between it and Pigeon Hill, 200 American soldiers started on another redoubt, this one (No. 6) close by the edge of one of York Creek's sprawling arms and, by its location, more exposed to British artillery than that on the right.⁴⁸ But through the darkness Cornwallis's guns remained silent. "I am at a loss to account for it," marveled Captain James Duncan, "for the moon shone bright, and by the help of their night glasses they must certainly have discovered us."⁴⁹ The expected bombardment came after daylight the first day of October, when the British unleashed three cannon to impede progress on the two American redoubts.⁵⁰ A New York soldier who participated in raising this intermediate earthwork noted the following experience in his journal:

45. Engineers' Journal, p. 450; La Combe, "Journal of the Siege of York," p. 2; Tarleton, *History of the Campaigns*, p. 386; Anais de Saint-Exupery, "The War Diary of Georges Alexander Cesar de Saint-Exupery, Lieutenant in the Regiment of Sarre-Infantry," *Légion D'Honneur* 3 (October, 1931): 110; Arthur, *Sieges of Yorktown*, p. 15.

46. Maps 11 F, 15F, 16F, 17F, 19F, 26F, 28A, 29B, 31F, 33F, 41F, 48F, 49F, 61F.

47. See Maps 29B, 32F, 45F, 49F, 53F for abatis completely encircling the redoubt. Map 34F shows abatis only on the north side.

48. Engineers' Journal, p. 450.

49. "Diary of Captain James Duncan," p. 748.

50. *Ibid.*

We were very much annoyed by the shot from the British Artillery, which after having wounded several of our men-- we adopted the precaution to establish men in different places on the work, to watch the flash of the Enemy's guns-- when we immediately cry out "a Shot"--on which each man took care of himself, by jumping off the works into the trenches, or as best he could.⁵¹

Baron de Turpin, a captain of engineers, directed the construction on this work, which ended the night of October 3.⁵² Historical maps indicate a palisaded, pentagonal-shaped redoubt without abatis, perhaps suggesting the confidence of the Allies relative to their security from British sorties by this time.⁵³ Otherwise, the maps disclose very limited information about this structure.⁵⁴ In addition to building new earth-works and strengthening old ones, the Allies also completed work on bridges over the marshes and on communication routes among the various troop encampments.⁵⁵

F. Cornwallis Strengthens His Line

During all the daylight hours that work went forward, the British mounted efforts to disrupt the Allies with their artillery. "The Enemy endeavored to retard these operations," reported General Nelson, "by playing on our men who were at work." But Allied casualties were light. "We have not returned one shot," said Nelson.⁵⁶ Meanwhile Cornwallis continued to buttress his defenses about Yorktown. The withdrawal from the outer position having severely limited his wood resources, the general directed his men to begin dismantling houses for the lumber needed to strengthen his line. Lieutenant John Bell Tilden of Pennsylvania, on

51. Swartwout, "Journal of Barnardus Swartwout," p. 35.

52. Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, p. 57; Engineers' Journal, p. 450.

53. See Maps 1F, 2F, 11F, 15F, 16F, 17F, 19F, 25B, 26F, 28A, 29B, 31F, 32F, 33F, 35F, 36F, 37F, 41F, 45F, 46F, 48F, 50B, 53F, 61F, 62F. Borresen believed that both American works had abatis. "Orientation Report," p. 22.

54. Map 41F shows what appears to be a small trench leading into the southeast corner of the redoubt. The structure was built at a location Cornwallis's own chief engineer had deemed important to strengthen the British outer position. See Map 57B. As mentioned previously, there is evidence that this redoubt, too, was made from an abandoned British redan on the site. See Borresen, "Orientation Report," p. 22.

55. Closen, *Revolutionary Journal*, p. 141.

56. Nelson to Virginia delegates in Congress, October 5, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:527.

picket duty the night of September 30, described hearing "a confused noise of tearing down buildings, for to make fortifications."⁵⁷

As Cornwallis struggled to prepare his main earthworks to resist the Allied artillery, George Washington, confident of ultimate success against the British, incited his troops to rise to the occasion at hand:

The advanced season and various considerations render it indispensibly necessary to conduct the attacks against York with the utmost rapidity, the General therefore exhorts and requires the Officers and soldiers of this Army to pursue the duties of their respective departments and stations with the most unabating ardor; the present moment offers in prospect the epoch which will decide *American Independence and the Glory and superiority of the Allies.*⁵⁸

57. John Bell Tilden, "Extracts from the Journal of Lieutenant John Bell Tilden, Second Pennsylvania Line, 1781-1782," *Pennsylvania Magazine of History and Biography* 19 (April, 1895): 59. See also Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 2; and Riley, "Founding and Development of Yorktown," pp. 285-86.

58. Washington, *Writings*, 23:154; "Orderly Book kept during the Siege of Yorktown," pp. 15-16.

CHAPTER IX: THE LION AT BAY

A. Disruptions by British Artillery

For almost a week after the British withdrew from the redoubts on the gorge and from those around the ravines of York and Wormley creeks, the Allies labored toward their objective of at last opening trenches and commencing the siege. The first days of October passed warm and humid, but were not hot enough to delay General Washington's operations to any great extent. All day Monday, October 1, the British sent scores of balls and shells to disrupt the Allies' progress on their line of countervallation. At one point, recorded an officer, "the enemy fired two eight inch shells. One burst over our heads, the pieces of which flew among us but did no harm. The other struck the ground and burst fifty yards in our rear."¹ The cannonade lasted into the evening, diminishing after dark to about ten rounds per hour. Casualties continued light that day, with but two men, apparently bystanders, killed near the American works. At 9:00 P.M. Lincoln's Division relieved Lafayette's and the construction went on, covered against attack by General Wayne's Brigade.²

B. Planning for the Siege

1. Washington Reconnoiters

The workers at the redoubts effectively distracted the British artillerymen from firing on General Washington's reconnaissance party scouting the terrain ahead to determine where to establish the first parallel. In the afternoon the commander, with General Du Portail and several other

1. Tilden, "Extracts from the Journal of Lieutenant John Bell Tilden," p. 59.

2. Count Deux-Ponts reported that the British "fired at least three hundred cannon-shots in the course of the day," October 1. *My Campaigns in America*, p. 137. Accounts of the English bombardment of October 1 are in St. George Tucker, "Journal kept by Col. St. George Tucker," p. 8; "Siege of York and Gloucester, Virginia," p. 476; Wild, "Journal of Ebenezer Wild," p. 152; Du Bourg, "Diary of a French Officer, 1781," p. 445; Richard Butler, "General Richard Butler's Journal of the Siege of Yorktown," *Historical Magazine* 7 (March, 1864): 107; John Davis, "The Yorktown Campaign. Journal of Captain John Davis of the Pennsylvania Line," *Pennsylvania Magazine of History and Biography* 5 (1881): 303; Daniel Shute, "With General Benjamin Lincoln at Yorktown. August 18, 1781-April 28, 1782. From the Journal kept by Dr. Daniel Shute of South Hingham, Massachusetts," type-script copy in the library of CNHP, Yorktown, Virginia, p. 3; Claude C. Robin, *New Travels through North America* (Philadelphia: Robert Bell, 1783), p. 56; Moore, *Life and Services of Gen. Anthony Wayne*, p. 149; and Merlant, *Soldiers and Sailors of France*, p. 173.

engineers, crossed the mill dam at Wormley Pond. At one point, Washington's group approached unmolested to within 300 yards of the enemy position at Redoubt 9. Captain James Smith's company of Pennsylvanians served as guard during this reconnaissance. The party shortly returned safely to the Allied line.³

2. The Line

In formulating plans for the siege, Washington drew heavily on the experience of both Rochambeau and Baron Steuben, themselves former wartime adversaries in the Seven Years' conflict in Europe over two decades earlier. Washington paid special heed to Steuben, the American drillmaster and the only American officer who had previously served in siege combat. Steuben's first siege experience had been at Praguc when he was but fourteen years old. Yorktown would be his last.⁴ Particular reliance was placed also on Generals Knox and Du Portail, for conduct of the siege would primarily constitute a joint enterprise of their departments.

Washington approved the directing plan of the siege October 1. Du Portail's engineers busied themselves that day with plotting the first parallel 600 yards from the British fortifications, the normal distance for that line in siege operations against a fortress. Although Yorktown was defended by fieldworks rather than permanent fortifications, the engineers believed themselves justified in placing the line at that distance because of "the strength and reputation of the garrison." To adequately protect the parallel, the engineers proposed four equidistant infantry redoubts along its length. Appropriately utilizing available topographical features, the line would stretch from the steep bank of York River on the right to the ravine of York Creek on the left. Thus, the parallel would face the left center of the British position, the area deemed most vulnerable to an Allied assault.⁵

Sometime during the day General Knox and Colonel d'Aboville and their officers must have moved along the planned parallel and marked the prolonga-

3. Swartwout, "Journal of Barnardus Swartwout," p. 35; Feltman, "Journal of Lieut. William Feltman," p. 316; Wright, "Notes on the Siege of Yorktown," p. 239; Freeman, *George Washington*, 5:352-53. Freeman states that Smith's unit was sent in to prevent a sudden British sortie that might make Washington prisoner. He also states that the general's episode with the close-flying British cannonballs occurred during this reconnaissance instead of on the previous day. *Ibid.*

4. Whitridge, *Rochambeau*, p. 214; George Washington Greene, *The German Element in the War of American Independence* (New York: Hurd and Houghton, 1876), pp. 71-72.

5. Tarleton, *History of the Campaigns*, pp. 386-87; Wright, "Notes on the Siege of Yorktown," pp. 238-39. The planning period was of crucial importance to the final success or failure of the siege and for that reason proceeded under the tightest security and secrecy. Even the soldiers remained uninformed as to the essential details of the planning process. *Ibid.*, p. 240; The quote is from La Combe, "Journal of the Siege of York," p. 3.

tions for their projected batteries. This process probably occurred late in the day when afternoon shadows better revealed the faces of the British batteries.⁶ The artillery officers also helped select sites for the distribution of ammunition. Colonel Samuel Elbert, superintendent of materials, located positions intended for the trench depots where fascines, saucissons, gabions, hurdles, sandbags, and the various tools for the siege would be deposited. The French depot was planned on a small rise between two ravines at the head of Wormley Creek, on ground beyond the observation of the British. The American depot, almost a half mile to the right, lay in another ravine extending from Wormley Creek. Far to the rear the French and American field hospitals equipped and plotted ambulance routes from the projected parallel.⁷ Twelve hundred American soldiers continued on fatigue making siege items and working on the American redoubts. The French joined in the work, the artillerymen making gabions and saucissons, the rest of Rochambeau's army fascines. At 5:00 P.M. the Third Maryland Regiment reported for nighttime picket duty in the American sector.⁸

3. Moving Artillery

At Trebell's Landing the French siege guns continued to be unloaded from transport vessels on the James. That day horses and teams started arriving from the north. To expedite movement of the ordnance, Washington dispatched his personal vehicles to the landing to aid in the transport. Other officers emulated the commander at his request. Some mortars and cannon managed to reach the American lines October 1 and 2, having left Trebell's several days before. But the general lack of draft animals,

6. This is hypothetical, but must have occurred sometime well before the opening of the trenches. See Tousard, *American Artillerist's Companion*, 1:8-9. "By means of these prolongations the angle made by the two faces and the capital of the bastion, or any other work, is known; without these prolongations, it is a mere matter of chance if batteries are not placed in bad situations, which therefore occasion only a waste of ammunition." *Ibid.*, p. 9.

7. Wright, "Notes on the Siege of Yorktown," p. 238; Arthur, *End of a Revolution*, p. 126; The French also established smaller depots in the arms of upper York Creek in order to maintain their posts in that vicinity. Borresen, "Orientation Report," p. 24; Cloisen stated that the depot sites were chosen October 3. *Revolutionary Journal*, p. 142.

8. "Journal of the Siege of York in Virginia by a Chaplain," p. 105; "Orderly Book kept during the Siege of Yorktown," p. 23; Wright, "Notes on the Siege of Yorktown," pp. 239-40; Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, p. 57.

who had to take a circuitous route to the landing, coupled with the stumpy ground to be traversed, slowed the arrival of the artillery for several days.⁹

4. The Smallpox Threat, Rum, and Courts-Martial

In his General Orders of October 1, Washington urged measures governing the welfare of his forces. He was concerned about insuring the health of the soldiers ("Every possible attention ought to be paid to the preservation of it").¹⁰ One of Washington's greatest fears was that smallpox would infect his troops. Over the previous week more than 2,000 Negroes had been turned out of the British garrison, many of them stricken with the disease. These people had been seized during Cornwallis's earlier maneuvers through Virginia, and at Yorktown and Gloucester they had been used to build fortifications. Low on food supplies, the British general sent them out of Yorktown afflicted with illness, and Allied troops encountered them dead and dying, individually and in groups, all through the woods around the community.¹¹ Washington also directed his Quartermaster General to secure enough straw for his men to sleep on. And he instructed all of his officers to make certain their men were amply provided with the basic provisions. Each man was to be issued a gill of rum daily, and the unit commissaries received orders to maintain "a constant supply of Rum" for that purpose.¹² Despite the imminent siege, certain aspects of army camp life continued routinely:

9. "Orderly Book kept during the Siege of Yorktown," p. 25; Closen, *Revolutionary Journal*, pp. 141-42; Thacher, *Military Journal*, p. 271; Doehla, "Journal of Johann Conrad Doehla," p. 140; Trumbull, "Yorktown, Virginia," p. 335; Washington, *Writings*, 23:157; Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, p. 57; David Cobb, "Before York Town, Virginia, October 1-November 30, 1781," *Proceedings of the Massachusetts Historical Society* 19 (1881-1882): 67; Johnston, *Yorktown Campaign*, pp. 124-25.

10. "Orderly Book kept during the Siege of Yorktown," p. 20.

11. Edward Hand to Jasper Yeates, October 1, 1781, Edward Hand Papers, vol. 2, item 135, New York Public Library; Joseph Plumb Martin, *Private Yankee Doodle: Being a Narrative of Some of the Adventures, Dangers and Sufferings of a Revolutionary Soldier*, ed. George F. Scheer (1830; reprint ed., Boston: Little, Brown and Company, 1962), p. 241; Riley, "Founding and Development of Yorktown," p. 299; Davis, *Campaign that Won America*, p. 202; Washington later (October 9) issued orders against his American officers' keeping these blacks as servants. "Orderly Book kept during the Siege of Yorktown," pp. 77-78.

12. "Orderly Book kept during the Siege of Yorktown," pp. 20, 21.

A genl Court Martial of which Colo dayton [sic] is appointed President will assemble to morrow morning [at] 10 o'clock at the Judge advocates marquee 100 yards south east of the Bridge over bever [sic] dam Creek for the trial of Captain Duffy of the 4th Regt of Artillery and such other persons as may come before them.¹³

5. Problems with the Navy

Increasingly bothered by the possibility that Cornwallis would attempt to flee across the York or upriver, Washington yet again pleaded with de Grasse to post ships above Yorktown. Only by that action, the general argued, would the investment be complete; otherwise "the british [sic] remain masters of the navigation for 25 miles distance above them, and have by their armed Vessels intercepted supplies of the greatest value on their way to our Camp." All this, said Washington, was happening "at a most critical time."¹⁴ Moreover, the stationing of French vessels upstream would expedite the commander's communication with the Allied force at Gloucester. As it was, messages passed between the commands only after being borne over a roundabout route nearly ninety miles long.¹⁵ But the greatest concern lay in the matter of a possible British escape effort that could jeopardize the Allies' campaign. Washington admonished de Grasse that

By embracing a leading wind and tide and stealing a march [Cornwallis might] proceed unmolested to West point [Virginia], where upon debarking his troops he will have the Pamunkey on one flank and the [Mattapony] on the other, and that finally he may by mounting the greatest part of his men and [making] successive forced marches, push his way, with a compact disciplined Army thro a Country whose population is too scattered to be collected for sudden opposition and [which would] make it impossible for us to overtake him; many people are of opinion that Lord Cornwallis will embrace this as the only means of safety, and it is certain that unless the investment is completed as abovementioned, he will have it in his power either now or in a last extremity [to escape.]¹⁶

13. *Ibid.*, p. 22.

14. *Writings*, 23:160. By October 4, however, Washington could write that "it is impossible for Cornwallis to cross his troops to Gloucester in one night for want of boats." *Washington Papers*, vol. 185, Library of Congress.

15. Washington, *Writings*, 23:160.

16. *Ibid.*; General Hand opined of the possibility of Cornwallis escaping "by moving by water to the forks of York River, or crossing imediately [sic] by Gloster [sic], neither of which I think they will attempt as disgrace would in all human probability be added to the total destruction of their Army." Hand to Yeates, October 1, 1781, *Edward Hand Papers*, vol. 2, item 135, New York Public Library.

Anticipating a negative reply from de Grasse (which he subsequently got), Washington urged the admiral to at least move his ships further upstream "and take a more menacing position with respect to the Enemy on our right. . . ."17 De Grasse's fleet, anchored in Lynnhaven Bay, adroitly guarded the entrance to Chesapeake Bay and the mouths of the York and James rivers. The chance that an enemy fleet might enter and ascend either stream appeared exceedingly remote. At Gloucester, troop reinforcements granted Washington from the French Navy joined those of the Duke de Lauzun and General Weedon in confining the British and severely restricting their foraging operations. Sporadic musketry erupted at Gloucester as patrols of Allied marksmen clashed with the British advanced pickets.¹⁸

6. The British Distress

Despite Washington's concern, the British Army at Yorktown and at Gloucester was feeling the hopelessness of its circumstances. As early as October 1, signs of Cornwallis's growing distress appeared to the Allies. From deserters the Americans learned that sickness was rampant inside the British garrison. One estimate held that 1,500 of Cornwallis's soldiers were ineffective due to illness. Furthermore, the troops lacked ammunition stores, and rations had been cut one third.¹⁹ Even forage for Cornwallis's horses had begun to run out and the general had settled on the expedient of slitting their throats and casting the carcasses into the York River. "About four hundred Horses . . . may be seen floating about in the river or lying dead on the Shore," observed Colonel St. George Tucker.²⁰

17. *Writings*, 23:162. See also Washington to President of Congress, October 1, 1781, in *ibid.*, p. 159; A French officer, Cromot Du Bourg, delivered Washington's requests to de Grasse via Hampton, Virginia. "Diary of a French Officer, 1781," p. 445.

18. See Weedon to Greene, November 11, 1781, in Morgan Manuscripts, vol. 1, *The Siege of Yorktown and Surrender of Cornwallis*, Pierpont Morgan Library; Ewald, "Diary of the American War," pp. 883-84; Bonsal, *Cause of Liberty*, p. 150.

19. Hand to Yeates, October 1, 1781, Edward Hand Papers, vol. 2, item 135, New York Public Library. There is evidence that British desertions occurred with much regularity, because frequent mention of this appears in the diaries and journals of American and French participants. Undoubtedly many of these deserters were accounted prisoners of war. Strangely, British officers captured by the Americans were paroled back into Yorktown. Enlisted men were confined at Williamsburg and at Richmond. See "Return of Prisoners of War taken by the Army under the command of Major General Marquis De Lafayette," Washington Papers, vol. 185, Library of Congress.

20. Tucker to Frances Tucker, October 5, 1781, "Letters to and from St. George Tucker," p. 9. See also St. George Tucker, "Journal kept by Col. St. George Tucker," p. 8. Reference to this action also appears in Enclosure in Weedon to Washington, October 2, 1781, Washington Papers, vol. 185, Library of Congress. See also Davis, *Campaign that Won America*, p. 202.

7. British Guns Strike Again

On Tuesday the British resumed their heavy cannonade designed to retard the Allies' work on the redoubts to their front. Two new batteries directed the fire of eighteen-pounders towards the Americans still building the intermediate earthwork near Pigeon Hill. Between sunrise and sunset no fewer than 351 British cannonballs passed among the allies, and casualties increased. One random shot the night of October 2 killed four out of five men in an American patrol composed of Pennsylvanians. Another took off the hand of a Maryland soldier.²¹ Guarding against an enemy sortie, workers on the American redoubts devised a system of signs and countersigns that were employed with success during the night.²² Occasionally the British, in a move to conserve ammunition, would simulate fire by igniting black powder in the embrasures of their batteries, causing the Allies working at the redoubts to run for cover. But Cornwallis's artillery continued to take its toll; one militiaman was struck by a ball as he stood atop a parapet hurling defiance at the British.²³ And, reported an American captain, "A drummer, rather too curious in his observations, was this day killed with a cannon ball."²⁴ During the afternoon at least one man deserted to the British. Four enemy cavalry horses fled the garrison at Yorktown and were picked up by American soldiers.²⁵

21. A great many diaries and journals contain mention of the several men killed by a single British shot. See Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 2; St. George Tucker, "Journal kept by Col. St. George Tucker," p. 9; Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, p. 57; Du Bourg, "Diary of a French Officer, 1781," p. 446; Trumbull, "Yorktown, Virginia," p. 335; Shute, "With General Benjamin Lincoln," p. 3; Tilden, "Extracts from the Journal of Lieutenant John Bell Tilden," p. 59; For descriptions of the cannonade on October 2, see Feltman, "Journal of Lieut. William Feltman," pp. 316-17; Deux-Ponts, *My Campaigns in America*, p. 137; "Journal of the Siege of York in Virginia by a Chaplain," p. 105; Swartwout, "Journal of Barnardus Swartwout," p. 35; Butler, "General Richard Butler's Journal," p. 107; Captain John Pryor reported that "upwards of 2000 Balls have been fir'd at us to day"--surely the most severe cannonade experienced by the Allies since the investment began. Pryor to Colonel William Davies, October 2, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:518.

22. General John Mitchell to Major H. H. Chapman, December 13, 1805, Manuscripts Collection, box 92, item 3190, Morristown National Historical Park.

23. Duncan, "Diary of Captain James Duncan," p. 748; St. George Tucker, "Journal kept by Col. St. George Tucker," p. 10; Davis, *Campaign that Won America*, p. 204.

24. Duncan, "Diary of Captain James Duncan," p. 748.

25. Feltman, "Journal of Lieut. William Feltman," p. 317.

8. Making Component Materials

More American cannon and artillery stores arrived on October 2. Their transport continued slowly because of the necessity for fixing roads and bridges to accommodate the heavy pieces.²⁶ Nevertheless, Knox appeared optimistic. "We hope to open our batteries in three days," he notified the Board of War.²⁷ Meantime, Washington pressed the troops onward in their labor. On October 2 Lincoln's Division went on fatigue duty, Brigadier General James Clinton commanding. The First Brigade spent the day making fascines and gabions. A Maryland regiment went on picket duty in the evening.²⁸ An American sergeant related his experience in preparing for the siege:

We made fascines and gabions, the former, bundles of brush, and the latter are made in this manner, viz.--after setting sticks in the ground in a circle, about two feet or more in diameter, they are interwoven with small brush in form of a basket; they are then laid by for use, which is in entrenching.²⁹

Armed with hatchets, mallets, axes, and bill hooks, the Allies trimmed boughs and branches and fashioned them into fascines, gabions, saucissons, and hurdles.³⁰ At suitable points behind the front the soldiers deposited their products and at supply dumps collected the tools needed for conducting siege warfare, among them spades, shovels, pickaxes, saws, sledgehammers,

26. Wild, "Journal of Ebenezer Wild," p. 152; Cobb, "Before York Town, Virginia," p. 68; Tielke recommended that grooved tree trunks be used to transport artillery across ditches and morasses: "Whenever the artillery may have occasion to cross a ditch, a swamp, or an old wooden bridge, two rows must be placed so as to allow the wheels to pass along the grooves." *Field Engineer*, 1:37. Other tasks involved in transporting siege guns and wagons included cutting branches or trees and widening ruts in the road. *Ibid.*, p. 35.

27. Knox to Board of War, October 2, 1781, Henry Knox Papers (CNHP).

28. Washington, *Diaries*, 2:263; "Orderly Book kept during the Siege of Yorktown," pp. 23-24, 27-28.

29. Martin, *Private Yankee Doodle*, pp. 218-19.

30. For details of constructing these siege components, see Lochée, *Elements of Field Fortification*, pp. 143, 144, 152-53; Tousard, *American Artillerist's Companion*, 1:21-24, 507; and Tielke, *Field Engineer*, 1:207-8, 210, 215-16. See also the descriptions in Chapter II, some of which were drawn from these sources.

mallets, axes, bill hooks, pitchforks, posts, planks, stakes, and frames for embrasures.³¹

9. Cornwallis Furthers His Defenses

All the while that British cannon directed shot and bombs against the Allies, Cornwallis's soldiers strove to improve their surrounding stockade and to establish communication routes from the different redoubts to the main hornwork.³² "The Enemy have pull'd down almost every Wooden House in Town," remarked an American officer, "& I suppose we shall knock down every Brick one, so that the Town between us will be demolished entirely."³³ Towards dusk an American galley exploded near the mouth of York River. Shortly thereafter a British guard boat, having slipped through the French blockade, arrived with more dispatches from Sir Henry Clinton saying that the fleet would soon embark to Cornwallis's relief.³⁴ At about 10:00 P.M. British ships in the York commenced firing towards the Allies. The barrage was short-lived, designed to cover the passage over the stream of Tarleton's Legion, which was to assist the Gloucester troops in foraging beyond the Allied units stationed on the point.³⁵

C. The Pace Quickens

1. Allied Desertions

On Wednesday the weather turned cool and cloudy. An easterly wind refreshed the Allied soldiers still finishing the approaches. More ordnance and stores arrived from the James River and spirits rose in anticipation of at last answering Cornwallis's artillery.³⁶ This day the British firing was moderate and caused little destruction among the French and Americans. A New Hampshire chaplain, Israel Evans, was standing near Washington just as an enemy cannonball plowed into the earth nearby, showering Evans's hat with the sandy loam. "Mr. Evans," Washington softly addressed the agitated chaplain, "you had better carry that home and show it to

31. Vauban, *Manual of Siegecraft and Fortification*, p. 41.

32. James, *Journal of Rear-Admiral Bartholomew James*, p. 120.

33. Captain John Pryor to Colonel William Davies, October 2, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:518.

34. Ewald, "Diary of the American War," p. 884.

35. Davis, *Campaign that Won America*, p. 205; Washington Irving, *Life of George Washington*, 5 vols. (New York: G. A. Putnam and Company, 1857), 4:360.

36. "Journal of the Siege of York in Virginia by a Chaplain," p. 105; Cobb, "Before York Town, Virginia," p. 68.

your wife and children."³⁷ Desertions continued on both sides. Two French soldiers and one American went over to the enemy October 3.³⁸ As a deterrent to such activity, Washington that day decreed that "Every deserter from the American troops . . . who shall be found within the Enemies Lines at York, if the place falls, will be Instantly hanged."³⁹

2. More Signs of British Difficulties

Two more British soldiers also deserted the garrison at Yorktown, bringing further word of Cornwallis's growing plight.⁴⁰ Work continued on the unfinished defenses about the town. Two hundred more artillery horses were killed because of want of forage and because Cornwallis determined not to release the animals for capture by the Allies.⁴¹ Dumped into the York, the carcasses bobbed out with the tide only to return with it in a few days and clutter the beach with decaying matter. By their return, remarked one officer, "it seemed as if they wanted to cry out against their murder after their death."⁴²

3. Action at Gloucester

The principal engagement between the Allies and the British, prior to the opening of the French and American batteries, occurred that Wednesday morning on the plain of Gloucester when Tarleton's Legion, returning from a successful foraging expedition, encountered the French Hussars of the Duke de Lauzun. The subsequent engagement took place at "the Hook" of Gloucester Point and resulted from the duke's aggressive leadership dominating the passivity of General George Weedon's lagging command. With the arrival of the marines under Brigadier General Choisy, his superior, Weedon had been relegated to command status. The militia leader and former innkeeper had been reluctant to lead an offensive against the British and contented himself with maintaining a sufficient distance between the armies. "An officer of sufficient merit," Lauzun later described Weedon, "but who detested fighting, . . . and besides terribly

37. Thacher, *Military Journal*, p. 271; Freeman placed this incident on the night of October 5. *George Washington*, 5:356.

38. Freeman, *George Washington*, 5:356; Butler, "General Richard Butler's Journal," p. 107.

39. "Orderly Book kept during the Siege of Yorktown," p. 32; See Arthur, *End of a Revolution*, p. 127.

40. Thacher, *Military Journal*, p. 271.

41. James, *Journal of Rear-Admiral Bartholomew James*, p. 120; Ewald, "Diary of the American War," p. 897; Hatch, *York Under the Hill*, p. 64.

42. Ewald, "Diary of the American War," pp. 897-98.

afraid of gunshot."⁴³ With Choisy in charge, Lauzun boldly grasped the opportunity to engage his English adversary, the green-clad Banastre Tarleton.

The occasion was what Colonel Dundas of the British garrison at Gloucester planned to be the last and largest foraging expedition before the Allies completely restricted those movements. Dundas's soldiers had loaded their wagons with corn and were enroute back to Gloucester at about 10:00 A.M. Tarleton's troopers covered the rear of the party. Coincidentally, that same morning General Choisy had decided to move his command in closer and tighten his line around the British. Lauzun's horsemen rode out ahead, inspecting Severn Road, on which Choisy's soldiers advanced. Lieutenant Colonel John C. Mercer led an infantry battalion, with one company of the French Hussars under Count Arthur Dillon, in the same direction along the York River Road. The two avenues eventually converged in a mile-long lane about four miles from the tiny village of Gloucester. Just as the commands of Lauzun and Mercer joined at one end of the lane, Tarleton's horsemen were leaving the other. A British patrol, having sighted the French cavalry, reported Lauzun's approach to Tarleton, who immediately drew up and formed in the nearby forest with detachments of his Legion, the Queen's Rangers, and the Seventeenth Regiment. Tarleton then left with a reconnoitering party to seek out the French, who themselves had been apprized of the British presence. According to Lauzun,

I went forward to learn what I could. I saw a very pretty woman at the door of a little farm house on the high road; I went up to her and questioned her; she told me that Colonel Tarleton had left her house a moment before; that he was very eager to shake hands with the French Duke. I assured her that I had come on purpose to gratify him.⁴⁴

Soon Lauzun caught sight of Tarleton's horsemen and the fight began. Lauzun's troopers dashed forward, leaving Choisy and the infantry in the rear. French cavalymen clashed with British cavalymen in a rare hand-to-hand contest. As Tarleton mounted a counteroffensive, his horse reared and threw him to the ground. The British dragoon troops waiting in the woods witnessed the event and responded with a disorganized charge against Lauzun that failed. Remounted, Tarleton ordered a hasty withdrawal from the ground. The French horsemen pursued closely until stopped by the infantry detachment firing from the woods. Tarleton re-formed his

43. "Narrative of the Duke de Lauzun," *Magazine of American History*, 6 (January, 1881): 52. Lauzun added the following about Weedon: "He blockaded Gloucester in a drole [*sic*] way; he was more than fifteen miles from the enemy's posts, frightened to death, and did not dare to send a patrol half a mile from his army. He was the best man alive and all that he desired was to take no responsibility." *Ibid.*

44. *Ibid.*, p. 53.

dragoons and prepared to charge again, but the infantry of Lieutenant Colonel Mercer opened a barrage of musketry that caused the British to retire towards Gloucester for good. Two Americans were killed and eleven wounded in the encounter.⁴⁵ The combat netted the Allies one British officer and a number of soldiers as prisoners of war. Tarleton himself barely evaded capture during the mêlée. As Lauzun recounted the incident,

Tarleton saw me and rode towards me with pistol raised. We were about to fight single handed between the two troops when his horse was thrown by one of his own dragoons pursued by one of my lancers. I rode up to him to capture him; a troop of English dragoons rode in between us and covered his retreat; he left his horse with me.⁴⁶

If anything would have made the Allies' morale soar and Cornwallis's sag, Tarleton's capture was it. But such was not to be. Lauzun contented himself with his prisoners and with the knowledge that the British incurred about fifty casualties in the engagement and that his own losses numbered about sixteen. Thereafter Choisy's command took post within a mile and a half of the British works on Gloucester Point. The enemy's foraging days were over and the British remained under Choisy's close watch until the siege ended.⁴⁷

45. Howard H. Peckham, ed., *The Toll of Independence: Engagements & Battle Casualties of the American Revolution* (Chicago: University of Chicago Press, 1974), p. 91.

46. "Narrative of the Duke de Lauzun," p. 53.

47. Besides Lauzun's "Narrative," this account of the action at Gloucester on October 3 was prepared from information in the Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, pp. 57-58; Hatch, *Yorktown and the Siege of 1781*, p. 23; Arthur, *End of a Revolution*, pp. 122-24; Whitridge, *Rochambeau*, pp. 216-17; and Bonsal, *Cause of Liberty*, p. 151; Lauzun and Tarleton, it was later determined, had more in common than their respective leaderships of the troops engaged at Gloucester. Lauzun had been, and Tarleton would be on his return to London, a lover of "Perdita" Robinson, the loveliest British actress of her day. Whitridge, *Rochambeau*, p. 218; Lauzun described Choisy as "an excellent and worthy man, absurdly violent in temper, constantly in a rage, quarrelling with everybody, and without common sense. [At Gloucester] he began by ridding himself of General Wiedon [*sic*] and the entire militia, telling them they were all cowards, and in five minutes they were almost as much afraid of him as of the English. . . ." "Narrative of the Duke de Lauzun," pp. 52-53; For a contemporary account of casualties on both sides, see St. George Tucker, "Journal kept by Col. St. George Tucker," p. 9; For a highly detailed personal reminiscence of the Gloucester action, see that of Lieutenant Colonel John Francis Mercer, in Gaillard Hunt, ed., *Fragments of Revolutionary History* (1892; reprint ed., New York: Arno Press, 1970), pp. 56-60.

4. The Allies' Artillery Parks Take Shape

On the Yorktown side of the river the Allies' preparations went on throughout Thursday, October 4. By then all of the army workhorses had arrived from their 400-mile overland trek and more and more heavy artillery and ordnance supplies reached the American and French parks before Yorktown. Movement of the heavy guns went on slowly. Horses, hitched two abreast to a piece, sometimes could not muster the strength needed to haul the particularly heavy cannon, and the soldiers themselves often pulled the guns over rough terrain. At the artillery parks the pieces were dragged into position with the aid of oxen confiscated from inhabitants in the area.⁴⁸ Regarding the cannon, a doctor with the army hospital at Williamsburg wrote to Colonel John Lamb of his pleasure at learning "that you are very busy in getting your great folks to speak to the Earl-- I long to hear them open their mouths."⁴⁹

5. Work Amid Cannon Fire

While optimism reigned with arrival of the siege guns, there was realization that the weapons could not be brought to bear for several more days, and some estimates held that the ordnance could not fire before the tenth of the month. In the meantime work would start on the first parallel.⁵⁰ Generals Knox and Du Portail and Colonels Desandrouins and d'Aboville continued to trace the batteries and lines in preparation for constructing the parallel and placing the artillery. General Muhlenberg's Brigade of the First Division reported at 6:00 A.M. to make fascines in the woods, continuing in that duty until five o'clock in the afternoon.⁵¹ The Allies' redoubts on the gorge were all completed by the morning of October 4. At the extreme left of their position, near York River, the French began building a battery (No. 1A on accompanying map) from

48. Daniel Trabue, "The Journal of Colonel Daniel Trabue," in Lillie DuPuy Harper, ed., *Colonial Men and Times* (Philadelphia: Innes and Sons, 1916), p. 111; "Itinerary of the Pennsylvania Line," p. 284; Stryker, *New Jersey Continental Line*, p. 17; Arthur, *End of a Revolution*, p. 126; Wright, "Notes on the Siege of Yorktown," p. 240; Davis, *Campaign that Won America*, p. 203.

49. Dr. Treat to Lamb, October 5, 1781, Lamb Papers, New-York Historical Society.

50. Barneville, "War Diary," p. 273.

51. "Orderly Book kept during the Siege of Yorktown," p. 30; Washington, *Writings*, 23:170; Wild, "Journal of Ebenezer Wild," p. 152; Arthur, *Sieges of Yorktown*, p. 16.

which to unleash artillery fire against the British star redoubt and particularly against the British shipping that continued to harrass French working parties.⁵²

Still the British directed their fire towards the American and French fortifications. The cannonade that day was light but relentless and was principally concentrated against the American intermediate redoubt and the former British work at Hampton Road. The French occupying the structures at Pigeon Hill drew little fire.⁵³ When night arrived, soldiers from both armies advanced close in to the British works. Several pitched skirmishes erupted between these patrols of the Allies and those sent out by Cornwallis. The rattle of muskets continued far into the night and the British cannon roared incessantly.⁵⁴ The movement was but a ruse by the Allies, intended to reveal the location of enemy batteries and thus aid the French and Americans in placing their own.⁵⁵ One Continental was killed in the maneuver.⁵⁶

Next morning the British guns kept up their firing as the Allies hoisted their respective national standards over the earthworks on the gorge.⁵⁷ The Americans lost several men killed this day. One soldier lying on the ground with his knapsack as a pillow had the case knocked from under his head by a British cannonball that left him dead, his body unmarked.⁵⁸ Near the American intermediate redoubt a corporal of the Pennsylvania troops on picket duty was struck by a nine-pounder shot "which carried

52. Wayne Journal, p. 81; Deux-Ponts, *My Campaigns in America*, pp. 138-39; De Verger Journal, in Rice and Brown, *American Campaigns*, p. 139. De Verger erroneously termed the structure a "redoubt."

53. Barneville, "War Diary," p. 272; Butler, "General Richard Butler's Journal," p. 107; Duncan, "Diary of Captain James Duncan," p. 748; One American soldier wrote in his diary on October 4, "Cannonade as usual pretty heavy from the British, faint from us." Swartwout, "Journal of Barnardus Swartwout," p. 35.

54. Du Bourg, "Diary of a French Officer, 1781," p. 446; Deux-Ponts, *My Campaigns in America*, pp. 138-39.

55. De Verger Journal, in Rice and Brown, *American Campaigns*, p. 139; Trumbull, "Yorktown, Virginia," p. 335.

56. Trumbull, "Yorktown, Virginia," p. 335; St. George Tucker, "Journal kept by Col. St. George Tucker," p. 9.

57. James, *Journal of Rear-Admiral Bartholomew James*, p. 120.

58. St. George Tucker, "Journal kept by Col. St. George Tucker," p. 10.

off part of his Hips." The soldier shortly expired.⁵⁹ British guns fired without abatement.⁶⁰ "In a day or two," Colonel Tucker wrote his wife, "it is expected we shall return the Compliment with Interest."⁶¹

6. More Artillery Arrives and News of Greene's Victory

Already the big artillery pieces of the Allies were beginning to stand in ranks in the French and American artillery parks. The guns were available, but General Washington awaited their proper emplacement on the siege line before answering the British. Teams labored in from Trebell's Landing, their wagons laden with mortar bombs, cannonballs, powder, and ordnance equipage. Behind the parks, in the artificers' camps and magazines, soldiers readied the materials of war and prepared cartridge ammunition for the cannon.⁶² Fatigue details from Hazen's Brigade roamed the woods and fashioned more fascines, saucissons, and gabions. The articles were gathered and brought towards the front for use in making approaches. Lafayette served as Major General of the Day.⁶³ Concerned for the health of his men, Washington this day ordered the unit commissaries to either bury "Offall [*sic*] and other Offensive matter" or suffer arrest; he also directed that a detail be raised to see to the removal and burial of a number of dead horses "and other putrid bodies" from within the encampment areas.⁶⁴ On the fifth, heartening news for the entire Allied Army arrived with word from the south of General Greene's triumph September 8 over a British command at Eutaw Springs, South Carolina.⁶⁵

59. *Ibid.*; Feltman, "Journal of Lieut. William Feltman," p. 317; The man was Corporal Organ. Butler, "General Richard Butler's Journal," p. 107.

60. Swartwout, "Journal of Barnardus Swartwout," p. 35; Du Bourg, "Diary of a French Officer, 1781," p. 446.

61. Tucker to Frances Tucker, October 5, 1781, in "Letters to and from St. George Tucker," p. 8.

62. "Itinerary of the Pennsylvania Line," p. 284; Trumbull, "Yorktown, Virginia," p. 335; Davis, *Campaign that Won America*, p. 208.

63. Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 2; Washington, *Writings*, 23:176; Cobb, "Before York Town, Virginia," p. 68; Duncan, "Diary of Captain James Duncan," p. 749.

64. "Orderly Book kept during the Siege of Yorktown," p. 40.

65. Cobb, "Before York Town, Virginia," p. 68; Butler, "General Richard Butler's Journal," p. 108; The engagement at Eutaw Springs was indecisive, and Greene's claim of victory lay only in his retention of the battleground after the British withdrew. The American loss in killed and wounded stood at about 550, the British at around 800. For his "victory" at Eutaw Springs, Congress awarded Greene its thanks, a British standard, and a gold medal. *Harper's Encyclopaedia of United States History*, 2:267-68; 4:169-70.

D. Finalizing the Siege Plans

1. The Determining Factors

This welcome news buoyed the Allies' hopes for their own imminent success and intensified their efforts to that end.⁶⁶ With the passing hours, preparations became finalized. Engineers completed their directing plan--the topographical chart showing the projected parallels with their collateral works, the enemy defenses intended as the targets of French and American siege guns, and the intervening terrain that had determined the engineers' and artillerymen's proposed course of action. The problem now was to turn the design into reality with some degree of exactness, a task usually accomplished with more difficulty than precision.⁶⁷

To strangle Cornwallis's army, the first parallel would run concavely 2,000 yards from York River on the right west to the swampy ravines of York Creek on the left, almost directly opposite the British hornwork. The agreed-on distance of the line from the enemy's defenses, 600 yards, was an average figure; actually, the line would vary from 500 yards, at the point nearest the British works, to 635 yards, at the point farthest from the main line around Yorktown. The nature of the terrain on the Allies' left, chiefly the York Creek ravines, while serving as a valuable natural cover, precluded a concentrated effort from that direction. Furthermore, British batteries in the town and the Fusiliers' Redoubt to the right effectively commanded that sector, a factor that discouraged the Allies from making direct approaches there.

While Cornwallis's left flank appeared more vulnerable and therefore more favorable for an Allied attack than any other part of the British line, the engineers decided to place the right of their first parallel furthest from the enemy's main fortifications because of the nearby presence of the detached Redoubts 9 and 10. Artillery fire from those obstacles could disrupt Allied entrenchment operations in that quarter. Situated at that distance, the first parallel would be too far away to be subjected to small arms fire or to that of grape and cannister. It was also too distant to encourage enemy sorties. Yet from this parallel the heavy artillery could begin to destroy Cornwallis's earthworks with ease. Moreover, the location of the line--cutting across the heads of the lateral arms of the Wormley Creek ravines--allowed for easy access via these natural approaches from the encampments. Actual excavation of the parallel would proceed under the protective surveillance of troops posted in the Pigeon Hill Redoubts

66. With regard to Greene's victory, St. George Tucker wrote: "If our success here should correspond with his at the South, I have no doubt that a speedy peace must be the result of the present Campaign. We have everything to hope, and less than we ever had heretofore to fear. In short I think nothing but the Intervention of a superior providence can save the British Army at York. . . ." Tucker to Frances Tucker, October 5, 1781, in "Letters to and from St. George Tucker," p. 9.

67. See Wright, "Notes on the Siege of Yorktown," p. 231; and Vauban, *Manual of Siegecraft and Fortification*, p. 44.

and in the recently completed American works.⁶⁸ Tightening the investment on the river, Admiral de Grasse at last responded favorably to Washington's request for ships further upstream to menace the British garrison and discourage an escape attempt by Cornwallis. On October 5 two French ships of the line appeared in sight downriver from the Allied armies and the enemy.⁶⁹

2. A Change of Plans

The Allies originally planned to open the first parallel Friday night, October 5. Frequent intimations that this was the case appear in the contemporary sources. Dr. Daniel Shute, for example, stated that "Six regiments were ordered to hold themselves in readiness to march this evening. Did not march, reason unknown."⁷⁰ Lieutenant Colonel Jeremiah Olney led his Rhode Island Regiment forward for picket duty that night in the American sector.⁷¹ The reason the trench was not excavated remains unknown.

68. D'Ancteville, "Journal of the Chesapeake Campaign," pp. 16-17; Closen, *Revolutionary Journal*, p. 143; Johnston, *Yorktown Campaign*, p. 131; Wright, "Notes on the Siege of Yorktown," p. 232; S. Doc. 273, p. 191; S. Doc. 318, p. 47; Arthur, *End of a Revolution*, p. 127; Hatch, "On Reconstructing Earthworks," pp. 43-44; Thomas M. Pitkin, "A Preliminary Study of American Redoubt No. 2, Yorktown Battlefield," MS, dated May 28, 1941, in the library of CNHP, Yorktown, Virginia, pp. 4-5; Just how closely the Allies adhered to European theoretical strictures can be seen by comparing the placement of the first parallel at Yorktown with this quote from Hector Straith (made in 1852):

The distance of 600 yards is selected as suitable for the first parallel, as here there is little to fear from musketry, grape, or cannister; but when the localities of the ground require that any portion of the parallel should be advanced or retired, in order to command the ground in front, it should be done. The distance of 600 yards also is too great for sorties from the place to hope for success, and to retire without great loss.

Treatise on Fortification and Artillery, 1:301.

69. Tilden, "Extracts from the Journal of Lieutenant John Bell Tilden," p. 60.

70. Shute, "With General Benjamin Lincoln," p. 4; See also Cobb, "Before York Town, Virginia," p. 68; and Duncan, "Diary of Captain James Duncan," p. 749; General Wayne wrote: "Six Regts . . . one from the right of each Brigade were warned for particular duty to parade at 4 O Clock P.M. but countermanded until further orders." Wayne Journal, p. 81.

71. Washington, *Writings*, 23:176.

The night was dark, cloudy, and rainy--perfect for such an enterprise. Perhaps there existed a fear that the British had divined the Allies' intentions as Closen remarked:

I was at the outpost on the night of the 5th-6th, and as the enemy knew all the siege preparations that we were making, he suspected that we would open the trench that night, which brought upon me *bombs, balls, and royals*, all these and more.⁷²

More likely the reason for the increased cannonade, as well as for Washington's change of mind about opening the trenches this night, lay with the engineers' desire to gain further knowledge of the locations of the British batteries. "The night of the 5th-6th was passed like the preceding," observed Count Deux-Ponts, "with the same patrols and the same cannonading."⁷³ In addition, the engineers probably desired adequate time to mark the ground for the batteries in accordance with their findings. If the inclement weather held as expected, the Allies could begin digging the following night under similar favorable conditions.

3. Tracing the Parallel

Although the digging was postponed, the location of the parallel did occur that night. With soldiers from three American regiments as a covering party stationed in the "no man's land" far ahead of the proposed parallel, members of the Sappers and Miners unit of the American Army followed the engineers in the blowing rain and traced the projected line with strips of pine wood laid end to end.⁷⁴ Similar operations proceeded in the French sector. An American soldier who participated in this project later recounted the following episode:

We had not proceeded far . . . before the engineers ordered us to desist and remain where we were and be sure not to straggle a foot from the spot while they were absent from us. In a few minutes after their departure, there came a man alone to us . . . and inquired for the engineers. * * * The stranger inquired what troops we were, talked familiarly with us a few minutes, when, being informed which way the officers had gone, he went off in the same direction, after strictly charging us, in case we should be taken prisoners, not to discover to the enemy what troops we were. We were

72. *Revolutionary Journal*, p. 143.

73. *My Campaigns in America*, p. 139; The account of one of the British forward patrols the night of October 5 is in Doehla, "Journal of Johann Conrad Doehla," pp. 140-41. Inexplicably, Doehla described the sky that night as "starry." *Ibid.*, p. 140.

74. Washington, *Writings*, 23:176; Scheer and Rankin, *Rebels and Redcoats*, p. 556.

obliged to him for his kind advice, but we considered ourselves as standing in no great need of it. For we knew as well as he did that sappers and miners were allowed no quarters, at least are entitled to none, by the laws of warfare. . . . In a short time the engineers returned and the aforementioned stranger with them. They discoursed together some time, when by the officers often calling him, 'Your Excellency,' we discovered that it was General Washington.⁷⁵

By Saturday morning, October 6, the Allies had finished all essential preparations for opening their trenches and establishing their artillery to batter Cornwallis's defenses. They awaited only nightfall and an overcast sky to insure success in drawing their line ever closer and within striking distance of the British line. The huge siege guns now rested far to the rear, but would presently become the determining factor in Washington's drive to force a surrender. "In thirty Days from the opening of our Batteries," wrote one officer, "I am sanguine enough to hope that we shall see the British Standard at the Feet of the Commander in Chief of the allied Armies."⁷⁶ Considering the state of affairs of each opposing army, that estimate was unduly long.

75. Quoted in Scheer and Rankin, *Rebels and Redcoats*, p. 556.

76. Colonel St. George Tucker to Frances Tucker, October 5, 1781, in "Letters to and from St. George Tucker," pp. 9-10.

CHAPTER X: ON THE VERGE

A. The First Parallel

"All the evening and night I have heard a considerable noise," Admiral de Grasse wrote Rochambeau after the British bombardment of October 5. "Evidently, you are tuning your instruments to accord with those of Lord Cornwallis. Make him dance lively for me."¹ De Grasse's assessment of the situation of the Allies was premature, but only slightly so. Before long, Washington's big guns would begin pounding the British general into submission. That prospect awaited only the completion of the first parallel and the erection of earthworks to support it. All indications pointed to success in that endeavor. The weather continued cloudy with intermittent rain and wind from the east and southeast. Hopes were that the clouds would not break after dark because moonlight would reveal the Allied entrenching operations to the enemy. Such fears were unnecessary, however; rain fell throughout the day and on into the night.²

1. Washington's "Regulations"

As an officer of the Pennsylvania line put it, "nothing extraordinary happened this day."³ All efforts were geared towards the next step of the siege, the actual opening of the first parallel. Saturday went by slowly, with the troops of the French and American armies passing the hours in quiet anticipation. Early in the morning two Pennsylvania and two Maryland regiments and some of the militia went out to make more gabions.

But the principal task entailed moving the great quantities of fascines, gabions, and other component materials already fashioned as close as possible to the intended line without disclosing them to British eyes.⁴ To aid General Knox for the duration of the siege, Washington assigned Lieutenant Colonel Dabney's Virginia Regiment, the Delaware recruits, and 160 of Nelson's militia to duty with the American artillery. "They will

1. Quoted in Merlant, *Soldiers and Sailors of France*, p. 174.

2. Cobb, "Before York Town, Virginia," p. 68; Freeman, *George Washington*, 5:357.

3. Duncan, "Diary of Captain James Duncan," p. 749.

4. Feltman, "Journal of Lieut. William Feltman," p. 317; Pickering and Upham, *Life of Timothy Pickering*, 1:304; Freeman, *George Washington*, 5:357-58.

encamp in the park, and take their orders from Gen^l Knox."⁵ That morning the commander also issued a lengthy document entitled "Regulations for the Service of the Siege," comprising fifty-four paragraphs of instruction governing conduct of the armies during the ensuing operations. The articles were apparently translated from a French model used at previous sieges in Europe, with appropriate modifications reflecting the situation at hand.⁶ The American soldiers, most of whom had never taken part in a siege, probably found the regulations more difficult to comprehend than their French counterparts.⁷

A sampling of the articles follows:⁸

An Officer of Rank will be appointed by the Commander in Chief to act as Superintendent of the deposit of the trenches, for the following important Services during the whole Siege, viz. to take Charge of all the sand Bags, Machines [*sic*], gabions, Huddles [*sic*] and other materials Deposited at the place which the Engineers will appoint & keep an accurate state of them.

The trenches shall be Relieved every 24 hours unless a particular order to the Contrary by the Gen^l in which Case the Relief shall be in the rear of the other.

All the troops either Relieving or Relieved will march with Drums Beating, Colours Flying, & carry arms to the place from whence they are to file off, when they will Support arms.

5. Quoted in Johnston, *Yorktown Campaign*, p. 137n.

6. Wright, "Notes on the Siege of Yorktown," p. 246; Freeman, *George Washington*, 5:357. Freeman states that there were fifty-two articles in the *Regulations*. *Ibid.*; John McAuley Palmer, in *General Von Steuben* (New Haven: Yale University Press, 1937), p. 290, contends that the document was prepared under the supervision of Baron Steuben because "with his staff experience under Frederick the Great in the Seven Years' War, there was no officer in the whole allied army so well qualified to advise the commander in chief on the elaborate technique of fortress warfare."

7. Whitridge suggests that some American soldiers were acquainted with the vernacular of siegecraft through having read *Tristram Shandy*, the popular eighteenth-century novel by Laurence Sterne. *Rochambeau*, p. 215.

8. These articles are from "Orderly Book kept during the Siege of Yorktown," pp. 47-66, and are nearly identical editorially to those in *Orderly Book of the Siege of Yorktown, from September 26, 1781, to November 2nd, 1781* (Philadelphia: Antique Press, 1865), pp. 21-27; See also "Gist's Orderly Book of the Siege of Yorktown, Virginia, 1781," photostatic copy in the library of CNHP, Yorktown, Virginia, pp. 23-41; A complete listing of "Regulations for the Service of the Siege" appears in Appendix C of this report.

The Officers will cause each Soldier to work in his place to enlarge the trench, & Strengthen the epaulement.

No honours to be rendered in the trenches when the Commander in Chief & Genl Officers of the trenches visit them. The Soldiers will stand to their arms, facing the Epaulement & Ready to mount the Banquette.

The Gabions are to be 3 Feet high including the end of the Pickets, which are to enter the Ground, they are to have 2 Feet & a half Diameter, and be formed of nine pickets each of two & a half Inches Circumference interlaced with Branchery stripped of leaves to be equally closed at Top & Bottom, in order that they may be not longer at one end than the other.

The Huddles shall be six feet long & 3 Feet wide, and shall be made of nine Pickets each of two Inches & a half to 3 Inches Circumference, equal distant from each other, and interwoven with stronger Branchery, than that employed for the Gabions.

The Faschines to be 6 Feet long and 6 Inches [through] this to be made of Branchery, the twigs of which are to be crossed, to be bound with withs [sic] at each end & the middle to each Faschine, 3 Pickets of three feet long, & 2 or 3 Inches diameter.

Each Soldier going to the trenches, either to mount Guard or to work shall take with him a Faschine to be left on the deposit of the trenches.

The Fatigue men are to march near each other & Observe the greatest silence when the engineers place them.

In the saps, Batteries & other Places adjacent [sic] to the deposit of Powder no Soldier is to be permitted to smoke.

In case of a Sally the Fatigue men are to retire Briskly into some part of the trenches, where they may not embarrass the troops, they are to retire in Preference to the places, where there [sic] arms were lodged.

2. The Work Parties Assemble

By late afternoon, final dispositions had been made. The engineers had completed their tracings; with the help of French and American artillery officers the projected placement of batteries along the parallel had been accomplished.⁹ George Washington jotted in his diary, "Everything

9. Freman, *George Washington*, 5:357; Borresen, "Orientation Report," p. 25.

being prepared for opening Trenches[,] 1500 Fatigue men and 2800 to cover them, were ordered for this service."¹⁰ The order of the previous afternoon was revived: one regiment from the right of each American brigade would parade at 5:00 P.M. A like number of soldiers from the French contingent would also assemble at that time.¹¹ Both armies established rotating command schedules by which senior officers succeeded one another in command on a daily basis. Major General Lincoln took charge of the American sector on the line October 6; Lafayette succeeded Lincoln next day, and Steuben took command the following day. Similarly Baron Viomenil commanded the French troops on the line at the outset, followed on succeeding days by the Chevalier de Chastellux, Marquis de St. Simon, and Viscount de Viomenil. This sequence of command for both armies lasted through the siege.¹²

The assembly of the soldiers for duty that evening was marred by the arrival of news from Williamsburg that Colonel Scammell had succumbed to his wound. By now the cannon fire of the enemy had become extremely light, almost to the point of having slackened entirely.¹³ Together, the French and American forces detailed for the honor of opening the trench numbered roughly 4,300. Six American regiments paraded about 6:00 P.M. on the plain near where Tarleton's old camp had been situated. The French grouped a short while later. Their designated force consisted of two battalions each from the Regiments Bourbonnois and Soissonois, besides 250 men each from the Regiments Royal Deux-ponts, Saintonge, Agenois, and Gatenois. Fifteen hundred soldiers would perform the labor of excavating the line, while 2,800 French and Americans would advance far ahead in armed detachments as covering parties to guard the workers against attacks from the British garrison. Brigadier Generals Wayne and Clinton assisted Lincoln in preparing his command; Baron Viomenil was helped by the able Count

10. *Diaries*, 2:263.

11. Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 2; *Deux-Ponts, My Campaigns in America*, p. 139.

12. Arthur, *End of a Revolution*, p. 130. As senior officer, Lincoln took his turn at command first. Baron Viomenil's rank (Marechal de Camp) was equivalent to a major general's in the American Army. The selection of regiments from the right of each brigade occurred because these units were customarily senior to the others and thus were favored for such a "detail of honor" as the opening of the trenches. For amplification on this custom, see Wright, "Notes on the Siege of Yorktown," pp. 240-41.

13. Sanderson, "Diary of the March from the Hudson to Yorktown," in Johnston, *Yorktown Campaign*, p. 171; Oswald Tilghman, *Memoir of Lieut. Col. Pench Tilghman, Secretary and Aid to Washington* (Albany: J. Munscell, 1876), p. 104; Trumbull, "Yorktown, Virginia," pp. 335-36.

de Custine in readying the French troops.¹⁴ By dusk all was in order. "You may depend upon its being a Night of Business," wrote Colonel Lamb of the proceedings.¹⁵

3. Digging Commences

At 8:00 P.M. the soldiers detailed to guard the workmen moved ahead in the rainy darkness to a point some 100 yards beyond the pine strips marking the proposed parallel and lay down on their arms. From this body, small patrols advanced still closer to the British line, ready to give the alarm should Cornwallis choose to mount a sortie in the night. These French and American patrols were probably instructed to drive back into the garrison any British soldiers that might be sent out to disrupt the Allies' project. While the covering parties made their dispositions, the workers remained far in the rear. There they formed their units into lines commanded by their own officers but under the general supervision of the engineers of Du Portail and Quercuet de La Combe. On direction from the engineers the workmen marched to the matériel deposits placed during the preceding days. There they picked up fascines, gabions, and entrenching tools--spades, shovels, and pickaxes. Conducted by the engineers, the soldiers then marched forward on the open plain and distributed themselves at three- to four-foot intervals along the outlined parallel.

Washington appeared that rainy evening, not far from where he had come the previous night. He took a pickax and thrust it deeply into the earth, a ceremonial motion, one soldier recalled, so "that it might be said 'Gen Washington with his own hands first broke ground at the siege of Yorktown.'"¹⁶ At command they began to dig. Work proceeded in utmost silence. There was no talking, and the steady patter of rain effectively muffled the noises of spades and pickaxes grating in the soaked, sandy loam. Wagons loaded with sandbags moved along the line, their cargo being utilized to strengthen the balky soil. Draft horses pulled cannon and other heavy ordnance towards the parallel. The trench and four supporting redoubts (two in the French sector, two in the American) progressed swiftly, largely because the British failed to detect what was happening and continued to direct light artillery fire towards their own abandoned outer works at Pigeon Hill and those recently completed by the Americans in that locale.

14. Wayne Journal, p. 81; Moore, *Life and Services of Gen. Anthony Wayne*, p. 149; Wild, "Journal of Ebenezer Wild," p. 153; Johnston, *Yorktown Campaign*, p. 131; S. Doc. 273, p. 191; Arthur, *Sieges of Yorktown*, p. 17; Arthur, *End of a Revolution*, pp. 127-30; Freeman contends that the Americans paraded at four o'clock, the French at five o'clock. *George Washington*, 5:359. Most of the contemporary sources consulted state that the American assembly took place at 6:00 P.M.

15. Lamb to Governor George Clinton, October 6, 1781, in George Clinton, *Public Papers of George Clinton, First Governor of New York*, 10 vols. (Albany: Oliver A. Quayle, 1904), 4:376.

16. Quoted in Davis, *Campaign that Won America*, p. 214.

When the trench was excavated waist-deep, the soldiers out ahead serving as guards drew back. Some took station in the unfinished trench, but the majority moved to the rear and sat on the ground, cradling their weapons. The fatigue parties worked on in relief arrangement.¹⁷ Occasionally men got separated in the darkness, as did the medical personnel assigned to accompany the working parties. Dr. James Thacher recounted:

Having advanced about half a mile, [all] of a sudden a party of armed men in white uniforms rose from the ground, and ordered us to stop; they proved to be the rear guard of the French. The officer demanded the countersign, which I was unable to give, and as we could not understand each other's language, I was detained under considerable embarrassment till an officer who could speak English was called, when producing my instruments and bandages, and assuring the French officer that I was surgeon to the infantry, he politely conducted me to my station.¹⁸

4. The French False Attack

At the extreme left of the French sector, opposite the Fusiliers' Redoubt, the unbrigaded Regiment Touraine continued erecting a battery on the cliff above York River.¹⁹ To guard against British sorties there, French laborers supervised by two engineers started digging a trench in the form of a flying sap extending from the unfinished battery south and across Williamsburg Road to the mouth of a ravine. By some accounts, this small line of entrenchment was considered to be the end of the main parallel, interrupted by the ravines of York Creek. On the night of October 6, however, this sector of the French front proved extremely important in the Allies' efforts to open their first parallel. The French at that point had been ordered to instigate a false attack to divert Cornwallis's attention from his front where the Allied workmen labored. But the "attack" never materialized. Between eight and nine o'clock, watchdogs in the Star Redoubt began to bark, their racket shortly taken up by dogs all along the British line. A deserter from the French Hussars alerted the enemy

17. Particulars of the Allies' project in opening the first siege line are drawn from Thacher, *Military Journal*, pp. 272-73; Lee, *Memoirs of the War*, p. 499; Wright, "Notes on the Siege of Yorktown," p. 241; Arthur, *Sieges of Yorktown*, p. 17; Arthur, *End of a Revolution*, p. 130; See also Vauban, *Manual of Siegecraft and Fortification*, pp. 47-48.

18. *Military Journal*, p. 273.

19. Exactly what ordnance this battery was to contain is open to dispute, because the sources do not agree. Deux-Ponts claimed that it would hold eight cannon and six howitzers and mortars. *My Campaigns in America*, p. 140. D'Ancteville stated that four cannon and six howitzers were established there. "Journal of the Chesapeake Campaign," p. 17. Count Fersen said the battery held "4 mortars, 2 howitzers and 2 pieces of 24." "Journal of Operations," p. 439.

to the progress of his countrymen off Cornwallis's right flank. On rocket signal from the men in the Fusiliers' Redoubt, the British shortly unleashed a furious cannonade against the Regiment Touraine designed to disrupt its labor. The French there were forced to temporarily abandon their entrenchments. One artillery lieutenant was critically injured when his thigh was torn off by a cannonball, while six grenadiers and a soldier from Regiment Agenois also sustained wounds. Cornwallis later commended the men of the Twenty-third Regiment, who defended the Fusiliers' Redoubt with "uncommon gallantry," although it appears that the French, other than responding with a brief cannonade from their unfinished battery, made no serious effort to take the British structure.²⁰

It seems almost incomprehensible that the deserter who informed the British of the attack on their right was oblivious to the real intent of the Allies--to open their first parallel. Perhaps the secret was indeed that well kept, in which case neither the French nor American soldiers realized what was to ensue that particular night. This seems most unlikely, for the troops would have to have been most ignorant not to have determined that the excavation would commence that evening, especially in light of the order cancelling the work parties the previous day. It seems very probable that this entire episode was part of the planned "false attack" mentioned in so many firsthand reports of the activities that night. The deserter could have been an actor in an elaborate ruse purposefully designed to distract the attention of the British from operations in their front. If so, the strategem followed theoretical recommendations almost to a tee.²¹

20. St. George Tucker, "Journal kept by Col. St. George Tucker," pp. 10-11; Du Bourg, "Diary of a French Officer, 1781," p. 446; "Diary of French naval operations in America," p. 192; Butler, "General Richard Butler's Journal," p. 108; Rochambeau, "War in America," in Weelen, *Rochambeau, Father and Son*, p. 231; D'Ancteville, "Journal of the Chesapeake Campaign," p. 17; U.S., Congress, Senate, *Journal of the Siege of York-Town*, by Gaspard de Gallatin, 71st Cong., 3d sess., February 17, 1931, S. Doc. 322, p. 4 (hereafter cited as S. Doc. 322); De Verger Journal, in Rice and Brown, *American Campaigns*, p. 139; Louis Antoine Thibault de Menonville, "Journal of the Siege of York," *Magazine of American History* 7 (1881): 283; "Wertgetreue Abschrift eines Tagebuchs eines markgräflichen Soldaten"; Querenet de La Combe, quoted in Hatch, "Siege of Yorktown Opens," p. 15; Saint-Exupery, "War Diary," pp. 110-11; Johnston, *Yorktown Campaign*, p. 135; Balch, *French in America*, 1:193; Freeman, *George Washington*, 5:358-59; Thomas J. Fleming, *Beat the Last Drum: The Siege of Yorktown, 1781* (New York: St. Martin's Press, 1963), p. 236; Davis, *Campaign that Won America*, pp. 215-16; The French officer wounded was the twenty-five-year-old Chevalier de La Loge, who died three days later. Said a contemporary: "Charming and witty, he was very erudite, not only in his profession, but in poetry as well. We often saw his poems in the *Almanach des Muses*." Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, p. 58.

21. Vauban urged such procedure: "I . . . find it a good idea to plant a rumor that the attack will be launched on some other side. . . . I might even start a false attack there the day before the launching of (continued)

5. The Process of Excavation

a) The American Sector

Whether intentional or otherwise, the diversion of the British artillery fire to the right of Yorktown allowed the French and American workmen on the parallel to press on without interruption. Rain continued to fall sporadically and the fatigue details removed the softened earth easily through the night. Probably fully three quarters of the soldiers worked with spades and shovels, while the remaining workmen wielded pickaxes.²² Again the excavation followed closely the prescriptions of the technical publications. Stated one theorist:

It oftens happens, that the opening of the trenches is unknown to the besieged for some hours; nay, sometimes for the whole of the first night of work. . . . Every exertion should, therefore, be made to establish the whole of the first parallel during this night, together with the communications between it and the depots of the trenches. In general, the parapets of the trench are so forward when day breaks, as to shelter the battalions of the guard, who retire behind them. The workmen are relieved at day break by others, who go on with the work.²³

Through the night the Allies kept working, digging their entrenchments and improving them. The soldiers making the parallel set gabions in a row along the side of the ditch nearest the British garrison and cast dirt from the trench into the baskets to form the beginning of a parapet.²⁴

Documentary notices of the particular construction of the First Allied Siege Line at Yorktown are rare, doubtless because personnel considered the work of digging the parallel an almost routine matter. Generally, however, existing references to the excavation do mention dimensions that are compatible with those cited in the technical manuals of the period. One soldier related that "this parallel is ten feet wide and four deep, which

21. (continued) the real one to draw in the strength of the enemy's guards, especially if the garrison is strong and is expected to mount a stiff resistance." *Manual of Siegecraft and Fortification*, p. 43. And according to Straith, "Every endeavour is made previously to breaking ground, to deceive the garrison as to the fronts selected for attack. . . ." *Treatise on Fortification and Artillery*, 1:297.

22. At least this was what Tielke suggested for men working in sandy soil. *Field Engineer*, 1:205.

23. M. de Bousmard, *L'Essai de Fortification et de Defence des Places*, quoted in Lallemand, *Treatise on Artillery*, 2:147.

24. *Ibid.*; Straith, *Treatise on Fortification and Artillery*, 1:137; Davis, *Campaign that Won America*, p. 214.

made a sufficient cover for our men. . . .²⁵ Another reference is contained in the journal of sutler Daniel Trabue, who wrote, "It was a sight to see a plain old field, with men in it working with . . . spades making a ditch. Then throwing the dirt in front. The Ditch would be about 10 feet wide. . . ."²⁶ The most detailed reminiscence was provided by soldier Asa Redington of New Hampshire:

I was one of the intrenching party that marched onto the ground about 9 o'clock in the evening. Besides our knapsacks, guns and bayonets, we had intrenching shovels, and began digging where we found a line of split white pine strips stretching along the ground, marking out the line to intrench. Our men formed in line, taking three feet distance, laid down their arms and knapsacks a few feet in the rear, and began to break ground. Not a word or a whisper was uttered--nothing but silent work. The soil was light and sandy, and we worked like beavers all through the night. Before daylight came we had a half-mile of trench four feet deep and eight wide, which completely covered us from the cannon shot of the British.²⁷

By the time it was perfected several days later, another witness described the parallel as consisting

of a large ditch, broad enough for carriages to travel in, about four feet in depth, and covered by a rampart of gabions, or cylindrical baskets, fixed upon the ground, by means of projecting stakes, filled and covered over with loose dirt, and forming a height of about seven feet on the side towards the enemy.²⁸

Recent archeological investigations of the French sector of the First Allied Siege Line confirm the average dimensions given in the historical accounts: the trench measured about ten feet wide and registered a maximum approximate depth of four feet.²⁹

25. Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 3.

26. Trabue, "Journal of Colonel Daniel Trabue," in Harper, *Colonial Men and Times*, p. 111.

27. "Narrative of Asa Redington," p. 11.

28. Robin, *New Travels through North America*, p. 57.

29. Southside Historical Sites Foundation, "Archcology/Restoration/ Reconstruction of the Yorktown Battlefield," p. 47.

As the trench progressed, so did the four redoubts planned in the line, the French and American soldiers following the dimensions earlier plotted on the terrain with stakes and tape by the engineers. The British continued their fire against the redoubts already constructed on the gorge, doing little harm to the parties busily entrenching up ahead. Occasionally rockets burst overhead and the Allies feared discovery as the flares lighted the earth. In an attempt at deception, a group of American guards posted close to a morass built large bonfires and then walked back and forth before them so that the British might see them and direct their artillery away from the fatigue soldiers. The workers were relieved in shifts by men coming from the rear. When that happened, said Redington,

We were permitted to take some sleep in the rear of our works. I went back a few rods, laid down on the grass, and spread my blanket over me. In a few minutes a cannon ball came directly over me, and like a gust of wind threw my blanket right off. Then I made a new bed nearer our breastworks, . . . and got some sound sleep.³⁰

Through the entire night the Americans, workers and guards, suffered not one casualty. "Let gratitude abound in our hearts for this remarkable instance of the divine goodness," rejoiced a chaplain with the troops.³¹ By morning the men were soaked from the constant drizzle and a northwest wind chilled them uncomfortably.³²

b) The French Sector

Excavation of the French part of the parallel differed negligibly from that of the Americans. The trench apparently was traced on the ground with fascines rather than white pine stripping. The troops employed gabions according to normal digging procedure, filling the receptacles with dirt to form the parapet of the line. Armed troops stationed in ravines to the front and rear guarded the workers from surprise by the British.³³ The ravines greatly aided the French and precluded the need for tunnels

30. "Narrative of Asa Redington," p. 12.

31. "Journal of the Siege of York in Virginia by a Chaplain," p. 106.

32. For details of the work in the American sector, see Cobb, "Before York Town, Virginia," p. 68; Duncan, "Diary of Captain James Duncan," p. 749; Tilghman, *Memoir of Lieut. Col. Tench Tilghman*, p. 104; Redington, "Narrative of Asa Redington," pp. 11-12; Nelson to Jameson, October 8, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:532-33; Freeman, *George Washington*, 5:359-60; and Davis, *Campaign that Won America*, p. 216.

33. La Combe, quoted in Hatch, "Siege of Yorktown Opens," p. 15.

to communicate with the line from the rear.³⁴ Digging was somewhat retarded, however, by the presence of a great many tree stumps, presumably left from timber previously cut by the British to form abatis on the gorge and around the York Creek ravines.³⁵ Casualties were light among the French on this line: an officer of the Regiment Royal Deux-ponts sustained a small contusion, while a soldier of that unit incurred a more dangerous wound.³⁶ Such scant losses were deemed "a circumstance the more fortunate, as the wounded would have been unprovided with straw to lie on, and lincn rags for the dressing of their wounds."³⁷ Work went on vigorously. "The activity of the workmen and the natural looseness of the soil," commented a participant, "to our great astonishment, put the parallel into a state to receive the troops on the next day."³⁸

B. The Parallel Perfected

At dawn, October 7, the Allies had completed enough of the parallel to secure them from the British artillery fire. Happy in his success, George Washington noted in his diary that "the work was executed with so much secrecy and dispatch that the enemy were, I believe, totally ignorant of our labor till the light of the Morning discovered it to them."³⁹ The sight that met Lord Cornwallis's eyes the morning of the seventh must indeed have been intimidating. The Allies' line lay squarely before him and his initial response was to roll out two field guns and loh cannonballs into the newly completed entrenchments. The cannon did little damage, however, and the Americans found diversion in watching an English bulldog that ran out of the enemy garrison in playful pursuit of the bounding shot. Some of the officers wished to capture the canine and

34. Fersen, "Journal of Operations," p. 439.

35. Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, p. 58.

36. S. Doc. 322, p. 4.

37. Robin, *New Travels through North America*, p. 57.

38. *Ibid.*, pp. 56-57. Accounts of the progress of, and events along, the French half of the parallel appear in Engineers' Journal, p. 451; S. Doc. 322, pp. 3-4; Blanchard, *Journal*, pp. 146-47; Rochambeau, *Relation*, p. 5; Barneville, "War Diary," p. 273; Cloisen, *Revolutionary Journal*, pp. 143-45; De Verger Journal, in Rice and Brown, *American Campaigns*, p. 139; La Combe, "Journal of the Siege of York," p. 3; Menonville, "Journal of the Siege of York," p. 283; Balch, *French in America*, 1:192-93; Wright, "Notes on the Siege of Yorktown," p. 241; Davis, *Campaign that Won America*, pp. 214-15.

39. *Diaries*, 2:263.

send him with a note to his masters. "But," said one soldier, "he looked too formidable for any of us to encounter."⁴⁰

Work in the parallel continued. The British cannonade slowly grew in ferocity as if responding to the gradual realization of what had transpired in the night. American and French laborers pressed on to improve their defenses, revetting the sides of the trench while digging it deeper. The redoubts took shape. Early that morning a number of guard batteries composed of light field ordnance were rushed into the parallel as an added repellant to any sallies Cornwallis might contemplate. Elsewhere, preparations proceeded with feverish dispatch: artillery platforms were under construction in the American camp; in the artificers' camps soldiers stacked cannonballs, loaded shells, and readied cartridge ammunition to send against the British once the batteries were finished and the heavy guns emplaced. Before long the "horrid fire" of the enemy subsided to a "scattered fire of musketry, and a feeble fire of artillery." Little damage was done the Americans, although the French lost several men wounded. Later in the day an American officer had his leg torn off by a British cannonball.⁴¹ Marveling at the slight losses thus far, Colonel Richard Butler remarked that "the siege appears to be no more than an experimental movement."⁴² Yet opinions on the length of time the Allies might expect to work on Cornwallis were not as optimistic. "Sixteen days of open trenches are talked of," said one American officer. "I am not sanguine. I see difficulties: and yet, I think we shall take his Lordship."⁴³

1. The Opening Ceremony

A traditional ceremony marked the formal opening of the trenches and the start of the siege October 7. A ritual passed down through the centuries in Europe, the event entailed an elaborate entrance into the trench by the soldiers with drums beating, muskets at carry, and banners unfurled. Arriving at their specified stations, the troops would implant the flags upon the parapet in accordance with ancient war customs.

40. Quoted in Scheer and Rankin, *Rebels and Redcoats*, p. 557; Davis, *Campaign that Won America*, p. 216.

41. Du Bourg, "Diary of a French Officer, 1781," p. 446; Shute, "With General Benjamin Lincoln," p. 4; Tilden, "Extracts from the Journal of Lieutenant John Bell Tilden," p. 60; Feltman, "Journal of Lieut. William Feltman," p. 317; Moore, *Life and Services of Gen. Anthony Wayne*, p. 149; Washington, *Writings*, 23:212; Washington, *Diaries*, 2:264; "Itinerary of the Pennsylvania Line," p. 284; Engineers' Journal, p. 451; Wright, "Notes on the Siege of Yorktown," p. 242; Scheer and Rankin, *Rebels and Redcoats*, p. 557; Johnston, *Yorktown Campaign*, p. 135.

42. "General Richard Butler's Journal," p. 108.

43. James McHenry to General Greene, October 7, 1781, in Morgan Manuscripts, vol. 2, The Siege of Yorktown and Surrender of Cornwallis, Pierpont Morgan Library.

The ceremony of the Allies at Yorktown began precisely at 11:00 A.M. Scheduled to relieve General Lincoln's troops, Lafayette's Division--the brigades under Generals Hazen and Muhlenberg--assembled at that hour to the right of the division encampment in order that the soldiers might advance to the line through the Wormley Creek ravines unexposed to the British. The division commander for the day (in this case Lafayette) would serve as "Major General of the Trenches." His subordinate, the division inspector, was referred to as "Major of the Trenches." On the left at Yorktown the Regiments Agenois and Saintonge simultaneously prepared to relieve their predecessors in the trench of the French sector.⁴⁴ The French troops followed a procedure similar to that of the Americans: Lafayette, with Adjutant General Hand, inspected the division, then the Major of the Trenches arranged the men in order with respect to their particular assignments and stations. With drums to the front and rear of the column and with flags flying, Lafayette's Division marched at noon from the Grand Parade before his encampment across the mill dam of Wormley Creek and into the parallel. Once inside, the soldiers changed their weapons from "carry" position to "support." They then marched to a steady beat on to their respective posts and hoisted their colors on the breastwork. While Lafayette's soldiers advanced into the parallel, General Lincoln's departed at another point to the beat of their own drums. The British gunners, unable to restrain themselves at such an impertinent sight, greeted Lincoln's replacements with a veritable roar from their cannon.⁴⁵

But the bark of the artillery died suddenly as Cornwallis's soldiers witnessed a most unaccountable happening. Young Lieutenant Colonel Alexander Hamilton, commanding the Second Battalion of Hazen's Brigade, suddenly ordered his unit to mount the epaulement and--fully exposed to whatever guns the enemy might open on them--to execute the manual of arms from Steuben's *Regulations*. Incredulous at the development, the British held their fire. "Although I esteem him one of the first officers in the American army," said one man of Hamilton, "[I] must beg leave in this instance to think he wantonly exposed the lives of his men."⁴⁶ The incident, however impetuous, sparked repeated emulation through the siege. Later, Colonel Philip Van Cortlandt paraded his Second New York Regiment, with unfurled banners and beating drums, dangerously close to the British

44. Wright, "Notes on the Siege of Yorktown," p. 242; S. Doc. 273, pp. 191-92; Washington, *Writings*, 23:197; Scheer and Rankin, *Rebels and Redcoats*, p. 557; John W. Wright, "Notes on the Continental Army," *William and Mary College Quarterly Historical Magazine*, 2d ser. 13 (April, 1933): 96.

45. "Siege of York and Gloucester, Virginia," p. 476; Stryker, *New Jersey Continental Line*, p. 18; Wright, "Notes on the Siege of Yorktown," p. 243; The American standards bore the expression, "*Manus Hæc inimica tyrannis*." Duncan, "Diary of Captain James Duncan," p. 749.

46. Duncan, "Diary of Captain James Duncan," p. 749.

main lines. Baron Steuben diverted the enemy from bombarding Van Cortlandt's men with shot and shell by directing an attack in another quarter. And Steuben himself ultimately fell victim to bravado, directing his own troops through a similar escapade in the face of Cornwallis's artillery.⁴⁷ With his troops in place October 7, Lafayette issued a directive calling on them, if attacked by an enemy sortie, to fire one volley with their muskets then charge over the parapet and meet the invaders with bayonets.⁴⁸

2. The French Plot Their Batteries

In the French sector, work went on throughout the day as laborers struggled to finish the parallel and two redoubts. Work there was not quite as advanced as under the Americans, largely because of differences in the slope of the terrain and because of the stumpy ground in the vicinity of York Creek. Four hundred men (two battalions) of Regiments Agenois and Saintonge relieved the trench at noon, while two other battalions took up supporting posts in ravines to the rear of the line. Field guns stood along the parallel at appropriate intervals. The Chevalier de Chastellux was appointed Major General of the Day in the French side of the parallel.⁴⁹

Locations for the batteries having been determined, that evening 400 French night workmen joined the artillerymen in beginning construction of four earthworks. Five hundred more laborers worked to perfect the redoubts and to build communication trenches to the batteries, the commanding nature of the ground dictating their erection behind, rather than ahead of, the parallel. A detached battery was also begun at this time across the York Creek ravine, while that being constructed at the far left near the river (IA) was finished during the night of October 7 and was ready to fire by morning.⁵⁰ The four parallel batteries begun in the night by the French were described by an officer, Gaspard de Gallatin, as follows:

A big battery [to be] composed of 4 16 pounders, 2 mortars of 12 inches, 4 mortars of 8 inches, 2 howitzers of 8 inches, a little behind the parallel and a little to the left of the Hampton highroad.

47. Wright, "Notes on the Siege of Yorktown," p. 243; John C. Miller, *Alexander Hamilton and the Growth of the New Nation* (New York: Harper and Row, 1959), p. 77.

48. Duncan, "Diary of Captain James Duncan," p. 749.

49. Menonville, "Journal of the Siege of York," p. 283; "Diary of French naval operations in America," p. 192; Rochambeau, *Relation*, p. 5; Deux-Ponts, *My Campaigns in America*, p. 140; Wayne Journal, p. 81; Du Bourg, "Diary of a French Officer, 1781," p. 446; Merlant, *Soldiers and Sailors of France*, p. 174.

50. De Verger Journal, in Rice and Brown, *American Campaigns*, pp. 139-40; Engineers' Journal, p. 451; Menonville, "Journal of the Siege of York," pp. 283-84; Closen, *Revolutionary Journal*, p. 145; S. Doc. 322, p. 5; Balch, *French in America*, 1:193.

A battery of 4 24 pounders, also behind the parallel and to the right of the ravine on which it rests.

One of 3 24 pounders, in the direction of and behind the extremity of the parallel.

One of 3 24 pounders, to the left of the ravine on which the parallel rests.⁵¹

3. American Enterprise

While the French progressed in building their batteries, so did the Americans. At 9:00 P.M. American work parties advanced about forty yards before the parallel and commenced preparations for the erection of two batteries, one large unit on the extreme right, close to York River (actually begun the night of the eighth), and one on the left of the American sector nearby the adjacent position of the French.⁵² Some of Nelson's militia moved up close to the British line to distract the enemy with random sniping from their muskets. In the darkness two American patrols stumbled into each other and shooting erupted. One man was killed. A workman on the line had his foot shot off by a cannonball.⁵³ Several alarms occurred in the night: in one instance 200 British pickets with two fieldpieces encountered an American patrol and drove it diagonally back into the French part of the line. But the British party stayed beyond musket range and retired in safety.⁵⁴

51. S. Doc. 322, pp. 5-6; See also Menonville, "Journal of the Siege of York," p. 284; In some cases Gallatin's account of the number of guns and their calibers designated for particular battery units is subject to some dispute. For example, de Verger stated that in the next to the last battery described above there were *four* twenty-four-pounders, and that the last mentioned battery contained, besides the cannon, two howitzers. De Verger Journal, in Rice and Brown, *American Campaigns*, p. 140.

52. There were certain drawbacks to constructing batteries in advance of the parallel, as the Americans did, instead of directly in the parallel. "If they be placed in front," wrote Lallemand, "they cannot be commenced till the night following [the opening of the trenches], and this will cause a delay of 24 hours in opening the fire, require more work, and be much more dangerous to execute. Batteries in front of the parallel have the disadvantages of masking the fire of the troops, and impeding the manoeuvres necessary to meet and repulse sorties." *Treatise on Artillery*, 2:153.

53. Tilghman, *Memoir of Lieut. Col. Tench Tilghman*, pp. 104-5; Wild, "Journal of Ebenezer Wild," p. 153; Doehla, "Journal of Johann Conrad Doehla," p. 141.

54. Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 3.

4. More Work on the Line

Besides their new work on the batteries, the Allies also endeavored to improve the parallel through revetment and to complete the four infantry redoubts. Ever cognizant of "a numerous garrison, under the orders of an enterprising man," the French and Americans built redoubts designed to ward off enemy assaults on the parallel. The structures were ditched and palisaded, and palisades were also placed across the entrances in the rear of the works.⁵⁵ At the same time, the parallel proper was deepened and widened and its sides strengthened with the addition of fascines and gabions. Men worked to repair the breastwork when it became damaged by British artillery fire. Drainage, a necessary consideration in construction of the line, was accomplished primarily through the existence of numerous small ravines, the heads of which occasionally intersected the excavation. Ideally, the inside base of the trench parapet contained a banquette for the soldiers to stand on so that they might fire with their muskets over the top at an onrushing enemy. Occasionally along its length workmen cut apertures into the rear wall to hold sundry necessities like water, musket ammunition, and first aid equipment. Blinds--wooden barrels filled with sand--stood at irregular intervals in the trench as protective devices against shrapnel from exploding bombs. These were also commonly used in the redoubts.⁵⁶ Men stationed in the parallel for long periods also needed access to latrines. Vauban urged that holes be dug in the earth some distance behind the line and screened by epaulements erected for that purpose. "In this manner," said Vauban, "you can prevent your people from having to go too far away, from getting themselves killed needlessly, and from infecting the trenches. . . ."⁵⁷

C. Establishing the Batteries

1. Theoretical Considerations

But the construction of the batteries for Washington's siege pieces commanded the most attention the night of October 7 and into the next day and night. While specifics of the character and dimensions of the various units are lacking, presumably the engineers adhered to the guidelines imposed by experience and conveyed by the technical treatises of the day as reported in Chapter II. Essentially, the work was well defined, and batteries were raised in two to three days, sometimes sooner. The French theorist Vauban recommended that communicating trenches to the location of the proposed battery be dug the first night and that the front line of

55. D'Ancteville, "Journal of the Chesapeake Campaign," p. 18.

56. Wright, "Notes on the Siege of Yorktown," pp. 234-35, 242; Fleming, *Beat the Last Drum*, p. 240.

57. *Manual of Siegecraft and Fortification*, p. 51.

the battery be marked. "There you should set up a double row of gabions six feet high and five feet in diameter; fill them and the spaces between them carefully with dirt dug from the trench so no gaps remain." On the following day work could ensue under this cover to build and assemble the artillery platforms, while in the night laborers could work to thicken and raise the parapet and strengthen it with fascines. The next day should be allotted to readying the platform and after dark the embrasures should be cut and the guns mounted.⁵⁸

Guided by such ideas, and under supervision of the engineers, the laborers staked out the position of the battery parapet (based on prolongations of the enemy's batteries to be enfiladed), and work began on excavating the ditch, the dirt being thrown into the area designated for the parapet. In sandy soil, such as at Yorktown, the parapet should have been at least 25 feet thick. Normally the linear dimensions of a battery were based on the number of ordnance pieces intended to occupy the structure, with between 15 and 20 feet assigned for each cannon. Typically, a gun battery would possess a parapet uniformly 7-1/2 feet high, though actually the height might visibly undulate because of varying ground level. If the battery was built on level ground this would be reflected in a parapet of equal height throughout.⁵⁹ The parapets of the batteries and redoubts at Yorktown, at least those of the French, seem to have possessed berms (probably 5 or 6 feet wide) on the exterior sides. Recent archeological investigation disclosed that the distance between the scarp walls and interior excavations of particular structures was much greater than the maximum parapet width recommended in the eighteenth-century fortifications manuals. Moreover, dirt excavated archeologically from the frontal ditch could have been raised to the probable parapet height only if the ditch's width conformed to the theorists' recommended standards.⁶⁰

The American batteries, placed in advance of the parallel, also needed connecting trenches back to the line. These ran about ten or twelve feet wide and four to five feet deep. Batteries required powder magazines, too. Usually one magazine sufficed in a battery harboring cannon alone; in a structure designed for mortars and howitzers in addition to cannon, two or three magazines were built adjacent to one another. In an attempt to conserve powder, some officers urged that the barrels be spaced intervally be-

58. *Ibid.*, p. 59.

59. Lochée, *Elements of Field Fortification*, pp. 141n, 148, 149-50; Lallemand, *Treatise on Artillery*, 2:154; Tousard, *American Artillerist's Companion*, 1:26-27.

60. Southside Historical Sites Foundation, "Archeology/Restoration/Reconstruction of the Yorktown Battlefield," p. 17.

hind the batteries in such a way that while a barrel might occasionally be lost, the total quantity would not be threatened with destruction by being contained in one large magazine.⁶¹

2. Finishing the Gun Emplacements

During the two to three days allotted to raising artillery batteries, workmen performed other duties beyond merely building the earthen walls to surround the guns. They also cut embrasures, the spaces or openings through which the artillerists directed the muzzles of the guns against the enemy. In addition, they rammed the earthen floor, excavated it slightly if necessary, and otherwise firmed the ground to receive the heurtoirs, the heavy wooden artillery platforms, and finally the siege ordnance itself. A platform consisted of a heurtoir and a number of timbers or sleepers pressed into slots prepared in the earth perpendicular to the parapet and topped with planks for the carriage wheels to roll on. Although most manuals specified five sleepers per cannon platform, those excavated archeologically at Yorktown consisted of but three. Moreover, archeology disclosed that most of the American battery sleepers were crooked and partly rounded, apparently hewn by ax and saw from timber grown locally. Some sleeper impressions excavated at Yorktown measured from twelve to fifteen feet long. The former probably comprised the length of howitzer platforms, the latter cannon platforms. The direction of the platform conformed to that of the heurtoir, the large guide timber placed at the base of the parapet and against which the carriage wheels ultimately rested. A platform of twelve feet slanted four feet toward the epaulement to avoid too great a recoil; a platform of fourteen feet dipped six feet toward the parapet.

Placed in a somewhat trapezoidal fashion, cannon batteries measured roughly fifteen feet wide at the rear and nine feet wide at the front. Mortar platforms for pieces of ten- and twelve-inch caliber contained sleepers measuring six feet in length and six or seven inches square. These platforms were placed horizontally on the ground with no slope.⁶² The merlons, those parts of the epaulement lying between the embrasures, had to be lined with saucissons, as did the base of the wall up to the genouilliere, the height of the parapet at which embrasure openings first appeared. Gabions placed in rows were also used to strengthen the parapet.⁶³ Normally two men accomplished the work of revetement, one to place the

61. Tousard, *American Artillerist's Companion*, 1:30, 48; Thor Borresen, "Completion Report on American Battery No. 2, Second Parallel," MS, dated April 16, 1941, in the library of CNHP, Yorktown, Virginia, p. 79.

62. Tousard, *American Artillerist's Companion*, 1:40, 41-42, 79; Hatch, "On Reconstructing Earthworks," pp. 35, 38; Borresen, "Completion Report on American Battery No. 2," pp. 64-66; Memorandum, Borresen to Acting Park Historian, March 27, 1939, p. 5.

63. Tousard, *American Artillerist's Companion*, 1:27-28, 31, 32, 33, 40.

fascines or saucissons and another to stake them firmly in position. Ideally, a battery was revetted inside and out; however, safety, economy, and expediency frequently necessitated such treatment for the inside only. Lochée estimated the number of ten-foot-long and one-foot-thick saucissons needed to line the interior of a typical parapet: 160 would suffice,

for as each side of the work measures 25 yards with a height of 4 feet and 1/2, each side will require 5 rows of 8 saucissons each, or 40 saucissons; and consequently 4 times that quantity, or 160, for the whole interior slope; each saucisson requiring 5 stakes, the number of stakes will be 800.⁶⁴

These duties were not undertaken haphazardly, as the following statement from Tousard reveals. The labor at Yorktown doubtless proceeded as systematically:

The battery is seldom raised above two feet and a half high the first night: the merlons are traced. . . . At break of day this [first] working party is relieved by another consisting of half their number; they enlarge the ditch all the day, throwing up the earth to form the battery or merlons, if traced. When the embrasures have not been marked out, the senior officer plants the pickets at sunset for determining their direction, and completes the tracing of the merlons at the arrival of the fresh working party, which should be as numerous as in the preceding night. * * * During this [second] night also the platforms are laid, and some guns brought to the battery, if they be covered from the enemy's fire during the next day. The following day and night are employed in constructing the powder magazines, completing the batteries, and preparing every thing for opening them on the third morning at sunrise.⁶⁵

3. Purpose of the First Parallel Batteries

The object of the batteries of the first parallel in a siege was to demolish the enemy's defenses. Intervening distances between the Allies and the British, varying from 750 to 1,260 yards, required that Washington

64. *Elements of Field Fortification*, p. 154. Lochée failed to deduct for the entrance and embrasures, but justified his method by citing the excess of materials to repair defects that were "likely to arise from accidents of different kinds." *Ibid.*, p. 56; See also Tielke, *Field Engineer*, 1:202-3; Saucissons used to reinforce the cheeks (insides) of the embrasures were commonly eighteen feet in their maximum length. Tousard, *American Artillerist's Companion*, 1:39.

65. Tousard, *American Artillerist's Companion*, 1:74-75. For details of the work of the fatigue parties, etc., see pp. 25, 26, 27, 33. More specifics of battery construction are in Appendix B of this report.

bring his heaviest pieces to bear on the farthest targets along the enemy line. At Yorktown the Allies hoped to destroy the British parapets and knock out the embrasures for enemy cannon. This required direct firing. Random and ricochet firing also brought ruination to the enemy works and besides could strike Cornwallis's men behind their lines, to the rear. This type of cannonade would "carry confusion into places where there could be no suspicion of [artillery fire] . . . ever reaching."⁶⁶ The purely psychological impact of such firing could be devastating.

D. Earthworks for the First Parallel

With precisely these objectives in mind, General Washington's engineers and artillery officers supervised construction of the first parallel earthworks. Compared to the structures to be raised in the second parallel, those of the first line permitted more refinements: at the greater distance, work on batteries and redoubts could take longer and involve greater detail in construction. Consequently, the first parallel fortifications pretty much followed recommended procedures and specifications; i.e., cannon would have been spaced more exactly (between eighteen and twenty feet between) than in a second parallel where, because of proximity to the enemy, all effort would be concentrated in getting the guns into position and firing before enemy fire knocked them out of commission. From contemporary descriptions provided in documentary materials, chiefly maps, the First Allied Siege Line at Yorktown, as established between October 6 and 9, exhibited the following structural features:

1. Structure 1A (see accompanying map)

This battery, begun the night of October 5 and completely finished by noon of the eighth, possessed two sections, one of cannon, the other of mortars and howitzers. A consensus of the historical maps consulted indicates that the cannon consisted of four twelve-pounders, while the other ordnance comprised three mortars and four howitzers. There is no detailed information regarding the calibers of these latter weapons.⁶⁷

66. Tousard, *American Artillerist's Companion*, 1:4; Borresen, "Orientation Report," p. 30.

67. Maps 24F, 29B, 49F; Engineers' Journal, p. 451; Du Bourg, "Diary of a French Officer, 1781," p. 446; Most maps are specific concerning the presence of the four twelve-pounders but appear nebulous on the matter of the number of mortars and howitzers. For example, 45F indicates six howitzers but no mortars; 15F and 41F indicate two howitzers; 17F accounts for six cannon, six howitzers, and two mortars, while Map 37F states that four howitzers were present, but no mortars; Colonel Richard Butler claimed that Battery 1A held "eight 18 and 12 pounders, two 10 inch mortars, and two 8 inch howitzers." "General Richard Butler's Journal," p. 108. Such differences might account for the shifting of ordnance in accordance with need at various points on the parallel. This explanation does not seem plausible, however, when applied to this relatively isolated battery on the extreme left of the first parallel.

One map states that this battery fired hot shot on the British shipping from two twenty-four-pounders brought in expressly for this purpose.⁶⁸

This battery consisted of two parapets meeting in a salient angle near the riverbank. Because of fear of a cave-in so near the precipice, the French workers probably observed a safety margin of at least fifty feet from the edge of the bank when placing the heavy weapons.⁶⁹ The left part of the structure harbored the cannon and was commanded by a captain named Boisloger. The right, containing the mortars and howitzers, was commanded by a Captain Bonnay.⁷⁰ Most maps concur that Battery 1A was connected to Battery 2A, a short distance south, by a strip of trench that bisected the Williamsburg Road and formed what the French termed the left extremity of their part of the first parallel.⁷¹

2. Structure 2A

Situated immediately to the right of the Williamsburg Road, at the south end of the trench running from 1A, this battery apparently contained two mortars of undetermined caliber.⁷² This small unit was commanded by Captain Bonnay, who also had charge of the mortar/howitzer section in Battery 1A.⁷³

3. Structure 3A

This French battery was detached from those located on the main French parallel, being situated to the west of the York Creek ravine on high ground where it provided an unobstructed view of the British defenses. Four bronze twenty-four-pounders stood in this earthwork when it was completed.⁷⁴ Two maps (30B and 50B) disclose a small trench to the

68. Map 24F.

69. Borresen, "Orientation Report," p. 53.

70. Maps 29B, 34F; References to these officers appear in Heitman, *Historical Register*, pp. 646, 654; Boisloger is also mentioned in Closen, *Revolutionary Journal*, p. 146.

71. Maps 1F, 2F, 6F, 7A, 11F, 18F, 19F, 28A, 29B, 30B, 32F, 33F, 34F, 35F, 37F, 50B, 61F, 62F.

72. Map 29B. The maps are not at all clear regarding the calibers of the mortars in Battery 2A. One map (34F) stated that there were three mortars present in the structure but failed to elaborate. Map 29B, of British origin, is most specific of all on the question.

73. Map 34F.

74. Maps 1F, 24F, 29B, 49F. Several maps depict this battery as having but three cannon: 15F, 16F, 17F, 34F.

right rear of Battery 3A. This undoubtedly was a communications passage into the work from the ravine on the right. One map indicates that the French placed a corps of grenadiers and chasseurs in the York Creek ravine for the purpose of supporting the left of the first parallel. Battery 3A was under the command of Captain Francois Olivier d'Hemery.⁷⁵

4. Structure 4A

Just to the right of the York Creek ravine, the principal sector of the first parallel began. Here the French constructed a powerful complex of gun batteries, generally referred to as the Grand French Battery. Essentially, the Grand French Battery--the strongest artillery unit of the entire siege--encompassed Structures 4A through 8A, four batteries and one redoubt, and dominated the gorge area between York and Wormley creeks. Battery 4A, on the extreme left of this complex, almost touching Goosley Road and near that avenue's intersection with Hampton Road, possessed a capacity for eight mortars, according to the maps. Apparently there occurred some shifting of this ordnance, for some maps suggest the presence of six and seven mortars instead of eight.⁷⁶ Gaspard de Gallatin reported seven mortars in Battery 4A, which was begun the night of October 8 or the morning of the ninth, later than the other structures, and which was built ahead of the parallel, unlike the other French units. Of the eight pieces usually cited for Battery 4A, three were twelve-inch mortars and five were eight-inch.⁷⁷ They were in the charge of a French officer named Chanteclair.⁷⁸

75. Maps 17F, 34F.

76. Maps 24F, 29B, 35F, and 49F all show eight mortars. Maps 1F, 2F, 7A, 15F, and 17F show six mortars. Map 7A gives their calibers as being thirteen inches each. Maps 19F, 34F, and 62F state that the battery had seven pieces in it. Map 48F reported the structure was occupied by six cannon. Speaking of the entire Grand French Battery, Colonel Richard Butler stated that it contained "twelve 32, 24, and 18 pounders, six 10 inch mortars, and six 8 inch howitzers. . . ." "General Richard Butler's Journal," p. 108. The presence of any thirty-two-pounders with the Allies at Yorktown is doubtful.

77. Maps 24F, 29B, 49F; S. Doc. 322, p. 6; De Verger Journal, in Rice and Brown, *American Campaigns*, p. 140; La Combe, "Journal of the Siege of York," p. 3; Engineers' Journal, p. 451.

78. Map 34F; Clozen stated that the officer in charge of this unit was named Chanteclerc. *Revolutionary Journal*, p. 146. More details of the construction and armament of the Grand French Battery appear in the following chapter.

5. Structure 5A

Four bronze twenty-four-pounders occupied Battery 5A, located approximately 600 feet almost directly behind Battery 4A.⁷⁹ The unit was commanded by Captain of Bombardiers Pierre Garret de Maisonneuve.⁸⁰

6. Structure 6A

This structure was one of two redoubts built into the parallel in the French sector to hold infantry troops ready to repel British sorties against the line. Palisaded in its ditch and at its entrance, the redoubt was roughly square-shaped, with one salient angle facing towards the British, one in the rear of the line, and the other two joining the parallel at the east and west sides of the structure.⁸¹ An entrance was evidently located along the left rear side.⁸² Redoubt 6A was closest in proximity to the mortar battery (4A) immediately to its left.

7. Structure 7A

A French battery holding four bronze twenty-four-pounders, this structure stood a short distance west of Hampton Road behind Redoubt 6A and slightly ahead and east of Battery 5A. The unit was commanded by a French captain named Francois-Justin Jossierand.⁸³

8. Structure 8A

This earthwork comprised the largest in the Grand French Battery complex and stood farthest east of any of the French batteries. Like Battery 1A, it was divided into sections for cannon and mortars and howitzers. The battery extended in the form of a widened, inverted V, with one salient angle facing the British defenses. The short left arm of the structure contained four cannon, the long right arm contained mortars and howitzers and four more cannon. While most of the maps agree that the cannon in this unit numbered eight sixteen-pounders,⁸⁴ archeological excavation of the site, as discussed later, has posed some intriguing questions concerning the placement of the armament in 8A.

79. Maps 1F, 2F, 15F, 16F, 17F, 24F, 29B, 35F, 48F, 49F. Map 28A accounts for five cannon in Battery 5A. Map 34F states there were three pieces in the structure.

80. *Ibid.*

81. Details of Redoubt 6A are best represented in Maps 2F, 11F, 33F, 35F, and 37F.

82. Map 2F.

83. Maps 1F, 2F, 15F, 16F, 17F, 19F, 24F, 29B, 34F, 35F, 48F, 49F.

84. Maps 1F, 2F, 19F, 24F, 28A, 29B, 34F, 35F, 48F, 49F, 62F.

There is considerable disagreement as to the number of mortars and howitzers. Some maps indicate six mortars present, while others indicate four mortars and two howitzers.⁸⁵ One map (2F) states that there were eight mortars and six howitzers in this part of the battery. Another (48F) accounts for six mortars and two howitzers, besides the four cannon at the extreme right of the mortar section (these cannon in addition to twelve pieces located in the left arm, according to this particular map).⁸⁶ While discrepancies such as these may appear misleading, it should be remembered that these first parallel batteries were in constant use through most of the siege. Probably none of the batteries stayed untouched during that period of time. Constant adjustments and refinements of the artillery must have occurred that caused certain pieces of ordnance to be transferred again and again to meet arising exigencies. Thus, the maps are not necessarily wrong; at different times the batteries probably contained the ordnance specified for a particular unit when a certain map was being prepared.

In no instance do the maps reveal the particular calibers of the mortars and howitzers contained in Battery 8A. Because of its size and diverse weaponry, Battery 8A was administered jointly by three officers. The four (possibly five) guns on the left were in the charge of Captain Jean-Baptiste de Maurecourt of the Auxonne Artillery Regiment. The howitzers and mortars in the left part of the right arm were commanded by Captain Nicolas Barthelemy, while the remaining four sixteen-pounders in the right section of the right arm were under Captain Bernard de Neurisse.⁸⁷

Just to the right of Battery 8A, in the ravine between it and Redoubt 9A, there appears to have been a slight break in the parallel. The ravine enters the line from the French depot behind the parallel. The break, which was small--not over several yards across--seems to have been an access route for troops entering the line from the rear. What appears to be a short length of cpaulement several feet in front of the break probably served as a traverse to visually hide the opening from British eyes.⁸⁸ Several maps show a secondary road leading in from Hampton Road and entering the line at this point, suggesting it was a major artery into the parallel for supplies, soldiers, and even the siege artillery.⁸⁹ The legend of one map suggests that it was at this point

85. Maps 19F, 24F, 28A, 29B, 34F, 49F, 62F.

86. Maps 16F and 17F also show twelve cannon in Battery 8A.

87. Map 34F. Barthelemy is listed in Heitman, *Historical Register*, p. 662.

88. Maps 1F, 2F, 11F, 15F, 17F, 18F, 19F, 25B, 28A, 31F, 32F, 33F, 35F, 37F, 41F, 46F, 48F, 49F, 50B, 62F.

89. Maps 12F, 15F, 34F, 45F, 53F.

that the French and American night workers advanced preparatory to opening the trench the night of October 6. The legend reads: "Opening of the trenches in a hollow, the americans [*sic*] pushed toward the right, the french [*sic*] the left."⁹⁰ Traditionally, this break in the line has marked the division of labor between the Allied armies. One map, however, places the right of the French construction much further to the right, to include that part of the parallel before which the Americans crected Battery 10A.⁹¹ American troops evidently occupied that section of the parallel excavated by their allies, the French.

9. Structure 9A

This redoubt, strategically situated in the parallel to the immediate right of, and above, the ravine leading from the French deposit, served to guard the supplies and at the same time to watch over the break in the trench that might admit an enemy sortie. Square-shaped, with its salient angle forward as in Redoubt 6A, this structure possessed a palisaded ditch and a similarly protected entrance.⁹²

About 300 yards to the rear of the west side of the Grand French Battery, there seems to have been a short detached section of trench running for 100 yards in a southeastern direction.⁹³ While its exact purpose remains unknown, the trench seems to have passed through a slight rise or hillock in the area, leading to speculation that it served to protect troops advancing into the French sector via the west end of the Grand French Battery. Also, the ditch lies rather midway between the Pigeon Hill Redoubts and the American intermediate redoubt. It could also have served to contain troops supporting these structures.

10. Structure 10A

This American battery, the first American structure adjacent to the French sector, stood well in advance of part of the parallel apparently constructed by the French.⁹⁴ The unit mounted, at most, five or six

90. Map 45F.

91. Map 19F. This colored map depicts the French and American construction in much detail. French construction is red, American blue. The French line clearly extends far to the right, leading to the assumption that the French contribution to establishing the first siege line was greater than heretofore supposed.

92. Maps 11F, 17F, 28A, 33F, 35F, 37F, 48F, 50B.

93. Maps 2F, 15F, 16F, 17F, 18F, 19F, 28A, 31F, 32F, 33F, 34F, 35F, 36F, 37F, 53F, 62F.

94. See Map 19F, as mentioned in note 91.

eighteen-pounders, although the majority of maps indicate that this battery held four cannon.⁹⁵

11. Structure 11A

The first of two American redoubts was palisaded the full length of its perimeter. Like its French counterparts, the structure was erected in the parallel to guard the line against enemy assault. It was either triangular or square-shaped, with a salient angle forward and an entrance at the rear. This structure guarded the American trench depot established nearby.⁹⁶ Added security to this vital station was present in the form of a small battery of four howitzers behind an epaulement to the right rear of Redoubt 11A.⁹⁷

12. Structure 12A

The other American redoubt appeared much like Redoubt 11A, according to historical maps, and had palisades guarding its ditch and rear entrance.⁹⁸ This square structure seems to have been armed with from two to four mortars in a small bomb battery.⁹⁹

13. Structure 13A

The structure furthest right on the first siege line was an American battery with an apparent capacity for twelve eighteen-pounders, two twenty-four-pounders, two howitzers, and four mortars. Started the night of October 8, this so-called American Grand Battery stood near the riverbank, far in advance of the parallel, to which it was connected by a lengthy communications trench. Figures disagree regarding the weaponry complement of this battery, again reflecting the erstwhile shifting of ordnance

95. Maps 24F, 49F, and 62F indicate six cannon here. Maps 1F, 2F, 7A, 15F, 16F, 17F, 19F, 28A, 34F, and 48F indicate four cannon. Maps 24F, 29B, and 49F account for seven guns (six eighteen-pounders; one twenty-four-pounder) and two howitzers in this battery; Gallatin wrote that this battery held five cannon. S. Doc. 322, p. 5; Private Sanderson, evidently speaking of this structure, said that on "the night of the 7th we formed [*sic*] an Eight Gun battery for Eighteen lbs." "Diary of the March from the Hudson to Yorktown," in Johnston, *Yorktown Campaign*, p. 171.

96. Maps 11F, 25B, 28A, 30B, 33F, 35F, 37F, 49F, 50B.

97. Maps 1F, 2F, 15F, 17F, 41F. Map 48F shows four cannon rather than howitzers in this small battery.

98. Maps 2F, 11F, 33F, 37F.

99. Maps 29B, 35F, and 49F stated that two mortars were present. Map 7A, an American document, reported that the redoubt contained a battery of four ten-inch mortars.

during the siege as conditions changed.¹⁰⁰ General Knox's specially improvised carriages for mortars were used in Battery 13A.¹⁰¹

E. Readying the Guns

1. Incidents of American Musketry

While construction of these batteries and refinement of the trenches and redoubts went on, the British kept up their barely disruptive fire. On October 8 a Continental officer simply noted in his journal: "The accustomed Blazing away at us."¹⁰² In the morning twilight of that day an American patrol brought muskets to bear on several British outposts guarding the left of Cornwallis's defenses.¹⁰³ In an unusually cruel gesture, some of the American pickets advanced to the British hornwork, announced they were deserters, and then proceeded to shoot two officers of the British Forty-third Regiment who approached to escort them forward.¹⁰⁴ Another patrol working in front of the enemy line withdrew precipitately from their station much to the consternation of witnesses:

100. Maps 29B and 49F account for the capacity figures given above. Maps 1F, 2F, and 49F also list twelve eighteen-pounders, or cannon, but place no other ordnance in the battery. Maps 15F, 17F, 34F, and 41F represent ten cannon as being in the structure. Map 28A accounts for seven cannon, two mortars, and two howitzers here, while Map 7A reports that the unit held three eighteen-pounders, three twenty-four-pounders, two howitzers, and two ten-inch mortars. A British map, 50B, simply states that Battery 13A held "cannon, Howitzers and Mortars"; Gallatin, a Frenchman, reported that the American Grand Battery mounted six cannon and four howitzers. S. Doc. 322, p. 5; Colonel Richard Butler maintained that Battery 13A mounted three twenty-four-pounders, three eighteen-pounders, two ten-inch mortars, and two eight-inch howitzers. "General Richard Butler's Journal," p. 108; See also Pickering and Upham, *Life of Timothy Pickering*, 1:302.

101. Freeman, *George Washington*, 5:361; Little archeological work has been completed in the American sector of the first siege line largely because most of the land there was in private ownership until recently. A very small section of the parallel adjacent to the left side of Redoubt 12A, along with the communications trench leading from the American depot, was excavated during the reconstruction effort of the 1930s. Early in the history of Colonial National Historical Park the superintendent's home was built on the site of Battery 13A. Pitkin, "A Preliminary Study of American Redoubt No. 2," p. 1.

102. Swartwout, "Journal of Barnardus Swartwout," p. 36.

103. "Wertgetreue Abschrift eines Tagebuchs eines markgräflichen Soldaten."

104. James, *Journal of Rear-Admiral Bartholomew James*, pp. 120-21.

They were fired upon by the enemy, never returned a single shot and retreated into our works in the utmost disorder. Captain Weed, who commanded the picket, was again ordered out, but the enemy had retired. How he will be answerable for his conduct time will discover. . . .105

2. More British Artillery Fire

The British cannonade on the eighth was primarily aimed at interrupting progress on the gun batteries. Allied casualties remained light: one American soldier had his arm blown away by a cannonball as he mounted the parapet of a battery; two members of a Maryland regiment sustained wounds; and two Pennsylvanians were killed by British shot fired *en ricochet*. The French lost several men killed and wounded.¹⁰⁶ As precaution, the American soldiers posted sentinels on the epaulements:

They kept a man on the watch, and when they saw a match going to their [British] Cannon our men would fall down in the Ditch, and you could hear the Ball go by. Sometimes it would skip along on the ground, and bury the men in the Ditch, but in general they would not be hurt.¹⁰⁷

3. Fatigue Duty

During the day Washington issued numerous orders to his command. Colonel Elias Dayton's New Jersey troops were formed into a battalion under Colonel Mathias Ogden. Similarly, the New England regiment of the dead Scammell was split into two battalions and placed one each under Lieutenant Colonels Ebenezer Huntington and John Laurens. Ogden's new command was directed to make 33 saucissons, a like number of gabions, 110 fascines, and 330 pickets. Lieutenant Colonel Francis Barber's Battalion of New Jersey and New Hampshire troops performed the same service.¹⁰⁸ After the eighth, however, component materials were to be furnished by the various corps as apportioned by Adjutant General Hand. Nelson's militia, moreover, was divided into thirds, with each third expected to do duty in twenty-four-hour shifts.¹⁰⁹

105. Duncan, "Diary of Captain James Duncan," pp. 749-50.

106. Tilden, "Extracts from the Journal of Lieutenant John Bell Tilden," p. 61; Duncan, "Diary of Captain James Duncan," p. 750; Tilghman, *Memoir of Lieut. Col. Tench Tilghman*, p. 105; Moore, *Life and Services of Gen. Anthony Wayne*, p. 149.

107. Trabue, "Journal of Colonel Daniel Trabue," in Harper, *Colonial Men and Times*, p. 112.

108. "Orderly Book kept during the Siege of Yorktown," pp. 68, 69; Washington, *Writings*, 23:198-99; Stryker, *New Jersey Continental Line*, pp. 18-19.

109. "Orderly Book kept during the Siege of Yorktown," pp. 74, 75.

4. Steuben in the Trenches

By afternoon, several of the Allied batteries were completed and the workers struggled to put the cannon in place. The pieces arrived over bad roads from the James River, dragged by horses or pulled in wagons. That evening they were laboriously pushed and pulled through the trenches and hoisted into the batteries by soldiers, for fear the horses might rear under British firing and damage them. Baron Steuben's Division assumed trench duty at noon, and marched into the parallel with the usual flourish of drums rolling and flags flying in the breeze. Steuben directed his trench guards to keep their men assembled with muskets at the ready, especially after dark. Fully expecting a sally that night, the baron instructed his men that if attacked, they should fall back eight paces behind the parallel and strike suddenly with bayonets after the British soldiers entered the trench.¹¹⁰ If the sortie occurred in the French wing, plans were readied for Steuben's Maryland Brigade to "immediately march out of the trenches and attack the flank of the Enemy."¹¹¹

5. Optimism and Doubt

In the French sector, the batteries went up rapidly. St. Simon and Custine relieved the trenches with the Regiments Gatenois and Royal Deux-ponts. Grenadiers of Soissonois and Saintonge provided auxiliary troops. After nightfall, as the guns were being dragged into position, several hundred French workmen continued perfecting the trench and batteries and prepared two more openings into the parallel at the left approach resting on York Creek ravine.¹¹² The entire line, remarked an observer, began "to wear a threatening appearance."¹¹³ But despite prevailing optimism, there existed certain doubt within the ranks that Cornwallis would surrender meekly. A lieutenant of the Continentals wagered some silk stockings with another officer "that Cornwallis and his army, would not be prisoners of war by this day [in] two weeks."¹¹⁴ But the enemy

110. *Ibid.*, pp. 71-72; Tilden, "Extracts from the Journal of Lieutenant John Bell Tilden," p. 61; Wayne Journal, p. 81; "Itinerary of the Pennsylvania Line," p. 284; Sanderson, "Diary of the March from the Hudson to Yorktown," in Johnston, *Yorktown Campaign*, p. 171; Cobb, "Before York Town, Virginia," p. 68; Wild, "Journal of Ebenezer Wild," p. 153; S. Doc. 273, p. 192; Riley, "Founding and Development of Yorktown," p. 289; Wright, "Notes on the Siege of Yorktown," p. 243.

111. "Orderly Book kept during the Siege of Yorktown," pp. 72-73.

112. Rochambeau, *Relation*, p. 5; Clozen, *Revolutionary Journal*, p. 145; Deux-Ponts, *My Campaigns in America*, p. 140; Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, p. 58; Johnston, *Yorktown Campaign*, p. 136; Wright, "Notes on the Siege of Yorktown," p. 244; Balch, *French in America*, 1:193.

113. Trumbull, "Yorktown, Virginia," p. 336.

114. Feltman, "Journal of Lieut. William Feltman," p. 318.

artillery fire had slackened considerably on the eighth, leaving the Allies to wonder about British intentions and to speculate on conditions in the British camp. "The enemy seem embarrassed, confused, and indeterminate," noticed Colonel Butler. "Their fire seems feeble to what might be expected. Although we have not as yet fired one shot from a piece of artillery, they are as cautious as if the heaviest fire was kept up."¹¹⁵ In the night the British guns sent shot almost randomly into the American batteries that were being built, but with scant effect. Again in the darkness, American patrols scouting ahead of the parallel clashed with British troops in front of their garrison. At Gloucester a brief skirmish erupted between pickets of the opposing armies.¹¹⁶

6. Knox Takes Charge

With the Allies' artillery batteries nearing completion and preparing to respond to Cornwallis's guns, Brigadier General Knox came to the fore. Knox had supervised the recent transport of Washington's ordnance and supplies from the north, and as the siege commenced, the commander found himself leaning more and more on the abilities of the thirty-one-year-old officer from Boston. Moreover, in his younger years Knox had acquired some ability in the French language; at Yorktown, as Washington strove to coordinate artillery operations with Rochambeau, Knox's linguistic assets proved invaluable.¹¹⁷ Aware of Washington's expectations of him, Knox accepted his responsibilities adeptly.

On October 8 Knox made preparations to open his guns. He ordered that

A Field officer of artillery . . . be appointed every day to Command in the Trenches, to be relieved every twenty-four hours. He will pointedly attend that the firing is well directed according to the object, and that the utmost coolness and Regularity is observed. Upon every occasion where it shall be practicable, the Recochet [*sic*] firing of shott [*sic*] and shells must be practiced. This mode has a vast superiority over all others, and is much more economical. The officers of Artillery in the Batteries are to level every piece themselves.¹¹⁸

115. "General Richard Butler's Journal," p. 108.

116. St. George Tucker, "Journal kept by Col. St. George Tucker," p. 11; *Wertgetreue Abschrift eines Tagebuchs eines markgräflichen Soldaten*.

117. Callahan, "Henry Knox," p. 162.

118. "Orderly Book for the 2nd Regt. of Artillery, June 20, 1781-Oct. 21, 1781," Lamb Papers, New-York Historical Society; Also quoted in Johnston, *Yorktown Campaign*, p. 137.

Knox also issued instructions governing the operation of the American artillery park:

A field officer of Artillery will also be appointed every day as Director of the Park, who shall order all the necessary Repairs to be executed, of the Carriages which may be damaged--to have the Shells, Shott, and every species of ammunition replaced which have been expended during the day in the Batteries. . . .119

On October 9, when the artillery response was to begin, Lieutenant Colonel Ebenezer Stevens would supervise the park. Colonel John Lamb, a veteran officer who had lost an eye at Quebec in 1775, would command the trenches.120

7. Knox's Conservative Estimate of the First Batteries

While cognizant of his vital role in the siege, Knox was realistic in his appraisal of the capacity of the first parallel guns to damage the British works and artillery. In lengthy notices to General Lincoln, who commanded the American wing, Knox urged that his ideas be impressed on Washington:

Our first parallel is nearly finished, the batteries are establishing in it and to my surprise and sorrow I perceive an idea prevailing, which I think it ought never to have existed, that the enemy are materially to be annoyed by our fire. . . . At the distance our batteries might be, . . . you may not expect one shot in four will take place or that one in that number will even hit the [British] works and shells will be much less certain.

General Knox concluded:

I think sir that we have nothing rationally to expect from our present batteries but a cover while we are erecting others in our next parallel--So that these I think ought rather to have that for their object and so be constructed as best answer this purpose. After the first batteries are completed I hope no time will be lost between that and our opening our second parallel--but time is precious [and] it must not be wasted in vain expectations,--besides if the second parallel

119. "Orderly Book for the 2nd Regt. of Artillery, June 20, 1781-Oct. 21, 1781," Lamb Papers, New-York Historical Society.

120. *Ibid.*; In the American wing, a daily rotating duty arrangement was established for field officers commanding in the trenches. Stevens followed Lamb; Lieutenant Colonel Edward Carrington followed Stevens; and Major Sebastian Bauman followed Carrington. Arthur, *End of a Revolution*, p. 131; Johnston, *Yorktown Campaign*, p. 113.

is soon commenced every body will see the purpose of the first and none will be disappointed in want of success from our present line of batteries.¹²¹

The batteries of the first parallel ultimately did more damage than Knox anticipated. At any rate, Washington took the artillerist's views under consideration and preparations shortly began towards the establishment of a second line. In the meantime, Knox adjusted his batteries. Colonel d'Aboville of the French did the same. All along the Allied line anticipation rose as to what the morrow would bring.

121. Knox to Lincoln, October 8, 1781, Henry Knox Papers (microfilm), Massachusetts Historical Society, Boston, 2:100 (hereafter cited as Henry Knox Papers [MHS]); Much in line with Knox's expressions of the potentially limited capability of the first parallel batteries to destroy the British works were those views of the theorist Tousard, who essentially concurred with the American artillery commander: "The fire from them [the first batteries] should be nearly perpendicular to the faces of the works attacked, and at a proper distance; that is to say, from four to five hundred and fifty yards from the covered way: when at a greater distance the shot will often be of no effect. . . ." *American Artillerist's Companion*, 1:70; Because the distance from the American sector of the parallel to the British garrison was much greater than that from the French sector, Knox's conclusions were well founded. For all intents and purposes the French guns could expect to obtain much more success than the American cannon once the Allied bombardment began. Also, the varying distance of the Allies from the British might account for the relatively light casualties sustained thus far along the first parallel and especially along the American wing of the line.

CHAPTER XI: THE GUNS OF OCTOBER

A. The Batteries at the Ready

A crisp chill fell over the opposing armies the night of October 8. With dawn Tuesday, the ninth, the temperature grew warm, and by midday the sun appeared from behind overcast skies. At 9:00 A.M. Lafayette's light infantry struck their tents and moved them to the right and ahead of the American encampment, nearer to the Wormley Creek ravines and closer to the American wing of the first parallel.¹ On the right of the line the American Grand Battery neared completion. As finished on the ninth it contained (subject to change as exigency dictated) three twenty-four-pounders, three eighteen-pounders, two eight-inch howitzers, and, reported Lieutenant Feltman,

two ten and a half inch mortars fixed upon carriages (and not upon beds) in order to throw the shot horizontal into the enemy's works, and there to burst and destroy their works. We have six of those mortars; they were invented by Gen. Knox and proved to be of effect.²

1. News from British Deserters

Throughout the Allied armies spirits were buoyant, perhaps higher than at any time during the long war. Yet even on the verge of the opening of the Allied bombardment, defections to Cornwallis continued. Several French deserters told the British that Washington planned to build further approaches and gave sketchy information on the strength and composition of the Allied forces.³ But Allied defections were not unique.

1. Cobb, "Before York Town, Virginia," p. 68; Wild, "Journal of Ebenezer Wild," p. 153.

2. "Journal of Lieut. William Feltman," p. 318; Knox did not invent the process of firing mortars *en ricochet* from carriages, as is discussed in Chapter III. He probably modified the procedure to his own desires, however, and undoubtedly the particular carriage design employed at Yorktown for his mortars was based on his personal preferences and specifications. As indicated, Knox had six convertible mortars variously mounted in this fashion at Yorktown. In his papers dealing with the siege the general made reference to ten mortars "10 inch with beds besides which 6 to have spare carriages to be mounted to fire as howitzes[.]" Henry Knox Papers (MHS), 55:130.

3. Popp, *Popp's Journal*, pp. 18-19; Doehla, *Journal of Johann Conrad Doehla*, pp. 141-42. These two accounts by participants with the British Army are remarkably similar in their descriptions of the Allied desertions of October 9.

A British deserter informed his hosts this day that Cornwallis, in an obvious move to allay growing suspicions among his troops, had told his men that the Americans lacked siege artillery, had only field ordnance to work against the British, and that the French vessels lingering in the distance sought only tobacco and would soon leave the area. According to the deserter, however, Cornwallis's soldiers already had begun to doubt the general's word.⁴

2. Fatigue Duty Continues

The first part of the day passed uneventfully, with British cannon, mortar, and howitzer fire taking little toll in damage or lives among the Allies. American and French troops toiled on to perfect their defenses, the French using a large number of sandbags to strengthen their fortifications.⁵ At one o'clock the trenches were relieved in the American sector by Lincoln's Division and in the French by the Regiments Bourbonnois and Soissonois under Viscount de Viomenil. French auxiliary troops were the chasseurs of Agenois and Gatenois.⁶ "The Regt is for the Trenches, and Drums are Beating to arms," wrote one young gallant. "I must leave you, and take up my Sword."⁷ A barrage of enemy shot and shell met the relieving troops as they marched into the trenches, and Washington, to spare lives, ordered the cessation of the excessive martial exhibitions with drums and flags. Henceforth, the parallel would be relieved in absolute silence and at a different hour designed to deceive the British.⁸

In the early afternoon, American fatigue parties went into the woods to prepare more fascines, gabions, and saucissons.⁹ Still later, the troops were instructed to make palisades "12 feet long & pointed at one end" for the purpose of fortifying the ditches around the redoubts of

4. Feltman, "Journal of Lieut. William Feltman," p. 318.

5. Popp, *Popp's Journal*, p. 18; Doehla, *Journal of Johann Conrad Doehla*, p. 141; Colonel Tucker mentioned the passing of a flag from the Allies to the British sometime in the forenoon or afternoon during which incident the enemy cannonade continued. Tucker gives no reason for the communication. "Journal kept by Col. St. George Tucker," p. 12.

6. Rochambeau, *Relation*, p. 5; Balch, *French in America*, 1:149; S. Doc. 273, p. 192; Tilden, "Extracts from the Journal of Lieutenant John Bell Tilden," p. 61.

7. Lieutenant Barnardus Swartwout, Jr., to Captain Barnardus Swartwout, October 9, 1781, Swartwout Folder, New-York Historical Society.

8. Closen, *Revolutionary Journal*, p. 146.

9. Wild, "Journal of Ebenezer Wild," p. 153.

the parallel.¹⁰ Wayne's Brigade was ordered to deliver 200 palisades along with 60 saucissons (nine to eighteen feet long), 80 fascines, and 800 pickets or stakes.¹¹ The proportional quantities of siege components, as before, were to be furnished by the particular units assigned to make them. At the behest of his engineers, Washington directed that the articles be placed in areas behind the trenches by five o'clock that evening.¹² Hoping to dissuade spectators from the ranks from unintentionally interfering with progress on the works, the commander directed that "Persons whose duty does not Call them to the trenches, and who Assemble there merely to indulge Curiosity are to walk on the reverse of the trenches, that they may not interrupt the works."¹³

3. Holding Fire

This directive proved all the more necessary as the soldiers labored to haul the big siege pieces through the trenches and into position in the batteries. To prevent the British gunners from narrowing their fire to a select Allied unit, none of the batteries of the main parallel was allowed to open or unmask its embrasures and commence shooting. In this respect the Allies at Yorktown followed theoretical tenets almost to the letter:

A Battery must not be opened the instant its cannon are mounted, because this would draw upon it the whole undivided fire of the place, that would infallibly destroy it; it must remain silent, on the contrary, until the whole of the batteries are finished, they should then be unmasked at the same instant, and the enemy[,] attacked from every point, in front, in flank, and in rear, can no longer act with the same precision, and is obliged to scatter his fire, which is in that way much less fatal to the besiegers.¹⁴

Washington originally planned to abide strictly by this rule--and he did, in fact, observe it to a point. Evidently he proposed to wait until

10. "Orderly Book Kept during the Siege of Yorktown," p. 82; S. Doc. 322, p. 7.

11. "Orderly Book kept during the Siege of Yorktown," p. 82. The dimensions of these materials were to be in accord with those specified in the *Regulations*. An earlier order of October 9 specified that the saucissons be "fifteen or Sixteen feet long each and 12 Inches diameter and well bound with withs [*sic*]." *Ibid.*, p. 80.

12. *Orderly Book of the Siege of Yorktown*, p. 32.

13. "Orderly Book kept during the Siege of Yorktown," p. 80.

14. Lallemand, *Treatise on Artillery*, 2:155. See also Schoer and Rankin, *Rebels and Redcoats*, p. 559.

eighty pieces could open on Cornwallis at once; he modified his designs somewhat on October 9, apparently realizing that the Grand French Battery would not be perfected before the next day. Washington still hoped to deliver a modicum of Allied power, perhaps to dispel the false notions of the Allies' inferiority Cornwallis was spreading among his troops and to increase doubts as to their future.¹⁵ Both of the American batteries (10A and 13A) of the first line were finished and ready to perform by 2:00 P.M.¹⁶ Despite one American soldier's contention that the French "had completed their batteries a few hours before us," such was not the case.¹⁷ A French officer reported that

we were delayed by the lack of vehicles and horses to pull our guns and ammunition caissons. The Americans had all they needed and, when they were finished with them, lent us their horses and wagons. They had made every effort to be ready before we were; however, since their resources were greater, this was not difficult.¹⁸

15. Wrote Lafayette's aide-de-camp: "It was originally intended to wait until eighty pieces of cannon and mortars could be brought to operate, but a better acquaintance with circumstances has changed this plan for the number we have at present prepared; these may be about twenty." James McHenry to Thomas Sim Lee, October 9, 1781, in James McHenry, *A Sidelight on History, Being the Letters of James McHenry, Aide-de-Camp of the Marquis de Lafayette to Thomas Sim Lee, Governor of Maryland, written during the Yorktown Campaign, 1781* (Privately printed, 1931), p. 67-68; Cornwallis had told his soldiers that the Allies were ill-equipped to harm them greatly "and had only some field pieces." He described the French troops, traditional rivals of Britain, as "raw and unskilled in war," adding that Saint Simon's especially "were nothing better than undisciplined vagabonds, collected in the West Indies, enervated by a hot climate, and would soon be conquered, were it only by the first attacks of the cold weather. . . ." Robin, *New Travels through North America*, p. 57.

16. Knox to John Jay, October 21, 1781, and Knox to John Adams, October 21, 1781, Henry Knox Papers (CNHP). See also the Knox correspondence reproduced in *Magazine of American History* 6 (January, 1881): 49-51.

17. Martin, *Private Yankee Doodle*, p. 233.

18. Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, p. 59; In the case of the Grand French Battery, it has been suggested that its relatively secure position beyond range of the enemy's small howitzers, mortars, and muskets allowed the soldiers to work at a more leisurely pace than if they had been more dangerously exposed to the British artillery. Hatch, "On Reconstructing Earthworks," p. 33.

B. The Allies Open Their Guns

1. The French Fire First

Nevertheless, St. Simon's French battery (1A) near the river on the far left of the parallel, finished over a day before, was ready and anxious to fire on the British ships that hovered off the mouth of York Creek while protecting the Fusiliers' Redoubt on the British right. With the principal line batteries nearing final completion, Washington relented and, because of their excellence of preparation, gave the French permission to open their embrasures and turn the guns of this unit full force on the enemy. Shooting commenced at 3:00 P.M., an hour from the time Knox reported the two American batteries finished and two hours before the American ordnance in the Grand Battery opened on Cornwallis. The shot and bombs from the four twelve-pounders, three mortars, and three howitzers in Battery 1A immediately drew British attention to their right. The small mortar battery (2A) south of Williamsburg Road and connected by trench to 1A likely discharged rounds at this time, too, although direct mention of this unit's firing does not appear in the sources.¹⁹

So deadly became the fire from the French pieces, and especially from the 100-pound mortar bombs, that the frigate *Guadaloupe* and the sloop *Formidable*, both moored to cover the Star Redoubt, cut cables and withdrew their anchorage for security to the Gloucester side of the stream. The French pieces next turned to batter, with scant effect, the right of the enemy fortifications around Yorktown. They also sent bombs to set afire the double abatis surrounding the Fusiliers' Redoubt, doubtless preparatory to an assault by chasseurs on the place. But the 120 men of the Twenty-third Regiment, aided by about 40 marines, stoutly defended their fortress against the bombs and cascading balls, and apparently the redoubt sustained little damage. British cannon fell silent for long intervals during the French bombardment, almost as if Cornwallis, perplexed by the attack on his right, was trying to anticipate the next point of assault.²⁰

19. See Maps 7A, 26F, 29B, and 52A for depiction of lines of artillery fire from Structures 1A and 2A. Map 29B, a British document, indicates a concentration of mortar fire from Battery 2A exclusively directed against the Fusiliers' Redoubt.

20. This account of the French artillery attack has been composed from data appearing in "*Wertgetreue Abschrift eines Tagebuchs eines markgräflichen Soldaten*"; Ewald, "Diary of the American War," p. 890; Washington, *Diaries*, 2:264; Washington, *Writings*, 23:212; Engineers' Journal, p. 451; *Rivington's Gazette*, November 24, 1781, in Moore, *Diary of the American Revolution*, p. 513; Doehla, *Journal of Johann Conrad Doehla*, p. 142; Tilghman, *Memoir of Lieut. Col. Tench Tilghman*, p. 105; "Diary of French naval operations in America," p. 193; De Verger Journal, in Rice and Brown, *American Campaigns*, p. 140; Closen, *Revolutionary Journal*, p. 146; Menonville, "Journal of the Siege of York," p. 284; S. Doc. 322, p. 6; Johnston, *Yorktown Campaign*, (continued)

2. The American Grand Battery Opens

It was not long in coming. Scarcely two hours after the French barrage began, at approximately 5:00 P.M., the American battery on the right of the line, closest to York River, opened a direct assault on the British left and front. As the American standard was unfurled on the parapet, General Washington himself ignited the fuse of an eighteen-pounder cannon and stood clear as the piece boomed forth the first American artillery salute to Cornwallis's gunners.²¹ The lone ball sped through the air to drop with fatal effect. "I could hear the ball strike from house to house," reported Colonel Van Cortlandt.²² Washington's shot finally crashed into the wooden structure where a coterie of officers had gathered for dinner. British Commissary-General Perkins was killed by the impact, and the ball tore off the leg of Lieutenant Charles Robertson, quartermaster and adjutant of the Seventy-sixth Regiment. Perkins's wife, seated between these men, barely escaped injury. At least one other officer was wounded in the incident.²³

20. (continued) p. 138; Freeman, *George Washington*, 5:362; Arthur, *Sieges of Yorktown*, p. 18; and Arthur, *End of a Revolution*, p. 131; Fleming, *Beat the Last Drum*, reports that the Americans experienced slight annoyance at Washington's decision to let the French fire first. P. 243; There is at least one account that states that the French of St. Simon tried to storm the Fusiliers' Redoubt but were repulsed by the British stationed there. See Broughton-Mainwaring, *Historical Record of the Royal Welch Fusiliers*, p. 104. That such an attack occurred at this juncture appears unlikely. Other sources make no mention of an effort to physically dislodge defenders of the Star Redoubt at this time.

21. At least two eyewitnesses viewed Washington detonating the cannon in Battery 13A. See Butler, "General Richard Butler's Journal," p. 108; and Thacher, *Military Journal*, p. 274. This somewhat controversial point is further supported by the statement of Colonel Van Cortlandt, who recalled that at the time he had "heard that the gun was fired by the Commander-in-Chief, who was designedly present in the battery for the express purpose of putting the first match." "Autobiography," p. 294. A somewhat romanticized version of the event appears in Callahan, "Henry Knox," p. 162.

22. "Autobiography," p. 294.

23. *Ibid.*; Ewald, "Diary of the American War," pp. 890-91; Graham, *Memoir of General Graham*, p. 60; Disagreement exists about the caliber of the gun Washington fired, with most writers presuming it to be a twenty-four-pounder, the largest type cannon of the Allies' weaponry. For example, see Fleming, *Beat the Last Drum*, p. 243. However, British Captain (later General) Samuel Graham reported that the Americans "fired an eighteen pound ball into the town as a beginning. . . ." Undoubtedly this was the shot dispatched by Washington. *Memoir of General Graham*, p. 60.

Following Washington's devastating first shot, the other artillery in Battery 13A, consisting at this point of two other eighteen-pounders, three twenty-four-pounders, four mortars, and two howitzers, opened fire.²⁴ The battery, commanded by Captain William Ferguson of the Fourth Continental Artillery, proceeded to lob its deadly missiles into Yorktown with steady precision as the gunners sought to adjust and correctly angle the pieces so that they might cause the most damage to Cornwallis's works. From this battery came bombs sent from the ten-inch mortars mounted on greatly strengthened howitzer carriages personally designed by Knox, although it is unclear exactly how many of these pieces saw action or when.

On the far left the French continued to blaze away at the enemy, and French flags whirled in the breeze all along the parapet. Perhaps the twenty-four-pounders in the French battery on the left of the parallel (3A) joined in the action at this time, but the units of the Grand French Battery complex (Structures 4A-8A) remained silent pending perfection. The Grand French Battery would join in the bombardment next day.²⁵ At all events, the first Allied artillery responses gave Washington's soldiers certain release after their long preparation. "This day, this happy day," wrote a Pennsylvania soldier, "we return'd their fire."²⁶ Lieutenant Swartwout of New York noticed that the batteries "are now opened with an unusual briskness from both Cannon and Mortars. . . ." ²⁷ And Colonel St. George Tucker entered in his journal an account of the first American artillery fire:

24. This according to Washington, whose figures agree substantially with other sources. See Washington, *Diaries*, 2:264; Wayne Journal, p. 81; Duncan, "Diary of Captain James Duncan," p. 750; "Journal of the Siege of York in Virginia by a Chaplain," p. 106. See also the secondary accounts by Johnston, *Yorktown Campaign*, p. 138; and Arthur, *End of a Revolution*, p. 131. This battery was probably not yet filled to capacity with ordnance; troops likely labored into the night to bring the structure to full artillery strength.

25. Most accounts mentioned only the French battery, or batteries, at the left opposite the Fusiliers' Redoubt and the American batteries at the right as opening on October 9. Other French units, along with the remaining American battery (9A), seemingly did not open until the next day. Quite possibly, however, the four howitzers and two mortars in the American redoubts (11A and 12A) opened at this time. The Frenchman Persen spoke of "forty-one mouths of fire" being opened on the ninth against Cornwallis, a figure that seems excessive. Merlant, *Soldiers and Sailors of France*, p. 175. Captain Duncan noted the opening of the American battery (13A), stating that "the enemy's fire was chiefly directed against this battery, and *the others that were nearly finished*" (italics added). "Diary of Captain James Duncan," p. 750.

26. "Itinerary of the Pennsylvania Line," p. 284.

27. "Journal of Barnardus Swartwout," p. 36.

31. Merlant, *Soldiers and Sailors of France*, p. 175; Isaac Q. Leake, *Memoir of the Life and Times of General John Lamb* (Albany: Joel Munsell, 1850), p. 278; "Siege of York and Gloucester, Virginia," p. 476.
30. Cited in Tougard, *American Artillerist's Companion*, 1:306. Sometimes wooden rules were nailed to the platforms to insure a proper direction of fire. *Ibid.*, p. 95.
29. Quoted in Merlant, *Soldiers and Sailors of France*, p. 175.
28. "Journal kept by Col. St. George Tucker," p. 12.

By a process of adjustment both American and French artilleryists improved the results of their firing, however. One theorist reported that the American gunners marked with chalk on the platforms along the wheels before firing a piece, a process enabling them, "if the piece had been well directed, to put the carriage exactly in the same place again."³⁰ Under instructions to make each shot count, Washington's officers personally aimed the artillery toward the enemy line. Deserters from the British ranks came in to report the gratifying news of steadily increasing casualties among Cornwallis's soldiers. In addition, the Allied fire was beginning to dismount the enemy cannon.³¹ Stated a witness: "I now beheld the cannon, those infernal machines, playing with the utmost fury; I saw the rapid bullet striking or rebounding from the redoubts of the enemy,

3. Adjusting the fire

Apparently the first Allied fire confirmed General Knox's expectations, for numerous rounds fell far short of their mark to plow the earth before the enemy glacis. This was especially true of the French artillery on the left: whereas the American guns in Battery 13A could direct fire against the closer British occupants of Redoubts 9 and 10, the French pieces concentrated on the earthworks around Yorktown on Cornwallis's right, and their missiles thereby had a greater distance to cover to reach their marks. Count Fersen observed that "our cannon were well aimed; but the balls, without doing great damage, were buried in the sand of the [British] fortifications. . . ." ³²

At five this Evening the continental Standard was hoisted at our Battery on the Right--a discharge of Cannon instantly ensued--One or two shells were discharged from eight Inch Howitz without effect falling many yards short of the Enemy's works. Our Cannon were so well directed that the first shot after the general Discharge struck within a foot of the Embrasure of the Enemy's [etc] works on the right. Several succeeding shot were lodged in their works further to the left.²⁸

and driving thro' the air the planks and timber, which formed the embrasures for the great guns."³²

Operation of the Allies' ordnance naturally differed somewhat from theoretical precepts. Basically, however, the French and Americans adhered to the tenets of such European masters as Vauban. Thus, the purpose of the first batteries was to dismount enemy artillery by the best means possible; namely, by enfilading ricochet fire and by direct, or point-blank, fire. Secondary to ruining the enemy guns was destroying his embrasures and earthworks, driving soldiers back from the ramparts, and disrupting communication between the line and the rear. Ricochet firing was especially effective in enfilading the face of the British works and causing havoc behind the line. Bombs and shells from mortars and howitzers aided this destructive enterprise while other cannon supplied both direct and oblique firepower to further reduce the earthen entrenchments and knock enemy guns out of commission.³³ The heavy eighteen- and twenty-four-pounders proved especially useful in ricochet firing and in breaching enemy works.³⁴

Distance proved a factor in the ultimate success of the Allies' guns of the first parallel; twenty-four-pounders had the greatest average range (1,120 to 1,340 yards) and so were of immense value along that line. Mortars could be adjusted to fire bombs at ranges of between 670 and 1,670 yards, and long-range howitzers had the capability of sending shells up to 1,120 yards away.³⁵ In an unusually philosophical epistle to General Lincoln written before the British at Yorktown, Knox adroitly addressed the limitations that might be encountered in the operation of his mortars from the first siege line:

In schools they may not be when every circumstance remains nearly the same--In the first you may not expect the same exactness, where the different quality of the powder changed by the different state of the air, the different state of the

32. Robin, *New Travels through North America*, p. 58. Besides the sources cited above, this account of the American and French action at five o'clock and after is drawn from Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 3; Trumbull, "Yorktown, Virginia," p. 336; Feltman, "Journal of Lieut. William Feltman," p. 318; Moore, *Life and Services of Gen. Anthony Wayne*, p. 149; Deux-Ponts, *My Campaigns in America*, p. 140; Arthur, *Sieges of Yorktown*, p. 18; Wright, "Notes on the Siege of Yorktown," p. 244; Davis, *Campaign that Won America*, p. 217.

33. Lallemand, *Treatise on Artillery*, 2:148-49.

34. Tousard, *American Artillerist's Companion*, 1:130.

35. Wright, "Notes on the Siege of Yorktown," p. 233n. For use in ricochet firing, howitzers were usually pointed at angles of six, ten, or fifteen degrees. Above thirty degrees the ricochet capacity of the weapon disappeared. Tousard, *American Artillerist's Companion*, 1:269-70.

platforms,--the different degrees of heat in the mortar--the different sizes of the shells, not all cast in the same mould--the different weight of those cast in the same mould from different metals--The difference of those cast in the same mould from the different grade of their surfaces and the different state of the powder more or less compress[ed] in the chamber are among the evils, which in the field it will be difficult to guard against, and which will form in some measure to show how little we may expect from the effect of shells thrown at this distance. . . .³⁶

Accordingly, the most satisfying results might be more reasonably expected and obtained from large cannon than from other ordnance types, especially when the targets sought were the British batteries encircling Yorktown proper. All the American ordnance could easily reach the British positions in the detached redoubts scarcely 500 yards distant. On the basis of the lines of fire depicted on various historical maps of the siege, the majority of shooting from American Battery 13A was directed against these outer works rather than against the Yorktown entrenchments.³⁷

Because of the inferior metal composing most cannon, shots occurred at ten-minute intervals. More rapid discharges produced "drooping" of the barrel of a piece, and each gun normally was rested after a three-hour stint, during which period the inside of the barrel was treated with a mixture of water and vinegar. Gunners also considered it hazardous to fire over fifty shots from a gun during a twenty-four-hour time span because of possible adverse effects on the metal.³⁸ Such considerations almost certainly were observed by the Allied artilleryists at Yorktown. Actual firing of the pieces, whether cannon, mortars, or howitzers, comprised a series of distinct procedures that the gunners practiced with exactness to the strict verbal commands of responsible officers.³⁹

4. Destruction in the Enemy Garrison

As darkness fell the evening of the ninth, American and French artillery continued the deadly cannonade. The fusillade registered concern among Cornwallis's defending troops. The Allies, recorded a British soldier, "deprived us of the suspicion which we formerly had that they had only their regimental cannon and could, in view of the dense woods and swamp, bring up no heavy guns."⁴⁰ Cornwallis answered the French and American

36. Knox to Lincoln, October 8, 1781, Henry Knox Papers (CNHP).

37. See Maps 7A, 26F, 52A.

38. Wright, "Notes on the Siege of Yorktown," pp. 233-34n.

39. See entries in Chapter III (as drawn from Tousard, *American Artilleryist's Companion*, 1:298-304, 322-28, 330-32).

40. Doehla, "Journal of Johann Conrad Doehla," p. 142.

guns by opening three batteries along his front, and throughout the night firing from both sides echoed across the plain.⁴¹ The Allies succeeded in causing more damage to the British works. Colonel Butler said that both French and American "shot and shells flew incessantly through the night, dismounted the guns of the enemy, and destroyed many of their embrasures."⁴² But the British sent back a lively response of mortar and cannon fire that kept occupants of the siege line on the alert.⁴³ Gradually the assault from both sides tapered off.

In the night, direct firing ceased; ricochet firing continued, however, as Washington exerted constant pressure to prevent the enemy from repairing their torn entrenchments.⁴⁴ One Continental officer commented on the nocturnal display: "a number of shells from the works of both parties passing high in the air, and descending in a curve, each with a long train of fire, exhibited a brilliant spectacle."⁴⁵ Under cover of night the engineers of Rochambeau again went to work. Four hundred French laborers began the risky task of planting the newly-fashioned palisades in the ditches before the redoubts, a job requiring certain exposure to British gunfire. French soldiers also worked to improve their earthworks and to establish communication with the rear.⁴⁶ Most likely American troops spent the night in similar enterprises.

5. Opening the Grand French Battery

If Cornwallis grew apprehensive at the obvious superiority in firepower the Allies were attaining, he must have despaired at what met his eyes at daybreak October 10. The remaining American and French batteries at last finished, at about nine o'clock the Allies launched a thunderous artillery assault that sent British soldiers careening back from their epaulements in perplexed trepidation. On the siege line Knox's soldiers brought several eighteen-pounders into play in Battery 10A at the left of the American sector. D'Aboville's Frenchmen levelled twenty-four-, eighteen-, and sixteen-pounders, besides mortars and howitzers, from

41. Ewald, "Diary of the American War," p. 891.

42. "General Richard Butler's Journal," p. 108.

43. "Abstract of Operations."

44. *Ibid.*; Swartwout, "Journal of Barnardus Swartwout," p. 36; Ewald, "Diary of the American War," p. 891; Tousard, *American Artillerist's Companion*, 1:99; Freeman, *George Washington*, 5:362.

45. Denny, *Military Journal*, p. 41.

46. S. Doc. 322, p. 7; La Combe, "Journal of the Siege of York," p. 4.

the Grand French Battery and its satellite units.⁴⁷ The barrage of shot and shell stormed into the British works from the well-aimed pieces. "Several parapets can already be seen with their tops damaged," wrote Count Deux-Ponts, "and we know, from the reports of several deserters, that the enemy has been much astonished at the firing of our batteries, and that our shells, especially, disturb him much."⁴⁸ So incessant became the Allied firepower that after an hour the British guns ceased to respond, the weapons either damaged or their gunners' positions along the works becoming too hazardous due to the constant barrage from the Allies.⁴⁹ Few casualties occurred among the French and American forces.⁵⁰

C. The Grand French Battery and Supporting Units

Particularly responsible for silencing the enemy guns was the ordnance mounted in the Grand French Battery. Actually comprising five separate structural units (4A, 5A, 6A, 7A, and 8A), the Grand French Battery proved of vital importance in the destruction of Cornwallis's earthworks and in the consequent decision to immediately start the approaches for establishing the second parallel. Extending from an area slightly east of Hampton Road to a point across that route at the edge of the York Creek ravine, the Grand French Battery occupied a linear space approximately 1,000 feet east to west.⁵¹ Approximately thirty pieces of artillery occupied the complex, give or take three or four weapons.⁵²

47. Colonel Charles Dahney to Colonel William Davies, October 10, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:540; Heath, *Heath's Memoirs*, p. 332; *Pennsylvania Packet*, October 23, 1781, in *Magazine of American History* 6 (January, 1881): 43; Tilghman, *Memoir of Lieut. Col. Tench Tilghman*, p. 105; Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, p. 59; Duncan, "Diary of Captain James Duncan," p. 750; Washington, *Diaries*, 2:264; Du Bourg, "Diary of a French Officer, 1781," p. 447; Landers, *Yorktown. The Investment of Yorktown*, p. 192; Robin, in *New Travels through North America*, p. 57, stated that the Grand French Battery began firing at 7:00 A.M.

48. *My Campaigns in America*, p. 141.

49. Trumbull, "Yorktown, Virginia," p. 336; Barneville, "War Diary," p. 273.

50. Dahney to Davies, October 10, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:540; Du Bourg, "Diary of a French Officer, 1781," p. 447.

51. Borresen, "Orientation Report," p. 31.

52. Map 7A indicates a total of twenty-two cannon and mortars in the complex, but does not include the number of howitzers present. Map 2F, prepared by d'Aboville, indicates a total of thirty-six cannon, mortars, and howitzers in the component batteries. See also Borresen, "Orientation Report," p. 33.

The total artillery complement of the particular structures at any given time is purely speculative, for the weapons were shifted continuously to respond to apparent shifts of the British ordnance. Throughout the siege changes took place among the batteries of the Allies and the British as each side sought to anticipate the other in placing its artillery where most effective. In this manner a six-gun battery one day might become a four-gun unit the next. Therefore, few contemporary accounts agree as to the number and types of weapons serving a particular battery.⁵³ Even archeological investigation has failed to determine the exact type or quantity of armament that occupied a structure at a given time. At most, this work has revealed the maximum number of platforms that could be erected in a single battery; it could not determine the number of pieces actually contained therein. Surely weapons were shifted from one battery to another; there is no evidence, however, that the platforms necessarily followed the pieces, except when siege ordnance and equipment was transferred from the first to second parallel. But neither archeology nor history can at this point definitively state how many artillery pieces actually occupied a structure at a precise moment during the siege.

1. Archeology of the Grand French Battery

Archeology has, however, played a significant role in accurately establishing the location of the first and second parallels and of the different redoubts and batteries built along their lengths, including the Grand French Battery complex. Prior to the 1930s, when archeological work was inaugurated at Colonial National Historical Park, maps and participant accounts provided the sole evidence of the positions of the Allied fortifications. Archeology confirmed many of those positions and afforded certain knowledge of the way those structures appeared during their brief existence in 1781.

Similar work completed in the 1970s has provided even more insight into the method of construction of the Allies' earthworks, and in particular those constituting the Grand French Battery. Moreover, this work has uncovered a great many artifacts--cannonballs, pieces of exploded shells (in some cases live shells), and various implements and entrenching tools.⁵⁴ The archeological investigations have been intensive and have preceded reconstruction of the earthworks from designs based largely on that data and on historical evidence contained in contemporary sources and pertinent technical publications. Thor Borresen ably summed up the significance of this project in a statement as compelling now as when it was first delivered: "The evidence will always testify that we knew where the fortifications were and what they looked like and that supposition was replaced by fact. It can never be stated that the time taken for such reconstruction was wasted."⁵⁵

53. Borresen, "Orientation Report," pp. 8-9.

54. Appendix D lists artifacts recovered during the archeological excavations at Yorktown.

55. Borresen, "Orientation Report," p. 64.

The soil type in the area of the Grand French Battery aided the archeological examination there immensely. The topsoil is composed of a sandy loam about twelve to fourteen inches deep that overlies a stratum of yellow clay. In the process of erecting earthen fortifications on this ground in 1781, the soil was disturbed in the initial excavation for the entrenchments. Following the siege, the parallels were levelled and the mixed sand /clay/loam dirt used as backfill in the trenches. When archeologists began ~~their work~~ more than 150 years after the siege, historical maps guided them to the approximate locations of the first parallel and the Grand French Battery. By scraping away the topsoil at selected points in a series of exploratory cross-section trenches, workers revealed a distinct outline of the fortifications as formed by the mixed backfill of clay, loam, and sand. Once the original line and its batteries were located, archeological excavation proceeded.⁵⁶ The contrast between the disturbed and the undisturbed soil allowed archeologists, by removing the disturbed soil, to gauge the depth of the siege trenches and thus the approximate height of the epaulements. The contrast in soils has also disclosed sleeper impressions in the artillery batteries, palisade holes in the frontal ditches of redoubts, and even what might be tent pole and stake holes in certain structures.

In the 1930s archeological work concentrated on that part of the Grand French Battery and its communicating trenches lying east of Hampton Road. From 1973 to 1975 an archeological team headed by Dr. Norman Barka of the College of William and Mary accomplished the delineation of the remainder of the Grand French Battery, that located west of Hampton Road. Much of the work of both periods dealt with investigation of the service trenches adjoining the first parallel, as well as of the parallel itself. Under Barka's guidance approximately 1,100 feet of communication trench was examined along with about 450 feet of the siege line in the area between Hampton and Gosley roads. The main parallel served to guard infantry and to screen the movement of supplies and troops passing into the line from the nearby French depot or from a communication line in the rear. East of Hampton Road, archeology has shown that the main trench varied in width from roughly nine to twelve feet, with the widest part of fifteen feet presumably used as a passing point for troops, wagons, and artillery. The communicating lines excavated west of the highway revealed a width of from six to eight feet and a depth of approximately three feet.⁵⁷

56. B. Floyd Flickinger, "Press Release," dated April 16, 1935, in the library of CNHP, Yorktown, Virginia; Bingham Duncan and Fred G. Farding, memorandum, "French Battery Reconstruction," dated January 25, 1935, in the library of CNHP, Yorktown, Virginia, p. 1.

57. Southside Historical Sites Foundation, "Archaeology/Restoration/ Reconstruction of the Yorktown Battlefield," p. 47; "Restoration [*sic*] of French Battery, York-Hampton Road," MS, dated October 24, 1935, in the library of CNHP, Yorktown, Virginia, p. 3; The use of the principal siege trench as an avenue for transporting ordnance is affirmed by the discovery during excavation of chains and wedges used in moving the pieces. Flickinger, "Press Release," p. 3.

a) The Principal Unit

Battery 8A, the reconstructed portion located just east of Hampton Road (Virginia Highway 704), comprised the largest component of the Grand French Battery complex. At least fourteen artillery pieces were mounted in this unit, as determined from the historical maps and from archeology. From all indications, its construction in 1781 adhered to orthodox procedures advanced in the technical publications, the only deviations being caused by sloping ground. Battery 8A thus consisted of a partial frontal (or moat) ditch, a parapet cut in places by embrasures, a banquette along the inside perimeter, and the essential artillery emplacement platforms. Neither palisades nor fraises seem to have been used in the battery, perhaps indicating French confidence in their firepower capability against possible enemy sorties.⁵⁸ Throughout its length the epaulement of Battery 8A was revetted with saucissons. Gabions strengthened embrasures before the cannon positions.⁵⁹ Artillery placed in Battery 8A directed its fire against the Yorktown defenses, especially in the area of the British hornwork, and against the detached enemy positions at Redoubts 9 and 10.⁶⁰ The unit's location on high terrain permitted the establishment of weapons just within range of the British works, yet remote enough to make surprise assaults unlikely.⁶¹ Moreover, troops stationed in the siege line directly ahead of Battery 8A experienced no real danger because of the structure's commanding height above the surrounding ground (though their position might be jeopardized by the malfunction of an artillery piece or the discharge of a "short round").

From archeology and historical sources the interior configuration of Battery 8A has been accurately determined. The unit consisted of three sections (one each for cannon, mortars, and howitzers) separated by traverses. Directly behind the battery ran a support trench that extended into the area from across Hampton Road. At Battery 8A the trench diverged, its left extremity forming a moat ditch bordering the left epaulement of the structure for its entire length and finally joining with the main siege line. Similarly, the right arm of the support trench continued east behind Battery 8A to join the siege line a short distance away.⁶² Another frontal ditch partially paralleled the right epaulement, causing speculation that

58. Borresen, "Orientation Report," pp. 32, 33; One memo states that fraises were used, however. Bingham Duncan and C. L. Coston, memorandum, "A French Battery of the Siege of Yorktown: 1781," dated August 9, 1934, in the library of CNHP, Yorktown, Virginia, p. 1.

59. Duncan and Coston, "A French Battery of the Siege of Yorktown: 1781," p. 1.

60. *Ibid.*

61. Flickinger, "Press Release," p. 1.

62. Hatch, "On Reconstructing Earthworks," pp. 41, 42.

its prime purpose was to provide dirt for raising the parapet of the structure in the mortar and howitzer sections. The battery parapet at its base possessed a maximum thickness of about sixteen feet, a figure commensurate with the distance of the battery from British artillery (about 700 yards).⁶³ Apparently the rear support trench was dug after completion of Battery 8A and was used as a recess into which the artillerymen might retire in case of a British surprise attack. The support trench measured about three feet in depth and four to five feet in width. Dirt excavated from the ditch was used to erect a parapet with a slope that was sodded.⁶⁴

Immediately adjacent to Hampton Road in Battery 8A lay the section containing the heavy siege cannon. Archeological knowledge gained from excavating the site and historical knowledge gained from period artillery fortification treatises together provide a fairly accurate description of the armament in this part of the battery. Excavation of Battery 8A disclosed sleeper impressions and numerous stake holes showing the exact locations of the gun platforms. Stakes were used to help keep the big cannon in place and to prevent excessive recoil of the pieces. The first weapon situated at the extreme left in Battery 8A was possibly either a large twenty-four-pounder rigged to fire *en barbette* (i.e., over the parapet, without an embrasure) or a sixteen-inch stone mortar, a type normally used for defensive purposes and not known to have been used by the French at Yorktown. Whichever, it was apparently mounted to fire at angles above 180°, was fitted to work on an iron track, and was located about ten feet back of the epaulement.⁶⁵ About eighteen feet east of this cannon (the spacing between ordnance in the Grand French Battery followed the technical prescriptions almost precisely) lay another, its platform evidently touching the base of the epaulement in the customary manner. This piece, too, is believed to have been a twenty-four-pounder and speculation is that a platform without the customary sleepers stood at that point.

The next two guns were perhaps sixteen-pounders. Archeology revealed sleepers for these pieces measuring fifteen feet long and four inches thick; each platform emplacement measured eight feet wide, while the sleepers for each were spaced eighteen inches apart in the usual manner for sixteen-pounders.⁶⁶ For the latter three cannon, the archeological evidence and

63. "Restoration of French Battery," p. 4.

64. *Ibid.*, pp. 12-13; Hatch, "On Reconstructing Earthworks," pp. 40, 41, 42.

65. Flickinger, "Press Release," p. 3; "Restoration of French Battery," pp. 4-5; Another view held that this piece was mortar. See Bingham Duncan, Fred G. Farthing, and Thor Borresen, memorandum, "French Battery Reconstruction," dated March 13, 1935, in the library of CNHP, Yorktown, Virginia, p. 1; and Hatch, "On Reconstructing Earthworks," p. 42.

66. Hatch, "On Reconstructing Earthworks," p. 42; Borresen, "Completion Report on American Battery No. 2," p. 67.

the embrasures later cut through the reconstructed parapet indicate angles of fire directed towards the area of Cornwallis's line just to the right of the British hornwork.⁶⁷ Throughout the whole length of the gun section of Battery 8A the parapet seems to have generally conformed to specifications recommended by the theorists. The floor of this part of the structure was dug more than three feet below ground level; archeology therefore disclosed numerous stake marks placed in the course of revetting the base of the epaulement with fascines. Probably gabions were likewise staked along the upper parts. Just beyond the last cannon emplacement and at the angle of the parapet, evidence in the form of numerous stake holes indicated the presence of a revetted traverse.⁶⁸

Beyond the traverse lay the mortar section; however, the first weapon in the section was not a mortar, but a twenty-four-pounder field gun rigged to fire *en barbette*. This gun, by the direction of the hole left by its trail piece, fired over the angle formed by the traverse meeting the parapet. Probably the carriage wheels of the piece rested on logs; no evidence of a platform was discovered.⁶⁹ Seven feet away from this gun stood a small mortar of unknown dimensions. Archeology disclosed the presence of three short sleepers, each measuring about two feet long by one foot wide. This mortar was evidently a portable unit that could be removed to various positions in Battery 8A. The discovery of a longer sleeper impression immediately behind this portable mortar and parallel to the parapet caused considerable speculation among investigators as to what had transpired there:

Apparently what had happened in this section of the battery, was that the guns [mortars] were all set in position at night and in accordance with regular practice were set at right angles to the parapet. In the morning it was discovered that a mistake had been made and the platforms had to be changed around to correct the angles of fire, with the exception of this one which was small enough and did not necessitate moving the whole thing.⁷⁰

This conjecture was based on the discovery that the next two small mortar platforms had originally been placed perpendicular to the parapet but had been changed in order to achieve the right angle of fire needed for shells to reach the British hornwork.⁷¹

67. "Restoration of French Battery," p. 6. Map 7A confirms these angles of fire.

68. "Restoration of French Battery," p. 6.

69. *Ibid.*, p. 8.

70. *Ibid.*, p. 9.

71. *Ibid.*

Next to these mortars was a large one, possibly with a thirteen-inch bore, because the excavation completed at this site revealed two very deep sets of sleeper impressions, again suggesting that the entire platform was moved in changing the angle of fire of the piece.⁷² Probably another thirteen-inch mortar, possibly a naval weapon mounted on a swivel platform, was placed in the right of the section, as suggested by the depth of the sleeper excavations there.⁷³ The parapet of the mortar section required no embrasures to facilitate shooting the piece. As excavated, the front wall of the section stood nearly perpendicular and lacked the slope characteristic of the cannon section.⁷⁴ Archeologists discovered no traverse at the end of the mortar section to separate it from the howitzers.⁷⁵

Adjoining the mortar section, that of the howitzers lay furthest east in Battery 8A and opened into the boyau, or support trench, constructed along the entire rear length of the structure. The archeological work uncovered evidence of two howitzer platforms, apparently without sleepers, on sloping ground a considerable distance back from the parapet, positioned to fire over the cpaulement rather than through it. From the angle of the parapet opposite the howitzers it was concluded that these weapons trained their fire against the British-held Redoubts 9 and 10 rather than against the hornwork.⁷⁶

Situated between the battery proper and the support trench running along its rear were four magazines designed to contain the requisite powder, shot, and shells for serving the various armaments. That serving the cannon section was largest and was built at the end of a trench leading back from those pieces at the approximate middle of the section. The trench entered into a pit measuring six feet by nine feet at the bottom and nine feet by twelve feet at the top. Presumably the pit was covered with logs and/or fascines, together with a thick two- to three-foot layer of earth, to render it secure against bomb explosions. The interior floor was probably lined with saplings and fascines to keep the powder barrels and shot dry. Also, a special pit in the floor served to collect moisture resulting from rainfall. Possibly the entrance to the

72. *Ibid.*, p. 10.

73. *Ibid.*

74. *Ibid.*, pp. 7-8.

75. A traverse was nonetheless reconstructed at this point "after considerable discussion. No evidence could be found to show that one existed [in 1781] but conventional practice at the time was to construct traverses between different sections of a battery. . . ." *Ibid.*, p. 8.

76. Duncan, Farthing, and Borresen, "French Battery Reconstruction," p. 1; "Restoration of French Battery," pp. 10-11.

magazine was protected with a thick wooden door, although heavy tarpaulins might have been used for this purpose.⁷⁷

Similarly, directly behind the mortar battery a trench led back to a nest of three smaller magazines constructed to support the ordnance in that section. During the archeological work conducted in these magazines it was found that the soil in two of the structures contained stains caused by the presence of black powder, and it was surmised that one magazine served to store the powder, another served to load bombs and drive fuses, while the third served to store the loaded shells until needed in the battery. The first magazine, largest of the group, measured ten feet by five feet; the second and third measured five feet by five feet. All three magazines had a depth of about four feet.⁷⁸ These structures, too, were probably lined and covered with logs, fascines, and dirt. Strangely, no powder magazines were found to serve the howitzer section of Battery 8A, encouraging speculation that the magazine to serve these weapons was somehow contained in the parapet near the easternmost end of the fortification.⁷⁹

Towards the end of 1934 reconstruction work started on Battery 8A. Company 1351 of the Civilian Conservation Corps undertook the project following the completion of the archeological excavations. A number of artillery emplacement platforms, fashioned of concrete to simulate wood, were laid during the reconstruction and still exist in the present structure.⁸⁰

b) The Satellite Units

The remaining units of the Grand French Battery complex (Structures 4A, 5A, 6A, and 7A) have been excavated more recently than Battery 8A. A team from the College of William and Mary under the supervision of Dr. Barka located and delineated Battery 7A a short distance west of the highway. This structure also stood on high ground behind the main siege line but was connected to the other parts of the complex through a network of communicating trenches. A narrow support trench curved around the rear of

77. "Restoration of French Battery," p. 11; Borresen, "Completion Report on American Battery No. 2," p. 82; Hatch, "On Reconstructing Earthworks," p. 41.

78. Borresen, "Completion Report on American Battery No. 2," p. 79; "Restoration of French Battery," pp. 11-12.

79. "Restoration of French Battery," p. 11. See also Flickinger, "Press Release," p. 3.

80. The idea of reproducing the platforms in concrete is credited to Project Foreman Frank L. Glenn. A. E. Booth, "Report on Use of Concrete for Permanent Restoration Work on Fortifications," MS, dated April 21, 1936, in the files of CNHP, Yorktown, Virginia, p. 1.

Battery 7A and, widening, continued east to border the rear of Battery 8A, about 90 yards away. Another trench departed from the left rear of the work to connect behind with Battery 5A; yet another swung west and forward 67 yards to meet the siege line a short ways behind Battery 4A and to the left (west) of Redoubt 6A. Archeology revealed a 79-foot-long frontal ditch for Battery 7A, varying between 9 and 12 feet in width at the top and between 5 and 6 feet at the bottom. Sides of the ditch possessed an inward slope angle of fifty to sixty degrees. The floor of Battery 7A was evidently sunk about 2-1/2 feet below ground level at the base of the parapet and sloped gradually upwards towards the south, away from the gun positions. Archeological estimates place the width of the gun emplacement area at about 40 feet, its length at 85 feet. The parapet, cut through with embrasures, probably measured about 5-1/2 feet in height above normal ground level. Battery 7A contained four twenty-four-pounder cannon. The archeologists found evidence of three platforms and room for a fourth in the emplacement area. Very shallow sleeper impressions were discovered, with groups of three sleepers used for each platform. Individual sleepers measured between 10 and 12 feet in length, and between 6 and 12 inches in width. Each sleeper grouping spanned 6 feet at its maximum width, and measured 22 feet from the center of one to that of another.⁸¹

Ninety-three yards southwest of Battery 7A stood another four-gun unit. Battery 5A was connected with 7A by a communications trench that joined its eastern side by means of a narrow connecting trench. The communicating trench also served as an egress out of the Grand French Battery as well as an entrance into the complex from behind the lines. Battery 5A possessed a commanding elevation over the conterminous terrain. Archeological examination of the area revealed minimal data, largely because much of the ground has been malevolently disturbed. Archeologists did discover evidence of the frontal ditch, however, a roughly V-shaped section measuring forty-five yards long, three to ten feet wide, and two to three feet deep. All evidences of the parapet, gun platforms, artillery emplacement ditch, and connecting trench, if indeed they all existed, were obliterated by the operations of a bulldozer in the area and have thus been lost.⁸²

North and slightly west of Battery 7A, along the main siege line, stood a large redoubt (6A). Generally of a triangular shape, this structure, as examined by archeologists, consisted of an interior area sunk roughly 2 feet below the general ground surface, and a frontal ditch of varying dimension. Along the northeast and northwest sides of the work the ditch measured from 5 feet to 10 feet wide and 5 feet deep. Investigation of the bottom of the ditch in this area facing the British line revealed the existence of a narrow palisade trench containing a series of closely spaced postholes. The frontal ditch continued around to the southwest side of

81. Southside Historical Sites Foundation, "Archaeology/Restoration/Reconstruction of the Yorktown Battlefield," pp. 15, 43-44.

82. *Ibid.*, p. 44.

Redoubt 6A, but the south side incorporated the main siege line, which at this point measured 10 feet in width. The ditches along these latter sides were considerably shallower than the former, each possessing a depth of about 4 feet. Furthermore, neither the south nor southwest ditches contained palisades, the placing of which would have constituted a needless exercise at that distance from the British. Archeology further showed that the interior of Redoubt 6A was separated from the surrounding ditch by distances varying from 11 to 18 feet, suggesting the presence of a parapet of unequal thickness along its base. The parapet seemingly would have been thickest along the northwest side. A corridor cut through the epaulement at the rear (south) side formed the gorge that led into the siege line proper. At the center of the interior floor investigators found evidence of a fire-burned area, indicating that the French occupants of the structure maintained a fire for cooking and for warming themselves during chilly weather. The interior of Redoubt 6A had maximum measurements of 54 feet by 40 feet. Including the parapet, the structure measured 105 feet by 91 feet.⁸³

The last unit in the Grand French Battery complex, and one of the last to open fire on the enemy (October 11), was located west of Redoubt 6A and close to the edge of Goosley Road. Battery 4A was a mortar unit sunk below ground level between 5 and 5-1/2 feet. Archeology has revealed the component parts of this work in much detail: the unit consisted of a narrow frontal ditch running about 90 feet in length, about 4-1/2 to 10 feet in width, and 5 feet at its greatest depth. About 25 feet behind the frontal ditch lay the sunken mortar emplacement ditch. The presence of seven artillery pieces in Battery 4A is indicated by the discovery of seven groupings of sleeper impressions. (Some historical maps show eight mortars here.) These impressions suggest that the platforms each measured between 7 and 9 feet square. Despite the sunken nature of the emplacement ditch, it seems likely that at least 7 feet of earth was piled upon the parapet, making it approximately 12-1/2 feet high on its interior slope. Such a height is plausible since the exposed status of Battery 4A ahead of the siege line possibly made it more readily accessible to British sorties than were other units of the complex. Without the added height, British soldiers in such an assault would have encountered a parapet but 2 feet high. The epaulement probably measured 7 feet high on the exterior slope and about 12 feet high on the interior.

Because of the nature of its armament, Battery 4A had no embrasures. At its easternmost edge the artillery emplacement ditch abruptly narrows to form a support trench that angles sharply back to join the main siege line. Between the emplacement ditch and the support trench were two powder magazines that were joined together by a short trench, itself crossed by a narrow corridor that cut from the mortar position back to the support trench in its rear. The west magazine was the larger of the two, measuring about ten feet per side and four feet deep. The other was circular, was approximately six feet in diameter, and possessed a depth of three feet.

83. *Ibid.*, pp. 46-47.

The position of Batteries 5A and 7A, far behind the parallel on elevated terrain, posed little danger to the occupants of Battery 4A, because shot thrown from the cannon passed high overhead.⁸⁴

On the high ground west of the York Creek branch ravine that approaches on the left end of the French sector, Rochambeau's engineers constructed a battery (3A) to hold four cannon, evidently twenty-four-pounders. While not part of the Grand French Battery complex,⁸⁵ this unit might be considered a peripheral structure; opened October 11, its firepower contributed to that of the Grand French Battery and it shared some targets with the guns and mortars of its neighboring earthworks to the east. Battery 3A stood approximately midway between the end of the siege line and Redoubts 3 and 4 at Pigeon Hill. The unit joined the adjacent branch ravine via a strip of communicating trench extending southeastward from its rear.

2. American Batteries

Besides the array of French armament that opened on Lord Cornwallis the morning of October 10, more American cannon, mortars, and howitzers joined in the bombardment. These were located in Battery 10A and Redoubts 11A and 12A. Battery 10A was built a short distance east of the French guard redoubt (9A) overlooking the ravine supply depot. Commanded by Captain Thomas Machin of the Second Artillery, Battery 10A held at least four eighteen-pounders and possibly another.⁸⁶ The Marquis de Lafayette and his guest, General Thomas Nelson, witnessed the first fire of this battery.⁸⁷ According to a return of ammunition expended in the structure the day of October 10-11, the armament consumed 240 cartridges in firing a like number of cannonballs.⁸⁸

In Redoubt 12A, nearest the American Grand Battery (13A), Knox's artillerists installed two ten-inch mortars, and at 5:00 P.M., October 10, their bombs joined those from Battery 13A in wreaking havoc on the British

84. *Ibid.*, pp. 15-16, 45-46; Borresen, "Orientation Report," pp. 32, 34.

85. Hatch, "On Reconstructing Earthworks," p. 44.

86. "Journal of the Siege of York in Virginia by a Chaplain," p. 106. The figures given in regard to the particular ordnance in Battery 10A vary somewhat, probably because a great many changes occurred during its use. See, for example, Moore, *Life and Services of Gen. Anthony Wayne*, p. 149; Washington, *Diaries*, 2:264; and Washington, *Writings*, 23:212. See also, for further disparities, Johnston, *Yorktown Campaign*, p. 139; S. Doc. 273, p. 193; and Arthur, *End of a Revolution*, p. 132.

87. Wright, "Notes on the Siege of Yorktown," p. 244.

88. Henry Knox Papers (MIS), 7:104.

works.⁸⁹ Forty shells were sent towards the enemy from Redoubt 12A between October 10 and 11.⁹⁰ Many of these undoubtedly dropped on British Redoubt 9, which lay well within range of the mortars.⁹¹ Structurally and functionally, Redoubt 12A probably approximated Redoubt 11A, some 400 yards west along the siege line. The earthwork comprised an infantry guard post built to defend the American supply depot in the ravine directly east. Presumably the shape of Redoubt 11A was roughly triangular, or perhaps square, somewhat similar to Redoubt 6A in the French sector. The location of Redoubt 11A was determined from documentary sources and confirmed archeologically at the time of the early work on the Grand French Battery. Major examination of the site did not occur, however, because its location centered along the fairway of a golf course constructed there during the 1920s. Situated furthest from the British works of any Allied structure of the first siege line (1,136 yards from Cornwallis's main fortifications, 666 yards from British Redoubt 9), Redoubt 11A played no special role during the siege and acted only as a link in the chain of works that deterred Cornwallis from attempting a direct frontal assault. Associate Historical Technician Thomas M. Pitkin postulated that the structure possessed a frontal ditch of ten to sixteen feet in width and six feet in depth, utilized palisades there and at the gorge, and had an interior perimeter along the parapet of "somewhere between 50 and 150 yards."⁹²

To the right rear of Redoubt 11A, and practically a part of that structure, stood a small battery for howitzers or cannon. This battery was perhaps erected later than the redoubt; returns of expended ammunition indicate neither shot nor shells for this structure for either October 10 or 11. However, at least six maps verify the existence of the unit and all specify four artillery pieces operating in it.⁹³ Archeological excavation in the area of Redoubt 11A is needed to determine for certain the existence and nature of this battery and its artillery complement.

89. Tilghman, *Memoir of Lieut. Col. Tench Tilghman*, p. 105; Moore, *Life and Services of Gen. Anthony Wayne*, p. 149; Washington, *Diaries*, 2:264; Washington, *Writings*, 23:212.

90. Henry Knox Papers (MHS), 7:104.

91. Borresen, "Final Report on Redoubt No. 9," p. 56.

92. Pitkin, "A Preliminary Study of American Redoubt No. 2," pp. 8-9, 11-12, 13; Borresen, "Orientation Report," p. 38.

93. Maps 1F, 2F, 15F, 17F, 41F, 48F. None of the American maps checked indicated the presence of such a battery. See also Pitkin, "A Preliminary Study of American Redoubt No. 2," p. 8n. One contemporary mentioned an "American bomb battery . . . of four 10-inch mortars." Duncan, "Diary of Captain James Duncan," p. 750. This reference possibly confused the mortar unit of two pieces opened in Redoubt 12A and the four howitzers or cannon in 11A.

Likewise, much could be learned about Battery 13A, the American Grand Battery, were archeological examination possible. This so-called "first shot battery," in which Washington's personal touch signaled the beginning of the bombardment from the first parallel, was the largest of all American earthworks built during the siege. From the time it opened on the afternoon of October 9 through the next day, Battery 13A exhausted the following stores:

81 Twenty four pound cartridges
101 Eighteen pound . . . Do.
90 Flannel Cartridges, for 10 Inch Mortars
54 " " Do for 8 Inch Howitzers
81 Twenty four pound shot
101 Eighteen . . . Do
90 Ten Inch Shells
54 Eight Inch Do
364 Wadds
18 Port-Fires
1 # Meal Powder
2 Hanks slow Match⁹⁴

The return covering ammunition expended in Battery 13A over the period of October 10 through 11 accounted for 180 twenty-four-pound shot, 140 eighteen-pound shot, 30 ten-inch shells, and 40 eight-inch shells fired against Cornwallis.⁹⁵ The marked increase in firepower over that recorded in the previous return reflected the unit's first full day of operation.

D. The Allied Artillery Takes Its Toll

1. Direction of Fire

For most of the daylight hours of Wednesday, October 10, the Allies delivered a continuous barrage from their artillery mounted along the parallel. Their targets composed the British batteries positioned in the hornwork and along Cornwallis's left flank. The guns and mortars in Batteries 1A and 2A attacked the British right and the Fusiliers' Redoubt. The advanced enemy positions in Redoubts 9 and 10 also drew much attention, especially the former structure with its threatening armament of howitzers that sent explosive shells crashing among the Allies. Three historical maps, two American (largely duplicative of one another) and one French, clearly indicate the objectives of the artillery fire of the principal batteries of the first parallel.⁹⁶ In the French sector, the twenty-four-pounders of Battery 5A directed shot towards the fortifications to the

94. "Return of Stores expended at the grand Battery, on the 9th and 10th Instant," Henry Knox Papers (MHS), 7:105.

95. *Ibid.*, p. 104.

96. Maps 7A, 52A, 26F.

left of the British hornwork, while those in Battery 7A sent shot against the British line east of the hornwork. As suggested by the diversity of its ordnance, Battery 8A sent shot and shell hurtling in different directions. The cannon in the left section of the battery targeted directly on the hornwork and adjacent works; howitzer and mortar shells flung aloft fell in the area of British Redoubt 9. American Battery 10A, composed exclusively of eighteen-pounders, threw its missiles chiefly into the stretch of fortifications built to protect Cornwallis's left flank, but reserved some fire for both of the detached enemy redoubts. The bombardment of the cannon, mortars, and howitzers located in Battery 13A was primarily directed to beat down the defenses of the detached works, although occasionally shot found its mark at the extreme left end of the British line close to the water's edge. By all accounts, the Allies' cannonade severely raked that portion of the enemy works from the hornwork east to York River. Those structures were the most accessible to French and American fire.⁹⁷

2. Number of Artillery Pieces

Exactly how many pieces of artillery were brought to bear on Cornwallis's garrison is unknown. An undated sheet located among General Knox's papers pertaining to the Siege of Yorktown stated that the American artillery totaled forty-five weapons consisting of twenty-seven eighteen-pounders; three twenty-four-pounders; ten ten-inch mortars (six to be fitted with howitzer carriages); two eight-inch mortars; and three eight-inch howitzers. According to this notice, prepared in Knox's hand, "the french [sic] can furnish" twenty-eight pieces, comprising twelve twenty-four-pounders; eight sixteen-pounders; four twelve-inch mortars; and four eight-inch mortars. No mention is made of French howitzers. Based on this reference, American and French artillery at Yorktown numbered seventy-three pieces.⁹⁸

97. See Hatch, "On Reconstructing Earthworks," p. 43.

98. Henry Knox Papers (MHS), 55:130. This inventory is perhaps an update of one made by Knox on August 24, at which time he accounted for twenty-three weapons--three twenty-four-pounders and twenty eighteen-pounders, all iron. At this date, however, Knox stated he had twenty-one brass (bronze) mortars and howitzers, together with fifteen brass field guns varying in caliber from twelve-pounders to six-pounders to three-pounders, which apparently were not considered in the latter account of heavy siege armaments. The French complement, according to the August statement, numbered twenty twenty-four- and sixteen-pounders, along with sixteen heavy mortars and howitzers. The French also had thirty-two field cannon and four lighter field howitzers. Based on this August inventory, the Allies at Yorktown had access to a total of eighty pieces of siege artillery and fifty-one pieces of field artillery. Noah Brooks, *Henry Knox, A Soldier of the Revolution* (New York: G. P. Putnam's Sons, 1900), pp. 154-55.

3. The British Response Slackens

Whatever their exact number, the Allies' guns, mortars, and howitzers caused much destruction to the British fortifications and caused confusion and turmoil among Cornwallis's ranks. The weaponry had possibly its greatest impact on October 10, when nearly all the batteries unleashed a steady fire. "Bombarding and Cannonading exceedingly heavy from the American and French Batteries all this day and night," observed a young officer.⁹⁹ The British return fire ebbed substantially from what it had been a day earlier. Secure in that knowledge, one soldier wrote, "I am as yet well, but like to have lost my hat by a 12 pds. yesterday."¹⁰⁰ The subdued fire of the enemy resulted from the success of the Allies' guns, and especially those of the French, in closing the British embrasures. Washington complimented the skill of Rochambeau's gunners, who used newer weapons and better ammunition than the Americans. The commander's praise of the French embarrassed Knox; American shot was poorly made and bombs frequently fell short of the marks or failed to burst on schedule.¹⁰¹ Knox's artillery improved its fire as the siege progressed, and by the end his gunners could take pride in their contribution.

4. Descriptions of the Onslaught

By midday on the tenth the British reply had been almost totally stopped, and thereafter their guns averaged but six rounds per hour through the day. With his embrasures either constantly damaged or closed to avoid detection by the Allied artilleryists, Cornwallis turned to responding more and more with mortars, especially during the daylight hours. "They threw many bombs and royal grenades," stated a French officer, "and at night they established flying batteries. During the day they ordinarily withdrew their cannon, and placed them behind the parapet."¹⁰² Reported another witness: "The difference of the two [Allied and British] firings could easily be distinguished; that

99. Swartwout, "Journal of Barnardus Swartwout," p. 36.

100. William S. Smith to Colonel Samuel B. Webb, October 10, 1781, reproduced in *Magazine of American History* 6 (January, 1881): 45.

101. Freeman, *George Washington*, 5:362-63; Davis, *Campaign that Won America*, pp. 219-20; Said one witness: "The [French] artillery men made every discharge take effect by the exactness of their aim, and their alertness in working the guns." Robin, *New Travels through North America*, p. 57; The Americans, said Claude Blanchard, "did not approach the perfection of our [French] gunners, who were the admiration of General Washington; it is true they had perfect instruments, so to speak; the cannons were new and the balls perfectly suited to the calibre." *Journal*, p. 148.

102. Fersen, "Journal of Operations," p. 439; Merlant, *Soldiers and Sailors of France*, p. 175.

of the enemy was slow and regular, while ours was brisk and well supported."¹⁰³ Unless Cornwallis could devise a system to compete with and quell such an onslaught, the Allies' artillery "must inevitably . . . oblige him to surrender."¹⁰⁴ Particular targets for the French bombardiers the afternoon and evening of October 10 were the British powder magazines located along a hill near the river.¹⁰⁵ Dr. James Thacher left a graphic account of the mortar fusillade:

The bomb shells from the besiegers and the besieged are incessantly crossing each others' path in the air. They are clearly visible in the form of a black ball in the day, but in the night, they appear like fiery meteors with blazing tails, most beautifully brilliant, ascending majestically from the mortar to a certain altitude, and gradually descending to the spot where they are destined to execute their work of destruction. It is astonishing with what accuracy an experienced gunner will make his calculations, that a shell shall fall within a few feet of a given point, and burst at the precise time, though at a great distance. When a shell falls, it whirls round, burrows, and excavates the earth to a considerable extent, and bursting, makes dreadful havoc around. I have more than once witnessed fragments of the mangled bodies and limbs of the British soldiers thrown into the air by the bursting of our shells. . . .¹⁰⁶

Yet another spectator described the scene:

Some of the mortars [*sic*] were throwing their bomb shells, and they would go in a blaze, then turn a somersault [*sic*] and fall down in the Fort. The report was as loud when it struck the ground as when it came out; the same also, when it bursted, the bombs flying in a circle. * * * The shells were made of pot metal like a jug 1/2 inch thick, without a handle, & with a big mouth. They were filled with powder, and other combustibles in such a manner that the blaze came out of the mouth, and keeps on burning until it gets to the body where the powder is, then it bursts and the pieces fly every way, and wound & kill whoever it hits. There were so

103. Robin, *New Travels through North America*, p. 57. See also St. George Tucker, "Journal kept by Col. St. George Tucker," pp. 12-13.

104. Ebenezer Huntington to unknown recipient named Andrew, October 10, 1781, George Bancroft Collection, New York Public Library.

105. Rochambeau, *Relation*, p. 5; Stevens, *System for the Discipline*, p. 196.

106. *Military Journal*, pp. 274-75.

many flying and falling in the Fort that we had no Doubt but that we were paying them well for their mischief to us.¹⁰⁷

And the Frenchman Claude Robin described the physical and psychological impact of the

slow and destructive bomb, sometimes burying itself in the roofs of houses, sometimes when it burst, raising clouds of dust and rubbish from the ruins of the buildings, at other times blowing the unfortunate wretches, that happened to be within its reach, more than twenty feet high in the air, and letting them fall at a considerable distance most pitiably torn. Such terrible sights as these fix and captivate the attention, and fill the mind at the same instant with trouble, wonder and consternation. "The besieged, (said the deserters) are in the utmost confusion; not knowing where to fly, death seizes them even in the arms of sleep; and the General, uneasy at the discontent of the Hessians, no longer confides his advanced guard to any but the English soldiers."¹⁰⁸

5. Destruction Continues

Despite increasing casualties among the British, the main purpose of the Allied batteries--to dismount enemy guns--succeeded admirably. "On the 10th," recalled a British officer, "scarcely a gun could be fired from our works, fascines, stockade platforms, and earth, with guns and gun-carriages, being all pounded together into a mass."¹⁰⁹ Allied artillery fire that, through improper aim, overshot the Yorktown fortifications, nevertheless took a toll among the British shipping moored offshore near Gloucester.¹¹⁰ "These ships were miserably ruined and shot to pieces,"

107. Trabue, "Journal of Colonel Daniel Trabue," in Harper, *Colonial Men and Times*, p. 112.

108. *New Travels through North America*, p. 58; Captain William Stevens of the Second Continental Artillery reported similar scenes resulting from howitzers fired *en ricochet*: "Several of the enemy were blown to pieces, and some of their limbs were seen from our batteries, flying in the air." "Those shells which lodged in their parapet, when bursting, . . . made a greater havock [*sic*] than the cannon shot did, by shaking the works similar to the springing of a mine." *System for the Discipline*, pp. 195, 196; Cornwallis's growing distrust of the Hessians could have stemmed from the inordinate number of desertions from the German units, and especially from the Regiment De Bose. See Popp, *Popp's Journal*, p. 19.

109. Graham, *Memoir of General Graham*, p. 60.

110. Rochambeau, "War in America," in Weelen, *Rochambeau, Father and Son*, p. 231; Doehla, "Journal of Johann Conrad Doehla," p. 143.

noted a Hessian soldier.¹¹¹ To further secure his position on the river side, Lord Cornwallis promptly sank over a dozen more vessels close to the shoreline.¹¹²

Distressed at the turn of events, many Yorktown residents saw their homes destroyed by bounding shot and exploding shell that set fires raging along the line. Many inhabitants who had chosen to remain in the village now fled with their choice holdings to the riverbank, where they proceeded to dig shelters under the sand cliffs. "But there also they did not stay undamaged," said Johann Conrad Doehla, who was present, "for many were badly injured and mortally wounded by the fragments of bombs which exploded partly in the air and partly on the ground, their arms and legs severed or themselves struck dead."¹¹³ Many Negroes also died. Along the left part of the line British soldiers suffered much from the constant rain of shot and shell. Many bombs fell directly in their camp, doing great mischief.¹¹⁴ British troops later recounted their experience in the barrage to Daniel Trabue, a trader with the Allied armies:

When a shell fell on the ground it would sink under the ground so deep that when it burst it would throw up a wagon load, or even more of Dirt; and when it fell on a house it Tore it to pieces. The British had a number of holes and Pits Dug all over the Fort, some large and some small with timber in the top edge; when the soldiers would see a shell coming near them they could jump in one of the pits and squat Down until it had burst. * * * When a shell would fall on any hard place, so that it would not go under the ground, a soldier would go to it and knock off the fiz, or neck, and then it would not burst. The soldier then received a shilling for the act.¹¹⁵

Casualties continued to increase in Yorktown;¹¹⁶ Lord Cornwallis's earlier question of how long he might withstand the Allied encirclement

111. Doehla, "Journal of Johann Conrad Doehla," p. 143.

112. Davis, *Campaign that Won America*, p. 222.

113. "Journal of Johann Conrad Doehla," p. 143; Several homes in the area of the beach also burned. Extract of a letter appearing in the *Pennsylvania Packet*, October 23, 1781, reproduced in *Magazine of American History* 6 (January, 1881): 43; Popp, *Popp's Journal*, p. 19; There was a report that the women and children were crossed over to Gloucester to avoid the Allied bombardment. *Pennsylvania Packet*, October 23, 1781, reproduced in *Magazine of American History* 6 (January, 1881): 42.

114. "Wertgetreue Abschrift eines Tagebuchs eines markgräflischen Soldaten."

115. Trabue, "Journal of Colonel Daniel Trabue," in Harper, *Colonial Men and Times*, pp. 115-16.

116. For mention of British casualties, see Doehla, "Journal of Johann Conrad Doehla," p. 143; and Popp, *Popp's Journal*, p. 19.

until help came now suddenly was superseded by one challenging his immediate survival under Washington's incessantly booming artillery. In perspective, Cornwallis's situation now looked exceedingly grim.

6. News from "Secretary" Nelson

At noon of the tenth, Lafayette's Light Infantry Division relieved the trenches in the American sector of the first parallel. The regiments of Agenois and Saintonge mounted along the French part of the line.¹¹⁷ At this time also the British responded to a flag earlier sent into their lines at Washington's direction. The intercourse concerned "Secretary" Thomas Nelson, retired from public life since 1775, uncle of the Governor and Virginia Militia commander, and in whose home located behind the horn-work Cornwallis had established his personal headquarters. At the behest of two sons of the Secretary serving with the military under Washington, the commander sent word to Cornwallis asking that the old man, who had supported neither side in the conflict, be spared the tumult and passed over to the American forces. Realizing that the Allies' battering guns now threatened to topple the Secretary's home, Cornwallis respected the request and sharply at twelve o'clock a white flag rising above the beleaguered enemy works announced a respite of arms while Secretary Nelson could be transported by two British soldiers across the plain. The gout-afflicted 65-year-old former Commonwealth official was taken to Washington's headquarters tent and immediately interrogated by officers. One Negro servant had accompanied the old man through the lines, and he had managed to smuggle out the family silver concealed in a blanket.¹¹⁸

From Secretary Nelson, Washington received valuable intelligence about Cornwallis's state of affairs. The Allied artillery, said the Secretary, was having a devastating effect. Deaths and injuries were mounting. One of his own servants had been struck and killed by flying shot while standing in the Nelson living room. He reported that many soldiers, including officers, had joined the citizens in refuge beneath the cliffs bordering York River. Lord Cornwallis had sought shelter in a recess near the foot of the Secretary's garden. At Gloucester, he heard, Tarleton and Simcoe had ordered over a thousand horses destroyed because of the unavailability of forage. Both men, moreover, had fallen sick and had refrained from active leadership in recent days. And the Duke de Lauzun, according to

117. "Orderly Book kept during the Siege of Yorktown," p. 31; Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 4; Shute, "With General Benjamin Lincoln," p. 4; S. Doc. 273, p. 192.

118. Irving, *Life of George Washington*, 4:372; Johnston, *Yorktown Campaign*, p. 139; Freeman, *George Washington*, 5:363; Arthur, *End of a Revolution*, p. 132; Davis, *Campaign that Won America*, p. 220; Whitridge, *Rochambeau*, p. 218; Wickwire and Wickwire, *Cornwallis*, p. 377.

Secretary Nelson, kept the British at Gloucester completely hemmed in and restricted in movement.¹¹⁹

But to Washington and his officers the most important news concerned the arrival that very day of a message from Sir Henry Clinton to Cornwallis. Just how Secretary Nelson became privy to such information is unknown, but his word was not doubted. Two British majors in a twelve-oared whaleboat had eluded the French fleet and arrived with dispatches telling that Admiral Digby with thirty sail of the line would soon set out to attack de Grasse, bringing reinforcements under Clinton to relieve the Yorktown garrison.¹²⁰ This news apparently elated the Allies for it gave the

119. Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 4; Tilden, "Extracts from the Journal of Lieutenant John Bell Tilden," p. 61; Pickering and Upham, *Life of Timothy Pickering*, 1:304; Butler, "General Richard Butler's Journal," pp. 108-9; Fleming, *Beat the Last Drum*, pp. 245-46; Local tradition holds that Cornwallis took refuge in a shelter excavated in the cliff near the river's edge and today the site draws many visitors. Historian Benson J. Lossing described the site at about the middle of the nineteenth century and drew the following conclusions:

We first descended the river bank and visited the excavation in the marl bluff, known as Cornwallis's Cave. It is square, twelve by eighteen feet in size, with a narrow passage leading to a smaller circular excavation on one side. It is almost directly beneath the termination of the trench and breastworks of the British fortifications, which are yet very prominent upon the bank above. Popular tradition says that this excavation was made by order of Cornwallis, and used by him for the purpose of holding councils with his officers in a place of safety during the siege. Taking advantage of this tradition, cupidity has placed a door at the entrance, secured it by lock and key, and demands a Virginia ninepiece (12-1/2 cents) entrance fee from the curious. I paid the penalty of curiosity, knowing that I was submitting to imposition, for I was assured, on the authority of an old lady who resided at Yorktown at the time of the siege, that this excavation was made by some of the people wherein to hide their valuables. A house stood directly in front of it, the foundation of which is yet there. The building made the spot still more secluded. A quarter of a mile below, Lord Cornwallis *did* have an excavation in the bank, which was lined with green baize, and used by the general for secret conferences during the siege. No traces of his council chamber are left.

Pictorial Field-Book of the Revolution, 1:302-3; For a similar description, see George Washington Parke Custis, *Recollections and Private Memoirs of Washington* (New York: Derby and Jackson, 1860), p. 244.

120. Pickering and Upham, *Life of Timothy Pickering*, 1:304; Butler, "General Richard Butler's Journal," p. 108; St. George Tucker, "Journal kept by Col. St. George Tucker," pp. 14-15; Fleming, *Beat the Last Drum*, p. 219; Whitridge, *Rochambeau*, p. 219; Clinton's message, ambivalent in the extreme, read in part: (continued)

first hint of possible capitulation should Cornwallis's promised relief for any reason not materialize.¹²¹

E. The Allies Prepare to Advance Their Works

The news also gave incentive for pushing ahead with the siege and further pressuring Cornwallis into surrender before help should come. In the American camp there began a renewed effort to build a reserve of siege materials for furthering the approaches. Baron Steuben's entire division spent the afternoon on fatigue in the woods preparing fascines, gabions, saucissons, and palisades for the coming advance.¹²² Washington renewed his instructions governing the sizes of the materials (fascines, 6 feet long; saucissons, 9-18 feet; gabions, 2-1/2 feet wide and 3 feet high) and their proportional preparation by organizational units. His directive called for 2,000 fascines, 600 gabions, 600 saucissons, and 6,000 stakes to be made by the American command for immediate use. The troops were further required "to keep that quantity always in readiness by replacing

120. (continued)

I am doing every thing in my power to relieve you by a direct move, and I have reason to hope, from the assurances given me this day by Admiral Graves, that we may pass the bar [at New York] by the 12th of October, if the winds permit, and no unforeseen accident happens: this, however is subject to disappointment, wherefore, if I hear from you, your wishes will of course direct me and I shall persist in the idea of a direct move, even to the middle of November, should it be your Lordship's opinion that you can hold out so long; but if, when I hear from you, you tell me that you cannot, and I am without hopes of arriving in time . . . I will immediately make an attempt by Philadelphia. . . .

Quoted in Davis, *Campaign that Won America*, p. 223; One of the couriers, Major Charles Cochrane, met a tragic end two days after his arrival. Appointed acting aide-de-camp to Cornwallis, the zealous officer undertook to fire a cannon *en ricochet* from a battery in the hornwork. As he peered across the rampart to see the effect of his shot, an Allied cannonball tore off his head. Graham, *Memoir of General Graham*, p. 60.

121. Whitridge, *Hochambeau*, p. 219.

122. Cobb, "Before York Town, Virginia," p. 68; Feltman, "Journal of Lieut. William Feltman," p. 318.

the daily consumption."¹²³ In the French sector, Rochambeau's soldiers worked to improve their redoubts and communications trenches and to maintain their batteries. Baron Viomenil commanded these operations, accomplished by two battalions each of the Regiments Agenois and Saintonge. French casualties continued light through the day.¹²⁴ On the far left the troops in Battery 1A made preparations to send hot shot against the British ships still supporting the Fusiliers' Redoubt. Anticipating a possible sortie in that quarter, preparatory to an all-out escape attempt by Cornwallis, Rochambeau directed two battalions of St. Simon's volunteers to take position close by and behind the bluff battery in the ravine formed by Ballard Creek.¹²⁵

1. New Fears of an Enemy Escape

On this day the chance of Cornwallis's escaping from Yorktown caused much concern among the Allies. That morning, even before the French artillery began its roar, eight flatboats loaded with British soldiers had gone upstream seeking to land on the Gloucester shore. General Choisy's well-posted command detected the movement and sent a few field artillery rounds to spoil this effort to get around the Allied flank. Battery 1A on the bluff above Yorktown joined in the fray. The British soldiers on one boat became panic stricken and hurriedly rowed their craft to the nearest Gloucester beach, splashed ashore in confusion, and joined the troops under Tarleton and Simcoe. The other troops dodged cannon shot and bursting mortar shells in their wild effort to get back to Yorktown. Miraculously, they all returned safely.¹²⁶

123. Washington, *Writings*, 23:205. For a breakdown of materials to be provided by each unit, and for the dimensions of same, see *ibid.* See also "Orderly Book kept during the Siege of Yorktown," pp. 83-84.

124. De Verger Journal, in Rice and Brown, *American Campaigns*, p. 140; Menonville, "Journal of the Siege of York," p. 285; D'Ancteville, "Journal of the Chesapeake Campaign," p. 18; S. Doc. 322, p. 7; Balch, *French in America*, 1:194-95.

125. Borresen, "Orientation Report," p. 27; Blanchard, *Journal*, p. 148, mentions the lingering fear of the Allies that Cornwallis would try to flee Yorktown, most likely via Gloucester.

126. Baron Closen said that the flatboats numbered eighteen and that Choisy captured one barge after its occupants had fled to Gloucester. It contained a four-pounder cannon. *Revolutionary Journal*, p. 146. There is considerable variety in the accounts of this episode. See Du Bourg, "Diary of a French Officer, 1781," p. 447; Deux-Ponts, *My Campaigns in America*, p. 141; Balch, *French in America*, 1:194; Stevens, "Allies at Yorktown, 1781," p. 22; Freeman, *George Washington*, 5:362; Arthur, *End of a Revolution*, p. 134; Fleming, *Beat the Last Drum*, pp. 246-47; That night a French officer noted (continued)

2. Building the Approaches

The possibility of Cornwallis's escape or relief made it imperative that Washington press his advantage quickly. Already preliminary work had begun to locate approach trenches and to start their construction so that a second siege line could further close on Cornwallis and force him into submission. The Allies' engineers spent most of the night of October 10 gathering data for starting the approaches. The date for establishing the second line was moved forward, apparently in response to the recent intelligence about Sir Henry Clinton's plans.¹²⁷ Allied artillery in the first line having failed to cause the evacuation of the two detached British redoubts guarding the left of Cornwallis's position, realization now grew among the American and French soldiers that a direct assault to gain the works was inevitable.¹²⁸ Actual construction of the zigzag approach trench lay in the province of the French soldiers, for until Redoubts 9 and 10 fell few advances were possible from the American part of the line. The French approach probably began sometime during the overcast night of October 10; initially it took the shape of a straight line headed eastward out from the west end of the French parallel in the general direction of British Redoubt 9. Less than 300 yards from the first siege line the trench angled sharply north and west and continued for a slightly longer distance. Angled obliquely, so as to protect the sappers from enemy enfilade, the approach trench was designed so that either section, if extended, would pass at least 40 yards in advance of any British fortification.¹²⁹

Primary responsibility for advancing the approach rested with the chief sapper. Armed with pickax, shovel, fascines, and gabions, he pressed ahead behind a specially constructed gabion 5 feet in diameter by 6 or 7 feet high and stuffed with fascines and earth to protect him from musket fire. As he advanced the trench, the chief sapper staked fascines and gabions along either or both edges, depending on the direction of enemy fire, and filled them with the excavated earth. He left a trench about 1-1/2 feet

126. (continued) yet another effort by the British to send soldiers across the York on barges, "but M. de Choisy had been forewarned and was on his guard." Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, p. 59.

127. D'Ancteville, "Journal of the Chesapeake Campaign," p. 19; Evidently the original plan was to open a second line October 12, or at the latest October 13. Colonel Charles Dabney to Colonel William Davies, October 10, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:540.

128. McHenry, *Letters of James McHenry*, p. 68.

129. Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, p. 59; Wright, "Notes on the Siege of Yorktown," p. 234; Straith, *Treatise on Fortification and Artillery*, 1:138.

wide at the top by 2 feet deep for succeeding sappers to enlarge.¹³⁰ Following the procedures prescribed by the theorists, the second sapper

enlarges the sap by six inches in breadth, and takes as much in depth; the third and fourth enlarge and excavate it in the same manner: this gives the sap a depth of three feet to as many in breadth above, but only two feet at the bottom, on account of the talus that is left on both sides of this ditch, from the excavation of which sufficient earth has been gathered, to form, towards the place [besieged], an epaulement which can only be penetrated by cannon ball.¹³¹

A fifth man was responsible for staking a revetment of fascines to further strengthen the sides of the trench, while a sixth steadily moved supplies forward to insure that the advance workers had complete access to materials.¹³²

3. The French Hot Shot Battery

Work on the approaches to a second parallel were grounded in a sense of urgency. Cornwallis had already indicated his growing desperation by the recent flatboat episode. In order to further hinder the British in accomplishing such a retreat, the Allies determined to ruin Cornwallis's surviving shipping. The British general had already destroyed many of his smaller craft purposely to establish a water perimeter through which Allied vessels could not penetrate. Now French gunners prepared to cripple the remaining enemy vessels by use of hot shot fired by two powerful twenty-four-pounder cannon moved from the Grand French Battery for use near the river in Battery 1A.¹³³

The principal reason hot shot--cannonballs heated red hot--was used against enemy vessels was because the missiles, if well aimed, could enter the powder room of a craft and make it explode.¹³⁴ Also effective in creating confusion among the enemy ranks and in destroying wooden houses, powder magazines, and ammunition dumps behind enemy lines, hot shot firing proved extremely dangerous and required the utmost precaution to complete

130. Vauban, *Manual of Siegecraft and Fortification*, p. 49; Tousard, *American Artillerist's Companion*, 1:513-14.

131. Tousard, *American Artillerist's Companion*, 1:511.

132. Vauban, *Manual of Siegecraft and Fortification*, p. 49. See Chapter II for a discussion of sapping procedures.

133. Haynes, "Siege of Yorktown," p. 8; Borresen, "Orientation Report," pp. 27, 33; The twenty-four-pounders replaced two twelve-pounders in the battery. Closen, *Revolutionary Journal*, p. 146.

134. Le Blond, *Treatise of Artillery*, p. 33.

safely. Gunners placed the required powder charge in the weapon and rammed it home, then covered it with a wad followed by a piece of turf or a cushion of water-soaked hay. Next the muzzle of the piece was slightly elevated and sponged out. The cannon shot, heated on a special furnace and grate, was removed with tongs when it became red hot and placed directly into the gun muzzle. Simultaneous with its insertion, another gunner ignited the charge and the ensuing explosion sent the scorching ball towards its objective at high speed.¹³⁵

4. Burning the *Charon*

At eight o'clock in the evening, October 10, Rochambeau's cannon in Battery 1A began tossing hot shot on Cornwallis's remaining seacraft. A principal target was the enemy frigate *Guadaloupe*, of twenty-six guns, which had begun a series of menacing maneuvers designed to forestall another French attack on the Fusiliers' Redoubt. Driven off by the flying missiles, the *Guadaloupe* sought refuge under cover of the cliffs near Yorktown, but the burning round shot set fire to the *Charon*, a forty-four-gun frigate from which most ordnance had previously been removed for use in the British land batteries. Attempting to flee, the *Charon* collided with a transport and the conflagration spread to still other vessels. The frigate drifted across to Gloucester, where it burned to the water's edge and later sank.¹³⁶ "The whole night was nothing but one continual roar of cannon, mixed with the bursting of shells and rumbling of houses torn to pieces," remarked an American captain.¹³⁷ Burning ships lit the sky over York River and billowing

135. Tousard, *American Artillerist's Companion*, 1:100; 2:253; Wright, "Notes on the Siege of Yorktown," p. 244n.

136. This account of the hot shot operation the night of October 10 incorporates data from Pickering and Upham, *Life of Timothy Pickering*, 1:302-3; Saint-Exupery, "War Diary," p. 111; Smith, "Diary of Jacob Smith," p. 263; Barneville, "War Diary," p. 273; S. Doc. 322, p. 8; Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, pp. 58-59; Washington to de Grasse, October 11, 1781, in *Writings*, 23:208-9; Du Bourg, "Diary of a French Officer, 1781," pp. 446-47; Ewald, "Diary of the American War," p. 891; Engineers' Journal, p. 451; La Combe, "Journal of the Siege of York," p. 4; Edward Hand to Jasper Yeates, October 12, 1781, in "Edward Hand to Jasper Yeates on the Siege of Yorktown in 1781," *Bulletin of the New York Public Library* 6 (August, 1902): 286; Freeman, *George Washington*, 5:365; Davis, *Campaign that Won America*, p. 222; Possibly the *Charon* had not been stripped entirely of its armament. In the 1930s the firm of Francis Bannerman Sons, New York City, offered for sale a piece "recovered by divers at the Yorktown Centennial [in 1881] after 100 years submersion" in York River. The Bannerman company advertised that "it will take \$1000 to tempt us to part with it." John D. Babington, "Known 'Yorktown' guns, siege and field, not in Colonial National Historical Park," memorandum, dated March 22, 1955, in the files of CNHP, Yorktown, Virginia, pp. 4-5.

137. Duncan, "Diary of Captain James Duncan," p. 751.

black smoke funneled up to meet low-lying clouds. Spectators assembled on housetops under risky conditions to watch the scene revealed by the licking flames in the harbor.¹³⁸ The view engendered more emotion-filled responses than probably any other event of the siege. Reported a senior French officer:

Never could a more horrible or more beautiful spectacle be seen. On a dark night, the ships with all their open portholes discharging sheafs of fire, the cannon shots that were going off, the appearance of the whole roadsted, the ships under topsails flying from the burning vessels, all that formed a terrible and sublime spectacle.¹³⁹

Dr. Thacher of the American forces found himself in an excellent position to behold what he called "this splendid conflagration":

The ships were enwrapped in a torrent of fire, which spreading with vivid brightness among the combustible rigging, and running with amazing rapidity to the tops of the several masts, while all around was thunder and lightning from our numerous cannon and mortars, and in the darkness of night, presented one of the most sublime and magnificent spectacles which can be imagined. Some of our shells, overreaching the town, are seen to fall into the river, and bursting, throw up columns of water like the spouting of the monsters of the deep.¹⁴⁰

By daylight, before Cornwallis's remaining ships had pulled anchor and repaired out of range to the Gloucester shore, the French hot shot battery succeeded in firing two more transports as well as a corsair of

138. Custis, *Recollections and Private Memoirs of Washington*, p. 245.

139. *Mercure de France*, November 1781, quoted in Balch, *French in America*, 1:194n.

140. *Military Journal*, pp. 274-75; Yet another witness recorded that the scene "afforded an awful and melancholy sight. The Charon was on fire from the water's edge to her truck at the same time. I never saw any thing so magnificent." "Siege of York and Gloucester, Virginia," p. 476; In 1934 and 1935, underwater archeology conducted in the York River off Yorktown and Gloucester revealed several vessels sunk during the siege. Two were found close together and each measured between sixty and eighty feet long. Another, found close to the Gloucester side, could have been the wreck of the *Charon*. Salvage operations disclosed evidence of three swivel guns, plus some bar-shot, broken glass, and crockery pieces--all fire-resistant items. Examiners concluded that the craft had probably been burned. Ferguson, *Salvaging Revolutionary Relics from the York River*, pp. 9, 10.

twenty guns.¹⁴¹ Thereafter the Allies' siege pieces dominated the waters off Yorktown. All British shipping stayed to the north beyond danger. Cornwallis's situation had further deteriorated overnight. That morning several of his ships lay smoldering and steaming in the harbor. His ramparts were damaged in many places and his soldiers labored to repair the defenses before the onslaught was renewed. Flames still flickered over the ruins of houses destroyed in the night by Washington's artillery.¹⁴² A very minor consolation was the fact that British fire ships had succeeded in temporarily scattering the French vessels hovered near the mouth of the York.¹⁴³ Had Clinton's relief been at hand Cornwallis might have had reason for elation. As it turned out, the worst was yet to come.

141. Feltman, "Journal of Lieut. William Feltman," p. 318; Washington, *Writings*, 23:213; *Pennsylvania Packet*, October 23, 1781, reproduced in *Magazine of American History* 6 (January, 1881): 42; "Abstract of Operations"; "Diary of French naval operations in America," p. 194.

142. James, *Journal of Rear-Admiral Bartholomew James*, p. 122.

143. John Graves Simcoe, *Military Journal: A History of the Operations of a Partisan Corps called the Queen's Rangers, commanded by Lieut.-col. J. G. Simcoe, during the War of the Revolution* (New York, 1844), pp. 250-51.

CHAPTER XII: THE EARTH TREMBLES

A. The Allies Prepare to Advance

Despite growing optimism among the ranks of the Allies that Lord Cornwallis stood on the verge of imminent disaster, General Washington left nothing to chance. While realizing that the enemy's capitulation appeared more and more promising with the passing hours, Washington also knew that as long as the possibility of relief remained the British would not willingly surrender. And even without relief Cornwallis might revert to his own military genius to extricate his command, and Washington refused to allow his adversary any such opportunity to escape. So far, the artillery of the first parallel had been more than successful in battering the British defenses. The guns had also wrecked much of the enemy shipping or otherwise put it out of commission. Washington hoped to draw the ring still tighter, to place the chance of Cornwallis's escape beyond all rational consideration. He yet hoped to convince de Grasse that all was well on the river above Yorktown and that the stationing of French vessels there was all that was needed to seal Cornwallis's fate.

1. Pleas to de Grasse

Possibly in ignorance of the maneuvers of British fire ships the night before, Washington tried to convince his admiral that these dangers had passed, that Cornwallis no longer possessed facilities for constructing such vessels.¹ De Grasse must have been signally unconvinced. Futilely, Washington wrote him of his design to open a second parallel the evening of the eleventh, because, as he put it, "the Enemy's conduct has continued passive beyond our expectation. . . ."² In deference to the American's requests, de Grasse sent two of his officers to inspect the state of Cornwallis's water defenses and the river near Yorktown.³ Other than the ship *Guadaloupe*, which still hugged the cliffs near the town, Washington assured de Grasse, "there remains no other armed Vessel of consequence. . . . I submit to your Excellency whether two frigates will not answer all the purposes of the station above York."⁴ But the admiral still vacillated, refusing to commit his force so actively, wary of the arrival of Digby's fleet from New York and hesitant to separate two of his vessels from under his direct command.

1. Washington to de Grasse, October 11, 1781, in *Writings*, 23:209.

2. *Ibid.*

3. Washington, *Diaries*, 2:265.

4. Washington, *Writings*, 23:209.

2. The Nelson House as Target

Even while de Grasse pondered his decision, the Allies further heightened their artillery barrage against the British in Yorktown. By midday Thursday over fifty guns and mortars played on Cornwallis.⁵ The French gunners still outperformed their American counterparts, however, a situation that General Knox blamed on faulty ordnance. Recounted one officer:

Knox damns the Pennsylvania shells, as not being well cast, varying greatly in weight, and especially for not being proved. As proof of the latter, they [he?] observed that the cores have not been well cleaned out; so that, if they in fact passed a proof, it is not a full evidence that they are sound, as any holes might be stopped up by the remains of the cores.⁶

One special target this day was the Yorktown residence of Brigadier General Nelson of the militia. Invited into an American battery by the Marquis de Lafayette, Nelson was asked to which building he would direct the cannon. "There, to that house," Nelson indicated, pointing towards an imposing brick structure that lay beyond the British earthworks. "It is mine, and, now that the Secretary's is nearly knocked to pieces, is the best one in town. There you will be almost certain to find Lord Cornwallis and the British Headquarters."⁷ At that, a burst of American shot tore into the structure, some of it lodging in the sturdy brick walls, where it remains today. The Nelson house was damaged extensively but survived the siege.

3. Examples of the Havoc

Deserters continued to trickle into the Allied posts to tell of the dreadful effect of the cannonballs and bombs on Cornwallis's garrison. The ceaseless fire was taking an immense human toll and casualties mounted.⁸

5. S. Doc. 318, p. 49.

6. Pickering and Upham, *Life of Timothy Pickering*, 1:305.

7. Quoted in Arthur, *End of a Revolution*, p. 133; For a recent biographical treatment of Thomas Nelson, see Emory G. Evans, *Thomas Nelson of Yorktown: Revolutionary Virginian* (Williamsburg: Colonial Williamsburg Foundation, 1975).

8. For notices of the role of Allied artillery on October 11, see Barneville, "War Diary," p. 274; Washington, *Writings*, 23:210; Henry Lee, *Memoirs of the War*, pp. 499-500; The artillery fire without cessation followed theoretical precepts of the time. Stated Tousard: "Always beware of the apparent tranquillity of the enemy, and do not cease to batter a work because the firing from it has discontinued. It is as essential to prevent them from making repairs, as to put a stop to their first efforts." *American Artillerist's Companion*, 1:94.

Moreover, on October 11 the newly completed French mortar battery (4A) west and slightly forward of the Grand French Battery went into action, adding its deadly twelve-inch bombs to the whole. Also opened was the unit (3A) of twenty-four-pounders on the knoll west of the York Creek branch ravine.⁹ Altogether the French and American armaments pounded the British fortifications at a furious rate. The Hessian soldier Johann Doehla provided the best account of the Allied barrage he saw October 10 and 11, the days of the heaviest cannonade:

I saw with astonishment today on my watch how the enemy cannon balls of 24 and more pounds [?] flew over our whole line and the city into the river, where they often struck through 1 and 2 ships, and indeed even struck 10-12 times in the water; yes, some even went clear across the river to Gloucester, where they even injured some soldiers on the beach. I saw bombs fall into the water and lie there for 5, 6-8 and more minutes and then still explode, which was so repulsive and horrible in the water that one can scarcely believe it. It showered upon the river bank the sand and mud from below; if one sat there, it felt like the shocks of an earthquake. The fragments and pieces of these bombs flew back again and fell on the houses and buildings of the city and in our camp, where they still did much damage and robbed many a brave soldier of his life or struck off his arm and leg. I had myself a piece of an exploded bomb in my hands which weighed more than 30 pounds and was over 3 inches thick.¹⁰

Doehla spoke more specifically of the casualties incurred among his brother Germans:

On the left wing with the detachment stationed in the outermost redoubt was killed on the 11th of October Grenadier Schoenlein by a howitzer ball, while Grenadier Buehlmann and Private Menzel of Eyb's Company were wounded in this redoubt, from the Onsbach regiment also a man was completely blown to pieces by a bomb which fell on him.¹¹

9. Closen, *Revolutionary Journal*, p. 146; Tilghman, *Memoir of Lieut. Col. Trench Tilghman*, p. 105; Washington reported that "the French opened two other batteries on the left of the parallel, each consisting of 3 Twenty four pounders. . . ." *Diaries*, 2:265; A French account speaks of "two new batteries of eight 24-pounders" opening on the eleventh, along with "another of six mortars." "Diary of French naval operations in America," p. 194. The main purpose of the mortars was evidently to set fire to the abatis around British Redoubt 9. *Ibid.*

10. "Journal of Johann Conrad Doehla," pp. 143-44.

11. *Ibid.*, p. 144.

Cornwallis's gunners could not even get near their pieces to respond to the Allies' immense firepower. British earthworks began to crumble faster than laborers could repair them. More and more cannon became dismounted and broken.¹² The British return fire slackened "to such a degree," said one Frenchman, "that it really was not dangerous."¹³

4. Problems of Artillery Range

Despite the overwhelming success achieved by the first parallel guns, Washington's soldiers expressed eagerness to move ahead. Knox's negative view of the potential of American ordnance firing from that distance drew adherents despite obvious evidence to the contrary. American guns still paled when compared to those of the French. One officer echoed what had apparently become a familiar sentiment in Allied circles regarding the first batteries:

Though I am ready to acknowledge their abilities, yet I do not imagine they can work miracles. We know what has, in times past, been the effect of British cannon against our earthen defences, and I cannot think ours to be essentially different. At the present distance of our batteries (say five hundred yards), they might fire till Christmas without materially lessening the enemy's force. The shells, falling in a variety of places, are doubtless troublesome, and do some mischief. I am impatient to get nearer to the enemy, that our work may be more speedily accomplished, and our ammunition not thrown away.¹⁴

B. Building the Second Parallel

1. Preparations Proceed

Getting nearer the enemy was the immediate objective of the French and Americans on October 11, and activities that day were directed to that end. Baron Steuben's Division assumed trench duty in the American sector promptly at 11:00 A.M. Anticipating the opening of the second parallel that evening and fearing a sortie by the British, the baron issued orders that no soldier be permitted to lay down that night, but remain alert with musket in hand.¹⁵ Troops relieved by Steuben's soldiers repaired to the

12. Cobb, "Before York Town, Virginia," p. 68; Du Bourg, "Diary of a French Officer, 1781," p. 447; S. Doc. 322, p. 8; James, *Journal of Rear-Admiral Bartholomew James*, p. 123.

13. Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, p. 59.

14. Pickering and Upham, *Life of Timothy Pickering*, 1:305.

15. "Orderly Book kept during the Siege of Yorktown," p. 87; *Orderly Book of the Siege of Yorktown*, pp. 33, 34; Wild, "Journal of Ebenezer Wild," p. 153; Johnston, *Yorktown Campaign*, p. 141n; Palmer, *General Von Steuben*, (continued)

rear and began making more fascines and gabions.¹⁶ Along the French line Major General de Chastellux took command and made similar preparations to advance another parallel.¹⁷

2. Courts-martial Continue

Behind the lines routine camp life continued. Requests for food supplies, forage, and liquor to support the army went out with regularity.¹⁸

15. (continued) p. 292. Steuben related the following anecdote about his work in the trenches October 11. He was probably mistaken concerning the date and Baron Viomenil's role, because that officer did not command in the French sector on October 11. The story:

Baron Viomenil commanded in the trenches on October 10th. At four o'clock in the evening he sent Count Deuxponts to tell me that he had observed, while visiting the trenches, that my division was extremely weak, and as it was probable the enemy might make a sortie that night, he wished to reenforce my left wing with from five to eight hundred men, if I should think it necessary. In presence of General Wayne I answered Count Deuxponts that I did not think I wanted any reenforcements, and that if the enemy should attack me, I should answer for being able to hold the battery until the Baron de Viomenil could arrive to support me, and, further, that in case he was attacked, he might rely on me to support him with eight hundred men in two columns. When Count Deuxponts had gone away, Wayne remarked that I had only one thousand men in my entire division. "No doubt of it" I replied, "that is my calculation too. But if it should so happen, I should, on my own responsibility, leave two hundred men to defend the battery, and with the remaining eight hundred attack forthwith in two columns." I added that if I was guilty of a certain amount of gasconade with regard to the number of my men, it was for the honor of his country, whereupon Wayne took me by the hand, and addressing himself to the officers present, said: "Now, Gentlemen, it is our duty to make good the exaggeration of Baron Steuben and to support him just as if he had double the number of troops he has."

Quoted in *ibid.*, p. 291.

16. Wild, "Journal of Ebenezer Wild," p. 153; Orders were given that all fascines and saucissons be firmly bound. "All that are not fit for use will be rejected at the deposit of the trenches, and the Corps in default, to make up the deficiency without loss of time." "Orderly Book kept during the Siege of Yorktown," p. 86.

17. Balch, *French in America*, 1:195.

18. See, for example, David Ross to Robert Crow, October 11, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:544, 545.

American officers tried by courts-martial colleagues who had violated one or more of the "Rules and Articles of War." Captain Patrick Duffy of the Fourth Continental Artillery was found guilty and sentenced to be dismissed from the service for "drawing a Sword on Capn Ballard and attempting to Stab him, and firing a Pistol at him when unarmed, also for a most disgraceful breach of Friendship, in seizing from Lt Blewer a loaded pistol & snapping [*sic*] the said at him. . . ."¹⁹ And Lieutenant William Munday of the Second New York Regiment likewise was dismissed for "wilful disobedience of orders and neglect of duty. . . ."²⁰

3. Digging the Trench

By dusk all was in readiness for beginning the new parallel. General Nelson's militia advanced to man the first line while Steuben's men prepared to start the second.²¹ The zigzag approach had been pushed ahead 200 yards by French laborers until the end lay within 360 yards of the closest British line fortification and on a level with the detached enemy works 9 and 10. The forward part of the approach trench now lay beyond effective supporting distance of the Allied artillery, and the French engineers proceeded to trace the parallel from its head.²² The menacing posture of Redoubts 9 and 10 prevented them from projecting the line all the way to York River. Work on the second parallel would necessarily be limited to the left sector until these two enemy structures could be stormed and captured. After sunset Steuben's men set forward on their task in complete silence, armed with shovels, spades, grubbing hoes, gabions, and fascines.²³ These soldiers must have passed across the low ground extending in front of the ravine forming the French supply depot of the first parallel. There, at about 8:00 P.M., they began breaking the sandy turf along a short zigzag approach trench and a truncated section of what would become the second parallel.²⁴ On the left, 750 men from the Regiments

19. "Orderly Book kept during the Siege of Yorktown," pp. 88-91.

20. *Ibid.*, pp. 91-92.

21. Wild, "Journal of Ebenezer Wild," p. 153.

22. Wright, "Notes on the Siege of Yorktown," p. 244; Matloff, *American Military History*, p. 97; Scheer and Rankin, *Rebels and Redcoats*, p. 561.

23. Scheer and Rankin, *Rebels and Redcoats*, p. 561; Feltman, "Journal of Lieut. William Feltman," p. 319; Wright, "Notes on the Siege of Yorktown," p. 244; Arthur, *Sieges of Yorktown*, p. 19.

24. It is possible, but unlikely given the exposed location, that the American zigzag, which lay almost exactly at the center of the parallel as completed after the capture of Redoubts 9 and 10, was prepared earlier, perhaps at the time the French were preparing theirs on the left. It is also possible that Steuben's soldiers moved forward after dark through the (continued)

Gatenois and Deux-ponts moved ahead, some through the approaches and some by way of the natural cover of the York Creek morass. The French this night were charged with completing the greater part of the parallel, their section extending from the edge of York Creek ravine east to a juncture with the Americans near the latter's zigzag approach.²⁵

a) The American Sector

On authority of the experts, the second parallel should have had a thicker parapet and been more solidly reveted than the first because of its closer proximity to enemy cannon.²⁶ Instead of wood strips, gabions served to trace the line. "These gabions," wrote one theorist, "even when empty, will stop the course of a musket bullet."²⁷ Placed side by side, the gabions were filled and covered with excavated dirt and formed the foundation for the parapet.

Covered somewhat precariously by the guns of their first batteries, the French and Americans dug hurriedly in the night. Lieutenant William Feltman of Pennsylvania participated in the enterprise:

In one hour's time we had ourselves completely covered, so we disregarded their [British] cannonading; they discharged a number of pieces at our party, but they had but little effect, they only wounded one of our men. We were in the center of two fires, from the enemy and our own, but the latter was very dangerous; we had two men killed and one badly wounded from the French batteries, also a number of shells bursted in the air above our heads, which was very dangerous to us. We dug the ditch three and a half feet deep and seven feet in width.²⁸

The Americans terminated their sector slightly more than 300 yards from the easternmost side of Redoubt 9. This accomplishment, devised by Washington's engineers, had the dual purpose of advancing the second parallel

24. (continued) French zigzag sap and were placed in their digging positions by the engineers. It seems reasonable, however, to presume that the advance was made over the low ground extending north from the French depot ravine and in which the American approach trench was excavated. See de Verger Journal, in Rice and Brown, *American Campaigns*, p. 141; Eight o'clock is the time the French began work. The inference is that the Americans started also at that time. Deux-Ponts, *My Campaigns in America*, p. 141.

25. Menonville, "Journal of the Siege of York," p. 285.

26. Straith, *Treatise on Fortification and Artillery*, 1:210.

27. Lallemand, *Treatise on Artillery*, 2:157.

28. "Journal of Lieut. William Feltman," p. 319.

on schedule while at the same time more than halving the distance to be covered in a direct assault on the enemy earthwork had it been undertaken from the first parallel. Steuben's soldiers raised a strong epaulement at the end of the line facing the British redoubt to resist an enemy enfilade from that direction.²⁹ Colonel Richard Butler took direct command of the approximately 600 American workmen while General Wayne guarded their labor with two battalions of his Pennsylvania troops.³⁰ Lord Cornwallis's guns blazed away at the first parallel, evidently unaware of the new thrust by the Allies.³¹ "The opposition from his Lordship [is] by no means equal to our expectations," commented Washington's secretary, "considering his high character, for bravery, military skill and activity."³²

b) The French Sector

Rochambeau's French soldiers finished most of the second parallel that night. The trench in their sector ran further west than that of the first line to rest on the edge of the morass leading towards York Creek. Like the first parallel, the second bisected Hampton Road and ran east to meet the American sector. The French sector measured over 650 yards--three times as long as the part completed by the Americans under General Steuben. French engineers also traced the positions of redoubts on the line that would be necessary to protect workers preparing the artillery batteries. Amid the explosions of British guns the French soldiers forged on.³³ At one point during the night there occurred another unsuccessful attempt by St. Simon's Volunteers to take the Fusiliers' Redoubt, but this was probably a decoy movement designed to divert British attention from the real action at hand.³⁴ In addition to the four battalions of Gatenois

29. Wild, "Journal of Ebenezer Wild," p. 153; S. Doc. 318, p. 49; S. Doc. 273, p. 194; Wright, "Notes on the Siege of Yorktown," p. 245; Freeman, *George Washington*, 5:366.

30. Butler, "General Richard Butler's Journal," p. 109; Moore, *Life and Services of Gen. Anthony Wayne*, p. 150.

31. Swartwout, "Journal of Barnardus Swartwout," p. 36.

32. Trumbull, "Yorktown, Virginia," p. 336.

33. Engineers' Journal, pp. 451-52; La Combe, "Journal of the Siege of York," p. 4; Closon, *Revolutionary Journal*, p. 147; S. Doc. 322, pp. 8-9.

34. "Hergelreue Abschrift eines Tagebuchs eines markgräflichen Soldaten"; wrote Captain Ewald: "The besiegers have . . . attempted to take the advanced redoubt by a coup de main during the night, but were driven back with bloody heads." "Diary of the American War," p. 892; Viscount Rochambeau, son of the French commander, wrote, "It should be pointed out that since our first parallel was very close to the left side of the enemy's fortifications, the enemy imagined that the attack in setting up the second (continued)

and Royal Deux-ponts, auxiliaries composed of grenadiers and chasseurs of the Regiment Saintonge, along with 800 night fatigue men, assisted in building the parallel.³⁵ French losses were small this night, with but four men killed or wounded, and most likely by Allied ordnance.³⁶ Besides digging the parallel, the workmen hurriedly raised the parapets of the redoubts and even began palisading the ditches in expectation of British countermeasures to the advance. Already some cannon were being hauled forward to provide a modicum of artillery support to the newly established line.³⁷

The second parallel thus progressed rapidly, and the French soldiers worked strenuously to perfect it and give it utility. A witness to the apparent surge of French adrenalin this night recorded that Rochambeau's troops "seemed to become rivals to each other. . . ."

Even the obscure common soldier, whose life and death is equally consigned to oblivion, strove to outdo his renowned officers in . . . daring enterprizes, and went up in defiance of the enemy to the very edges of their intrenchments. The miner, with the axe in his hand, advanced with a determined step through a shower of grape-shot to cut down the tree at his leisure, which perhaps shielded him from destruction.³⁸

4. Dangers to Allied Workers

Screened by the artillery behind them, the French soldiers manifested bravery in the face of British howitzers and royal mortars that proved surprisingly ineffective. More dangerous to the French were their own gunners, who sent short-fused bombs forward at such low elevations as to

34. (continued) parallel would come at this point, and we surprised them with our activities which broke on their center." "War in America," in Weelen, *Rochambeau, Father and Son*, p. 232; See also "Diary of French naval operations in America," p. 195, for an almost verbatim copy of this remark.

35. S. Doc. 273, p. 193; Arthur, *End of a Revolution*, p. 134.

36. Rochambeau, *Relation*, p. 6.

37. D'Ancteville, "Journal of the Chesapeake Campaign," p. 19; Robin stated that the French "began to demolish our old batteries to construct new ones" the night of the eleventh. *New Travels through North America*, p. 59.

38. Robin, *New Travels through North America*, p. 59; Stone, *Our French Allies*, pp. 431-32, attributed this quotation to the Chevalier de Chastellux.

severely threaten, and in some instances harm, the Allied workers.³⁹ "Our shot and shells going over our heads in a continual blaze the whole night," wrote an American soldier. "The fight was beautifully tremendous."⁴⁰ At one point in the night the French gunners suspended their fire for fear of hitting the Allies, at which time the British managed to get off a flurry of fire. But it slackened shortly once the French ordnance had been adjusted and resumed shooting.⁴¹ Numerous collisions occurred in the night between Allied and British patrols, the noise of musketry constantly resounding over the terrain.⁴² Inside Yorktown, Cornwallis's troops still felt the shock of exploding shells. So swift and hard rained the Allied barrage that the British gunners were at a loss getting rounds off in response. "Upwards of a thousand shells was thrown into the works on this night, and every spot became alike dangerous," lamented a British officer.

The noise and thundering of the cannon, the distressing cries of the wounded, and the lamentable sufferings of the inhabitants, whose dwellings were chiefly in flames, added to the restless fatigues of duty, must inevitably fill every mind with pity and compassion who are possessed of any feelings for their fellow creatures.⁴³

5. Cornwallis Discovers the Line

If Charles Cornwallis harbored any illusions that the Allies would remain longer behind their first earthworks, they were quickly dispelled when he peered across the plain at daybreak Friday, October 12. What lay before him was the second parallel formed by General Washington's troops, running east to west 750 yards. Soldiers guarding the line were drawn completely undercover, fully hidden from British arms.⁴⁴ "This business was conducted with the same secrecy [*sic*] as the former . . .," wrote Washington. The British, he continued, "did not by their conduct and mode of firing, appear to have had any suspicion of our working parties till day light discovered them to their Picquets. . . ."⁴⁵

39. Tarleton, *History of the Campaigns*, p. 396; Scheer and Rankin, *Rebels and Redcoats*, p. 561.

40. "Siege of York and Gloucester, Virginia," p. 476.

41. Deux-Ponts, *My Campaigns in America*, p. 142; Wright, "Notes on the Siege of Yorktown," p. 245; S. Doc. 273, p. 194.

42. S. Doc. 273, p. 141; Johnston, *Yorktown Campaign*, p. 336.

43. James, *Journal of Rear-Admiral Bartholomew James*, pp. 122-23.

44. Washington to General William Heath, October 12, 1781, in *Writings*, 23:214.

45. *Diaries*, 2:265.

At that time the British released a thunderous volley of mortars, shells, and musket balls against the new earthworks, hoping to impede their further progress. Cornwallis's gunners fired a great amount of grapeshot, too, along with grenades discharged from royals. The ordnance had the desired effect, temporarily restraining the Allies from perfecting their advantage. Perhaps anticipating an assault to breach his works, Cornwallis ordered Lieutenant Colonel Dundas and part of his command to Yorktown from Gloucester. This left Tarleton in charge at Gloucester, for Simcoe, his superior, remained too sick to actively command at that station.⁴⁶

6. Allied Countermeasures

The enemy cannonade was short-lived and, under speedy counterattack by the French and American artillery, soon reverted to its former quality. In the morning the Allies' guns sank yet another British craft, this one a fire ship, and deserters reported continuing damage behind the Yorktown fortifications.⁴⁷ The principal attack was directed towards the hornwork and, according to one British officer, proved notably destructive:

In fifty-two minutes after my arrival in the hornwork the enemy silenced the three left guns by closing the embrasures, shortly after which they dismounted a twelve-pounder, knocked off the muzzles of two eighteens, and for the last hour and half left me with one eighteen-pounder with a part of its muzzle also shot away, with which I kept up a fire till it was also rendered useless.⁴⁸

Most of the damaging fire originated with the French mortar battery (4A) and two of the gun units of the Grand French Battery (7A and 8A). When, at about 9:00 A.M., fears grew that these armaments might yet harm the 300 day workmen in the second parallel, firing from them was suspended. The British quickly took advantage of the lapse, however, and answered vigorously with their own ordnance, causing the French to open their guns in Batteries 3A and 5A, units whose fire might not be so liable to strike the laborers in the trenches.⁴⁹ The American batteries contributed to the barrage also; from the American Grand Battery (13A) from October 11 to 12 was discharged

46. Swartwout, "Journal of Barnardus Swartwout," p. 36; "Abstract of Operations"; St. George Tucker, "Journal kept by Col. St. George Tucker," p. 15; Duncan, "Diary of Captain James Duncan," p. 751; Arthur, *End of a Revolution*, p. 135.

47. "Journal of the Siege of York in Virginia by a Chaplain," p. 106; James, *Journal of Rear-Admiral Bartholomew James*, p. 123; Butler, "General Richard Butler's Journal," p. 109.

48. James, *Journal of Rear-Admiral Bartholomew James*, p. 124.

49. De Verger Journal, in Rice and Brown, *American Campaigns*, p. 141; Menonville, "Journal of the Siege of York," p. 285; S. Doc. 322, p. 9.

336 twenty-four-pounder shot, 263 eighteen-pounder shot, 199 10-inch mortar shells, 159 8-inch and 94 5-1/2-inch howitzer shells--evidence of the unremitting character of the Allies' firepower as well as of the huge supply of ammunition at their disposal. From the mortar battery behind Redoubt 12A the Americans expended 166 10-inch shells, while from Battery 10A, on the extreme left of the American sector of the first siege line, gunners discharged 450 eighteen-pounder balls.⁵⁰

C. Consolidating the Position

1. A Decision on Redoubts 9 and 10

Early on the morning of October 12, Washington's officers were contemplating the capture of British Redoubts 9 and 10, which would permit the prolongation and completion of the second parallel to York River. Capture of these exposed structures would also facilitate completing the siege in customary fashion. Obviously, both works must be taken by direct assault.⁵¹ During the brief cessation of fire that morning, Count Rochambeau and his son boldly set forth to inspect the enemy defenses about Redoubt 9. Rochambeau returned safely to report that his examination had disclosed that the abatis and palisades were still strong and evidently unaffected by the Allied artillery. "We must redouble our fire to break them and destroy the top of the parapet," he told his aides. "We shall see to-morrow whether the pear is ripe."⁵²

In the American sector troops worked to improve their position, confident with the growing sense of success and anxious to get on with the final dislodgement of Cornwallis. At one point Baron Steuben and his subordinate General Wayne were standing close together when a British shell struck the line. The men fairly stumbled over each other getting to cover; Steuben hit the ground first and Wayne fell on him. At last picking himself up, the baron humorously told the Pennsylvanian, "I always knew you were brave, General, but I did not know you were perfect in every point of duty; you cover your General's retreat in the best manner possible."⁵³

The general feeling this day among the Allies was that their guns would be in position along the second parallel to attack in two days' time. Then would begin the final drive. "I am fully convinced," concluded General

50. "Report of Ammunition expended in the different Batteries, the 11th & 12th Oct 1781," Henry Knox Papers (MHS), 7:107.

51. Arthur, *Sieges of Yorktown*, pp. 19, 20.

52. Quoted in Balch, *French in America*, 1:197; Whitridge, *Rochambeau*, p. 220, places this incident on October 13; The episode is detailed in Dumas, *Memoirs of His Own Time*, pp. 66-67n.

53. Quoted in Freeman, *George Washington*, 5:368.

Lincoln, "that the Siege will not last more than twelve days more and that Cornwallis & his troops must in that time be ours."⁵⁴

2. Routine Matters

The day passed with much activity. At noon Lincoln's Division took its turn in the new line, drums beating and colors flying in proclamation of this latest insult to British arms. Cornwallis's working guns sent out a short but noisy greeting without much impact.⁵⁵ Steuben's troops, relieved of trench assignment, renewed their labors behind the lines making palisades--items of vital utility for the redoubts of the second parallel--while more fatigue men worked until 5:00 P.M. fashioning still more fascines, gabions, and saucissons to be placed ready for use at the supply depot. The Virginia Militia joined the regular troops in improving the new fortifications.⁵⁶ Major General Marquis de St. Simon, with the Marquis de Custine, took over the French command, and labor in that sector was performed by two battalions each from the Regiments Bourbonnois and Soissonois supported by auxiliaries of the Gatenois and Agenois units.⁵⁷ "Never did greater harmony subsist between two Armies," wrote Brigadier General Hand, "than between the French and American. Their only contintion [*sic*] is who shall do most."⁵⁸

3. Erecting the Second Batteries

That night the Allies resumed the work on the new redoubts that had been disrupted by enemy musket fire during the day. Work also began on establishing the new batteries from which final reduction of Lord Cornwallis's

54. Lincoln to Mrs. Lincoln, October 12, 1781, Benjamin Lincoln Papers, Massachusetts Historical Society.

55. *Orderly Book of the Siege of Yorktown*, p. 34; Feltman, "Journal of Lieut. William Feltman," p. 319; Tilden, "Extracts from the Journal of Lieutenant John Bell Tilden," p. 62; Samuel Tallmadge, *Orderly Books of the Fourth New York Regiment, 1778-1780, The Second New York Regiment, 1780-1783, by Samuel Tallmadge and Others with Diaries of Samuel Tallmadge, 1780-1782 and John Barr, 1779-1782*, ed. Almon W. Lauber (Albany: University of the State of New York, 1932), p. 762; Wright, "Notes on the Siege of Yorktown," p. 245.

56. *Orderly Book of the Siege of Yorktown*, p. 37; "Orderly Book kept during the Siege of Yorktown," p. 93; Wild, "Journal of Ebenezer Wild," pp. 153-54; Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 4; Wright, "Notes on the Siege of Yorktown," p. 245.

57. De Verger Journal, in Rice and Brown, *American Campaigns*, p. 141; Deux-Ponts, *My Campaigns in America*, p. 142; Balch, *French in America*, 1:195.

58. Hand, "Edward Hand to Jasper Yeates on the Siege of Yorktown in 1781," p. 286. A slight variation of this quotation appears in Hand to Jasper Yeates, October 12, 1781, Edward Hand Papers, New York Public Library, p. 262:42.

garrison would hopefully be realized. The night passed with precarious uncertainty for the American laborers, for the British now directed their bombs and grenades with greater precision. Several Allied soldiers died as a result and many Frenchmen were wounded. But the task continued: in the darkness the soldiers finished the parallel and its three palisade redoubts, widened the zigzag approaches to allow for the movement forward of more supplies and troops, and started construction of five batteries, four in front of the French part and one before the shortened American sector.⁵⁹

Because of their exposed positions, the batteries had to be erected as quickly as possible and guns provided them to play immediately on the town. Most important to be established were the ricochet and mortar batteries, situated so that the besieged could be enfiladed with telling effect. "These batteries," wrote Tousard,

should be completed in twenty-four hours, as they have no embrasures and their tracing does not require the same precaution; wherefore, fourteen or sixteen pioneers are allotted to every twenty feet; the epaulement can be made with many fascines, and the trench enlarged as much as may be necessary, even sunk three or four feet: passages of communication are made round the rear, to prevent any embarrassment; and the powder magazine is constructed in the space between this communication and the battery.⁶⁰

The French batteries, as outlined, began at the far left where a mortar/howitzer emplacement (1B) was prepared. Next came the first French redoubt (2B) in the second parallel, followed by a six-gun cannon battery (3B). All of these units lay in the area west of Hampton Road and east of the York Creek ravine on which the parallel rested. Another French redoubt (4B) straddled Hampton Road, while a second cannon battery for six pieces (5B) was built a short distance east. Towards the terminus of the French sector, Rochambeau's soldiers plotted yet another battery (6B) to hold six cannon.⁶¹

59. Du Bourg, "Diary of a French Officer, 1781," p. 447; La Combe, "Journal of the Siege of York," p. 4; S. Doc. 322, p. 10; Clozen, *Revolutionary Journal*, p. 148; Engineers' Journal, p. 452; Rochambeau, *Relation*, p. 6; Duncan, "Diary of Captain James Duncan," p. 751; Trumbull, "Yorktown, Virginia," p. 336; Wright, "Notes on the Siege of Yorktown," pp. 234, 245.

60. *American Artillerist's Companion*, 1:77.

61. Menonville, "Journal of the Siege of York," p. 286; See also de Verger Journal, in Rice and Brown, *American Campaigns*, p. 59, which says that "a mortar battery containing 10 mortars and two 8-inch howitzers was placed in the center [of the French sector?] to deliver shells and bombs to all the enemy works"; and d'Ancteville mentioned that one of the redoubts (probably 2B) had been taken over as a battery emplacement, possibly for mortars.
(continued)

Adjoining this unit was an American redoubt (7B), which in turn adjoined the sole American battery (8B) constructed along the second parallel. The concentration of two batteries and one redoubt (6B, 7B, and 8B) in this area suggests that the Allies expected some offensive action by Cornwallis along this part of the line.

Once the second batteries were completed and equipped, the crucial period would be over and the greatest pressure would be exerted on the British. Wrote one officer with reference to Cornwallis's troops: "As soon as our Batteries on the Second Parallel are compleated [sic] I think they will begin to Squeak."⁶²

4. The Artillery Paves the Way

But Cornwallis, in fact, had himself long since begun "to squeak." The American and French artillery of the first parallel now played incessantly on the British earthworks ringing Yorktown. On the thirteenth more Allied fire was directed against Redoubts 9 and 10 and against the Fusiliers' Redoubt with hopes of burning the abatis surrounding these structures and damaging their palisades, fraises, and epaulements. Defections from the British ranks grow, with fourteen deserters entering the Allies' territory this day to report the confused state of affairs in Cornwallis's camp.⁶³ A Hessian soldier with Cornwallis described the effects of an exploding bomb that hurt four men, two of them mortally. The British light infantry, stationed in the hornwork, suffered an inordinate number of deaths and injuries.⁶⁴ From October 12 to 13 the Allied guns rained a hail of shot and shell upon the enemy. The contribution from each of the American artillery units of the first parallel is given below:

American Grand Battery (13A):	24 10-inch shells
	54 8-inch shells
	36 5-1/2-inch shells
	95 24-pounder rounds
	95 18-pounder rounds

61. (continued) "Journal of the Chesapeake Campaign," p. 20. This seems to have been but a temporary expedient to cover work on the other batteries. The mortars and howitzers were employed on a more sustained basis in Battery 1B.

62. Hand, "Edward Hand to Jasper Yeates on the Siege of Yorktown in 1781," p. 286.

63. Butler, "General Richard Butler's Journal," p. 109; Palmer, *Calendar of Virginia State Papers*, 2:548; Arthur, *Sieges of Yorktown*, p. 20.

64. Doehla, "Journal of Johann Conrad Doehla," p. 145.

Mortar Battery (by Redoubt 12A): 95 10-inch shells

Left Battery (10A): 160 18-pounder rounds⁶⁵

While these batteries and those of the French in the first parallel continued to rake the British lines, the Allies concentrated on advancing their ordnance closer and finishing Cornwallis's resistance. Most of the American guns, for the moment, would have to remain in the first line until the American sector of the second was prolonged and completed. All that depended on the speedy capture of the detached British works that blocked the way and thwarted progress. Time also posed a problem. Washington hoped to have Cornwallis securely in hand before Clinton arrived and also before Admiral de Grasse's time expired and he returned to the West Indies. With the redoubts lay the final key for concluding the siege and forcing a surrender. By October 13 all minds agreed that only direct assault against these redoubts would accomplish the desired objective.⁶⁶ Only by taking the enemy structures, concluded an officer, could American guns "level the way, cut off palisades, and beat down other obstructions."⁶⁷

5. Dealing with Infractions and Supply

Saturday passed routinely, with the French and American armies engaged in gathering component siege materials to complete the batteries and, at the appropriate time, extend the second parallel to York River. In the afternoon Colonel Stephen Moylan marched with his dragoons south on the Hampton Road,⁶⁸ probably to watch for British presence in the James and to spread the alarm should any trouble arise in Washington's rear. Behind the lines a general court again convened, found three men guilty of

65. Still on hand in Battery 13A on October 13 were 223 twenty-four-pounder cartridges, 1,012 eighteen-pounder cartridges, 467 10-inch mortar cartridges, 31 8-inch howitzer cartridges, 200 5-1/2-inch howitzer cartridges, 140 10-inch flannel cartridges, 89 5-1/2-inch shells, 59 8-inch shells, and 129 10-inch shells, plus auxiliary supplies of 54 portfires, 3 hanks of slow match, and 200 priming tubes. Battery 10A contained 240 unfired rounds for eighteen-pounders. "Report of ordnance stores Expended, and on hand at the Batteries . . . from the 12 to the 13 of Octr Inst.," Henry Knox Papers (MHS), 7:110.

66. Deux-Ponts, *My Campaigns in America*, p. 142; Robin, *New Travels through North America*, p. 60; Sullivan, "Documentary Study of British Redoubt No. 10," pp. 1, 7; Borresen stated that "the terrain between these two redoubts and the [second] American line did not adapt itself to the construction of batteries. Hence, the decision was made to attempt to capture both by assault." "Orientation Report," p. 40.

67. Account of Captain Stephen Olney, in Williams, *Biography of Revolutionary Heroes*, pp. 275-76.

68. Feltman, "Journal of Lieut. William Feltman," p. 320.

infractions of the war articles, and sentenced two of them to death. The third was "sentenced to receive 25 lashes on his naked Back four mornings successively, amounting in the whole to 100 lashing."⁶⁹

Such problems of discipline, however, were rare considering the size of the armies surrounding Yorktown. Those of supply were more severe, and unit quartermasters and commissaries strove endlessly to insure proper commodities for the troops. By early October several lots of stores were sorely needed, including shoes, clothing, ammunition for the militia, and flints for their weapons.⁷⁰ Even firewood became scarce and Washington was forced to issue orders restricting the soldiers' "pernicious practice" of burning fence rails stripped from the fields around Yorktown.⁷¹ A shortage of tents in some commands prompted the general to direct redistribution of the shelters so that "the troops sharing the same danger and fatigue, may enjoy equal benefit. . . ."⁷² And while liquor comprised part of the soldier's authorized ration, its distribution had to be carefully regulated in the camps around Yorktown. Colonel John Lamb of the Second Artillery Regiment remonstrated against unbridled profiteering from the article, which might jeopardize the performance of his troops:

The Commanding Officer is astonished, that altho' he has repeatedly Issued Orders, to prevent the Soldiers' Wives selling Rum, the practice is still continued.--He earnestly calls on each Officer, to exert himself, to prevent it in future; as it is not only injurious to the Service; but, disreputative to the Regiment.⁷³

More of a problem than the control of liquor sales was that of furnishing adequate clothing for the American troops, and especially for those of the militia. General Nelson constantly called upon the officials of Virginia to meet not only the needs of his State, but those of the Allied Army as a whole. Nelson even acted on requests from the French Army for

69. "Orderly Book kept during the Siege of Yorktown," pp. 101-2.

70. *Ibid.*, pp. 78-79; Captain John Pryor to Governor Nelson, October 1, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:514; Pryor to Colonel William Davies, October 6, 1781, in *ibid.*, p. 529.

71. "Orderly Book kept during the Siege of Yorktown," pp. 69-70; *New York Times*, October 23, 1881.

72. *Orderly Book of the Siege of Yorktown*, pp. 37-38; Washington, *Writings*, 23:217.

73. "Orderly Book, Regimental Orders [2nd Artillery], Aug. 4 to Oct. 13, 1781," Lamb Papers, New-York Historical Society.

forage for its horses,⁷⁴ although his prime commitment remained to his own command. From his headquarters in front of Yorktown, Governor Nelson addressed pleas to the Virginia delegates in Congress to provide clothing for his men: "The few Troops we have now in the Field are not fit to be seen."⁷⁵ Wrote another officer of the need for dress: "Pray let me hear when there is a probability of drawing clothing for the soldiers--they are very naked and are get'g sickly."⁷⁶

6. Problems with Sickness

Growing illness among the French and American armies was beginning to take its toll, with or without proper clothing, and medical stores were low. The clinging humidity of the peninsula combined with hot days and cold nights to produce a variety of illnesses ranging from the common cold to malarial fever. At one time as many as 400 French soldiers were carried sick on the rolls.⁷⁷ The Allies as yet managed to elude the dreaded smallpox. Cornwallis's troops still suffered from a variety of illnesses, including smallpox, which, added to the effects of the Allied artillery, further depleted the British ranks. And the soldiers of France and America encountered more and more corpses of Negroes mercilessly sent out of Yorktown to wander and die from disease or starvation. "Almost every Thicket affords you the Disagreeable prospects of a Wretched Negroes Carcase brought to the earth by disease & famine," wrote General Hand. "The Poor deluded Creatures were either so much afraid of the displeasure of their owner that they voluntarily starved to death or were by disease unable to seek sustenance."⁷⁸ Sickness and the lack of proper facilities and medical provisions to combat it continued to plague the Allies as well as the British throughout the siege.

74. M. de Tarle to Governor Nelson, October 2, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:517.

75. Nelson to the Delegates in Congress from Virginia, October 5, 1781, in *ibid.*, p. 527; See also Johnston, *Yorktown Campaign*, p. 140; In a note of October 14, 1781, General Washington asked Nelson for clothes for his dragoons, citing the authority of the regimental surgeon who "assures me one hundred of the Men are literally naked at this advanced season." *Writings*, 23:220-21.

76. Colonel Charles Dabney to Colonel William Davies, October 10, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:540.

77. Keim, *Rochambeau: A Commemoration*, p. 447; Stevens, "Allies at Yorktown, 1781," p. 22.

78. Hand to Jasper Yeates, October 12, 1781, in "Edward Hand to Jasper Yeates on the Siege of Yorktown in 1781," p. 286.

7. Plans to Extend the Line

At noon on the thirteenth, the Light Infantry Division of the Marquis de Lafayette came into the lines, relieving the troops of General Lincoln.⁷⁹ Count Viomenil took charge in the French sector, second parallel, with the Regiments Agenois and Saintonge assisted by the grenadiers of Soissonois and Royal Deux-ponts. After dark, work resumed building the new line; 300 French soldiers perfected the redoubts and trench while 300 others began work on the new batteries.⁸⁰ In the American sector Lafayette sent one regiment from the first parallel to relieve the guards at the right of the second. The British gunfire now became extremely heavy and injuries increased among the Allies. An American captain and a private were killed at the outset. Two more soldiers were wounded as they stopped to collect working tools.⁸¹ In the course of the night the French lost a half dozen men killed and more than twenty-five wounded.⁸² All of these losses took place on the line; surprisingly, no casualties occurred during the daring attempts by French grenadiers to set fire to the abatis and palisades bordering the British fortifications. Three efforts to accomplish that objective failed, but the grenadiers returned unscathed.⁸³

The French batteries progressed satisfactorily despite the human casualties incurred on the line. One of the units, probably Battery 3B, was built as a combination reverse and ricochet battery.⁸⁴ The Chevalier d'Anceville compared the role expected of the second parallel batteries to that of the first ones:

By these dispositions we . . . placed ourselves in position to bombard them [the British] by direct, reverse, and cross

79. *Orderly Book of the Siege of Yorktown*, p. 37.

80. Menonville, "Journal of the Siege of York," p. 286; Clousen, *Revolutionary Journal*, p. 148; De Verger Journal, in Rice and Brown, *American Campaigns*, p. 141; S. Doc. 322, p. 10; Washington, *Diaries*, 2:266; Du Bourg, "Diary of a French Officer, 1781," p. 195.

81. Wild, "Journal of Ebcnezer Wild," p. 154.

82. Barneville, "War Diary," p. 274; Menonville, "Journal of the Siege of York," p. 286; Washington noted in his diary that "the fire of the enemy this Night became brisk, both from their Cannon and Royals and more injurious to us than it had been; several men being killed and many wounded in the Trenches but the Works were not in the smallest degree retarded by it." *Diaries*, 2:266; A French officer wrote that "the enemy seemed to have been saving up their ammunition for the second parallel. It was of very small caliber and very effective, being fired at short range." Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, p. 59; See also Rochambeau, *Relation*, p. 6.

83. Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, p. 59.

84. Du Bourg, "Diary of a French Officer, 1781," p. 195.

fire. Up to this time we had only counter-batteries. One could not procure ricochets, except by prolongation, on a flattened front too close to obtain the desired effect. It was necessary to restrict ourselves to fire from above, to ruin the abatis and the fraises; to cut down the parapets with our guns and howitzers and mortars; to fill the enemy's works with shells and bombs, and to throw these into their camp, in order to occasion heavy losses; to instill terror by an unremitting fire. [Now it became our objective] to let daylight into their works and put ourselves in position to force them, if their resistance should become too stubborn.⁸⁵

Sometime between 9:00 and 10:00 P.M. American workers on the right of the line started building a battery (8B). The shells of the British, up to this time trained mainly on the French activity, vigorously attended the new endeavor.⁸⁶ Captain Duncan described his experience under this bombardment:

It happened to be our lot to lie in the trenches just in the rear of the battery exposed to all their fire; and now were I to recount all the narrow escapes I made that night it would almost be incredible. I cannot, however, but take notice of a remarkable and miraculous one indeed. About midnight the sentry called "A shell!" I jumped up immediately to watch the direction, but had no suspicion of its coming so near until it fell in the center of the trench, within less than two feet of me. I immediately flung myself on the banques among some arms, and although the explosion was very sudden and the trench as full of men as it could possibly contain, yet not a single man was killed and only two of my own company slightly wounded.⁸⁷

American casualties increased sharply, however, as the battery neared completion next day. Rather than withdraw as on previous days to avoid exposure to enemy artillery, the soldiers building Battery 8B pressed on. At dawn the British greeted them with a barrage of grapeshot and shell. Ten men of one Continental regiment were either killed or wounded in a matter of minutes while present in the second parallel.⁸⁸ But even these losses were minimal and far below expectations. Casualty figures for the Allies would rise sharply in the course of the new day.

85. "Journal of the Chesapeake Campaign," p. 19.

86. Wild, "Journal of Ebenezer Wild," p. 154; Duncan, "Diary of Captain James Duncan," p. 751.

87. Duncan, "Diary of Captain James Duncan," p. 751.

88. *Ibid.*, p. 752; St. George Tucker, "Journal kept by Col. St. George Tucker," p. 16; Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 4.

CHAPTER XIII: NIGHT OF HEROES

A. The Allies Prepare to Assault

Early on the Sunday morning of October 14 a red-coated deserter entered the American lines. By what he reported, it appeared Cornwallis had suffered a crisis in command that threatened to compound his troubles. The British infantrymen, said the turncoat, utterly refused to work any longer. Cornwallis had spoken optimistically of the arrival of relief from New York and, as an inducement to get his men back to work, had promised a cask of wine to each regiment.¹ News of these conditions in the enemy's camp gave the Allies even more hope that the end of the siege would soon be in sight. A feeling of anticipation filled the air. Washington's top command made private plans and in the Allied camps rumor circulated freely. "This evening it is reported there is something grand to be done by our Infantry," hinted a junior officer.² Despite the secrecy, most of the men were by now aware that any imminent action would most certainly involve the detached British redoubts that blocked progress on the second parallel and whose capture practically guaranteed an American victory.

1. Casualties to October 14

Thus anticipating notable activity, the Allies anxiously pushed ahead, erecting batteries and improving their fortifications, dangerously exposing themselves to exploding British shells and a hail of deadly shot. Injuries and deaths increased along the lines. Since arriving before Yorktown, the Americans had lost 15 killed and 29 wounded, while French casualties through the afternoon of October 14 numbered 52 killed and 134 wounded.³ In the morning the American fatigue party drew fire from several Hessian sharpshooters posted in their front, but American riflemen soon silenced the enemy musketry.⁴ At twelve o'clock Steuben's Division replaced Lafayette's in the trenches.⁵ The French line was commanded by Major General Viomenil

1. Davis, "Yorktown Campaign," p. 304; "Itinerary of the Pennsylvania Line," p. 285.

2. Feltman, "Journal of Lieut. William Feltman," p. 320.

3. Washington, *Diaries*, 2:266-67.

4. St. George Tucker, "Journal kept by Col. St. George Tucker," p. 16.

5. *Orderly Book of the Siege of Yorktown*, p. 37; Duncan, "Diary of Captain James Duncan," p. 752; Butler, "General Richard Butler's Journal," p. 109.

and Count de Custine; the Regiments Gatenois and Royal Deux-ponts relieved the sector, later supplemented by four companies of Bourbonnois.⁶

2. Pounding 9 and 10

Desirous of weakening the defenses around Redoubts 9 and 10 before the assault, Washington directed more artillery fire from the first parallel batteries to pound and burn the abatis, palisades, and salient angles of those structures. On the left, St. Simon opened a swift cannonade against the Fusiliers' Redoubt, the purpose being to create uncertainty in Cornwallis's mind as to the direction from which the next Allied maneuvers might originate. The British response remained passive.⁷ Through more than half the day French and American ordnance kept up a steady bombardment. The American batteries from October 13 to 14 expended the following ammunition:

American Grand Battery (13A):	53 10-inch shells
	100 8-inch shells
	50 5-inch shells
	96 24-pounder rounds
	96 18-pounder rounds

Mortar Battery (by Redoubt 12A):	69 10-inch shells
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Left Battery (10A):	200 18-pounder rounds ⁸
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By 2:00 P.M., Sunday, Washington's engineers could inform the commander that his guns had had the desired effect and that an assault on Redoubts 9 and 10 was entirely practicable.⁹

3. The Targets

Furthest from the Allies and situated on the cliff above York River, Redoubt 10, the so-called "Rock Redoubt," was square shaped and smaller than its neighboring structure. Inside the fortification were sixty members of the British Seventy-first Foot, commanded by Major Campbell. Southwest of the Rock Redoubt stood the larger earthwork, Redoubt 9, pentagonal in shape and occupied by 120 British and Hessian soldiers under Lieutenant

6. "Diary of French naval operations in America," p. 196; Clozen, *Revolutionary Journal*, p. 148; Other French auxiliary forces came from the Saintonge, Agenois, and Soissonois units. Balch, *French in America*, 1:197.

7. Washington, *Diaries*, 2:266; Cobb, "Before York Town, Virginia," p. 68; S. Doc. 273; Freeman, *George Washington*, 5:368.

8. "Retn of stores expended at the different Batteries, on the 13th & 14th Instant," Henry Knox Papers (MHS), 7:111.

9. Freeman, *George Washington*, 5:368.

Colonel Duncan McPherson. Both structures were surrounded by ditches, abatis, palisades, and fraises. The interiors of each were partitioned by stacked rows of casks filled with dirt and sand. Additionally, sandbags lined the tops of the parapets.¹⁰ In spite of the Allies' day-long fusillade against their defenses, Redoubts 9 and 10 stood relatively secure before the attack on them the night of October 14.

B. The Attacks on Redoubts 9 and 10

1. Disposition of Force

In the afternoon, Washington's officers assembled to plan the assault. The meeting seems to have occasioned considerable dissension, principally among the French who alone wanted to manage the strikes on both redoubts. This idea went nowhere and the discussion seems to have degenerated into an argument between Lafayette, for the Americans, and Baron Viomenil, for the French, regarding whose troops were better.¹¹ Finally a decision was reached. Viomenil would lead 400 grenadiers and chasseurs of Regiments Gatenois and Deux-ponts in taking Redoubt 9. Count Guillaume de Deux-Ponts, of the latter unit, would be second in command to Viomenil in the undertaking.¹² Lafayette's light infantry would lead the assault against Redoubt 10. To head the strike force, the marquis appointed his distinguished countryman Lieutenant Colonel Gimat. The designation of Gimat offended Lieutenant Colonel Alexander Hamilton, who believed that he, as Officer of the Day, deserved the honor of leading the assault. Hamilton appealed directly to Washington, who countermanded Lafayette's selection. Consequently, Hamilton replaced Gimat as commander of the American party. As consolation the French officer received charge of the attacking battalion, followed by Hamilton's own battalion and a unit commanded by Lieutenant Colonel John Laurens. But Hamilton retained overall command of the party and to him would go any glory deriving from a successful assault.¹³

10. Denny, *Military Journal*, p. 42; Arthur, *End of a Revolution*, p. 136.

11. Gaston Marie Léonard Maussion de la Bastie to unknown recipient, November 4, 1781, in Princess Radziwill, trans., *They Knew the Washingtons: Letters from a French Soldier with Lafayette and from His Family in Virginia* (Indianapolis: Bobbs-Merrill Company, 1926), p. 103; Bonsal, *Cause of Liberty*, p. 154.

12. Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, p. 60.

13. That Washington so readily acquiesced in the demands of the young officer is evidence of the commander's magnanimity. Hamilton had recently been extremely critical of his chief and Washington had good reason to refuse him his wish. The entire episode is detailed in Miller, *Alexander Hamilton and the Growth of the New Nation*, pp. 77-78.

2. Decoy at Gloucester

Towards dusk the French and American batteries slowed their fire. Over at Gloucester, General Choisy, who had been ordered to make a feint against Tarleton and Simcoe at the appropriate moment to distract Cornwallis, readied his men for an all-out attack on the British. Choisy distributed axes among the American militiamen to use in cutting through the enemy palisades around the Gloucester works. On the charge, however, the soldiers encountered a barrage of British fire that sent them stumbling and running for cover. In the resulting *melée* Choisy fell back to the position of the Duke de Lauzun, having lost twelve men in the fruitless assault.¹⁴ Almost simultaneous with the Gloucester action, the French soldiers of the Regiment Touraine forged ahead in a feint against the Star Redoubt guarding Cornwallis's right flank at Yorktown. The ruse diverted British attention from the Allies' real target, the twin redoubts guarding the left of Cornwallis's perimeter. The French and American guns suddenly fell silent in the growing darkness and all was quiet. A dense fog settled on the country. Half an hour passed. On the right of the American sector Hamilton's troops paraded. General Washington addressed them briefly in tones of encouragement, inciting them to bravery. "I thought then that his Excellency's knees rather shook," remembered a Rhode Island officer, "but I have since doubted whether it was not mine."¹⁵

3. The Americans Move Out

At seven o'clock a lone shot flared forth from one of the French redoubts, the signal to start the attack.¹⁶ The American assault force,

14. Lauzun, "Narrative of the Duke de Lauzun," p. 53; Wright, "Notes on the Siege of Yorktown," p. 246.

15. Account of Captain Stephen Olney, in Williams, *Biography of Revolutionary Heroes*, p. 276.

16. Mention of the diversionary attacks appears in Trumbull, "Yorktown, Virginia," pp. 336-37; "Wertgetreue Abschrift eines Tagebuchs eines markgräflichen Soldaten"; Du Bourg, "Diary of a French Officer, 1781," p. 447; Freeman, *George Washington*, 5:370; Tilghman, *Memoir of Lieut. Col. Tench Tilghman*, p. 106; and St. George Tucker, "Journal kept by Col. St. George Tucker," p. 17; All did not proceed as planned. The Marquis de Custine failed to open a feint on the left of the French sector as he had been ordered to. The feint was to prolong the British interest in that quarter while the Allies got their assault underway against Redoubts 9 and 10. Menonville, "Journal of the Siege of York," p. 287. Custine failed to even begin the feint until after the redoubts had been carried. Baron Clozen sharply criticized Custine: "Instead of carrying it out at 7:30, he did so at 8:30, when all was quiet. Why? No one knows. A friend of mine from the Soissonnais regiment assured me that M. de Custine had drunk too much, and as I myself had sometimes seen him in that condition, I had no trouble in believing it. He got off with 24 hours' arrest and many jests (continued)

composed of the battalions under Gimat and Hamilton, and part of Laurens's, moved forward in two columns quickly and quietly from a position at or near the American Grand Battery (13A) of the first parallel.¹⁷ Captain Stephen Olney of Rhode Island took advantage of the moment, as he later recalled:

I had a chance to whisper to several of my men (whom I doubted,) and told them that I had full confidence that they would act the part of brave soldiers, let what would come; and if their guns should be shot away, not to retreat, but take the first man's gun that might be killed.¹⁸

Hamilton led the party, Major Nicholas Fish commanding his (Hamilton's) battalion behind Gimat's, which occupied the traditional post of honor. The latter unit had guarded Wayne's right at the Green Spring engagement in July and was recognized as the oldest of the three organizations. Major John Palsgrave Wyllys was second in command to Gimat, and the battalion consisted of five Connecticut companies, two Massachusetts, and one Rhode Island. Major Fish commanded two New York and two Connecticut companies, while Lieutenant Colonel Laurens led part of Scammell's old corps--one company from Connecticut and one from Massachusetts. A party of Sappers and Miners accompanied the command to remove abatis and palisade obstacles from its path. These were commanded by Captains James Gilliland and David Kirkpatrick. In reserve, Lafayette placed the rest of his troops under Brigadier Generals Peter Muhlenberg and Moses Hazen. Two battalions under General Wayne stood ready to support either the attack of the Americans or that of the French. And Knox sent forward four three-pounders under Captain William Stevens to aid in the onslaught if needed.

4. Hamilton's Success

In the assault, Laurens's eighty soldiers on the left separated from the others with directions to take Redoubt 10 from the rear in order to prevent a retreat towards Yorktown by its occupants. The rest advanced in the murky darkness, muskets empty but with bayonets firmly in place. Their movements were exact and perfectly executed, but British gunners soon caught

16. (continued) But this bad joke cost 9 men from the Soissonnais company of chasseurs and provoked once more a discharge of musketry from the cordon of the [British] fort. . . ." *Revolutionary Journal*, pp. 149-50; Deux-Ponts stated that the signal consisted of six consecutive shells, not one, fired from a battery. *My Campaigns in America*, p. 144.

17. Ebenezer Wild wrote that "we advanced from the battery on our right (in one column) to the redoubt on the enemys left. . . ." "Journal of Ebenezer Wild," p. 154.

18. Account of Captain Stephen Olney, in Williams, *Biography of Revolutionary Heroes*, p. 276.

the maneuvers and assailed Hamilton's troops with a thunderous discharge of grapeshot, shells, and cannonballs, all with no effect. Approaching the redoubt from the southeast, Hamilton's enthusiastic soldiers charged even before the Sappers and Miners could clear a path for them. Over the tangled abatis they plunged, tearing weakly-planted palisades from the earth. Somehow they managed the ditch and its obstructions, got through the fraises, and mounted the parapet--all with such suddenness that the British and German soldiers inside found themselves abruptly overwhelmed.

Lieutenant John Mansfield of the Fourth Connecticut led the forlorn hope, a column of twenty soldiers charged with the initial assault; within ten minutes Redoubt 10 was securely in the hands of the Americans. One of the first to enter the structure, Mansfield suffered a bayonet wound from a British defender. Hamilton later urged a commendation for the young officer. Captain Stephen Olney headed the assault of Gimat's Battalion and was cut severely by enemy bayonets. Olney described his participation:

When we came near the front of the abatis, the enemy fired a full body of musketry. At this, our men broke silence and huzzaed; and as the order for silence seemed broken by every one, I huzzaed with all my power, saying, see how frightened they are, they fire right into the air. The pioneers began to cut off the abatis, which were the trunks of trees with the trunk part fixed in the ground, the limbs made sharp, and pointed towards us. This seemed tedious work, in the dark, within three rods of the enemy; and I ran to the right to look [for] a place to crawl through, but returned in a hurry, without success, fearing the men would get through first; as it happened, I made out to get through about the first, and entered the ditch; and when I found my men to the number of ten or twelve had arrived, I stepped through between two palisades [fraises?] (one having been shot off to make room,) on to the parapet, and called out in a tone as if there was no danger, Captain Olney's company, form here! On this I had not less than six or eight bayonets pushed at me; I parried as well as I could with my espartoon, but they broke off the blade part, and their bayonets slid along the handle of my espartoon and scaled my fingers; one bayonet pierced my thigh, another stabbed me in the abdomen just above the hip-bone. One fellow fired at me, and I thought the ball took effect in my arm; by the light of his gun I made a thrust with the remains of my espartoon, in order to injure the sight of his eyes; but as it happened, I only made a hard stroke to his forehead. At this instant two of my men, John Strange and Benjamin Bennett, who had loaded their guns while they were in the ditch, came up and fired upon the enemy, who part

ran away and some surrendered; so that we entered the redoubt without further opposition.¹⁹

Other casualties included Captain Thomas Hunt of Massachusetts, also of Gimat's Battalion, and Gimat himself, wounded in the foot by a musket ball before he could get past the abatis. Captain Kirkpatrick of the Sappers and Miners was likewise felled by the British as he tried to negotiate the ditch. And Sergeant William Brown of the Fifth Connecticut sustained a wound in his hand as a member of Hamilton's forlorn hope. For his gallantry Brown was later awarded a special "Honorary Badge of Military Merit," which in later years became known as the Purple Heart--the first American military award given for valor regardless of rank.²⁰

Captain Hamilton himself exhibited conspicuous courage during the attack, as did Colonel Tuffin Charles Armand and other volunteer officers of the legion, setting a perfect example of coolness and discipline that the command could proudly emulate. Meantime, Laurens had promptly blocked the escape of the British at the rear of Redoubt 10 and had succeeded in capturing the senior officer, Major Campbell of the Seventy-first Foot, and nineteen of his command, the rest escaping.²¹ Captain Stephen Betts of

19. *Ibid.*, pp. 276-78. The espartoon Olney carried was a device similar to a half pike and about three feet long with a pointed blade. Espartoons were carried in action by colonels of the various corps, and company captains always used them. Thomas Wilhelm, *A Military Dictionary and Gazetteer* (Philadelphia: L. R. Hamersly and Company, 1881), p. 151.

20. Brown did not receive the *first* such award, however; that went to Sergeant Elijah Churchill, Second Regiment, Light Dragoons, who won the badge for meritorious service against Fort St. George and Fort Stongo on Long Island. See Theophilus F. Rodenbough, ed., *Uncle Sam's Medal of Honor, 1861-1886* (New York: G. P. Putnam's Sons, 1886), p. 405.

21. There was much discussion among the ranks of the Americans that the British prisoners had fallen to their knees in a cowardly fashion and begged Hamilton's troops not to kill them. Much was made of the kind treatment accorded the British prisoners compared to the wanton slaughter of American ones September 6, 1781, at Fort Griswold (Groton), Connecticut, an event still fresh in the minds of the troops at Yorktown. In that affair a lieutenant colonel of Connecticut militia surrendered his sword, only to have it run through him by enemy soldiers under General Arnold. "This Conduct [of the British prisoners at Yorktown] contrasted with English humanity displayed at Groton," penned one critic, "must stamp their Character . . . with a still deeper dye." Elias Boudinot to Lewis Pintard, October 21, 1781, Boudinot Papers, Historical Society of Pennsylvania; See also Marshall, *Life of George Washington*, 4:543n; Wrote an observer of the attack on Redoubt 10: "One circumstance merits remark, that the British officers to a man threw themselves on their knees to beg for mercy, and it was generously granted them, tho' our Troops had before the attack Orders not to spare a man of them." Aedamus Burke to Arthur Middleton, October 16, 1781, in "Correspondence of Arthur Middleton," *South Carolina Historical* (continued)

the Third Connecticut, with Laurens in the flanking movement, received a wound during that maneuver. The timing of the entire proceeding had been near perfect; Major Fish advanced slightly left of Gimat and took part in the storming. Guarding against the unexpected, Lafayette directed yet another battalion, under Lieutenant Colonel Francis Barber and consisting of New Hampshire and New Jersey troops, forward to support Hamilton, to help consolidate the gain, and to repel any counterattack by Cornwallis.

Hamilton was jubilant at his victory of such small cost. Only nine Americans were killed and twenty-five wounded in the attack on Redoubt 10. The enemy lost eight soldiers killed in the fray. Three pieces of small-caliber cannon were also taken in the redoubt. "There was not an officer nor soldier," reported Hamilton of his command, "whose behavior, if it could be particularized, would not have a claim to the warmest approbation." "The enemy are entitled to the acknowledgment of an honorable defence," he said.²²

21. (continued) *and Genealogical Magazine* 26 (October, 1925): 186; Too, the recent and seemingly treacherous death of Colonel Scammell figured in the sense of outrage felt by some of the Americans faced with their first enemy prisoners taken in combat. According to one account, a New Hampshire captain tried to kill the British Major Campbell in retaliation but was personally restrained by Hamilton from completing the deed. Thacher, *Military Journal*, pp. 275-76; Irving, *Life of George Washington*, 4:376; The inimitable Parson M. L. Weems described the taking of the redoubt with his peculiar flourish and customary unreliability: "The British called for quarters: A voice was heard, 'Remember poor Scammell [sic]!' -- 'Remember, gentlemen, you are Americans!' was rejoined by the commander: and instantly the points of the American bayonets were thrown up towards heaven!" *The Life of George Washington* (Philadelphia: M. Carey and Son, 1818), p. 115; If the British did indeed plead for their lives as several witnesses asserted, perhaps liquor accounted for their actions, as Captain Olney thought: "I believe they were all half drunk; in this condition, the British soldiers generally fight. We had not been in the redoubt more than five minutes, when Charles M'Afferty, an Irishman, and pretended Freemason, got out a bottle of wine, and invited me to drink. Who but an Irish or Englishman would have thought of such a thing?" Account of Captain Stephen Olney, in Williams, *Biography of Revolutionary Heroes*, p. 279.

22. Hamilton's report of October 15, 1781, in Alexander Hamilton, *The Works of Alexander Hamilton*, ed. John C. Hamilton, 7 vols. (New York: Charles S. Francis and Company, 1851), pp. 270-73 (includes Hamilton's return for killed and wounded in the attack on Redoubt 10); Besides the sources cited above, this account of the American drive is prepared from data contained in Washington, *Diaries*, 2:266-67; Henry Knox Papers (HKS), 7:112; St. George Tucker, "Journal kept by Col. St. George Tucker," pp. 17-18; Tilghman, *Memoirs of Lieut. Col. Tench Tilghman*, pp. 105-6; Pickering and Upham, *Life of Timothy Pickering*, 1:307; Shute, "With General Benjamin (continued)

In the years that followed the attack on Redoubt 10 the event generated much patriotic fervor and considerable renown, to say nothing of controversy, for its participants. Hamilton covered himself with glory by leading the assault, a fact that created jealousy among certain of his associates in the endeavor. Chief among these was Brigadier General Peter Muhlenberg who led the First Brigade of Lafayette's Division in a support capacity during the attack. In his hasty report Hamilton committed the unpardonable sin of omitting reference to Muhlenberg's role in the action, an error for which Muhlenberg in later years manifested much displeasure. The general's supporters cited his being wounded at the head of the storming party as the principal reason Hamilton's report went uncontested. They failed, however, to destroy Hamilton's credibility, for it was he, and not Muhlenberg, who commanded the whole body of men responsible for taking Redoubt 10; efforts to discredit the young New Yorker lacked any substance whatsoever.²³

5. Deux-Ponts Advances

As soon as Hamilton had secured the earthwork and stationed his reserve troops, Lafayette hurried forward. He dispatched a message to Baron Viomenil of the French attacking force: "I am in my redoubt. Where are you?" Viomenil's troops were pinned down by enemy musket fire a short distance

22. (continued) Lincoln," p. 5; Feltman, "Journal of Lieut. William Feltman," p. 320; Wild, "Journal of Ebenezer Wild," p. 154; Duncan, "Diary of Captain James Duncan," p. 752; Martin, *Private Yankee Doodle*, p. 234; Cloven, *Revolutionary Journal*, p. 149; Doehla, "Journal of Johann Conrad Doehla," p. 145; Moore, *Life and Services of Gen. Anthony Wayne*, p. 150; Davis, *Campaign that Won America*, p. 229; Freeman, *George Washington*, 5:371; Arthur, *Sieges of Yorktown*, pp. 21-22; S. Doc. 273, pp. 197, 199; Sullivan, "Documentary Study of British Redoubt No. 10," pp. 3-4, 5; and Johnston, *Yorktown Campaign*, pp. 143-47; Not all of the Americans were deserving of Hamilton's praise. Private Asa Redington recounted the following example:

A Sergeant in our company, a fine, big, strapping man, who rather boasted of his physical powers, dropped down at the first fire, singing out 'Oh, God, I am a dead man!' Our men charged right over him, and after the works were taken, details were sent back to pick up the dead and wounded, but this Sergeant could not be found. At sunrise next morning he joined the company, safe and sound. This kind of dodging duty was too much for our Captain Chase to stand, so he disarmed the Sergeant, tied onto him a wooden sword, and had him paraded up and down the American lines as a skulker. It was so humiliating to the Sergeant that he was taken sick, and in a week was dead.

"Narrative of Asa Redington," pp. 13-14.

23. The principal criticism came from Muhlenberg's biographer and son, Henry A. Muhlenberg, in *The Life of Major-General Peter Muhlenberg of the Revolutionary Army* (Philadelphia: Carey and Hart, 1849), p. 273. See also Broadus Mitchell, *Alexander Hamilton: Youth to Maturity, 1755-1788* (New York: The Macmillan Company, 1957), p. 258.

beyond Redoubt 9, waiting while French Pioneers cut through the abatis barricade surrounding it. "Tell the Marquis I am not in mind," replied the baron, "but will be in five minutes."²⁴

The 400 chasseurs and grenadiers of Regiments Gatenois and Deux-ponts had departed the trenches, apparently somewhere to the right of Battery 10A in the American sector of the first parallel, at precisely the same time Hamilton's party left to begin its assault.²⁵ Led by the able Count Deux-Ponts, in whom Viomenil expressed unbridled confidence, and his subordinate, Lieutenant Colonel Baron de L'Estrade, the French command received well-wishes from the troops remaining behind, a gesture that touched Deux-Ponts deeply. "That moment seemed to me very sweet," he wrote, "and was very elevating to the soul and animating to the courage."²⁶

24. Thacher, *Military Journal*, p. 276n; Van Cortlandt, "Autobiography," p. 294; Davis, *Campaign that Won America*, p. 229; During Lafayette's visit to the United States in 1824 the citizens of Yorktown erected on the site of Redoubt 10 a triumphal arch in commemoration of the deed performed there forty-three years before. Under the arch the marquis delivered a stirring address in recognition of the patriotism displayed by the troops under his command. Johnston, *Yorktown Campaign*, p. 145.

25. The exact spot where the French command departed the trenches has been a matter of dispute. Most secondary renditions (e.g., Johnston, *Yorktown Campaign*; Davis, *Campaign that Won America*) have avoided the question altogether except perhaps for the inclusion of maps barely suggestive of the departure of Deux-Ponts's command from a location along the first parallel. Closen seemed to suggest, confusingly, that the French assault party could have departed either from somewhere on the first parallel or at the end of the completed part of the second. In any event, he was not clear on the topic, stating that the French "debouched in absolute silence through the communications trench almost opposite the first of the advanced redoubts." *Revolutionary Journal*, p. 148. Thor Borresen accepted the view that Deux-Ponts left the second parallel in the area of Redoubt 7B, ("Orientation Report," p. 37), a view that is entirely plausible. Deux-Ponts himself failed to clarify the matter, reporting only that Viomenil "ordered me at once to form my battalion, and to lead it to that part of the trenches nearest to which we ought to come out." *My Campaigns in America*, p. 143. Somewhat more certain is the journal of Gaspard de Gallatin, published in S. Doc. 322, which states on p. 11 that the French troops "issued by the right flank of the American battery of five cannon. . . ." Inasmuch as Battery 8B had not yet been completed and had yet to receive its ordnance complement, Gallatin could only have been referring to Battery 10A in the first parallel. It thus seems most likely that Deux-Ponts's soldiers left on their project from that point rather than from the second parallel.

26. *My Campaigns in America*, p. 143.

The soldiers moved forward in column by platoons over ground personally reconnoitered that afternoon by Deux-Ponts. Two sergeants, eight carpenters, and fifty chasseurs of Gatenois led the way, most of the latter armed with fascines to aid in crossing the ditch. Eight more chasseurs carried ladders for scaling the parapet. Following the Gatenois chasseurs came the grenadiers of that regiment, then the column of grenadiers and chasseurs of Bourbonnois and Agenois, and the second battalion of Gatenois commanded by Marquis de Rostaing, all in reserve. In addition, two four-pounders manned by the French were posted in the area between Redoubts 9 and 10 to reinforce the grenadiers and chasseurs if needed. Baron Viomenil remained with the support troops where he might better oversee developments.

Up ahead, Deux-Ponts approached the target in the darkness and startled its occupants. "Wer da?" called out a German sentinel--"Who goes there?" There was no answer. The French forged ahead, under strict orders not to fire their weapons before gaining the top of the parapet, nor to enter the structure except on explicit directions to do so. A volley of musketry issued from the British redoubt as Deux-Ponts's troops halted before the sturdy abatis protecting the earthwork. All the Allied artillery of the previous days had not weakened the wooden barrier and the vanguard of the French assault force wielded axes desperately to clear the way. The enemy continued shooting through the darkness at the stymied soldiers and French casualties grew alarmingly.

After several awkward, anxious minutes the carpenters pulled the abatis and palisades away. Deux-Ponts and his men surged forward, used the ladders to surmount the ditch and fraises, and topped the rampart. Deux-Ponts gave the order to fire. The Chevalier de Lameth, first to reach the crest, met a burst of Hessian gunfire that wounded him in both knees. He fell back into the ditch. Baron L'Estrade also rolled into the ditch when a soldier lost his foothold and fell backwards on him. About two hundred rushing French soldiers trampled over L'Estrade, a veteran of numerous sieges in Europe, but he emerged from the fray unscathed except for bruises. Straining to reach the epaulement, Count Deux-Ponts grasped the extended arm of one of his young lieutenants already on top. The count reached the crest in time to see his helper, Lieutenant de Sillegue, buckle and fall, mortally injured. But the French drove on. They met a bayonet charge by the Hessians that they stopped with musket volley, leaped into the redoubt, and shortly the job was done. The German soldiers, many of whom had taken refuge behind barreled partitions in the fort, surrendered meekly; Deux-Ponts's men gave forth a cheer, "*Vive le roi!*," which was immediately taken up by the troops far back in the trenches.

Because of the delay in penetrating the abatis, French casualties were much higher than those of the Americans at Redoubt 10. Fifteen were killed and seventy-seven wounded in the enterprise. The casualties included Lieutenant de Sillegue and Captain de Barthelot of the Gatenois regiment, killed, and Captain de Sireuil of the same unit, injured with a broken leg. Chevalier de Lameth suffered wounds to his kneecap and thigh. Those men seriously wounded were treated on the spot, some being conveyed by ambulance wagon to the field hospital and some on to the hospital at Williamsburg. Deux-Ponts's troops carried Redoubt 9 in under half an hour--a longer time

than that consumed during Hamilton's assault primarily because the French target was larger, its defenses were stronger, and it contained twice as many defenders as Redoubt 10. The British lost eighteen soldiers killed and fifty captured in the encounter. Most of them, with their commander, Lieutenant Colonel McPherson, eluded the French and escaped. Also captured by the French were two small howitzers and some hand grenades.

Once the structure was secure, Baron Viomenil rushed forward to insure its defense against an expected British effort to retake it. Already Cornwallis's artillery was beginning a tremendous fire in retaliation for the loss of these key positions. A counterattack seemed assuredly imminent. Looking over the parapet, Count Deux-Ponts was nearly struck by a ricocheting cannonball that hurled sand and gravel into his eyes and caused him to remove himself to the rear, ending his participation in what he later termed "the happiest day of my life."²⁷

C. The Line Completed

1. Washington's Satisfaction

General Washington, with Knox and Lincoln and their aides, monitored the progress of the Allies' attacks from an exposed position in the Grand French Battery. Fearing for the safety of his chief on the dangerously open ground, Colonel David Cobb urged Washington to step back. "Colonel Cobb," answered Washington as he calmly scanned the foggy darkness, "if

27. This account of the French assault has been synthesized from data appearing in *ibid.*, pp. 142-49, 157-61 (which contains Viomenil's report to Rochambeau, October 14-15, 1781); Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, p. 60; Rochambeau, *Relation*, pp. 6-7; S. Doc. 322, pp. 11-13; Closen, *Revolutionary Journal*, pp. 148-49; Du Bourg, "Diary of a French Officer, 1781," p. 447; Blanchard, *Journal*, pp. 149-50; Menonville, "Journal of the Siege of York," pp. 286-87; Dumas, *Memoirs of His Own Time*, pp. 67-68n; Aedamus Burke to Arthur Middleton, October 16, 1781, in "Correspondence of Arthur Middleton," p. 186; Balch, *French in America*, 1:197-200; Mitchell, *Alexander Hamilton*, p. 259; S. Doc. 273, pp. 198, 199; Arthur, *Sieges of Yorktown*, p. 23; Arthur, *End of a Revolution*, p. 138; and Freeman, *George Washington*, 5:371; Washington said that two royals (mortars) were found "in these two redoubts." *Writings*, 23:250; Deux-Ponts won promotion and the title of Chevalier in the Military Order of St. Louis for his performance at Redoubt 9, while the grenadiers of Gatenois were honored by King Louis XVI, who restored the old and hallowed designation "Auvergne sans tache" to the unit in recognition of its distinction at Yorktown the night of October 14. Deux-Ponts, *My Campaigns in America*, pp. 156, 161-62; Johnston, *Yorktown Campaign*, p. 143; Rochambeau allowed the chasseurs and grenadiers of the Gatenois and Deux-ponts regiments two days additional pay for their valor in the attack. And the carpenters who opened the path through the abatis got two louis d'ors each as reward for their efforts. Closen, *Revolutionary Journal*, p. 150.

you are afraid, you have liberty to step back."²⁸ A short time later a musket ball struck a cannon and rolled down it to fall at Washington's feet, eliciting more concern for the commander's safety. Knox grasped his leader's arm, exclaiming, "My dear General, we can't spare you yet!," whereupon Washington responded, "It is a spent ball, and no harm is done."²⁹ When the assaults were over Washington evinced pure delight. "The work is done, and *well* done," he told Knox. Then he turned to his servant. "William," he said, "hand me my horse."³⁰ Later he would note in his diary his great joy at the Allies' victory over the redoubts: "The bravery exhibited by the attacking Troops was emulous and praise worthy. Few cases have exhibited stronger proofs of Intripidity [*sic*], coolness and firmness than were shown upon this occasion."³¹

2. British Expectations

Behind the Yorktown defenses Cornwallis's troops mobilized to beat back a general offensive. The sheer suddenness of the Allied attacks left them bewildered and apprehensive. As a German soldier explained,

There must have been 3,000 men, French and Americans, . . . who undertook this assault. At this occurrence the alarm was sounded through our entire camp; all the troops were ordered out onto the ramparts. The whole left wing gave out some musketry fire. We expected that they would close in on our left wing in order to storm our entire line.³²

British artillery poured forth a mighty response, and the Allies lost many men this night to shot and bombs directed against the captured redoubts. Together with the continuous heavy musket noise the guns created an infernal racket. "Such firing never was heard in America," said a witness. "You would have thought Heaven and Earth were coming together."³³

28. Thacher, *Military Journal*, p. 276; Stone, *Our French Allies*, p. 438; Arthur, *Sieges of Yorktown*, p. 24.

29. Stone, *Our French Allies*, p. 439.

30. *Ibid.*

31. Washington, *Diaries*, 2:266.

32. Doehla, "Journal of Johann Conrad Doehla," pp. 145-46. See also Popp, *Popp's Journal*, pp. 19-20.

33. Smith, "Diary of Jacob Smith," p. 263; Colonel Butler stated that the Allies, following the capture of the two redoubts, purposefully spread an alarm "around the British line in order to ascertain what weight of fire they could produce. . . ." Contrary to other reports, Butler said the British guns "proved very faint" in their response. "General Richard Butler's Journal," p. 109.

Some of Cornwallis's troops fleeing the captured redoubts were cut down in the hail of shot from their own Yorktown works. One German soldier was found in three pieces. The enemy fire effectually delayed and impeded the Allies' plan to complete their second parallel.³⁴ Through the night more soldiers defected from the British ranks.³⁵ Cornwallis's ammunition grew low. His defenses were becoming alarmingly weak under the Allies' incessant cannonade. They were, reported a British naval lieutenant, "scarcely tenable."³⁶

3. Work in the Night

The capture of Redoubts 9 and 10 gave the Allies significant advantages in terms of closing their distance from the enemy and of gaining a solid position on terrain the same level as that Cornwallis occupied in Yorktown.³⁷ The latter advantage would be of profound benefit once guns were established on the conquered ground. As soon as the redoubts were deemed secure and it was determined that the anticipated counterattack by the British had not materialized, the Allies quickly set to work to consolidate their gains.

Almost immediately fatigue groups set forth to complete the second parallel in the dark night of October 14-15. Five hundred of Rochambeau's Frenchmen followed a flying sap dug along the ground 350 yards between the epaulement to the east of American Battery 8B and the structure just taken by Count Deux-Ponts and their countrymen. American troops of Lafayette's Division joined those of Steuben's (Wayne's Brigade) under Colonel Walter Stewart in excavating a trench linking Redoubts 9B and 10B together, while troops in the American sector of the first parallel began digging an extensive 760-yard communications trench towards Redoubt 10B near the river. This trench branched forward from the first line near the American supply depot just west of Redoubt 12A.³⁸ "Each man of the fatigue party carried a fascine,

34. Davis, *Campaign that Won America*, p. 233; Barneville, "War Diary," p. 275.

35. Doehla, "Journal of Johann Conrad Doehla," p. 146.

36. James, *Journal of Rear-Admiral Bartholomew James*, p. 125.

37. Robert Andrews to John Page, October 15, 1781, in "Letters and other Papers, 1735-1829," *Virginia Magazine of History and Biography* 23 (April, 1915): 182.

38. D'Ancteville, "Journal of the Chesapeake Campaign," p. 20; S. Doc. 322, pp. 12-13; De Verger Journal, in Rice and Brown, *American Campaigns*, p. 142; Menonville, "Journal of the Siege of York," p. 287; Swartwout, "Journal of Barnardus Swartwout," p. 36; Wayne Journal, p. 81; Arthur, *Sieges of Yorktown*, p. 24; Sullivan, "Documentary Study of British Redoubt No. 10," p. 4; British Redoubts 9 and 10 subsequently became Structures 9B and 10B in the Second Allied Siege Line, hence their designations as such.

a shovel or a spade," wrote Lieutenant Feltman, "and the remainder of our Division went as a Covering party to our troops who stormed the works."³⁹ Another man present remembered that "every officer [?!] and soldier took his shovel and spade and after placing a tier of gabions, went to digging to fill them up as fast as possible."⁴⁰ Within forty-five minutes the troops were under cover. "Easy digging; light sandy ground," recorded an officer.

At 10:00 P.M. the Regiment Bourbonnois entered the line as a guard unit to ward off British sorties. Elsewhere on the parallel 200 more French laborers worked to ready the batteries and to perfect the communications to the rear previously established. By dawn, the second parallel with its concomitant network of communication lines was completed east to York River. All during its construction the British guns blazed away. Most of the shot and shells flew over the heads of the Americans, but the French workers, further west along the new parallel, sustained exceptionally heavy losses.⁴¹ Completion of the second parallel the night of October 14-15 marked a waning in importance of the first line. The batteries of the first parallel had admirably fulfilled the mission for which they had been established, namely, to cripple the enemy guns to an extent permitting the creation of a second closer and more dangerous approach. Henceforth, the first parallel would assume a supportive function. October 14 was its final day of decisive service.⁴²

4. Evaluating the Deed

The Allies shared ardent hopes on Monday, October 15. With the capture of the enemy redoubts the week started optimistically; the French and American soldiers watched diligently for growing signs of Lord Cornwallis's trauma, anticipating what could only be his inevitable capitulation. Early Monday morning Washington issued a formal congratulatory message to his men:

The Commander in Chief congratulates the Allied Army on the Success of the Enterprize last evening against the two important works on the left of the enemys line: He requests the Baron Viomenil who commanded the French Grenadiers and Chasseurs and the Marquis de la Fayette who commanded the

39. "Journal of Lieut. William Feltman," p. 320.

40. John Burnham, "Recollections of the Revolution," *Magazine of History*, extra no. 54, pt. 2 (1917): 124.

41. Denny, *Military Journal*, p. 43; S. Doc. 322, p. 13; De Verger Journal, in Rice and Brown, *American Campaigns*, p. 143; Menonville, "Journal of the Siege of York," p. 287; Freeman, *George Washington*, 5:371-72.

42. Hatch, "Siege of Yorktown Opens," p. 29.

American Light Infantry to accept his warmest acknowledgements for the excellency of their dispositions and for their own Gallant Conduct upon the occasion and he begs them to present his thanks to every individual officer and to the Men of their respective Commands for the Spirit and Rapidity with which they advanced to the Attacks and for the admirable Firmness with which they supported themselves under the fire of the Enemy without returning a shot.⁴³

And well might Washington be elated in the victory of his troops. Not only did the taking of Redoubts 9 and 10 close off Cornwallis's left flank to the river and permit extension of the second Allied parallel, but it gave Washington an excellent position from which his guns might command British communication lines across the stream to Gloucester. Moreover, strategically placed cannon and mortars might now bombard the waterfront of Yorktown and, indeed, permit the enfilading of the whole enemy position.⁴⁴ Once the new batteries were completed and ready for use, ricochet firing would become the order of the day. "It is the surest way to keep the besieged from having any cover and to disconcert their batteries," noted a French officer.⁴⁵

5. Arming the Captured Works

In the morning Colonel Philip Van Cortlandt of Lincoln's Division advanced his New Yorkers to occupy the redoubt captured by the French. His troops moved forward with drums rolling and banners flying, an affront that brought forth a deadly volley from Cornwallis's gunners. The hail flew past Van Cortlandt's soldiers, doing them no harm, though it killed two bystanders, one French and one American. Baron Steuben put a stop to the display just as Van Cortlandt entered the redoubt. The British ceased their cannonade.⁴⁶

One of the first things the Allies did after taking Redoubts 9 and 10 was to arm them so that they might direct a distracting fire against the British while the second parallel was being readied to receive its artillery. Two eight-inch howitzers were placed in Redoubt 10B by the cliff overlooking York River. Two more howitzers went into Redoubt 9B, along with a mortar. The placement of the ordnance required that new entrances be cut in the walls of the fortifications facing away from the British. At the same

43. *Writings*, 23:223.

44. *Ibid.*, p. 228; St. George Tucker, "Journal kept by Col. St. George Tucker," p. 18; Hatch, *York Under the Hill*, p. 63.

45. Closen, *Revolutionary Journal*, p. 150.

46. Van Cortlandt, "Autobiography," pp. 294-95.

time the British gorges on the sides facing Yorktown had to be closed.⁴⁷ The work on either side of the structures proved exceptionally dangerous in the daylight and one of the fatigue party undertaking the task on Redoubt 9B was killed almost instantly when an enemy nine-pounder ball tore his leg off at the thigh. Another soldier, peering down the embankment of the structure, was ordered down. "As he slid down," recollected Van Cortlandt,

the ball that was intended to kill him, and which would have passed through his body if he had remained, passed over his head; and either the wind or the sand, as it passed without breaking his skull or skin, produced his death in an instant, as he fell dead in the trench--no mark but blood-shot head and face.⁴⁸

Besides the howitzers, Battery 10B also received two eighteen-pounders the following day, while Redoubt 9B was subsequently fitted with two ten-inch mortars and two royals.⁴⁹ The two howitzers placed in each structure during the day did not fire until five o'clock that afternoon.⁵⁰

6. Converting the Structures

Meantime, as work went ahead to convert the redoubts for use by the Allies, Washington proceeded to strengthen his new position by erecting yet another powerful artillery battery with which to pummel Cornwallis's position. About 9:00 A.M. the day after the successful assault, members of the Pennsylvania line began building a large battery (11B) adjacent on the northeast to Redoubt 9B and nearly directly opposite a British gun

47. Washington, *Diaries*, 2:267; Van Cortlandt, "Autobiography," p. 295; Wright states that the howitzers were placed in the structures almost immediately following their capture. "Notes on the Siege of Yorktown," p. 246; Borresen reported that the conversion of the redoubts was accomplished thusly: "The earth left in the ditch and used as an approach by the British was now excavated and used to fill in the former gorge. A new entrance was cut through on the opposite side, with a ramp going down to the bottom of the ditch, which . . . connected with the second parallel." "Final Report on Redoubt No. 9," p. 78.

48. Van Cortlandt, "Autobiography," p. 295.

49. Map 7A; Borresen, "Completion Report on American Battery No. 2," pp. 7-8; Borresen, "Orientation Report," p. 41; The French Engineers' Journal, however, states that on October 15 Redoubt 10B "was occupied by a battery of guns and mortars." (p. 4); See also La Combe, "Journal of the Siege of York," p. 4.

50. Washington, *Diaries*, 2:267.

unit now precariously guarding Cornwallis's left flank around Yorktown.⁵¹ The existence of a large natural depression in the terrain between the two captured redoubts precluded the erection of the battery on that ground and compelled instead the selection of the site adjoining Redoubt 9B. The addition of a strong complement of ordnance to Redoubt 10B would thus help compensate for the apparent weakness in that part of the line.⁵² Because of the depression, the parallel between the redoubts was not straight but curved to a left oblique around the edge of the hollow. The ditch at the rear (former front) of Redoubt 9B was incorporated by the Allies as part of the second parallel and was continued into what became Battery 11B to the right of the structure. The line connecting Redoubt 9B with Redoubt 10B apparently converged with the communications trench from the first parallel at the same southernmost corner of the latter earthwork.⁵³ As laid out the morning of October 15, Battery 11B would mount twenty-two guns, although the structure was never filled to capacity before Cornwallis's capitulation.⁵⁴

7. The Guns Come Forward

Most of the day was spent thusly in preparing new works and perfecting others to receive their designated armaments. The French worked swiftly and in the course of the day removed all their artillery platforms from the first parallel for transport to the second.⁵⁵ Dismantling of the American Grand Battery (13A) and the American gun unit (10A) at the left of the sector also began October 15.⁵⁶ Four guns, probably from the former battery, were moved forward that night into the still unfinished Battery 11B, while evidently two more howitzers were put in Redoubt 9B, perhaps

51. Tilden, "Extracts from the Journal of Lieutenant John Bell Tilden," p. 62.

52. Sullivan, "Documentary Study of British Redoubt No. 10," p. 9; Borresen, "Completion Report on American Battery No. 2," p. 6.

53. Sullivan, "Documentary Study of British Redoubt No. 10," p. 14; Borresen wrote that that part of the new parallel immediately to the right (east) of Redoubt 9B was incorporated in Battery 11B when that unit was constructed October 15. That development necessitated the excavation of a new section of parallel directly behind Battery 11B. "Completion Report on American Battery No. 2," p. 11.

54. Borresen, "Completion Report on American Battery No. 2," p. 7; Engineers' Journal, p. 452.

55. St. George Tucker, "Journal kept by Col. St. George Tucker," p. 18; Barneville, "War Diary," p. 275.

56. Henry Knox Papers (MIS), 7:113; Swartwout, "Journal of Barnardus Swartwout," p. 37; Cobb, "Before York Town, Virginia," p. 69.

temporarily.⁵⁷ That the Allies considered arming the section of the parallel that harbored their recent gains appears obvious. Redoubts 9B and 10B became the focal points of Allied construction on the line; consequently they likewise represented special targets for Cornwallis's artillerists. The Allies therefore labored furiously to complete this section and to arm it adequately enough to withstand the British cannonade.⁵⁸

8. A Strange Flag

The passage of a flag from Lord Cornwallis early on the morning of the fifteenth evoked certain excitement among the Allies. But whatever its significance might have been, any word from the British commander either of the state of his garrison or of his plans, if any, to submit to the Allies at this time, was seemingly lost to protocol. Cornwallis's gunners continued to send forth their missiles even as the redcoated bearer hurried across the short distance between the armies, an indignity the Allies would not, or could not, tolerate. Lafayette hurried a note back across the plain, citing the impropriety of His Lordship's action and eliciting a quick apology. Thereafter the dialogue lagged and whatever substance the exchange might have elicited was gone.⁵⁹

9. At the New Line

At noon General Lincoln's Division, with drums beating and banners waving, relieved Lafayette's weary soldiers.⁶⁰ Two battalions each of the Regiments Bourbonnois and Soissonois took over in the French sector, although towards evening soldiers of the Agenois unit replaced those of the Bourbonnois because of their all-night vigil following the assault on the redoubts. The Chevalier de Chastellux took command of the French troops in the trenches.⁶¹ Lively rounds of musketry and grapeshot met the relieving soldiers, a greeting Washington himself experienced when he inspected the

57. See "Abstract of Operations."

58. Borresen, "Completion Report on American Battery No. 2," pp. 67-68; Butler, "General Richard Butler's Journal," p. 109; Deux-Ponts, *My Campaigns in America*, p. 149; Trumbull, "Yorktown, Virginia," p. 337.

59. This cryptic exchange is mentioned in Butler, "General Richard Butler's Journal," pp. 109-10, and is alluded to in Feltman, "Journal of Lieut. William Feltman," p. 321.

60. Feltman, "Journal of Lieut. William Feltman," p. 321; Wayne, *Journal*, p. 81; *Orderly Book of the Siege of Yorktown*, p. 41.

61. Closen, *Revolutionary Journal*, p. 150; Menonville, "Journal of the Siege of York," p. 287.

newly-won redoubts during the day.⁶² Behind the lines the Allies attended routine matters. The late Scammell's effects were auctioned off as up ahead men prepared the new batteries that would help avenge his loss.⁶³ "Our works which are now creating within two hundred yards of theirs will probably be opened this Evening," Colonel Tucker wrote his wife. "And then my Lord beware of your Head,"⁶⁴

D. Cornwallis Prepares for the Worst

1. Allied Bomb Batteries Open

Late in the afternoon the Allies started their cannonade from the second parallel, even though the batteries lacked final perfection and all the ordnance had not yet been moved ahead from the first line. Indeed, it appears that throughout the day, even while the second batteries were readying, those of the first kept up a menacing fire to protect the workers in the new line. Captain Stevens, commanding Battery 13A, reported expending 130 twenty-four-pounder shot, 91 eighteen-pounder shot, 50 8-inch shells, 19 5-1/2-inch shells, and 31 10-inch shells, all on the fifteenth. Captain Gercom, in charge of the two mortars in Redoubt 12A, reported 25 10-inch shells expended, and Captain Thompson, commanding Battery 10A, first parallel, utilized 150 eighteen-pounder shot on this day.⁶⁵

Just what second parallel units, other than the howitzers mounted in the captured redoubts, opened the evening of the fifteenth is uncertain. Several accounts state that the batteries were as yet not ready to open, while others appear nebulous as to whether they mean new batteries as distinct from the captured redoubts mounting armaments. Lieutenant Swartwout, for example, stated that "some of our Bomb Batteries being in compleat order, a fierce Bombarding is commenced from them in our works."⁶⁶ Lieutenant Tilden, on the other hand, referred to "our second line having no batteries erected on it as yet, tho' a number will be in two days time."⁶⁷ Daniel Shute reported simply, "Batteries in . . . [second parallel] opened," while General Wayne noted more specifically that "two small batteries were opened

62. Freeman, *George Washington*, 5:372.

63. "Orderly Book kept during the Siege of Yorktown," p. 105; *Orderly Book of the Siege of Yorktown*, p. 41.

64. Tucker to Frances Tucker, October 15, 1781, in "Letters to and from St. George Tucker," pp. 19-20.

65. Henry Knox Papers (MHS), 7:112; For mention of the first batteries' firing this day, see Denny, *Military Journal*, p. 43; Wild, "Journal of Ebenezer Wild," p. 154.

66. "Journal of Barnardus Swartwout," p. 37.

67. "Extracts from the Journal of Lieutenant John Bell Tilden," p. 62.

this evening."⁶⁸ Probably the redoubt howitzer units were considered batteries by some and not by others. With such variance of definition, the statement of Lafayette's aide that "by tomorrow we expect to open some batteries within two hundred yards of his Lordship" is correct.⁶⁹ The redoubt units were evidently seen as holding devices until the more substantial line batteries could be finished.

2. Impact on Yorktown

Damage inflicted on Cornwallis's position by the Allies' artillery this day, while not as extensive as preceding ones, was nevertheless ample. A French mortar shell made another British frigate burn and finally explode with a shock that "made the earth shake."⁷⁰ Another bomb fell on a regimental bake oven and wounded some German soldiers tending it.⁷¹ The British gunners answered with a brisk fire of royal mortars and small-calibered cannon that dealt scant harm to the Allies.⁷² The sky filled with crisscrossing shot and shell. Asa Redington saw ten missiles in the air at once. "Some of our big bombs," he observed, "exploded in the British works and sent some of their pieces back into our works."⁷³ That night the Allies slackened their fire, though the enemy did not reciprocate.⁷⁴ "Throughout the night we were amused by cannon fire," said Baron Cloisen of the French Army, "and especially by endless royal bombs." One of Cloisen's workers near Redoubt 2B, second parallel, was struck by a shell that "took off the thick skin from the heel of his foot, just as if it had been cut off with a razor."⁷⁵

3. A Desperate Message to Clinton

The steady discharge of his light guns and mortars was all Cornwallis had left to offer the Allies. With the capture of Redoubts 9 and 10 his

68. Shute, "With General Benjamin Lincoln," p. 6; Moore, *Life and Services of Gen. Anthony Wayne*, p. 150.

69. McHenry, *Letters of James McHenry*, p. 71.

70. Denny, *Military Journal*, p. 43.

71. "Wertgetreue Abschrift eines Tagebuchs eines markgräflischen Soldaten."

72. *Ibid.*; Wild, "Journal of Ebenezer Wild," p. 154; McHenry, *Letters of James McHenry*, pp. 71-72; Dearborn, *Revolutionary War Journals*, p. 220.

73. "Narrative of Asa Redington," p. 14.

74. Doehla, "Journal of Johann Conrad Doehla," p. 146.

75. *Revolutionary Journal*, p. 151.

situation became ever more precarious. Sometime on October 15 he resignedly dispatched a message to General Clinton warning him of his dilemma:

Last Evening the Enemy carried my two advanced Redoubts on the left by Storm, and during the Night have included them in their Second Parallel, which they are at present busy in perfecting. My Situation now becomes very critical. We dare not show a Gun to their old Batteries, and I expect their new ones will be open to-Morrow Morning. Experience has shewn that our fresh earthen Works do not resist their powerful Artillery, so that we shall soon be exposed to an Assault in ruined Works, in a bad Position and with weakened Numbers.

Then Cornwallis painfully announced that he was beyond help: "The Safety of the Place is therefore so precarious that I cannot recommend that the Fleet and Army should run great Risque, in endeavoring to save us."⁷⁶ With that statement Cornwallis practically admitted the inevitability of capitulation. Only by an act of sheer desperation, and one aided by good fortune at that, might his army yet escape abject surrender.

76. Cornwallis to Clinton, October 15, 1781, in Chadwick, *Graves Papers*, p. 140.

CHAPTER XIV: HOPES BRIGHT AND DIM

A. The British Sortie

At about 4:00 A.M. on Tuesday, Cornwallis's guns fell silent. Approximately 350 redcoated soldiers filed across the plain in front of the British works at Yorktown. They moved stealthily in the growing twilight of dawn so as not to draw the attention of the Allied troops guarding the second parallel. The party was composed of a detachment of the Royal Foot Guards plus the Eightieth Company of Grenadiers under Lieutenant Colonel Lake and a light infantry unit headed by Major Thomas Armstrong. Lieutenant Colonel Robert Abercrombie was charged with the project and directed its overall movements. The sortie was intended to cripple the uncompleted French and American batteries (6B and 8B) set squarely opposite the left center of Cornwallis's line--batteries whose fire threatened to breach the British works preparatory to a general storm of them by the Allies.¹ The effort was in response to news that French naval reinforcements had been sighted in Chesapeake Bay, and it signaled a new echelon of desperation for Lord Cornwallis. The sortie was in vain and represented no more than a nod to tradition.²

1. Properly defined, a sortie, or sally, "is when a body of troops go privately out of a besieged town, fall suddenly upon the besiegers, and destroy part of their works, nail their cannon, and do every other damage they can." Smith, *Universal Military Dictionary*, p. 234. Vauban distinguished between "sorties in force," which occurred during daylight, and "weak sorties," which took place at night and consequently required less men. *Manual of Siegecraft and Fortification*, p. 53. The purpose of the sortie was usually to "spike" the enemy's cannon in the battery, a process accomplished by driving a rod or nail of the proper diameter into the vent, or touchhole, of the piece, rendering it useless. A special spike of soft iron with a split tip was sometimes driven into the vent until the tip struck the bore and spread in cotter-pin-fashion. Sometimes the rammer was driven down the bore to bend, and thus lock, the pin in the vent. Usually the head of the pin was knocked off so that the nail could not be extracted and the gun put back into commission. Other methods of rendering a piece useless included ramming tiny pebbles into the vent, forcing a ball of slightly larger caliber into the bore, and, as was done at Yorktown, using the points of bayonets to stop up the vent. Le Blond, *Treatise of Artillery*, pp. 31-32; Peterson, *Round Shot and Rammers*, p. 68.

2. Graham, *Memoir of General Graham*, p. 61; Cornwallis to Clinton, October 20, 1781, in *Rivington's Gazette*, November 24, 1781, reproduced in Moore, *Diary of the American Revolution*, pp. 513-14; "Wertgetreue Abschrift eines Tagebuchs eines markgräflichen Soldaten"; Arthur, *Sieges of Yorktown*, p. 25; Wright, "Notes on the Siege of Yorktown," p. 248; Arthur, *End of a* (continued)

The British approached the new parallel and entered it without resistance between the target batteries at the juncture of the French and American sectors. One column turned right and passed through an unobstructed communications trench to suddenly break in upon unfinished Battery 6B, guarded by a captain and fifty soldiers of the Regiment Agenois, most of whom were fast asleep in adjacent Redoubt 7B. Pretending to be an American relief unit, the British forged suddenly over the parapet and began stabbing the sleeping Frenchmen with their bayonets. Shocked by the surprise, many of the Agenois men fled, and the redecoated soldiers hurriedly drove the points of their weapons into the vent holes of four unmounted sixteen-pounder cannon and snapped them off.

Meanwhile the other British column moved to the left and encountered Captain Joseph Savage's battery (8B) occupied by 100 men belonging to the Second New York, the First Continental Artillery, and Lieutenant Colonel Dabney's Virginia Militia unit. There occurred a dialogue:

"What troops?" queried a British officer.

"French!" came the yell.

"Push on, boys, and skin the bastards!"

And the British charged forward, scattering the Americans and spiking three eighteen-pounders with their bayonets. The commotion drew the attention of Viscount de Noailles, who was behind the batteries with the trench guard of Soissonois. De Noailles immediately comprehended what was happening and led a charge of shouting Frenchmen into the fray to rout the British and send them scurrying back toward their own works. De Noailles's soldiers succeeded in bayoneting eight of the assailants and capturing six others. But the British had inflicted severe casualties on the French, who were caught off guard by the sally; five officers and a dozen soldiers had been either killed or wounded, and the captain had been made prisoner. The Americans lost one man prisoner, two killed, and three wounded (one mortally) in the attack. Following the return of the British assault force to their own lines, Cornwallis's artillery let go a simultaneous roar all along his fortifications.³

2. (continued) *Revolution*, p. 142; Bonsal, *Cause of Liberty*, p. 157; Cornwallis later drew much criticism for having failed to launch similar sorties long before this in order to retard the Allies' progress on their parallels as much as possible. However, no less a critic than Sir Henry Clinton agreed that such a course by Cornwallis would have been futile. "His Lordship was right," Clinton contended. "The others have blamed him. I think it would have been imprudent to have made Sorties upon the Enemy advancing with so much Caution." Clinton's marginal notes in Stedman, *History . . . of the American War*, 2:410.

3. This account of the sortie is synthesized from material appearing in Cloen, *Revolutionary Journal*, p. 151; Barneville, "War Diary," p. 275; Denny, *Military Journal*, p. 43; "Siege of York and Gloucester, Virginia," p. 477; Fersen, "Journal of Operations," p. 440; La Combe, "Journal of the (continued)

The entire episode seems to have been mismanaged on both sides. Apparently General Chastellux had previously been informed by a deserter that the sortie was going to occur, the soldier even designating the point on the line where the assault might be expected.⁴ The British found the French battery deserted because its gunners had gone to retrieve two cannon that had overturned in the trench enroute from the first parallel. And the Agenoix soldiers, left to guard Redoubt 7B, had been permitted to sleep. "The negligence of the Agenoix regiment was the sole reason for the surprise of the redoubt and of the adjoining [French] battery," said Baron Cloisen.⁵ But Abercrombie's men were also at fault for having launched the sortie precipitously and without careful planning; the reason the British had spiked the Allies' guns with their bayonet points was because they had taken along wheel nails, which were too large for the cannon vents, instead of the correct steel spikes made expressly for the purpose.⁶ Indeed, the British left the decided impression among some of the French that "they were nearly all drunk," and for that reason they failed in their attempt. The French admitted they were notably unprepared for the assault, despite the obvious caution that should have been exercised. As one officer put it, "We must confess that we hardly dreamed of being attacked that night."⁷

3. (continued) "Siege of York," p. 5; Washington, *Diaries*, 2:267-68; Washington, *Writings*, 23:228-29; Arthur, *Sieges of Yorktown*, p. 26; Freeman, *George Washington*, 5:373-74; and Davis, *Campaign that Won America*, pp. 234-35; The identities of the units of the men occupying Battery 8B during the sortie, as well as the casualties sustained by each unit, are contained in "Return of Stores expended on the 15th & 16 Octr by Lt. Col. Stevens," Henry Knox Papers (MHS), 7:113; See also Swartwout, "Journal of Barnardus Swartwout," p. 37, for mention of the Second New York's presence in Battery 8B; Cornwallis inflated the casualty toll for the French when he reported the killing and wounding of about 100 of them. Cornwallis to Clinton, October 20, 1781, in *Rivington's Gazette*, November 24, 1781, reproduced in Moore, *Diary of the American Revolution*, p. 514.

4. De Verger Journal, in Rice and Brown, *American Campaigns*, p. 143.

5. *Revolutionary Journal*, p. 152; Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, p. 60.

6. Ewald, "Diary of the American War," pp. 898-99.

7. Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, p. 60; Du Bourg, "Diary of a French Officer, 1781," pp. 447-48, stated that an officer named de Persignan (Pusignan?) commanded Redoubt 7B and was wounded and taken prisoner by the British. Balch, *French in America*, 1:204, said that the commanding officer who was captured was Captain de Beurguissont of Agenoix. See also Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, p. 60; The five wounded French officers were: Captain Jean Baptiste de Marin (Soissonois), First Lieutenant de Barges (Bourbonnois), Lieutenant Marc Joseph de Colanby Houdetot (Agenoix; bayonet wound in thigh), (continued)

Any advantage Cornwallis gained in the sally proved illusory. The strong counterattack by the French destroyed the British drive and sent it back to Yorktown with losses. And the guns the enemy spiked with bayonets were quite easily restored to working order. Almost immediately after the British soldiers reached their lines the three American eighteen-pounders delivered a furious outburst.⁸ "Within an hour," reported a German officer, "They battered our works so badly in the flank and rear that all our batteries were silenced within a few hours."⁹ It took the French a longer time to extricate the bayonet points and finish mounting their cannon, but by 9:00 A.M. all was ready and the French guns opened a ricochet fire along Cornwallis's front line.¹⁰ The British artillery did not respond. The whole episode of the sortie constituted a wasteful exercise and accomplished nothing other than to make the Allies acutely aware of the British desperation. Cornwallis summed up the enterprise thusly:

This action, though extremely honorable to the officers and soldiers who executed it, proved of little public advantage, for the cannon having been spiked in a hurry, were soon rendered fit for service again, and before dark the whole parallel and batteries appeared to be nearly complete.¹¹

B. The Second Parallel

1. Improvements

The construction of the second parallel batteries was a hazardous occupation; from all indications it proceeded hurriedly at Yorktown so that the considerable detail of construction evinced by units of the first line was lacking in the second. Cannon were brought forward even while the batteries were being erected and some were mounted and opened rapidly, even before adequate space to contain them had been prepared. Consequently, the pieces of the second batteries were often crowded; theoretical consideration succumbed to practicality on the new line. The proximity to the enemy

7. (continued) Second Lieutenant Josselin de Laumont de Castille (Agenois; two bayonet wounds in the chest), and Lieutenant de Pusignan (Persignan?; Artillery). *Ibid.*; Balch, *French in America*, 1:204; Heitman, *Historical Register*, pp. 657, 661.

8. Wayne Journal, p. 81; McHenry, *Letters of James McHenry*, p. 72; H. L. Landers maintained that Battery 8B did not open until the next day, October 17, a view unsupported by the evidence cited here. S. Doc. 273, p. 201.

9. Ewald, "Diary of the American War," p. 900.

10. La Combe, "Journal of the Siege of York," p. 5; Clermont-Crevecoeur Journal, in Rice and Brown, *American Campaigns*, pp. 60-61; S. Doc. 322, p. 14.

11. Cornwallis to Clinton, October 20, 1781, in *Rivington's Gazette*, November 24, 1781, reproduced in Moore, *Diary of the American Revolution*, p. 514.

artillery, enabling greater accuracy on their part, proved an overriding deterrent to the incorporation of detail normally built into earlier earth-works.¹²

From all accounts, the second parallel was not completely finished before Cornwallis decided to capitulate; some batteries and parts of others had opened on October 16 and 17, but some units were never finished as planned. As it neared its final form on the sixteenth, the second Allied parallel before Yorktown measured approximately 1,250 yards east to west. Two lengthy trenches communicated with the first parallel and the rear. The one on the west was French and comprised two ditches meeting midway between the parallels to form a ninety-degree angle. The other, joining the easternmost points of the American sectors of the two lines, ran about 830 yards and partially bordered York River. At the junction of the French and American sectors was the zigzag trench that ran a short distance back toward the first line to open into a broad ravine that afforded cover and permitted the movement of men and supplies from the rear. This trench was dug by the American troops the night of October 11.¹³ Recent archeological examination of this zigzag shows that it covered 400 feet of ground and that it joined the main trench near the southeastern side of Redoubt 7B. The ditch measured about 10 feet in width and its overall excavated length was 660 feet.¹⁴

At least one historical map also shows the spot where the American excavation ended because of the presence of the two British-held detached redoubts. This spot appears as a slight southern extension in the main trench, and is situated across a ravine and between Battery 8B and Redoubt 9B.¹⁵ The completion of the second parallel upon the capture of Redoubts 9 and 10 permitted the Allies to concentrate on the construction of their

12. Borresen, "Completion Report on American Battery No. 2," p. 61; There is the possibility that after the sortie of the morning of the sixteenth, the Allies, fearing a recurrence of such attacks, added palisades to the ditches surrounding their second batteries. In his "Journal of the Chesapeake Campaign," p. 21, the Chevalier d'Anceville stated that from the sixteenth to the seventeenth, Redoubts 9B and 10B were perfected to guard against "nocturnal incursions." Likewise, he continued, "the ditches of the batteries were palisaded for the same reason." In light of the British sortie, the addition of such obstacles as palisades to the completing batteries of the second parallel seems a dangerous, though completely logical, precautionary move by the Allies.

13. Maps 1F, 16F, 34F. Map 15F indicates the zigzag as being French made. Map 45F states that this point marked the "opening of the second parallel which the French also drove to the left, and the Americans the right."

14. Southside Historical Sites Foundation, "Plan of Archaeological Excavations, Mid-Second Siege Line, Yorktown, Virginia. Preliminary Drawing" (Williamsburg, 1974).

15. Map 34F.

new batteries and the perfection of their redoubts. By October 16 six batteries for heavy siege pieces were either built or underway along the line. In addition, three redoubts stood at fairly equal intervals within the left, or French, sector. Redoubts 9B and 10B, taken from the British in the assault the night of October 14, were being converted into small batteries with siege ordnance that could effectively harass Cornwallis's left flank.

2. Earthworks of the New Line

a) Structure 1B

At the extreme western end of the second parallel stood Battery 1B, a large mortar/howitzer unit that faced the British hornwork. Erected on October 14, the earthwork was designed to hold at least ten, and possibly twelve, mortars and two howitzers.¹⁶ How many pieces actually opened from Battery 1B is unknown; however, an American soldier claimed that the structure contained eight thirteen-inch mortars, two royals, and one eight-inch howitzer, all made of bronze.¹⁷ The work possessed a magazine in the area between the armament and the main line according to at least one map.¹⁸ Perhaps powder barrels lay scattered behind the battery in the trench, especially while the work was being erected. Battery 1B was commanded by two French officers. The left was under Chanteclair, the same man who had commanded the mortar battery (4A) in the first parallel. Captain Nicolas Barthelemy took charge of the right, having commanded the mortars and howitzer of Battery 8A in the earlier line.¹⁹

b) Structure 2B

Close by the easternmost side of Battery 1B stood a redoubt (2B), one of the first fortifications established along the second parallel. Most of the maps showing any sort of detail indicate that Redoubt 2B was triangular with its apex facing the British line.²⁰ Actual dimensions of the structure

16. Maps 1F, 7A, 15F, 16F, 17F, 19F, 28A, 34F, and 62F indicate ten mortars. Maps 2F, 24F, 29B, 48F, and 49F indicate twelve mortars. Maps 24F and 49F report five twelve-inch and seven eight-inch mortars in this battery, while American map 7A states that the unit was "designed for" ten thirteen-inch mortars. Most maps agree that two eight-inch howitzers were present in the work.

17. Feltman, "Journal of Lieut. William Feltman," p. 321.

18. Map 34F.

19. *Ibid.*

20. Maps 2F, 11F, 17F, 33F, 34F, 49F.

are unknown, but map representations suggest that the unit was considerably smaller than Redoubt 4B on the same line. Redoubt 2B was palisaded in its frontal ditch.²¹

c) Structures 3B and 4B

A short distance to the right of Redoubt 2B the French constructed a cannon battery (3B) containing six bronze twenty-four pounders, all of which began playing against the British on October 16.²² This unit, commanded by an officer named Josterand, helped seal off Hampton Road and, from contemporary map descriptions, stood in front of the parallel that circled around in the rear. Directly blocking the way out of Yorktown, however, was another French redoubt (4B), much larger than Redoubt 2B but likewise guarded by a stout line of palisades placed in its ditch. From its depiction on contemporary maps, Redoubt 4B represented in shape a triangular structure with a drastically truncated apex--a trapezoidal, misshapen-square kind of arrangement. Its gorge lay along its southern side and provided access into the main parallel.²³ Redoubts 2B and 4B served as guard posts to protect the batteries of the line against enemy incursions.²⁴

d) Structure 5B

Battery 5B stood a short distance to the right of Redoubt 4B and was the first Allied structure situated east of Hampton Road on the second parallel. All of the historical maps agree that this unit harbored six cannon.²⁵ Four of these appear to have been twenty-four-pounders; the others were sixteen-pounders.²⁶ Lieutenant William Felton reported that Battery 5B contained four eighteen-pounders (he meant sixteen-pounders) and

21. Maps 35F, 37F; Borresen, "Orientation Report," p. 35.

22. Borresen, "Orientation Report," p. 35; Maps 1F, 2F, 16F, 17F, 19F, 24F, 28A, 29B, 34F, 35F, 48F, 49F, 62F; Arthur, *Sieges of Yorktown*, p. 26.

23. Maps 2F, 11F, 28A, 33F, 34F, 35F, 37F.

24. Excavation in the road area in the 1940s, during laying of a pipeline, confirmed the location of Redoubt 4B squarely in the middle of Hampton Road. Borresen, "Orientation Report," p. 34.

25. Maps 1F, 2F, 15F, 16F, 17F, 19F, 24F, 28A, 29B, 34F, 35F, 48F, 49F, 62F.

26. Maps 24F, 29B, 49F.

two twenty-four-pounders.²⁷ During excavation of the battery site preparatory to reconstructing the earthwork, however, only four cannon emplacement positions were found (two of these, it was determined, were for howitzers). Thor Borresen concluded that it would have been entirely possible to crowd two additional guns into this battery. He suggested that the two pieces might have been mounted on platforms placed directly on the ground without sleepers.²⁸ Given the circumstances governing the hurried construction of the second parallel, this conclusion seems wholly plausible. Battery 5B was commanded by a French officer named Morcour.²⁹

e) Structure 6B

Next along the line stood Battery 6B, the French unit that constituted one object of the Abercrombie sortie the morning of October 16. Battery 6B held six bronze sixteen-pounders,³⁰ four of which had been spiked by the British in an operation so clumsily executed that the weapons were back in use a few hours later. The principal purpose of this unit and of the nearby American battery (5B), as Cornwallis knew when he ordered the sortie against them, was to try and breach the British works in preparation for a general Allied assault upon them.³¹ Battery 6B was in the charge of Captain Bernard de Neurisse, moved forward from command of the right section of Battery 8A, first parallel.³² Recent archeological work completed on the middle part of the second parallel has disclosed that this earthwork possessed a frontal ditch about eighty yards long and that the gun emplacement area measured roughly twenty yards in width from the parapet. Almost midway along the rear of the battery, in the area between the unit proper and the parallel behind, the French built a powder magazine that was connected by a twenty-foot trench to the gun emplacement position.³³ Once its cannon were unspiked and fully mounted, Battery 6B delivered powerful volleys that pummeled

27. "Journal of Lieut. William Feltman," p. 321. Feltman and other Americans frequently described the French guns as eighteen-pounders when they were actually the standard sixteen-pounders.

28. *Ibid.*; "This," wrote Borresen, "was not an unusual practice in a second parallel, which was so close to the enemy that their shots could be very damaging and it was necessary for the artillery commander to place his guns for immediate firing in order to protect himself." "Completion Report on American Battery No. 2," pp. 4-5.

29. Map 34F.

30. Maps 1F, 2F, 15F, 16F, 17F, 24F, 28A, 29B, 35F, 48F, 49F. Map 34F shows five cannon here.

31. Borresen, "Orientation Report," p. 37.

32. Map 34F.

33. Southside Historical Sites Foundation, "Plan of Archaeological Excavations."

Cornwallis's works and contributed greatly to the British commander's decision to surrender.

f) Structure 7B

Battery 6B was separated from American Battery 8B by a fully palisaded redoubt (7B) occupied by French troops of the Agnois Regiment at the time of the sortie. Evidently built by the Americans,³⁴ Redoubt 7B was square, rather diamond-shaped, with its foremost salient angle facing the British. Its right facet closely joined the left of American Battery 8B, and its obvious purpose was to serve as a guard for the breach batteries on either side.³⁵ Redoubt 7B was established directly in the second parallel; the Allies' zigzag communications trench entered the line immediately to the right rear of the structure. Its outer palisaded perimeter measured approximately ninety yards, while its longest side, the northernmost one, ran about twenty-seven yards.³⁶

g) Structure 8B

Adjoining Redoubt 7B on the east, American Battery 8B completed the fortification complex in the middle of the second line. This structure, begun the evening of October 13, contained six cannon, all eighteen-pounders made of iron.³⁷ Three of these guns were spiked by the British in their sortie the morning of the sixteenth. These three pieces were immediately repaired and opened against the enemy. The others did not fire until the morning of October 17.³⁸ The guns of Battery 8B joined those of 7B in attempting to breach the British works.³⁹ Archeological examination completed in the 1930s revealed that this unit was a sunken battery. The bottoms of the embrasures of Battery 8B were at about ground level; the gun emplacement area was large enough (fifty-four yards long) for six cannon,

34. See the color scheme of Map 19F.

35. Maps 2F, 11F, 19F, 33F, 34F, 35F, 37F, 49F; Borresen, "Orientation Report," p. 37.

36. Southside Historical Sites Foundation, "Plan of Archaeological Excavations."

37. Maps 1F, 2F, 15F, 16F, 17F, 24F, 29B, 35F, 48F, 49F, 62F. Maps 7A and 34F indicate but four guns here; See Walter S. Flickinger, "Report on the Excavation of American Gun Battery known as No. 4, in Advance of the 2nd Parallel, including Additional Supplementary Data," MS, dated April 11, 1938, in the library of CNHP, Yorktown, Virginia, pp. 2-3.

38. See Map 7A.

39. Borresen, "Orientation Report," p. 37.

but the height of the unit must have been almost entirely excavated in order for the pieces to function properly and with adequate cover.⁴⁰ At the east end of the battery the parapet made a right angle and continued for approximately another twenty-seven yards, doubtless a protective measure against the British armaments in Redoubt 9B before its capture the night of the fourteenth. Possibly this battery mounted naval carriages, as Thor Borresen suspected, because the space behind the platform area was not sufficient to allow for recoil and reloading the weapons. Rather than the twenty-one feet six inches of back space necessary for an eighteen-pounder, the area in Battery 8B measured only eighteen feet six inches--fully three feet less than that required for proper functioning of the pieces.⁴¹

h) Structure 9B

The strip of parallel lying between Battery 8B and Redoubt 9B--roughly 400 yards--was the longest exposed section on the entire line. Lacking either redoubt or battery protection throughout its length, this segment undoubtedly received substantial infantry reinforcement, perhaps even more following the enemy sortie on the morning of the sixteenth. Redoubt 9B, fitted with armaments after its capture, covered the intervening terrain between the British and Allied lines and dissuaded sallies in that quarter. Following its capture, Redoubt 9B underwent modification by the Allies consisting of closing its British entrance and cutting a new one in the side facing away from Yorktown. The structure retained its original pentagonal shape along with such conventional British-constructed defensive components as palisades, fraising, and abatis.⁴² Some of the historical maps show abatis only on the sides of the redoubt facing Yorktown;⁴³ certainly much if not all of the abatis was removed from the back of the structure if it interfered with the excavation of the Allies' connecting trenches. The inner perimeter of Redoubt 9B was 103 yards, which permitted occupation by

40. Borresen, "Report on American Guns and Carriages," p. 56; Southside Historical Sites Foundation, "Plan of Archaeological Excavations"; Borresen found six recesses at the foot of the epaulement of Battery 8B, indicating that six gun platforms were employed in the structure. "Memorandum to the Historical Division," dated March 31, 1938, in the library of CNHP, Yorktown, Virginia.

41. Even so, the apparent depth of this sunken battery was so great as to dictate against naval ordnance unless the floor of the earthwork was considerably raised. Borresen, "Memorandum to the Historical Division," March 31, 1938.

42. Maps 1F, 2F, 6F, 7A, 11F, 15F, 16F, 17F, 18F, 19F, 24F, 25B, 26F, 28A, 30B, 31F, 34F, 35F, 37F, 41F, 45F, 46F, 48F, 49F, 50B, 53F, 57B, 59B, 62F.

43. Maps 32F, 33F. For descriptions of Redoubts 9B and 10B as detached works of the British command, see Chapter IV.

198 men (including 6 men for each of the howitzers mounted in the work).⁴⁴ During the 1930s Redoubt 9B was archeologically examined and reconstructed to approximate its original condition before its capitulation to the Allies the night of October 14.⁴⁵

i) Structure 10B

Perched atop the cliff overlooking York River, Redoubt 10B significantly commanded enemy movements on the water between Yorktown and Gloucester. Smaller than its neighboring earthwork to the west, Redoubt 10B was square rather than pentagonal in shape. It, too, was taken in the Allied assault of the fourteenth, and its captors armed it and used it as a battery to blast Cornwallis's works. At least three contemporary maps have Redoubt 10B containing at the most four howitzers and three mortars during the tenancy of the Allies.⁴⁶ The structure seemingly was also partly ringed with abatis (on the sides facing away from the river)⁴⁷ and had the proper fraising and palisading to impede an enemy's advance.⁴⁸ Probably all of these were modified with the Allies' occupation beginning the night of the fourteenth. Redoubt 10B has been only partially reconstructed due to the erosion of the site through the years since 1781.⁴⁹

j) Structure 11B

Directly adjacent to the right side of Redoubt 9B, Washington's soldiers built Battery 11B, a large work slated to contain much of the artillery to be moved forward from the American Grand Battery (13A) in front of the first parallel. Most maps agree that Battery 11B, once established, would hold at least a dozen heavy cannon of the eighteen- and twenty-four-pounder variety,

44. Borresen, "Final Report on Redoubt No. 9," pp. 77-78.

45. See Chapter IV for some details of the excavation and reconstruction accomplished in the 1930s. The decision to reconstruct Redoubt 9B to its British form was made by Superintendent Ployd B. Flickinger. Essentially this meant that the gorge cut through by the Allies the night of the fourteenth was not reconstructed. *Ibid.*, pp. 72, 74; See also the preface and pp. 37, 40, 59, 60-61, 65, 71, 75-76, of *ibid.* for highlights of the excavation and reconstruction (then called "restoration") of Redoubt 9.

46. Maps 24F, 29B, 49F.

47. Maps 33F, 34F, 53F, 57B.

48. Maps 1F, 2F, 6F, 7A, 11F, 15F, 16F, 17F, 19F, 24F, 25B, 26F, 27F, 28A, 29B, 30B, 31F, 32F, 35F, 37F, 41F, 45F, 48F, 49F, 50B, 62F; Participant renderings of the French and American attacks on the evening of the fourteenth mention the presence of palisades at both Redoubts 9 and 10.

49. See Chapter IV.

plus a number of mortars and howitzers.⁵⁰ An American map was most detailed, however, and stated that Battery 11B was "designed for" seven eighteen-pounders, three twenty-four-pounders, four howitzers, eight 10-inch mortars, and ten 5-1/2-inch royal mortars. Part of this complement opened on October 16, although the battery was never totally finished before the British surrender.⁵¹ Lieutenant Feltman claimed that the actual number of pieces placed in operation by October 18 was only sixteen: ten eighteen-pounders, three 10-inch mortars, one 8-inch howitzer, and two royals.⁵²

Construction of this half-sunk earthwork began early on October 15 and originally incorporated part of the parallel connecting the two captured redoubts. Work involved widening the line and raising the parapet with fascines and gabions to a sufficient height and width to guard against the British artillery fire. Archeological investigation in 1940 of the site of Battery 11B revealed evidence of eleven platforms, ten of which measured fifteen feet in length and were located close to the base of the epaulement. The eleventh measured twelve feet long and was situated twelve feet back from the parapet, suggesting a howitzer was placed there. Eight feet to the right, the gun emplacement ditch grew deeper; apparently the mortars were fired from here. Probably they were mounted to shoot horizontally from the carriages designed by General Knox. Beyond this area the two royals were installed. Near this point the emplacement ditch joined the new second parallel that had been dug along the rear of Battery 11B and that continued on to join Redoubt 10B.⁵³

While the spacing between the archeologically-disclosed platform sleeper impressions of Battery 11B did not follow technical precepts of the time, which allowed at least fifteen feet between armaments, there appears to have been ample reason for the departure. In the judgment of Thor Borresen the Allies worked to get four guns forward from the first line as soon as possible. Doubtless these four pieces were moved up during the night of the fifteenth and crowded closest to Redoubt 9B. Then, as they engaged the enemy the night of October 16, two more guns were advanced and placed at a greater distance from the first four pieces so as not to interfere with the gun crews firing them. Likewise, the spacing between the

50. Within these limits, however, there is disagreement. A British map, 29B, states, for example, that the battery contained twelve eighteen-pounders, three twenty-four-pounders, and eight mortars, while two French maps (24F and 49F) showed but six mortars. Map 15F stated that there were twelve cannon, four mortars, and two howitzers in the structure. Map 34F said that it held nine cannon. See also Maps 1F, 2F, 16F, 17F, 28A, 35F, 48F.

51. Map 7A.

52. "Journal of Lieut. William Feltman," p. 321.

53. Borresen, "Completion Report on American Battery No. 2," pp. 33-35, 68, 69-71, 87. The archeological evidence confirmed the account by Feltman. *Ibid.*, p. 62.

sixth and seventh platforms indicates that night firing determined their placement by workmen. Construction of the embrasures reflected and compensated for the disparity in spacing the guns.⁵⁴ No platforms were found in the area consigned to the royal mortars, but these weapons required none. They were mounted stationary on wooden blocks and could be moved by two men to any new position in their part of the battery.⁵⁵ Apparently the soldiers did not erect a powder magazine behind the cannon section, although it seems one was started in the rear of the howitzer/mortar part of Battery 11B. The magazine was incomplete at the time of Cornwallis's surrender.⁵⁶

C. Turning on the Pressure

1. French Plans at the Left

Thus established, the second parallel and its component artillery units offered Lord Cornwallis sufficient inducement to surrender his forces. The French and American armies were closing rapidly and finally, and the British found themselves enveloped in their worst military predicament of the war. And without immediate aid the enemy position promised to deteriorate altogether. Already the French on the far right of Cornwallis's line were planning action against the last outer stronghold, the Fusiliers' Redoubt. Already the French had begun to trace a network of trenches extending forward from their line between Batteries 1A and 2A. The principal sap would approach almost to the abatis around the Fusiliers' Redoubt. Once the British defenders of that structure were routed, another battery would be erected near its southwest corner straddling Williamsburg Road.⁵⁷ These guns would have greater access to the British works guarding Cornwallis's right flank around Yorktown. But this design never progressed beyond the outlining

54. *Ibid.*, pp. 67-68. The width of the gun platforms (three sleepers each) was about nine feet, considerably narrower than the ten to twelve feet recommended in the siegecraft manuals of the period. *Ibid.*, pp. 66. Borresen had earlier suggested that garrison carriages, which were much narrower than siege carriages, could have been used in Battery 11B and would have alleviated the spacing problem. "Report on American Guns and Carriages," pp. 54-55. Borresen's later view was expressed after completion of the archeological work and represents a revision of his earlier estimate.

55. Borresen, "Completion Report on American Battery No. 2," p. 69.

56. *Ibid.*, pp. 80, 82.

57. Maps 15F, 16F, 17F, and 41F show the lines of the intended drive against the Fusiliers' Redoubt; work on this plan was curtailed October 17 with the suspension of fire from both sides. See Clozen, *Revolutionary Journal*, pp. 152-53; La Combe, "Journal of the Siege of York," p. 5; and Engineers' Journal, p. 452.

stage, and the star fort that so effectively preserved Cornwallis's right throughout the siege survived in British hands until the capitulation.

2. Artillery Preparations

On the sixteenth, Lafayette's infantry mounted in the American sector of the second parallel.⁵⁸ Most of the day was spent in completing the batteries preparatory to shifting the remaining ordnance from the old to the new line. All the while the weapons earlier placed at key points along the parallel barked forth ominous warnings to Lord Cornwallis.⁵⁹ The Allies were making "every preparation for a serious and terrible fire tomorrow from [an] increased number of batteries and [from] artillery in much nearer approach than hitherto."⁶⁰ During the day Washington issued two important orders governing the conduct of the siege. One directed that future relief troops not announce their movements with the customary drumbeats, but march forward silently with colors furled and arms at trail until they reached their stations.⁶¹ The second was designed to keep the parallel clear of human obstruction at all times:

The Commander in Chief having observed that the trenches are constantly crouded [*sic*] by Spectators, who by passing and repassing prevent the men from Working and thereby greatly impede the Operations of the Siege, He therefore Orders that no Officer who is not on duty shall hereafter enter the Trenches except General Officers and their Aids. And that no Inhabitant or person not belonging to the Army be suffered to enter the Trenches at any time without permission from the Major Genl of the Trenches.⁶²

3. St. Simon Wounded

Along the French sector Rochambeau's soldiers worked diligently to strengthen their fortifications. The Marquis de St. Simon and his subordinate, Count de Custine, commanded two battalions each of the Regiments

58. *Orderly Book of the Siege of Yorktown*, p. 41; Shute, "With General Benjamin Lincoln," p. 5.

59. Engineer's Journal, p. 452; Du Bourg, "Diary of a French Officer, 1781," p. 448; Fersen, "Journal of Operations," p. 440; La Combe, "Journal of the Siege of York," p. 5; Cobb, "Before York Town, Virginia," p. 69; Butler, "General Richard Butler's Journal," p. 110.

60. Trumbull, "Yorktown, Virginia," p. 337.

61. "Orderly Book kept during the Siege of Yorktown," pp. 110-11; *Orderly Book of the Siege of Yorktown*, p. 43.

62. *Orderly Book of the Siege of Yorktown*, pp. 42-43; "Orderly Book kept during the Siege of Yorktown," p. 110.

Gatenois and Saintonge, with auxiliary workers composed of the grenadiers of Agenois and Gatenois. Eight hundred more workmen would enter the trenches after dark to perfect the French earthworks.⁶³ Sometime in the afternoon St. Simon was hit by a round of grapeshot that grazed his right ankle, crippling him severely. The French officer faltered but briefly and ordered his troops to carry him into the second parallel, where he continued to command the sector for the duration of his tour.⁶⁴

4. A New Plan for de Grasse

By now the combination of French and American artillery had nearly completely destroyed the British shipping in York River. Cornwallis had himself ruined many of his vessels, purposely sinking them to protect his command from a French assault from the water. French hot shot and American guns had damaged or destroyed other enemy vessels until few remained to threaten an Allied naval advance up York River. By October 16 General Washington had conceived of a new plan that would block the stream above Yorktown. Washington had even managed to convince the reluctant de Grasse that he could safely station a ship above the village. The danger of enemy fire ships, he maintained to the admiral, could be obviated by using a number of rowboats to guard the French ship in its station. Already, said Washington, he had ordered boats from up the York; other flat-bottomed craft had been hauled overland from the James, and the army at Gloucester had also been busy collecting boats for de Grasse's use.⁶⁵ But the surge of events prevented this plan from ever fully materializing.

5. Preparing to Breach the Works

That evening the Allies watched carefully for another enemy sortie into their lines. Strong detachments stood guard in each of the new batteries.⁶⁶ Those units completed delivered heavy blasts against the weakened British front as hundreds of French and American soldiers hurried the rest of the armaments forward. The air became cold and a heavy rain pelted the opposing

63. Menonville, "Journal of the Siege of York," p. 288; De Verger Journal, in Rice and Brown, *American Campaigns*, p. 143; Closen, *Revolutionary Journal*, p. 152.

64. Closen, *Revolutionary Journal*, p. 152; Rochambeau, *Relation*, p. 7; "Diary of French naval operations in America," p. 198.

65. The rough outline of this proposal is presented in Washington to de Grasse, October 16, 1781, in *Writings*, 23:225-26. See also Washington to Colonel Timothy Pickering, October 14, 1781, in *ibid.*, p. 222.

66. Denny, *Military Journal*, p. 43.

armies.⁶⁷ In the growing darkness, General Knox directed all his cannon to fire vigorously at once to violently shatter the enemy defenses and to breach Cornwallis's works.⁶⁸ According to d'Ancteville: "The parapets

67. Tilghman, *Memoir of Lieut. Col. Tench Tilghman*, p. 106; Du Bourg, "Diary of a French Officer, 1781," p. 448; Shute, "With General Benjamin Lincoln," p. 5; Although d'Ancteville stated that "as early as nine o'clock in the morning of the 16th we unmasked a great part of our new batteries," he probably was speaking of the units mounted in the French sector rather than of the second parallel as a whole. "Journal of the Chesapeake Campaign," p. 21; Washington wrote that "about 4 o'clock this afternoon the French opened two Batteries of 2. 23s. and four 16s. each. 3 pieces from the American grand battery were also opened, the others not being ready." *Diaries*, 2:268. Washington seems to have been in error regarding the calibers of the French weapons employed; there were no twenty-three-pounders in service among the Allies at Yorktown.

68. Redington, "Narrative of Asa Redington," p. 15; "Breach, is an opening made in a wall or rampart, with cannon or mines, sufficiently wide for a body of troops to enter the works, and drive the besieged out of it." Muller, *Treatise Containing the Elementary Part of Fortification*, p. 212; During the afternoon of the sixteenth a humorous event occurred. Knox was debating with Captain Alexander Hamilton the merits of Washington's procedure of allowing the men to yell "A shell!" whenever one of the enemy missiles landed in the works. Hamilton believed the system unsoldierly while Knox rigorously defended it as in the best interests of the men's lives. Suddenly two bombs struck within the redoubt in which Knox and Hamilton were arguing. A witness, Aeneas Monson of Connecticut, described what followed:

Instantly the cry broke out on all sides, "A shell! A shell!" and such a scrambling and jumping to reach the blinds and get behind them for defense. Knox and Hamilton were united in action, however differing in word, for both got behind the blinds, and Hamilton to be yet more secure held on behind Knox (Knox being a very large man and Hamilton a small man). Upon this Knox struggled to throw Hamilton off and in the effort himself . . . rolled over and threw Hamilton off towards the shells. Hamilton, however, scrambled back again behind the blinds. All this was done rapidly, for in two minutes the shells burst and threw their deadly missiles in all directions. It was now safe and soldierlike to stand out. "Now," says Knox, "now what do you think, Mr. Hamilton, about crying 'shell'? But let me tell you not [to] make a breastwork of me again!"

Quoted in Scheer and Rankin, *Rebels and Redcoats*, p. 565; Redington briefly reported what might have been the same incident, although he was apparently unaware of Hamilton's presence and the debate:

(continued)

were tumbling down, from the effects of the bombs; the fraises were flying in pieces. We were preparing an assured route for a forward movement to take the place by storm. Twenty-four hours of our fire fixed the moment for it."⁶⁹ A British soldier described a similar scene and pronounced as irretrievable Cornwallis's steadily worsening situation:

By the force of the enemy's cannonade, the British works were tumbling into ruin: Not a gun could be fired from them, and only one eight inch, and little more than one hundred coehorn shells remained. They were in many places assailable already; and if the fire continued a few hours longer, it was the opinion of the engineer, and principal officers of the army, that it would be madness to attempt to maintain them. . . .⁷⁰

Much of the destructive fire came from Cornwallis's former detached works on his left, now in the Allies' possession. Between October 15 and 16 the Americans had established themselves in Redoubts 9B and 10B and had expended a considerable amount of ammunition. In Redoubt 9B Captain Lieutenant Peter Nestle of the Second Continental Artillery commanded two 10-inch mortars and two coehorns; his charges consumed fifty-nine 10-inch shells, thirty coehorn shells, and ten bags of grapeshot. Between the redoubts Knox placed two more 10-inch mortars (perhaps his specially designed pieces?) under a Lieutenant Troop. These weapons fired fifty-six rounds in the twenty-four-hour interval. Redoubt 10B, commanded by a lieutenant named

68. (continued)

One afternoon one of the British shells struck six feet from where I was sitting, took a whirl in the ground and rolled out on the surface, with the fuse spurting out wild-fire. We all, including Gen. Knox, threw ourselves flat on the ground, watched the fire spitting from the shell, and dreaded its explosion. In a few seconds it burst and wholly disappeared without injuring a single person, although a soldier beside me had his canteen knocked from his side. General Knox picked himself up, shook off the dirt from his fat sides, and laughed heartily.

"Narrative of Asa Redington," p. 14.

69. "Journal of the Chesapeake Campaign," p. 22.

70. Lamb, *Journal of Occurrences*, p. 378; There exists little doubt that the Allied bombardment the night of October 16 was severe. "Some of the oldest officers and soldiers in both armies, concurred in declaring, that they had never witnessed a more heavy and continual discharge of artillery than that which now took place." Andreus, *History of the War with America*, 4:208.

Gardner, contained two 8-inch and two 5 1/2-inch howitzers that dispensed forty-three and seventy-five shells respectively.⁷¹

D. Cornwallis Tries to Escape

The fire from these structures and the others facing the British front became devastating. For Cornwallis the moment of sheer desperation had arrived. He determined to cross the bulk of his command over the York to the Gloucester shore, leaving behind all baggage and a detachment under Lieutenant Colonel Henry Johnson to capitulate for the citizens and for the many afflicted British soldiers who would remain there. Accordingly, Cornwallis secretly directed that sixteen large boats and their crews be readied at 10:00 P.M. to carry the first of three contingents across. Once the fording was completed and junction made with Tarleton, who had been earlier apprized of the plan, British artillery on the point would blast an entrance through the Allied forces of General Choisy. Then, if all went well, Cornwallis's soldiers before dawn would charge through the cordon and escape to the north, leaving General Washington stranded on the peninsula beyond York River. Here de Grasse's shunning of Washington's entreaties to station a ship above Yorktown worked to Cornwallis's favor; the possibility the Allied commander so dreaded was coming to pass. Fleeing the clutches of the Allies, the British could either strike north to join Clinton or move toward the Carolinas via Richmond.⁷²

But Cornwallis had not reckoned with nature. At the appointed hour the embarkment of the first troops began. Sixteen boats moved silently through the water carrying the British light infantry, part of the Guards, and part of the Twenty-third Regiment. Within an hour most of the troops reached Gloucester Point. But then a violent storm arose; rain and high winds caused the boats to thrash about on the waves of the river, preventing their scheduled return to Yorktown. Two boatloads of British soldiers never even gained the Gloucester side, but were blown downstream to be

71. Henry Knox Papers (MS), 7:113; Heitman, *Historical Register*, p. 411.

72. The latter alternative was neither as feasible nor as attractive as heading directly towards Clinton. As Cornwallis later explained,

Being without baggage, I should have gained the upper country by rapid marches, mounting my infantry, by collecting horses on the way, and leaving my intended route doubtful, until I was opposite to the fords of the great rivers; I then intended to have turned off to the northward, expecting that the enemy would principally take their measures to prevent my escape to the southward. The success of this attempt would, no doubt, have been precarious. . . .

Answer, p. xiv.

captured by a force of waiting Americans.⁷³ By midnight the squall had ruined Cornwallis's attempt at escape. The storm abated after 2:00 A.M. but the boats, either scattered or capsized, were no longer available and only after daybreak could enough be reassembled to return the soldiers from Gloucester. The passage back across York River in daylight and under the reinstated fire of the Allied artillery was extremely dangerous, although the British soldiers arrived safely. Back in Yorktown by noon of the seventeenth, the men resumed their dreary fatigue in what was left of the British fortifications.⁷⁴

Cornwallis's attempt to flee the Allies had failed dismally. As his boats bobbed and tossed over the whitecaps the night of October 16, his spirits ebbed: the end was at hand. Over behind the American sector Henry Knox wrote his wife: "The fate of the enemy draws nigh--I hope in ten or 12 days, we shall with the blessing of heaven terminate it."⁷⁵ Coming events would suddenly invalidate that estimate.

73. One account states that "the second division had actually embarked" when the storm arose. Irving, *Life of George Washington*, 4:380; The Allies seem to have been unaware of the escape attempt, at least during its early stages or until they captured some of the fleeing British during the storm. "To our great luck," wrote the German Captain Ewald, "the weather was so frightful that the enemy could not discover anything of all this. . . ." "Diary of the American War," p. 900.

74. This account is based principally on material contained in Cornwallis to Clinton, October 20, 1781, published in *Rivington's Gazette*, November 24, 1781; and reproduced in Moore, *Diary of the American Revolution*, pp. 514-15; Ewald, "Diary of the American War," p. 900; Stedman, *History . . . of the American War*, 2:411-12; Nickerson, "Yorktown, 1781," p. 89; Davis, *Campaign that Won America*, p. 237; and Arthur, *End of a Revolution*, p. 144.

75. Henry Knox Papers (MHS), 7:115.

CHAPTER XV: BRITAIN AGAINST THE SKY

A. Negotiation

1. Clinton Fails

Wednesday, the seventeenth day of October, 1781, was coincidentally the fourth anniversary of the British surrender at Saratoga, New York. Loyal Americans honored the occasion with music and appreciative toasts, only vaguely aware of the momentous events then shaping in tidewater Virginia, events that promised to eclipse the victory over Burgoyne's army in 1771.¹ Through September Sir Henry Clinton had grappled with the problem of how best to accomplish the relief of Cornwallis's army, but his efforts were stifled because of debate among his military and naval advisors and because of his own refusal to believe the gravity of Cornwallis's predicament. Clinton convened almost daily councils of war to discuss the situation, but no hard and fast action could be agreed upon. Admiral Thomas Graves could not repair his fleet quickly, having but recently returned from his encounter with de Grasse off the Virginia Capes. Graves believed, moreover, that his preparations would not be completed before October 8, perhaps not even before the twelfth. And Clinton notified Cornwallis that even this date might be premature for the actual departure of reinforcements from New York. Despite Cornwallis's admonitions, Sir Henry adhered to the fatuous opinion that the situation of the British Army in Virginia should occasion no significant alarm.²

1. For example, Burgoyne's surrender was celebrated in Peekskill, New York, by officers of the Third Massachusetts Brigade. "The recollection of the glorious victory which was completed on that day, and the prospect of events equally glorious, animated every breast with the most pleasing sensations, and diffused a lively joy on every countenance." *New York Packet*, October 25, 1781, reproduced in Moore, *Diary of the American Revolution*, pp. 505-6. At Yorktown, an American chaplain remembered that on "this day four years [ago], Burgoyne and his whole army surrendered to the United States; that signal instance of the smiles of heaven, and what we now have in prospect, should make us very thankful to Almighty God." "Journal of the Siege of York in Virginia by a Chaplain," p. 107.

2. The details of Clinton's plans for relief appear concisely in Arthur, *End of a Revolution*, pp. 114-16; See also Henry Clinton, *The American Rebellion: Sir Henry Clinton's Narrative of His Campaigns, 1775-1782, with an Appendix of Original Documents*, ed. William B. Willcox (Hamden, Connecticut: Archon Books, 1971), the last part of which contains Clinton's "Narrative" of operations in the campaign of 1781; As late as October 19 Clinton could write Lord George Germain that "I still flatter myself that, notwithstanding the Rapidity of the Enemy's Progress and our having been delayed by the (continued)

By the middle of October, however, essential agreement had been reached between Clinton and Cornwallis regarding the signals to be employed whenever the relief expedition should arrive in Chesapeake Bay.³ Once there, Clinton would announce his approach with heavy firing from the British ships' guns.⁴ Cornwallis would then state his condition by a series of alternating smoke columns and gun reports.⁵

2. The Works Crumble

But Clinton's procrastination made chances slight that relief would arrive. By morning, October 17, Cornwallis had exhausted all hope of being rescued. His men were weary and their numbers greatly reduced to

2. (continued) necessary Repairs of the Fleet so far beyond the expected Time, it may yet be in the Power of our joint Exertions to relieve his Lordship." Henry Clinton Papers, William L. Clements Library.

3. The British admirals were optimistic of their chances for slipping past the French vessels at the mouth of the Chesapeake. Reported Clinton: "The Admirals . . . seemed all convinced that as the French Fleet guarding the passage (in Crescent) between the Horse shoe and middle ground sands could not in such tides way avail themselves of the springs on their Cables: The British Fleet had every advantage of passing them and taking up a Position near the entrance of York River. . . ." Clinton's marginal notes in Stedman, *History . . . of the American War*, 2:412.

4. Irving, *Life of George Washington*, 4:357.

5. The signals agreed upon were quite elaborate and took into account a variety of circumstances. If Cornwallis was still at Yorktown he was to send up "one great smoke" and discharge one gun at single-minute intervals. If Cornwallis recommended that Clinton land on the northern shore of the York he would make two smoke columns and fire two guns at two-minute intervals. "Three Smokes & Three Guns close fired at Six minutes Interval" meant that Clinton should land at Newport News, while "Four Smokes & Four Guns close fired at Eight minutes Interval" dictated that Clinton's landing should be made at Jamestown. Furthermore, "if a smoke or fire appears on Cape Henry & a Boat is sent for the Person who makes [it], If he produces Two Half pence it denotes that Lord Cornwallis has left York Town." Henry Clinton Papers, vol. October 29-November 6, 1781, William L. Clements Library; Irving described a more simplified system: "if all went well at Yorktown his lordship was to make three separate columns of smoke; and four, should he still possess the post at Gloucester Point." *Life of George Washington*, 4:357; On September 29, Cornwallis wrote Clinton that he "must depend more on the Sound of our Cannon than the Signal of Smokes for information. However I will attempt it on the Gloucester Side." Cornwallis to Clinton, September 29, 1781, Henry Clinton Papers, William L. Clements Library.

the point that they could not relieve each other at the defenses. By holding out, Cornwallis could look forward only to the prospect of more Allied artillery tearing into his works and killing and wounding his men. Then the French and Americans would batter an opening and storm the garrison without quarter. Any compensating advantages would be lost in an unconditional surrender. At this stage the welfare of his soldiers determined Cornwallis's course. He would negotiate a surrender that would be as advantageous as possible to his command.⁶

Lest there remained lingering doubts in Cornwallis's mind about when the Allies intended to storm his fortifications, the French and American artillery welcomed the dawn of October 17 with a fierce blast that smashed into the defenses and shook them violently. The Allies expected that fully seventy pieces of ordnance would play on the town by noon. The British could only respond with the intermittent fire of their small mortars. During the night one of these bombs had struck a French magazine in the second parallel, exploding 1,500 pounds of black powder. No one was harmed in the episode, although the French lost several killed and wounded after dawn.⁷ Apparently Batteries 1B and 5B began serious work this day, for Washington entered in his diary that "The French opened another Battery of four 24s. and two 16s. and a Morter [*sic*] Battery of 10 Morters and two Howitzers." And the new American Grand Battery (11B) fired with "12 twenty four and Eighteen prs. 4 Morters and two Howitzers."⁸ From October 16 to 17 Battery 11B expended no less than 135 rounds of twenty-four-pounder shot, 32 rounds of eighteen-pounder shot, 257 ten-inch mortar shells, and 104 eight-inch bombs. On the left of the American sector Battery 8B used 68 rounds of eighteen-pounder shot in the same period.⁹ Most of the fire emanating along the Allied line was directed against the area around the British hornwork and Cornwallis's left flank. Mortar and howitzer bombs discharged from Redoubts 9B and 10B and Battery 11B fell along Yorktown's beach. Those from the French unit 1B dropped into the hornwork. Few cannon shot reached to the right of the British line and it would appear that this section of Cornwallis's defenses remained relatively secure from the Allies' fire.¹⁰

6. Andreus, *History of the War with America*, 4:208; Arthur, *Sieges of Yorktown*, p. 28; Burne, "Cornwallis at Yorktown," p. 76.

7. "Journal of the Siege of York in Virginia by a Chaplain," p. 107; General Thomas Nelson, Jr. to George Webb, October 17, 1781, in Nelson, *Letters*, p. 53; Barneville, "War Diary," p. 275; Stryker, *New Jersey Continental Line*, p. 23; Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, p. 61; Freeman, *George Washington*, 5:375-76.

8. *Diaries*, 2:268.

9. Henry Knox Papers (MIS), 7:108, 115.

10. See Maps 1F, 7A, 17F, 26F, 29B, and 52A for lines of fire from the second parallel batteries.

3. The Cessation

Baron Steuben's Division was scheduled to relieve Lafayette's in the trenches on the seventeenth.¹¹ On the left, Major General Count de Viomenil would command battalions of the Regiments Bourbonnois and Royal Deux-ponts.¹² Shortly past 10:00 A.M., before the relief forces took station and in the face of the vigorous new assault from the Allies' guns, Lord Cornwallis sent out a flag.¹³ The American and French soldiers must have guessed his intention when an enemy drummer, beating a chamade,¹⁴ appeared on the British parapet before Yorktown. Soon a redcoated officer joined him waving a white handkerchief. The two moved forward, the drummer continuing his chamade. The Allies' guns fell silent. An American officer ran out of the works towards the advancing duo, sent the drummer back to his own lines, and tied the handkerchief over the eyes of the British officer before ushering him forward to meet Lafayette in the Allies' entrenchments.¹⁵ Accompanied quickly back to Washington's headquarters in a nearby house, the officer delivered Cornwallis's message:

I propose a Cessation of Hostilities for twenty four hours, & that two Officers may be appointed by each side, to meet at Mr. Moore's house to settle terms for the Surrender of the Posts of York & Gloucester.¹⁶

11. *Orderly Book of the Siege of Yorktown*, p. 42.

12. Closen, *Revolutionary Journal*, p. 152.

13. The time when Cornwallis sent out his first flag is debated in the contemporary accounts. Most of the American journals, however, place the event either precisely at 10:00 A.M. or close to that time. Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 5; and Washington, *Diaries*, 2:268; "Siege of York and Gloucester, Virginia," p. 477, places the time at "between ten and eleven"; At least one French journal (that of Gaspard de Gallatin) stated that the flag emerged from Yorktown at about ten o'clock (S. Doc. 322, p. 15), although most place the event much later in the afternoon. See, for example, Barneville, "War Diary," p. 276 (4:00 P.M.); Clermont-Crevecœur Journal, in Rice and Brown, *American Campaigns*, p. 61 (3:00 P.M.); and Closen, *Revolutionary Journal*, p. 152 (1:00 P.M.).

14. "Chamade, is when a town besieged wants to capitulate, or to make some proposals to the besiegers. In that case one or more drums mount the rampart, and beat what the military call a *Chamade*." Smith, *Universal Military Dictionary*, p. 232.

15. Denny, *Military Journal*, p. 44; Philip Van Cortland to unknown recipient, October 17, 1781, James S. Schoff Collection, William L. Clements Library; S. Doc. 322, p. 15; Bonsal, *Cause of Liberty*, p. 158; Davis, *Campaign that Won America*, p. 256; Whitridge, *Rochambeau*, p. 224.

16. Cornwallis to Washington, October 17, 1781, copy in Cornwallis to Clinton, October 20, 1781, Henry Clinton Papers, William L. Clements (continued)

A signal gun in one of the American batteries announced the resumption of the Allied bombardment after the British officer had returned to his lines, but the fire soon halted when another British flag advanced over the plain. The same officer returned to receive Washington's response. He was told that it would be delivered when received from the Allied headquarters. The officer did not wait long. Washington agreed to the proposal, but he balked at the request for twenty-four hours. He sent word to Cornwallis that he would grant a cessation for two hours while the British commander specified his conditions. The artillery fire from both sides then recommenced and lasted, except for two or three short periods when messages were exchanged, through most of the afternoon. Finally, about 3:00 P.M., Cornwallis sent word that he would abide by Washington's terms governing a truce.¹⁷ "Accordingly," wrote Washington, "hostilities were suspended for the Night and I proposed my own terms to which if he agreed Commissioners were to meet to digest them into form."¹⁸ That evening Cornwallis responded favorably; he would impose a further cessation on his artillery beginning at five o'clock the next morning.¹⁹ All work in the trenches reciprocally ceased and soldiers of both armies mounted their works and stood quietly surveying the desolate scene around them.²⁰ The Allies

16. (continued) Library. The full texts of this and ensuing communications between Cornwallis and Washington are presented in Appendix E.

17. There is much disagreement regarding the actual period of time granted for the intermission. Apparently there occurred brief suspensions during the day as notes were exchanged, but the two-hour cessation did not start until late in the afternoon. This evidently was successively extended through the night and following day. See "Siege of York and Gloucester, Virginia," p. 477; Washington, *Diaries*, 2:268-69; Closen, *Revolutionary Journal*, pp. 152-53; Swartwout, "Journal of Barnardus Swartwout," p. 37; and Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 5; Barneville wrote that Cornwallis "was given only two hours and [was] told that if he did not surrender all the batteries would be opened and the assault would follow." "War Diary," p. 276; With the cessation, the French dispensed with their preparations against the Fusiliers' Redoubt. *Engineers' Journal*, p. 452; La Combe, "Journal of the Siege of York," p. 5; Closen, *Revolutionary Journal*, p. 153; Menonville mentioned the "second flag" coming out of Yorktown about 3:00 P.M. "with proposals which caused a cessation of hostilities on both sides. . . ." "Journal of the Siege of York," p. 288.

18. *Diaries*, 2:269.

19. "Wertgetreue Abschrift eines Tagebuchs eines markgräflischen Soldaten."

20. Memo dated October 24, 1781, aboard *London at Sea*, in Chadwick, *Graves Papers*, p. 142.

remained suspicious of Cornwallis's motives. "[W]e shall soon know whether the whole is a farce--or if his Lordship is in earnest," penned Washington's secretary.²¹

4. The Truce Continues

The British were indeed in earnest. In the York River harbor some of Cornwallis's command labored to unload the few ships still afloat before sinking them. During the day the *Guadaloupe* was scuttled and sunk, and the *Fowey* was towed into shallow water where carpenters bored holes in her hull. About 7:00 P.M. a tragic accident occurred that momentarily broke the evening calm. Some British artillerymen became drunk while loading bombs to be used in the event fighting erupted again next day. One of them foolishly entered a powder magazine carrying a flame, whereupon the magazine and twelve British soldiers were immediately blown to pieces.²² This lone event marred the first night of relative calm experienced by the armies in nearly two weeks.

The truce was extended as planned on Thursday, the eighteenth. At dawn the strains of Scottish bagpipes wafted over the plain from Yorktown. The regimental band of Royal Deux-ponts returned the serenade. A rising sun revealed hundreds of Allied soldiers crowded along the whole length of their earthworks facing British troops likewise arrayed along the ramparts of Yorktown.²³

5. Terms

While some of Cornwallis's initial proposals were considered "inadmissible" by Washington, they nevertheless signified to the Allied commander the sincerity of the British general's desire to surrender. Consequently, Washington appointed two commissioners from the Allies. His aide-de-camp Lieutenant Colonel John Laurens of South Carolina, whose own father was then imprisoned in the Tower of London, represented the Americans. Count Rochambeau selected Viscount de Noailles to represent the French. These two plenipotentiaries would transact negotiations with two officers of equal rank chosen by Cornwallis. They would meet at the home of a family

21. Jonathan Trumbull, October 17, 1781, George Weedon Papers, Allyn K. Ford Collection, Minnesota Historical Society, St. Paul. Quoted in Lydia Lucas, "Yorktown Campaign is Featured in Allyn K. Ford Collection," *Minnesota History* 44 (Summer, 1975): 225.

22. Captain Thomas Symonds to Rear Admiral Graves, October 20, 1781, in Chadwick, *Graves Papers*, p. 151; "Wertgetreue Abschrift eines Tagebuchs eines markgräflischen Soldaten"; Davis, *Campaign that Won America*, p. 258; Fleming, *Beat the Last Drum*, p. 314.

23. Fleming, *Beat the Last Drum*, p. 315; Davis, *Campaign that Won America*, p. 259.

named Moore located behind the first parallel near the river and approximately one mile from the British defenses around Yorktown.²⁴

Laurens and de Noailles proceeded to the Moore house and waited for their British counterparts to arrive. Flags now passed between the armies with such regularity that the customary drumbeats were discontinued. Finally the British envoys came out of Yorktown. Lieutenant Colonel Thomas Dundas, of the Eightieth Regiment, and Cornwallis's aide, Major Alexander Ross, entered the Moore residence and the deliberations began.²⁵ Evidently, General Washington anticipated a smooth settlement and was prepared to receive a British surrender that day. At any rate, he readied one detachment each of French and American soldiers with instructions to occupy the enemy fortifications at the appropriate time. As the hours slowly slipped past, realization grew that the negotiations were not proceeding as smoothly as Washington had expected. The Allied troop detachments fell back into their respective sectors.²⁶ In the trenches, Baron Steuben continued to command that afternoon, having refused as a point of military etiquette to be relieved by General Lincoln's Division. Citing European precedent, Steuben claimed that his troops, having served in the trenches when negotiations for surrender began, deserved to continue on duty until the capitulation became final. Washington sustained the baron in the matter. Likewise, the Regiments Bourbonnois and Deux-ponts continued their duty in the French sector until the enemy flag over Yorktown was at last removed.²⁷

For fear the negotiations might collapse, the Allies' artillery stood poised and ready to resume fire at a moment's notice. Although all of the second parallel batteries were not finished according to plan, enough ordnance was now available to level a final, crippling fire against Cornwallis's crumbling ramparts should Washington decide that an assault was

24. Washington, *Diaries*, 2:268-69; Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 5; By coincidence, Lord Cornwallis then served as Constable of the Tower of London, in which Laurens's father was incarcerated. Thacher, *Military Journal*, p. 288n; The Moore house was owned in fee by Governor (General) Thomas Nelson, although Mrs. Moore held a life interest in the structure. Lossing, *Pictorial Field-Book of the Revolution*, 2:324.

25. Denny, *Military Journal*, p. 44; Davis, *Campaign that Won America*, pp. 260-61; Arthur, *End of a Revolution*, p. 149.

26. Davis, *Campaign that Won America*, p. 261.

27. *Orderly Book of the Siege of Yorktown*, p. 44; Clasen, *Revolutionary Journal*, p. 153; Greene, *German Element in the War of American Independence*, p. 72; Wright, "Notes on the Continental Army," p. 96; Arthur, *End of a Revolution*, p. 155.

necessary. Lieutenant Feltman of the First Pennsylvania counted sixty pieces of armament in the batteries attached to the second parallel before Yorktown.²⁸

But prospects for renewing the siege became increasingly remote as the day passed. At the Moore house negotiations dragged on as it appeared Cornwallis would try to obtain the least offensive arrangements for the surrender of his army. Lieutenant Colonel Dundas and Major Ross delayed the proceedings with arguments over many of the proposed articles of capitulation.²⁹ One area of prime dispute concerned the surrender ceremony. Cornwallis's agents demanded the same terms accorded General Burgoyne at Saratoga, when the Americans had allowed the British Army to march out with colors flying. This Laurens and de Noailles would not permit. The humiliating and recent capitulation of General Lincoln's army at Charleston was fresh in mind.³⁰

But Laurens and de Noailles did concede, albeit reluctantly, some honors of war for the British stationed at Gloucester. These troops, maintained Major Ross, had remained largely unmolested through the siege. Laurens argued that the Gloucester troops composed part of the single Yorktown garrison. A compromise was reached that allowed Tarleton's cavalry to ride forth with swords drawn, but the infantry would surrender with cased colors, the same as at Yorktown.³¹ In another debate, the Allies' commissioners steadfastly refused to accept a condition advanced by the

28. Feltman's breakdown of ordnance for the respective batteries follows: Battery 1B--one eight-inch howitzer, eight thirteen-inch mortars, and two royals, all of brass; Battery 3B--six twenty-four-pounders, brass; Battery 5B--four eighteen-pounders and two twenty-four-pounders, brass; Battery 6B--four eighteen-pounders and two twenty-four-pounders, brass; Battery 8B--four eighteen-pounders, iron; Redoubt 9B--two ten-inch mortars and two royals; Battery 11B--ten eighteen-pounders (some of these were apparently twenty-four-pounders), three ten-inch mortars, one eight-inch howitzer, and two royals; Redoubt 10B--one iron eighteen-pounder, two howitzers, two mortars, and two royals. Feltman did not include the ordnance mounted in the French batteries 1A and 2A at the far left, opposite the Fusiliers' Redoubt. "Journal of Lieut. William Feltman," p. 321.

29. Washington, *Diaries*, 2:268.

30. Patton, "Campaign of the Allies," p. 264; "The most honourable and ordinary terms of capitulation are, for the garrison to march out at the breach with arms and baggage, drums beating, colours flying, matches lighted, with some pieces of artillery, waggons, and convoys for their baggage, and for the sick and wounded &c." Smith, *Universal Military Dictionary*, p. 232.

31. Fleming, *Beat the Last Drum*, p. 322.

British that would allow Cornwallis's soldiers to be shipped to England on parole under promise not to fight France or the United States again.³²

Another controversial article dealt with the question of the Loyalists, those Americans who had chosen to support the Crown and who had won Washington's contempt. The Allied commander rejected Cornwallis's request for immunity for the Loyalists serving with his army (most of Lieutenant Colonel Simcoe's "Queen's Rangers" fell into the Loyalist category), declaring that the matter, as well as the persons involved, lay completely within the jurisdiction of the United States Government. Washington yielded somewhat, however, in placing the sloop *Bonetta* at Cornwallis's disposal to carry dispatches to General Clinton. The vessel could proceed without inspection, subject only to being delivered to Admiral de Grasse upon its return. Washington thereby gave Cornwallis a means to convey the Loyalists under him to New York, an action that simultaneously allowed Washington to retreat gracefully from his own previously announced determination to hang all deserters found in Yorktown.³³

Late in the day, the commissioners from both sides tentatively agreed on a draft set of Articles of Capitulation to be submitted for Cornwallis's approval.³⁴ Despite the delay, the day's negotiations evoked general optimism among the Allies. Captain Hamilton could write his wife of the recent events and conclude joyfully that "Tomorrow Cornwallis and his army are ours. . . ."³⁵

8. Cornwallis Surrenders

1. Signing the "Articles of Capitulation"

The armistice continued through the night. By morning hundreds of civilians, apprised of the momentous events taking shape, had assembled in wagons and carriages from miles around to witness the surrender of the British Army.³⁶ Shortly after daybreak Lieutenant Colonel Laurens dispatched a message to the British envoys outlining procedures of capitulation:

32. Whitridge, *Rochambeau*, pp. 225-26.

33. Agniel, *Late Affair*, p. 133; Arthur, *End of a Revolution*, p. 151; Some Loyalists, along with blacks and other refugees, were already fleeing Yorktown in whatever small boats were available. Memo dated October 24, 1781, aboard *London at Sea*, in Chadwick, *Graves Papers*, p. 141; Hatch, "York Under the Hill," p. 64.

34. Washington, *Diaries*, 2:268.

35. Hamilton to wife, October 18, 1781, George Bancroft Collection, New York Public Library.

36. Thacher, *Military Journal*, p. 289; Edward Burke to Arthur Middleton, October 16 (when letter was begun), 1781, "Correspondence of Arthur Middleton," p. 186; Davis, *Campaign that Won America*, pp. 263-64.

I . . . am instructed to inform you that the Generals of the Allied Army will be at the Redoubt [*sic*] on the right of our second parallel at 9 o'clock--this morning--when they expect to receive Lt Cornwallis's definitive Answer and sign the Capitulation. The Works on the York side as mentioned last night, to be delivered immediately after signing--those at Gloucester as soon as a message can be sent to them. The Garrison of York to march out at 12 o'clock and that of Gloucester at 2 in the afternoon.³⁷

The times specified were shortly revised by Washington, perhaps to allow the armies greater time to organize for the surrender ceremony. He notified Cornwallis that he expected the Articles signed by 11:00 A.M. and the British garrison to march out three hours later.³⁸

Near the appointed hour the British general and his naval commander, Captain Thomas Symonds, affixed their signatures to the document and sent it to the Allied leaders waiting in Redoubt 10B. There the Commander-in-Chief wrote "Done in the trenches before York Town in Virginia Oct 19 1781," and signed the paper "G. Washington." Rochambeau signed for the Army of France and Admiral de Barras for the French Navy in place of de Grasse who could not be present.³⁹ With these signatures, the Siege of Yorktown was formally ended.

2. Occupying the British Works

Occupation of the British fortifications began within the hour. At noon the enemy troops lowered their standard and evacuated their works. Two battalions, one each of French and American soldiers, marched forward from the second parallel to enter two British redoubts located on the east side of Yorktown near the river (Nos. 7 and 8). Major James Hamilton, of the First Pennsylvania, commanded the American party of 100 infantrymen; the Marquis de LavaJ commanded a like number of French grenadiers of Bourbonnois. Hamilton advanced to the redoubt on the right and took

37. Laurens to Lieutenant Colonel Dundas(?), October 19, 1781, Morgan Manuscripts, vol. 1, The Siege of Yorktown and Surrender of Cornwallis, Pierpont Morgan Library. As evidence of the great technical detail accorded preparation of the Articles of Capitulation, Laurens requested his British counterpart "to erase the word *light* in the article relative to the possession of the works--that the clause may express American Infantry instead of American Light Infantry." *Ibid.*

38. Washington, *Diaries*, 2:269.

39. Cornwallis to Clinton, October 20, 1781, containing copies of the Articles of Capitulation, Henry Clinton Papers, William L. Clements Library; De Grasse was suffering from an attack of asthma. Closen, *Revolutionary Journal*, p. 152; A complete text of the "Articles of Capitulation" appears in Appendix E.

possession, whereupon young Lieutenant Denny prepared to plant the regimental standard on the parapet. His efforts were interrupted, however, by Baron Steuben, who had accompanied the party. The baron rudely grabbed the standard from Denny's grasp and planted it himself, an action that provoked the ire of Colonel Richard Butler, who watched the episode from the rear.⁴⁰

Soon the French standard waved over the left redoubt and Allied picket troops advanced to complete the occupation in the British earthworks all along the line. More Allied troops blocked the Hampton Road into Yorktown to halt all communication until Allied officers of the various departments completed an inventory of the property and stores remaining with Cornwallis's forces. Meantime, more Pennsylvania troops began leveling the French earthworks that straddled Hampton Road.⁴¹ These comprised Redoubt 4B of the second parallel plus parts of the French communication trenches and the French sector of the first parallel.

3. The Ceremony

While the occupation of the British works proceeded, the Allied armies of France and the United States paraded in a field, then formed ranks three deep about twenty yards apart along Hampton Road, the French on the west side, the Americans on the east.⁴² The Allied formation began at about the

40. Denny, *Military Journal*, p. 44; The incident very nearly caused a duel between Butler and Steuben, and only the intercession of Washington and Rochambeau prevented that recourse. Davis, *Campaign that Won America*, p. 263.

41. Colonel Richard Butler to Brigadier General William Irvine, October 22, 1781, William Irvine Papers, vol. 5, Historical Society of Pennsylvania; Closen, *Revolutionary Journal*, p. 153; *New York Journal*, November 12, 1781, reproduced in Moore, *Diary of the American Revolution*, p. 508; Johnston, *Yorktown Campaign*, p. 155; Davis, *Campaign that Won America*, p. 263; Arthur, *End of a Revolution*, p. 151.

42. The relative positions of the French and American troops as they lined Hampton Road has long been in doubt. There exists, however, good documentary evidence for placing the Americans east and the French west of the highway. A soldier of a Pennsylvania regiment just landed on October 19 recalled that "the British Army marched out and grounded their arms in front of our line. Our whole army drew up for them to march through. The French on *their* [the British] right and the Americans on *their* left" (italics added). William McDowell, "Journal of Lieut. William McDowell, of the First Penn'a Regiment, In the Southern Campaign. 1781-1782," in William H. Egle, ed., *Journals and Diaries of the War of the Revolution* (Harrisburg: E. K. Meyers, 1893), p. 303; A German soldier who participated in the ceremony wrote that "the French stood by our marching out on our right . . .," while "on the left stood on the left, first the American regular troops, after them (continued)

point where the second parallel had intersected the highway, and it stretched south for nearly a mile either side of Hampton Road.⁴³

Rochambeau's army stood resplendent in their newly-donned white uniforms of long coats and waistcoats with various colored lapels designating the regimental organizations. Soissonois soldiers had red lapels that complemented light blue collars and yellow buttons; the troops of Bourbonnois wore crimson lapels, set against pink or green collars, and white buttons; those of Saintonge were similar to the soldiers of Soissonois, with sky-blue collars and yellow buttons; Touraine soldiers sported violet lapels and collars and yellow buttons; Agenois troops had violet lapels also, but displayed deep yellow collars and white buttons--some might have worn uniforms with grey lapels; the men of Royal Deux-ponts wore blue coats with blue collars and light yellow lapels. Black gaiters pulled over white broadcloth encased the Frenchmen's legs. The colors of France, a golden

42. (continued) the Virginia militia" Second Lieutenant Jakob Ernst Kling to unknown recipient, November 4, 1781, Hessisches Staatsarchiv, Marburg/Lahn, Germany, translated by John Luzader; Yet another participant, a French soldier, noted that "the Americans [were] on the right and the French on the left" of Hampton Road, doubtless as he faced Yorktown. "Abstract of Operations"; And the French officer Barneville similarly reported that the American Army stood "in line on the right and the French army on the left. . . ." "War Diary," p. 276; See also Thacher, *Military Journal*, p. 289; Furthermore, it would have been eminently logical for the French and American forces to retain the relative positions they had occupied throughout the siege. The one known extant map that diagrams the surrender ceremony places the Americans east, and the French west, of Hampton Road. See Map 56A ([Ezra Stiles,] "Surrender Oct. 19, 1781," Yale University Library, New Haven, Connecticut); Artist John Trumbull, who visited Yorktown ten years later to gather data for a painting of the surrender, learned that "the American troops were drawn up on the right of the road *leading into York*. . . ." (italics added). *Autobiography, Reminiscences and Letters of John Trumbull, from 1756 to 1841* (New York: Wiley and Putnam, 1841), p. 424.

43. "Abstract of Operations"; Edward Burke, who witnessed the surrender, wrote that "the American & french Army formed two lines of Order of Battel [*sic*] from the head of our Works along the road w^{ch} led out of the Town." Burke to Arthur Middleton, October 16 (when letter was begun), 1781, "Correspondence of Arthur Middleton," p. 186; Artist John Trumbull painted a watercolor of Yorktown during his visit there on April 23, 1791. On the reverse of his painting Trumbull observed that the view depicted was that "seen from the point at which the British Army enter'd between the two lines of the Allied troops of America & France at the Surrender in 81.--distance from the advanc'd [British horn]work, 270 yards." MSS, box 1, item 14, Fordham University Library, Bronx, New York.

fleur-de-lis embroidered on a white silken background, undulated in the breeze at the head of each regiment.⁴⁴

In striking contrast to the French stood the American Continentals, proudly at attention, but wearing shabby blue uniforms for the most part ragged and soiled. The militia wore a motley assortment of uniforms and a potpourri of leather hunting shirts and breeches, clothes associated with backwoodsmen along the frontier. American regimental standards waved over the line while the music of a French military band, the only one in America, helped the soldiers pass the time until the British appeared.⁴⁵ On the right of the American line, nearest the Yorktown garrison, General Washington waited on horseback with his general officers. Facing them across the road were Count Rochambeau, Admiral de Barras, and the principal French military and naval officers.⁴⁶

The British were late. At about three o'clock Cornwallis's army emerged on the plain before their fortifications, slightly east of the horn-work. There the regiments paraded.⁴⁷ Numerically, the units were greatly

44. Arthur, *End of a Revolution*, p. 153; Scheer and Rankin, *Rebels and Redcoats*, p. 570; A German soldier remarked that "the French troops appeared very well, they were good looking, tall, well-washed men." Doehla, "Journal of Johann Conrad Doehla," p. 57.

45. Scheer and Rankin, *Rebels and Redcoats*, p. 570; Arthur, *End of a Revolution*, pp. 152-53; Davis, *Campaign that Won America*, p. 263; William T. Partridge, Jr., "The Battleflags at Yorktown," *St. Nicholas* 62 (October, 1935): 11.

46. Letter dated October 21, 1781, in the *New Jersey Gazette*, November 7, 1781, reproduced in Moore, *Diary of the American Revolution*, p. 508; Map 56A; Trumbull, *Autobiography*, p. 424.

47. "Orders of General Lord Cornwallis. Head-Quarter. 19th October 1781," in *Wertgetreue Abschrift eines Tagebuchs eines markgräflischen Soldaten*. The time the British marched out of Yorktown varied slightly among different sources, although a consensus placed it in the area of 3:00 P.M. The German soldier cited in *ibid.* quoted Cornwallis's orders as specifying that precise time. The Frenchman Barneville cited three o'clock as the time in his "War Diary," p. 276, as did a Virginia Militia officer, Colonel William Fontaine, in a description of the surrender dated October 26, 1781, contained in Johnston, *Yorktown Campaign*, p. 177. Lieutenant Jakob Ernst Kling of the Hessian soldiers put the time at "between 3 and 4:00." Letter to unknown recipient, November 4, 1781. Yet another German said that the British marched out "at about 4 o'clock." Letter from Johann Radler to his mother in Mainbernheim, December 1781, Historischer Verein, Mittelfranken, Germany, translated by John Luzader. General Henry Knox vaguely referred to the event as occurring at "about two o'clock," which (continued)

reduced; large numbers of troops, roughly half, in fact, remained sick or wounded in Yorktown.⁴⁸ The hundreds that paraded, however, wore clean, bright uniforms, the officers with yellow collars, cuffs, and lapels, and silver buttons contrasting with red waistcoats, white sashes, and white breeches. Cockades and silver lace on the hats complemented the silver loops on the coats. The artillerymen wore blue coats and black-laced hats, while the infantrymen dressed in the bright red waistcoats that had come to symbolize the enemy. The Hessian regiments mostly wore blue uniforms of a shade approaching that used by many of the Americans.⁴⁹

Once formed in ranks, at a roll of the drums the British platoons began their melancholy procession along Hampton Road toward the waiting columns of their victors. Having been refused the customary honor of playing an American or French march (General Lincoln had not been allowed to play British music when he surrendered Charleston), the British musicians gave forth with a native piece some recognized as "The World Turned Upside Down," but which could easily have been a like-sounding tune entitled "The King'll Come Into His Own Again."⁵⁰

47. (continued) was too early. Knox to John Adams, October 21, 1781, Henry Knox Papers (CNHP). Closen also cites that time. *Revolutionary Journal*, p. 153. And Lieutenant Swartwout said that the British Army came out of Yorktown "at one o'clock P M." "Journal of Barnardus Swartwout," p. 38.

48. Davis stated that "about 3500 troops had come out to surrender; as many more waited in Yorktown, mostly the sick and wounded." *Campaign that Won America*, p. 267.

49. North, *Military Uniforms*, pp. 24-26; For specific dress of the various British and Hessian units, see Mollo and McGregor, *Uniforms of the American Revolution*, *passim*.

50. There is little doubt that the British musicians played a march as the army advanced down Hampton Road. The very fact that the Articles stipulated *against* their playing a French or American march implied as much. Most contemporary descriptions of the surrender contain references to some sort of musical activity on the part of the British. Swartwout spoke of the British "Drums beating, to them an unpleasant march. . . ." "Journal of Barnardus Swartwout," p. 38. Lieutenant Denny said that the "drums beat as if they did not care how." *Military Journal*, p. 44. See also "Abstract of Operations"; Edward Hand to Jasper Yeates, October 19, 1781, Edward Hand Papers, vol. 2, item 139, New York Public Library; Thacher, *Military Journal*, p. 289; and Lieutenant Jakob Ernst Kling to unknown recipient, November 4, 1781. Some sources allude to melodic music played by the British band. Kling, in *ibid.*, wrote that the army advanced "with military music." Another German soldier remarked that "we marched to military music." Letter from Johann Radler to his mother in Mainbernheim, December 1781. Doehla stated that "drums and fifes [were] playing." "Journal of Johann Conrad Doehla," p. 150. Edward Burke, who watched the proceedings, wrote Arthur (continued)

The slow-moving column advanced to the dirgelike strains, the soldiers "heavily burdened with their effects" and with their muskets at arms.⁵¹ At the head marched the British color-bearers, their flags furled and cased. Brigadier General Charles O'Hara, on horseback, led the procession, and as he approached the Allies Count Mathieu Dumas rode forward to meet him. The Irishman asked for Rochambeau and Dumas directed him toward the head of the French column arrayed to the west of Hampton Road. "Guessing his intention," recalled Dumas, "I galloped on to place myself between him and M. de Rochambeau, who at that moment made me a sign, pointing to General Washington who was opposite to him. . . ." Dumas quickly conducted O'Hara across the road to where Washington waited. Apologizing for the error and for Cornwallis's absence from the ceremony,⁵² the British general extended his sword for Washington's acceptance. But the Allied commander demurred. "Never from such a good hand," he said, and referred O'Hara to his deputy commander, General Lincoln, who took the sword and immediately returned it. Lincoln then turned

50. (continued) Middleton that "they marched . . . to the Sound of Musick [*sic*], not Military Marches, but of Certain Airs, wch. had in them so peculiar a strain of melancholy. . . ." October 16 (when letter was begun), 1781, "Correspondence of Arthur Middleton," p. 187. There is certain debate over whether the British musicians, in fact, played "The World Turned Upside Down," or some other tune. Asa Redington, who was present, reported that "the British bands played that old tune about the world being turned upside down. . . ." "Narrative of Asa Redington," p. 15. However, Thomas J. Fleming, *Beat the Last Drum*, p. 357n, observes that the first specific reference to this particular tune did not appear until 1822 in Alexander Garden, *Anecdotes of the American Revolution* (see also Davis, *Campaign that Won America*, p. 306). Fleming further points out that this was a popular tune of the period and had numerous ballads and verses written to it, including "When the King Enjoys His Own Again." The tune, moreover, was a despondent one and therefore seems to fit the contemporary accounts as well as the solemnity of the occasion. "Americans," writes Fleming, "seized on the 'Upside Down' version because it so exactly fitted their view of the event." *Beat the Last Drum*, p. 357n. The alternative, "The King'll Come Into His Own Again," is given in John R. Alden, *A History of the American Revolution* (New York: Alfred A. Knopf, 1972), p. 474.

51. Barneville, "War Diary," p. 276; Doehla said that the muskets were shouldered. "Journal of Johann Conrad Doehla," p. 56.

52. O'Hara told Washington that Cornwallis was sick and could not be present. Blanchard, *Journal*, pp. 151-52; Thacher, *Military Journal*, p. 289; Commodore Richard Taylor, cited in Davis, *Campaign that Won America*, p. 264; Doubtless Cornwallis was sick at heart from his capitulation, but he could have been genuinely ill from the same fever that afflicted many of his troops throughout the siege. Both Rochambeau and Lafayette on several occasions during the siege had been indisposed with fever. Whitridge, *Rochambeau*, pp. 226-27.

and accompanied the British along the highway to the field selected for the disarmament.⁵³

Some of the Allied soldiers who watched Cornwallis's troops file by left vivid impressions of the event. A Virginia officer observed that "their knees seemed to tremble, and you could not see a platoon that marched in any order."⁵⁴ Two Americans noted that the British appeared to be intoxicated as they marched along in an unruly fashion.⁵⁵ Dr. Thacher, who witnessed the procession from horseback, remembered "a disorderly and unsoldierly conduct" on the part of the British--"their step was irregular, and their ranks frequently broken."⁵⁶ A civilian present vented his emotions in writing at the scene:

I detest the British Army, and despise from my Soul the mass of unfeeling men w^{ch} compose its Officers, But their pride, insolence and insults, their present situation in w^{ch} all ranks of them discover a condescension and humility bordering on that of a Spaniel; this, I say, is a good Lesson, & is one instance of the inconstancy of fortune, & of the strange Vicissitudes [*sic*] in the Affairs of this World.⁵⁷

A writer to the *New Jersey Gazette* described the surrendering troops thusly:

53. This description of the sword ceremony is based on data contained in the account of Count Mathieu Dumas, in Scheer and Rankin, *Rebels and Red-coats*, pp. 571-72; Thacher, *Military Journal*, p. 289; Blanchard, *Journal*, p. 152; the account of Commodore Richard Taylor of the American Navy, in Davis, *Campaign that Won America*, p. 264; the account of Lieutenant Colonel Henry Lee, in Johnston, *Yorktown Campaign*, p. 176; Letter dated October 21, 1781, in the *New Jersey Gazette*, November 7, 1781, reproduced in Moore, *Diary of the American Revolution*, p. 508; and the *New York Journal*, November 12, 1781, reproduced in *ibid*.

54. "Description of the Surrender by Colonel Fontaine, Virginia Militia, dated October 26, 1781," in Johnston, *Yorktown Campaign*, p. 177; There is little doubt that the British were intimidated by the numbers of the Allies who lined the road. A Hessian soldier wrote: "We saw all these soldiers with surprise and were astonished over this multitude of people who [had] besieged us." Lieutenant Jakob Ernst Kling to unknown recipient, November 4, 1781.

55. Feltman, "Journal of Lieut. William Feltman," p. 322; McDowell, "Journal of Lieut. William McDowell," in Egle, *Journals and Diaries*, p. 303.

56. Thacher, *Military Journal*, p. 289.

57. Edward Burke to Arthur Middleton, October 16 (when letter was begun), 1781, "Correspondence of Arthur Middleton," p. 187.

The British officers in general behaved like boys who had been whipped at school; some bit their lips, some pouted, others cried; their round, broad-brimmed hats were well adapted to the occasion, hiding those faces they were ashamed to show. The foreign [German] regiments made a much more military appearance, and the conduct of their officers was far more becoming men of fortitude.⁵⁸

The British troops came on between the French and Americans drawn up either side of Hampton Road for a mile or more. Past the first siege line the dejected column marched, past the second parallel and beyond the old British barbette battery converted to a redoubt by the Americans. No major incident marred the procession.⁵⁹ At the end of the Allied ranks the defeated column swung to the right off the road and entered a broad cultivated plain designated as the surrender field. The ground lay in a roughly triangular space bounded on the east by Hampton Road and on the south and west by secondary routes leading into that highway from the area of the Allied encampments.⁶⁰

58. Letter dated October 21, 1781, in the *New Jersey Gazette*, November 7, 1781, reproduced in Moore, *Diary of the American Revolution*, p. 508.

59. One story, perhaps apocryphal, described how the British kept their eyes turned to the French, as if to ignore American participation in the victory. When this occurred, Lafayette snapped an order to an American band, which suddenly broke into a loud rendition of "Yankee Doodle." The British jerked their heads to the left in surprise and by this ploy the vanquished visually acknowledged their subjugation by United States soldiers. Fleming, *Beat the Last Drum*, pp. 328-29.

60. Maps 2F, 15P, 17F, 24F, 29B, 41F, 49F. See also "Historic Base Map, 'Yorktown Battlefield,' Colonial National Historical Park, Virginia," in Hatch and Greene, *Developed Sites and Colonial Rural Fences*, p. 82. The ground today called "Surrender Field" does not conform exactly to that indicated by the historical maps cited above, which, if correct, place the site slightly to the north of the vestiges of a Confederate redoubt situated on the terrain. See map, Department of the Interior, U.S. Geological Survey, "Colonial National Monument, Yorktown Battlefield, Virginia," 1931. The discrepancy can possibly be explained by the confusion engendered by local residents over the years as to the exact location of the surrender. As early as 1848 this was apparent, as Benson Lossing recounted:

We next visited the places designated by tradition as the spot where the British laid down their arms. In a field, not more than half a mile southward of the British entrenchments, three tulip poplars were pointed out for many years as indices of the exact place of surrender. The old trees are now gone, but three small ones supply their places. This on the east side of the Hampton road. In Trumbull's picture of the *Surrender*,
(continued)

In the field, mounted French Hussars had formed a great circle, and into this ring marched the British color-bearers.⁶¹ Twenty-eight regimental officers of Cornwallis's army advanced in line formation and halted six paces opposite a like number of American sergeants posted to receive the flags. But when ordered to deliver the colors the British demurred, citing as their reason the impropriety of having noncommissioned officers accept them. The impasse was broken by Lieutenant Colonel Hamilton who, acceding to the British, directed an American ensign to receive the colors. The junior officer took them one by one, handing each to an American sergeant.⁶²

Then came the soldiers, filing into the circle of French cavalymen and discarding their muskets, cartridge boxes, swords, drums, and other

60. (continued)

the house of Governor Nelson is seen. Trumbull visited Yorktown for the purpose of sketching the ground, in 1791, and doubtless had the true location pointed out to him. From the field where the tulip poplars are, however, the house can not be seen, but from a large field on the west side of the Hampton road, sloping in the direction of the 'Pigeon Quarter,' and about a mile from the British lines (the distance mentioned in history), the house may be plainly seen. It is the opinion of Mr. [William] Nelson and other intelligent gentlemen at Yorktown, that the large field . . . is the locality where the captive soldiers laid down their arms. . . .

Pictorial Field-Book of the Revolution, 2:324. Quite possibly the presence of private inholdings along the eastern side of Hampton Road contributed to influence the development of the present surrender site by the National Park Service. See, for example, the map, "Yorktown Battlefield," following p. 55 in Robert L. Steenhagen *et al.*, *A Master Plan for Colonial National Historical Park* (Washington: National Park Service, 1971).

61. These French cavalymen probably belonged to the Volunteers of St. Simon and were mounted after their arrival in Virginia from the West Indies. It is extremely doubtful that these troops belonged to Lauzun's Legion, which had been sent overland directly to Gloucester before the siege began and which remained there until after the surrender.

62. The ensign was an eighteen-year-old named Wilson, supposedly the youngest commissioned officer then in the Continental Army. Lossing, *Pictorial Field-Book of the Revolution*, 2:318, 320; Redington alluded to this incident simply: The British "were disposed to resent the idea of surrendering their flags furled, and to non-commissioned officers." "Narrative of Asa Redington," p. 15; Robert Arthur believed that the color ceremony followed the grounding of arms. *End of a Revolution*, pp. 154-55.

musical instruments in a pile on the ground. As a courtesy to the vanquished, British and Hessian officers were allowed to retain their sabres. Soldiers were permitted to keep their knapsacks. Washington, Rochambeau, and the other Allied leaders sat their mounts silently and watched.⁶³ Admiral de Barras, an unaccustomed equestrian, nevertheless weathered his steed well. Only when his mount suddenly stretched forward to relieve himself did de Barras appear shaken. "Good heavens!" he exclaimed. "I believe my horse is sinking!"⁶⁴

The disarmament lasted over an hour. Some of the prisoners sought to throw down their muskets with such force that they would break--a practice General Lincoln ordered stopped. Many of the men wept openly as they passed by the growing pile of weapons and accoutrements.⁶⁵ And "the English," wrote a French officer, "displayed much arrogance and ill humor during this melancholy ceremony, they particularly affected great contempt for the Americans."⁶⁶ After grounding their arms, the soldiers marched to the left, then left again, and back onto the highway.⁶⁷ They passed back between the Allied ranks and into Yorktown where they took quarters in their tents, guarded by American infantrymen and French grenadiers. "I am glad that the convention was made because the enemy armies were so great that our situation was hopeless," remarked a Hessian who, with his countrymen, was more favorably disposed towards the Allies than were the British troops. "The French soldiers and the American regulars were fine looking troops, but the militia were dirty, unruly, and easily bribed--bad soldiers and greedy

63. Swartwout, "Journal of Barnardus Swartwout," p. 38; Doehla, "Journal of Johann Conrad Doehla," p. 58; "Abstract of Operations"; Closen, *Revolutionary Journal*, p. 153; Barneville, "War Diary," p. 276; Lieutenant Jakob Ernst Kling to unknown recipient, November 4, 1781; Letter from soldier Johann Radler to his mother in Mainbernheim, December 1781.

64. Closen, *Revolutionary Journal*, p. 153; Another spectator was Washington's stepson, Captain John Parke Custis, who served as an aide-de-camp to the commander at Yorktown. Stricken with the fever that was shortly to kill him, Custis witnessed the surrender from a carriage, much against the advice of army physicians. Fleming, *Beat the Last Drum*, pp. 332-33.

65. Doehla, "Journal of Johann Conrad Doehla," p. 57; Thacher, *Military Journal*, p. 290; Arthur, *End of a Revolution*, p. 154.

66. Blanchard, *Journal*, p. 152.

67. Map 56A.

men.⁶⁸ Following the surrender of the Yorktown garrison, French guards took possession of the earthen defenses west of Hampton Road while the Americans occupied those to the east.⁶⁹

4. Surrender at Gloucester

Across the York River at Gloucester the British capitulated in a ceremony nearly identical to that completed at Yorktown.⁷⁰ Washington had directed General Choisy to send forward at one o'clock one detachment of French and one of Americans, each to possess an enemy redoubt on the British perimeter. The Gloucester garrison, instructed the Allied commander,

is to march out at three O'clock with shouldered Arms, Drums beating a british [*sic*] or German March, the Cavalry with their Swords drawn, and the Colours of the whole cased; to a place which you will be so good to appoint, in front of the posts, where they will ground their Arms and afterwards return to their encampment.⁷¹

Lieutenant Colonel Banastre Tarleton commanded the British forces at Gloucester. Because of the time lapse in transmitting messages across the river, Choisy had not yet received a copy of the Articles of Capitulation. In an unusual gesture, Tarleton visited the Frenchman's headquarters early in the afternoon to demand a copy of the Articles before he surrendered. Choisy conveyed the request to Washington, adding, "I hope likewise your excellency will acquaint me with them."⁷² Tarleton, whose troops had previously inflicted gross injury and damage upon residents of the Virginia countryside, feared for his personal safety at the hands of vengeful American militiamen, a dread he communicated to Choisy. The French general indulged his adversary, assigning Lieutenant Colonel John F. Mercer's

68. Letter from soldier Johann Radler to his mother in Mainbernheim, December 1781; Wrote another Hessian: "It is well that they have made such an accord with us." "The French were to us very friendly, the officers as well as the soldiers. It was also likewise with the Americans." Lieutenant Jakob Ernst Kling to unknown recipient, November 4, 1781.

69. Barneville, "War Diary," p. 276; Swartwout, "Journal of Barnardus Swartwout," p. 38.

70. Swartwout, "Journal of Barnardus Swartwout," p. 38.

71. Washington to Choisy, October 19, 1781, in *Writings*, 23:240-41.

72. Choisy to Washington, 2:00 P.M., October 19, 1781, Simon Gratz Autograph Collection, Historical Society of Pennsylvania.

battalion of Virginia Militia, along with the Duke de Lauzun's Legion, to formally represent the Allies at the surrender ceremony. Thus pre-occupied, the militia could pose little threat to Tarleton's well-being.⁷³

At 3:00 P.M., just as the capitulation of the British at Yorktown was getting underway, the garrison at Gloucester emerged from its earthen defenses. Tarleton's legionnaires paraded on horseback with their swords drawn. Lieutenant Colonel Simcoc's Rangers preceded the long column of redcoated infantrymen and bluecoated Germans. Following their grounding of arms, the prisoners passed back behind the fortifications. A contingent of Mercer's Battalion immediately occupied the redoubts of the British line.⁷⁴ With the disarmament at Gloucester Point, the British capitulation was complete.

5. The Allies Enter Yorktown

The immediate aftermath of the surrender appears to have been rife with disorganization. "Much confusion and riot among the British through the day," noted Lieutenant Denny.⁷⁵ Many of the vanquished became drunk and vented their anger and frustration through the afternoon and night. A British soldier bayoneted and killed an American sentinel, while others tried forcibly to break open provisions but were repulsed by the American patrols.⁷⁶ Everywhere in Yorktown lay stricken Negroes, dead or dying of smallpox compounded by other sicknesses.⁷⁷ "Never was [I] in so filthy a place," wrote Denny. "Vast heaps of shot and shells lying about in every quarter, which came from our works."⁷⁸ After nightfall, a group of seventeen Hessian soldiers entered the fallen garrison, supposedly survivors of a thousand-man contingent that had marched north from South Carolina and had stumbled into the Allied troops posted around Williamsburg. Most of the troops had been captured, but the dutiful remnant had pressed on to Yorktown to join Cornwallis. There a cordon of French soldiers guarded them from Americans bent on divesting them of their equipment.⁷⁹

73. "Account of the Surrender by Lieutenant-colonel Harry Lee," in Johnston, *Yorktown Campaign*, p. 177; Arthur, *End of a Revolution*, p. 155.

74. "Account of the Surrender by Lieutenant-colonel Harry Lee," in Johnston, *Yorktown Campaign*, p. 177; Fleming, *Beat the Last Drum*, p. 332; Arthur, *End of a Revolution*, p. 156.

75. *Military Journal*, p. 44.

76. *Ibid.*, pp. 44-45.

77. *Ibid.*, p. 45.

78. *Ibid.*

79. Davis, *Campaign that Won America*, pp. 268-69.

The rampant disorganization that marked the hours after the capitulation afforded both sides an emotional release from the trauma experienced over the past few weeks. The confused dispositions undoubtedly reflected manifestations of the joy and grief felt by the men over the momentous development. Realization of the broader implications of Cornwallis's surrender must have been comprehended by many of the defeated as well as by the victors. But for the present, factors of personal safety and survival overrode inclinations to reflect on the event. That would occur soon. Scarcely two weeks later a young French soldier would express precisely these sentiments in a letter home:

You may imagine, my dear Mother, the mingled feelings of joy, contentment and gratitude to the Almighty which fill our hearts. We feel that we have not fought in vain. Any regret I may have had through all these years because I did not enjoy the privileges of an officer, but remained a simple volunteer, have vanished and trouble me no more. I know now that I have been an actor in events which the world and history will never forget.⁸⁰

80. Gaston Marie Léonard MauSSION de la Bastie to his mother, November 5, 1781, in Radziwill, *They Knew the Washingtons*, p. 108.

CHAPTER XVI: BROKEN SWORD

A. The Aftermath of Yorktown

1. Elation of the Allies

The days immediately following the surrender of Cornwallis's army were disordered ones. The Allied forces confronted manifold problems of organization and disposition of the prisoners, property, and supplies they had captured. On October 20 Washington issued a congratulatory message extolling his army and navy for the victory. De Grasse, he said, was "an Admiral whose fortune and talents ensure great events." The French West Indian troops were "an army of the most admirable composition both in Officers and men . . . and their Cooperation has Insured us the present signal success."¹ Henry Knox echoed these sentiments in a letter to John Jay dated October 21:

This important affair has been effected by the most harmonious concurrence of circumstances that could possibly have happened. A fleet and troops from the West Indies under the orders of one of the best men in the world--An Army of American and French troops marching from the North River 500 miles--and the fleet of Count de Barras--, all joining so exactly in point of time, as to render what has happened almost certain.²

Similar feelings appeared in nearly all the correspondence sent from the Allied camps. "The play, sir, is over," wrote Lafayette, intoning his usual histrionics. "The fifth act has just been closed."³ "After this commencing stroke, what English general will ever think of conquering America?"⁴ In a message to the Virginia delegates in Congress, General Nelson expressed weighed optimism: "This Blow, I think must be a decisive one, it being out of the Power of G. B. to replace such a number of good Troops."⁵

October 21 was a day of general thanksgiving, and Washington called on his troops to observe the occasion with the "seriousness of deportment

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1. "Orderly Book kept during the Siege of Yorktown," pp. 119-20.
 2. Henry Knox Papers (CNHP).
 3. Lafayette to M. de Vergennes, October 20, 1781, in Lafayette, *Memoirs, Correspondence and Manuscripts*, 1:444.
 4. *Ibid.*, p. 445.
 5. Nelson to Virginia delegates, October 20, 1781, in Palmer, *Calendar of Virginia State Papers*, 2:558.

and gratitude of heart" that it demanded.⁶ That evening he dined with his senior French and American officers aboard de Grasse's *Ville de Paris*, where many toasts were drunk in honor of the victory.⁷ To complete the rejoicing, Washington, in an unprecedented gesture, pardoned all soldiers then under arrest or in confinement.⁸ For the next several days the American troops heard speeches and discourses all praising the glorious event bestowed by a dotting Providence and seemingly predestinating the end of British rule in America.⁹

2. Notification of the British Hierarchy

In stark contrast to the levity of the Allied troops was the despair displayed by the senior British officers. Cornwallis penned a lengthy report describing to Clinton the developments that had culminated so disastrously in his surrender.¹⁰ Captain Symonds broke the news to Admiral Graves: "I am very Sorry to inform you," he wrote, "that the Garrison of York, and the Vessels that remained in the River, surrendered to the Enemy by Capitulation yesterday afternoon, after a siege of seventeen days."¹¹ The messages would depart on the sloop *Bonetta*, as specified in the Articles, once that vessel was readied to begin the voyage north.

Suspecting Cornwallis's intention to use the craft to convey Loyalists from Yorktown, General Nelson politely addressed the British commander, asking him to search the *Bonetta* for negroes and "Refugees from this State" before the vessel sailed.¹² According to one account, an American officer demanded to inspect the *Bonetta* before it left Yorktown, but was constrained

6. *New York Packet*, November 15, 1781, reproduced in Moore, *Diary of the American Revolution*, pp. 511-12.

7. Excerpt of Lieutenant Soret de Boisbrunet's diary, in Warrington Dawson, "A New Record of the Sieges of Yorktown and Pensacola," *Légion D'Honneur* 4 (1933-34): 85.

8. Arthur, *End of a Revolution*, pp. 156-57.

9. For an example of this elocution, heavily laden with religious overtones, see Israel Evans, *A Discourse Delivered Near York in Virginia, on the Memorable Occasion of the Surrender of the British Army to the Allied Forces of America and France* (Philadelphia: Francis Bailey, 1782).

10. See Cornwallis to Clinton, October 20, 1781, in *Rivington's Gazette*, November 24, 1781, reproduced in Moore, *Diary of the American Revolution*, pp. 512-16.

11. Symonds to Graves, October 20, 1781, in Chadwick, *Graves Papers*, p. 151.

12. Nelson to Cornwallis, October 20, 1781, in Nelson, *Letters*, p. 55.

from doing so by French officers who insisted on strict compliance with the surrender terms as regarded the craft.¹³ All of the enemy shipping, including the *Bonetta*, despite its temporary retention by the British command, passed into the hands of the French Navy as stipulated in the Articles. The seamen found only sixteen other craft intact, four cutters and twelve transports, and they set to work repairing and otherwise salvaging what else remained, including the *Guadaloupe*.¹⁴

3. Allied Losses

As the postsiege quiet settled over the ruins of Yorktown, both sides began assessing their losses in killed and wounded during the combat. According to what tabulative evidence remains, the Allies appear to have sustained 389 casualties of both officers and men. Of this figure, the French experienced heavier losses because of the greater resistance they encountered at Redoubt 9 the night of the fourteenth and because they incurred more losses than the Americans during the enemy sortie the morning of the sixteenth. One French officer and 59 men had been killed in the course of the siege; 17 officers and 177 men of the French command had been wounded. The Americans lost 1 officer and 27 men killed and 10 officers and 97 men wounded during the same period.¹⁵ The relatively light nature

13. Carl Leopold Baurmeister, *Revolution in America: Confidential Letters and Journals 1776-1784 of Adjutant General Major Baurmeister of the Hessian Forces*, trans. Bernhard A. Uhlendorf (New Brunswick, New Jersey: Rutgers University Press, 1957), p. 475.

14. Swartwout, "Journal of Barnardus Swartwout," p. 38; Hatch, "York Under the Hill," p. 65.

15. The figures given are from Arthur, *End of a Revolution*, p. 159. Freeman, *George Washington*, 5:515, stated that the Americans lost 125 and the French 253 in killed and wounded. The former figure is approximate and includes militia losses, which, though unknown exactly, were calculated proportionately from knowledge of the Continentals' own rate of loss. Freeman cites Du Bourg as authority for the French casualties. Washington noted only the number of losses sustained by the Americans and the French through the assault on Redoubts 9 and 10. *Diaries*, 2:267. For other accounts of the Allied casualties at Yorktown see La Combe, "Journal of the Siege of York," p. 5, who said that about 90 Frenchmen were killed or died from wounds and about 180 received wounds and survived. La Combe stated that "the losses of Americans is still less important, since they did not take part in the 30 September attack to the left side [Fusiliers' Redoubt] and they found little resistance from the redoubts they took during the night 14-15." *Ibid.* Baron Cloisen gave yet higher estimates for the Allied dead and wounded. *Revolutionary Journal*, p. 154. Most accounts of casualties do not include those men who died following receipt of wounds; therefore, actual deaths were probably considerably higher than indicated. Arthur, (continued)

of Allied casualties at Yorktown can be explained by the systematic procedure under which siege warfare was conducted in the eighteenth century. Had the struggle continued to its inevitable conclusion of a grand assault into the breached enemy works, the casualties would doubtless have been much greater than they actually were.¹⁶

Sickness also had contributed to reduce the effective strength of the Allied armies by the time of the surrender. Out of a total force at Yorktown numbering somewhere in the neighborhood of 20,000 men, about 1,700 Americans contracted illness or injury of one sort or another and 1,000 of these were absent from duty, probably receiving treatment in Williamsburg. Possibly as many as 1,700 French soldiers were likewise stricken. Effective Allied strength by the end of the siege probably stood at around 18,000 men present for duty.¹⁷

4. Enemy Losses

Compared to the Allies' total strength, the British suffered severe losses during the siege. By their own computation, British casualties numbered 156 officers and men killed and 326 wounded defending Yorktown. Seventy men were listed as missing, some of whom had deserted to the Allies over the past several weeks. The British figure neglected to include Major Cochrane, who technically belonged to another command, nor does it include the Commissary Officer, Perkins, who was also killed. As in the case of the lists of Allied casualties, the British tabulation of their dead did not include those wounded who later died from their injuries.¹⁸

15. (continued) *End of a Revolution*, p. 159. See also Peckham, *Toll of Independence*, p. 92. For names of many of the Allied dead see Appendices N, O, and P, in Schuyler Otis Bland, comp., ed., *The Yorktown Sesquicentennial: Proceedings of the United States Yorktown Sesquicentennial Commission in Connection with the Celebration of the Siege of Yorktown, 1781* (Washington: United States Government Printing Office, 1932), pp. 376-82.

16. Washington, *Diaries*, 2:270n.

17. Arthur, *End of a Revolution*, pp. 158-59; Johnston includes an unofficial statement that the number of sick and otherwise unfit for service in both the French and American armies numbered 1,430. *Yorktown Campaign*, p. 158; As late as October 16 Dr. Thacher had observed a propensity toward sickness especially on the part of the New England troops: "The prevalent diseases are intermittent and remittent fevers, which are very prevalent in this climate during the autumnal months." *Military Journal*, p. 286.

18. "Return of the Killed, Wounded and Missing from 28th September to 19th October 1781," Henry Clinton Papers, William L. Clements Library; Arthur, *End of a Revolution*, p. 160; For a discussion of the problems of enumerating British casualties in relation to total British Army strength, (continued)

In addition, more than 1,500 soldiers were sick or otherwise indisposed the day of the surrender.¹⁹ The number of British officers and men who became prisoners of war following the capitulation was 7,087. In addition to this figure were 84 soldiers captured by the Allies during the attacks on Redoubts 9 and 10 and during the British sortie of the sixteenth, plus 80 camp followers and 840 naval prisoners taken from the enemy vessels in York River. These brought the grand total of British captives to 8,091.²⁰

5. Equipment and Ordnance Seized

Besides the British prisoners, the Allied victors claimed virtually all of Cornwallis's military equipage. All the day following the surrender, parties of American and French troops busily collected and inventoried the various stores and munitions taken in their conquest. Soldiers were sent across the river to Gloucester to help gather all sorts of accoutrements.²¹ Despite one man's remark that "there were only 10 balls and a

18. (continued) see Freeman, *George Washington*, 5:515; A German report placed British losses much higher, claiming that 309 men were killed and 595 wounded. "Loss of Prisoners at York," Bamberg Manuscripts, collection C5, number 160, Bamberg State Archives, Bamberg, Germany, translated by James D. Mote, pp. 21-23. While the number of killed by this account appears inordinately high, it does agree with that given in the return included in Colonel George Reid to Colonel Daniel Reynolds, dated sometime after October 19, 1781, Miscellaneous Collection, William L. Clements Library; A breakdown of losses incurred among the Hessian units is given in Baurmeister, *Revolution in America*, p. 475.

19. Johnston, *Yorktown Campaign*, p. 158.

20. Arthur, *End of a Revolution*, p. 160; These figures are based on a general return of prisoners dated October 27, 1781. A return dated the nineteenth gave 7,249 as the total surrendered, though this did not include the 840 seamen. "State of the Army in Virginia under the Command of Lieut. Gen. Earl Cornwallis," Henry Clinton Papers, William L. Clements Library; See also the return for the preceding day in *ibid.*, also contained in Cornwallis, *Answer*, Appendix XXI following p. 237; Washington reported to Congress that 7,247 British troops, plus 840 sailors, were surrendered. Johnston, *Yorktown Campaign*, p. 158; Unofficial returns, which, however, give a fairly detailed breakdown of the force surrendered, are given in Colonel George Reid to Colonel Daniel Reynolds, dated sometime after October 19, 1781, Miscellaneous Collection, William L. Clements Library; and in "A List of Captures Taken at the Surrender of Lord Cornwallis at York the 17th [sic] October 1781," Lenoir Family Papers, Southern Historical Collection, University of North Carolina Library, Chapel Hill.

21. Swartwout, "Journal of Barnardus Swartwout," p. 38; Brigadier General Edward Hand to Lieutenant Colonel Jeremiah Olney, October 24, 1781, Papers of Major General Edward Hand, Historical Society of Pennsylvania, 2:21.

bomb" left in Yorktown,²² there remained much more for appropriation by the Allies. Among the spoils were six British regimental standards, eighteen German colors, and four British Union flags. The British military chest was found to contain £2,116 6d., and the number of vessels either intact or damaged in York River was considerable.²³ The Allies also garnered several hundred horses, a number of wagons with teams, and some British commissary stores of pork, bread, and flour.²⁴

The Allies' confiscation of armaments and various types of military equipage overshadowed the other spoils and symbolized the completeness of the victory. A list of articles in the Henry Knox Papers probably accounts for most of the small arms and accoutrements given up by British soldiers during the surrender ceremony October 19. These consisted of the following:

2800	Muskets with Bayonets
57	Do . . . without Bayonets
51	Good Drums
4	Damag'd drums
2689	Cartridge Boxes
1013	Swords
12	Bugal [<i>sic</i>] horns
28	Serjt Halberts ²⁵
729	Bayonet belts
804	Tin Canisters

22. Fersen, "Journal of Operations," p. 440.

23. Arthur, *End of a Revolution*, p. 160. Counting both undamaged vessels and those sunken or otherwise ruined, the French could claim four ships of war, one fire ship, twenty-nine transports, four craft directly in the service of the British Army, at least six privately-owned craft, and numerous small boats and other vessels beyond salvage. The names of the various craft are given in "Return of Vessels Taken or Destroyed in York River Virginia 19 Octo," Papers of Major General Edward Hand, Historical Society of Pennsylvania; Clasen mentioned that of sixty-three ships held by the British, thirty-two were sunk. Six of the remaining vessels were armed. *Revolutionary Journal*, p. 154.

24. *New York Journal*, November 12, 1781, reproduced in Moore, *Diary of the American Revolution*, p. 509; Fersen, "Journal of Operations," p. 440; Johnston, *Yorktown Campaign*, p. 158; Freeman, *George Washington*, 5:515-16.

25. The halbert was "a weapon borne up to the close of the 18th century by all sergeants of foot, artillery, and marines . . . in the various regiments of the English army. It consisted of a strong wooden shaft about 6 feet in length, surmounted by an instrument much resembling a bill-hook, constructed alike for cutting and thrusting, with a cross-piece of steel, less sharp, for the purpose of pushing; one end of this cross-piece was turned down as a hook for use in tearing down works against which an attack was made." Wilhelm, *Military Dictionary and Gazetteer*, p. 212.

7	Fife Cases
16	Drum Slings
80,000	Musket Cartridges
5	Axes ²⁶

Most important was the seizure of all the British heavy ordnance at Yorktown and Gloucester. Accounts vary as to the exact number of cannon, mortars, and howitzers taken, but Knox's enumeration of the captured pieces is probably the most precise. In a return compiled after the surrender, Knox accounted for 244 such weapons, including 168 bronze and iron cannon of assorted calibers, most of them mounted on garrison or ship carriages, 23 mortars, and 15 howitzers. Also included were 1 amulette, 6 swivel guns, and 31 carronades, light pieces mostly mounted on travelling carriages.²⁷ Some of the armaments, notably 3 thirteen-inch mortars and 1 sixteen-inch mortar and several howitzers, belonged to the State of Virginia and had been captured previously during Cornwallis's drive south.²⁸ And the French reclaimed 1 mortar, 5 howitzers, and 4 bronze nine-pounders they lost to the British during the fight at Point of Forks, Virginia, in June.²⁹ Most of the captured ordnance went north with the Allies when they left Yorktown. Some of the pieces needed repair. These and others were left at Philadelphia where carriages were built for them.³⁰

26. "An acct of Stores taken from the Enemy which were brought to the Magazine Near the Park of Artillery October 19th 1781," Henry Knox Papers (MHS), 7:130.

27. "Return of Ordnance and Military Stores, taken at York and Gloucester in Virginia by the Surrender of the British Army Oct. 19, 1781," Henry Knox Papers (CNHP). See also an apparently earlier return in Henry Knox Papers (MHS), 7:129, which gives the total number of cannon and mortars as 214. A German account of the ordnance surrendered substantially confirms that given by Knox. Its only discrepancy is in the total number of cannon, which is ten less than that indicated by Knox. "Loss of Prisoners at York," Bamberg Manuscripts, collection C5, number 160, pp. 21-23; The amulette was a swivel-mounted musket so huge that it often was considered heavy ordnance. Harold L. Peterson, *Book of the Continental Soldier* (Harrisburg: The Stackpole Company, 1968), pp. 54-55.

28. Captain John Pryor to Colonel William Davies, April 18, 1782, in Palmer, *Calendar of Virginia State Papers*, 3:132.

29. "Notes," *Magazine of American History* 7 (July, 1881): 65.

30. Knox to Colonel John Lamb, November 2, 1781, Henry Knox Papers (CNHP). See Appendix F for Knox's breakdown of captured artillery pieces; Today there are ten authenticated "Yorktown" pieces at the battlefield park. The ordnance taken from the British were customarily inscribed "Surrendered at the Capitulation of Yorktown," which makes identification of these pieces relatively easy. Determination of the authenticity of Allied artillery is somewhat more difficult since these weapons were not always
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6. Allied Ordnance Expenditures

As the Allies collected the surrendered military stores and weapons of the British, they also tabulated their own artillery ammunition expenditures from October 9 through 17. The figures were staggering. The Americans had fired a total of 3,312 rounds from their eighteen- and twenty-four-pounders and 2,178 rounds from their mortars and howitzers. But the French gunners had dominated the proceedings: in the course of the siege they sent 6,378 rounds of twelve-, sixteen-, and twenty-four-pounder shot into Yorktown, along with 3,569 bombs from mortars and howitzers. The grand total of ammunition discharged against Cornwallis's works by the Allied artillery was 15,437 rounds, an average of better than 1,700 rounds per day.³¹

7. Yorktown After the Siege

From all appearances, the French and American fire that raked Yorktown for nine days had been devastating. Everywhere houses lay in rubble, bodies were strewn in disarray, and buildings yet standing bore vivid imprints of their days under Allied artillery fire. Baron Cloisen left a graphic picture of the destruction:

30. (continued) so marked. Seven of the Yorktown pieces were acquired by transfer from Fort Monroe, Virginia, in 1937. Two others, both twelve-pounders and including the so-called "Lafayette" cannon, were transferred to the park from the Watervliet Arsenal, Troy, New York, by sanction of the War Department in 1938. Other Revolutionary War pieces exhibited at Yorktown but that played no role in the 1781 siege were transferred in the 1930s from the Army War College, the Norfolk Navy Yard, and the national military parks at Gettysburg, Pennsylvania, and Petersburg, Virginia. Still others came to the park by virtue of underwater salvage operations in the York River. Other extant examples of Yorktown vintage artillery have been tentatively located at Fort McNair, Virginia; the College of William and Mary in Williamsburg; the old State and War Building in Washington; and in Albany, New York. Babington, "Known 'Yorktown' guns," pp. 1-4. Two more authentic Yorktown twelve-pounders, one British and one French, took part in ceremonies marking the centennial of the siege in 1881. The cannon belonged to the "Chatham Light Artillery" unit of Chatham, Georgia, and were said to have been presented to the unit in 1791 by George Washington. Descriptions of these pieces are detailed in the *New York Times*, October 20, 1881; and in "Replies," *Magazine of American History* 7 (October, 1881): 299.

31. "Shott & Shells expended by the Allied Army at the Siege of York in Virginia, from the 9th to the 17th of October inclusive," Henry Knox Papers (MIS), 7:48; The breakdown of American artillery ammunition expenditures is presented in Appendix G.

I will never forget how frightful and disturbing was the appearance of the city of York, from the [British] fortifications on the crest to the strand below. One could not take three steps without running into some great holes made by bombs, some splinters, some balls, some half covered trenches, with scattered white or negro arms or legs, [and] some bits of uniforms. Most of the houses [were] riddled by cannon fire, and [there were] almost no window-panes in the houses.³²

In addition, Closen noted apprehension on the part of the local residents who feared even more loss of their property at the hands of the American soldiers.³³ At the same time the citizens began tallying their own losses from the British occupation of Yorktown and its environs. Damage claims filed later by the townspeople reflected the destruction, impairment, or confiscation by Cornwallis's troops of various homes, warehouses, boats, fencing, forage, animals, slaves, and other personal property.³⁴ Tempers flared in the days after the surrender as citizens sought to take, sometimes forcibly, articles previously appropriated by the enemy. Banastre Tarleton found himself publicly humiliated when a man brandishing a wooden stick accosted him in the street of Yorktown, demanding his horse. Tarleton meekly gave up the animal, much to the amusement of a watching crowd.³⁵

8. The Allies Clean Up

While officers of the defeated and victorious armies surveyed their conditions, collected supplies, and figured their losses in the wake of the capitulation, the soldiers of France and America labored to restore some order to the countryside around Yorktown. On October 27 Washington ordered patrols out to search the environs and "see that all dead carcasses . . . in and about Camp are immediately buried."

A Sergeant and twelve men from the Baron Stubens [*sic*] Division will this day Patrol from their left to the Forks of the road above Head Quarters for the above purpose. . . . Like parties will be immediately sent from General Lincoln's and the Marquis de la Payettes [*sic*] divisions, the former to scour the ground between York town, Tarleton's old camp and the right of the French Camp, the latter in front of their own camp extending to the river and as high up as the east end of York.³⁶

32. *Revolutionary Journal*, p. 155.

33. *Ibid.*

34. See Hatch, "York Under the Hill," pp. 67, 155-74.

35. Scheer and Rankin, *Rebels and Redcoats*, p. 573.

36. Washington, *Writings*, pp. 275-76.

a) Leveling the Allies' Earthworks

The principal task of the Allies during the last days of October entailed the leveling of their entrenchments about Yorktown. The job was scarcely designed to appease local property owners; Washington's pre-eminent objective in ordering the works demolished was to prevent their falling into British hands should Clinton arrive with troops, somehow reverse the situation, and lay siege against the Allies.³⁷ As early as October 20 men of the Virginia Militia were employed in tearing down the American fortifications,³⁸ and on that day Washington directed that a search be made for all available axes, no doubt to facilitate the project.³⁹

The general demolition seems to have begun October 22 for the Americans and not until November 1 for the French.⁴⁰ The difference may be accounted for by the fact that Rochambeau's troops were slated to remain at Yorktown through the winter months; the leveling was perhaps delayed until some determination was made as to what works the French wanted retained.⁴¹ On October 24 Washington directed that

Two hundred men from General Muhlenberg's Brigade will parade tomorrow morning at seven o'clock on the right of the first Parrallel [*sic*] to Level the works. They will be commanded by two Field Officers and a proportion of Captains and Subalterns. Application must be made to the Quarter Master General this evening for tools.⁴²

The work proceeded by rotation of brigades.⁴³ On the twenty-sixth, Wayne's unit was assigned to fill in the trenches, but rainy weather forced a halt to the work. Wayne's Brigade resumed this duty next day, and on the twenty-eighth Clinton's Brigade took over, joined by Colonel Ogden's Regiment

37. Pitkin, "A Preliminary Study of American Redoubt No. 2," p. 8; Borresen, "Memorandum for the Regional Supervisor of Historic Sites," p. 2.

38. Denny, *Military Journal*, p. 45; Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 6.

39. "Orderly Book kept during the Siege of Yorktown," pp. 117-18; *Orderly Book of the Siege of Yorktown*, p. 45.

40. Hatch, "Siege of Yorktown Opens," p. 30; Cloisen, *Revolutionary Journal*, p. 160; Swartwout, "Journal of Barnardus Swartwout," p. 38.

41. Swartwout, "Journal of Barnardus Swartwout," p. 38.

42. Washington, *Writings*, 23:263.

43. "Itinerary of the Pennsylvania Line," p. 285.

of Dayton's Brigade.⁴⁴ The work to level the American earthworks went on through October 31.⁴⁵ The next day the French began demolition of their works, including their sectors of the first and second parallels and the two redoubts at Pigeon Hill. On November 6 the French started a new line of entrenchments inside Yorktown and at Gloucester, contracting the former British positions to suit their needs for the forthcoming winter. Two batteries, each containing eighteen pieces of artillery, were established below Yorktown, while a unit of twelve pieces, guarded by a redoubt, was erected at Gloucester.⁴⁶

b) Later Efforts to Level the Works

Despite the work of the Allies in late October and early November, many of the earthworks in and around Yorktown remained more or less intact after the troops withdrew from the area. In the spring of 1782 the French departed for Rhode Island and the works still standing became a nuisance to the people of the community. That summer a movement started to get the Continental Army to complete the removal, but the proposal succumbed to Governor Benjamin Harrison's desire to maintain the entrenchments for emergency purposes. Shortly thereafter, the governor changed his mind, fearing their reoccupation by British forces should warfare erupt again. Accordingly, the Council of State ordered 500 men from Elizabeth City, Warwick, James City, New Kent, York, and Gloucester counties to proceed to Yorktown for the purpose of dismantling the surviving earthworks. The plan was stymied by the county magistrates and by the lack at Yorktown of suitable accommodations for all the men.⁴⁷

The matter was not allowed to die, however. In July 1783 a leading Yorktown citizen, David Jameson, proposed to a Virginia delegate to Congress that blacks be sent to complete the demolition. The people of Yorktown, he said, ought not have "to bear at their very doors Mounds of

44. Washington, *Writings*, 23:264, 270, 275-76; Stryker, *New Jersey Continental Line*, p. 26.

45. Gregory, "Diary of Mathew Gregory at Yorktown, 1781," p. 6; Swartwout, "Journal of Barnardus Swartwout," p. 38; Borresen, "Final Report on Redoubt No. 9," p. 52.

46. Hatch, *Yorktown's Main Street*, p. 121; Borresen, "Final Report on Redoubt No. 9," pp. 52-53.

47. *Journals of the Council of the State of Virginia*, 3:171, 204; Donald O. Dewey, ed., ". . . to level the works at York . . . : A Letter of David Jameson," *Virginia Magazine of History and Biography* 71 (April, 1963): 150-151n; In a related dispute, some Yorktown citizens resented the practice by militia stationed in the village of burning palisades from the earthworks as fuel. Major Alexander Dick of the Virginia State Regiment appealed the matter to the Council of State, which upheld the practice. *Journals of the Council of the State of Virginia*, 3:182.

Earth which prevent a free circulation of the Air, and Ditches of stagnant putred [sic] water."⁴⁸ Negroes, believed Jameson, might best accomplish the task because they "will obey Command," unlike many undisciplined Continental soldiers. Nor would they require extensive and expensive billeting.⁴⁹ But the money-poor central government refused, citing instances where other States had torn down fortifications within their borders without Congressional aid.⁵⁰

The works at Yorktown remained and most gradually disappeared over the years. During the Civil War, when Confederate forces occupied the village, some of the old British works were incorporated in a new line that ringed Yorktown. Many of the Confederate additions are yet visible. By the time of the centennial observance of the Siege of Yorktown, most of the Allies' major entrenchments were gone. In 1881 Henry P. Johnston observed that

A few of the redoubts, which were erected by each army, are still remaining, but the principal fortifications are almost quite obliterated; the plough has passed over some of them, and groves of pine trees sprung up about others, though, during the siege, every tree near the town was destroyed. The first and second parallels can just be traced when pointed out by a person acquainted with them in a more perfect state.⁵¹

Few of the original Allied works still exist.⁵²

9. Prisoners of War

Another major task of the victorious forces after the surrender involved the disposition of the several thousand British soldiers who were now prisoners of war. Washington originally hoped to move the men out of

48. Dewey, ". . . to level the works at York," p. 151.

49. *Ibid.*, pp. 151, 152.

50. *Ibid.*, p. 152.

51. *Yorktown Campaign*, p. 139n; During his visit to the town in 1848, Benson J. Lossing noted that "in the fields farther south, crossing the Hampton road, and extending almost to the old Jamestown road along which the American division of the allied armies approached Yorktown, might be seen a ridge, the remains of the second parallel." *Pictorial Field-Book of the Revolution*, 2:323.

52. Of the six earthworks still discernible in 1934, only one was originally erected by the Allies. That was the pentagonal redoubt constructed by the French to guard the Gatenois Regiment against possible British incursions along Ballard Creek. See C. L. Coston to Flickinger, memo dated May 22, 1934, in the files of CNHP, Yorktown, Virginia.

Yorktown as quickly as possible the day after the surrender, but the plan was delayed until an accounting of the captives was completed and the high-ranking British officers had received paroles.⁵³ Besides, the men were tired, needed rest, and many of the sick and injured required treatment. Some of the latter remained in Yorktown after the other prisoners departed. They received aid from British medical personnel allowed to stay with them.⁵⁴

Relations between victors and vanquished became amicable, especially those between the British and French. The Welch Fusiliers won particularly warm praise from French officers for their stout and complete defense of the Star Redoubt, which never fell during the siege.⁵⁵ When the British left Yorktown, Cornwallis solicited and received financial help from Rochambeau, who unhesitatingly turned over part of what remained in the French military chest.⁵⁶ Relations between the British and the Americans appeared more strained; their mutual antagonism over the issue of independence determined their regard for one another. Furthermore, the Americans had suffered extreme losses of life and property at the hands of the very soldiers now subordinate to them. And the matter of the Loyalists plagued the Americans' consciousness and aggravated their disdain for Cornwallis's troops.⁵⁷

Many of the high-ranking officers of the British Army managed to avoid the perils and discomforts that American prison camps held for the defeated. By virtue of the recognized military custom of "parole," those men signed statements in which they promised good behavior until officially "exchanged." A typical parole affidavit sworn to by numerous British officers after Yorktown was that signed by Major Alexander Ross, one of Cornwallis's aides-de-camp:

53. Washington, *Diaries*, 2:269-70.

54. Baurmeister, *Revolution in America*, p. 475; Arthur, *End of a Revolution*, p. 160.

55. Broughton-Mainwaring, *Historical Record of the Royal Welch Fusiliers*, p. 105; Baurmeister, *Revolution in America*, p. 475; Bonsal, *Cause of Liberty*, p. 159.

56. Rochambeau experienced difficulty in having the funds reimbursed, as is evident in his letter to Sir Henry Clinton dated December 9, 1781. "Headquarters Papers of the British Army in America," Great Britain, Historical Manuscripts Commission, *Report on American Manuscripts in the Royal Institution of Great Britain*, 4 vols. (Dublin: John Falconer, 1906), 2:362. (Photostatic copies in the archives of the Colonial Williamsburg Foundation, Williamsburg, Virginia.)

57. Bonsal, *Cause of Liberty*, p. 159; Implications of the differences relative to the disposition of Loyalist prisoners is contained in a letter from General Nelson to Cornwallis, October 21, 1781, in Nelson, *Letters*, p. 56.

I, Alexander Ross, Captain in His Britannick Majesty's 45th Regt. of Foot, & Major in His Army.

Do Acknowledge myself a Prisoner of War to the United States of America, & having permission from His Excellency General Washington, agreeable to Capitulation to proceed to New York & Charleston, or either, & to Europe.

Do pledge my Faith and Word of Honor, that I will not do or say any thing injurious to the said United States or Armies thereof, or their Allies, untill duly exchanged, I do further promise that Whenever required by the Commander in Chief of the Army, or the Commissary of Prisoners for the same, I will repair to such Place or Places as they or either of them may require:

Given under my Hand at York Town 29th Oct^r 1781
A Ross⁵⁸

Under similar measures, Lord Cornwallis was granted parole and eventually returned to London. There seems to have been some discussion regarding Cornwallis's singular status as commander of the defeated force. One report held that there existed sentiment among the Americans favoring Cornwallis's retention until Minister Laurens, imprisoned in London, won release.⁵⁹ And a faction in Congress even wanted the general to hang in retaliation for atrocities committed by his troops in the South.⁶⁰ Cooler heads prevailed, however, and Cornwallis was allowed to proceed to New York and, ultimately, home to England.

The rank and file of the surrendered army with some of its officers began the long trek north on October 21. The next day they passed through Williamsburg. Guarded by troops of the Virginia Militia, the prisoners continued on through Fredericksburg (where they drew rations), Red House, Ashby's Gap, and the Shenandoah Valley to their destinations at Winchester, Virginia, and Frederick, Maryland.⁶¹ The journey took many days, and on arrival at the American prison camps the men found the accommodations wanting. The prisoners numbered almost as many as the respective populations of the two communities, and barracks facilities of any substance were lacking. With scant shelter, the Yorktown captives and their guards built

58. "British and Hessian Officers who Served in America," Thomas T. Myers Collection, item 1620, New York Public Library.

59. Baurmeister, *Revolution in America*, p. 475.

60. Smelser, *Winning of Independence*, p. 328.

61. Lieutenant Jakob Ernst Kling to unknown recipient, November 4, 1781; General Nelson to Commissary at Fredericksburg, October 21, 1781, in Nelson, *Letters*, p. 58; Nelson to Governor Thomas Sim Lee, October 21, 1781, in *ibid.*, pp. 57-58; Johnston, *Yorktown Campaign*, p. 157; Arthur, *End of a Revolution*, p. 160.

cabins. Maintaining the prison posed many troubles, for the British could not be allowed to work the fields for fear they might escape; at the same time their prolonged confinement encouraged disease.⁶²

10. Clinton Arrives

On the morning of October 24, three days after the majority of British prisoners were escorted away from Yorktown, Admiral Graves and Sir Henry Clinton appeared off the Virginia Capes with troops to relieve Cornwallis. Delayed by his own indecisiveness, his physical ailments, and Graves's problems in refitting his ships, Clinton had not left New York until October 19. Unaware of the capitulation, Clinton directed Graves to prepare to break through de Grasse's fleet and meantime send small boats to cruise the shoreline for information. Finally, three men were picked up and transported to the flagship. They had left Yorktown on the eighteenth, the day after Cornwallis proposed the cease-fire, and they had heard no artillery reports thereafter. Clinton spent the next few days seeking confirmation of the intelligence and by October 29 he and Graves became convinced they were too late. The British fleet turned back towards New York.⁶³

11. Washington's Plans Foiled

With the subjugation of the British at Yorktown accomplished, Washington hoped that he might retain his powerful army and navy combination to liberate the Southern port cities of Charleston and Savannah, which remained under firm British control. So pressing was this objective that the commander appealed to de Grasse the day after the surrender, asking him for cooperation and the use of his fleet. The admiral gave his answer directly to Washington on October 25. Prior instructions from the French government, he said, necessitated his departure for the West Indies. He was therefore unable to commit his ships for further extended maneuvers along the coast.⁶⁴ Without naval support, complete victory in the South was unattainable, and Washington had no recourse but to begin disassembling and redispersing his land force. On November 4, the same day de Grasse embarked for Santo Domingo with St. Simon's West Indian troops, the Pennsylvania, Maryland, and Virginia soldiers of Generals Wayne and Gist marched southward under Major General

62. Edward C. Bruce, "The Yorktown Prisoners and Their Custodian," *Potters's American Monthly* 18 (May, 1882): 556.

63. Arthur, *End of a Revolution*, pp. 141-42, 156; Willcox, *Portrait of a General*, pp. 439-40; Bonsal, *Cause of Liberty*, pp. 161-62; Whitridge, *Rochambeau*, p. 225; The British squadron was additionally delayed in leaving New York by the visit of Prince William at Clinton's headquarters. Smelser, *Winning of Independence*, p. 326.

64. Arthur, *End of a Revolution*, p. 158; Patton, "Campaign of the Allies," pp. 265-66.

Arthur St. Clair to serve Greene's command. De Grasse left four vessels to guard the entrance to the York and James rivers.⁶⁵

The remaining American troops departed Yorktown about November 1 to winter on the Hudson. Captured stores and ordnance were transferred to West Point at Head of Elk. Most of the militia units soon disbanded. Only the French Army of Rochambeau and some siege artillery stayed to guard Yorktown. There were stationed the Regiment Soissonois plus the chasseurs and grenadiers of Saintonge. The Duke de Lauzun's Legion took post at Hampton, while three companies of Royal Deux-ponts wintered at Jamestown. The rest of the French Army and its headquarters occupied Williamsburg until the spring of 1782, when Rochambeau's entire force returned to Rhode Island.⁶⁶

12. The News Goes Forth

News of the Allies' success at Yorktown spread rapidly through the country. On the day of the surrender Washington dispatched an aide, Lieutenant Colonel Tench Tilghman of Maryland, to notify Congress of the victory. Tilghman crossed Chesapeake Bay and rode horseback to Philadelphia, reaching the Capital after midnight October 23. He was nearly arrested as he sought to awaken Thomas McKean, the President of Congress. Presently the bells of Independence Hall sounded forth the news and Philadelphia became alive with excitement. In churches throughout the city, congregations of thankful citizens prayed. In the streets flags and banners waved and guns barked in recognition of Cornwallis's defeat. Rain postponed for two days a fireworks display to honor the occasion, but the city otherwise bustled with celebration. On November 3 a dignified ceremony marked the arrival at the Capital of the captured enemy standards, which were respectfully placed before Congress and the Ambassador of France.⁶⁷

Similar demonstrations took place in other communities on receipt of the news. At Poughkeepsie, New York, cannon firing, bonfires, and illuminations commemorated the victory.⁶⁸ The good feelings inspired by the news from Yorktown were evident everywhere. Journals carried laudatory remarks for the Allies, contemptuous ones for the British. "It is sincerely

65. Arthur, *End of a Revolution*, pp. 160-61.

66. *Ibid.*, p. 161; Johnston, *Yorktown Campaign*, p. 158; Heitman, *Historical Register*, p. 667.

67. Tilghman's ride to Philadelphia is recounted in Bonsal, *Course of Liberty*, pp. 164-65; An account of the presentation ceremony is in *Freeman's Journal*, November 7, 1781, and quoted in *ibid.*, p. 166; See also Smelser, *Winning of Independence*, p. 328.

68. *New Jersey Journal*, January 9, 1782, reproduced in Moore, *Diary of the American Revolution*, p. 527.

to be wished, for the sake of humanity," editorialized the *New York Journal*, "that his lordship had made a more obstinate defence, that the allied army, obliged to storm his works, might have offered up him and his troops as a sacrifice to the violated rights of humanity!"⁶⁹ The *Maryland Gazette* even ran an open letter to Cornwallis, purportedly written by an American soldier, which railed against the British general's actions:

The philanthropy of America would be highly gratified in paying your lordship the tribute due an enlightened and humane soldier, did your conduct deserve such treatment; but as her justice obliges her to view you in the odious light of a cruel leader and an unprincipled plunderer, it would be impious in her to treat you with generosity or delicacy. As an American soldier I consider it a virtue to imbitter your captivity, by recalling to your remembrance the follies which have led to your present catastrophe, and to hold you up as an object of universal detestation, by surrounding you with an assemblage of your crimes. . . .⁷⁰

Oratory likewise abounded. "I cannot forbear being gratified," Nathan Fiske told an assembly at Brookfield, Massachusetts, ". . . at the mortification and astonishment of the haughty nation of Britain, of the Ministry, and of their tyrannical Prince, when the fatal news comes like a sudden thunder-clap to their ears."⁷¹ For the American people, Yorktown represented at once the aspirations and successful resolve of the United States to gain independence. The site of the triumph became hallowed ground in American eyes. Scores of people flocked to the scene of the momentous conflict that had seemingly decided their future. Even Indian chiefs were ushered over the field by proud Americans, reveling in the glory of Yorktown, who sought to "make them sensible of the late great capture of the British Army. . . ."⁷² Within weeks of the event, Yorktown symbolized both the ratification by force of the Declaration of Independence and its tacit recognition by British arms.

69. November 12, 1781, reproduced in *ibid.*, p. 510.

70. Reprinted in *New York Packet*, November 22, 1781, reproduced in *ibid.*, p. 521.

71. Nathan Fiske, *An Oration Delivered at Brookfield, November 14, 1781, in Celebration of the Capture of Lord Cornwallis and his Whole Army at York-Town and Gloucester, in Virginia* (Boston: Thomas and John Fleet, 1781), p. 6.

72. The visit of the Indians to Yorktown occurred in November 1781. *Journals of the Council of the State of Virginia*, 2:400.

B. End of the War

1. Failures of British Leaders

If Cornwallis's surrender at Yorktown marked the perceptible wane of British power in North America, the military decisions leading to the event spurred continuing debate that centered on the protagonists of the losing side, Sir Henry Clinton and Lord Charles Cornwallis. Clinton's failures during these weeks were readily apparent and almost immediately there developed around him an onus of blame and responsibility. "The British Army that moved from New York to relieve Lord Cornwallis is returned," an American officer informed General Greene in December, "and report says that Sir Henry Clinton has disappeared, conjectured by some that he has *drowned* himself."⁷³ Clinton leveled the blame at Cornwallis, Cornwallis returned it to Clinton, and the dispute between the two men lasted for years.

Certain responsibility for the disaster rested with both men, but it also went beyond them. In the British government, Colonial Secretary Lord George Germain had philosophically favored Cornwallis and failed to support Clinton, his chief commander in North America. "I am persuaded," wrote Clinton in his own defense, "that had I been left to my own plans, and a proper confidence had been earlier reposed in me, the campaign of 1781 would not probably have ended unfortunately."⁷⁴ But Clinton himself had been overcautious, too much of a defensive strategist, and too much of an inactive leader. He had, furthermore, failed until late to perceive Washington's movement south. Physical ailments added to his lethargy, and his army and navy hierarchy often engaged in petty factionalism at the most crucial times. Decisions were put off, and even when reached, their requisite actions were delayed time and again.⁷⁵

Clinton's incompetence, however, was compounded by failings on the part of Cornwallis. Headstrong and independent, Clinton's Southern

73. Captain William Pierce, Jr., to Greene, December 11, 1781, Morgan Manuscripts, vol. 2, *The Siege of Yorktown and Surrender of Cornwallis*, Pierpont Morgan Library.

74. Clinton, *Narrative*, p. 36.

75. Randolph G. Adams, *A View of Cornwallis's Surrender at Yorktown*, reprinted from *American Historical Review* 39 (October, 1931): 49; Willcox, *British Road to Yorktown*, p. 3; Arthur, *End of a Revolution*, p. 163; A vindication for Clinton appears in *A Brief Review of the Campaign in North-America, in the Year 1781; Intended to Justify the Conduct and Opinions of Sir Henry Clinton, K.B., and to Place the Character and Proceedings of Earl Cornwallis in a Fair Light* (Nova Scotia: Printed for the Author, 1789). The author of this publication is unknown. The copy examined is in the William L. Clements Library and bears a handwritten note on its title page: "Never published at Sir Henry Clintons [*sic*] request."

commander perhaps took too literally the favoritism implied by the home government; his arrogance in this respect produced a breach between him and his superior in New York. While Cornwallis proved a bold and meticulous tactician, his boldness emerged at inopportune moments and the failure of Clinton to exert strict supervision over his subordinate only encouraged his independence of movement and judgment. Cornwallis's selection of Yorktown as a post to insure the protection of British ships was a precarious choice. He found himself hemmed in by terrain advantageous to his assailants and by water that retarded extrication of his command. He began his defensive works late and dawdled, all the while sending requests and assurances to Clinton, until his escape from the Allied forces was beyond possibility. Probably his greatest shortcoming in the 1781 campaign lay in his inability to comprehend that the fate of his army hinged on the accessibility of the British Navy. By ignoring the necessity of strong naval support, Cornwallis courted the disaster that came to him at Yorktown.⁷⁶

To be sure, other factors contributed to the decline of British affairs in the Yorktown campaign. The rift between Clinton and Cornwallis was complemented by Admiral Rodney's return to England when his presence was critically needed. Admiral Graves's failure to win control of the entrance to the Chesapeake and his later delays in leaving New York, besides Admiral Hood's own failure to locate de Grasse and to perceive his intentions, all pointed up the lack of military and naval teamwork that in the end helped to give the Allies their victory.⁷⁷

2. Cooperation Among the Allies

Contrasted to the British facility for ineptitude and ill management, the Allies finally exhibited a cohesion of purpose paralled by an admirable ability to coordinate their maneuvers toward the desired objective. Washington's campaign worked because of an interplay of good fortune and design. Through cooperation among de Barras's and de Grasse's fleets, St. Simon's Volunteers, Rochambeau's French troops, and Washington's American command, victory became possible. Through cooperation between the French and Americans in the prosecution of a successful siege, itself largely dependent on French weapons, expertise, and enterprise, the triumph was assured. After five years of misfortune punctuated by large losses and small gains, Washington had at last acquired the military components of success.

3. The Peace Treaty Signed

The Revolutionary War did not end with the surrender at Yorktown. The British continued to hold New York, Charleston, Savannah, and a host of smaller garrisons around Lake Champlain and the Great Lakes. London still supported 26,000 British troops on the North American continent,

76. Willcox, *British Road to Yorktown*, pp. 3, 34-35.

77. *Ibid.*, p. 3; Arthur, *End of a Revolution*, p. 163; Adams, *A View of Cornwallis's Surrender*, p. 49.

including 9,000 in Canada. Washington yet hoped to prosecute the war, especially around the New York headquarters of the enemy forces, and he urged continued Congressional support for his army as a means of encouraging the French to stay on.⁷⁸ In the meantime, he concentrated his available forces around New York and Charleston. Minor skirmishes occurred sporadically for the duration of the war, but the resolution that had previously characterized British warfare in America was gone.

The news of Cornwallis's sound defeat shocked London into immediate reconsideration of its North American policy. The war had proved extremely costly and the replacement of so many troops to offset the losses at Yorktown became a questionable proposition. Other factors appeared to jeopardize the very existence of the British Empire. Military setbacks were reported from India, where French forces menaced. In Florida, Spanish troops expelled British ones, and early in 1782 Spain again threatened Gibraltar. In the West Indies de Grasse's victories left only Jamaica, Antigua, and Barbadoes in British control. At the same time violence erupted in Ireland over establishment of an independent Parliament.⁷⁹

Beset by pressures at home and abroad, and confronting prospects of military and economic setbacks should the American struggle go on, Parliament early in 1782 authorized George III to end the war. On March 4 a resolution carried "that the House would consider as enemies to his Majesty and the Country all those who should advise, or by any means attempt, the further prosecution of offensive war on the Continent of North America, for the purpose of reducing the revolted Colonies to obedience by force."⁸⁰ Provisional articles of peace were signed by commissioners of Great Britain and the United States on November 30, 1782. On September 3, 1783, the treaty formally ending the war and acknowledging American independence was ratified.⁸¹ The achievement of the war and of Yorktown was legitimized forever.

78. Smelser, *Winning of Independence*, p. 330; At least 397 Americans died and 230 were wounded in battle during the period following Cornwallis's surrender, October 19, 1781, until the end of the war in 1783. Peckham, *Toll of Independence*, pp. 92-93, 126, 130.

79. Claude Halstead Van Tyne, "The Results of Yorktown," in Edward Creasy, *The Fifteen Decisive Battles of the World from Marathon to Waterloo*, rev. ed. (New York: Harper and Brothers Publishers, 1908), p. 426.

80. Quoted in Johnston, *Yorktown Campaign*, p. 161.

81. *Ibid.*

APPENDICES

Appendix A

(From Lewis Lochée, *Elements of Field Fortification*
[London: T. Cadell, 1783], pp. 44-45.)

Number of Men to Defend a Redoubt

The parapet of field works is well lined for defence, with a file two deep for every yard of the interior perimeter; and when cannon is to be employed, 4 or 5 yards are allowed for each piece: thus, a square redout of 40 yards interior perimeter, will require 40 files or 80 men for its defence; a square redout of 80 yards interior perimeter, 80 files or 160 men; and a square redout of 120 yards interior perimeter, will require 120 files or 240 men. But on account of the banquette and traverse which secures the entrance, there will not be room sufficient in the *terreplein* of the redout of 40 yards interior perimeter, to receive the 80 men allowed for its defence; in that of 80 yards, there will be only room sufficient; and in that of 120 yards, there will be some to spare. This arises in consequence of similar figures not being to each other as their perimeters, but as the squares of their perimeters; so that tho' the redout of 80 yards interior perimeter is only double that of 40 yards, yet its surface is quadruple; and tho' that of 120 yards interior perimeter is only treble that of 40 yards, yet its surface is nine times greater: hence, in determining the number of men necessary for the defence of a redout, some attention should be paid not only to its interior perimeter, but also to its surface.

Consequently, deducing from the general rule above-mentioned, 200 men will require a redout of 100 yards interior perimeter; for 200 men formed two deep, make 100 files, which, at one yard each file, are equal to 100 yards:

Consequently, 150 men and 2 pieces of cannon will require a redout of 85 yards interior perimeter; for 150 men formed 2 deep, make 75 files, which, at 1 yard per file are equal to 75 yards; and 2 pieces of cannon at 5 yards each, make 10 yards, amounting together to 85 yards.

Appendix B

(From H. Lallemand, *A Treatise on Artillery*
[New York: C. S. Van Winkle, 1820], 2:268-73.)

Construction of a Battery

The captain or eldest officer is charged with tracing and constructing a battery.

As it is often begun at night, and without the knowledge of the enemy, he must provide himself with a dark lanthorn, to see what is done without being himself seen. It is also useful to have some instrument that is fitted for tracing perpendiculars on the ground, with ease and certainty: a square of ropes is convenient for this purpose.

A battery ought to be constructed in 36 hours.

1st Night. The position of the battery being determined upon, it is reconnoitred; the materials and all articles necessary for its construction being prepared, the detachment is assembled and furnished with pioneers' tools, saucissons, and other articles; it is then conducted in silence and good order, at nightfall, to the parallel nearest to this position, where it remains until the commanding officer gives the order to advance.

A party of officers, with some artillerists, carrying cords to trace by, 2 spades, 2 shovels, &c. proceed to reconnoitre the ground, if the draught has been made by day; if not, they lay out the battery immediately. The cords are laid along the stakes, and small ditches dug to direct the work as it goes on; it is a good plan to lay saucissons along the edge of the ditches and the inside of the epaulment, to point out these lines to the workmen more clearly until the work is fairly under way. The battery being laid out, the rest of the detachment, that has been divided into as many squads as there are pieces to be mounted in the battery, advances, and is disposed in the following order.

The 12 auxiliary workmen, to each piece, are placed in couples on the ground the ditch is to occupy, near the berm and parallel to it, with the space of 3 feet between each pair. In this way two men have a rectangle, whose breadth is 3 feet, and length equal to the breadth of the ditch, to excavate; one breaks the earth with a pickaxe the other throws it upon the berm. (If the earth is of such a nature that it can be lifted with the spade without using the pickaxe, the labourers may be placed nearer each other, and will hasten to throw earth on the place of the epaulment, and afterwards 3 of the 12 will place themselves upon the berm to throw the earth still higher.) When the workmen in the ditch have arrived at such

a depth as to be well covered from the fire of the place, and when the epaulment is at least two feet high, then 6 of the workmen leave the ditch, 3 of whom place themselves upon the epaulment, and 3 upon the berm at 6 feet from each other to arrange the earth as it is thrown up.

Five matrosses, to each piece, work upon the revetment; 3 at each embrasure, and three at the extremities of the epaulment; but until it is time to commence these revetments, which is not done until the earth is at least 2 feet high over the whole epaulment, the five first are employed in smoothing and settling the earth in rear of the epaulment, in ramming the parts that are filled up, particularly on the site of the platforms, and removing the ground where it is too high.

Three others place themselves upon the berm at the distance of 6 feet from each other, in order to throw the earth, taken out of the ditch, towards the inside of the epaulment, 3 others placed on the epaulment spread and ram the earth. As soon as the labourers of the ditch mount upon the berm, the matrosses who were posted there, retire to work on the revetment.*

The important point to be attained the first night, is to raise the epaulment as much as possible before day break, so as to be covered by that time from the fire of the place, and be able to work with less danger on the following day.

If the battery is not in the parallel, trenches of communication must be established to it. One of the officers will attend, to have them constructed at the same time with the battery itself, by additional workmen detailed for this purpose. These communications ought to be 12 feet wide, and should have a parapet like the rest of the trenches; they must be finished the first night. If the workmen are too much exposed to the enemy's fire, a row of gabions is placed on the outer edge of the ditch and filled with earth; some is also thrown behind them. Then, in order to diminish the danger of those who form the parapet, a row of gabions, filled with earth, is placed on the inner edge of the ditch, and another over it if necessary, leaving gaps through which the labourers in the ditch may throw the earth; or else the ditch is prolonged beyond the ends of the battery for that purpose; the uppermost row of gabions is then thrown down into the body of the epaulment.

Finally, if the fire is so violent, that the battery cannot be made from without; the trench is made use of, and its parapet thickened with earth taken from within.

* It is evident, that during the night and under the fire of the place, this order cannot be rigorously observed; but it must be attempted, that the confusion may not be increased, nor the doubt and delays, that numberless inevitable accidents will throw in the way of the work, multiplied.

The workmen of the line are relieved every twelve hours, and the matrosses every 24, but neither the one nor the other are permitted to depart, until those who relieve them arrive.

Two hours before the workmen or matrosses are relieved, say two hours before day break, and two before dusk, an officer will go from the battery to the depot to receive the relief, and will cause them to take saucissons and other articles, in conformity to the orders he has received, on that head, from the commander of the battery. He will also make a requisition for extra labourers if wanted, to be detailed either for that particular time, or some other he will point out.

First Day. The labourers of the day will continue to increase the thickness of the epaulment, in the same way as their predecessors; if they are too much exposed, they will confine themselves to throwing earth upon the epaulment, and those who cannot do this from within the ditch, will look for it in the interior of the battery in places sheltered from the fire of the enemy; or will go to bring wood for the platforms.

The interior revetment is begun at day break: for this purpose, a little trench, 8 inches wide, and 2 inches deep, is dug within the inner line of the battery.* This trench is levelled along its whole length, using for that purpose a long ruler, and a mason's level. If a rapid slope along the front of the battery, compels breaks to be made in the lower fire of its revetment, the part in front of each gun at least is laid level. A saucisson is then placed in the little trench, the knots of the withes turned in towards the epaulment; it is fixed in this situation by small stakes 2 1/2 feet long, 2 inches in diameter at the head, and driven in at every third withe; but as there are several saucissons in the front of a battery of more than one piece, the two last stakes are not driven until the next saucisson has been laid, and its head inserted into that of the other; this is called *landing* it; a withe is tied round the intersection of the two heads. Stakes are driven in like manner into all the saucissons along the epaulment, and into those at its extremities, that are laid at the same time. Care is taken to make the heads of the saucissons upon the sides, and those on the front of the battery, pass alternately in front of each other; in this way, the facing is rendered more solid. (The ends of the saucissons, at each extremity of the face, and side of the battery, may be sawn square off, so as to join better into the ends of those that form the angle, and that the work may be neater; this, however, may be dispensed with in presence of an enemy.) The same three matrosses will finish the revetment of both the sides of the epaulment, placing a saucisson first at one of them, and then at the other; as soon as a saucisson is staked down, and joined to the next, the space

* If the saucissons are less than a foot in diameter, as sometimes happens, say for instance, 10 inches, it would require 5 of them instead of 4 to reach the sill of the embrasure, which ought to be 3 feet 8 inches above the platform, or 3 feet 10 inches above the ground, the trench must, in this case, be made four inches deep.

behind it is filled with earth, and well rammed to render it solid. (It is more expeditious, and quite as good a plan, to make the ends of the epaulment of gabions; two rows will be high enough.)

A second row of saucissons is placed upon the first, and a third upon the second, and so on to the height of the sill of the embrasures; but as the revetment must have a slope of $1/3$, or at least $2/7$ of its height, each row of saucissons must be placed a little in rear of the other; it is always safer to give the revetment too much, rather than too little slope, to prevent the pressure of the earth from forcing it in.

In driving the stakes of the third, fourth, and upper rows, they are inclined in such a way as to pass through the two courses next beneath them, but without projecting from the facing.

The joints of the saucissons must not be over the joints of the courses next below; this would weaken the revetment; thus, if the first saucisson of the first course is 18 feet long, the second must be begun with one from 9 to 12 feet long, or one must be sawn to that length. Care must be taken that the last course, which forms the sill, has no joints in those places where the openings of the embrasures fall; they are, as we have previously said, placed 9 feet from the extremity of the battery, and 18 feet distant from each other.

If the stakes are not good, if the earth is light, and has a powerful pressure; if it is to be feared that the revetment of the battery is not solid, when the *genouilliere* is finished, withes are added to consolidate it. For this purpose, place a good stake opposite the middle of each merlon, passing in the usual way through the saucisson; then pass a very strong withe over the saucisson, and tie it as tight as possible to a stake driven firmly into the ground a few feet within the body of the epaulment, the withe must be perpendicular to the revetment.

When the saucissons are a foot in diameter, and the first placed two inches in the ground, the fourth course will fix the height of the sill of the embrasure, at 44 inches above the platform, and 46 above the ground.

When the revetment has reached this height, the captain marks the centre of the opening of each embrasure by small stakes; he also marks the width of the inner opening of the embrasures, that should be 20 inches for guns, and 32 for howitzers, by placing small pegs, at equal distances, on each side of the central one.

The placing of the saucissons is then continued upwards for the revetment of the merlons, taking care to give them the same slope as those below, and cut them perfectly square at the two ends, in order to preserve the embrasure of the same width from top to bottom. The ends of the saucissons must, when placed, be all in one vertical plane. The height of the merlon is completed by placing a few inches of earth over the last saucisson.

Over each embrasure, is placed the end of a saucisson, 4 or 5 feet long, fixed down by stakes, and bearing on the upper course of saucissons, this strengthens the two merlons, and saves the pointers from musket shot.

Note.--It is better to make the revetments of mortars, above the sill of the embrasures, of gabions; it is both more expeditious to construct, and more easy to repair in the course of a siege. If a cannon shot carries away, or forces out a lower saucisson of the cheek of an embrasure, or of a merlon, the whole must be taken down in order to repair it; instead of which, if the revetment is of gabions, no other need be removed than that which is damaged; and this is easily done, because the joints are perpendicular. (I had practical proof of the superiority of this method at the first siege of Dantzic.)

During the day, the captain traces the directing lines of the embrasures, (if it has not been done when the battery was laid out,) by planting a stake on the outside of the epaulment, in a direct line between that which marks the centre of the embrasure and the object to be battered. As this line is employed in the construction of the platform, it is prolonged into the interior of the battery, and marked by two or three stout stakes driven down to the level of the ground.

The platforms ought to be begun before night sets in, and the knocker and sleepers laid; the embrasures must also be begun, which is easy if they are made with gabions.

Second Night. The labourers of the second night ought to bring with them the remainder of the articles necessary both for the revetment and the platform; also 8 gabions in addition, filled with fascines, to each embrasure, to form a mask that may cover the men that work upon the cheeks of the embrasure, who would be otherwise much exposed, if the besieged does his duty.

The labourers having arrived, some throw the earth heaped up on the berm, into the body of the epaulment, others throw up more if it be wanted.

The interior of the battery is levelled; the small magazines built; and the road by which the guns and ammunition are to be brought forward, the same night, constructed.

The matrosses form the cheeks of the embrasures, and construct the platforms.

Appendix C

(From *Orderly Book of the Siege of Yorktown, from
September 28th, 1781, to November 2nd, 1781*

[Philadelphia: Antique Press, 1865].)

Regulations for the Service of the Siege

1st. The service of the Siege will be performed by Divisions, alternately. The fatigue men will be first detailed out of the Division, and the remainder will form Battalions, under their respective commanders, to guard the trenches. The first night there will be an exception to this rule. The first Regiment of each Brigade will that night form a Division, commanded by Maj. Gen'l Lincoln.

2nd. The Divisions shall be warned for the trenches the preceding evening, and they are to furnish no guards when they mount the trenches.

3rd. No officer or soldier, of regiments commanded for the trenches, will be excused from mounting unless he be sick. The Q guard of each regiment will alone remain in camp.

4th. The Maj. Gen'l of the Division which mounts will be the Maj. Gen'l of the trenches. The Brigadiers will mount with their Brigades.

5th. The Gen'l Officers of the trenches will reconnoitre, carefully, all the avenues, places of arms, and advantageous angles, that he may determine in consequence, the order and disposition of the troops in case of an attack.

6th. The Inspectors of Divisions which mount, will do the duty of Major of the trenches. He will make the detail of the service of the troops, during the 24 hours that he shall be there, and attend to the punctual observance of orders.

7th. He will visit, before-hand, all the posts of the trenches, and visit them again when the troops are posted there, in order to make the state of them, and communicate promptly to each, the orders of the Gen'l Officer, near whom he is to keep himself to receive them. Each Brigade to send to the Gen'l of the trenches, an orderly officer.

8th. The Major of the trenches will be instructed by the Gen'l Officers of the alarm posts, in case of a sally, and take care to inform the troops of it.

9th. An officer of rank will be appointed by the Commander-in-chief, to act as superintendent of the deposit of the trenches, for the following important service, during the whole siege, viz., to take charge of all

the sand-bags, fascines, gabions, huddles [hurdles], and other materials deposited at the place which the Engineers will appoint and keep an accurate state of them.

10th. He is to deliver the sand-bags and necessary tools for the work, and take care that the tools are re-delivered when they are no longer wanted.

11th. He will take care that litters and men be ready to go with them, to bring off the wounded.

12th. He is to count all the detachments of fatigue men, when they enter the trenches, and make report to the Adj. Gen'l.

13th. He will give billets for taking from the deposit of Artillery, the ammunition which the troops in the trenches may require.

14th. He will transmit a Daily Report to the Adj. Gen'l, of all the orders and certificates that he shall have given, as well as a state of the deposits which shall have been committed to his care.

15th. He will likewise transmit to the Adj. Gen'l, a return, regimentally digested, of the killed and wounded.

16th. He will, above all, watch over everything that relates to order and regularity in the trenches, excepting in the disposition of the troops, which is the particular province of the Major of the trenches.

17th. The trenches shall be relieved every 24 hours, unless a particular order to the contrary by the Gen'l, in which case the relief shall be in rear of the other.

18th. The Gen'l having fixed the hour for mounting the trenches, and the parade for assembling the relief, it is to be on the ground sufficiently beforehand to give the Gen'l Officers and Adj. Gen'l time for inspection.

19th. When the troops shall have arrived, the Major of the trenches shall form them in the order in which they are to occupy the trenches.

20th. Each Brigade, previous to entering the trenches, will form a picket, to consist of one Captain, one Subaltern, three Sergeants, and fifty Rank and File, to be posted and employed as the Gen'l may think proper. The remainder of the Brigade will be formed in the common order.

21st. The drums are to be equally distributed in front and rear of the Brigade. One only will march with each picket that may be detailed in the trenches.

22nd. Each Batt'n will send, previous to the relieving hour, an orderly man to the tail of the trenches, to conduct the troops who are to relieve them.

23rd. The Major of the trenches will distribute the orderly men in such a manner, as that they may conduct each relieving Corps directly to the post which it is to occupy.

24th. When the relieving troops arrive, those who dismount will lead them to the side nearest the epaulement.

25th. All the troops, either relieving or relieved, will march with drums beating, colours flying, and carry arms to the place from whence they are to file off, when they will support their arms.

26th. When the troops shall have taken their posts in the trenches, the standard-bearers will plant their standards on the epaulement, and sentries will be posted, with proper intervals, with orders to give notice of whatever they may see coming out from the place, and of the shells that may be thrown by the enemy, but no notice to be given, or any movement to be made of cannon shot.

27th. Sand-bags will be disposed on the epaulement of the trenches, to cover the sentries.

28th. The officers will cause each soldier to work in his place, to enlarge the trench, and strengthen the epaulement.

29th. No honours to be rendered in the trenches when the Commander-in-chief and General Officers of the trenches visit them. The soldiers will stand to their arms, facing the epaulement, and ready to mount the banquette.

30th. When the troops retire from the trenches, they will march in reverted columns.

31st. When the troops are out of the trenches, the Commanding Officers of Brigades will halt them in order to collect them, and give time for the juncture of detached pickets.

32nd. The said officers will examine whether any person be missing, and re-conduct his command in good and compact order to camp, suffering no stragglers to precede the main body.

33rd. The Infantry are to make the number of gabions, &c, ordered them.

34th. The gabions are to be three feet high, including the end of the pickets, which are to enter the ground. They are to have two-feet-and-a-half diameters, and be formed of nine pickets each, of two-and-a-half inches circumference, interlaced with branchery stripped of leaves, to be equally closed at top and bottoms, in order that they may not be longer at one end than the other.

35th. The huddles shall be six feet long and three feet wide, and shall be made of nine pickets each, of two inches and a half to three inches

circumference; equal distant from each other, and interwoven with wide stronger branchery than that employed for the gabions.

36th. The faschines to be six feet long and six inches through, to be made of branchery, the twigs of which are to be crossed, to be bound with withes at each end, and the middle to each faschine, three pickets of three feet long and two or three inches diameter.

37th. The Brigades shall always have, at the head of their camp, the stated number of faschines, which they will replace in proportion as they are used.

38th. The Commanders of Corps shall be responsible for the observance of the dimensions of the materials employed in the trenches, inattention in this point being very pernicious to the service.

39th. Each soldier going to the trenches, either to mount guard or to work, shall take with him a faschine, to be left at the deposit of the trenches.

40th. The number of fatigue men ordered shall be punctually furnished, they shall be conducted by an officer of each regiment to the rendezvous, where the B. Major, and the officer appointed to superintend the detail of the Siege, as mentioned in the 9th and 12th Articles, will see them enter the trenches, and count them.

41st. When the fatigue men enter the trenches, the officers will march, agreeable to the regulations of the army; each fatigue man will take his tool at the deposit, and if they are armed, they will leave them piled under the guard of a sentry.

42nd. Each commandant of a squad shall be charged with making the soldiers that compose it, work, and with keeping them in order. The Sergeant shall take care of two squads, and the officers of the totality; but the Captain shall be more particularly charged with the first, and the Lieutenants with the second division.

43rd. The fatigue men are to march near each other, and observe the greatest silence when the Engineers place them.

44th. The officers who command the fatigue parties will be constantly with their detachments, and exactly observe the directions of the Engineers.

45th. When the work is commenced, they are to walk constantly along their detachments to make the soldiers perform their duty, obliging them to cover themselves with alacrity, and afterwards to perfect the works.

46th. The officers of covering parties will cause their soldiers to sit down, hinder them from quitting their muskets, which they are to hold before them, the butt on the ground.

47th. The advanced posts of such detachments as are commanded by non-commissioned officers, will remain prostrate until the trench is sufficiently deep to cover a man to the waist, when the detachments, with their advanced posts, will retire into the trenches, to occupy the head of the work which shall have been made.

48th. In the saps, batteries, and other places adjacent to the deposit of powder, no soldier is to be permitted to smoke.

49th. In case of a sally, the fatigue men are to retire briskly into some part of the trenches, where they may not embarrass the troops. They are to retire in preference to the places where their arms were lodged.

50th. The troops will march briskly out of the trenches, repair to the place of arms, batteries, angles and avenues, which shall have been designated to them, from whence they may defend it more advantageously, and take the enemy in reverse or flank; take particular care not to occupy the banquette for the defence of the epaulements, but always to post themselves on reverse of the trenches.

51st. During the sally, all the batteries will direct their fire upon the front of the attack, in order to disperse the besieged.

52nd. When the troops shall have repulsed, they are not to pursue them, but wait the orders of their General Officer, to resume their post in the trenches.

53rd. As soon as the attack is finished, the officers of fatigue will reconduct their detachments to work and call the roll, that any absent soldier may be punished at their camp.

54th. At the hour for withdrawing the fatigue, the detachments are to return in good order, and the officers are to report to the commandant of the regiment, what has been the conduct of the soldiers. Besides the fatigue men of the trenches, a sufficient detachment shall be given to the superintendent of the deposit in trenches, whose service shall be for twenty-four hours. This officer is to employ them in collecting the tools, in making the different distributions, in going with the litters, and bringing the wounded to the hospitals of first dressings.

Appendix D

Partial List of Artifacts Recovered from Yorktown
Encampment Area Locations and Other Related Sites

Field Specimen
No.

1657	Iron auger	American Artillery Park
203	Axe head	French Hospital Site
1658	" "	American Artillery Park
709-A	" "	Redoubt No. 9B
652-A	" "	" " "
955	Bayonet fragment	French Hospital Site
154-A	Iron barrel hoop	Fusileers' Redoubt (1)
597-A	" " "	Redoubt No. 9B
598-A	" " "	" " "
599-A	" " "	" " "
600-A	" " "	" " "
614-A	Bayonet fragment	" " "
943	Bit fragment	French Hospital Site
960	" "	" " "
1585	" "	Magazine Section
1663	" "	American Artillery Park
1660	" "	" " "
1721	" "	Magazine Section
64-A	" "	Fusileers' Redoubt (1)
951	Iron blade	French Hospital Site
375	Glass wine bottle	" " "
383	" " "	" " "
942	Boathook fragment	" " "
944	" "	" " "
170	Brass button	" " "
173	" "	" " "
176	" "	" " "
570	Military button, No. 41	" " "
571	" " No. 64	Fusileers' Redoubt (1)
575	" " No. 16	French Artillery Park
576	" " No. 13	" " "
578	" " No. 30	Fusileers' Redoubt (1)
581	Bullet mould	French Hospital Site
584	Brass buckle	American Artillery Park
585	" "	" " "
586	" "	" " "
924	Iron buckle	French Hospital Site
1596	" "	American Artillery Park
1597	" "	" " "
1716	" "	Magazine Section
1651	Brass buckle	American Artillery Park
1654	" "	" " "

Field Specimen
No.

1655	Brass buckle	American Artillery Park
1671	Buckle	" " "
1680	"	" " "
1985	Brass buckle	" " "
1984	" "	" " "
2065	Brass button	" " "
2066	" "	" " "
2068	" "	" " "
2069	" "	" " "
56-A	Shoe buckle	Fusileers' Redoubt (I)
57-A	" "	" " "
89-A	Iron buckle	" " "
102-A	Buckle fragment	" " "
103-A	" "	" " "
153-A	Bucket hoop	" " "
169-A	Buckle	French Artillery Park
218-A	Brass buckle	Fusileers' Redoubt (I)
219-A	" "	" " "
220-A	" "	" " "
612-A	" "	Redoubt No. 9B
635-A	" "	" " "
636-A	" "	" " "
641-A	Brass button	" " "
756-A	Brass military button, No. 64	Second Parallel
757-A	" " " No. 85	" "
759-A	Seven gaiter buttons	Redoubt No. 9B
780-A	Three buckles	" " "
788-A	Button	Second Parallel
789-A	"	" "
794-A	French military button, No. 18	Redoubt No. 9B
800-A	New York State button	Second Parallel
822-A	Brass buckle	" "
830-A	Brass button	" "
839-A	Iron buckle	Redoubt No. 9B
840-A	" "	" " "
841-A	Brass buckle	" " "
889-A	Iron buckle	Second Parallel
917-A	Pewter buttons	Redoubt No. 9B
921-A	Coat button	" " "
922-A	Gaiter buttons	" " "
925-A	Brass button	Approach Trench to Redoubt No. 9B
935-A	British button, No. 8	Second Parallel
394	Door catch	French Hospital Site
1675	Candle snuffer fragment	American Artillery Park
1653	Carriage handle	" " "
197	Chisel	French Hospital Site
930	"	" " "
1590	Iron chain	French Sappers' Trench

1601	Iron chain	"	"	French Sappers' Trench
1712	"	"	"	"
1718	"	"	"	Magazine Section
1719	"	"	"	"
1724	"	"	"	"
1726	"	"	"	"
1727	"	"	"	"
1780	"	"	"	French Battery (8A)
338	George III copper penny	"	"	French Hospital Site
58-A	"	"	"	Fusiliers' Redoubt (1)
59-A	"	"	"	"
2268	Stoneware crock fragment	"	"	American Artillery Park
164-A	Iron currycomb fragment	"	"	French Artillery Park
758-A	Spanish coin	"	"	Redoubt No. 9B
2061	Brass door knob	"	"	American Artillery Park
172	Epaulette	"	"	French Battery (8A)
1986	"	"	"	American Artillery Park
325	Fork handle	"	"	French Hospital Site
328	"	"	"	"
1586	Fork	"	"	Magazine Section
1593	"	"	"	"
1594	"	"	"	"
144-A	"	"	"	Fusiliers' Redoubt (1)
170-A	"	"	"	French Artillery Park
587	Musket wormer	"	"	Fusiliers' Redoubt (1)
588	"	"	"	"
792-A	Glass fragment from wine bottle	"	"	Second Parallel
891-A	Grapeshot plate, from cluster	"	"	Redoubt No. 9B
937	Iron hasp	"	"	French Hospital Site
941	Harness hardware	"	"	"
1670	"	"	"	American Artillery Park
1715	Iron hasp	"	"	Magazine Section
1720	Iron handle	"	"	"
1747	Harness hardware	"	"	French Battery (8A)
2062	Iron handle	"	"	American Artillery Park
2063	"	"	"	"
80-A	"	"	"	Fusiliers' Redoubt (1)
578-A	Mortar shell handle	"	"	Redoubt No. 9B
647-A	"	"	"	"
730-A	Iron hasp	"	"	"
589	Iron helmet (stolen)	"	"	Fusiliers' Redoubt (1)
774-A	Iron hinge	"	"	Second Parallel
913	Iron H-hinge	"	"	French Hospital Site
919	Iron hinge fragment	"	"	"
946	H-hinge	"	"	"
948	"	"	"	"
949	"	"	"	"
953	"	"	"	"

Field Specimen

No.

1581	Hinge, iron	American Artillery Park
1668	" "	" " "
1709	H-hinge, iron	French Sappers' Trench
1723	Iron strap hinge	Magazine Section
145-A	Iron hinge	Fusileers' Redoubt (1)
165-A	" "	French Artillery Park
Y-5815	Three copper hoops from budge barrel	Redoubt No. 10B
711-A	Iron hinge	Redoubt No. 9B
720-A	" "	" " "
1728	Iron hook	Magazine Section
201	Iron hoe	French Hospital Site
386	" "	" " "
393	Iron hook	" " "
398	Hoe-fork	" " "
911	Iron hoe	" " "
926	" "	" " "
927	" "	" " "
928	" "	" " "
938	Horseshoe	" " "
944	Door hook	" " "
959	Iron hook	" " "
712-A	Horseshoe	Redoubt No. 9B
644-A	"	" " "
722-A, 722-A,		
723-A, 724-A	Four iron hoops	" " "
734-A	Iron hoe	" " "
748-A	Iron hook	" " "
752-A	" "	" " "
776-A	Horseshoe	Second Parallel
777-A	"	" "
68-A	Hub box	Fusileers' Redoubt (1)
262-A	Small pottery jug	American Artillery Park
1583	Iron key	Artificers' Hut Site
1713	" "	French Sappers' Trench
1780	Iron trunnion key	French Battery (8A)
1782	" " "	" " "
917	Knife blade	French Hospital Site
918	" "	" " "
1584	Knife	Artillery Hut
1661	"	American Artillery Park
143-A	Knife blade	Fusileers' Redoubt (1)
586-A	Knife	Redoubt No. 9B
587-A	"	" " "
934-A	Knife blade	French Encampment
1664	Lathing hammer	American Artillery Park
1678	Latch	" " "
923	Iron link	French Hospital Site
390	Iron lock fragment	" " "

Field Specimen No.		
915	Iron lock	French Hospital Site
921	" "	" " "
929	" "	" " "
931	" "	" " "
933	" "	" " "
934	" "	" " "
940	" "	" " "
1665	" "	American Artillery Park
1708	" "	French Sappers' Trench
888-A	" "	Second Parallel
1114	Medallion	American Artillery Park
199	Musket lock	French Hospital Site
212	Musket butt plate	Fusileers' Redoubt (1)
389	Musket band	French Hospital Site
601	Musket lock	American Artillery Park
623	Musket barrel	French Hospital Site
622	" "	" " "
624	" "	" " "
954	Musket lock	" " "
1673	Musket butt	Magazine Section
63-A	Musket flintlock and flint	Fusileers' Redoubt (1)
104-A	Musket trigger guard	" " "
107-A	Musket flint	French Artillery Park
286-A	Musket barrel	Hornwork
287-A	Musket part	"
288-A	Musket buttplate	"
289-A	" "	"
290-A	Musket stock	"
291-A	Musket part	"
292-A	Musket lock	"
293-A	Musket barrel	"
294-A	Musket lock and flint	"
494-A	Musket barrel	Redoubt No. 10B
585-A	Musket fragment	Redoubt No. 9B
434-A	Musket part	" " "
637-A	Musket flint	" " "
638-A	" "	" " "
640-A	Musket thimble	" " "
643-A	Musket barrel	" " "
779-A	French musket hammer	Second Parallel
782-A	Musket flint	" "
823-A	Musket thimble	" "
831-A	Musket barrel	Redoubt No. 9B
832-A	" "	" " "
837-A	Musket trigger guard	" " "
2231	Iron nail	Fusileers' Redoubt (1)
2232	" "	" " "
Y-5809	Cartridge box plate, Regiment von Bose	Redoubt No. 9B
Y-5810	Cartridge box plate, Regiment Erb Prinz	" " "

Field Specimen
No.

244	Pitcher fragment	French Hospital Site
245	" "	" " "
246	Pitcher	" " "
387	Pincers	" " "
580	Iron pick	French Battery (8A)
936	Iron pintle	French Hospital Site
945	" "	" " "
1588	Large iron pin	American Artillery Park
1674	" " "	" " "
653-A	Iron pick	Redoubt No. 9B
655-A	" "	" " "
1667	Plane blade	American Artillery Park
238	Pottery fragments	French Hospital Site
260	" "	" " "
912	Cover for pot	" " "
890-A	Iron ramrod	Second Parallel
958	Iron ring	French Hospital Site
1717	" "	Magazine Section
2063	" "	American Artillery Park
1244	Brass rod	French Hospital Site
719-A	Iron rod	Redoubt No. 9B
893-A	Iron ring	Second Parallel
386	Scythe blade	French Hospital Site
388	Scraper	" " "
920	" "	" " "
925	Pr scissors	" " "
1246	Scabbard tip	" " "
1282	Scales	American Artillery Park
1690	Scabbard tip	French Sappers' Trench
105-A	Scabbard strap	Fusileers' Redoubt (1)
106-A	" "	" " "
437-A	Brass scabbard tip	Second Parallel
1725	Scythe blade tip	Magazine Section
193	Grape shot fragments	French Hospital Site
194	" " "	" " "
625	Musket fragment	" " "
626	Musket stock	" " "
1419	Shovel	French Battery
1595	Grape shot fragments	French Sappers' Trench
1598	" " "	" " "
1602	" " "	" " "
1686	Shell fragment	" " "
1687	Musket balls	" " "
1688	Grape shot fragments	" " "
1689	" " "	" " "
1691	Shell fragment	" " "
1692	Grape shot fragment	" " "
1693	" " "	" " "
1696	" " "	" " "

Field Specimen
No.

160-A	Shell fragment	French Artillery Park
486-A	Grape shot fragments	Redoubt No. 9B
487-A	Shell fragment	" " "
548-A	" "	" " "
564-A	" "	" " "
565-A	" "	" " "
566-A	" "	" " "
567-A	" "	" " "
569-A	" "	" " "
570-A	" "	" " "
571-A	" "	" " "
578-A	" "	" " "
580-A	Grape shot fragments	" " "
581-A	" " "	" " "
582-A	Shell fragment	" " "
589-A to 596-A	Eight shell fragments	" " "
601-A	Grape shot fragments	" " "
602-A	" " "	" " "
604-A thru 610-A	Seven shell fragments	" " "
616-A thru 621-A	Six shell fragments	" " "
622-A thru 631-A	Eleven shell fragments	" " "
647-A	Shell fragment	" " "
648-A	" "	" " "
649-A	" "	" " "
2193	" "	Fusiliers' Redoubt (1)
2194 thru 2209	Sixteen shell fragments	" " "
2211	Grape shot fragments	" " "
2234	Solid shot	" " "
2238	" "	" " "
2246 thru 2250	Five grape shot fragments	" " "
2251	Shell fragment	" " "
2252	" "	" " "
2253	" "	" " "
2255 thru 2258	Four shell fragments	" " "
2259	Grape shot fragments	" " "
13-A thru 30-A	Eighteen grape shot fragments	" " "
66-A	Grape shot fragment	" " "
67-A	" " "	" " "
73-A	" " "	" " "
74-A	Shell fragment	" " "
75-A	" "	" " "
76-A and 77-A	Two shell fragments	" " "
78-A	Cannon ball	" " "
85-A	" "	" " "
90-A	Grape shot fragment	" " "
91-A to 101-A	Eleven shell fragments	" " "
123-A to 130-A	Eight shell fragments	" " "
147-A	Grape shot	" " "

Field Specimen
No.

148-A	Grape shot	Fusileers' Redoubt (1)
149-A	" "	" " "
150-A	" "	" " "
151-A	" "	" " "
155-A thru 160-A	Six shell fragments	" " "
650-A	Shovel	Second Parallel
651-A	Spade	" "
656-A	Cannon ball	Redoubt 9B
657-A thru 666-A	Ten shot fragments	" "
667-A thru 679-A	Thirteen cannon balls	" "
680-A thru 683-A	Four shell fragments	" "
684-A thru 689-A	Six cannon balls	" "
690-A thru 699-A	Ten cannon balls	" "
700-A	Mortar shell	" "
701-A thru 708-A	Eight shell fragments	" "
798-A	Shell fragment	" "
799-A	" "	" "
801-A	Cannon ball	First Parallel
802-A	" "	" "
803-A	" "	" "
804-A	" "	" "
805-A	" "	" "
806-A	Grape shot fragment	" "
807-A	Shell fragment	" "
808-A	" " , grenade	" "
809-A	" " , mortar	" "
810-A	Cannon ball	" "
811-A	Grape shot fragment	" "
812-A	" " "	" "
813-A	" " "	" "
814-A	Hollow shot	Second Parallel
817-A	Shell fragment	" "
818-A	" "	" "
819-A	" "	" "
820-A	" "	" "
821-A	" "	" "
825-A	" "	" "
826-A	" "	" "
827-A	" "	" "
828-A	Sheet of lead	" "
833-A	Solid shot	Redoubt 9B
834-A	" "	" "
835-A	Grape shot fragment	" "
844-A	Shell fragment	French Hospital Site
845-A	" "	" " "
846-A	" "	" " "
847-A	" "	" " "
848-A	" "	" " "

Field Specimen
No.

849-A	Shell fragment	French Hospital Site
850-A	" "	" " "
851-A	" "	" " "
852-A	" "	" " "
853-A	" "	" " "
854-A	" "	" " "
855-A	" "	" " "
856-A	" "	" " "
857-A	" "	" " "
858-A	" "	" " "
864-A	Solid shot	First Parallel
865-A thru 869-A	Five solid shot	" "
854-A thru 858-A	Five shell fragments	French Hospital
876-A	Shell fragment	Second Parallel
878-A	" "	" "
879-A	" "	" "
864-A thru 868-A	Five cannon balls	" "
879-A thru 883-A	" " "	" "
893-A	Grape shot fragment	First Parallel
886-A	Iron spade	Second Parallel
894-A thru 903-A	Ten cannon balls	Redoubt No. 9B
926-A	Sword fragment	Second Parallel, Approach Trench
1592	Skewer	Magazine Section
579	Iron spade	French Battery
969	Spoon	American Artillery Park
1417	Spur	French Battery
1650	Spoon	American Artillery Park
1656	Spur	" " "
1659	Spike, iron	Magazine Section
2253	Iron spike	Fusileers' Redoubt (1)
60-A	" "	" " "
62-A	" "	" " "
70-A	" "	" " "
72-A	" "	" " "
81-A	" "	" " "
82-A	" "	" " "
84-A	" "	" " "
87-A	" "	" " "
166-A	" "	French Artillery Park
613-A	Iron spade	Redoubt No. 9B
646-A	" "	" " "
651-A	" "	Second Parallel
654-A	" "	Redoubt No. 9B
836-A	" "	" " "
202	Stirrup	French Hospital
395	"	" "
914	Stove part	" "
935	Stirrup	" "
939	"	" "

Field Specimen
No.

956	Stirrup	French Hospital
1604	Iron staple	Magazine Section
1672	" "	American Artillery Park
208	Sword guard	French Hospital Site
1690	Scabbard tip	French Sappers' Trench
1744	Iron trunnion pin	French Battery (8A)
1747	Wagon harness	" " "
1587	Iron weight	Magazine Section
886-A	Iron wedge	Second Parallel

Appendix E

(From copies in the Henry Clinton Papers,
William L. Clements Library, University of Michigan.)

Text of Ongoing Correspondence between Washington and
Cornwallis, October 17-18, 1781, including
the Articles of Capitulation, signed October 19, 1781

York in Virginia
17th Oct^r: 1781.

Sir

I propose a Cessation of Hostilities for twenty four hours, & that
two Officers may be appointed by each side, to meet at M^r. Moore's house
to settle terms for the Surrender of the Posts of York & Gloucester.

I have the honour to be

Sir

Your most obedient
& most humble Servant

/Signed/ Cornwallis

His Excellency
General Washington
Commanding the combined Forces of France and
America

* * *

Camp before York
17th Oct^r: 1781.

My Lord

I have had the honour of receiving your Lordship's Letter of this date.

An ardent desire to spare the further effusion of Blood, will readily
incline me to listen to such terms for the surrender of your posts, as are
admissible.

I wish, previous to the meeting of Commissioners, that your Lordship's proposals in writing, may be sent to the American Lines: For which purpose a suspension of hostilities during two hours from the deliver of this Letter will be granted--I have the honour to be. My Lord

Your Lordship's

Most obedient &
Most humble Servant

/Signed/ G^o Washington

Lieu^t: General
Earl Cornwallis

* * *

York in Virginia
17th October 1781/2 past 4 P.M.

Sir

I have this moment been honoured with Your Excellency's Letter, dated this day.

The time limited for sending my Answer will not admit of entering into the detail of Articles, but the Basis of my proposals will be, that the Garrisons of York and Gloucester shall be Prisoners of War with the customary honours, And, for the convenience of the individuals which I have the honour to command, that the British shall be sent to Britain, & the Germans to Germany, under engagement-not to serve against France, America, or their Allies untill released, or regularly exchanged, That all Arms & publick Stores shall be delivered up to you, but that the usual indulgence of Side Arms to Officers, & of retaining private property shall be granted to Officers and Soldiers, & that the interests of several Individuals, in civil capacities & connected with us, shall be attended to.

If your Excellency thinks that a continuance of the Suspension of hostilities will be necessary to transmit your Answer, I shall have no objection to the hour that you may propose.

I have the honour to be

Sir

Your most obedient &
Most humble Servant

/Signed/ Cornwallis

His Excellency General Washington
Commanding the combined Forces of France
and America

* * *

Camp before York
18 Oct^r: 1781.

My Lord

To avoid unnecessary discussions and delays, I shall at once in answer to your Lordship's Letter of yesterday, declare the general Basis upon which a definitive treaty of Capitulation may take place.

The Garrisons of York and Gloucester, including the Seamen, as you propose, shall be received Prisoners of War. The condition annexed of sending the British and German Troops to the parts of Europe to which they respectively belong is inadmissible. Instead of this; they will be marched to such parts of the Country as can most conveniently provide for their Subsistence, and the benivolent treatment of Prisoners which is invariably observed by the Americans will be extended to them. The same honors will be granted to the surrendering Army as were granted to the Garrison of Charlestown.

The Shipping & Boats in the two Harbours with all their Guns--Stores, Tackling--Furniture and Apparel shall be delivered in their present State to an Officer of the Navy appointed to take possession of them.

The Artillery--Arms--Accoutrements, Military Chest, and publick Stores of every denomination shall be delivered, unimpaired, to the Heads of Departments to which they respectively belong.

The Officers shall be indulged in retaining their side Arms, and the Officers & Soldiers may preserve their Baggage & Effects, with this reserve, that Property taken in the Country will be reclaimed.

With regard to the Individuals in civil Capacities, whose Interests your Lordship wishes may be attended to, untill they are more particularly described, nothing definitive can be settled.

I have to add, that I expect the Sick and wounded will be supplied with their own Hospital Stores, and be attended by British Surgeons particularly charged with the care of them.

Your Lordship will be pleased to signify your determination either to accept or reject the proposals now offered, in the course of two hours from the delivery of this Letter, that Commissioners may be appointed to digest the Articles of Capitulation, or a renewal of hostilities may take place.

I have the honour to be
My Lord

Your Lordship's
Most obedient
and humble Servant

G^o Washington

His Excellency
Lieut: General Earl Cornwallis

* * *

York in Virginia
18 Oct^r. 1781.

Sir

I agree to open a treaty of Capitulation upon the Basis of the Garrisons of York & Gloucester including Seamen, being Prisoners of War, without annexing the condition of their being sent to Europe; But I expect to receive a Compensation in arranging the Articles of the Capitulation for the surrender of Gloucester in it's present state of defence. I shall in particular desire that the Bonetta Sloop of War may be left entirely at my disposal from the hour that the Capitulation is signed to receive an Aide-de-Camp to carry my dispatches to Sir Henry Clinton, such Soldiers as I may think proper to send passengers in her, to be manned with fifty men of her own Crew, & to be permitted to sail without examination when my dispatches are ready, Engaging on my part, that the Ship shall be brought back, and delivered to you if she escapes the dangers of the Sea, that the Crew & Soldiers shall be accounted for in future Exchanges, that she shall carry off no Officer without your consent, nor publick property of any kind; And I shall likewise desire that the Traders & Inhabitants may preserve their property, and that no person may be punished or molosted for having joined the British Troops.

If you chuse to proceed to Negotiation on these grounds I shall appoint two Field Officers of my Army to meet two Officers from you at any time and place that you think proper, to digest the Articles of Capitulation.

I have the honour to be

Sir

Your most obedient &
Most humble Servant

/Signed/ Cornwallis

His Excellency
General Washington
Commanding the combined Forces of France and America

Articles of Capitulation settled between His Excellency General Washington Commander in Chief of the combined Forces of America & France, His Excellency the Count de Rochambeau Lieutenant General of the Armies of the King of France Great Cross of the Royal^d Military Order of St. Louis, commanding the auxiliary Troops of His most Christian Majesty in America, His Excellency the Count deGrasse Lieutenant General of the Naval Armies of His most Christian Majesty Commander of the Order of St. Louis, Commanding in Chief the Naval Army of France in the Chesapeak, on the one part. And The Right Honorable Earl Cornwallis Lieutenant General of His Britannick Majesty's Forces, Commanding the Garrisons of York & Gloucester and Thomas Symonds Esq--Commanding His Britannick Majesty's Naval Forces in York River in Virginia on the other part.

Article 1^t

The Garrisons of York & Gloucester including the Officers & Seamen of His Britannick Majesty's Ships as well as other Mariners to surrender themselves Prisoners of War to the Combined Forces of America & France; The Land Troops to remain Prisoners to the United States; The Navy to the Naval Army of His most Christian Majesty.

Granted

Article 2nd

The Artillery, Arms, Accoutrements military Chest & publick Stores of every denomination shall be delivered unimpaired to the Heads of Departments appointed to receive them.

Granted

Article 3^d

At Twelve O'Clock this Day the two Redoubts on the left Flank of York to be delivered the one to a Detachment of American Infantry, the other to a Detachment of French Grenadiers. The Garrison of York will march out to a place to be appointed in front of the Posts at 2 O'Clock precisely with Shouldered Arms, Colors cased & Drums beating a British or German March. They are then to ground their Arms and return to their Encampment where they will remain until they are dispatched to the places of their Destination. Two Works on the Gloucester Side will be delivered at one O'Clock to detachments of French & American Troops appointed to possess them. The Garrison will march out at 3 O'Clock in the Afternoon, the Cavalry with their Swords drawn Trumpets sounding & the Infantry in the manner prescribed for the Garrison of York. They are likewise to return to their Encampment until they can be finally marched off.

Granted

Article 4th

Officers are to retain their Side Arms. Both Officers & Soldiers to keep their private Property of every kind, & no part of their Baggage or Papers to be at any Time subject to search or Inspection. The Baggage & Papers of Officers & Soldiers taken during the Siege to be likewise preserved for them. It is understood that any Property obviously belonging to the Inhabitants of these States, in the possession of the Garrison, shall be subject to be reclaimed.

Granted

Article 5th

The Soldiers to be kept in Virginia Maryland or Pennsylvania, & as much by Regiments as possible & supplied with the same Rations of Provisions as are allowed to Soldiers in the Service of America, a Field Officer from each Nation, to wit, British Anspach & Hessian, and other Officers on parole in the proportion of one to fifty Men, to be allowed to reside near their respective Regiments, to visit them frequently & to be Witnesses of their Treatment, & that these Officers may receive & deliver Clothing & other Necessaries, for which Passports are to be granted when applied for.

Granted

Article 6th

The General, Staff & other Officers, not employed as mentioned in the above Article, & who chuse it, to be permitted to go on Parole to Europe, to New York, or to any other American Maritime Posts, at present in the Possession of the British Forces, at their own Option, & proper Vessels to be granted by the Count de Grasse to carry them under Flags of Truce to New York within 10 days from this date if possible, and they to reside in a district to be agreed upon hereafter until they embark. The Officers of the Civil departments of the Army & Navy to be included in this Article, Passports to go by Land to be granted to those to whom Vessels cannot be furnished.

Granted

Article 7th

Officers to be allowed to keep Soldiers as Servants according to the common practice of the Service. Servants not Soldiers are not to be considered as Prisoners & are to be allowed to attend their Masters.

Granted

Article 8th

The Bonetta Sloop of War to be equipped & navigated by it's present Captain & Crew, & left entirely at the disposal of Lord Cornwallis from the hour that the Capitulation is signed to receive an Aid de Camp to carry dispatches to Sir Henry Clinton, & such Soldiers as he may think proper to send to New York to be permitted to sail without Examination when his dispatches are ready. His Lordship engaging on his part, that the Ship shall be delivered to the Order of the Count deGrasse if she escapes the dangers of the Seas. That she shall not carry off any public Stores, any part of the Crew that may be deficient on her Return & the Soldiers Passengers to be accounted for on her Delivery.

Granted

Article 9th

The Traders are to preserve their property & to be allowed three Months to dispose of or remove them & those Traders are not to be considered as Prisoners of War.

The Traders will be allowed to dispose of their Effects, the Allied Army having the Right of Preemption. The Traders to be considered as Prisoners of War on parole.

Article 10th

Natives or Inhabitants of different Parts of this Country at present in York or Gloucester are not to be punished on Account of having joined the British Army.

This Article cannot be assented to being altogether of Civil Resort.

Article 11th

Proper Hospitals to be furnished for the Sick & wounded, they are to be attended by their own Surgeons on Parole and they are to be furnished with Medicines & Stores from the American Hospitals.

The Hospital Stores now in York & Gloucester shall be delivered for the use of the British Sick and Wounded. Passports will be granted for procuring them further Supplies from New York as occasion may require. And proper Hospitals will be furnished for the Reception of the Sick and wounded of the two Garrisons.

Article 12th

Waggons to be furnished to carry the Baggage of the Officers attending the Soldiers and to Surgeons when travelling on Account of the Sick, attending the Hospitals at publick Expence.

They will be furnished if possible.

Article 13th

The Shipping and Boats in the two Harbours with all their Stores, Guns, Tackling & Apparel shall be delivered up in their present State to an Officer of the Navy appointed to take Possession of them, previously unloading the private Property, part of which had been on board for Security during the Siege.

Granted

Article 14th

No Article of the Capitulation to be infringed on pretext of Reprisals, and if there be any doubtful Expressions in it, they are to be interpreted according to the common meaning and acceptations of the Words.

Granted

Done in the Trenches before
York October 19th 1781.

/Signed/

Cornwallis
Th^s. Symonds.

G. Washington
Le C^{te}.de Rochambeau
Le C^{te}.de Barras en mon
Nom et celui du C^{te}.de Grasse.

Appendix F.

(From Henry Knox Papers in CNHP, Yorktown, Virginia.)

Return of Ordnance and Military Stores, taken at York and Gloucester in Virginia by the Surrender of the British Army Oct. 19 1781

Brass Ordnance

	(	.1	--	Annauzette)	
	(	.12	--	3 pounders)	
	(	.1	--	4)	
	(	.12	--	6	)	travelling carriages
Cannon	(	.1	--	9)	
	(	.4	--	12)	
	(	.3	--	4)	
	(	.3	--	9	)	garrison carriages
	(	.6	--	5 1/2)	
	(	.3	--	8	)	travelling carriages
Howitzers	(--)	
	(	.6	--	8	)	not mounted
	(	.11	--	4 2/5	)	inch
	(	.7	--	5 1/2	)	mounted
Mortars	(	.1	--	16)	
	(--)	
	(	.1	--	4 2/5)	
	(	.3	--	13	)	not mounted
		75		total		

Iron Ordnance

	(	.2	--	1 pounders)	
	(	.3	--	3)	
	(	.8	--	4)	
	(	.30	--	6	)	garrison or ship carriages
Cannon	(	.42	--	9)	
	(	.18	--	12)	
	(	.27	--	18)	
	(	.1	--	18)	
	(	.1	--	24	)	travelling carriages
	(	.4	--	4)	
Carronades	(	.27	--	18	)	travelling carriages
	(	.6)	
Swivels		169		total		

Appendix G

(From Henry Knox Papers, Microfilm Roll 7, 123,
Massachusetts Historical Society.)

Shot and Shells Expended, October 9-17, 1781

Oct.		<u>18 pdr</u>	<u>24 pdr</u>	<u>5-1/2</u>	<u>8</u>	<u>10</u>
9 & 10	Col Lamb	101	81		54	90
10 & 11	Lt Col Carrington	380	180		40	40
11 & 12	Lt Col Stevens	713	336	94	159	365
12 & 13	Major Bauman	255	95	36	54	119
13 & 14	Col Lamb	296	96	50	100	122
14 & 15	Lt Col Carrington	246	130	19	50	67
15 & 16	Lt Col Stevens			Coehorns 75) 30)	43	115
16 & 17	Maj. Bauman	100	135		104	257
17	Col. Lamb	98	70	12	21	42
TOTAL		2189	1123	316	625	1237

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ILLUSTRATIONS

Illustration 1.

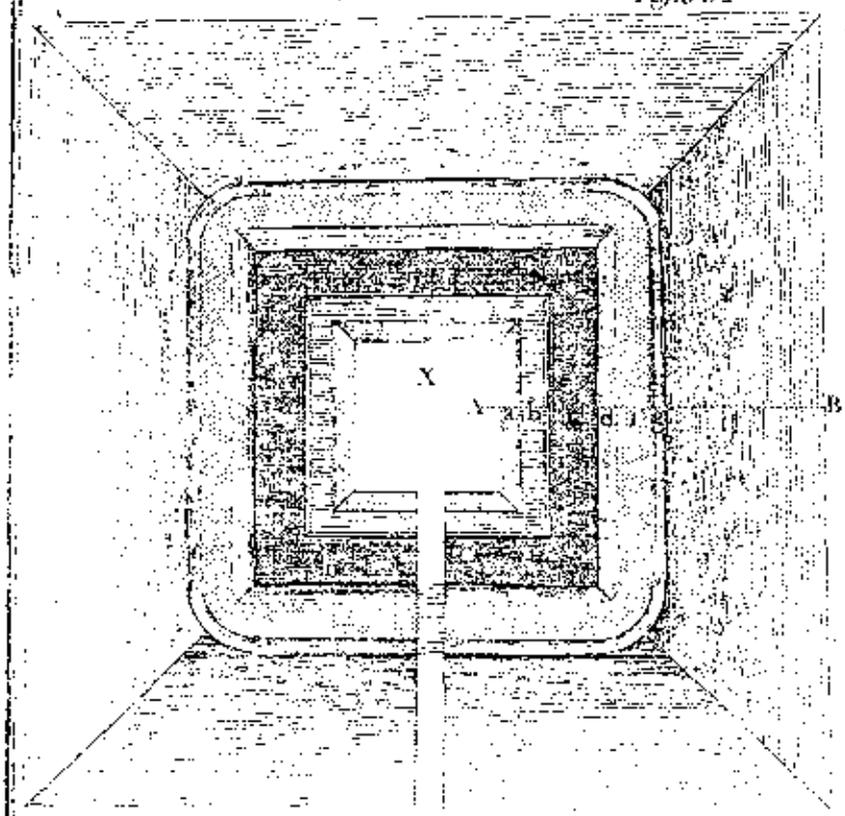
Left: Bird's-eye view of a redoubt.

Right: Profile of a redoubt.

From Guillaume Le Blond, *Elemens de Fortification*
(Paris: Charles-Antoine Jombert, 1764).

Plan d'une Redoute

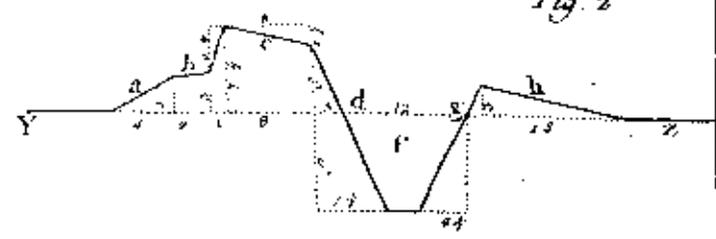
Figure 1^{re}



Echelle de 12 toises

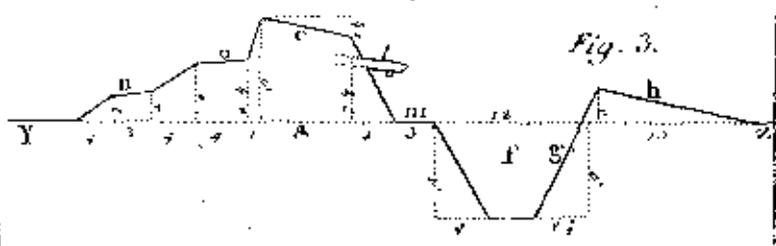
Profil pris sur la ligne AB de la Redoute X. Fig. 1^{re}

Fig. 2



Profil d'une autre redoute plus élevée

Fig. 3.



Echelle de 6 toises

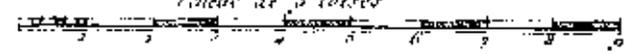
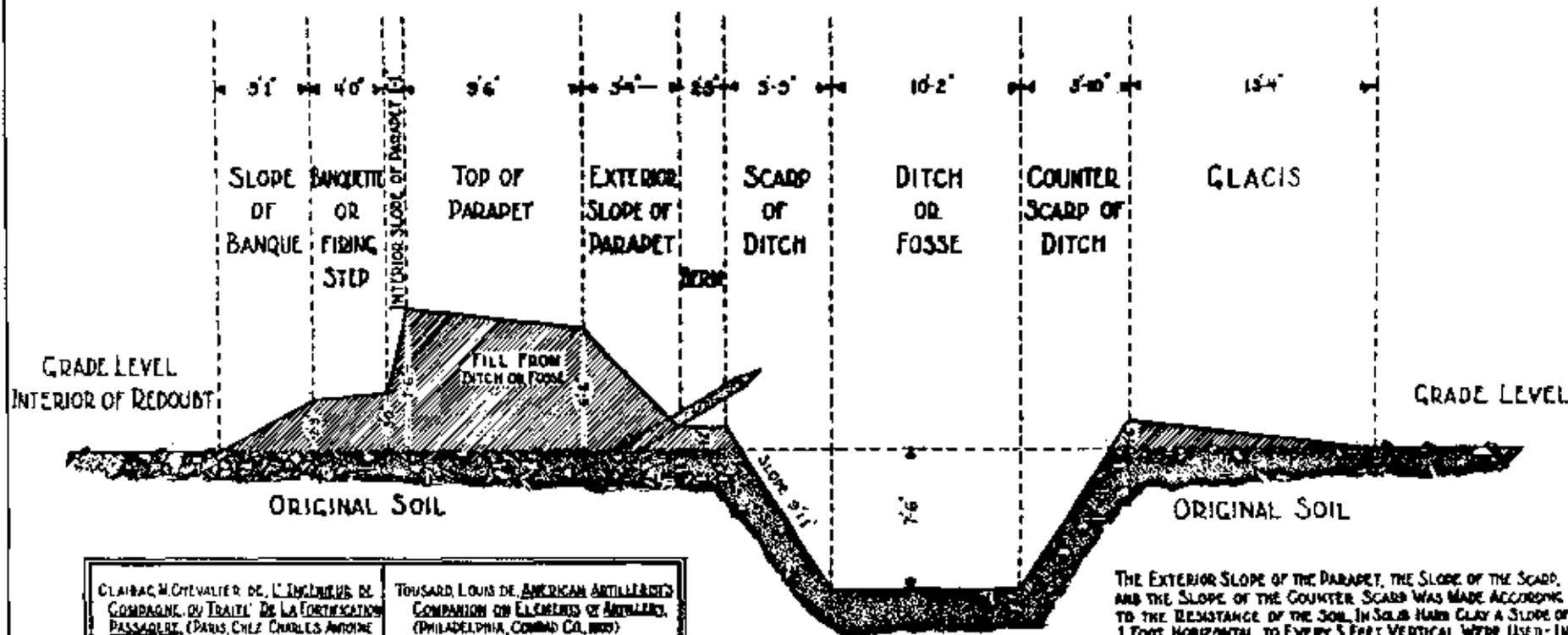


Illustration 2.

Cross-sectional view of a redoubt.

From Thor Borresen, "Drawings Illustrating
Field Fortifications of Revolutionary War Period"
(Colonial National Historical Park Library).

TYPICAL CROSS SECTION OF A REDOUBT



CLAIRBOURGHEVALIER DE L'INGENIERIE DE COMBAGNE, <i>OU TRAITÉ DE LA FORTIFICATION PASSAGÈRE</i> , (PARIS CHEZ CHARLES ANTOINE JOMBERT, 1762), SECOND EDITION	TOUSSARD, LOUIS DE, <i>AMERICAN ARTILLERIST'S COMPANION OR ELEMENTS OF ARTILLERY</i> , (PHILADELPHIA, COMMO CO., 1807) 2 VOLUMES WITH ATLAS.
LOCKER, LOUIS, <i>ELEMENTS OF FIELD FORTIFICATION</i> , PRINTED FOR THE AUTHOR, SOLD BY T. CADELL, LONDON, 1785)	LALLEMAND, H., <i>A TREATISE OF ARTILLERY</i> , (NEW YORK, 1820) 2 VOLUMES

THE EXTERIOR SLOPE OF THE PARAPET, THE SLOPE OF THE SCARP, AND THE SLOPE OF THE COUNTER SCARP WAS MADE ACCORDING TO THE RESISTANCE OF THE SOIL. IN SOLID HARD CLAY A SLOPE OF 1 FOOT HORIZONTAL TO EVERY 3 FEET VERTICAL WERE USED; IN SANDY SOIL 1 FOOT HORIZONTAL TO EVERY 1 FOOT VERTICAL WERE USED; IN PERMANENT OR SEMI-PERMANENT FORTIFICATIONS A SLOPE OF 1/2 TO 1 OR 1 TO 1 COVERED WITH A LAYER OF SOIL WERE USED.

THE ABOVE NAMES ABOVE CONTAIN DATA PERTAINING TO REDOUBT CONSTRUCTION

Illustration 3.

Various redoubt shapes.

From Epaphras Hoyt, *Practical Instructions for Military Officers* (Greenfield, Massachusetts: John Denio, 1811).

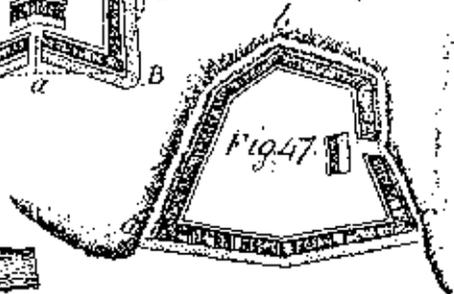
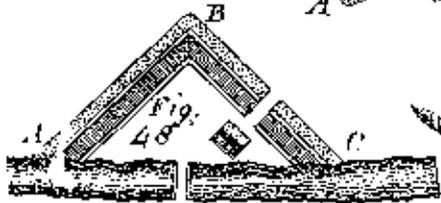
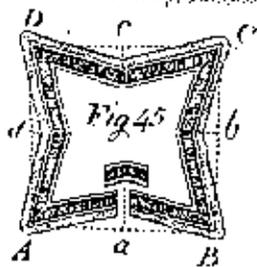
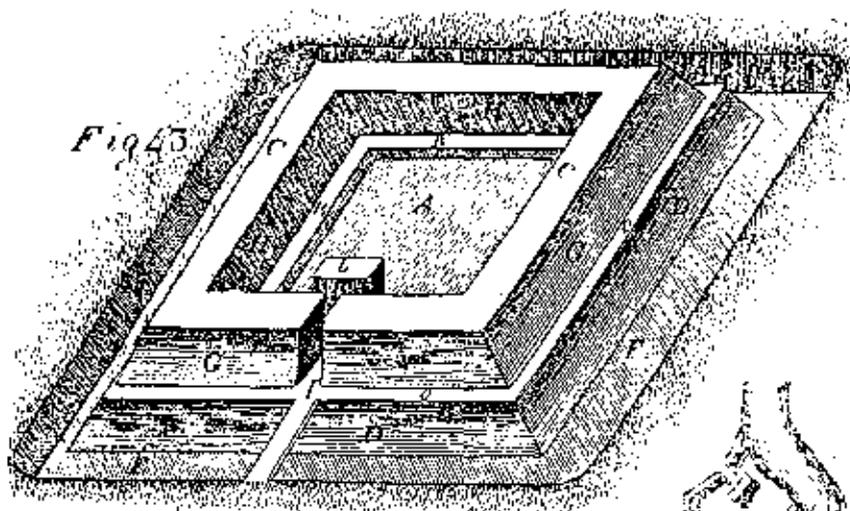
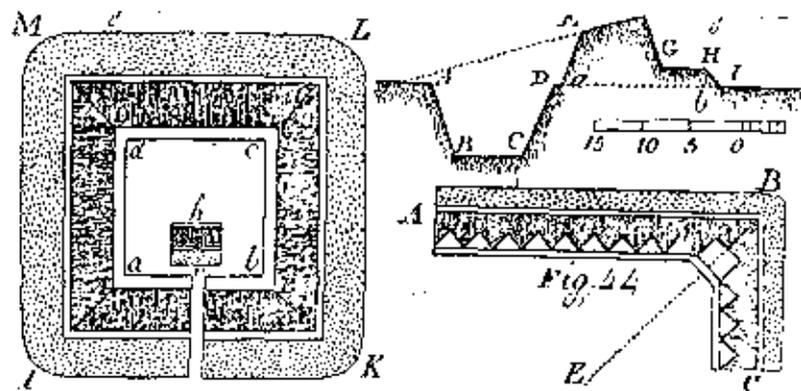


Illustration 4.

Outline of a redan battery.

From Thor Borresen, "Drawings Illustrating Field
Fortifications of Revolutionary War Period"
(Colonial National Historical Park Library).

REDAN BATTERY

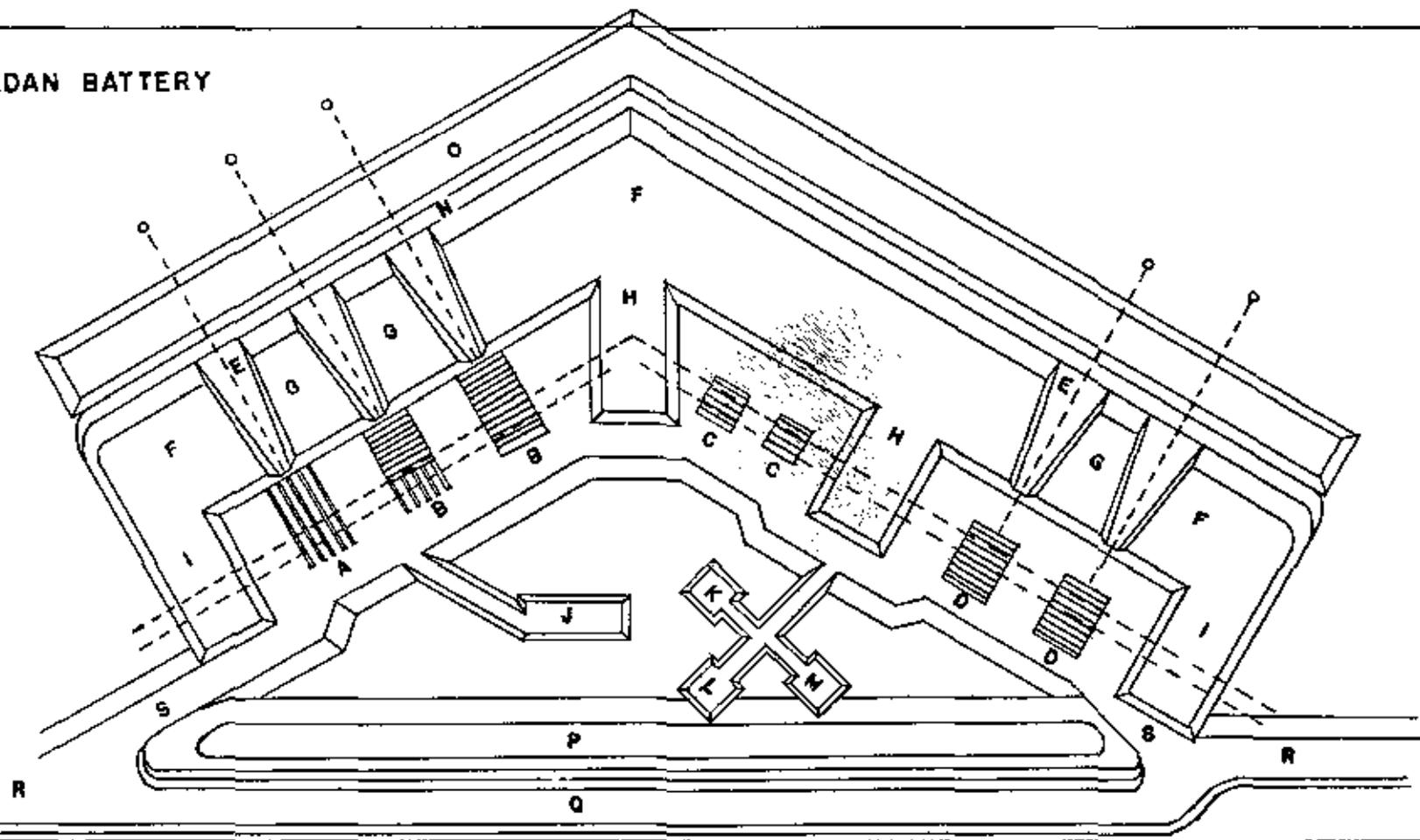


Illustration 5.

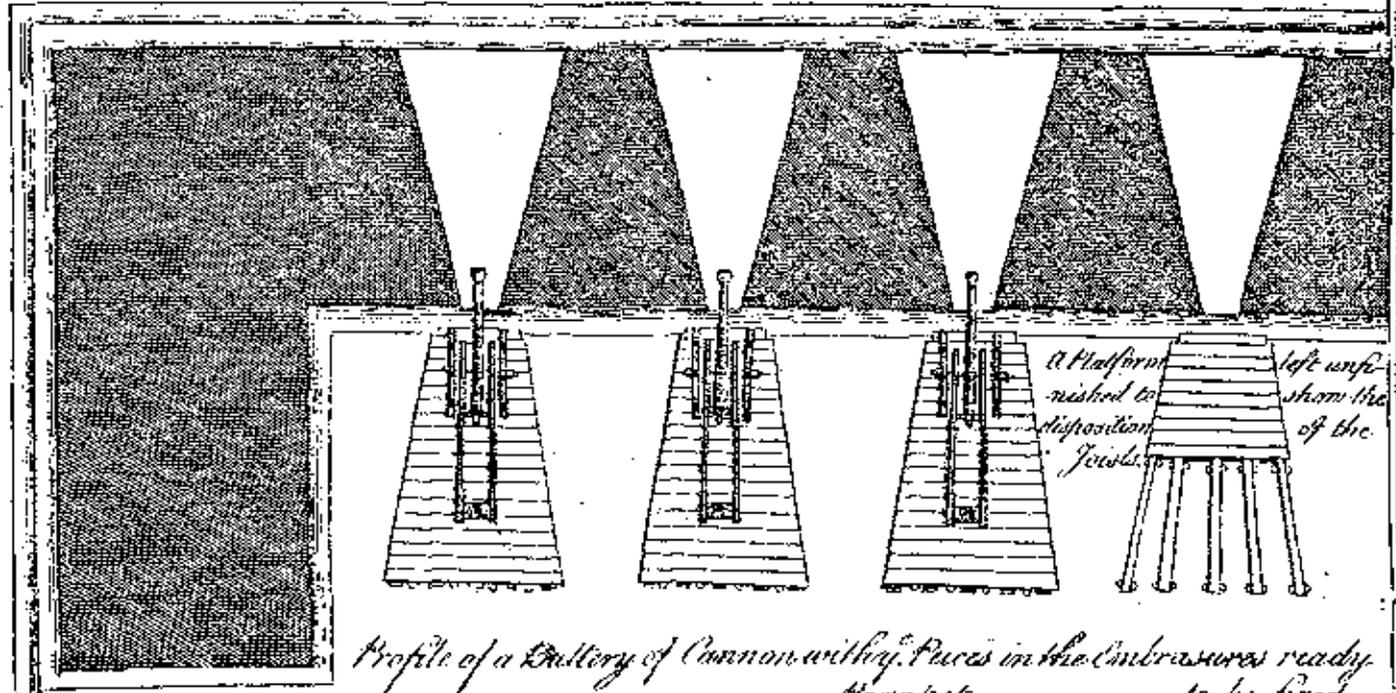
Cannon battery.

From Guillaume Le Blond, *A Treatise of Artillery*
(London: E. Cave, 1746).

Plan of a Battery of Cannon.

Fig. 1.

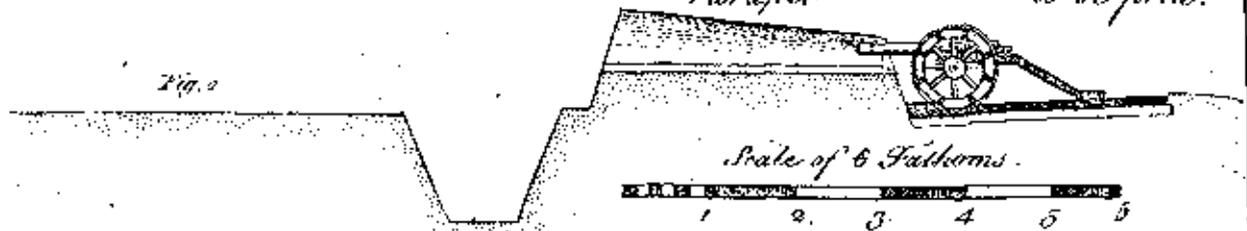
Trench or Ditch.



*A Platform
erected to
show the
disposition
of the
Jewels.*

*Profile of a Battery of Cannon with Pieces in the Embrasures ready
to be fired.*

Fig. 2.



Scale of 6 Fathoms.

1 2 3 4 5 6

Illustration 6.

Profile of a cannon battery.

From Thor Borresen, "Drawings Illustrating Field
Fortifications of Revolutionary War Period"
(Colonial National Historical Park Library).

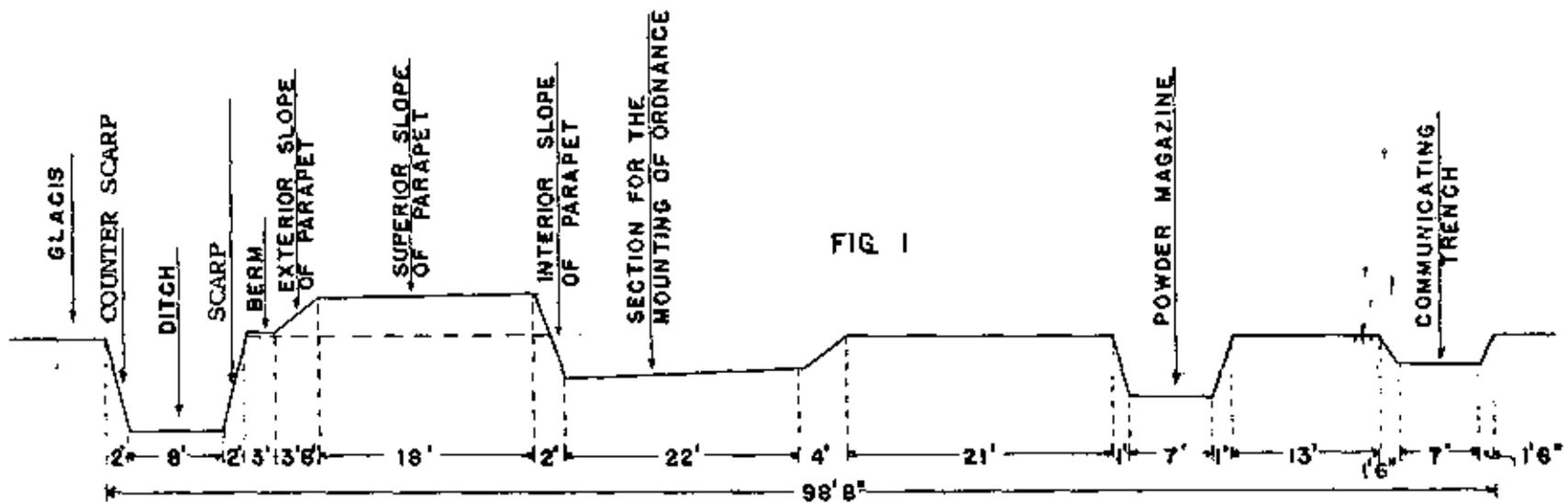


Illustration 7.

Details for placing cannon platforms.

From Thor Borresen, "Drawings Illustrating Field
Fortifications of Revolutionary War Period"
(Colonial National Historical Park Library).

FIG. 1

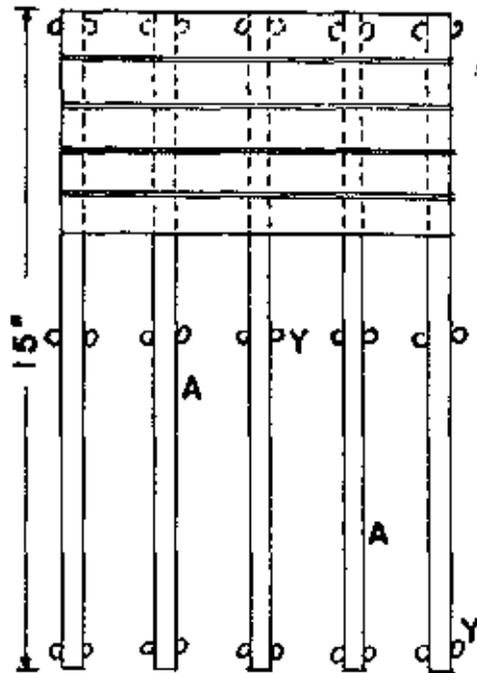
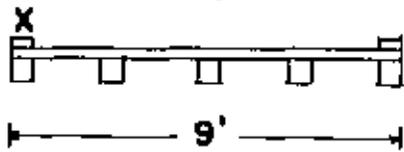


FIG. 2

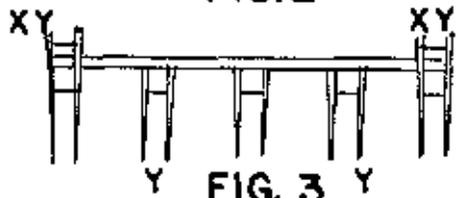
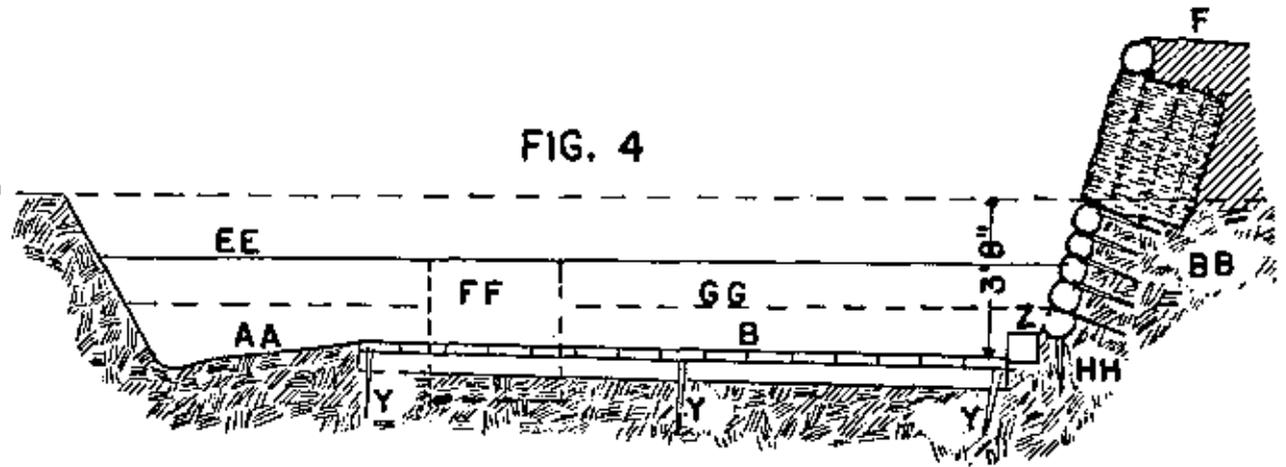


FIG. 3

FIG. 4



PLATFORM FOR CANNON

FIG. 5



CROSS SECTION OF PLATFORM

FIG. 6



PLATFORM LAID ON FILL

Illustration 8.

Outline of a parallel battery.

From Thor Borresen, "Drawings Illustrating Field
Fortifications of Revolutionary War Period"
(Colonial National Historical Park Library).

OUTLINE OF A PARALLEL BATTERY

DITCH

AREA SET ASIDE FOR THE PARAPET

PP

B

PP

C

PP

D

ENTRANCE

3

ENTRANCE

AREA SET ASIDE FOR POWDER MAGAZINES

COMMUNICATING TRENCH

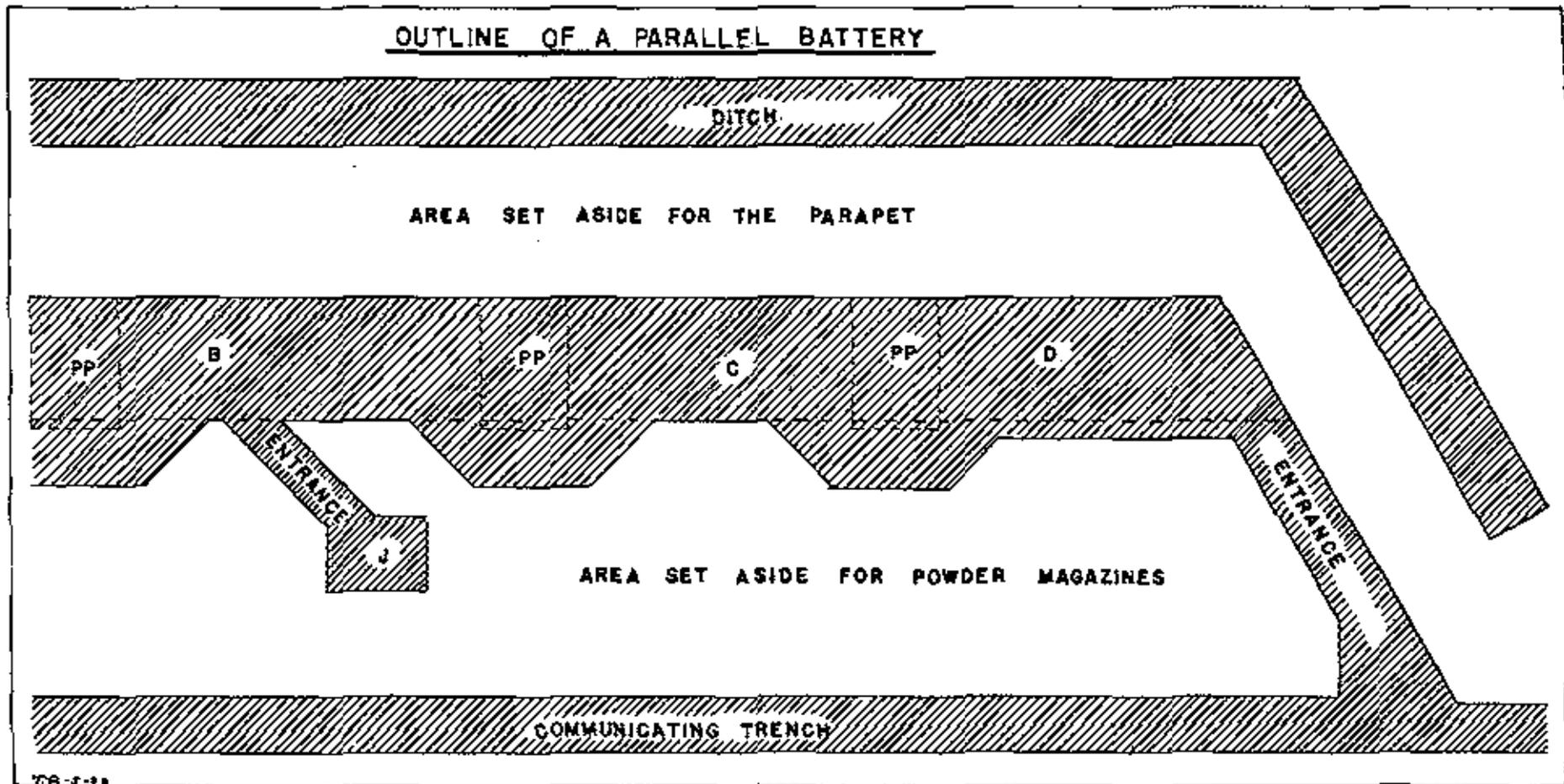


Illustration 9.

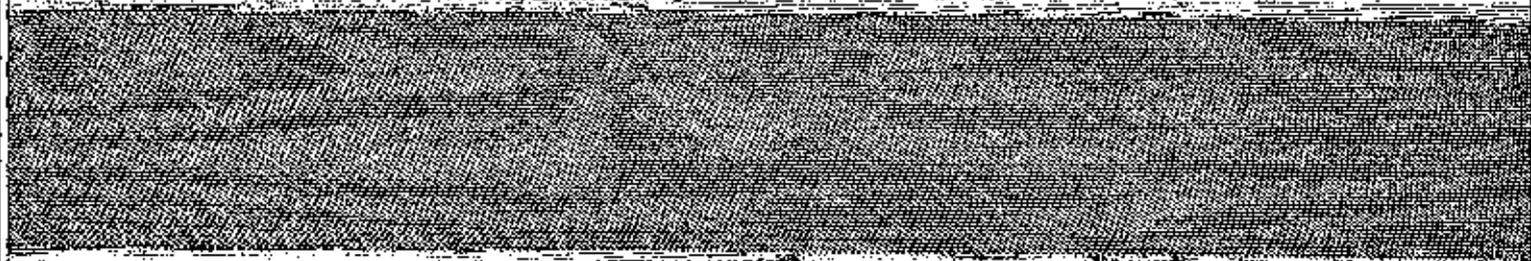
Mortar battery.

From Guillaume Le Blond, *A Treatise of Artillery*
(London: E. Cave, 1746).

Plan of a Bomb Battery

Fig. 1.

Top or Ditch



Platforms finished with the Mortars upon them.

2 Platform unfinished in the shows the disposition of the Souts.



Parapet or Spaulment of y^e Batt^y

Profile of a Bomb Battery



Scale of 9 fathom.

Illustration 10.

Details of mortar platform construction.

From Thor Borresen, "Drawings Illustrating Field
Fortifications of Revolutionary War Period"
(Colonial National Historical Park Library).

FIG. 1

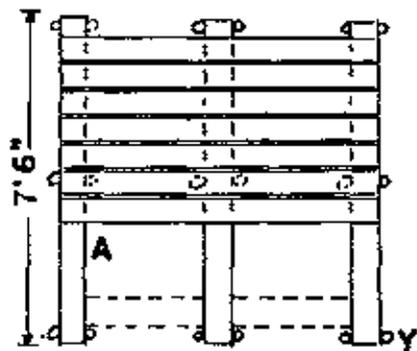
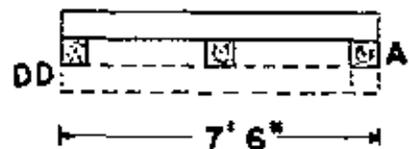


FIG. 2

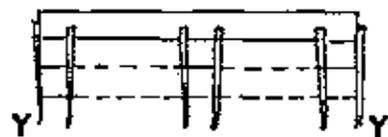


FIG. 3

MORTAR PLATFORM

FIG. 4

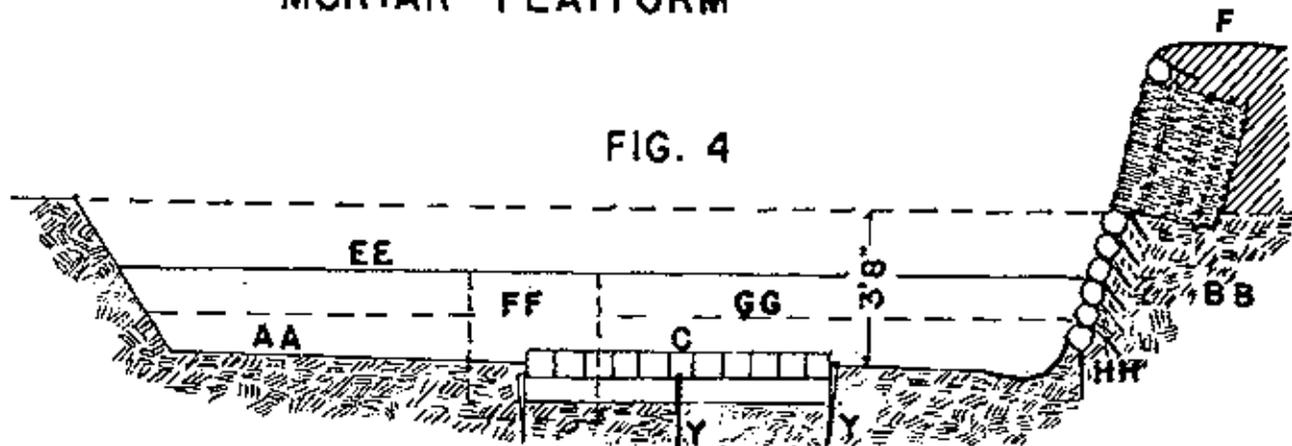


FIG. 5



CROSS SECTION OF PLATFORM

FIG. 6



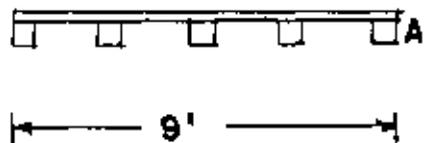
PLATFORM PLACED ON FILL

Illustration 11.

Construction of howitzer platforms.

From Thor Borresen, "Drawings Illustrating Field
Fortifications of Revolutionary War Period"
(Colonial National Historical Park Library).

FIG. 1



HOWITZER PLATFORM

FIG. 4

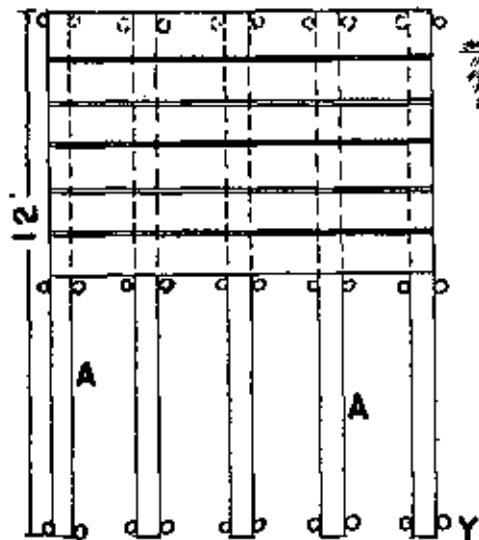
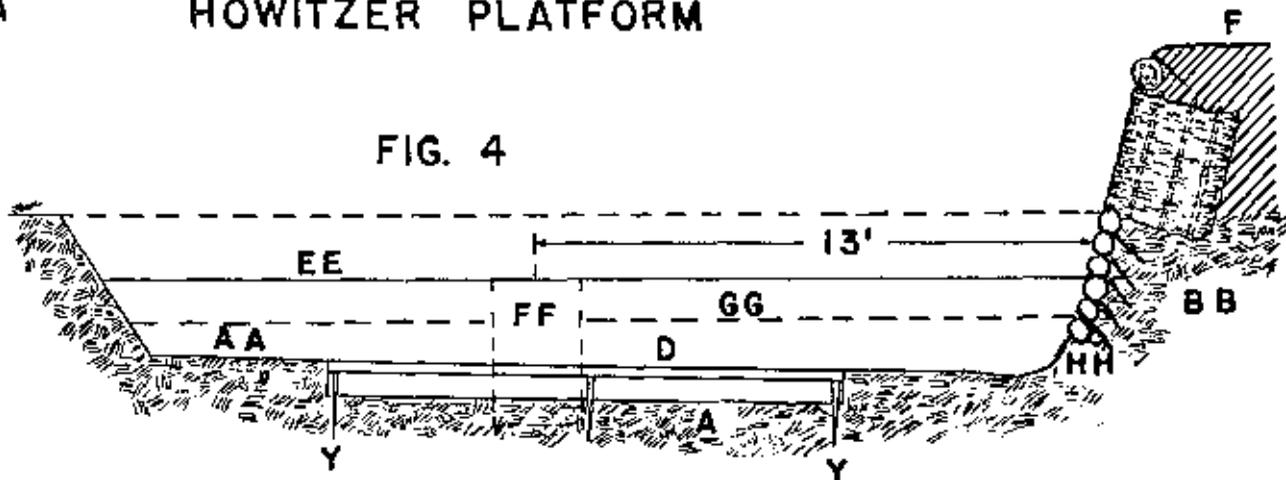


FIG. 2

FIG. 5



CROSS SECTION OF PLATFORM



FIG. 3

FIG. 6



PLATFORM PLACED ON FILL

Illustration 12.

Construction of a traverse revetted with sod,
saucissons, or gabions.

From Thor Borresen, "Drawings Illustrating Field
Fortifications of Revolutionary War Period"
(Colonial National Historical Park Library).

TRAVERSE

FIG. 1



FIG. 2

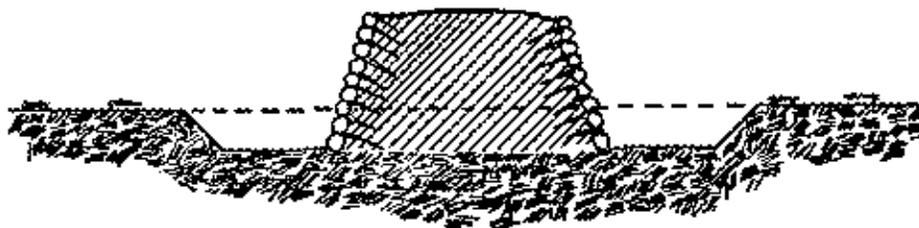


FIG. 3



Illustration 13.

Powder magazines.

From Thor Borresen, "Drawings Illustrating Field
Fortifications of Revolutionary War Period"
(Colonial National Historical Park Library).

4-TYPES OF POWDER MAGAZINES

FIG. 1

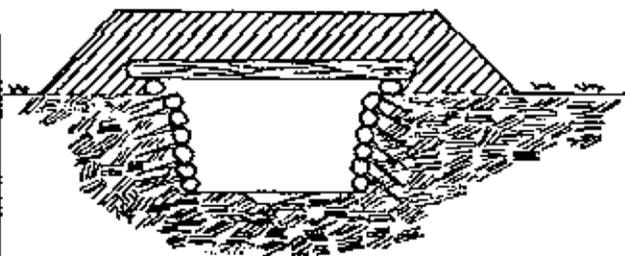


FIG. 2

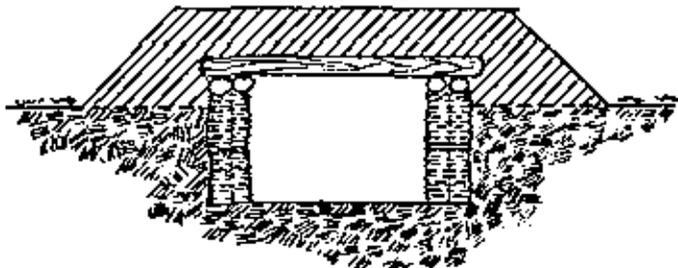


FIG. 3

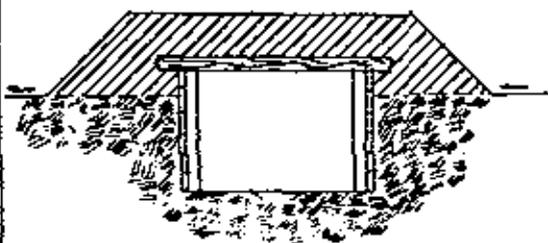


FIG. 4



FIG. 5



FIG. 6

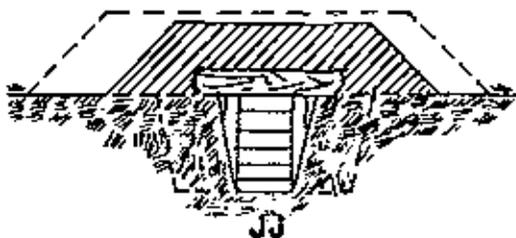


FIG. 7

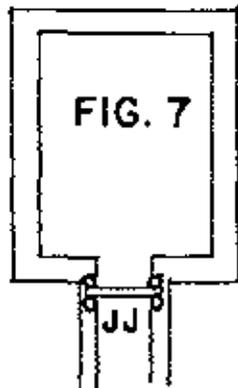


Illustration 14.

Construction of saps.

From Louis de Tousard, *American Artillerist's Companion*
(Philadelphia: C. and A. Conrad and Company, 1809).

Illustration 15.

Construction of saps.

From Louis de Tousard, *American Artillerist's Companion*
(Philadelphia: C. and A. Conrad and Company, 1809).

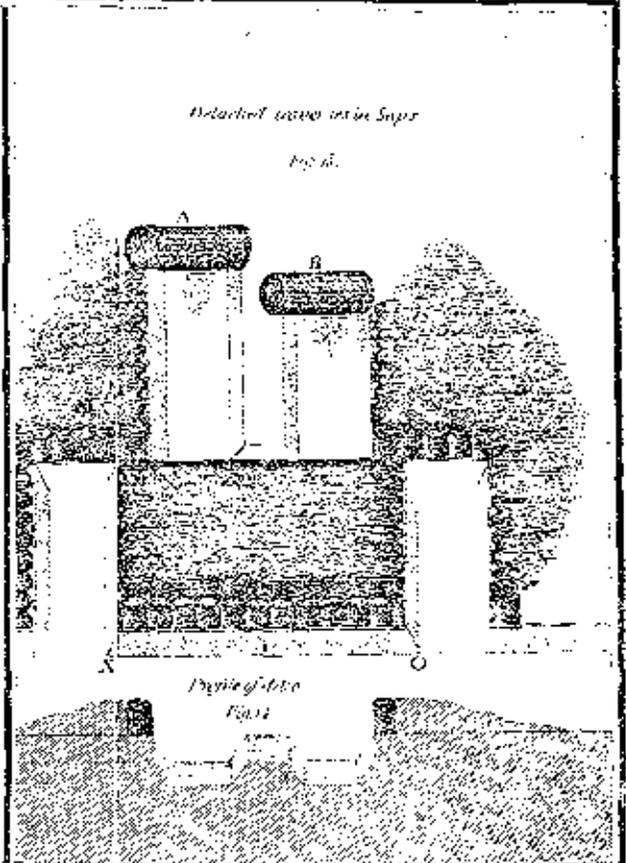
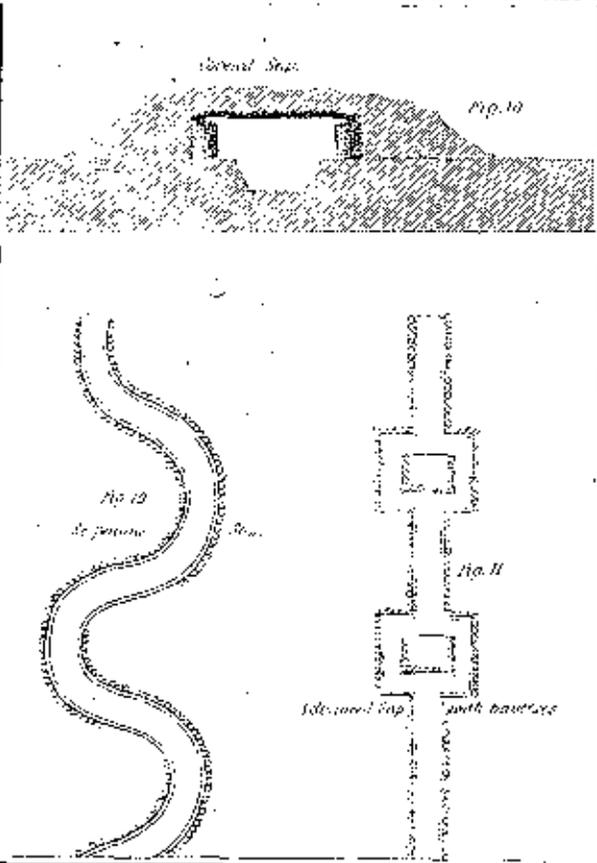
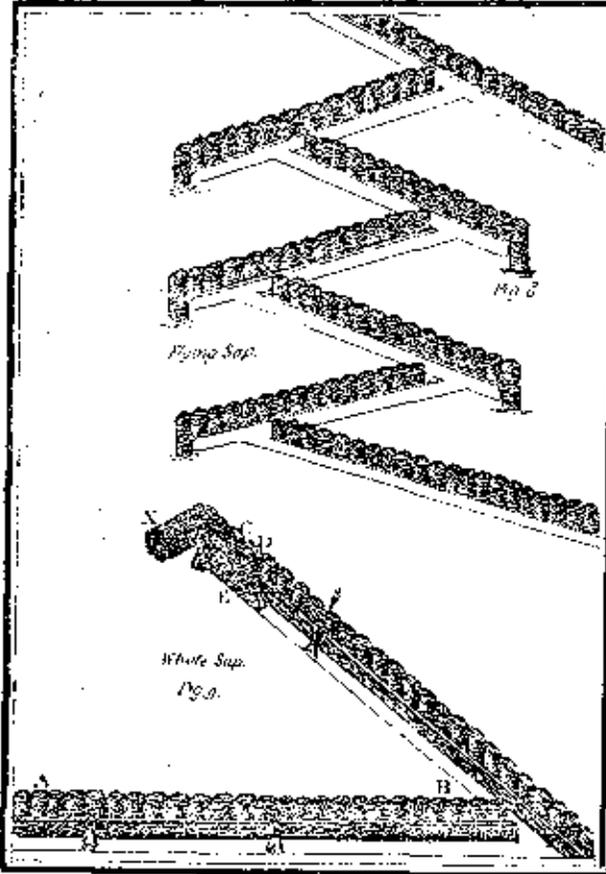


Illustration 16.

Cannon and traveling carriage.

From Guillaume Le Blond, *A Treatise of Artillery*
(London: E. Cave, 1746).

A Cannon mounted on its Carriage.

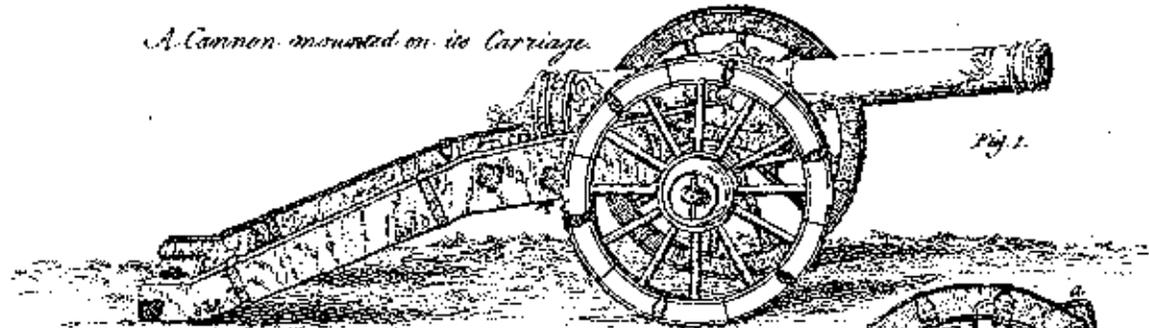


Fig. 1.

Profile of the Carriage.

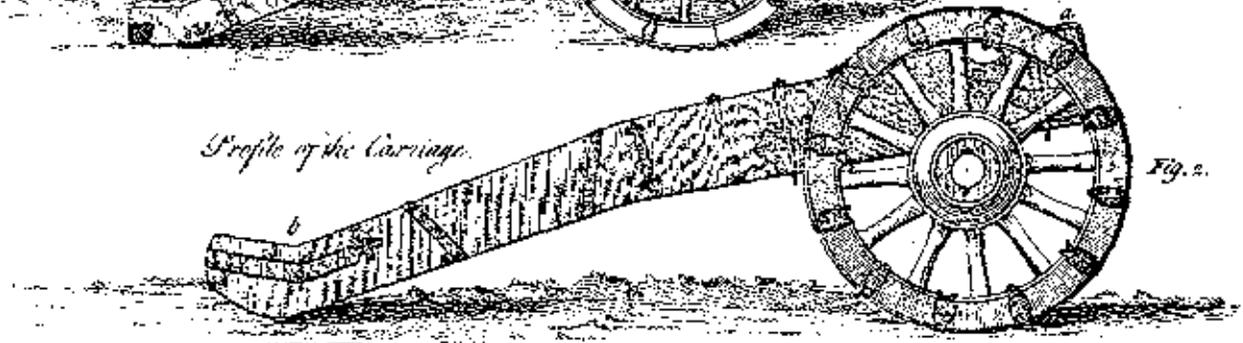


Fig. 2.

Plan of the Carriage.

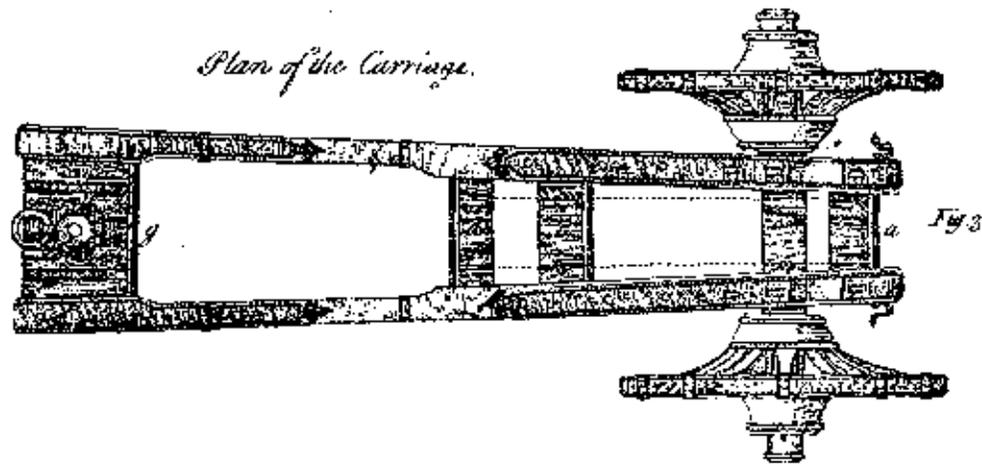


Fig. 3.

Illustration 17.

Mortars and bombs.

From Guillaume Le Blond, *A Treatise of Artillery*
(London: E. Cave, 1746).

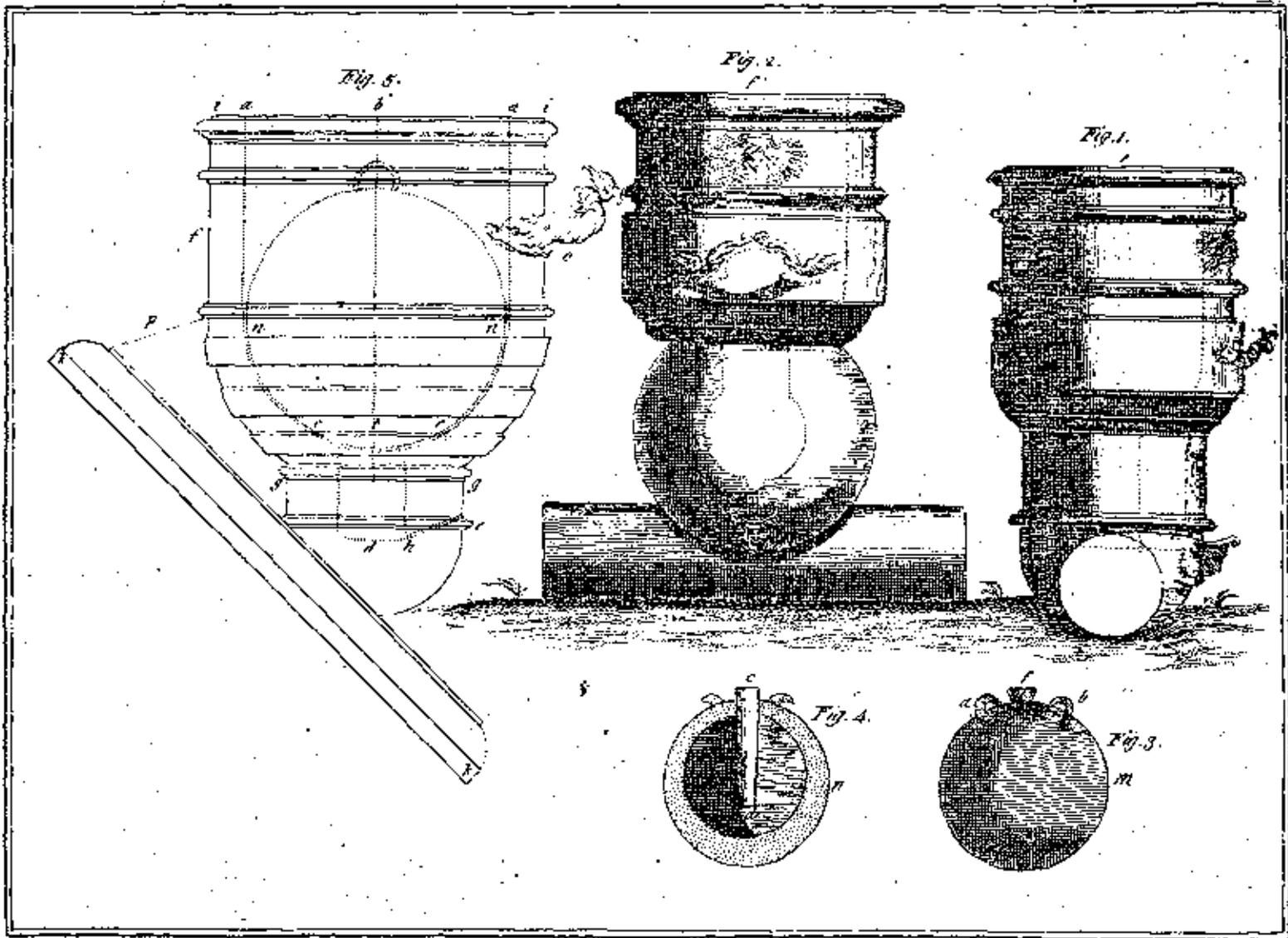


Illustration 18.

Cannon accessories.

From Guillaume Le Blond, *A Treatise of Artillery*
(London: E. Cave, 1746).

A Cannon mounted upon its Carriage to which y^e Limber or fore Carriage is also fastened?

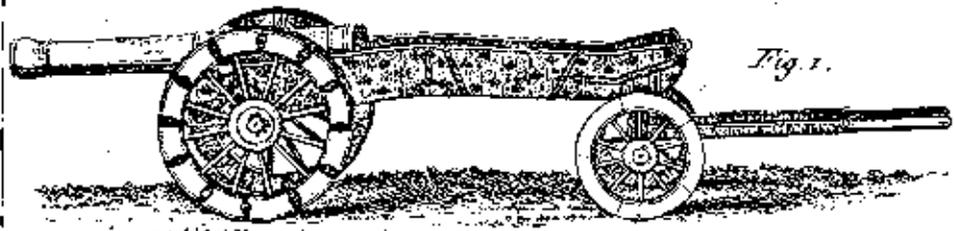


Fig. 1.

Plan of the Carriage and the Limber -

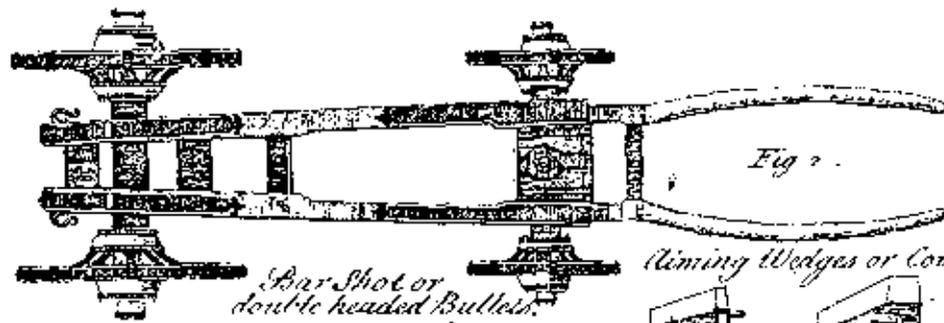


Fig. 2.

Bar Shot or double headed Bullets.



Chain Shot.

Limber Wedges or Coins.



Pent. Sight Piece Priming Iron.

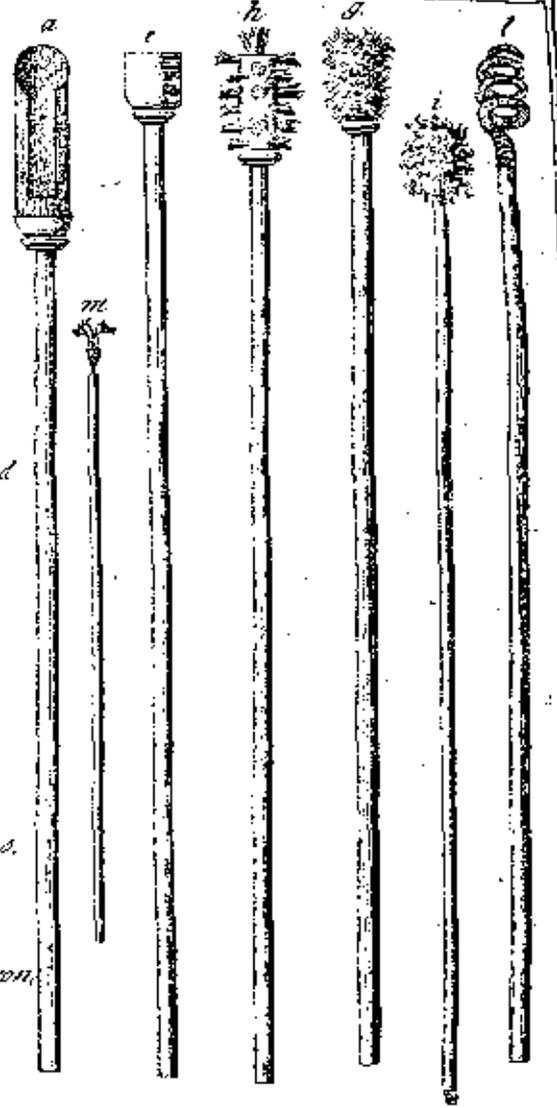


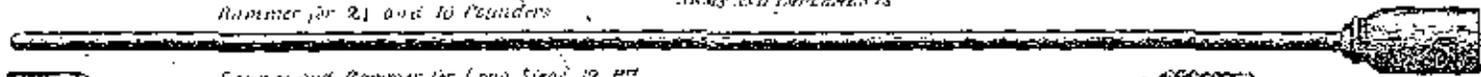
Illustration 19.

Cannon-loading tools.

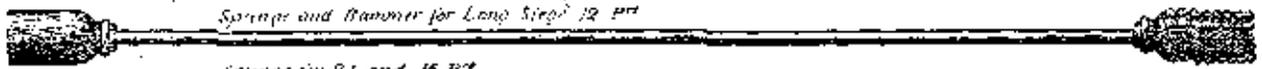
From Louis de Tousard, *American Artillerist's Companion*
(Philadelphia: C. and A. Conrad and Company, 1809).

ARMS AND IMPLEMENTS

Hammer for 24 and 16 Pounds



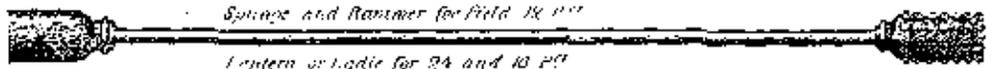
Sponge and Rammer for Long Siege 12 P^{ts}



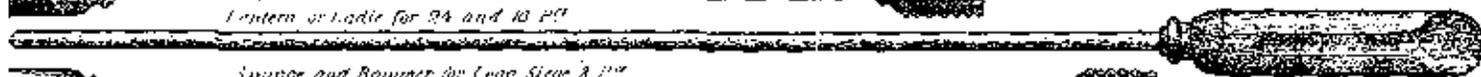
Sponge for 24 and 16 P^{ts}



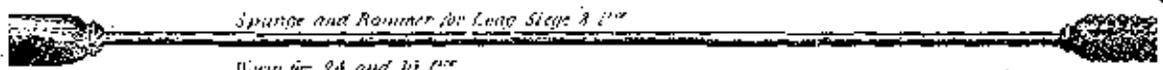
Sponge and Rammer for Field 16 P^{ts}



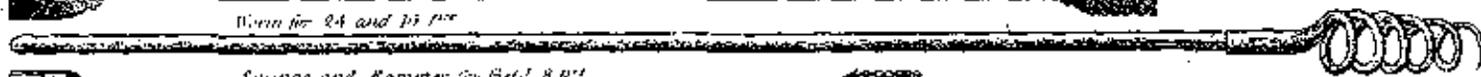
Ladle or Ladle for 24 and 16 P^{ts}



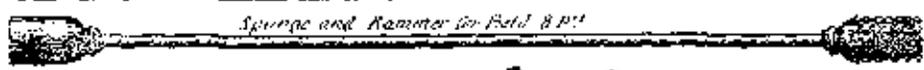
Sponge and Rammer for Long Siege 8 P^{ts}



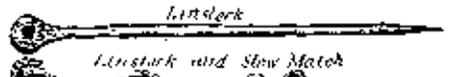
Worm for 24 and 16 P^{ts}



Sponge and Rammer for Field 8 P^{ts}



Linstock



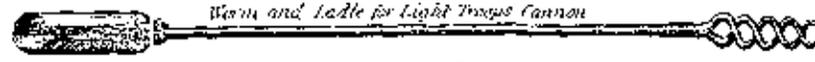
Linstock and Slow Match



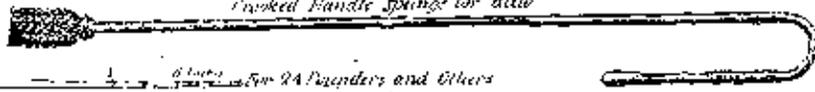
Priming Wires



Worm and Ladle for Light Troops Cannon



Hooked Handle Sponge for ditto



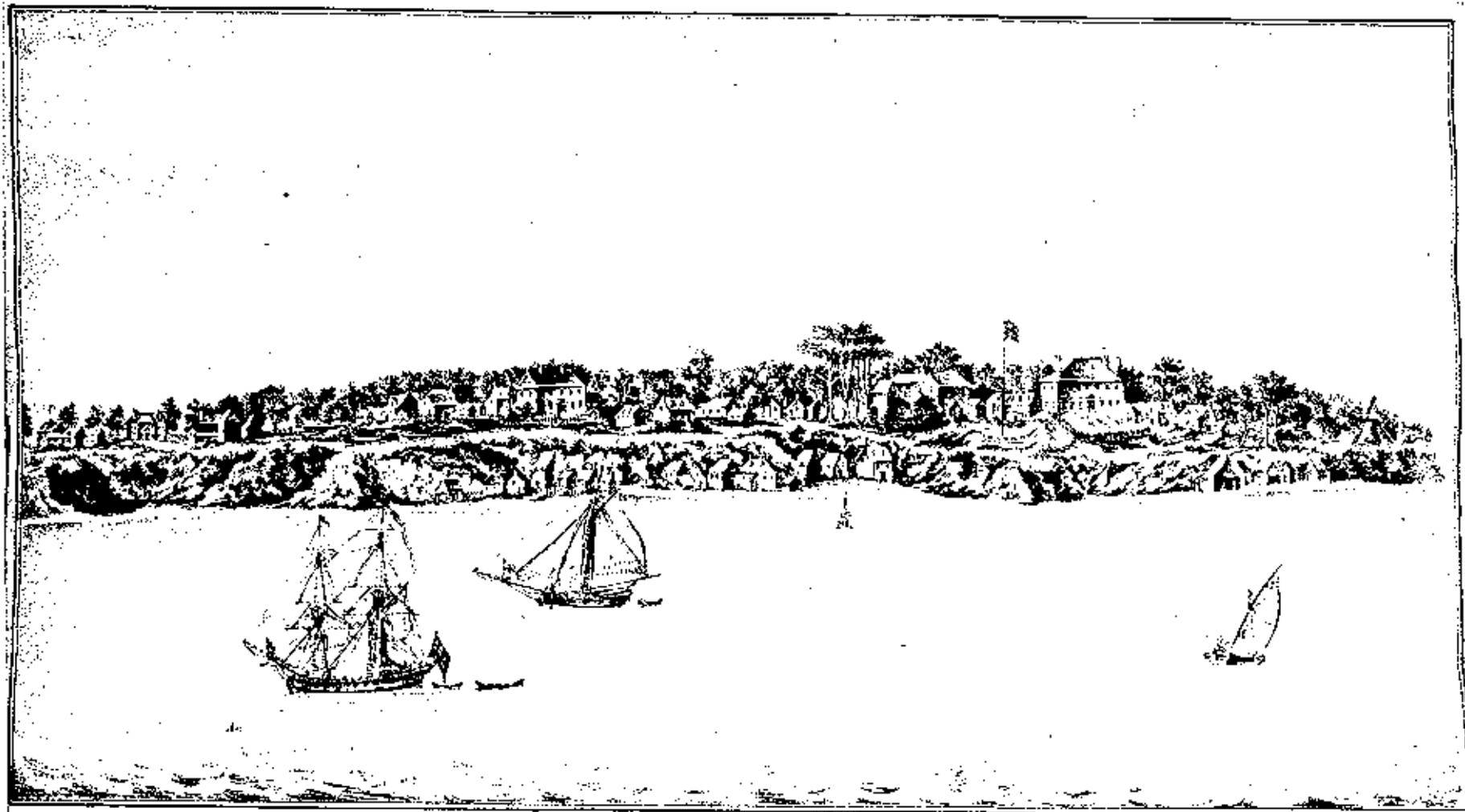
3 Feet

6 Inches for 24 Pounds and Others

Illustration 20.

Yorktown as viewed from the river, 1755.
Sketched by John Gauntlett aboard H.M.S. *Norwich*
anchored in Yorktown harbor.

Courtesy The Mariners Museum, Newport News, Virginia.



A View of the Town of York VIRGINIA from the RIVER

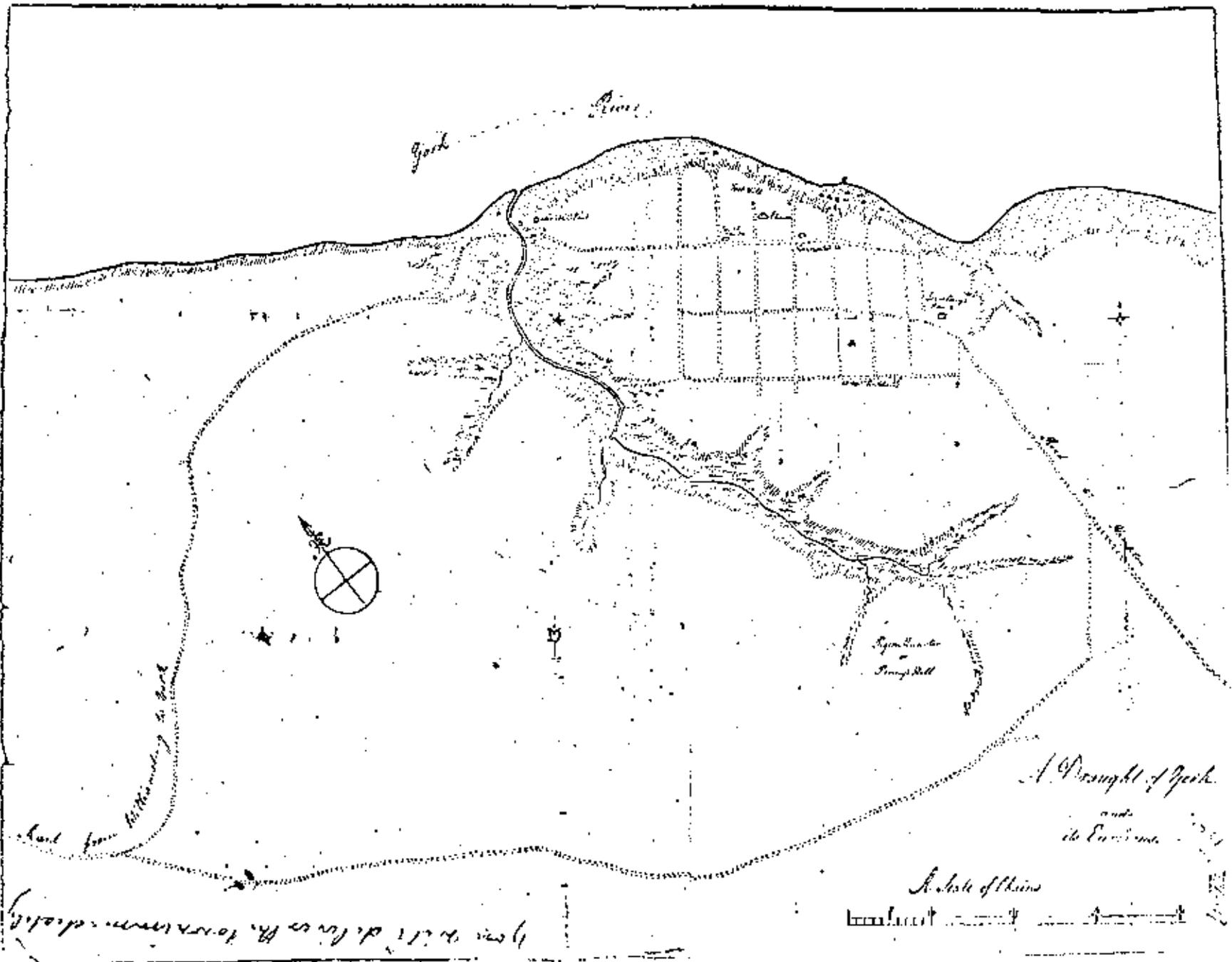
Illustration 21.

"A Draught of York and Its Environs, 1781."

Map 3A.

Henry Knox Papers.

Courtesy Massachusetts Historical Society.



York from the West side of the River St. Lawrence in the distance

*A Prospect of York
and
its Environs*

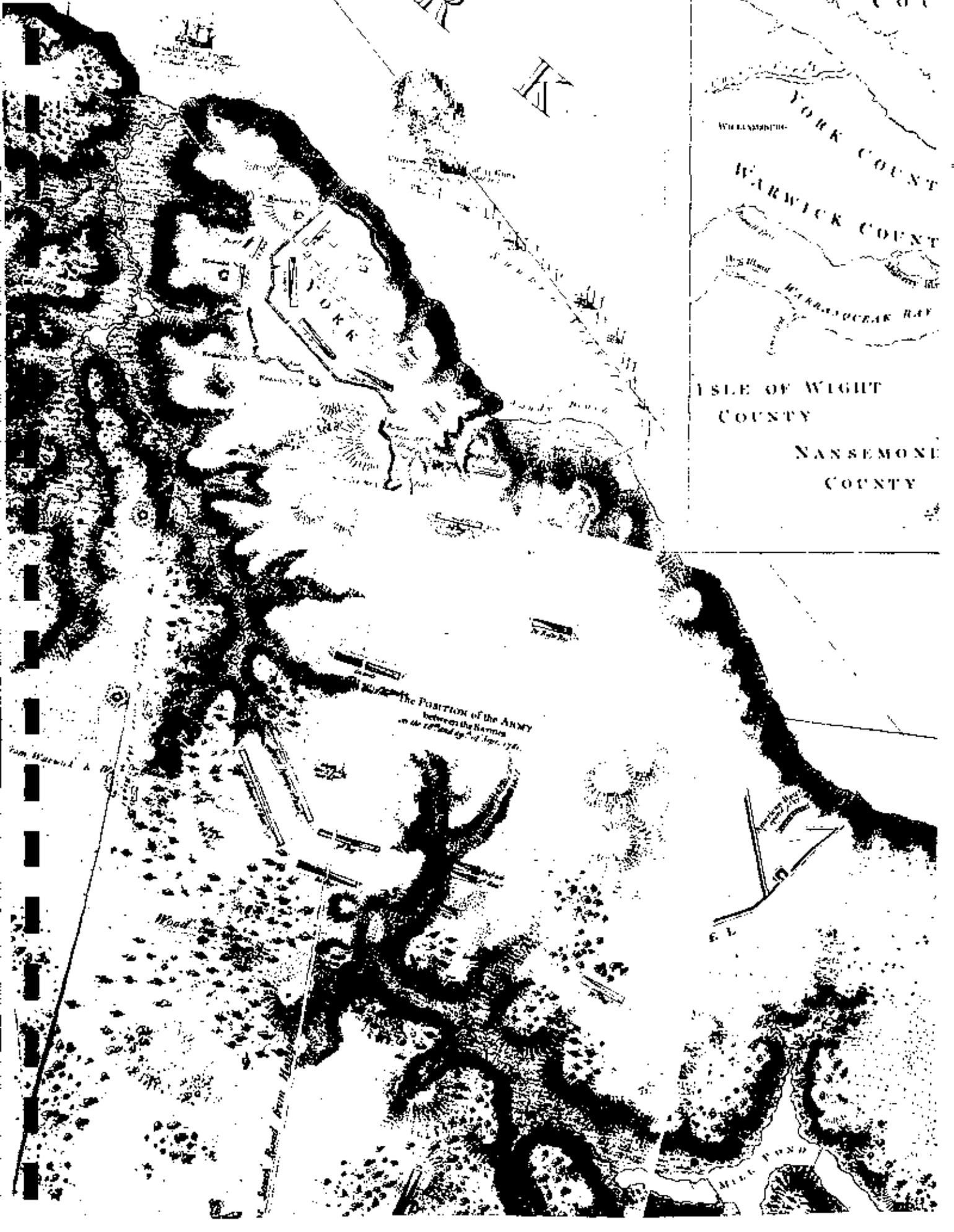
A Scale of Miles

Illustration 22.

British outer positions, September 28 and 29,
1781.

Detail from Map 25B.

Courtesy The Mariners Museum, Newport News, Virginia.



WILKINSBORO

III

YORK COUNTY
WARWICK COUNTY

WILKINSBORO

WARRASOON RAY

ISLE OF WIGHT
COUNTY

NANSEMONI
COUNTY

The Position of the Army
between the Harms
in the 20th of 1797

Tom Howard & W

Wood

Wood from Harms

MILL POND

MILL POND

Illustration 23.

"Position of the Troops under Earl Cornwallis on the
28 and 29th September 1781; when the Enemy first appeared."

Map 51B.

Courtesy William L. Clements Library.

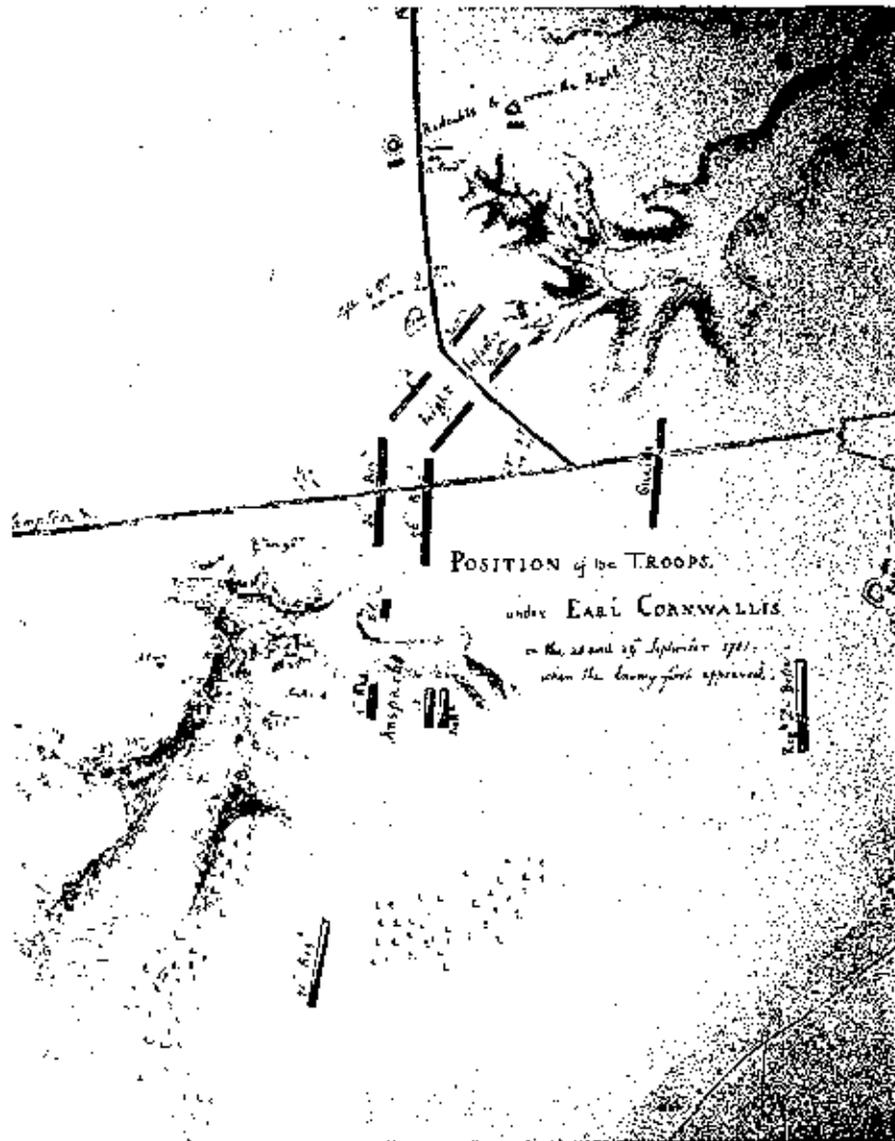


Illustration 24.

Sketch map by Lieutenant Sutherland, British Engineers,
showing redoubts (H, H, H) proposed but never built.

Detail from Map 57B.
Courtesy William L. Clements Library.

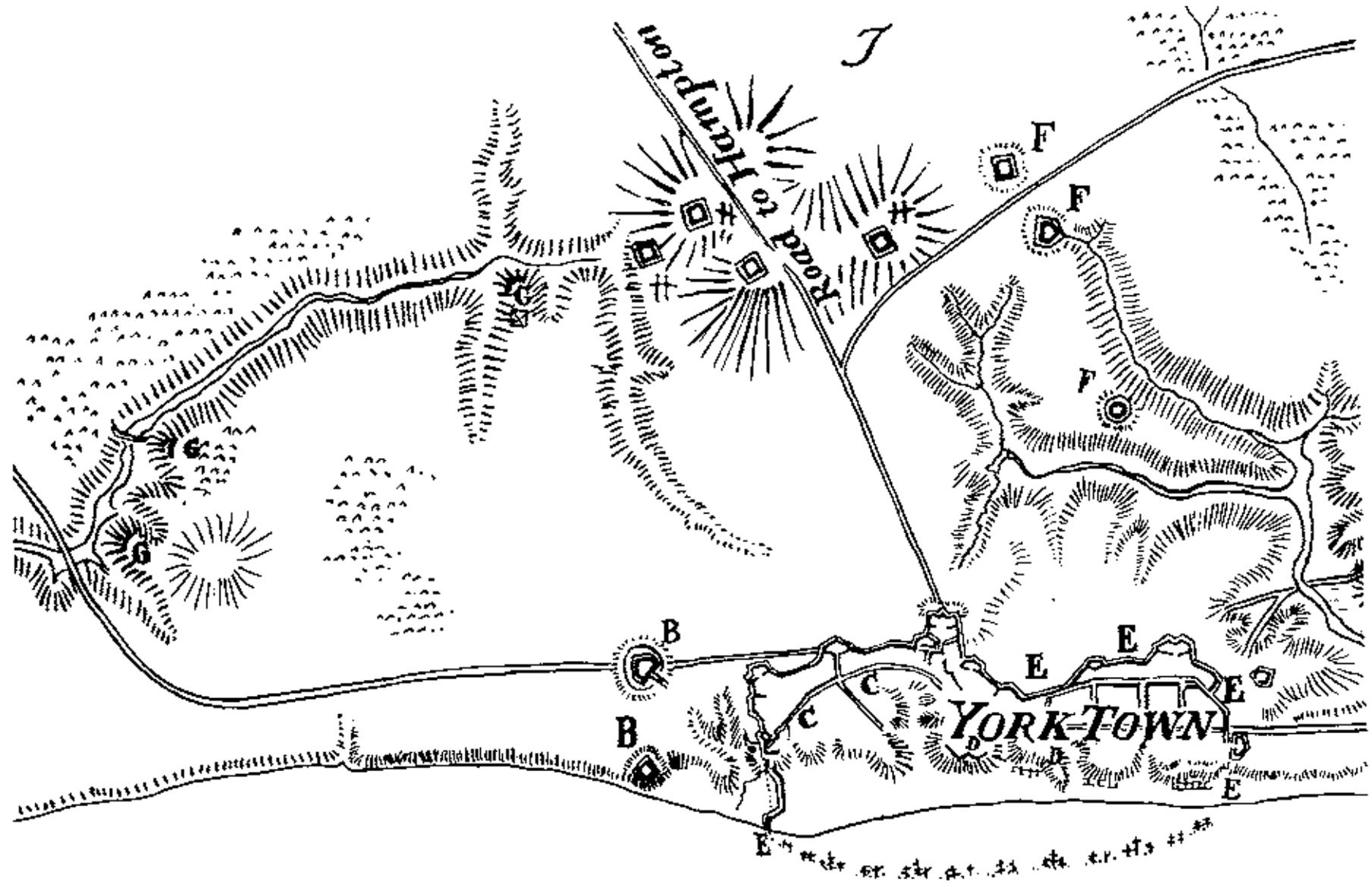
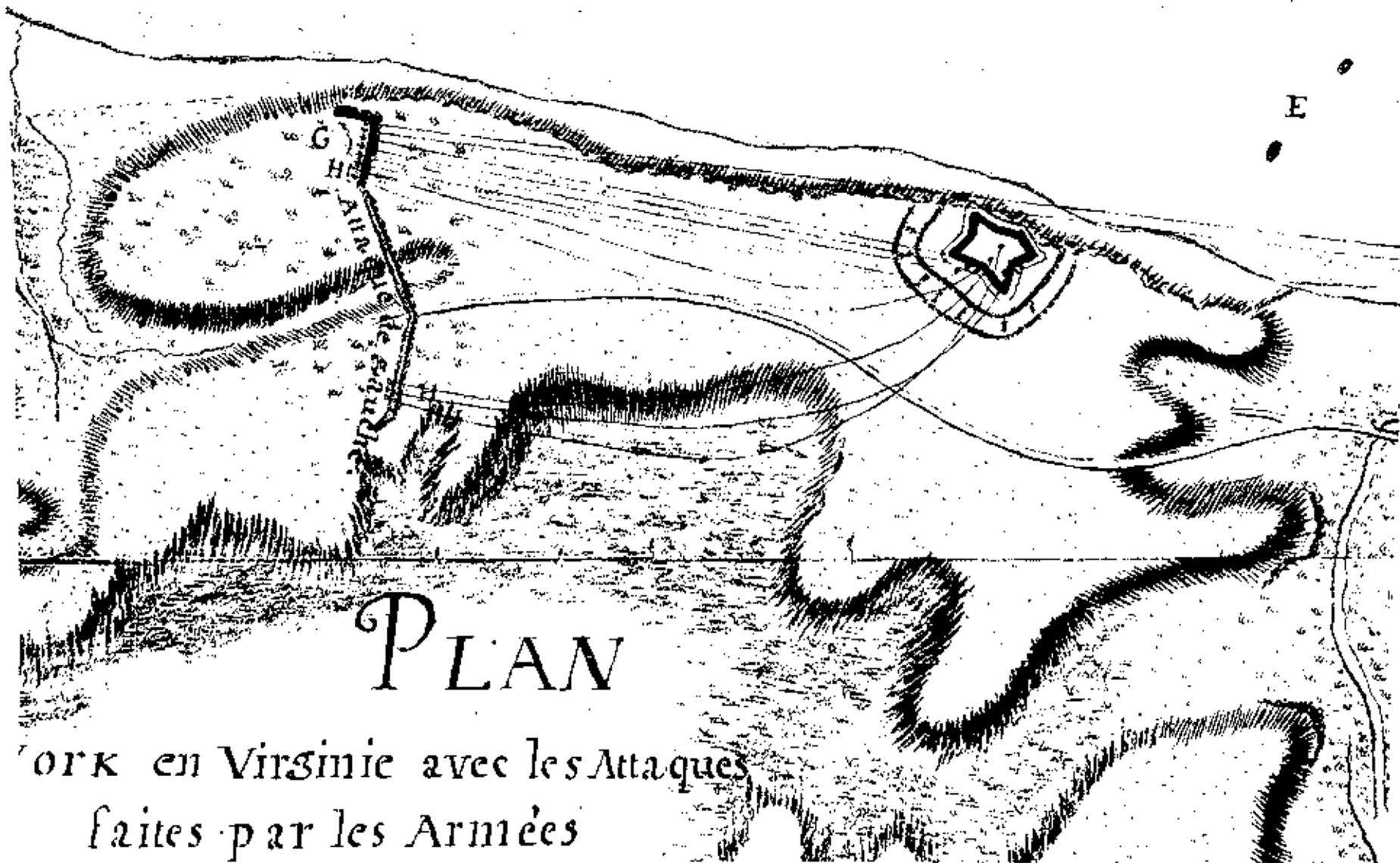


Illustration 25.

The French attack on the left.

Detail from Map 34F.
Courtesy U.S. Army Engineers Museum,
Fort Belvoir, Virginia.



PLAN

York en Virginie avec les Attaques
faites par les Armées

Illustration 26.

The British position at Yorktown.

Reproduced detail from Map 25B.
Courtesy Colonial National Historical Park.

R
K

Guadeloupe Frigate
and other vessels of the
French Fleet

Church of 44 Guns
built by the French

SUNKEN

Sandy Beach

French A.

Sally made by the
English

No 2 British Frigate
American Entry

COUNTY

YORK COUNTY

WARWICK COUNTY

ISLE OF WIGHT
COUNTY

NANSEMOND
COUNTY

QUEENS CREEK

WILLIAMSBURG

Hog Island

HARRISQUEEK BAY

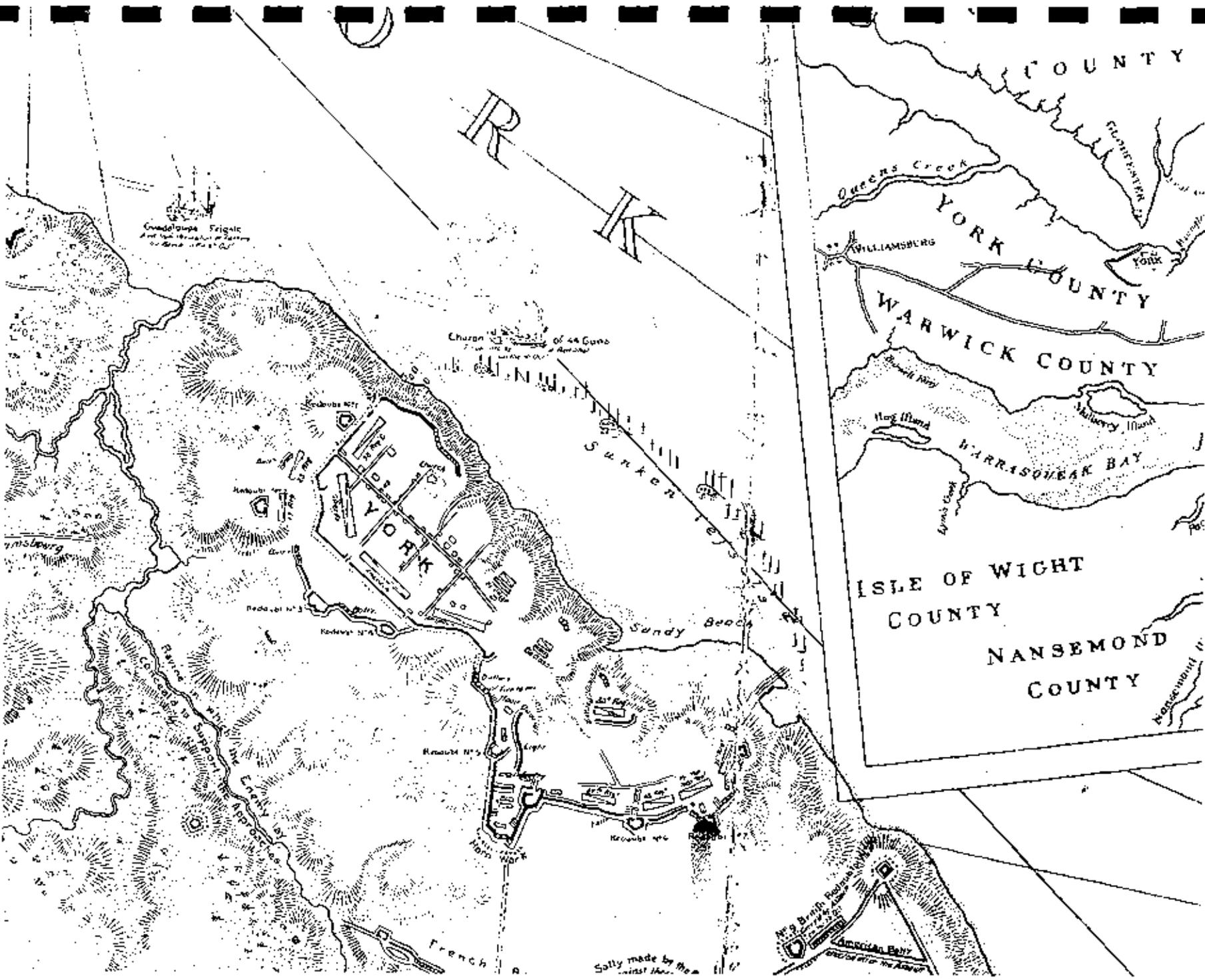


Illustration 27.

The First and Second Allied Siege Lines.

Detail from Map 34F.
Courtesy U.S. Army Engineers Museum,
Fort Belvoir, Virginia.

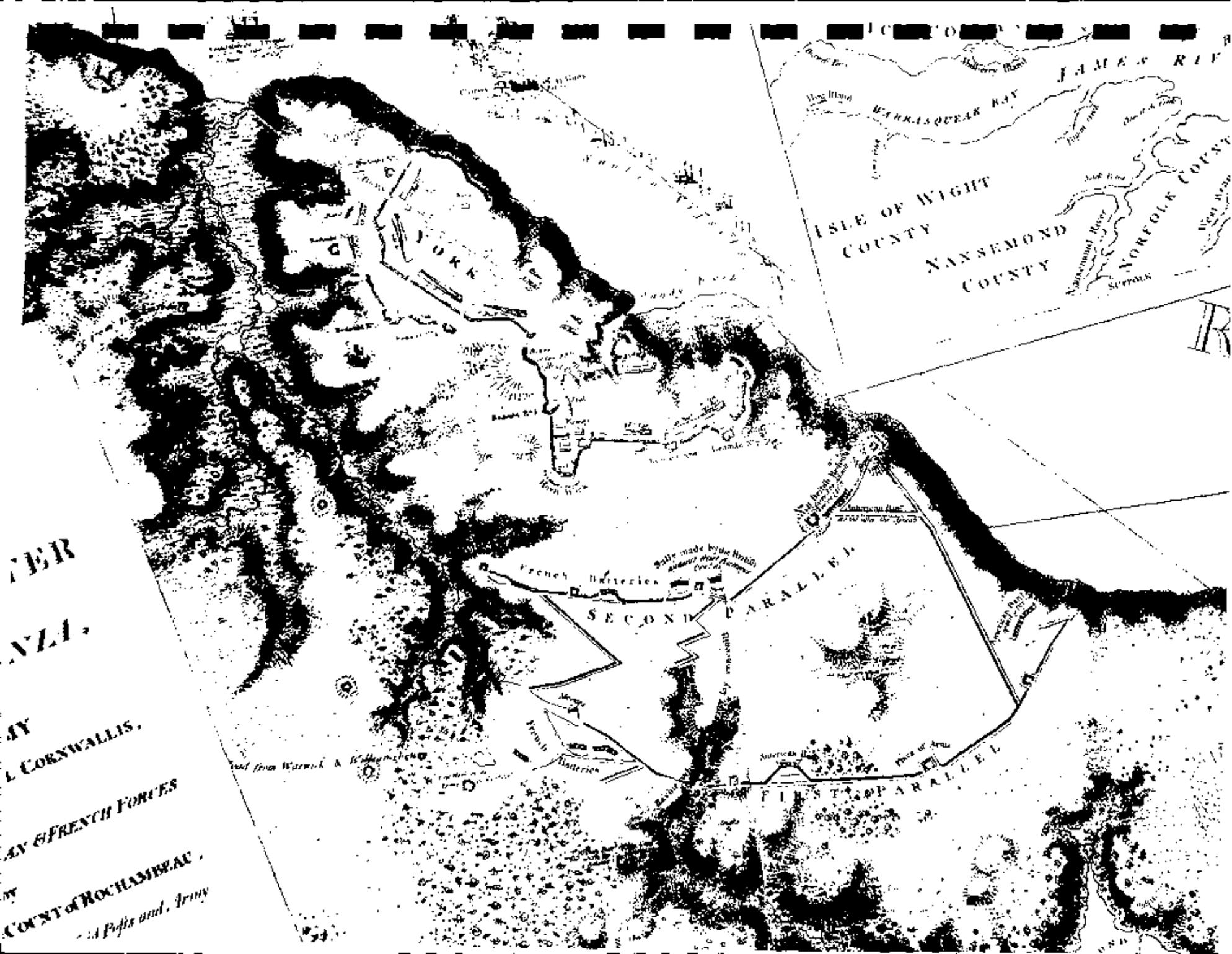


Illustration 28.

Another view of the first and second parallels.

Detail from Map 25B.

Courtesy The Mariners Museum, Newport News, Virginia.



BER
AZI,
BY
L. CORNWALLIS,
BY FRENCH FORCES
BY
COUNT OF ROCHAMBEAU,
A Poiss and Army

ISLE OF WIGHT
COUNTY
NANSEMOND
COUNTY

JAMES RIVER
WARRASQUEAK RAY
VIRGINIA RIVER
YORK RIVER
NORFOLK COUNTY

YORK

SECOND PARALLEL

FIRST PARALLEL

FRENCH BATTERIES

FRENCH BATTERIES

Wall made by the French
during their possession
of the fort

By Cornwallis

Remains of
the fort

Place of Arms

R

Illustration 29.

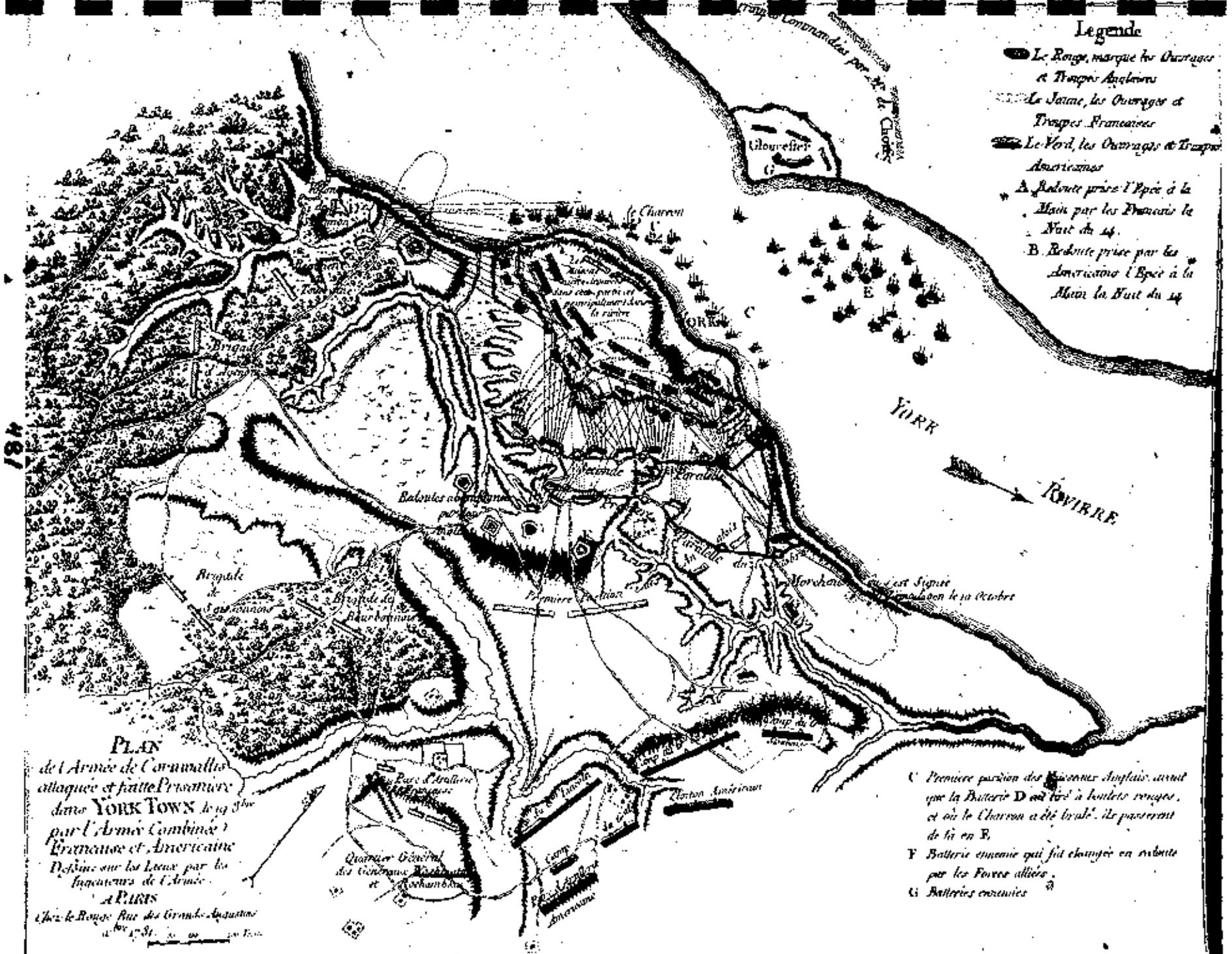
Plan of the Siege of Yorktown, showing lines of
Allied artillery fire.

Map 26F.

Courtesy The Mariners Museum, Newport News, Virginia.

Legende

-  Le Rouge, marque les Ouvrages & Troupes Angloises
-  Le Jaune, les Ouvrages & Troupes Francaises
-  Le Vert, les Ouvrages & Troupes Americaines
- A. Redoute prise l'Epée à la Main par les Francais le Nuit du 24.
- B. Redoute prise par les Americains l'Epée à la Main la Nuit du 24.



1781

PLAN
de l'Armée de Cornwallis
attaquée et faite Prisonnière
dans YORK TOWN le 19^{me}
par l'Armée Combinée
Francoise et Americaine
Défini sur les Lieux par les
Ingénieurs de l'Armée.
A PARIS
chez le Royeur Rue des Grands Augustins
N^o 17. St. 1781.

C. Premiere position des Anglois, avant
que la Batterie D eût été à boulets rouges,
et où le Chateau a été brûlé, ils passerent
de là en E.
F. Batterie espagnole qui fut changée en redoute
par les Forces alliées.
G. Batteries construites

Illustration 30.

The Siege of Yorktown, showing lines of
Allied artillery fire.

Map 7A.

Courtesy Colonial National Historical Park.

Illustration 31.

Yorktown as seen from Gloucester Point during the siege. Redoubts 9 and 10 are located at far left.

Detail from a watercolor by Lieutenant Colonel John G. Simcoe.

Courtesy Colonial Williamsburg Foundation.

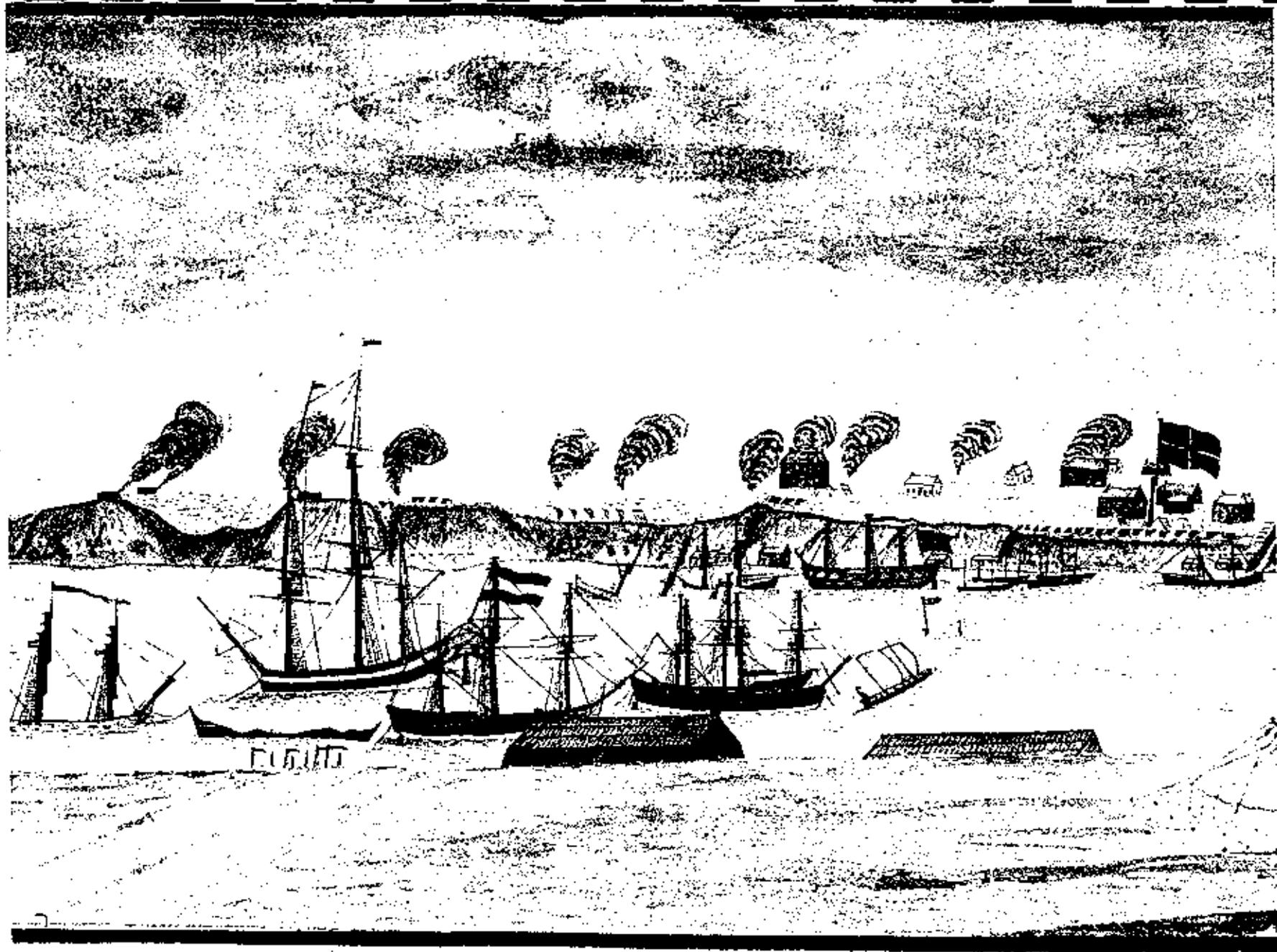


Illustration 32.

"York Town in Virginia April 23^d 1791. as seen from the point at which the British Army enter'd between the two lines of the Allied Troops of America & France. at the surrender in 81.--distance from the advanced work, 270 yds."

Watercolor sketch by John Trumbull.

Courtesy Frick Art Reference Library.

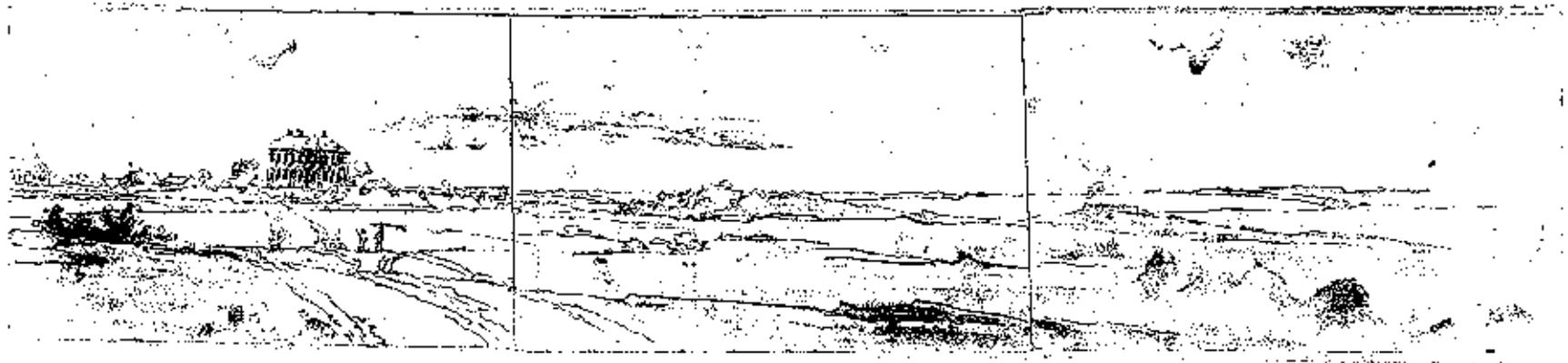


Illustration 33.

General George Washington.



Illustration 34.

Lieutenant General Count de Rochambeau.



Illustration 35.

Top: Major General Marquis Claude Anne St. Simon.

Bottom: Lieutenant General Earl Charles Cornwallis.



Illustration 36.

Left: Count de Grasse-Tilly.

Right: Brigadier General Henry Knox.



Illustration 37.

Major General Marquis de Lafayette.



Illustration 38.

Left: Major General Benjamin Lincoln.

Right: Major General Baron Von Steuben.



Illustration 39.

Armand Louis de Goutant, Duke de Lauzun.



Illustration 40.

Left: Brigadier General Anthony Wayne.

Right: Brigadier General Mordecai Gist.



Illustration 41.

Left: Brigadier General James Clinton.

Right: Brigadier General Peter Muhlenberg.



Illustration 42.

Left: Colonel John Lamb.

Right: Lieutenant Colonel Alexander Hamilton.



Illustration 43.

"Washington and Rochambeau Before the Trenches at Yorktown." From an unidentified magazine, ca. 1900.



Illustration 44.

The Moore House, where the Articles of Capitulation
were negotiated.

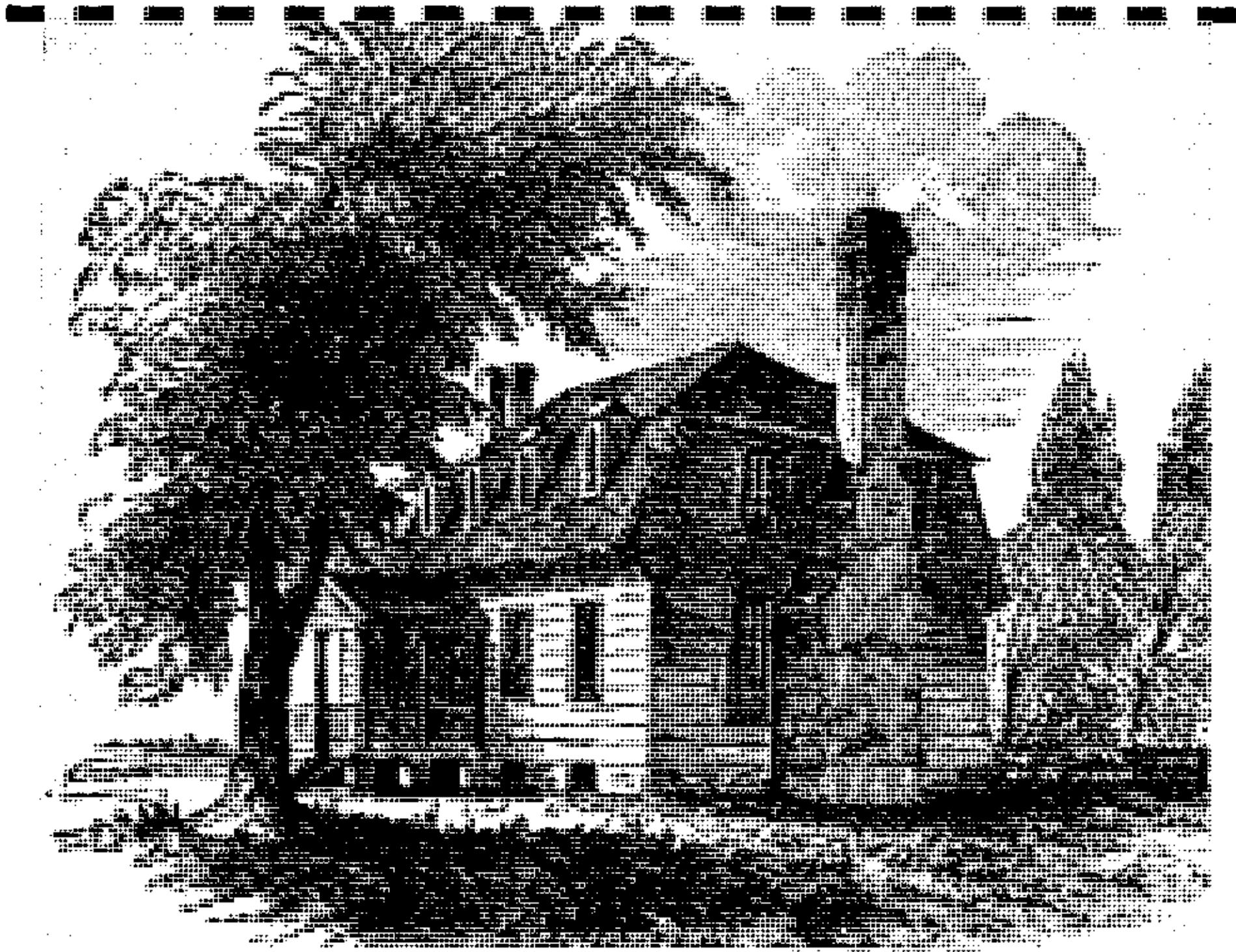


Illustration 45.

The British surrender.



Illustration 46.

"Meeting of the Generals at Yorktown" by James Peale.

Left to right: Lafayette, Washington, Rochambeau, and Tilghman.
Second row: possibly Knox and Hamilton.

Courtesy Colonial Williamsburg Foundation.



MAPS

Map No. 1.

The Allies at Williamsburg, September, 1781.

Colonial National Historical Park, Virginia.

Map No. 2.

The British Outer Works as of September 28, 1781.

Colonial National Historical Park, Virginia.



SCUTTLED

SHIPPING

YORKTOWN

YORK RIVER

WOOD CUT DOWN
1st REGIMENT

CANNON
CANNON

BRITISH MAIN WORKS

TWO OR THREE CANNON
10

BRIDGE DESTROYED

DE BOSE REGIMENT
9
HOWITZERS

MOORE

CANNON

CANNON

WOOD CUT DOWN
2nd REGIMENT

GUARDS

LIGHT INFANTRY

2nd BATTALION
ANSPACH
BATTALION

3 PDRS
4 PDRS
5 PDRS
6 PDRS
7 PDRS
8 PDRS
9 PDRS
10 PDRS
11 PDRS
12 PDRS
13 PDRS
14 PDRS
15 PDRS
16 PDRS
17 PDRS
18 PDRS
19 PDRS
20 PDRS
21 PDRS
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68 PDRS
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71 PDRS
72 PDRS
73 PDRS
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84 PDRS
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88 PDRS
89 PDRS
90 PDRS
91 PDRS
92 PDRS
93 PDRS
94 PDRS
95 PDRS
96 PDRS
97 PDRS
98 PDRS
99 PDRS
100 PDRS

10th REGIMENT
1st
80th REGIMENT

SMITH

71st REGIMENT

SEAMEN

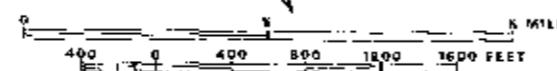
DAM

WOOD CUT DOWN
WILLIAMSBURG (GOOSLEY) ROAD

WOOD CUT DOWN
5
HAMPTON ROAD
BARRETTE BATTERY

WOOD CUT DOWN

WOOD CUT DOWN
TECTOR



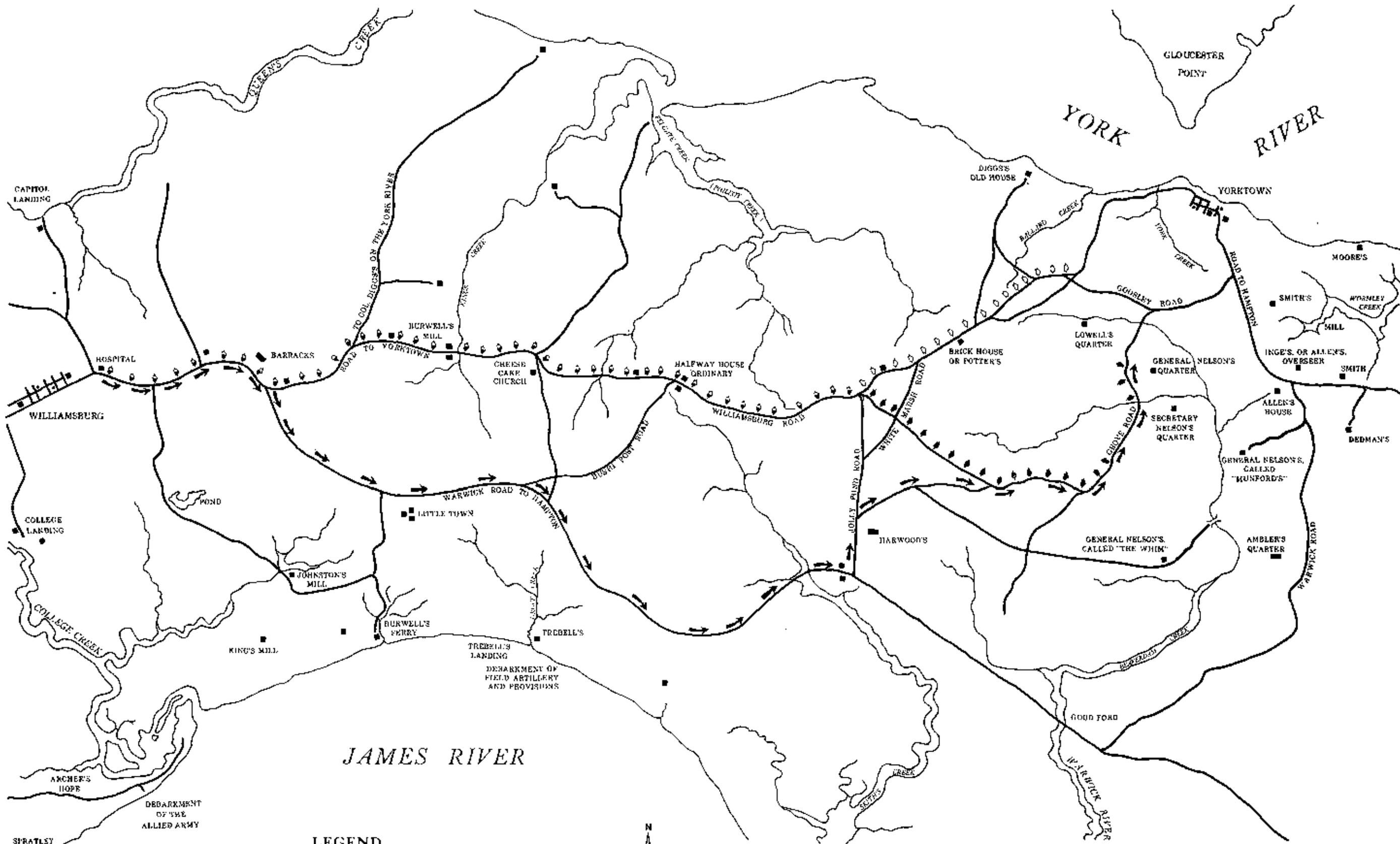
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

THE BRITISH OUTER WORKS AS OF SEPTEMBER 28, 1781
COLONIAL NATIONAL HISTORICAL PARK
VIRGINIA

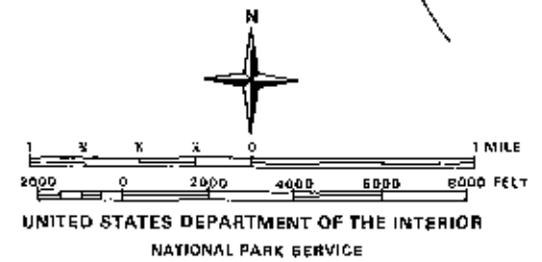
Map No. 3.

Route of the Allied Army from Williamsburg to Yorktown,
September 28, 1781.

Colonial National Historical Park, Virginia.



- LEGEND**
- ◇◇◇◇ ALLIED ARMY
 - FRENCH TROOPS
 - ▲▲▲▲ AMERICAN TROOPS
 - VIRGINIA MILITIA



**ROUTE OF THE ALLIED ARMY FROM WILLIAMSBURG TO YORKTOWN
SEPTEMBER 28, 1781**

COLONIAL NATIONAL HISTORICAL PARK

VIRGINIA 333 | 28,012
FEB 76 | OSC

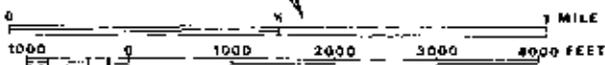
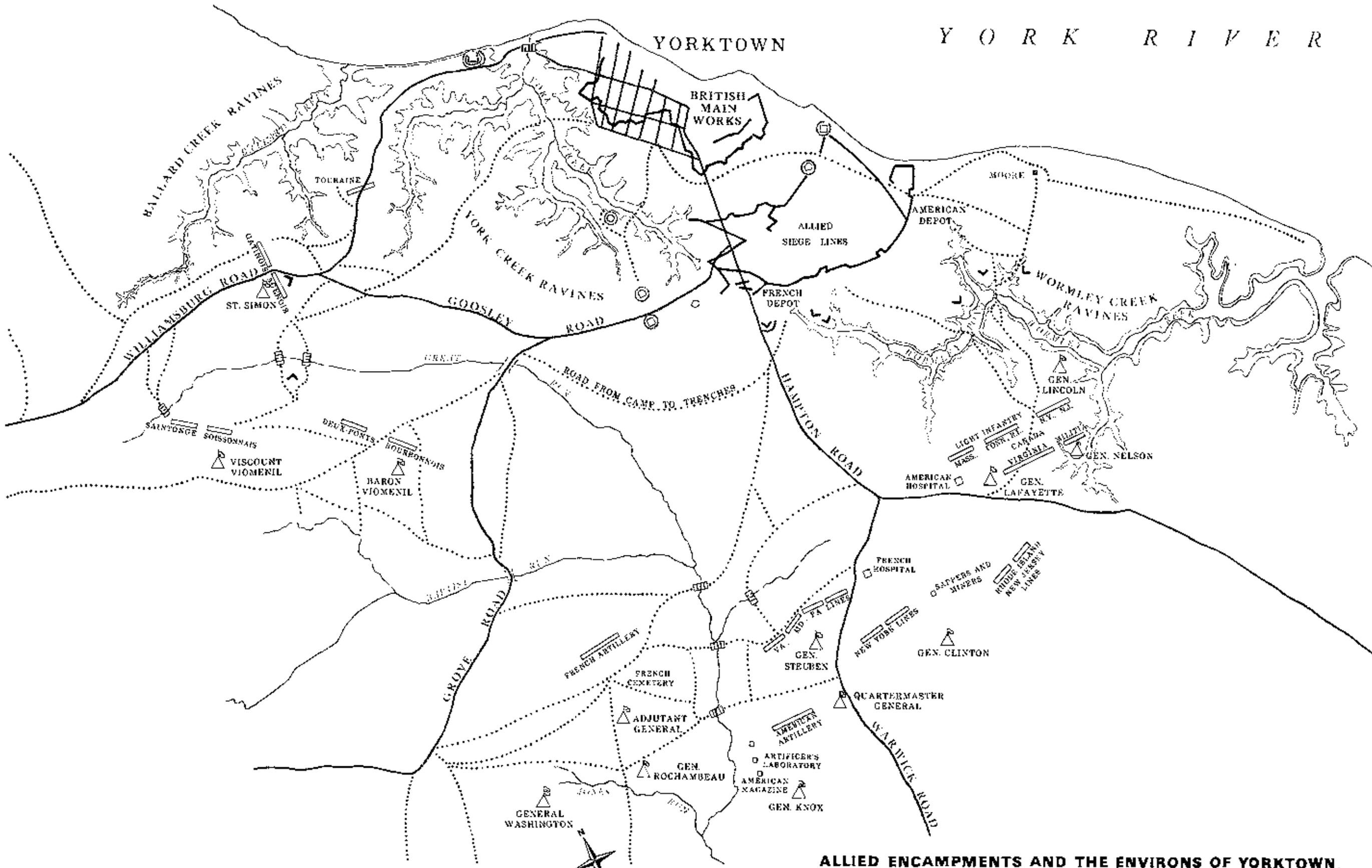
Map No. 4.

Allied Encampments and the Environs of Yorktown, Showing
Main Roads and Secondary Routes.

Colonial National Historical Park, Virginia.

YORKTOWN

Y O R K R I V E R



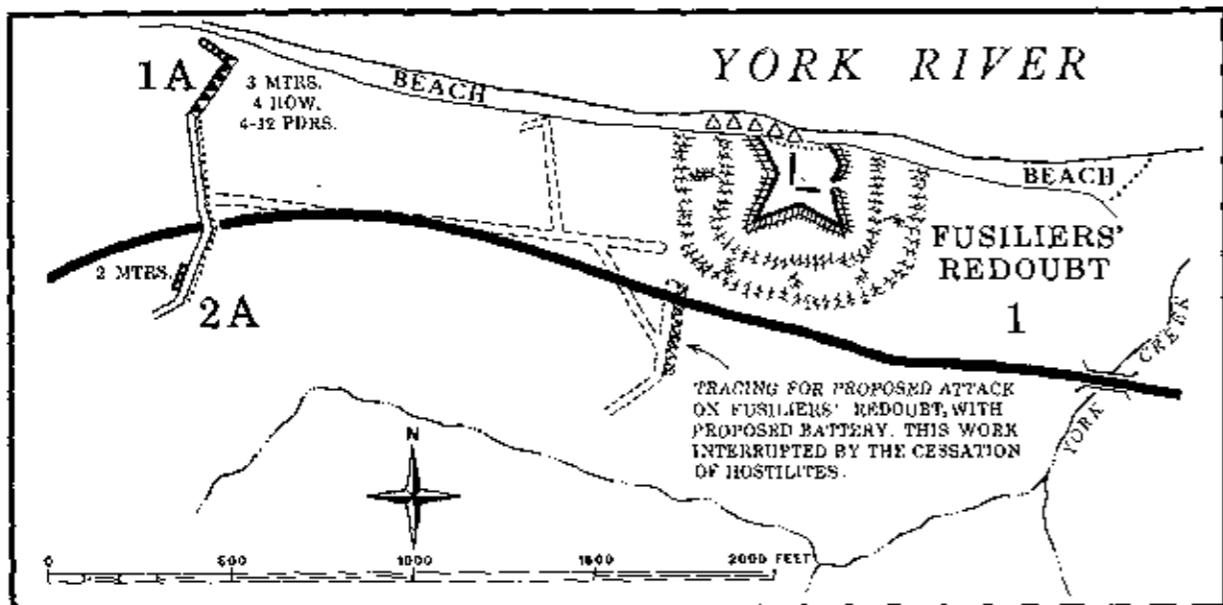
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

ALLIED ENCAMPMENTS AND THE ENVIRONS OF YORKTOWN,
SHOWING MAIN ROADS AND SECONDARY ROUTES
COLONIAL NATIONAL HISTORICAL PARK
VIRGINIA

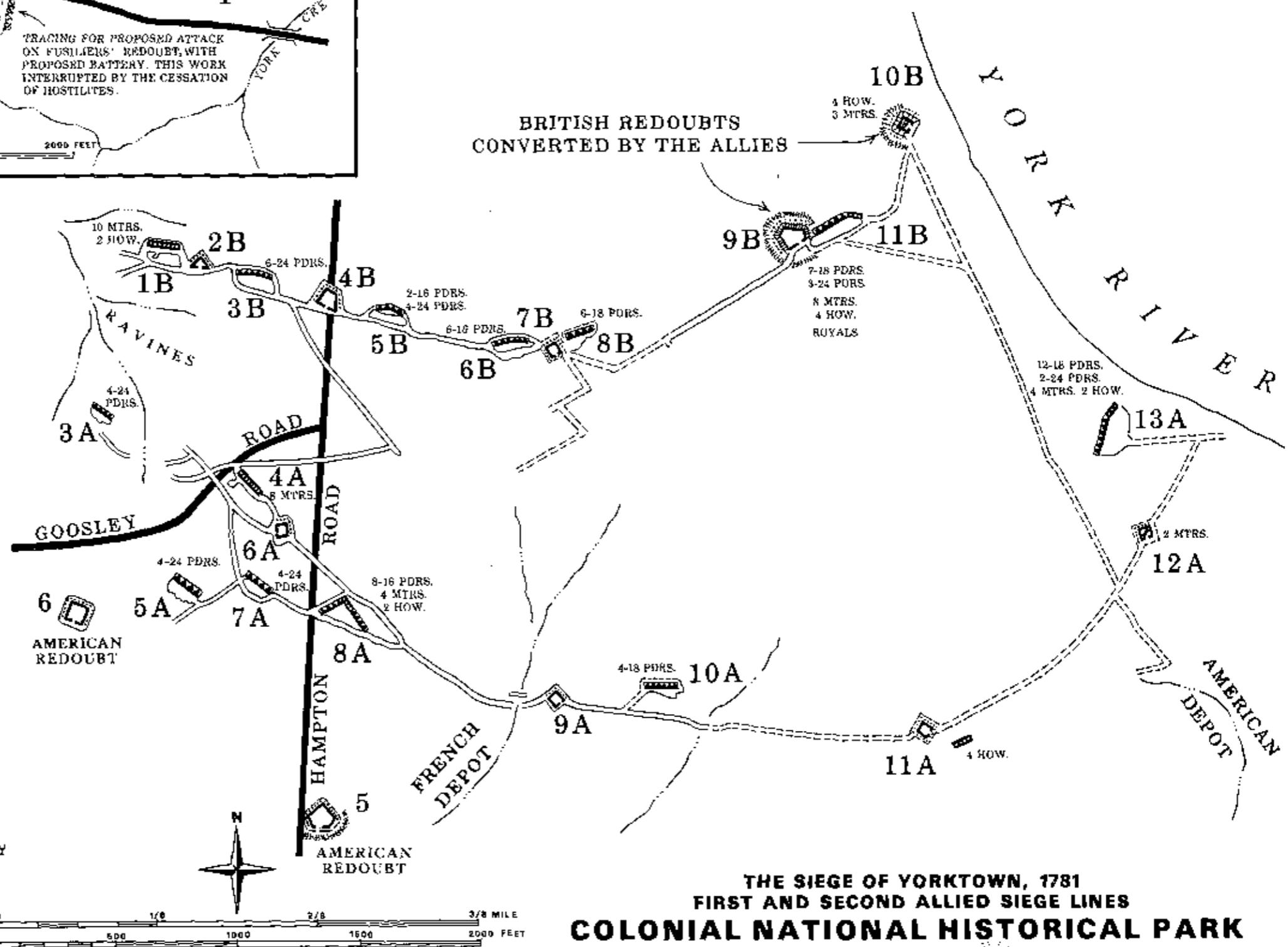
Map No. 5.

The Siege of Yorktown, 1781. First and Second Allied
Siege Lines.

Colonial National Historical Park, Virginia.

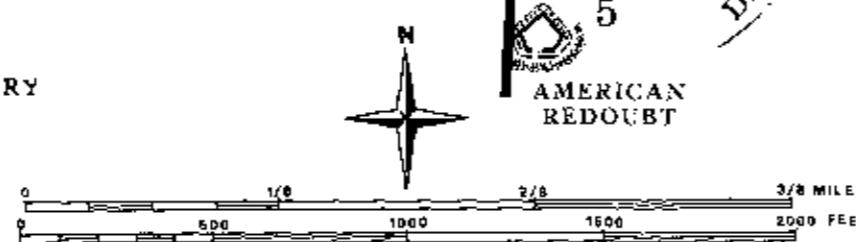


BRITISH REDOUBTS CONVERTED BY THE ALLIES



LEGEND

- ===== AMERICAN CONSTRUCTION
- ===== FRENCH CONSTRUCTION
- REDOUBT
- ////// FRAIZES
- PALISADES
- ||||| ABATIS
- ***** GUN BATTERY
- ***** MORTAR & HOWITZER BATTERY

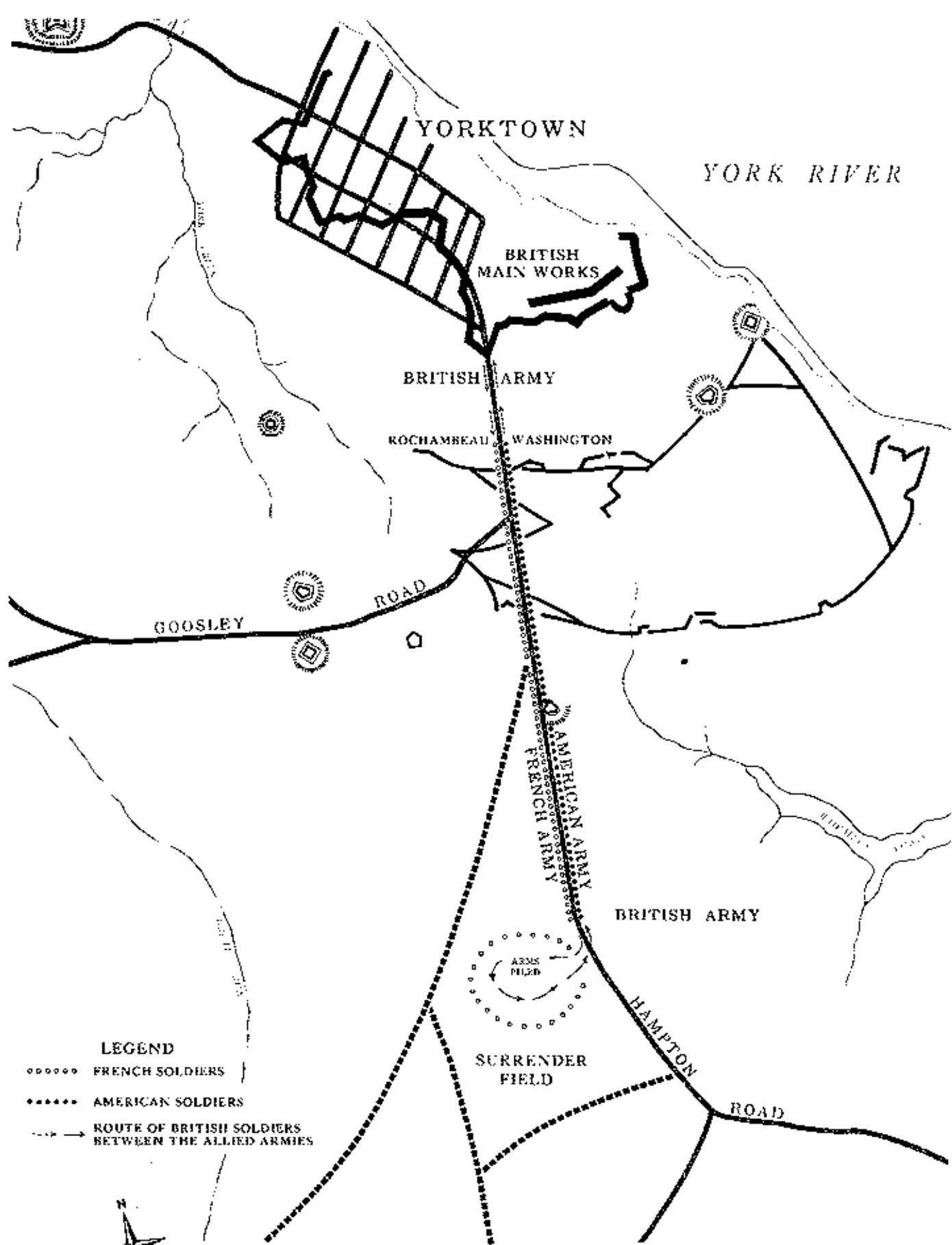


THE SIEGE OF YORKTOWN, 1781
FIRST AND SECOND ALLIED SIEGE LINES
COLONIAL NATIONAL HISTORICAL PARK
VIRGINIA

Map No. 6.

The British Surrender, October 19, 1781.

Colonial National Historical Park, Virginia.



As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The Department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.