“Such a Thing as a Military Problem”

Lessons for Modern Warfare from the Origins of Professional Military Education

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14. ABSTRACT

In the wake of the Civil War, both the army and navy grappled with the challenges of professionalization. The Civil War had exposed how difficult it was for amateur soldiers and sailors to wage war effectively, so both services sought to develop more professional peacetime practices. They had to overcome tight budgets and a public exhausted by a horrific war, while simultaneously addressing fundamental questions about the role of the military in the reunited nation. The Army and Navy took notably different approaches to professional military education as they sought to address the specific challenges their respective services were facing. These momentous changes mirror the challenges facing today's force as it transitions away from counterinsurgency operations toward great power competition and consider the role that officer education can and should play in the future. A close examination of the origins of professional military education suggests some lessons for those debates. The army rightly developed curriculum that addressed specific and pressing challenges for the time, while the navy's approach to education expanded the model to include strategic and historical considerations that provide a broader framework for addressing unknown challenges. The modern military needs both approaches to be successful in future warfighting and can do so by deliberately thinking about future warfighting and national issues and how best to maximize peacetime years for potential future conflicts, and by understanding the significant role professional military education has played in shaping the minds of future leaders.

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In the wake of the Civil War, both the army and navy grappled with the challenges of professionalization. The Civil War had exposed how difficult it was for amateur soldiers and sailors to wage war effectively, so both services sought to develop more professional peacetime practices. They had to overcome tight budgets and a public exhausted by a horrific war, while simultaneously addressing fundamental questions about the role of the military in the reunited nation. The army and navy took notably different approaches to professional military education as they sought to address the specific challenges their respective services were facing. These momentous changes in some ways mirror the challenges facing today's services, as they transition from counterinsurgency operations to great power competitions and consider the role that officer education can and should play in the future. A close examination of the origins of professional military education suggests some lessons for those debates. It is essential to take advantage of peacetime to address significant existential questions. Though difficult, the process of answering those questions is well worth the effort and may yield significant dividends for future conflict. Additionally, educational reforms are crucial to providing the framework that posture rising leaders to address these future challenges. This examination will focus on the differences of the army and navy's thinking regarding Professional Military Education, why their approaches varied so greatly, and extract applications for modern warfighting.

Origins of Professional Military Education

The army took a practical and applied approach to professional military education. Originally inspired by the Prussian model for military education, the army built off the template of the Artillery School of Practice at Fort Monroe, Virginia. The army reinvigorated the school following the Civil War and replicated this model at Fort Leavenworth, Kansas, in the form of

the School of Application for Infantry and Cavalry.[1] The army's motivations for creating a formal military education for all its branches were two-fold. One reason was that the army sought to provide an opportunity for rest and recuperation from the demands of fighting in Indian Country in the Dakotas.[2] The second motivation stemmed from the Commanding General of the Army's frustration with civilian control of the military. General William Sherman saw a professionalized military as the solution to increasing military control over the army.[3] The army's approach to education was ruthlessly practical. Sherman was suspicious of conceptual learning and insisted that the curriculum should focus on "duty done as though in actual war and instructions by books [should] be made secondary to drill, guard duty, and the usual forms of a well regulated garrison."[4] The school reflected Sherman's emphasis on the applied and practical approach to education.

Sherman channeled much of his energy for educational reform through his protégé, Colonel Emory Upton. One of the brightest minds of his generation, Upton commissioned at the beginning of the Civil War. He quickly demonstrated an interest in education and tactics, and noticed shortcomings in the training of volunteer soldiers. Upton gained fame during the war for developing innovative tactics to maximize troop movements in the face of technologically advanced artillery.[5] After the war, he was appointed the commandant of cadets at West Point, which provided an opportunity to shape cadet education. He was worldly and curious. Prior to serving as Superintendent of the Artillery School of Practice, Upton went on a tour of the world to examine best practices of the world's militaries, which he published in his book, *The Armies*

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[1] Boyd Dastrup, *The U.S. Army Command and General Staff College: A Centennial History* (Sunflower University Press, Leavenworth, KS, 1982), 15-16.
[2] Sherman Papers, letter to Philip Sheridan, July 31, 1881, Library of Congress.
[3] John Marszalek, "Sherman: A Soldier's Passion for Order," *The Free Press*, New York, NY, 1993, 443.
[4] Sherman Papers, letter to Philip Sheridan, July 31, 1881, Library of Congress.
[5] Stephen Ambrose, *Upton and the Army* (Baton Rouge: Louisiana State University Press, 1964), 59.

of Europe and Asia.[6] Yet throughout his career, he maintained a primary focus on practical training in tactics and operations as opposed to more theoretical or strategic education.

The navy took a different approach. There was no naval equivalent to Fort Monroe, so there was no model for mid-career officer education. Nor was there a dominant senior officer interested in naval reform in a position to enact his vision, as there was in Sherman's army. Instead, the navy's efforts were driven by the comparatively junior Admiral Stephen Luce, who had to build a consensus for his vision. Luce had been an educational reformer for most of his career. He had been assigned to the U.S. Naval Academy immediately prior to the outbreak of the Civil War. He did not waste the assignment, rewriting the curriculum, taking midshipmen on tours of European navies, and writing prolifically about training and education shortfalls in the navy.[7] Even while on operational tours, he published regularly, proposing solutions to the navy's ills. He also took it upon himself to learn about best practices elsewhere. In addition to studying the army's education system, he built a far-flung professional network of like-minded reformers, including the British historian John Knox Laughton.[8] The relationship with Laughton greatly influenced his thinking and elevated the rigor of his academic methods.[9] He conducted a long-running letter-writing campaign with members of congress, numerous Secretaries of the Navy, and even the President. Luce also wrote prolifically for the U.S. Naval Institute, the *Army and Navy Journal*, and other key publications of the day to advocate for his vision for naval education to the military community and interested public.[10] He firmly believed the rigorous exchange of ideas was central to the pursuit and achievement of best military practices. Luce

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[6] Peter Michie and James Wilson, *The Life and Letters of Emory Upton, Colonel of the Fourth Regiment of Artillery, and Brevet Major-General, U.S. Army*, (D. Appleton and Company, New York, NY. 1885), 192.
[7] Albert Gleaves, *Life and Letters of Rear Admiral Stephen B. Luce, U.S. Navy, Founder of the Naval War College*, (G.P Putnam's Sons, New York NY, 1925), 80-86.
[8] Ambrose, *Upton and the Army*, 96.
[9] John D. Hayes & John B. Hattendorf, "The Writings of Stephen B. Luce," *U.S. Naval War College*, Newport, RI, 1975, 71.
[10] Hayes & Hattendorf, *Writings of Stephen B. Luce*, 33.

eventually realized his vision when he became the founder and first president of the Naval War College in 1884.

Luce's approach to education was notably different than the army's. For one, Luce specifically emphasized the study of history as part of the curriculum, undoubtedly influenced by his historian mentor, John Knox Laughton.[11] He also argued that naval students should comprehend the principles of strategy in addition to more practical subjects such as operations, mathematics, international law, astronomy, hydrography, and languages.[12] While General Sherman and his protégé Upton strongly favored tactics and the practical application of military and operational art, Luce had an innate ability to see the larger significance of his experiences and the value of military subjects like strategy and history. Ironically, Luce credited Sherman with exposing him to that kind of thinking. The two met briefly while Luce was commanding a ship off Savannah during the Civil War. Sherman told Luce how the navy had been unsuccessfully bombarding Charleston for three years, but when Sherman marched into South Carolina he would cut off Charleston's communications and the city "will fall into your hands like a ripe pear." Luce recalled this exchange as formative in reframing his thinking beyond *naval* problems to *military* problems and significantly influenced his thinking in naval education—specifically trying to develop officers who thought about warfare through the lens of a military problem.[13] At a time when relations between the army and navy were strained by inter-service conflict, Luce saw the value of joint interoperability and combined arms.

Thus a significant part of the explanation for the difference in approach to professional military education between the army and navy in the years after the Civil War can be traced to the personalities of the officers responsible. Upton and Luce actually shared a number of traits

[11] Hayes & Hattendorf, *Writings of Stephen B. Luce*, 71.
[12] Stephen Luce, "War Schools," *U.S. Naval Institute*, 1883*,* 656.
[13] Stephen Luce, "Naval Administration III," *U.S. Naval Institute*, 1903*,* 820.

and experiences—at their service's academies, in their interest in other countries' practices, and in their enthusiasm for educational reform. But Upton subscribed heavily to Sherman's ruthlessly practical approach to education with a heavy emphasis on tactics.[14] Luce valued the practical approach—as evidenced in his writings praising the army for its innovative educational methods—yet his views of education aimed at the fields of strategy and history to enable officers to prepare themselves "for these higher duties of his profession."[15]

Perhaps the most compelling reason that accounts for the difference between the army and navy's approach to education was the differences in the nature of the services themselves and the problems they were trying to solve. The role of an army for a nation usually emphasizes national defense and stability, often looking inward. In contrast, the role of a navy for a nation concerns international commerce, economic strength, and security, which are fundamentally outward looking. These two fundamental differences provide a brief explanation for why a naval school would see significant value in the subjects of strategy and history with respect to the education of its officers. Nested within these reasons are the specific questions the army and navy were attempting to answer at the time with respect to their specific services. The army was trying to answer the specific question of transitioning to asymmetric warfare against Native Americans, which was a stark transition from the Napoleonic tactics of two western militaries waging war in a more traditional format during the Civil War. In contrast, the navy was attempting to answer a conceptual question of why a navy was necessary in a post-war era. Thomas Jefferson had set a precedent for a minimalist navy, to be expanded only when a national threat required it. The experience of the Civil War caused many naval professionals to rethink this model. In addition, the British, who possessed the world's largest navy on which

[14] Ambrose, *Upton and the Army*, 75-76.
[15] John W. Masland and Laurence I. Radway. *Soldiers and Scholars: Military Education and National Policy* (Princeton, NJ: Princeton University Press, 1957), 81.

many other navies were modeled, had already moved towards a professional standing navy in the 1850s. While both the army and navy schools have undergone several transformations since their founding, both institutions continue to exhibit traits that reflect the original motivations under which they were founded.

Modern Application

There are three key lessons the modern military can take from the post-Civil War era. First, it is critical to consider carefully the most fundamental, existential questions a service can ask itself. What is its purpose in the nation's grand strategy? Second, as Admiral Luce's relentless advocacy proves, the periods between conflicts present many challenges in raising the necessary support for the military reforms the next conflict requires. Third, reforms to military education are vital to providing the framework to answer the required questions in the future warfighting environment.

While both services were attempting to address different problems, the army seeking to solve a tangible, continental problem and the navy working through strategic issues of national identity, they were both looking toward the future while learning from the past. Accordingly, thinking critically about the existential questions of the modern military requires carefully examining the lessons of counterinsurgency operations in the Middle East and projecting those larger lessons towards future warfighting in an era of Great Power Competition. Just as Luce's encounter with Sherman had broader implications for warfare than merely the significance of communication lines to the sustainment of Charleston, there are broader lessons to be gained from counterinsurgency.

Asymmetric warfare against non-state actors has changed the definition of success in military conflicts, which has significant implications for warfighting domains like space and cyberspace. Modern military dominance rarely looks like a formal surrender at Yorktown, Appomattox, or on board USS *Missouri*. Instead, it looks like commanding the metaphorical uncommanded sea as a factor of time and space—disrupting, degrading, and deterring the adversary while simultaneously recognizing the successful accomplishment of these components does not inherently mean the adversary ceases to participate in these domains. Further, counterinsurgency demonstrated that our adversaries are increasingly reliant on commercial technology. Going forward, as private and commercial industry continue to interweave with the space and cyber domains, it will be imperative to shift the institutional military thinking from *military* problems toward *whole-of-society* warfighting problems, where the solutions do not only include military responses like the navy took towards the Charleston bombardment, and seek to partner with private industry, when appropriate, for broader solutions to asymmetric problems like Sherman did by cutting the communication lines.

Additionally, the periods between conflicts, both historically and today, present many challenges in raising support necessary to enact the military reforms the next conflict requires. Admiral Luce's example proves that these efforts are worthwhile and can pay dividends long into future, unforeseen conflicts if done correctly. As the navy was advocating for its role as a standing professional service, championed by theorists like Alfred Thayer Mahan, it fought against the current of indifference and skepticism to rethink the previous organizational military construct of a skeleton navy. Similarly, the Department of Defense has seen the advent of the new U.S. Space Force, and it would be wise to consider a more prominent role for cyberspace organizations along with other emerging technologies like artificial intelligence, electromagnetic

spectrum operations, information operations, military information support operations (formerly psychological operations or PsyOps), among others. Organizational structure will shape how these emerging technologies contribute to future conflicts. Going further, careful thinking about and deliberate organization in support of these technologies will yield incredible dividends when it comes to the consideration and employment of emerging technologies as part of joint operational planning. Numerous cyberspace senior leaders shared that institutional thinking surrounding cyberspace has greatly evolved in recent years, but the overreliance on kinetic warfare creates a latency that limits the full employment of cyberspace and other non-kinetic technologies. One of the limiting factors that contribute to this latency is a widespread lack of understanding about cyberspace and technology that yields non-kinetic effects among current joint leaders.

A lack of understanding is indicative of an educational shortfall, which is why military educational reforms are absolutely essential to providing the framework for posturing the military to address emerging threats of the future warfighting environment. In the Future Warfighting Symposium, General John Raymond, now the newly appointed Chief of Space Operations for the U.S. Space Force, challenged Naval War College students to expand their thinking about warfare specifically with respect to space and engage in difficult questions like, *how does one define aggression (and accordingly attribution) in space?* Cyberspace operations face similar challenges with attribution. Also, in a climate of budgetary limitations similar to, though perhaps not quite as severe as, the post-Civil War period, modern defense leaders regularly contend with the dilemma of when cyberspace professionals should build software or when to purchase and modify commercial software, which offers cost savings, but at an ultimate cost of security. While a Future Warfighting Symposium is helpful, these topics should be

formally integrated into the Joint Professional Military Education (JPME) curricula. Rising defense leaders should be engaging and grappling with these challenging issues throughout their course of study and not as an area of novelty.

General Sherman's thinking about how to impose the Union's will on Charleston through severed communications elevated Luce's thinking from a naval problem to a military problem. JPME reforms should aim toward elevating student thinking from military problems to whole-of-society warfighting problems as well as from kinetic problems to non-kinetic problems. In order for rising leaders to engage effectively in multi-domain warfare, it is imperative that JPME equip these leaders with a thorough framework to develop an understanding of each of the respective domains, with a growing emphasis on non-kinetic domains like cyberspace, and fuel the curiosity that drives self-study.

Admiral Luce's motivations for the founding of the Naval War College stemmed from his experiences in war and academia as well as his relentless curiosity and self-education. By and large, joint leaders (outside of the cyberspace operations community) are not advancing beyond a superficial understanding of cyberspace and non-kinetic warfare due to their highly technical nature. Yet military education reforms can be instrumental in bridging the gap of foundational understanding that bars so many from engaging in it at all or in rigorous self-study.[16] Army and navy leaders in the late nineteenth century had personally witnessed the catastrophic effects of underestimating or ignoring technological advancements in the Civil War and sought to address their version of this challenge through a variety of ways, but one of the most significant ways was formalizing and professionalizing military education.[17]

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[16] General John N.T. Shanahan, e-mail to author, April 19, 2020.
[17] James Bradford, *Admirals of the New Steel Navy: Makers of American Naval Tradition* (Naval Institute Press, Annapolis, MD. 1990), 11-12.

JPME also provides a fertile environment to explore the talent management considerations that are equally as critical to success in future warfighting environments as the understanding and management of technology. Luce and Upton both explored the administrative and organizational considerations of their services in conjunction with the technological advancements of their time because they realized that technological advancement and effective talent management are inseparable. There is a tendency to look at technological problems as isolated from the human interaction with it, but there is a symbiotic effect between humans and technology that enables innovation to outperform one's adversary. Pete Cooper, Senior Fellow at the Cyber Statecraft Initiative stated, "the challenge that we've got is firmly rooted in technology but the solution isn't. If we try to root our solutions in technology, we will remain in constant lag…so this is one where we have to project our thinking forward."[18]

Thinking correctly about technology is just as important as the utilization of it. The Civil War had casualties of epic proportions because senior leaders relied on past wisdom of tactics and maneuver rooted in antiquated technology and failed to project their thinking forward. Similarly, modern senior service leaders hindered non-kinetic warfare operations in past years past because they assumed cyberspace operations were mostly an issue of national strategic policy versus an agile warfighting tool for employment at the operational and tactical levels of war. In addition to expanding one's thinking on the character of warfighting, JPME should also expand rising leaders' thinking on *who* should be the decision makers who can integrate technology for innovative warfighting versus hindering it (and how to identify, develop, and retain these leaders). Most likely, some of the leaders needed for future warfighting will have different developmental paths and occupational badges than those of contemporary leaders and

[18] Herr, "Cyber Operations in Context: A Look at Joint Task Force ARES," *Atlantic Council,* September 16, 2019, https://www.atlanticcouncil.org/event/cyber-operations-in-context-a-look-at-joint-task-force-ares/.

will leverage their unique experience and perspectives for original and innovative solutions. Luce and Upton both recognized the significance that proper administration, promotion, and education would have on their respective services' ability to find innovative leaders who thought strategically, effectively adapted to new technologies, and achieved success in future warfighting environments.

While the army and navy took notably different approaches to education, both approaches had their merit and were the product of deliberate thought on how to best posture their respective services for success in the upcoming conflict. The army rightly developed curriculum that addressed specific and pressing challenges for the time, while the navy's approach to education expanded the model to also include strategic and historical considerations that provide a broader framework for addressing unknown challenges. The modern military needs both approaches to be successful in future warfighting and can do so by deliberately thinking about future warfighting and national issues, how best to maximize peacetime years for potential future conflicts, and by understanding the significant role professional military education has played and can contribute toward shaping the minds of future leaders.