ESSENTIAL CIVIL WAR CURRICULUM

The Rivalry of the Aeronauts: Civil War Balloon Reconnaissance

By **Charles Morgan Evans**

It has often been said that the American Civil War was one of the first wars that ushered in the advent of the industrial revolution and its application to the battlefield. Nineteenth century technological marvels—that had resulted in amazing advances in the fields of industrial production, transportation, and communications—shifted from their roles as the means and methods of improving everyday life to the tools that became essential in waging modern warfare. However one innovation, that could trace its roots back to France during the 1780s, emerged to play an intriguing military role during the Civil War. That innovation was the military reconnaissance balloon.

For the greater part of a century passenger carrying balloons were highly experimental in nature. As the field of aeronautics developed, aeronauts delved deeper into the mysteries of flight. It was not simply the hazard associated with balloon flight that was in question. Observations of upper air currents; the formulation of varnishes to seal silk balloon envelopes; determining the relative merits of hydrogen versus hot air for lifting; were just some of the issues that confronted aeronauts of that age.

But the military application of balloons was apparent in the eyes of many almost from their inception. After witnessing a demonstration of Jacque Cesar Charles' *Globe* in Paris in 1783, Benjamin Franklin, head of the American diplomatic mission in France at the time, made the observation that "[the balloon] might be used for elevating an engineer to take a view of the enemy's army and for conveying intelligence into a besieged town."[1]

While Franklin's prophesy would not materialize entirely until the outbreak of the American Civil War, advances in balloon technology during the intervening years brought significant improvements that enabled aerial reconnaissance to become a reality. By the time the first shots were fired at Fort Sumter on April 12, 1861, American aeronauts had scored such atmospheric triumphs as constructing and operating balloons capable of lifting 22 ton payloads, while frequently reaching altitudes of two miles and more. In 1859 a trio of balloonists achieved a non-stop travel record of 809 miles from St.

[1] Eugene Block, *Above The Civil War: The Story of Thaddeus Low, Balloonist, Inventor, Railway Builder,* (Berkeley, CA: Howell-North Books, 1966), 17-18. (Originallyfrom a letter to Sir Joseph Banks, November 21, 1783).

Louis, Missouri to Henderson, New York—a distance mark that was not to be broken until 1910.[2]

In brief, these individuals who became masters of the upper air currents during the early part of the nineteenth century were the epitome of daredevils and showmen. While many of these early balloonists relegated their activities to enthralling public audiences at fairs and expositions, there were others who aspired to feats of daring and ingenuity that defied precedent. During America's "Golden Age of Ballooning," aeronauts—often referred to as "professors"—constantly sought out new aeronautical challenges, ranging from a proposed flight over the Atlantic Ocean to the military use of their craft that served during the Civil War.

The challenges posed by the Civil War would be the ultimate testing ground for the skill of the professors who enlisted for service during the war. Of those who volunteered, the names of Thaddeus Lowe and John La Mountain soared high above them all. It was because of the daring accomplishments of men like Lowe and La Mountain that the brief, but spectacular experiment known as the Union Army Balloon Corps came to exist.

It was on April 20, 1861, only eight days after the first shots were fired by the Confederate Army on Fort Sumter, that a curious apparition of enormous proportions was spotted gently descending upon a sparsely populated village nine miles west of Unionville, South Carolina. A cautious, but well-armed group of men carefully ventured out to the open field where the foreign craft landed, fully expecting to meet the devil incarnate. With their rifles cocked and trained dead ahead, the men approached the now rapidly deflating spherical craft which had stood some fifty feet high just moments before. As the suspicious and somewhat unlettered locals approached, a young man elegantly attired in a "tall silk hat and formal Prince Albert coat," leaped out of the attached wicker basket and frantically waved salutations.[3]

The man, who identified himself as Thaddeus Sobieski Constantine Lowe, told the steadily gathering and incredulous crowd that he had just completed a journey that had started in Cincinnati, Ohio. His journey had taken only nine hours and yet he had traveled over five hundred linear miles The purpose of the trip, Lowe explained, was to test the nature of atmospheric wind currents before embarking on a much grander scheme, which was to attempt a crossing of the Atlantic Ocean by way of passenger balloon.[4]

[2] Tom D. Crouch, *The Eagle Aloft: Two Centuries of the Balloon in America*, (Washington, D.C.: The Smithsonian Press, 1983), 266. 277, 254.
[3] Block, *Above The Civil War*, 43.
[4] The actual number of miles that Lowe traveled varied according to different accounts. The Cincinnati *Daily Commercial* from April 26, 1861 claimed that Lowe traveled 1200 miles. Lowe himself estimated that he had covered 800 miles owing to an extremely circuitous route.

The rural crowd was not particularly enthused or impressed with the merit of Lowe's scientific quest, and given the state of political affairs then prevailing in South Carolina, the aeronaut was summarily branded as a Yankee spy.[5]

Lowe was fortunate, however. With a combination of luck and some persuasive oratory the young aeronaut was successful in averting bodily harm and/or incarceration. With a reputation as one of America's preeminent balloonists preceding him, Lowe and his balloon were allowed to travel to Columbia. From there the balloonist was allowed to return to Ohio on one of the last trains that would leave the south for the duration of the coming war. The journey back to Ohio was an experience that profoundly changed Lowe's life. As the train made its way northward, Lowe could hardly fail to notice the massive mobilizations and call to arms that were abundantly evident at every depot along the route. Military encampments were clustered near train stations and train cars loaded with Confederate soldiers were also heading north.

Abandoning his dream of conquering the Atlantic by balloon, Lowe would later record in his memoirs, "I was fully convinced that the country was facing a severe struggle." [6]

Upon returning to Ohio on April 26, 1861, Lowe turned to one of his financial supporters, Murat Halstead, the influential editor of the Cincinnati *Daily Commercial*, with an idea that would replace the now aborted scheme of crossing the Atlantic. Lowe's plan was to have Halstead write a letter to U.S. treasury secretary Salmon P. Chase suggesting that the Union Army establish a balloon corps under Lowe's command with the purpose of providing aerial reconnaissance. But as Thaddeus Lowe waited for an official response to his plan from Washington, another aeronaut was actively working along the same lines.

John La Mountain of Troy, New York spent a great deal of his adult life as a merchant seaman prior to his apprenticeship in the late 1850s with America's "grand old man" of ballooning John Wise. Wise, who made his first aerial ascent in 1835 in a balloon of his own invention, also had his eyes on the elusive conquest of the Atlantic Ocean. Little is known of the exact circumstances that brought Wise and La Mountain together, though Wise would later recall that La Mountain was an "apt pupil," whose experience as a seaman "made him proficient in the management of sailing paraphernalia, and …in the prognostication of weather."[7]

In 1859 Wise had raised sufficient funds to construct a balloon over 50,000 cubic feet in size, complete with a lifeboat gondola slung under the ship's enormous gas bag. The ship was appropriately enough christened *Atlantic.* Because a significant portion of

[5] F. Stansbury Hayden, *Aeronautics in the Union and Confederate Armies*(Baltimore: Johns Hopkins Press, 1941), 1:165.
[6] Ibid., 167.
[7] John Wise, *Through The Air: A Narrative of Forty Years' Experience As An Aeronaut* (Philadelphia: Farnum & Thayer, 1873), 507.

the funding for the *Atlantic* came from St. Louis, Missouri, the completed airship was shipped there in June of 1859, where it was readied for a shakedown flight that was to terminate in Boston before embarking for Europe. Wise, La Mountain, and an investor named Gager, ceremoniously departed from St. Louis on the evening of July 2, 1859 quickly rising upward into the eastern jet stream. The trio progressed well enough at first with the *Atlantic* traveling at a great rate of speed reaching Fort Wayne, Indiana by the next morning.

However, the journey became perilous when the airship was caught up in a tremendous Atlantic storm as it approached the eastern seaboard. As the *Atlantic* foundered over Lake Ontario, the situation became desperate and the aeronauts barely escaped with their lives when land was sighted and an emergency landing was executed into a grove of elms near Henderson, New York. The trip ended in near disaster and brought about the end of the association between John Wise and John La Mountain. With the partnership between Wise and La Mountain dissolved, La Mountain took possession of what was left of the *Atlantic.* Making repairs from the remnants of the balloon, which reduced the craft's size, La Mountain ascended from Watertown in September of 1859 for what was supposed to be a short experimental flight. As it turned out fate was against La Mountain once again. During the flight the balloon was caught up in strong northerly currents that carried it far over the Canadian wilderness landing La Mountain at a place some 300 miles from his point of departure.[8]

In a place nowhere close to civilization La Mountain was forced to subsist on a diet of "white frogs and clams" for several days. The aeronaut was eventually rescued by a group of lumberjacks. When La Mountain returned to New York, he exploited the ill-fated journey for all it was worth. With the help of some embellishment on the part of a newspaperman, La Mountain was feted as a national figure for his demonstration of daring.

When hostilities finally broke out between the North and South in the spring of 1861, John La Mountain was not far behind Thaddeus Lowe in offering his services as an aeronaut with the Union Army. Outlining his plan that a balloon could be employed as a tool of aerial observation over enemy lines, La Mountain wrote directly to Secretary of War Simon Cameron on two occasions in May, 1861 and included a long list of endorsements of prominent individuals from his native Troy, New York, recommending that he receive a commission and be placed in charge of tactical aeronautics. La Mountain never received a reply from Cameron but was to receive an intriguing offer from a different quarter.[9]

As for Thaddeus Lowe, the political connection between Murat Halstead and Washington, D.C. had reaped results. Treasury Secretary Chase received Halstead's letter of endorsement and arranged for Lowe to come to the capitol along with his balloon, *Enterprise.* It was there that Lowe sought out the assistance of his longtime mentor

[8] Hayden, *Aeronautics,* 82.
[9] Ibid., 83.

Joseph Henry, Secretary of the Smithsonian Institute. Henry had influenced Lowe's proposed Atlantic journey with advice to thoroughly study the nature of air currents in the higher altitudes. As Lowe presented his plan to use balloons as military reconnaissance platforms, Henry was to prove instrumental once again in refining the aeronaut's ideas. Lowe had already thought of incorporating a telegraph with his balloon, but was unsure of how to make the instrument work when the balloon was aloft. Because of his earlier work in the field of telegraphy, Henry suggested to Lowe that a telegraph key could indeed be incorporated in the control basket, strung by wire to earth along the balloon's tether lines. This addition would make a balloon the perfect platform for relaying up to the minute observations of the battlefield.

"[Henry's] clear decisive mind grasped the idea at once," Lowe later wrote. "He assured me of his cordial support and went into the work as a patriotic duty."[10]

On June 17, 1861 on the grounds of the Columbia Armory in Washington, the specially equipped *Enterprise* ascended on tether lines with Lowe and representatives of the American Telegraph Company to a height of 500 feet. Through equipment aboard the ship and cables running along one of the rigging lines to the ground and from there to telegraph receiving rooms in the War Department and the White House, Thaddeus Lowe transmitted the first telegraphic message from the air. It read:

> BALLOON ENTERPRISE, WASHINGTON, JUNE 17 1861
>
> TO THE PRESIDENT OF THE UNITED STATES:
>
> SIR: THIS POINT OF OBSERVATION COMMANDS AN AREA NEARLY FIFTY MILES IN DIAMETER. THE CITY, WITH ITS GIRDLE OF ENCAMPMENTS, PRESENTS A SUPERB SCENE. I TAKE GREAT PLEASURE IN SENDING YOU THIS FIRST DISPATCH EVER TELEGRAPHED FROM AN AERIAL STATION, AND IN ACKNOWLEDGING MY INDEBTEDNESS TO YOUR ENCOURAGEMENT FOR THE OPPORTUNITY OF DEMONSTRATING THE AVAILABILITY OF THE SCIENCE OF AERONAUTICS IN THE MILITARY SERVICE OF THIS COUNTRY.
>
> YOURS RESPECTFULLY,
>
> T.S.C. LOWE[11]

The experiment and demonstration of the balloon as a means of observation and reconnaissance was a resounding success. His relationship with President Lincoln was

[10] Thaddeus Sobieski Constantine Lowe, "My Balloons in Peace and War*"* Transcribed by Augustine Lowe Brownbeck (Unpublished manuscript, Washington, D.C.: National Air & Space Museum, 1931), 57.
[11] Frank Moore, ed., *The Rebellion Record: A Diary of American Events* (New York: G.P. Putnam, 1861), 1:108.

now firmly cemented. For the remainder of the evening of June 17, the *Enterprise* was allowed to be moored on the White House lawn and Lowe himself was Lincoln's guest.

Back in Troy, New York, John La Mountain waited in vain for word from the War Department. Finally on June 5, 1861 La Mountain received a letter from Major General Benjamin Butler, the politician-general who would later earn the sobriquet "Beast Butler" for his harsh reputation as military governor of New Orleans. Butler learned of La Mountain's offer of service and requested that the aeronaut make preparations to journey to Fortress Monroe, Virginia, by rail to demonstrate his balloon. After encountering a number of delays ranging from financial shortages to a lack of a workable hydrogen gas generating device for field use, John La Mountain arrived in Virginia in late June. He was well aware of Lowe's telegraphic ascent in Washington and had publicly dismissed the feat as having "neither value nor advantage," effectively firing the first shot in the verbal volley that would develop between these two men.[12]

Upon his arrival at Fort Monroe, La Mountain requested that Butler procure 60 gallons of sulfuric acid, three and a half tons of metal filings and an apparatus with which the mixture of acid and metal could be contained to produce hydrogen gas. When all was in readiness La Mountain, who was still relying on the heavily used and increasingly worn out *Atlantic* balloon, was prepared to make the first true aerial reconnaissance of the war. As was reported in the *New York Times*:

Professor La Mountain made two successful balloon ascensions at Fortress Monroe, attaining an altitude of three thousand feet. He found the encampment of the Confederate forces to be about three miles beyond Newmarket Bridge, VA. There were no traces of the rebels near Hampton. A considerable force was also encamped on the east side of the James River, some eight miles above Newport News. The two cannons mounted at Sewall's Point toward Old Point, were only large field pieces. There were, perhaps, one thousand Confederates at Sewall's Point.[13]

La Mountain's report was of significant strategic importance for it allowed him to claim the distinction of being the first to place a balloon into actual military use. For the moment the balance of military/aeronautical superiority rested squarely in La Mountain's court.

But Thaddeus Lowe was hardly idle. Lowe was now in charge of the Balloon Corps, a civilian organization established by President Lincoln that would serve under the auspices of the Union Army Bureau of Topographical Engineers. Lowe was authorized to requisition equipment and manpower for the Balloon Corps and to oversee operations, but there were other obstacles to overcome. The Balloon Corps was essentially a civilian organization and the Bureau of Topographical Engineers was reluctant to provide Lowe with necessary supplies. For a period of time Lowe was forced to use his own balloon and pay his aides out of his own pocket.

[12] Hayden, *Aeronautics*, 87-9.
[13] "Balloon at Fortress Monroe", *New York Times,* August 13, 1861..

However, Lowe used his influence with Lincoln to prod the development of new balloons to be used by the Corps. By August, 1861 Lowe was in Philadelphia overseeing the construction of the Union Army's first airship designed for military use. The first military balloons to emerge from Philadelphia were christened *Union* and *Constitution* and cost a total of $1,200 each. As a contemporary account of the day described the balloons, they were indeed spectacles to behold:

> Each displayed its given name in bold, large lettering. The *Constitution* was adorned with a large portrait of George Washington, together with a spread eagle in colors. The *Union* bore the Stars and Strips. Even the baskets were painted with white stars against a bright blue background.[14]

Additionally, each balloon was provided with a wagon train consisting of the necessary equipment and supplies of metal shavings and sulfuric acid to provide a portable source of hydrogen gas generation for their deployment on the battlefield— far away from the city gas supplies. It was Thaddeus Lowe's ingenious invention of a horse drawn hydrogen generator that allowed the balloons to be successfully used on remote battlefields.

On September 24, 1861 Lowe received his first chance to prove the merit of the Balloon Corps. With orders issued from Fort Corcoran in Virginia by Brigadier General Fitz-John Porter, Lowe ascended to an altitude of over one thousand feet. Securely cabled to earth and with his telegraphic equipment in place, Lowe was soon transmitting the presence and position of Confederate infantry and heavy artillery over three miles away. In what was to become a first in the annals of warfare, the gun batteries at Fort Corcoran were directed to fire toward the unseen Confederate position solely on the directions provided by Lowe perched high above the battlefield in his balloon. The result, in Lowe's words, "made such an accurate fire that the enemy was demoralized." Shortly following this demonstration a suitably impressed Fitz-John Porter said to Lowe, "You are of value now."[15]

Meanwhile John La Mountain was further capitalizing on his own exploits. La Mountain was a firm believer in the advantages of intelligence gathering by free flight ascensions rather than by ground tethering. An entry in the *Rebellion Record* from October 4, 1861 vividly described one of La Mountain's flights:

> A balloon was seen passing over Washington…and proved to be the airship of La Mountain, which had ascended from the Union camp of the Potomac. It appears that when La Mountain rose to a certain distance he cut the rope which connected his balloon with the earth regardless of the danger, and soared up a mile and a half, and got directly over rebel lines. Here he was enabled to make a perfect observation of their positions and all their movements, the results of which he communicated to head-quarters, and which are said to be of

[14] Block, *Above the Civil War*, 62.
[15] Lowe, *My Balloons*, 80.

> utmost importance. When La Mountain completed his observations, he threw out sufficient ballast to enable him to rise to a height of three miles, when he fell in with a counter current which carried him back in the direction of Maryland, thus passing over Washington.[16]

At this time John La Mountain was still a freelance balloonist who was not under the command of Lowe and his Balloon Corps. La Mountain's problems with equipment also continued to plague him. On his own initiative, La Mountain had been able to procure a newer balloon, the *Saratoga*, but an accident caused by a combination of an inexperienced ground crew and high winds on November 16, 1861 resulted in the loss of the airship. Now left with only the well-worn *Atlantic* La Mountain cast a covetous eye toward the equipment that Thaddeus Lowe was amassing in Washington. The rivalry between these two men began in earnest when Lowe refused distribution of any of his new balloons to La Mountain.

Thaddeus Lowe had a personal aversion to the manner in which John La Mountain conducted himself which was a large part of the reason he refused to cooperate. La Mountain, on the other hand, never acknowledged Lowe's command of the Balloon Corps, and had even gone as far as to exert his own influence with the press in an article that appeared in the *New York Herald*. The article extolled the military use of balloons and suggested that Major General George Brinton McClellan, the commander of the Army of the Potomac, appoint La Mountain as commander of the Balloon Corps. Lowe simply felt that he was defending a position he had fought long and hard to obtain by not giving ground to his rival.

La Mountain was to continue his assault on Lowe. He continued to make free flight ascensions with the *Atlantic* and play up his exploits in self-promotion. One example was a *tall-tale* related to a reporter following one of his excursions:

> La Mountain has been up in his balloon and went so high up that he could see all the way to the Gulf of Mexico and observe what they had for dinner at Fort Pickens [Florida]. He made discoveries of an important character, my boy, and says that the rebels have concentrated several troops at Manassas. A reporter of the *Tribune* asked if he could see any negro insurrections, and he said that he could see black spots moving near the south South Caroline, but found out afterwards that they were only ants which got into his telescope.[17]

While Thaddeus Lowe pointed to La Mountain's garrulous nature and extravagant stunts as evidence that the aeronaut was becoming a detriment to his own Balloon Corps, there were others who believed otherwise. There were some commanders in the Union Army who believed that La Mountain's free flight activities were more effective than Lowe's tethered ascensions. Lowe, who had actually flown a few free flight missions

[16] Frank Moore, *The Rebellion Record; A Diary of American Events (1861-1863)* (New York: G.P. Putnam/D. Van Nostrand, 1861-1863), 3: 40-1.
[17] Ibid., 28.

early on in the war, believed that the balloons could be just as effective tethered a mile or so behind the main battle front. Confederate artillerymen were constantly frustrated by Lowe's balloons hanging so temptingly in the air, but far enough to be out of range of their guns. Confederate General Joseph Eggleston Johnston complained of the "infernal balloon" overflying his troops at Centreville, Virginia. As a side note, General Johnston would later oversee one of two semi-successful Confederate experiments with observation balloons during the war, the other being the famous *Silk Dress Balloon* that was piloted by Captain Langdon Cheves.[18]

As the controversy continued to build upon itself, each of the aeronauts began establishing powerful and influential allies in their respective corners. After Benjamin Butler was transferred away from Fort Monroe, La Mountain was able to find a sympathetic ear with Colonel John N. Macomb who was with the Bureau of Topographical Engineers. McComb ordered Lowe to cut loose one of his balloons for La Mountain's use. Lowe, in turn, appealed directly to General McClellan, who was a firm admirer and supporter of Lowe's work.

Charges and counter-charges flew furiously between the two camps. La Mountain obtained information that two newly constructed airships were lying unused in storage in Washington and that Lowe was deliberately keeping these balloons out of service so that he could purchase them for himself after the end of the war.[19]

Ultimately, Lowe responded to La Mountain's jealously motivated accusations with a lengthy letter to McClellan which read in part:

> [John La Mountain is] a man who is known to be unscrupulous, and has assailed me without cause through the press and otherwise. He has tampered with my men, tending to a demoralization of them, and in short, has stopped at nothing to injure me.
>
> This man La Mountain has told my men that he is my superior and is considered to be the Commanding General…I do not think that I should serve this man by giving him possession of my improved balloons. I submit that I should not be interfered with in the management of this matter.[20]

In the end the upper echelons of the Union Army made the final decision regarding John La Mountain and his service to the army. Already impressed with the intelligence gathering that Thaddeus Lowe provided, as well as Lowe's skill in organizing a civilian aeronautical unit that meshed well under his command, orders were handed down on February 19, 1862 that the disruptive John La Mountain would be dismissed from any further service with the military. It was an unceremonious end to La Mountain's short-lived career that did nothing to credit or praise La Mountain's efforts,

[18] Ibid., 28.
[19] Hayden, *Aeronautics*,131.
[20] Letter, T.S.C. Lowe to General Seth Williams, February 19, 1962.

which always seemed to be characterized by the most severe and deprived of working conditions.

Nevertheless, the dismissal of La Mountain was not an end to the problems that Lowe and the Balloon Corps continued to face. While Lowe was now clearly in charge of his unit, the infighting between himself and La Mountain had a serious effect on the Corps' morale. Moreover, military commanders were inclined to doubt the effectiveness of a group of civilian balloonists who were prone to outbursts of egotistical temperaments. However, for nearly the next year and a half Lowe would field balloons that would contribute important tactical reports in a number of theaters of the war.

In April, 1862, during the Peninsula Campaign, Lowe made a number of ascensions during the siege of Yorktown, Virginia, where he operated from an altitude of one thousand feet on two consecutive days with Army intelligence officers making maps and taking copious notes from observations. During the campaign at Fredericksburg, Virginia in late April, 1863, reports were transmitted on an hourly basis regarding Confederate troop movements.

Perhaps the highpoint for the Balloon Corps came in May, 1862 at the Battle of Fair Oaks, where Lowe and his associates made frequent ascents with telegraph equipment, "keeping the wires hot with information" of troop positions. It was during this engagement in particular that a golden opportunity may have been lost for McClellan to deal a knockout blow to the Confederacy. McClellan was not only relying upon Lowe and the balloons for information regarding rebel troop strength, but also reports from Allen Pinkerton, his personal master of military intelligence. Pinkerton's espionage network consistently overestimated the strength of enemy forces facing McClellan's army.

While Lowe's aerial observations accurately detected a smaller and arguably more defeatable Rebel force surrounding the Confederate capital at Richmond, McClellan deferred to Pinkerton's reports that indicated more men would be needed to defeat the South. The annals of history are strewn with a series of "what if" type propositions that had the potential of changing the course of world events. However, the distinct possibility existed that the war could have been brought to a swifter conclusion had Lowe's observations from above been heeded.

The end came for the Balloon Corps well before the war ended. Although the Balloon Corps chalked up a number of impressive achievements and proved itself of tactical use, a series of changes in military command began to shunt Lowe and his unit deeper into obscurity. By 1863 one of Lowe's most important supporters, George McClellan, was relieved of command.

In April of 1863, Captain Cyrus Comstock was the military attaché assigned to oversee the still civilian based Balloon Corps. Possibly reflecting budget constraints affecting the Union Army as the war entered its third year, Comstock ordered immediate cutbacks in supplies and personnel, leaving Lowe increasingly hampered in continuing

the Corps' operations. Additionally, new charges of improprieties were leveled at Lowe, now asserting that he had not kept adequate records and receipts regarding Balloon Corps expenses. Lowe countered that he was far more concerned with meeting the needs of field commanders than in keeping accurate records for bureaucrats. Lowe was also experiencing financial problems of his own and was receiving letters on an almost weekly basis from his long-suffering wife who pleaded for money to make ends meet. [21]

The final straw came when Comstock ordered that Lowe's pay, which was roughly $30 per week, or the equivalent pay of a commissioned colonel, be cut to $10 per week. On May 8, 1863 Thaddeus Lowe reluctantly tendered his resignation from the Balloon Corps and severed any further association with it.

The Balloon Corps continued on for a few more months under the direction of the brothers James and Ezra Allen, but the spirit that had driven the Corps under Lowe was now lost. By August, 1863 the Corps was quietly disbanded.

In the view of many, the Balloon Corps was phased out at a time when it was just beginning to be seriously considered as a valuable contribution to the field of warfare. The rivalry among the quarrelsome aeronauts had cast a negative shadow upon the Corps to be sure, but the intelligence gathered on Confederate troop movements would have seemed to make up for it. Possibly the greatest praise for Lowe and the Balloon Corps came from a Confederate artillery chief, who said after the war:

> I have never understood why the enemy abandoned the use of military balloons .in 1863, after having used them extensively up to that time. Even if the observers never saw anything, they would have been worth all they cost for the annoyance and delays they caused us in trying to keep our movement out of their sight.[22]

In the final analysis it's possible that balloons simply proved to be too novel as an approach to providing a solution to gathering military intelligence. In that sense it may have been too difficult to overcome the prejudice arising from a general lack of knowledge in their operation and a general mistrust directed toward the selected few civilian aeronauts who knew their properties best.

However, during the brief existence of the Balloon Corps a number of concepts were attempted that would later become indispensable elements of warfare. Aerial observations and communication have already been touched upon. But Thaddeus Lowe's experimental ascents launched from the deck of the balloon support vessel *George Washington Parke-Custis* along the Potomac River in November, 1861 were decades ahead of twentieth century aircraft carriers, along with the later widespread use of aerial photography and cartography.

[21]Block, *Above The Civil War*, 102.
[22] W.J. Rhees, "Reminiscences of Ballooning in the Civil War," in *The Chautauquan (New York)* , 27, (1890): 261.

Admittedly, aeronautic technology was in a state of infancy during the Civil War and the balloons themselves were of a temperamental nature, much like their civilian handlers. However, the balloons of the Civil War were a brief but truly forward- looking glimpse of what the future would bring. If only their significance had been better understood by the Union Army's decision makers the fate of the Balloon Corps might have ended on an entirely different note.

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