

Pioneers of U.S. Military Cryptology: Colonel Parker Hitt and His Wife, Genevieve Young Hitt

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“The father of modern American military cryptology, whose *Manual for the Solution of Military Ciphers* guided our early, halting footsteps in the science and launched us upon our careers in the service of our country.”

—Book inscription from William and Elizebeth Friedman to Parker Hitt, November 1957¹

Colonel Parker Hitt’s life and work has been shrouded in some obscurity, even to historians of cryptology who should know him best. A career Army officer, he appears now and then in histories written about aspects of the Army, but remains a shadow on the sidelines. The cryptologic work of his wife, Genevieve Young Hitt, has, until recently, merited only the briefest of mentions. But both were, in some fashion, engaged in the cryptologic and technological revolutions before and during World War I that added new capabilities to the American strategic arsenal. Their story also provides a



Col. Parker Hitt, Chief Signal Officer, 1st Army, American Expeditionary Forces, France, 1918.

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¹ Inscription found in Parker Hitt’s copy of “The Shakespearean Ciphers Examined” by William and Elizebeth Friedman, part of a privately held collection of Parker Hitt letters and other material owned by the Moreman and Mustain families of Front Royal, Virginia. (Hereinafter, privately held Hitt papers). William Friedman (1891–1969) is himself known as the father of American cryptology and credited with introducing mathematical and scientific methods to the field. He was put in charge of the Army’s Signals Intelligence Service in 1930 and was a leader of the Army’s cryptologic effort through World War II. He retired from the National Security Agency in 1955. Elizebeth Smith Friedman (1892–1980) was a distinguished cryptologist in her own right and is often referred to as America’s first female cryptologist. Mrs. Friedman served as a cryptologist until 1946, working for the Army Signal Corps, the Navy, the Treasury Department, and the Coast Guard.

glimpse into the lives of a married couple where both were actively engaged in the war effort. Parker Hitt helped bridge the gap between military cryptologic and communications practices of the 19th century and the increasingly mathematical and technology-driven cryptology and communications of the 20th century. *Manual for the Solution of Military Ciphers* (1916), the first practical work on the subject in the United States, solidified Hitt's reputation as one of the Army's top cipher experts, proved essential for training the American cryptologists of World War I, and inspired others to study cryptanalysis.² Hitt was acutely aware of the vulnerability of U.S. Army codes and ciphers in the years leading up to World War I; in response, he developed and assisted others in developing better communications security practices that helped protect critical military information.

His understanding of both cryptology and the technical details of communications systems, particularly radio, earned Hitt a place on the initial staff of the American Expeditionary Forces (AEF) and appointment as Chief Signal Officer of the 1st Army. While he did not have direct cryptologic responsibilities while with the AEF, he made regular contributions to and was frequently consulted by those who did.³

Genevieve Hitt, likely the first woman to serve the U.S. government as a cryptologist, broke ground in her own way, paving the way for future generations of females in the profession.

Parker Hitt, an Officer with Many Talents

Parker Hitt was born in 1878 in Indianapolis. In 1898, at the end of his junior year as a straight-A civil engineering major at Purdue University, Hitt enlisted in the Army, part of a surge of patriotism and desire for adventure brought on by the call for volunteers to fight the Spanish-American War. As a sergeant in the 2nd U.S. Volunteer Engineers, he briefly served in Cuba. In late 1899 he was commissioned as a 2nd lieutenant in the 22nd Infantry, and went on to serve in the Philippines

² It is possible that Parker Hitt's greatest legacy was teaching and mentoring others, not only in cryptology but in the many disciplines in which he excelled.

³ Chapter 11 of David Kahn's *The Codebreakers* (New York: Scribner, 1996) provides good background on the state of American cryptology in the period just prior to and during World War I. Chapters 9 and 10 of Kahn are also valuable for the state of cryptology elsewhere at that time. *The History of Codes and Ciphers in the United States Prior to World War I* and *The History of Codes and Ciphers in the United States During World War I* (both U.S. Army Security Agency, Historical Section, ed. Wayne G. Barker [Laguna Hills, CA: Aegean Park Press, 1978 and 1979 respectively]) provide useful detail. Dr. David A. Hatch's forthcoming monograph *Dawn of American Cryptology* (Center for Cryptologic History, publication date not yet set) will be a welcome addition to the literature.

(twice), California (where he assisted with earthquake relief and as part of the military presence on “strike duty” at Goldfield, Nevada, in 1907), and then to Alaska. He then attended the Army Signal School at Fort Leavenworth for the 1911–12 school year.⁴ In his first 13 years in the Army, he occasionally served as his unit’s intelligence officer and was often called upon to help with establishment of lines of communication.⁵

We don’t know precisely when he first became interested in the study of codes and ciphers. While in the Philippines with Company H of the 22nd Infantry, Hitt was involved with the capture of some of Emilio Aguinaldo’s forces, and there is a possibility he was involved with the solution of cipher messages that led to the capture of Aguinaldo.⁶ During his time in Alaska, he referenced a code to be used by his family.⁷ However, a lecture on military cryptography by Capt. Murray Muirhead of the British Royal Field Artillery at Leavenworth might have been what solidified his interest. While a student at the school, he wrote his final paper on electrical batteries and led the construction of a new field telephone switchboard. Upon graduation, he was selected by Maj. Edgar Russel, then the school commandant, to be an instructor, and there he stayed for three years, teaching courses on codes and ciphers, care and repair of Signal Corps instruments, and radio theory. Hitt questioned outmoded Army cipher practices and proposed new cipher devices. And there he wrote his seminal *Manual for the Solution of Military Ciphers*,⁸ published in 1916, the first book of its kind in the United States. His connection to Russel would have significant bearing on his future career.

Hitt’s field telephone switchboard, designed in 1912 with assistance from fellow students, demonstrated a technical prowess and the ability to plan for the Army’s future needs. This board could handle 40 telephone calls, and used standard

⁴ Reconstructed from fragments of Hitt’s service records and from Hitt’s personal papers. The original copy of Hitt’s personnel file seems to no longer exist at the National Personnel Records Center in St. Louis, MO (NPRC). I have worked with copies made by an NSA historian in the early 1970s as well as bits and pieces of the file found in the privately held Hitt papers in Front Royal.

⁵ Ancestry.com. *U.S., Returns from Military Posts, 1806–1916* [database online]. Provo, UT, USA: Ancestry.com Operations Inc, 2009. Original data can be found in *Returns From U.S. Military Posts, 1800–1916* (National Archives Microfilm Publication M617, 1,550 rolls); Records of the Adjutant General’s Office, 1780’s–1917, Record Group (RG) 94; National Archives Building, Washington, DC (NAB).

⁶ David Kahn, *The Reader of Gentlemen’s Mail* (New Haven: Yale University Press, 2004), 11.

⁷ Parker Hitt writing from Ft. Davis, Nome, Alaska, to his mother on Sept. 21 1908: “I have my old code and if it is necessary for either of us to use it we can . . .” Letter in collection of privately held Hitt papers, copy held by author.

⁸ Parker Hitt, *Manual for the Solution of Military Ciphers* (Fort Leavenworth, KS: Press of the Army Service Schools, 1916).

telephone material to make repair, supply, and production easier. Contained in a portable case, it provided a complete switchboard set-up in one-fourth the space of conventional equipment. By early 1913, the War Department had tested and planned to produce the device for field use.⁹ While superior to existing switchboards, by the time the American Expeditionary Forces (AEF) got to France it was determined to be only suitable at Division level and above as it was too heavy and had greater capacity than needed at lower levels.¹⁰

Hitt, knowing that both the official U.S. Army field cipher and other, unofficial systems in use were insecure, recommended in May 1914 that the unofficial system used by the 2nd Division be replaced by a more secure system. He was turned down. Later that year, he proposed another system that he developed that could employ either a sliding strip or a cylinder to generate cipher text. In 1917



The M-94 cylinder, based on Col. Parker Hitt's device.

another Army code and cipher expert, Lt. Joseph Mauborgne,¹¹ in charge of the Engineering and Research Division of the Signal Corps, adapted Hitt's cylindrical device, and in 1922 the Army issued it as the M-94. It remained in service for the better part of three decades and was also used by the Navy. In the 1930s, the Army used Hitt's original sliding device to develop the M-138-A; this device was also used by the State Department and the Navy.¹²

The immediate importance of Hitt's *Manual* cannot be overstated. While its cryptanalytic techniques are basic and were almost immediately outmoded and overtaken by advances in the discipline, the book is concise and user-friendly. It is the book that both William and Elizebeth Smith Friedman used to learn about crypt-

⁹ Edgar Russel to Hitt, Aug. 5, 1913, privately held Hitt papers.

¹⁰ George I. Back, "The Telephone: Commercial v. Military History and Development," *The Signal Corps Bulletin*, no. 42, Mar. 1928.

¹¹ Mauborgne would eventually be promoted to major general and serve as the Army's Chief Signal Officer from 1937 to 1941.

¹² For the field cipher proposal and details about the M-94, see David Kahn, *The Codebreakers*, 324–25. For details on the proposed device, see Memorandum from Hitt to Director of Army Signals School, "Cipher Device and Method," Dec. 19, 1914, copy in Hitt papers, "World War I Cryptology" folder within the David Kahn Collection; National Cryptologic Museum Library, Fort George G. Meade, MD. (Hereinafter, Hitt papers–Kahn Coll.)

analysis in their early days at Riverbank Laboratories.¹³ They would use the *Manual* as a textbook in their classes for the hundreds of Army students that came to Riverbank in 1918 for cryptanalytic training before deploying to France.¹⁴

Hitt's experience in cryptology was more than theoretical. His work was based on practical experience breaking codes to support military activity. During the period of tension between the United States and Mexico that culminated in Gen. John Pershing's Punitive Expedition in 1916–17, Hitt and his wife Genevieve were among the handful of amateur cryptologists called upon by the Army to “moonlight” and solve intercepted Mexican government messages in their spare time. He did so in the evenings, first at Leavenworth and then at Fort Sill, after teaching machine-gunning all day at the School of Musketry.¹⁵

Hitt was interested in military communications beyond cryptology, and tried to advance the Army's knowledge of how communications were being handled in the war in Europe. In January 1915, he made a formal request to go to France on his own time, and at his own expense, to study the systems of communications used by the combatants on the continent. Hitt believed that his four years of study of the possibilities of telephone communications for military purposes made him the ideal candidate for this task. The director of the school, Maj. Leonard Wildman, as well as Generals John J. Pershing and Frederick Funston all indicated their approval of Hitt's plan. Wildman thought the trip would be of particular use because as a cipher expert Hitt might be able to obtain valuable information about how to keep military communications secret. But Hitt never made the trip, as then-Maj. Peyton March, in the War Department's Adjutant General's Office, dismissed the request, pointing out that War Department policy was not to allow officers to go abroad on leave at that time.¹⁶

What a missed opportunity for the Signal Corps! Hitt would have been able to relate his theoretical and practical work in peacetime to the realities of establishing military lines of communications in wartime, which likely would have stood the AEF in good stead in the years to come.

¹³ Riverbank Laboratories, in Geneva, Illinois, was a private research facility owned by a wealthy businessman named George Fabyan. The Friedmans met while employed at Riverbank. Fabyan volunteered the services of his employees and use of his estate to Van Deman's Military Intelligence Division during World War I.

¹⁴ Center for Cryptologic History, *The Friedman Legacy: A Tribute to William and Elizebeth Friedman*, (Fort George G. Meade, MD: National Security Agency, 2006), 108–9.

¹⁵ David Hatch, “The Punitive Expedition Military Reform and Communications Intelligence,” *Cryptologia* 31(1) (2007): 38–45.

¹⁶ Hitt's request for a leave of absence (with 16 subsequent indorsements) to the Adjutant General, U.S. Army, Jan. 29, 1915, privately held Hitt papers.

When the war did come, Hitt was almost immediately selected to be assistant to Chief Signal Officer Gen. Edgar Russel. Maj. Ralph Van Deman, who was Chief of the Military Intelligence Section (later Division) and who had hoped to obtain Hitt's services for setting up a Code and Cipher section, later told Hitt's wife that he was "exceedingly sorry and disgusted that General Pershing succeeded in stealing Captain Hitt from us."¹⁷ Van Deman did acknowledge that Hitt had been very happy to be stolen.

While traveling on the RMS *Baltic* with Pershing, Hitt was put in charge of coding and decoding all AEF messages, a job he was able to relinquish a few weeks after AEF Headquarters was set up in Paris.¹⁸

By the end of September 1917, he had been promised the job of Chief Signal Officer (CSO) of the 1st Army, but in the meantime he served as Executive Officer to Russel. Near the end of 1917, he was seconded to the G-3, and he spent his mornings in the office of the CSO and afternoons with the G-3. Hitt was an able and competent officer with a multitude of skills and talents, and he seems to have been used wherever it was perceived he could lend a hand.

Hitt spent time with Maj. Frank Moorman, Chief of the Radio Intelligence Section (G-2/A-6). In January 1918, Pershing realized that it was important to secure communications on the vulnerable transatlantic cables, and appointed Hitt, Moorman, and 2nd Lt. W. B. Chambers to a Board of Officers that would "consider the question of cable codes, ciphers, etc." and recommend "measures to be taken to increase the efficiency and secrecy of the present code and cipher communication with the United States."¹⁹ These were Communications Security efforts, what we think of today as "Information Assurance."²⁰

J. Rives Childs, then a novice cryptologist in the G-2/A6 and later best known as a Foreign Service Officer and expert on the Italian adventurer Giacomo Casanova,

¹⁷ Letter dated July 18, 1917, from Van Deman to Genevieve Hitt; Military Intelligence Division (MID) 10020-43; General Correspondence of the Military Intelligence Division; Records of the War Department General and Special Staff, RG 165; National Archives at College Park, College Park, MD (NACP).

¹⁸ Parker Hit to Genevieve Y. Hitt, multiple letters July–Aug. 1917, privately held Hitt papers.

¹⁹ Carbon Copy of Special Orders 15 from AEF HQ Jan. 15, 1918, appointing a board of officers; "World War I Cryptography" folder; Hitt papers–Kahn Coll.

²⁰ See J. R. Winkler, *Nexus: Strategic Communications and American Security in World War I* (Cambridge, MA: Harvard University Press, 2008) for additional concerns about these undersea cables.

recalled Hitt passing through AEF headquarters in Chaumont, France, to visit the code compilation section, and stopping to see Moorman. Hitt was “appalled” by the simplicity of the existing American trench code. Moorman and Hitt set Childs the task of decoding a series of messages prepared in the code, agreeing that any successful decoding of the messages would be more impressive if made by someone so unfamiliar with decoding as Childs.²¹ Within 24 hours of undertaking the task, Childs read the messages, as he said, “to the consternation of the code section and the great satisfaction” of Moorman and Hitt. The trench code was soon replaced with the famous “Rivers” and “Lakes” series of codes.

Hitt spent May and June 1918 as the GHQ AEF headquarters liaison officer to the 3rd Division. On July 26, 1918, he was finally appointed CSO of the 1st Army, a position he would hold until April 21, 1919, after which, for a few months, he served as the CSO of the 3rd Army. He was made a colonel in September 1918. Unlike his peers holding positions of similar authority, he never made brigadier general.

While he did not have direct responsibility for wartime codemaking or codebreaking, Hitt did have the respect of, and influence with, those in charge of code operations. Capt. Howard Barnes, in charge of the AEF’s Code Compilation Section, frequently consulted with Hitt and expressed his “appreciation of the valuable service” rendered by him during “this trying period.” Barnes added that “his broad knowledge of codes in general, his intimate knowledge of the Army and the General Staff, and his unflagging industry, added to a never-failing courtesy under tremendous pressure of work” made Barnes’s work much lighter. In Barnes’s words, “To him, more than to any other officer of the American Army is due whatever success the American codes may have obtained.”²²

While CSO, Hitt did supervise preparation of a “Radio Service code” and in October 1918 sent a request to the Code Compilation Division that the code be issued to all units using radio, down to regimental level.

Hitt’s primary duty as CSO was to establish the needed lines of communication for the fight ahead. His masterful command of the technical intricacies of telephone communications undoubtedly played a role in the success of the First Army. The

²¹ J. R. Childs, *Let the Credit Go* (New York: K. S. Giniger, 1983), 30–31.

²² Capt. H. L. Barnes, *Report of the Code Compilation Section, GHQ AEF, December 1917–November 1918*, published Apr. 1, 1919, later printed as SRH-321, Historic Cryptologic Collection; Records of the National Security Agency/Central Security Service, RG 457; NACP.

importance of communications to command was something he would later emphasize while teaching at the War College, and his words are just as true today: “Any man who has ambitions for command duty in war must know the powers and limitations of communications. They are his means for command and he must have the power to communicate with his subordinates and superiors or he ceases to be a commander.”²³ He felt it was absolutely necessary for Corps, Army and higher headquarters to have telegraphic and telephonic communications.

As CSO, Hitt had charge of the G2A6 Radio Intercept Service personnel assigned to his Army, and oversaw both their intercept, goniometric, and codebreaking efforts. Because of this, and his knowledge of the vulnerabilities of ciphers, Hitt had some distrust of radio for critical command communications. He would later say, “The radio is a last resort that no prudent commander, particularly of the higher units, will use as long as any other means remains. The enemy is sure to copy all radio messages sent out and at the same time will locate accurately the position of the sending station and usually tell what kind of a headquarters it is serving.”²⁴ Despite this wariness of radio, wartime records show he could be insistent on its use in time-sensitive situations or where stringing telephone wire would be difficult.²⁵

Hitt had a hand in the AEF’s employment of American female telephone operators, sometimes known as the “Hello Girls.” He was so impressed by their work at GHQ that in August 1918 he told Russel that he wished to use women operators for the First Army switchboard, particularly those “especially qualified by their familiarity with front line work and code stations work.” They also needed to speak French as well as they spoke English. He would later attribute much of the communications success of the First Army to his competent staff of women operators, noting that the officers at Headquarters were “inclined to put up at times with vexatious delays because of the fact that women were on the board.” Hitt also commented that the women had an interest in their work he had never seen among men operators, and that they had a “most uncanny way of finding routes to strange places and it seemed impossible for them to give up a call after it had once been filed.” He called the experiment a success in every way.²⁶

²³ Hitt, “Signal Communications for Higher Command,” Command Course No. 12, lecture delivered at the Army War College, Sept. 21, 1923, privately held Hitt papers.

²⁴ *Ibid.*

²⁵ Oct. 3, 1918, disapproval of a request for additional telephone communications from the 1st Army’s Anti-Aircraft Service, among others. 1st Army Historical records; Records of the American Expeditionary Forces, RG 120; NACP.

²⁶ Hitt, Jan. 4, 1919, Memorandum for Chief Signal Officer, privately held Hitt papers.

After the armistice and while still in Europe, Hitt served on the Inter-Allied Radio Commission, and importantly, on the Army Superior Board.

Hitt deliberately chose not to stay in the Signal Corps after the war; he was frustrated with the “old guard.” He was not a West Point graduate. In 1910, just as he was to be promoted to captain, he had very much wanted to go to the School of the Line, but this move was prevented by the colonel of his regiment, who Hitt later called “one of the old time fossils” who believed that an officer should stay in one regiment all his service. He transferred to the 10th Infantry, but their slot for the Line School had already been promised to another, and thus he was offered the Signal School at Leavenworth.²⁷

While Hitt was slightly older than those younger Army officers pushing for change in the service, he shared some of their attitudes and beliefs. Hitt felt that by 1910 the officers of the Signal Corps were mostly older men who were not in touch with war methods or technology of the time. All the students at the Signal School in his time were line officers, and in the AEF every Signal officer



Parker Hitt at the War College, Washington, DC, early 1920s (Hitt is in the second row, first on the left).

of Army, Corps, and Division was a line officer. In later years Hitt told David Kahn that the “old timers” of the permanent Signal Corps (except for Russel and Gibbs), were just not capable of handling the overseas jobs and stayed in the United States.²⁸

Upon his return to the United States in July 1919, Hitt was assigned to the War College. There he taught that the World War experience showed conclusively that Signal Officers of major units must be soldiers first and technicians afterward. He wrote, “Any officer at this college can learn this game if he will. Every successful commander in the future must learn it before he takes hold in war.”²⁹

²⁷ Hitt to David Kahn, Nov. 26, 1962, Hitt papers–Kahn Coll. The Army School of the Line was a predecessor to what is now the U.S. Army Command and General Staff College.

²⁸ Ibid.

²⁹ Hitt, “Signal Communications for Higher Command.”

After retiring from the Army in 1928, Parker spent several years working on cipher devices for the International Telephone and Telegraph Corporation before retiring to their Virginia farm. Hitt was recalled to duty in 1940 and served as the Signal Officer, Fifth Corps area at Fort Hayes, Ohio, until his re-retirement in 1944. He died on March 2, 1971, at the age of 92.³⁰

Genevieve Young Hitt—the U.S. Government’s First Female Cryptologist?³¹

Genevieve Young was born in Texas in 1885³² and raised in San Antonio. She met Capt. Parker Hitt in late 1910 when he was stationed with the 22nd Infantry at Fort Sam Houston.³³ Despite her determination to “never marry an Army officer,”³⁴ Hitt won her over, and they married in July 1911, just before Hitt was to report to the Signal School at Leavenworth. Genevieve undoubtedly received her introduction to codes and ciphers there; she certainly learned to use the sliding strip device he developed and may have assisted with preparation of his *Manual*.³⁵

When the Hitts moved to Fort Sill, where Captain Hitt commanded Company H of the 19th Infantry, Genevieve assisted, on a volunteer basis, with decoding and deciphering intercepted Mexican government messages during the Punitive Expedition.³⁶ This work makes her likely the first woman to serve as a cryptologist for the U.S. government. After Parker left for the AEF in 1917,³⁷ Genevieve continued her voluntary code and cipher work, and moved home to San Antonio, eventually taking quarters at Fort Sam Houston. Captain Hitt spoke to Maj. Van Deman about Genevieve’s work and extracted a promise that Van Deman would keep her in mind if cipher help was needed.³⁸

³⁰ Certificate of Vital Record, Commonwealth of Virginia, filed Mar. 2, 1971, file number 71 009850. Thanks to Peter Hitt for providing death certificates for both Parker and Genevieve Hitt.

³¹ See B. R. Smoot, “An Accidental Cryptologist: The Brief Career of Genevieve Young Hitt,” *Cryptologia* 35: 2, 164–75 (2011), for a fuller treatment of Mrs. Hitt’s life and work.

³² Dr. F. E. Young’s affidavit of his daughter Genevieve’s birth, dated Nov. 19, 1919, and provided when Genevieve needed a U.S. passport, privately held Hitt papers. Texas did not institute a system of mandatory birth certificates until 1903.

³³ Hitt was at Fort Sam Houston from Aug. 8, 1910, until his transfer to Fort Benjamin Harrison on Dec. 9, 1910. In February he was commanding Co. H of the 10th Infantry when they were transferred to Fort Sam Houston to participate in the Maneuver Division.

³⁴ Genevieve Young, letter to Elizabeth Barnett Hitt, July 8, 1911, privately held Hitt papers.

³⁵ Maj. R. L. Barnes to MID; Oct. 3, 1918 (MID 9685-316); General Correspondence of the Military Intelligence Division (MID), RG 165; NACP.

³⁶ Hatch, “The Punitive Expedition Military Reform and Communications Intelligence,” 39.

³⁷ Hitt was chosen to serve as Russel’s executive officer, and sailed on the RMS *Baltic* with the first group of AEF staff.

³⁸ Parker Hitt to Genevieve Y. Hitt, May 25, 1917, from Washington, DC, privately held Hitt papers.

In early June 1917, Mrs. Hitt traveled to Riverbank Laboratories in her husband's stead.³⁹ Despite a willingness to carry on her husband's work, she was still treated as an amateur, for she was not nearly as advanced in cipher work as her husband.

Back home at Fort Sam Houston in early July 1917, Genevieve wrote directly to Van Deman and offered her services; Van Deman replied that he would take advantage of her offer if necessary.⁴⁰ And by August 1, intercepted enciphered radio messages coming into the Southern Department were routinely being sent to Genevieve at her home on post.⁴¹ This work was unpaid.⁴²

On April 23, 1918, she became a federal employee and was appointed to be in charge of code work for the Southern Department's Intelligence Officer, Maj. Robert L. Barnes, at a salary of \$1,000 per year.⁴³ She coded and decoded official Southern Department intelligence correspondence, maintained control of the Army code books, and most probably continued breaking intercepted coded and enciphered messages. And in May 1918, Genevieve was sent to Washington for an official visit to the Military Intelligence Bureau. She figured that Parker would be pleased and amused that she had taken this "man's size job," which she intended to see through.⁴⁴



Genevieve Young Hitt as a young woman, date unknown.

Hitt was indeed amused, and would later detail the interest of his fellow officers in her work.⁴⁵

³⁹ Van Deman to Parker Hitt, May 12, 1917, MID 8261-148; "Correspondence—Friedman & Official War Dept" folder, Hitt papers—Kahn Coll. Details about Genevieve's visit to Riverbank can be found on page 146 of *The Friedman Legacy: A Tribute to William and Elizebeth Friedman*.

⁴⁰ Correspondence between Mrs. Hitt and Major Van Deman, July 3, 1917, and July 18, 1917, (MID 10020-43); RG 165, NACP.

⁴¹ Aug. 1, 1917, memorandum from an Army Intelligence unit at Nogales, Arizona, to the Southern Department Intelligence Officer, "Official Cryptanalysis—Mexican," Hitt papers—Kahn Coll.

⁴² Oct. 27, 1917, letter from Genevieve Young Hitt to her mother-in-law, "I am still working for the Dept. on Cyphers [sic] but there is no salary attached to it. It is not worth a pay check." Privately held Hitt papers.

⁴³ G. Y. Hitt, Official Personnel Folder, Civilian Personnel Records, NPRC.

⁴⁴ Genevieve Y. Hitt to Elizabeth B. Hitt, May 28, 1918, privately held Hitt papers.

⁴⁵ Parker Hitt to Genevieve Y. Hitt, June 9, 1918 ("Good work, old girl"). On June 19, 1918, Hitt told Genevieve, "everyone here thinks it is splendid that you are able to handle your own office and many officers have said they wished their wives had the energy and ability to do something instead of loafing and worrying about their perfectly safe husbands." Privately held Hitt papers.

The very fact that she had a supportive husband may have been a factor in Genevieve's ability to take on such a demanding and untraditional job. Having household help undoubtedly was a factor; the Hitts' daughter, Mary Lueise, was only four when Genevieve started fulltime work for the government, but Genevieve always had at least one live-in servant, and her younger sister and her mother lived nearby. Interestingly, Mary Lueise would grow up to spend a stint working for William Friedman at Arlington Hall Station, breaking codes during World War II.⁴⁶

While Genevieve occasionally found the work exhausting,⁴⁷ she stuck it out until after the armistice, later noting that she "resigned as soon as the Armistice was signed as she did not want to stand in the way of other clerks when the necessary dismissals would be considered."⁴⁸

Genevieve never worked again as a cryptologist after her time in the Southern Department, but she did try some work outside the home in the years that followed. While the family was at Washington Barracks in 1920, she briefly worked as an abstractor in the Radical Section of the Bureau of Investigation, the predecessor of the FBI. Her boss was a young J. Edgar Hoover. She started in April, but tendered her resignation at the end of June. Hoover noted that Mrs. Hitt had advised him that her duties at home required her to leave her job.⁴⁹ Genevieve never held paid employment again. She died on February 6, 1963, at the age of 77. On her death certificate, Parker listed her occupation as "retired code and cipher expert."⁵⁰

Conclusion

The Hitts provide an interesting example of a couple both engaged in the war effort. In some ways, they appear to have been a very modern couple dealing with a separation of more than two years without the benefit of modern communications technology we take for granted today.

Genevieve, who did not marry until she was 26, was strong-minded and indepen-

⁴⁶ M. L. Hitt, Official Personnel Folder, Civilian Personnel Records, NPRC.

⁴⁷ Genevieve Y. Hitt to Elizabeth B. Hitt, Oct. 19, 1918, "I was so tired I thought I would drop, this is such tiring work." On Nov. 4, 1918, "For the first time in my life I have puffy places under my eyes, and that is not a very good sign is it?" Privately held Hitt papers.

⁴⁸ Report filed by I. W. Morrisey on Mar. 27, 1920, from Genevieve's Official Personnel Folder, NPRC.

⁴⁹ Genevieve Y. Hitt, Official Personnel Folder, NPRC.

⁵⁰ Certificate of Vital Record, Commonwealth of Virginia, filed Feb. 6, 1963, file number 6795.

dent, although she joked about being a lazy Southern girl.⁵¹ She willingly took on complex work on behalf of the government, first as an unpaid amateur—possibly to please her husband—and then for patriotic reasons. Genevieve used her salary to buy Liberty Bonds, despite Parker’s wish that she spend “her own earnings on her own self.”⁵² She stuck with the work until she was not needed despite personal inconvenience.



Genevieve, Mary Lue, and Parker Hitt in the yard of their Front Royal, Virginia, farm, taken sometime in the 1950s.

Parker, who considered himself a confirmed bachelor until he met Genevieve when he was 32, saw her as a full partner in his work, was supportive of her efforts, and enabled her to act independently. His letters home were reliably frequent and reassuring, minimizing any danger he was in and addressing her concerns while praising her abilities to cope on her own. His enlightened attitude toward women at work carried over to his support of the “Hello Girls” in their work and well-being. The Hitts were not just participants in the revolution in military cryptology and communications technology, they broke ground in the acceptance of women in the military workplace.

At a time when the nation had no formal cryptologic service and relied instead on amateurs who worked in their spare time, Parker Hitt’s contributions to the discipline were critical. His early writing guided and informed the work of the Friedmans, trained the budding cryptologists of World War I, and inspired untold numbers of others to learn the art and science of codes and ciphers. His independent work on the principles of sliding strip and cylindrical devices led to the development of two widely used military systems that in their day resulted in substantial communications security improvements.

Hitt’s in-depth knowledge of the principles of military telephony and the then-new technology of radio and his practical experience establishing and maintaining

⁵¹ Genevieve Young to Parker’s mother, May 31, 1911, “I am afraid he (Parker) has made a mistake in loving a Southern girl. They are such a lazy bunch and are such poor house-keepers.” Privately held Hitt papers.

⁵² Parker Hitt to Genevieve Hitt, May 28, 1918. Privately held Hitt papers.

lines of communication were critical for operations of the American First Army at St. Mihiel and Meuse-Argonne. While wary of radio's vulnerabilities, he was quick to apply the new technology to the battlefield and recognized how it changed military intelligence and methods of command and control. He was modest about his achievements, even reticent, and much of his story is yet to be told.

Genevieve Hitt's career, although of short duration, places her among the small number of female cryptologic pioneers within the U.S. government. While her work was, for many years, forgotten by history, it undoubtedly inspired the cryptologic work of her daughter during World War II and helped break ground for future generations of women in cryptology.

Photo credits: At Front Royal, Virginia, farm, 1950s, and Genevieve Young Hitt, in Parker Hitt collection, used courtesy of David and Evie Moreman and Kevin and Jennifer Mustain; Colonel Parker, National Archives, 111-SC-23349, image also held in the Hitt papers; Parker Hitt at the War College, courtesy of U.S. Army Intelligence Center of Excellence (USAICoE), Historical Documents Collection; M-94, Courtesy of the National Security Agency.