

# Operational Design

**Luck is the residue of design—the Battle of Yorktown, 1781**

by LtCol Andrew Straley

**T**he Yorktown campaign offers a textbook example of the successful execution of operational design. Just as the artist must first know the basic fundamentals of his discipline, so too must the operational designer. For the military planner at the operational level, this is the science of war. The creative process or “art” for the operational designer, however, must be fostered and developed over time. This creativity is a skill that takes practice, experience, and deep study. The Yorktown campaign offers today’s operational designers a framework to study their own creative processes. Designing a campaign is the commander’s role, and staffs must work to assist in the planning and prosecution of that campaign. The Yorktown campaign is an excellent case study from which to draw lessons regarding critical elements related to operational planning and execution.

This article will analyze just a few of the elements of operational design and how they contributed to the victory at Yorktown. This may provide a framework for today’s operational designers to analyze their creative processes in developing a campaign. The successful application of multiple elements of operational design ultimately led to success at Yorktown.

The most critical elements of design in the Yorktown campaign were surprise, mass, maneuver, leverage, and synergy. For the operational designer, these are not intended to be a specific checklist. These were, however, for the Yorktown campaign, the most critical elements. The Franco-American planners accurately applied these elements of operational design by determining when, where and, most importantly, why their campaign would achieve operational success. The success of this

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operation ultimately enabled the Franco-American allies to achieve their strategic goals.

In May of 1781 the Continental Army under GEN George Washington and the British forces in North America under Sir Henry Clinton were locked in the sixth year of a bitter war for control of North America. Just 5 months later, the Franco-American victory over the British at Yorktown in October changed the dynamics of the entire war and gave the American allies a strategic victory. In order to design and prosecute a successful campaign at the operational level, one must be able to link tactical objectives to strategic goals. The design of the Yorktown campaign did exactly that. GEN Washington’s strategic goal was to prolong support of the revolution by preventing or delaying British victories and ensuring the survival of the Continental Army. As long as the army survived, the revolution survived. This was Washington’s grand design.

## Background

In early 1781 the bulk of the Continental Army was in White Plains, NY, and in a stalemate with the bulk of the British northern forces in New York City. Washington had an opportunity to execute a combined campaign using French and Continental Army forces somewhere along the coast of North America. Washington and the Commander of French forces in North America, LTG Jean Baptiste-Donatien de Vimeur comte de Rochambeau, agreed on a combined land and naval campaign, but they disagreed on where

it should be waged. Washington’s desire was an engagement in New York; however, he was open to the possibility of operations somewhere in the south. At this point, Rochambeau had reluctantly agreed to Washington’s desire to attack Clinton’s forces in New York.

For the last several years the British had shifted their efforts to the south.<sup>1</sup> GEN Charles Cornwallis, the British southern army commander, had achieved a string of promising victories and was gaining support among loyalists and the local populous. The British capture of Charleston in May 1780 and the American surrender of over 6,000 soldiers was the worst defeat the Americans had suffered the entire war. Even before this defeat, Washington’s army was suffering from low morale, and support for the American cause was waning.

In October 1780 American GEN Nathanael Greene began a delaying campaign against Cornwallis using hit-and-run tactics through the interior of South Carolina, North Carolina, and into Virginia.<sup>2</sup> Greene’s continuing engagements through 1780 and into 1781, along with additional counteroffensive operations in the south prosecuted by Marquis de Lafayette and GEN Anthony Wayne, were significant factors leading up to the siege at Yorktown. Although Cornwallis had achieved multiple victories against these various opponents, they were very costly. By August 1781, Cornwallis retired his exhausted force to Yorktown along the Virginia coast.<sup>3</sup>

In August 1781, Rochambeau, in New York, received word from ADM

Francois Joseph Paul comte de Grasse, who was commanding the French fleet in the West Indies, that his armada would be available for operations along the North American coast sometime in July or August.<sup>4</sup> France had already committed ground forces since the summer of 1780, but was now sending 29 ships-of-the-line from the West Indies. This was a critical additional capability for the Franco-American planners. During most of the war the British Royal Navy maintained control of the vast maneuver space of the sea. The question that still remained for the Franco-American planners was a question of operational design—when, where, and how would the combined land and naval forces execute a coordinated effort?

## The Plan

In August 1781, De Grasse notified Washington and Rochambeau that he preferred the Chesapeake and not New York for naval operations. With De Grasse bound for the Chesapeake and the British southern army stationed along the coast at Yorktown, a target of opportunity emerged. The question of “where” was now answered by the circumstances. The Franco-American planners devised an operational plan with the purpose of trapping the British southern army at Yorktown. The method was to surprise the British southern force by concentrating the combat power of the Continental Army and militia against Yorktown. Simultaneously French naval forces would gain control of the Chesapeake to prevent or delay the withdrawal or reinforcement of Yorktown. Through a deception conducted during the land maneuver phase of the operation, Washington wanted Clinton to believe his objectives were to attack New York. The ultimate end state was to inflict a decisive defeat to the British southern army and strengthen American resolve in the south.

## The Execution

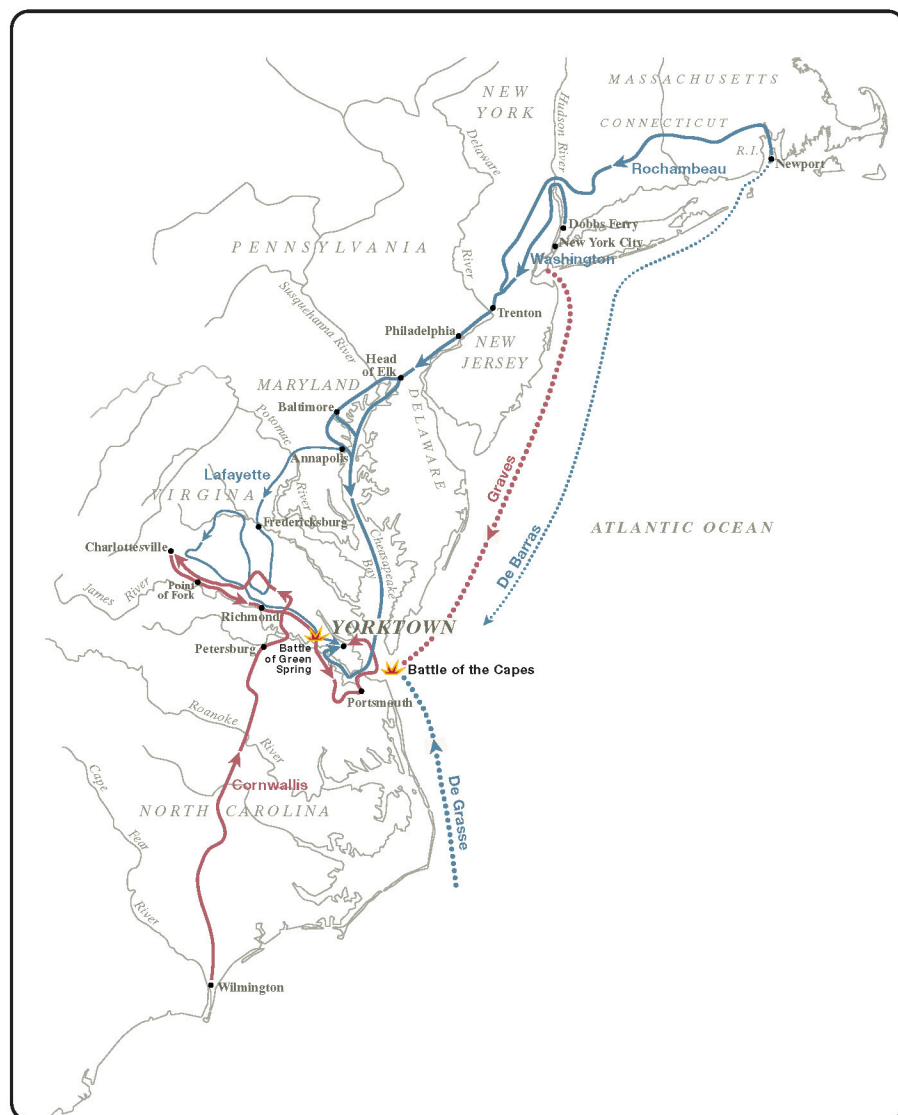
The allies made preparations that would lead the British to believe they were preparing for a long siege of New York. Earlier reconnaissance and prob-

ing actions against New York and the arrival of French reinforcements all gave credence to the deception plan. In August, 2 days after learning De Grasse was bound for the Chesapeake, Washington and Rochambeau left 7,000 soldiers in the Hudson Valley to guard against Clinton and marched the bulk of their forces south in three separate columns. They traveled through a series of routes and sea ferry (see Map 1) to consolidate on Yorktown by late September. The deception plan worked, and it was not until 6 September that Clinton realized Cornwallis was in danger.<sup>5</sup>

Between 5 and 9 September, the French fleet under De Grasse success-

fully engaged and outmaneuvered the British fleet under ADM Samuel Graves for control of the Chesapeake. “The British admiral [Graves] maintained station off the Capes until 9 September and finally sailed back to New York without accomplishing anything further. . . .”<sup>6</sup> This left the Chesapeake under French control, and Cornwallis’ back was now against unfriendly waters.

By early October, the land forces of the southern colonial militias and Continental regular forces converged on Yorktown and totaled approximately 9,000 soldiers. The 7,800 French ground troops along with the naval



**Map 1.** (Map courtesy of the National Park Service, U.S. Department of the Interior website: [www.nps.gov/yonb/planyourvisit/maps.htm](http://www.nps.gov/yonb/planyourvisit/maps.htm)) (MCG notes misspelling of Virginia.)



fleet under De Grasse all converged on Yorktown. The allies successfully outmaneuvered and decisively surrounded the British southern force of only 7,000 soldiers. At this point it was a simple mathematical assessment in determining the outcome of the siege. Time and force strength was on the allies' side. Cornwallis, unable to sustain a long siege, obtain reinforcements, or execute a withdrawal, surrendered on 19 October 1781.

### Analysis

The operational design of the Yorktown campaign is a textbook example of the correct application of key elements of operational design. When analyzing the design it is clear that surprise, mass, maneuver, leverage, and synergy were all present.

**Surprise.** The deception campaign was a critical element essential to the successful outcome of the operation. "By dispersing the French and American armies on multiple routes, the allies maintained the ruse that they were massing for an assault on New York."<sup>7</sup> This forced Clinton to keep his forces in New York and kept him guessing as long as possible on the Colonials ultimate destination. The Colonial Army made a feint toward Staten Island and then moved south to meet with transport ships at the headwaters of the Chesapeake Bay, for further movement



**GEN George Washington.** (Photo accessed at [www.flcenterlitarts.files.wordpress.com](http://www.flcenterlitarts.files.wordpress.com).)

to the James River.<sup>8</sup> Had Clinton realized much earlier that Yorktown was the allies' objective, he would have had more options.

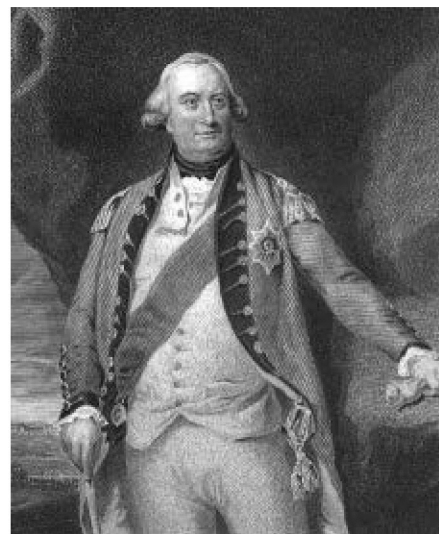
**Mass.** Massing the existing forces in the Carolinas and Virginia early in the campaign enabled the Continentals to fix the British southern army in place, which was a critical early step. The reinforcement by northern forces and blocking position of the French Navy were the final prongs in massing combat power. "Together, these combined forces would provide the three-to-one advantage considered necessary for the successful siege."<sup>9</sup> The Franco-American planners were able to gain the initiative through massing their combat power on both land and sea creating a significant dilemma for the British from which they could not recover. Once the Americans had gained the initiative, the British could only react. This left the British at a constant disadvantage.

**Maneuver.** Maneuvering multiple land forces (Colonial militia, French regular, Continental regular) and sea forces (two separate French armadas) to the decisive point was clearly an operational success. The militia forces in the south were given new instructions once the campaign plan was complete. Lafayette's mission changed from hit-and-run tactics to making sure Cornwallis kept his army at Yorktown.<sup>10</sup> The movement of the northern Franco-American forces along the 450-mile trek was the largest troop movement of the war.<sup>11</sup> The logistics of moving such a large force over a distance of 450 miles was a risk, but the Franco-American planners accurately calculated the operational reach and successfully brought lethal combat power to the decisive point.

**Leverage.** Washington leveraged all available advantages he could muster, notably the asymmetrical actions of the southern militias and the naval power of the French. Under the command of GEN Nathanael Greene, the asymmetrical actions used by southern forces were hit-and-run and delaying tactics. These tactics were a constant drain on



**ADM De Grasse.** (Photo accessed at [www.upload.wikimedia.org](http://www.upload.wikimedia.org).)



**GEN Cornwallis.** (Photo accessed at [awesomestories.com](http://awesomestories.com).)



**LTG Rochambeau.** (Photo accessed at [armchairgeneral.com](http://armchairgeneral.com).)



British southern army resources. Washington also leveraged French naval forces, which gave him a sea capability the Continentals significantly lacked. By controlling the sea lines of communications in and out of the Chesapeake, the allies controlled the engagement.

*Synergy.* The integration of multi-

Now that the allies had access to a naval capability, Clinton was placed in a difficult dilemma, which caused him to plan for multiple coastal defenses. The Franco-American planners also capitalized on the synergy created by the militias and southern regular forces leading up to the decision to attack

it not for the successful application of the operational elements identified in this analysis, the British would not have been placed in such a dilemma. The thoughtful planning and skillful execution of the operational design enabled the Franco-American success at Yorktown and eventually contributed to independence. Ultimately, "Luck is the residue of design."<sup>13</sup>

## ***By controlling the sea lines of communications in and out of the Chesapeake, the allies controlled the engagement.***

ple capabilities enabled the allies to create significant combat power. The fact that the French Navy was now engaged gave significant synergy to the overall force and increased morale generating a force multiplier to the American cause.

Yorktown. These forces maintained pressure on Cornwallis and forced him to retire toward the coastline, which set the conditions for a combined land and naval engagement.

### **Luck and Design**

The allies brought the mass of their force projection to the time and place when the British southern army was most vulnerable. To quickly recognize and react to a British critical vulnerability speaks volumes to the Franco-American planners' abilities to conceptually design an operation that could successfully link both the tactical capabilities to their strategic goals. The loss of the British southern force at Yorktown had strategic ramifications within the British Empire. The British military was already stretched thin in engagements around the world. The American Revolution lasted until 1783, but the surrender at Yorktown strained the British Government's will to continue the war.<sup>12</sup>

Washington and Rochambeau designed an almost flawless campaign which today's combined joint task force commanders and operational-level planners should study. There were multiple actions and inactions of the British that contributed to the surrender of their southern army. There were also events of chance, happenstance, and just plain luck that smiled on the allies that contributed to the outcome. However, were

### **Notes**

1. Gordon, John W., *South Carolina and the American Revolution: A Battlefield History*, University of South Carolina Press, Columbia, SC, 2003, p. 62.

2. Morrill, Dan L., *Southern Campaigns of the American Revolution*, The Nautical & Aviation Publishing Company of America, Baltimore, MD, 1993, p. 116.

3. Lumpkin, Henry, *From Savannah to Yorktown: The American Revolution in the South*, University of South Carolina Press, Columbia, SC, 2000, p. 227.

4. Selig, Robert, *March to Victory, Washington, Rochambeau, and the Yorktown Campaign of 1781*, Center of Military History, Washington, DC, 2005, p. 23.

5. Ibid., p. 27.

6. Lumpkin, p. 233.

7. Selig, p. 35.

8. Morrill, p. 179.

9. Selig, p. 26.

10. Ibid., p. 24.

11. Ibid., p. 23

12. Morrill, p. 183.

13. Daley, Arthur, article written in *The New York Times*, 17 November 1965, the quote is attributed to Branch Rickey and was accessed at <http://www.baseball-almanac.com/quotes/quobr.shtml> on 2 December 2008.

