Making the Point—West Point's Defenses and Digital Age Implications, 1778–1781

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ABSTRACT

Despite obvious distinctions, parallels exist between 18th century era fortification and the purposes, processes, and implications of pursuing security in an artificial cyber realm of the 21st century. The Revolutionary War era fortification of the Hudson River bottleneck focused upon the West Point area between 1778 and 1781. Differing professional perspectives and factors such as available resources led to disagreement about the defensive concept, and Thaddeus Kosciuszko's construction of layered defenses strengthened the US position in the region during the latter phases of the war. British failure in a belated overland raid, demonstrating an inability to "brute" the new defenses, led to British interest in leveraging an insider threat (Benedict Arnold), but then as now, insider threats could not automatically guarantee success.

INTRODUCTION

History leverages evidence and analysis to create meaningful ways to understand the past and develop wisdom to use in the present. Because every situation is distinct and unrepeatable—and yet the need for comparison is a useful tool for human beings as pattern-learners—the earnest exploration of nuanced analogies provides a chance to step back from the details of a contemporary issue for a clearer understanding of how to handle problems and utilize opportunities. Fittingly, when the US Army established its undergraduate Academy at West Point, its history department adopted the motto "wisdom through history."

AN OPPORTUNITY AND A VULNERABILITY

Within six weeks of the first fighting in the American Revolution, American policymakers had identified the need to defend the Hudson River from superior British naval

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power. A length of the river forty miles north of New York City offered some intriguing opportunities for fortification: bends in the river could slow down enemy ships at specific points between Verplanck in the south and West Point in the north. On this ten-mile stretch, American militia and a civilian architect had constructed three crude fortifications. Poorly sited, short of labor, and lacking the heavy caliber artillery needed to threaten warships on the river, the forts proved easy meat to a British contingent that advanced north toward Major General John Burgoyne's embattled army at Saratoga. The limitations of 18th century communication prevented better coordination between British forces, and the withdrawal of the Hudson River force to winter quarters and the capitulation of the northern force in upstate New York were the only reasons that the British did not gain control of the Hudson River in the summer and fall of 1777.

Well before the crisis of 1777, the river's strategic importance (and vulnerability) had been identified. One officer wrote the Continental Congress' president to report that "it has become a matter of important consideration how to remedy the evil" of "the Enemy ... possessing the Navigation of the North [Hudson] River and rendering the communication & Intercourse between the States divided by it, extremely hazardous & precarious." [1] Americans generals George Washington, George Clinton, and William Alexander (Lord Stirling) had realized the need to fortify the bluff on the west bank of the river across from the feeble but expensive Fort Constitution at the northern edge of the river's defense corridor. [2]

Recognizing that "upon the possession of the North River depends the security of all the upper part of the Government of New York, and the communications between the Eastern middle and southern

States," [3] Washington was certain of the river's strategically vital roleboth as a conduit and as a source of vulnerability. After British abandonment of the area, a new American committee reconnoitered the river valley and concluded that "the most proper place to obstruct the navigation of the river is at West Point." [4]

Image 1. Picturesque, but constrained: Fort Constitution's vantage. Photo Credit: Dr. Nicholas M. Sambaluk

SECURITY CONCEPTS

Defenses need to follow a single, coherent overall concept. Unfortunately, whereas the overarching problem from 1775-77 had been that the identification of a strategic vulnerability was not matched by technical talent that could answer the need, in 1778 there were multiple experts at work, and consequently a collision of "authorities."

Captain Lewis de la Radiere, a professionally trained military engineer, had arrived from France prior to official French involvement in the war. La Radiere had been charged by Washington, at the height of the Hudson crisis, with building river defenses; the precise wording (but not the spirit) of the order permitted la Radiere to focus myopically on reconstructing Fort Montgomery, a low-lying and assailable spot where Popolopen Creek joins the Hudson. Despite Governor Clinton's orders that "Col. La Radiere accommodate his plans & Mode of constructing the Batteries & Forts, to the Nature of the Country and Materials, Time & Number of Men," la Radiere quickly left issues of cost and constructability by the wayside, forgetting that the craftsmen his projected fort required were not in great supply in the Hudson Valley or upstate New York. [5] La Radiere's was a particularly unfortunate selection because the previous designer had already gone threefold over the allocated budget for fortifying the region, and he had thereby endangered the completion of any meaningful positions to guard the river.

La Radiere's resistance is all the more surprising when it is remembered that the Congress's weakness placed the responsibility for the river's defense on New York, that Governor Clinton had been urging planners to align their designs with the resources that could be delivered, and that Clinton had even described in some significant detail the concept for the proposed fort:

> I am clearly of Oppinion [*sic*] that a strong Fortress ought to be erected ... at the West Point opposite Fort Constitution ... as the most defensible Ground and because the Navigation of the River there is more difficult & uncertain and the River something narrower ...[.] A new Chain should be procured (if possible) & with the Boom which is nearly completed [*sic*] stretched across the River ...[.] It might be of great Advantage to erect a small strong Work on the high Point on the opposite Shore a little above Fort Constitution. [6]

Although the professional soldier of the 18th century was not an analog to the military professional of the 21st, George Clinton was a general principally due to his role as a politician. He was certainly not a trained military engineer, yet his overall description of a defensive work at West Point would make a more formidable fortification than Forts Clinton, Montgomery, and Constitution had collectively been during the British offensive in 1777. Perhaps the disappointing experiences of the previous campaign had taught the governor something about defending the river. For his part, la Radiere reacted to guidance by rejecting the decision of the committee and of the governor, petulantly writing to General Washington that he had "reasons" for dismissing their ideas, and pretentiously offering that "if I can Spair [sic] time in two or three weeks I will rid [sic] to the Head quarter and give [General; Washington] a Larger account of the Future Situation of this River when a fort will be constructed." [7]

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By this point, la Radiere's fellow officers were all too glad to allow him the opportunity to ride off to General Washington, thus unburdening themselves of him for long enough to proceed along their own design. Major General Israel Putnam communicated to Washington that "it was the Opinion of all except the Frenchman [la Radiere], that it was the best, and the only effectual [place] on the River" to defend. The cantankerous attitude of la Radiere, and the sheer impracticality of the scale of fortress he intended to build, contrasted starkly with the bearing of another military engineer on the scene. Thaddeus Kosciuszko had arrived from Poland in August 1776, having undertaken the bold

passage at his expense to fight alongside the rebels. Propelled by nationalist sentiment, Governor Clinton recommended Kosciuszko to the brigadier overseeing construction as "an Ingeous [sic] Young Man & disposed to do every Thing he had in the most agreeable Manner." [8]

Perhaps in part because of his longtime acclaim, Kosciuszko has faced recent revisionist critique as having played an overestimated part in American independence. [9] This revisionist effort appears to be both unfair and inaccurate. During the 18th century, military engineers were seen as specialists useful in building (or besieging) fortresses, but they were not typically granted the responsibility, authority, or respect of a line officer. This was patently the case in the French army, and evidence appears within the Revolutionary American army of this as well. [10] The point that Kosciuszko received only a single slight wound during the war (due to an errant friendly bayonet) entirely misses the fact that the nature of his skills meant he belonged away from battlefields. Furthermore, the rarity of those skills on the American side meant that a commander recklessly sending him into needless danger would also have been putting the national cause at inordinate risk. It furthermore does not account for Kosciuszko's effective service with General Horatio Gates's army against Burgoyne, or Gates's interest in having the Polish engineer returned to his field army in the fall of 1778. [11]

In his capacity as an 18th century military engineer, his talents were best employed either in designing a siege against an enemy fortress or in creating and overseeing the development of a fortified network. Strategy is the art of establishing plans that will achieve national objectives, doing so with the resources (including human, physical, fiscal, time) available. Kosciuszko devoted a similar sense of awareness when he began to design West Point's new generation of far more formidable defenses.

Image 2. A commanding view from Ft Putnam. Photo Credit: Dr. Nicholas M. Sambaluk

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LAYERED DEFENSES

The key was to establish a layered network structure. Whether dealing with cyber-security or medieval city walls, a single perimeter barrier may give a sense of security that is more comforting (and misleadingly safe feeling) than it is a guarantee of security. Observing the terrain, Kosciuszko, like some of his colleagues by 1778, recognized that there was no truly ideal location to use as a gun platform against targets traveling on the river. At best, there were semi-compromised positions.

Constitution Island sat on an isolated spit of land, separated by a boggy swamp from the east bank that did not preclude overland attack. Even more seriously, artillery positions on Constitution Island faced only the slim bow of oncoming ships, and therefore defenders could not fire effectively against enemy vessels until ships had already accomplished one of the two tight turns. This meant both that the enemy would have traversed half of the difficult geography (the very reason that this area had been chosen for fortification) and the modest American fort would be subjected to the more powerful broadside cannonade of a British warship.

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On the stretch between what is now North Dock and the West Point Clinton Soccer Field at the United States Military Academy, the situation was basically complementary to that of Constitution Island, except the elevation was a bit lower and enemy ships would be in the process of passing the final turn in the river as they came up to bludgeon a defending fortress. Narrow artillery positions might be built across the river from Fort Constitution, if it could be guaranteed that the bluffs above them would not be occupied by the enemy.

The answer was to develop a layered, networked defensive structure. Artillery at the Water Battery and Greene's Battery stood guard over the river at West Point, positioned just to the south of the western anchorage of the Great Chain. The Chain would be an additional obstruction to compel enemy vessels to stop, disembark sailors to clear the obstacle (under fire) before the ships could then continue to navigate the two close bends in the waterway. The Chain's eastern anchorage, on Constitution Island a few hundred feet from the traces of Romans' first efforts, would gain some protection from the building

of a small number of redoubts, semi-enclosed positions for small garrisons of infantry and potentially armed also with cannon. Thus, with these positions, the Hudson River itself was protected.

The extensive interlocking positions which secured the river defenses were key to the plan's strength. Adjacent to the West Point Plain Kosciuszko planned Sherborne's Redoubt and a larger fully enclosed position for artillery and infantry. These fortified areas would prevent an enemy from landing troops downriver and marching them overland onto the bluffs that would cause the river defenses to crumble. More specifically, the presence of these fortifications would deny speed or stealth to the enemy. As fortifications, they were to buy time to react and respond.

Kosciuszko had by this time spent a year and a half amongst the rebel forces and had some familiarity with the fiscal material weighing on the states and their armies. Kosciuszko's envisioned bluff defenses were considerably less extensive than the enlarged Fort Montgomery that la Radiere insisted upon. Kosciuszko's defenses could also be built more easily, more affordable, and potentially faster. Time was vital, as Kosciuszko recognized and as la Radiere had been told: "if we remain much longer disputing about the proper place, we shall lose the Winter, which is the only time that we have to make preparations for the reception of the Enemy" that Washington expected to return in the spring.[12] A half-built fortress is not half as good as a complete one, and without being able to know when an enemy might attack, building an initial capability that could expand with time proved a wiser alternative to the slow and potentially interrupted construction of a colossus whose integrity was moot until completion.

One of the advantages of a layered network defense (then and now) is that, with appropriate forethought and planning, initial positions can constitute an early degree of security and subsequent interlocking positions can be expeditiously constructed to further enhance the credibility of the complex.

Image 3. Fort Putnam, a key to the Hudson River's defenses. Photo Credit: Dr. Nicholas M. Sambaluk

RESILIENCE

In the case of West Point, the Water Battery and Greene's Battery guard the river, the bluff positions near the Plain protect the gun batteries, an enclosed Fort Putnam would be built on an overlooking hill to impede enemy overland access to the bluff's defenses, and then a series of redoubts and battery positions studding the hills and approaches to the west and south of Fort Putnam would come to constitute the balance of what is meant by the term "West Point fortifications." In all, these make up dozens of prepared positions on both sides of the Hudson River.

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It was his attention to the interrelated issues of ease, affordability, and speed of construction that underscored the extent of Kosciuszko's contributions to American defense of the Hudson Valley. The education for military engineers in 18th century Europe followed in the footsteps of Sebastien de Vauban, whose works across France's frontiers display an appreciation for the uses of artillery, geometry, and advantageous use of geographic features. Kosciuszko's interlocking network was an artful application of established and proven principles, and the result secured the back door into New England from easy enemy incursions.

La Radiere intended to force Washington to grant him authority over the Hudson defenses (despite the fact that Kosciuszko's date of commission in the US Army was more than a year ahead of his own); construction at West Point proceeded because of his absence, and as 1778 gave way to 1779 and 1780, the fortresses and redoubts took shape, and the Great Chain was constructed for its seasonal emplacement following the Hudson's thaw and before its winter refreeze.[13] Another French officer, Brigadier General Louis Duportail, critiqued some of the particulars of Kosciuszko's design, but Washington's response was to initially direct Kosciuszko to make recommended modifications rather than to overhaul the new defensive concept.[14] The development of Kosciuszko's robust defenses presented would be British conquerors of the river with a much more difficult problem than they had faced in 1777.

The strengthening of West Point coincided with the shift of the war's main focus to the southern colonies and the campaigns that would culminate at Yorktown in 1781. The British force in New York City remained formidable, and the Empire remained interested in controlling the Hudson. British actions in the Hudson Valley region included a foray which got to within twelve miles of West Point when it reached Stony Point in July 1779.

Washington parried this move by dispatching a contingent of light infantry, referred to as the Light Infantry Corps, under the command of Brigadier General Anthony Wayne. His troops conducted an impressive night march, which in an era centuries before night vision or geolocation managed to find and reach the British force, which it promptly defeated in a small but significant battle.

Wayne's rebuff of the British at Stony Point indicated that the American military presence in the Hudson Valley was one that could not be dislodged as easily as Henry Clinton had managed two years before. Word of the crystallizing defensive construction and the ongoing strategic significance of the waterway did nothing to mitigate the negative implications of this realization. Increasing British resources were tied down both in holding New York City and in seeking to root out rebels in the south and raise loyalist sentiments there; additionally, the war's growing scope meant that by mid 1779 Britain fought against not only the rebellious colonies of the Atlantic seaboard but also against the French, Spanish, and Dutch Empires. These factors, including the enormously improved character of American Hudson River fortifications, drove British officers in America to recognize that their own Empire's military and naval forces were too hard pressed to organize a major renewed thrust against the Hudson in the foreseeable future.

INSIDER THREAT

As is often the case in physical and cyber environments, when it proves impracticable to brute through a defensive structure, and when deciphering its exploitable weaknesses does not seem an available alternative either, social engineering remains a potential option. In fact, social engineering in both physical and other environments like cyber is a completely relevant avenue even without the foreclosure of other options. Britain had a social engineering target in mind: a second tier American hero who had gained some early notoriety earlier in the war by exploits including the cooperative capture of the inadequately alert defenses at Fort Ticonderoga and the perceptive thought of redeploying the fort's cannon to arm American forces in Boston and on the Hudson. Seizure of the fort also facilitated an abortive expedition to Canada to invite French Canadian partners into the rebel fold. Little in the way of active rebel sentiment emerged from the French Canadians, who had been proactively accommodated by Major General James Murray and his successor Sir Guy Carleton between the Seven Years War and the American Revolution.[15] The disappointing Canadian

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response was matched by the excruciating experience of the American expedition itself, and Benedict Arnold led the survivors on a forced march back across the Canadian border and through upstate New York,[16] where bitter winter temperatures and fiercely low rations competed in brutality, driving soldiers to contemplate eating their ragged footwear and go barefoot or march through snow with thin shoes and empty stomachs.

Arnold's exact motivations went with him to the grave. He certainly was a soldier who committed numerous heroic acts during his complicated career. Since he broke with the British Empire to become a rebel and then abandoned the revolutionary cause to become a Tory commander, his loyalty could not by the end of the war be fully trusted by anyone. This was particularly the case since the considerations which precipitated his second turn of allegiance coincided with the British offering him cash in exchange for the plans to West Point's defenses, and leveraging his position to raise the price higher before sealing the bargain.

Despite the allure of unleashing insider threats upon an adversary, the results are not necessarily effective.

Regardless of whether Arnold's motives were purely venal and materialistic, or a realtered sense of patriotic duty or an impression that he could orchestrate reconciliation at the close of a doomed conflict is beyond the scope of this study. His efforts to betray the defensive positions guarding the Hudson speak to the threat that social engineering and insider threats pose, in physical as well digital realms. Complex motivations and insider status can also impede tracking and attribution of these threats.

CONCLUSIONS ABOUT SECURITY

The defense of the Hudson River from 1778 through 1781 teaches some important points which are relevant to security in other contexts and environments, including the cyber arena. One issue is that defensive arrangements, like strategic plans, need to follow a single and coherent overall concept. It is tempting, but misleading, to portray a competition between la Radiere and Kosciuszko—a simple struggle between two expert engineers. The record demonstrates that many officers by the winter of 1777-8 had come to recognize the importance of West Point in defending the river. La Radiere attempted to ignore and bypass this (correct) consensus of nonprofessionals. Kosciuszko was aware of the importance of defending West Point and that the successive hills overlooking West Point complicated the defensive task. Kosciuszko's accomplishment was that he developed a sophisticated solution that used the numerous hills to turn the dilemma back onto an attacker since the new layered defenses formed a succession of obstacles to overcome.

Impressively, Kosciuszko's defensive concept not only turned the complex terrain into an advantage but also made timely use of the materials and labor that was available. Effective defenses are those that can buy vital time for defenders and can do so while using the resources (human, physical, fiscal, and chronological) that are appropriate and available. Kosciuszko's defensive concept was also one which could be improved over time, without having to fundamentally change in concept. This was vital in the midst of a long war, where a latent enemy threat was consistently within forty (and often fewer) miles of the fort system. The parallels here with maintaining security in a cyber environment are palpable.

A final area in which the physical defense scenario of the Hudson River and the multifaceted cyber arena are similar is in the problem of the socially engineered threat vector. When the British realized that conventional campaigns in the style of 1777 were too logistically demanding to undertake in the latter phases of the war, and that smaller raids toward Stony Point could be smashed before reaching the West Point forts, the British reached for a timeless method of undermining a defensive position; turning an enemy insider into a covert ally. Despite the allure of unleashing insider threats upon an adversary, the results are not necessarily effective. Benedict Arnold's failure speaks to some of the challenges that are involved in this route. Spear phishing and similar vectors will not necessarily guarantee success, and even a willing partner in the mold of Benedict Arnold is not a guarantee for victory.

Arnold's treachery caused tension and concern—unease and instability—among the Americans. It did not accomplish the British objective of regaining the Hudson. Upsetting the enemy's plans was something more possible in the fall of 1780 than accomplishing one's own goals. And that is something that has always been true in war.

NOTES

1. Lieutenant Colonel Robert Hanson Harrison to John Hancock, October 25, 1776, *The Papers of George Washington: Revolutionary War Series 7, October 1776-January 1777,* ed. Philander D Chase (University Press of Virginia, 1997), 29.

2. Footnote 6, *The Papers of George Washington: Revolutionary War Series 7,* 143.

3. To Major General Horatio Gates [from George Washington], December 2, 1777, *The Papers of George Washington: Revolutionary War Series 12, October-December 1777,* ed. Philander D Chase (University Press of Virginia, 2002), 497.

4. Footnote with January 14, 1778 committee report, *Public Papers of George Clinton, First Governor of New York, 1777-1795 – 1801-1804, Volume II* (New York: Wynkoop Hallenbeck Crawford, 1900), 679.

5. To Major General Horatio Gates [from George Washington], December 2, 1777, *The Papers of George Washington: Revolutionary War Series 12,* 497-8. "Defenses at West Point," March 5, 1778, *Public Papers of George Clinton, Volume II, 848.* Charles E. Miller, Donald V. Lockey, and Joseph Visconti, *Highland Fortress: The Fortification of West Point During the American Revolution, 1775-1783* (United States Military Academy, 1979), 57-9, 69.

6. From George Clinton [to George Washington], December 20, 1777, *The Papers of George Washington: Revolutionary War Series 12,* 646-47.

7. From Lieutenant Colonel La Radiere [to George Washington], January 13, 1778, *The Papers of George Washington, Revolutionary War Series 7, October 1776-January 1777,* ed. Philander D. Chase (University Press of Virginia, 2003), 225.

8. George Clinton to Samuel Parsons, March 26, 1778, *The Public Papers of George Clinton, First Governor of New York, 1777-1795 – 1801-1804, Volume III* (Albany: James B Lyon, 1900), 86.

9. David Levine, "The Influence of Tadeusz Kosciuszko, Marquis de Lafayette, and Friedrich Von Steuben," *Hudson Valley* http://www.hvmag.com/Hudson-Valley-Magazine/January-2015/The-Influence-of-Tadeusz-Kosciuszko-Marquis-de-Lafayette-and-Friedrich-Von-Steuben/.

10. Janis Langins: *Conserving the Enlightenment: French Military Engineering from Vauban to the Revolution* (MIT, 2004); "Defenses at West Point," March 5, 1778, *Public Papers of George Clinton, Volume II, 848.*

11. Kosciuszko's service throughout the war, including the later campaigns in the south after his fortifying West Point, earned high praise from American colleagues. From Major General Horatio Gates [to George Washington], September 11, 1778, *The Papers of George Washington: Revolutionary War Series 16, July-September 1778,* ed. Philander D Chase (University Press of Virginia, 2006), 574; Miecislaus Haiman, *Kosciuszko in the American Revolution* (New York: Policy Institute of Arts and Sciences in America, 1943), 142.

12. *The Papers of George Washington: Revolutionary War Series 13, December 1777-February 1778,* ed. Philander D Chase (University Press of Virginia, 2003), 342.

13. Theodore J. Crackell, *West Point: A Bicentennial History* (University of Kansas, 2002), 13.

14. Wash Sixteen, 594-98. Wash Seventeen, 46. Francis Casimir Kajencki, *Thaddeus Kosciuszko: Military Engineer of the American Revolution* (El Paso, TX: Southwest Polonia Press, 1998), 97.

15. Willard Sterne Randall, *Benedict Arnold: Patriot and Traitor* (New York: William Morrow and Company, 1990), 87, 95.

16. Holly A. Mayer, "Canada, Congress, and the Continental Army: Strategic Accommodations, 1774-1776," *The Journal of Military History 78.2* (April 2014), 513.

17. Randall, *Benedict Arnold,* 188-89, 233-37.