Scientific Warfare vs. Partisan Politics:

Thomas Jefferson and American Naval Education

William P. Leeman

Thomas Jefferson liked to think of his electoral victory as the “Revolution of 1800,” a second American Revolution. This time the revolution was against the Federalist Party, which like the British, favored strong central government, government by the educated elite, a professional military, and an economy based on maritime commerce. The commercial and military orientation of the Federalists was dangerous in the minds of Jefferson’s Democratic-Republicans because it created the necessary preconditions for war. Interference with American commerce by foreign powers provided a cause for war. The standing military and naval establishments created by the Federalists furnished the means to fight wars. To Jefferson and the Republicans, the Federalist policies were turning the United States into a European-style power state. In contrast, to the Jeffersonians, the ideal American nation was an agrarian “empire of liberty” that embraced territorial expansion westward across North America but did not engage in the international power politics that defined the Old World. Jefferson’s stated goal as president was to restore the principles of the American Revolution by undoing the damage the Federalists had done to the American republic.¹
This anti-Federalist and anti-militaristic rhetoric has led many historians to view Jefferson as an idealistic pacifist, someone who believed that Enlightenment notions of reason and human progress would triumph over the age-old need to settle disputes through armed conflict. Although Jefferson did hope that war would become obsolete at some point in humanity’s future, he was not naïve enough to think that the world in which he lived, a world dominated by imperialistic and militaristic monarchs dedicated to expanding their dominions, would be free of war. By the close of the American Revolutionary War, as historian Reginald C. Stuart has argued, Jefferson had formed the opinion that war was a product of “human nature and human systems.” The formation of nation-states and the prevalence of maritime commerce made war virtually inevitable. Although war was unavoidable, Jefferson firmly believed that wars should be fought in a limited manner according to specific rules of civilized warfare. Jefferson also believed that war was a valid instrument of national policy as long as the purpose of war was justice rather than conquest. As a statesman, Jefferson “was neither a scheming Machiavellian nor a pacifist, but a staunch nationalist working in what he thought was the best interest of his country.”

Despite his fears about the commercial and military development of the early American republic under the Federalists and his rhetoric praising the militia as the foundation of America’s national defense, Jefferson did acknowledge the need for regular military forces in time of war. Even though Jefferson did order reductions in the size of the U.S. Army and the U.S. Navy upon taking office, he did not eliminate the military and naval establishments created during the administrations of George Washington and John Adams. Jefferson feared war because of the financial burden it created, the increase
in centralized power that accompanied it, and the expansion of professional military forces required to wage it. He also preferred peaceful economic coercion over military force as an instrument of foreign policy. Yet he was also a pragmatic statesman who understood that war was an inevitable part of national life in an imperfect world, especially for a maritime nation like the United States. If peaceful coercion failed, military force was the only remaining option. It was necessary, therefore, to be prepared for war. “Wars . . . must sometimes be our lot,” Jefferson lamented, “and all the wise can do, will be to avoid that half of them which would be produced by our own follies, and our own acts of injustice; and to make for the other half the best preparations we can.”

Jefferson realized that military education was a necessary component of any nation’s preparation for war. On March 16, 1802, he signed into law an act setting up the peacetime military establishment for the United States. Although the act reduced the size of the army to two infantry regiments, one artillery regiment, and the Corps of Engineers, the most important and lasting provision of the act was Section 27, which stated that “the said corps [of engineers] when so organized, shall be stationed at West Point, in the State of New York, and shall constitute a military academy.” Located on the strategically important Hudson River, West Point had been a crucial American fortification during the Revolutionary War and was most famous for having been the site of Benedict Arnold’s treason in 1780. Since the end of the war, West Point had been home to a small garrison as well as the army’s artillerists and engineers.

At first glance, Jefferson’s action would seem to contradict his previous views on military education. He had strongly opposed the creation of a military academy in 1793 during George Washington’s presidency, arguing that the Constitution did not give the
the federal government the power to establish such an institution. In January of 1800, while discussing his own plans for a new university in Virginia, Jefferson dismissed a national military academy plan devised by Alexander Hamilton during the Quasi-War with France as being devoted to branches of study “now valued in Europe, but useless to us for ages to come.” Yet Jefferson’s founding of the United States Military Academy at West Point, when examined within the proper context, was not contradictory at all. The academy established in 1802 was nothing like the institution Alexander Hamilton had envisioned. Hamilton had called for the creation of a comprehensive national military academy that would educate officers for both the army and the navy. He proposed an academy composed of five schools: the Fundamental School, the School of Engineers and Artillerists, the School of Cavalry, the School of Infantry, and the School of the Navy. Students at the academy would begin their studies at the Fundamental School, which would provide basic instruction in mathematics, natural philosophy (physics), mechanics, geography, surveying, drawing, and the principles of military tactics. After completing two years at the Fundamental School, the students would continue their studies at one of the four advanced schools with young men destined for the navy spending two additional years studying navigation, astronomy, and naval architecture. The academy’s administration would be composed of officers from the army and the navy. The ideal location for the proposed academy, according to Hamilton, was a site near a foundry that produced cannons and small arms that was also on “navigable water” to benefit the naval students. In contrast to Hamilton’s grand plan for American military education, Jefferson’s academy at West Point was established on a much smaller scale with instruction focused narrowly on mathematics and some basic science. Furthermore,
Jefferson’s earlier opposition to a military academy was based more on partisan politics than actual opposition to the idea of military education. He would have opposed any plan, military or not, that originated with Alexander Hamilton, who had become Jefferson’s political archrival. As constitutional scholar David N. Mayer has observed, “[Jefferson’s] earlier opposition [to the establishment of a federal military academy] can be explained essentially as an instinctive, but not well-considered, knee-jerk reaction against Hamiltonian Federalism as he perceived it in the 1790s.”

Despite his earlier, partisan opposition to the idea of a military academy in 1793 and 1800, Jefferson believed that military education was important to the nation’s survival. In addition to establishing the Military Academy at West Point, Jefferson favored military instruction at civilian colleges as well, once writing to James Monroe that the United States must “make military instruction a regular part of collegiate education. We can never be safe till this is done.” Jefferson’s retirement years were devoted to establishing the University of Virginia. In devising his plan for the university, Jefferson included military and naval science as part of the curriculum in addition to military drill.

Given that Jefferson signed the legislation creating the U.S. Military Academy and was a proponent of military education in civilian colleges, an important question to consider is why Jefferson never established a naval academy during his presidency. Although historians have recently devoted serious attention to studying Jefferson’s possible motivations for establishing West Point, his actions concerning naval education have received little or no attention. In the minds of many observers, both at the time of Jefferson’s presidency and in the two hundred years since, the fact that Thomas Jefferson
never established a naval academy is not surprising. Many of Jefferson’s contemporaries as well as many historians have viewed Jefferson as being anti-navy, a president who was concerned above all with economy in the nation’s armed forces and whose naval policy favored small, inexpensive, purely defensive gunboats rather than powerful ships of the line and frigates. Indeed, some of Jefferson’s rhetoric certainly supports this idea.

Under the Federalist administrations of George Washington and John Adams, American commerce had steadily increased and resulted in collisions at sea with the British, the French, and the Barbary pirates, which ultimately led to the creation of a permanent American navy. In January of 1800, Jefferson declared with frustration that the United States was “running navigation mad, and commerce mad, and navy mad, which is worst of all.” Despite such comments, however, Jefferson did recognize the need for a small permanent navy. In his book, Notes on the State of Virginia, Jefferson wrote that “the sea is the field on which we should meet a European enemy. On that element it is necessary we should possess some power. To aim at such a navy as the greater nations of Europe possess, would be a foolish and wicked waste of the energies of our countrymen.” Any European naval power would only be able to deploy a small part of their fleet against the United States, which led Jefferson to conclude that, “A small naval force . . . is sufficient for us, and a small one is necessary.” To dismiss Jefferson as anti-navy is inaccurate.

During the Jefferson administration, federal spending on the navy was significantly larger than spending for the army. Furthermore, Jefferson did not hesitate to deploy the navy to protect American commerce. From 1801 to 1805, Jefferson ordered a succession of naval squadrons to the Mediterranean to deal with the threat to American shipping posed by the Barbary corsairs.
The fact that Jefferson did not establish a naval academy during his presidency does not mean that he never considered the issue. In fact, Jefferson did believe that scientific instruction was useful to naval officers as well as to army officers. Jefferson possessed a scientific view of the world and believed that warfare, like every other human endeavor, was conducted according to scientific principles; this included warfare at sea as well as on land. In Jefferson’s mind, a scientific approach to warfare would enable the United States to maintain a smaller, but more effective, army and navy. In the realm of naval affairs, Jefferson was fascinated with the work of inventor Robert Fulton and believed that inventions such as the torpedo (mine) and “submarine boat” could be used against conventional naval forces and serve as an important component of America’s maritime defense, particularly in the nation’s harbors. Given the specialized technical nature of Fulton’s naval weapons, Jefferson argued that the United States should have “a corps of young men trained to this service.” Essentially what Jefferson envisioned was the establishment of “a corps of naval engineers” that would design and operate these undersea weapons. Because the deployment of these weapons required scientific and technical expertise, the naval officers assigned to the undersea service would require “a course of training.” According to Jefferson, the use of these advanced undersea weapons by the U.S. Navy would serve as a form of deterrence against the European naval powers: “The very name of a corps of submarine engineers would be a defence.” Jefferson’s interest in Fulton’s naval inventions and his desire for a U.S. Navy Corps of Engineers indicate that he realized the national benefits of scientific education for naval officers. As a result, during his presidency, Jefferson endorsed two
proposals that would have provided American naval officers with scientific instruction similar to the education provided for army officers at West Point.

In 1806, Joel Barlow, a friend of both Thomas Jefferson and Robert Fulton, published a plan for the establishment of a national institution for the advancement of knowledge. Based at a central university in Washington, D.C., with several satellite campuses, the national institution would include printing presses, libraries, laboratories, botanical gardens, agricultural fields, and a patent office. According to Barlow’s plan, the institution would also include two military colleges – one for the army and one for the navy. Barlow recommended moving the Military Academy from West Point to Washington where it would become part of the national institution along with a new naval academy. In his correspondence with Jefferson, Barlow indicated that he viewed the national institution, including its naval academy, as a necessary adjunct to Fulton’s scientific work, including both its civilian and military applications. Barlow appealed to Jefferson’s concern for his historical legacy by declaring that the proposed national institution would form for Jefferson’s presidency “one of its most lasting & splendid memorials.” Jefferson, a great patron of science and education, was very interested in Barlow’s proposal and supported the introduction in Congress of a bill based on Barlow’s plan. Despite Jefferson’s endorsement, however, Congress failed to enact the bill.17

The failure of Barlow’s plan did not deter Jefferson in his support for the establishment of an institution for naval education. In 1808, Jefferson endorsed a plan devised by West Point superintendent Jonathan Williams to provide naval instruction as part of an expansion and reorganization of the U.S. Military Academy. In its early years, West Point was not much more than, in Williams’s words, “a little Mathematical
School.” There was no standard curriculum. Cadets received their officer commissions whenever the faculty decided the cadet had mastered the material, whether it be six months or several years. There were no admission requirements (other than being male). The few cadets who attended West Point were extremely diverse in terms of age and educational background. One cadet was only ten years old while one of his classmates was married and had a family. Some cadets were already college graduates; others had very little formal education. Instruction at West Point was limited to mathematics and some basic science.18

In contrast to the relatively limited instruction offered at West Point, Williams had a broad vision for the Military Academy, one that was similar to the comprehensive military academy envisioned almost a decade earlier by Alexander Hamilton. In March of 1808, Williams submitted a report to Congress in which he laid out his plan for expanding and relocating the Military Academy. In Williams’s opinion, the academy was not living up to its potential because the federal government had virtually ignored the school since its establishment. “[T]he Military Academy, as it now stands, is like a foundling,” Williams complained, “barely existing among the mountains, and nurtured at a distance, out of sight, and almost unknown to its legitimate parents.” Williams attributed the lack of interest in the Military Academy to the school’s natural isolation at West Point and its geographical distance from the nation’s capital. In order to correct this unfortunate situation, Williams strongly hinted that the government should relocate the Military Academy to the Washington, D.C., area, where it could become “an honorable and interesting appendage to the national family.”19
Besides the school’s relocation, the superintendent included several additional recommendations for improving instruction at the Military Academy. The expanded faculty should include professors of natural and experimental philosophy, mathematics (including navigation and nautical astronomy), engineering, architecture, and chemistry and mineralogy, in addition to a riding master and master swordsman. Additional appropriations for proper buildings, a library, and scientific equipment were also necessary. Williams’s most controversial recommendation was the enlargement of the student body of the Military Academy to include not only army cadets but also the “minor officers of the navy” (midshipmen) and “any youths from any of the States, who might wish for such an education, whether designed for the army and navy, or neither.” What Williams envisioned was a comprehensive national military university that would educate young men for service in the army, the navy, and the militia. Those students not entering the army or navy would pay tuition to help finance the institution. While studying at the new academy, these “citizen youth” would be subject to military discipline and regulations but would return to civilian life upon graduation and “would naturally become militia officers.” This new expanded academy, Williams argued, would make the army, the navy, and the militia more effective through the scientific study of warfare.²⁰

Jefferson supported Williams’s plan to expand and relocate the Military Academy, arguing that, “The scale on which the Military Academy at West Point was originally established [has] become too limited to furnish the number of well-instructed subjects in the different branches of artillery and engineering which the public service calls for.” Jefferson believed that relocating the Military Academy to the nation’s capital
would be beneficial for two reasons. It would place the institution “under the immediate
eye of the Government” and would “render its benefits common to the Naval
Department.”

Like Barlow’s proposal before it, Williams’s grand plan for a national military
university never came to fruition. The vast majority of Republican senators and
congressmen were not interested in adopting a proposal that would increase the power of
the executive branch and require substantial appropriations. Once the new administration
of James Madison came to office in 1809, there was an additional reason why Williams’s
plan failed to gain much support. Secretary of War William Eustis disapproved of
professional military officers and had no interest in expanding the Military Academy.
Eustis hailed from Massachusetts and revered the minutemen of the Revolutionary War
who fought the country’s first battles at Lexington and Concord and Bunker Hill. In
Eustis’s mind, the citizen soldier was the ideal defender of American freedom. Although
he gave rhetorical support to Williams’s plan, probably because he thought that Madison,
like Jefferson, was in favor of the idea, his actions toward West Point demonstrated his
opposition to military education. During his tenure as secretary of war, Eustis reduced
the size of the faculty, took away space from the Military Academy by assigning other
army units to West Point, and devised a plan that would have required West Point
graduates to begin their army careers as enlisted soldiers instead of commissioned
officers.

Despite Jefferson’s support, Congress rejected both Barlow’s and Williams’s
plans for naval education. In the end, Jefferson proved unwilling to spend any of his
political capital to bring about an institution that would provide the navy with scientific
instruction. Although Jefferson believed that scientific education would be useful to naval officers and would enhance the nation’s maritime security, there were several reasons why he was willing to compromise on the issue of naval education. Despite his belief in the importance of education and the use of science and technology in naval warfare, Jefferson simply did not see education as being quite as necessary for the navy as it was for the army.

First, Jefferson subscribed to the prevalent view that naval officers and merchant mariners did not possess separate professional identities but were instead members of a single maritime profession. Although formal naval education was desirable, Jefferson viewed the merchant service as an acceptable and practical alternative. Officers could acquire expertise in seamanship and navigation in the merchant service, at private expense, and apply that knowledge to the operation of naval vessels when needed. The nation’s earliest naval heroes, including John Paul Jones, John Barry, Thomas Truxtun, and Edward Preble, all had extensive experience in the merchant marine. During peacetime, naval officers, especially midshipmen, were encouraged to take furloughs from the navy to serve aboard merchant ships. In addition to the financial benefits, the merchant marine provided excellent training in seamanship and navigation and offered greater opportunities for leadership, including a much quicker route to command of a ship. Time spent in the merchant service was particularly important for younger, less experienced officers. In a memorandum sent to midshipmen, Jefferson’s secretary of the navy, Robert Smith, encouraged the young men to make good use of their time away from active duty by devoting themselves to professional improvement. An important part of that was sailing in the merchant service, which was sure to bring “[g]reat advantages”
to the midshipmen and to the country as a whole. According to the common wisdom of the time, naval officers could learn most of their profession in the merchant marine. Army officers, particularly artillery officers and engineers, had no corresponding civilian profession in which to acquire the knowledge and skills they needed to defend the country. This fact made West Point a more critical national institution than a naval academy in the early American republic.

Jefferson’s naval policy was the best evidence that he did not view naval service as a distinct profession from the merchant marine. Just as Jefferson’s ideal peacetime military establishment was the militia combined with a small regular army specializing in artillery and engineering, his naval policy called for maintaining a balance between a small “regular navy” composed of frigates and a naval militia that would deploy small gunboats for coastal and harbor defense. Gunboats were shallow-draft vessels, forty to eighty feet long, armed with one or two guns. They were the perfect means of maritime defense in the minds of many Republicans because they were inexpensive to build and maintain and had a limited defensive role. The small size of the gunboats made them ideal for coastal and harbor defense since they could navigate easily in shallow water. When deployed with coastal fortifications and floating batteries, gunboats seemed to represent a practical and cost effective means of defense. Although each gunboat individually was small in size, the Republicans believed that a “mosquito fleet” of gunboats working together could be an effective weapon against an enemy’s larger naval vessels. Jefferson’s naval defense plan called for a fleet of 200 gunboats, stationed at strategic locations throughout the United States. In peacetime, the navy would deploy
only a small number of gunboats with the remainder stored in large dry dock facilities for future use when needed.25

According to Jefferson’s plan, the gunboats would be manned by a national naval militia composed of all “free, able-bodied white male citizen[s]” from eighteen to forty-five years of age who made their living as seamen. Exempt from service in the land militia, these “citizen seamen” would be organized into companies under the command of officers appointed by the state governments and would be responsible for defending the harbors and seaports in their local district. The naval militia officers were required to provide training in artillery and gunboat maneuvering for the men in their respective companies every two months. The government could call the naval militia to active duty in response to foreign invasion or domestic insurrection. Congress never enacted Jefferson’s plan for a naval militia arguing that it was inappropriate for the federal government to possess increased control over the militia, which was a state institution.26

Since Jefferson favored a part-time naval militia as the country’s primary means of maritime defense, it is understandable that he would view the merchant marine as an acceptable school for the professional development of naval officers.

In addition to the merchant marine, actual naval warfare was also an important school for U.S. Navy midshipmen, in many ways the ultimate form of “on-the-job” training. When Jefferson deployed naval squadrons to the Mediterranean to deal with the Barbary pirates, one of the purposes of these squadrons was “the instruction of our young men so that when their more active services shall hereafter be required, they may be capable of defending the honor of their Country.” Secretary of the Navy Robert Smith, in an 1803 letter, reminded Commodore Edward Preble “that in all our Mediterranean
expeditions the improvement of our officers is a favorite object.” In the minds of most early nineteenth-century political and naval leaders, there was no better school for midshipmen and junior officers than a ship actively deployed in combat operations.²⁷

A second reason why a naval academy seemed less important than a military academy was that the navy, in Jefferson’s mind, did not represent a direct threat to liberty and the republic the way that the army did. The army Jefferson inherited from the Adams administration was a decidedly Federalist institution. Republican opposition to the Quasi-War with France did not endear the party to the army officer corps, many of whom voiced their anti-Republican attitudes after Jefferson’s election in 1800. Jefferson was concerned with the loyalty of the army’s officers to the new Republican administration. One way to overcome this problem was to purge the army of its Federalist officers and appoint men from Republican backgrounds in their place. These Republican officers would have to receive proper military education and training in order to serve as effective officers. Military historian Theodore J. Crackel has convincingly argued that this was Jefferson’s primary goal in establishing West Point – to educate Republican youth in military science. By producing Republican officers, Jefferson could create a less dangerous, more democratic army that was loyal to Republican principles.²⁸

A navy, unlike an army, was an inefficient and impractical instrument for a would-be dictator bent on taking over the United States. It would be virtually impossible for naval forces to take over the country since inland areas were not vulnerable to naval attack. Moreover, because America was a seafaring nation, heavily involved in maritime industries such as shipbuilding, fishing, and the merchant business, sailors were a familiar sight in America’s cities and did not generate the suspicion and fear that
professional soldiers did. Jefferson himself acknowledged that naval forces were not as
dangerous as an army was: “A naval force can never endanger our liberties, nor occasion
bloodshed; a land force would do both.”29 If a Federalist navy posed less of a threat than
a Federalist army did, it was only logical for Jefferson to focus his efforts on military
rather than naval education.

A third factor was partisan politics. The Republicans in Congress during
Jefferson’s presidency were opposed to the navy on ideological grounds, having absorbed
the attitudes of anti-navy writers such as Tench Coxe. Coxe argued that, contrary to
common belief, a navy was dangerous to liberty, as the Royal Navy demonstrated during
the American Revolution. Navies were expensive and were constantly provoking wars
with other nations. A navy could also lead to corruption because of the patronage
associated with naval appointments and contracts.30 Looking back on his presidency,
Jefferson recalled the anti-navy sentiment in Congress. Referring specifically to the
congressional opposition to his plan to build a large dry dock to house the frigates not
deployed at sea, Jefferson stated that “the majority of the legislature was against any
addition to the navy.”31 Jefferson was a pragmatic politician who realized that Congress
was unlikely to pass legislation creating a naval academy. He was therefore unwilling to
use his political influence to push Congress toward that goal: “There is a snail-paced gait
for the advance of new ideas on the general mind, under which we must acquiesce. A 40
years’ experience of popular assemblies has taught me, that you must give them time for
every step you take. If too hard pushed, they baulk, & the machine retrogrades.”32 In the
end, Jefferson decided that it was unwise to challenge Congress on a policy issue that,
while desirable, was not absolutely necessary. Throughout his political career, Jefferson
sought to avoid unnecessary confrontations with his colleagues. He was repelled by heated disagreements and tended to tailor his views to the particular constituency he was addressing in order to avoid any unpleasant encounters.\textsuperscript{33} It is therefore reasonable, given Jefferson’s character and personality, that he preferred to focus on policy areas in which he and the Republican-controlled Congress agreed.

One person who was disappointed, but not surprised, by Jefferson’s failure to establish a naval academy was Captain Thomas Truxtun, one of the naval heroes of the early American republic. In an 1806 letter to former secretary of state Timothy Pickering, Truxtun lamented the lack of naval education available to midshipmen, especially when it came to the more theoretical aspects of the profession: “We have many good Seamen but very few tactitians [\textit{sic}] among them, and this will be the case until a national marine academy is established on similar principles to those in the maritime countries of Europe. But such an institution is not likely to be created in our day, as we have no Naval Pride, and other projects to exhaust the Treasury, are not wanting in our all-wise Cabinet.”\textsuperscript{34} This was regrettable in Truxtun’s opinion because many of his fellow naval officers were “uninformed men, who mostly have an aversion to reading and studious application” and a naval academy would have helped to overcome that unfortunate situation.\textsuperscript{35}

Although Thomas Jefferson failed to establish a naval academy during his presidency, he maintained an interest in the subject during his retirement years. Writing to Jefferson in 1821, John Adams commented that West Point had been “brought to a considerable degree of perfection” since its establishment. Adams then asked, “Would not a similar establishment for the education of naval Officers be equally Usefull [\textit{sic}]?”
The public opinion of the nation seems now to be favourable to a Navy as the cheapest and safest Arm for our national defence. Is not this a favourable moment for proposing a naval Academy?” Jefferson agreed with Adams that “there should be a school of instruction for our navy” and suggested that perhaps the Military Academy could serve the educational needs of both the army and the navy.36

Although Jefferson did favor economy in the nation’s armed forces and did advocate a defensive naval policy that emphasized gunboats, he was not anti-navy. He believed that a permanent navy was an important national institution and he did not hesitate to use that navy when necessary to protect American commerce in the Mediterranean. Jefferson believed that the use of modern science and technology, specifically Robert Fulton’s undersea weapon systems, would enable the United States to maintain a smaller, but more effective, navy capable of defending America’s coasts and harbors as well as deterring European aggression. Realizing that such advanced weapons required an academic course of studies that emphasized science and technology, Jefferson envisioned the establishment of a naval academy that would educate and train a corps of naval engineers to operate Fulton’s undersea weapons. Despite Jefferson’s great interest in making the U.S. Navy more advanced through education and technology, he ultimately had to abandon such plans in deference to politics, specifically the anti-navy views of his fellow Republicans in Congress.


10 For an excellent collection of essays concerning Jefferson’s establishment of West Point, see McDonald, ed., Thomas Jefferson’s Military Academy.


13 Jefferson, Notes on Virginia, 175-176.


16 Jefferson to Fulton, August 16, 1807, Jefferson Papers, Library of Congress; Thomas Jefferson to the Secretary of the Navy, August 20, 1807, Writings of Thomas Jefferson, 11:337.


20 Ibid., 2811-2812.


22 Molloy, “Technical Education,” 286, 325-330; Fleming, West Point, 19-20. Theodore J. Crackel has argued that Eustis’s actions toward West Point were the result of incompetence more than actual hostility. See Crackel, West Point, 70.

24 Stagg, Mr. Madison’s War, 134-135.


34 Thomas Truxtun to Timothy Pickering, February 1, 1806, Timothy Pickering Papers, Massachusetts Historical Society.


The special issue of Scientific American on this date 100 years ago looked at naval power worldwide, particularly as it stacked up against the U.S. Navy. The issue is a mix of the leading naval warfare theorems of the day, with a look at the realities of the current war—especially the battle of Jutland and the ongoing submarine war. Some readers might also detect undercurrents of fear, paranoia and bravado in the articles. Our full archive of the war, called Scientific American Chronicles: World War I, has many articles from 1914-1918 on naval warfare during the First World War. It is available for purchase at www.scientificamerican.com/products/world-war-i/. Rights & Permissions.