

"OLD PROBABILITIES":

**A. J. Myer and the Signal Corps Weather Service
PAUL J. SCHEIPS***

Albert James Myer was born in Newburgh, N.Y. on September 20, 1828 although the monument dedicated to his memory at Fort Myer, Va., on June 2, 1932, bears the date 1829. He grew up in Buffalo, received a bachelor's degree in 1847 and a master's degree in 1851 from Geneva (now Hobart) college and earned a doctorate in medicine from the University of Buffalo. In his dissertation he developed a sign language for the deaf and dumb based upon the Bain telegraphic alphabet.

For a time illness kept Myer from the Army commission he sought but did not keep him from engaging in the practice of medicine as a plantation physician near Monticello, Fla., where many of his patients were slaves. In 1854, he became an assistant surgeon in the Army at Fort Duncan, Texas and later at Fort Davis. He went back to Fort Duncan as the post doctor. In 1857 he returned to the East and married Catherine Walden of Buffalo.

While he was at Fort Duncan, in October 1856, Myer had proposed a military signaling system which, three years later in 1859, received the qualified approval of an Army board presided over by Lt. Col. Robert E. Lee. In June 1860, Myer was commissioned a major and became the Army's first signal officer. His signaling system which he was now able to test on actual campaign, the Navajo Expedition of 1860-61, used a flag for daytime and a kerosene torch for nighttime. This later became known as wigwag signaling. Myer wanted to train all Army officers in signaling, but he was persuaded by Maj. E.R.S. Canby, the commander of the Navajo Expedition, to accept the idea of a special signal corps.

Ordered to the East as the Civil War began, Myer served as an aide to McDowell during the First Battle of Bull Run, then became McClellan's signal officer in the Army of the Potomac, where he organized and equipped a signal corps composed of officers and enlisted men detailed from all Union military departments. In 1863 he secured legislation that put the Signal Corps on a "permanent" basis for the duration of the war.

Myer introduced a dial type of magnetoelectric telegraph that any literate soldier could quickly learn to use. This was the Beardslee telegraph, the Army's first electrical communications equipment suitable for tactical use. Myer's need for skilled telegraphers could only be met by taking men from the U.S. Military telegraph, a rival of the Signal Corps and led to trouble with the Military Telegraph. As a result, in the latter part of 1863, Secretary of

*Based on a talk before the Arlington Historical Society on Sept. 14, 1973, by Dr. Scheips of the Center for Military History, U.S. Army.



Brigadier General Albert J. Myer (1828-1880). U.S. Army photograph of a little known engraving by William Murray of New York, a gift of the U.S. Weather Bureau to the Signal Corps Museum, Fort Monmouth, New Jersey. The badge on Myer's tunic, representing a golden eagle clutching a white and red wigwag flag in its talons, was adopted at a meeting at Myer's home in Washington on August 7, 1865, as the badge of the Order of the Signal Corps, a short-lived veterans' organization.

War Stanton dismissed Myer as the Chief Signal Officer, exiled him to the Memphis-Cairo area and denied the Signal Corps further use of electric telegraphy. In May 1864 his old comander Canby, selected him to be the signal officer for the Military Division of the West Mississippi. However, the War Department formally revoked his appointment as the Army's Chief Signal Officer with the rank of colonel, and left him on inactive duty, in which status he remained until after the war. Finally, in 1866 he won his fight for vindication and restoration to duty, but he did not return to office until 1867, after Stanton's suspension from the War Department.

Whey Myer resumed personal charge of the signal Corps as a colonel and the Chief Signal Officer on August 19, 1867, 1st Lt. Lemuel B. Norton and Alexander Ashley were assigned to duty with him. Ashley, long surviving both Norton and Myer, lived to transfer to the new Weather Bureau in 1891.

Clearly, in 1867, Myer had to rebuild the Signal Corps from the ground up, which he did under the legislation of July 28, 1866, that provided for the postwar military establishment. In those postwar years the Corps was known as the Signal Service, but for the sake of simplicity may be thought of as the Signal Corps, with a continuous history running back to Myer's appointment as Signal Officer in 1860.

Among the first officers detailed to signal duty after Myer's return to office were two able and unusual men. One was Henry W. Howgate, a 2nd Lt. of the 20th Infantry, who had served in the Signal Corps during the war. Myer made him his property and disbursing officer and principal assistant. He became, indeed, Myer's right-hand bower while at the same time he systematically embezzled government funds, possibly as much as \$237,000 over a period of years. Howgate played a significant role in promoting Arctic exploration on which he may have spent some of this money, but not surprisingly there was also a woman beneficiary. Howgate, after Myer's death became a candidate for appointment as Chief Signal Officer before the crime came to light. The other of the two detailed officers, Adolphus Washington Greely, a 2nd Lt. in the 36th Infantry became the most famous of all Myer's successors. Arctic explorer, Chief Signal Officer (1887-1906), author, and a founder of the National Geographic Society, Greely was one of the most remarkable men of his time.

Soon after his return to office in 1867, Myer secured resumption of signal training at West Point. He also secured War Department orders authorizing him to provide two full sets of signaling equipment and two copies of his *Manual of Signals* to each company and post, telescopes and binoculars to be furnished upon requisition, and to equip and manage the electric field telegraph for the Army's active forces.

Later a school for signal communications—for instruction in visual signaling and electric telegraphy—was opened at Fort Greble, an abandoned Civil War fortification in Southeast Washington. In January 1869 Myer moved the school for a matter of days to Lincoln Barracks and then to Fort Whipple where the signal school remained until the summer of 1886. Myer

complained that although there had been a detachment of fifty signalmen at Fort Greble, details to the various military departments had reduced the detachment to half that number at Fort Whipple by October 1869.

Fort Whipple, in its earliest days, was a conventional fortification with earthworks. It had been built in 1863 as a part of the Civil War defenses of Washington and named after Amiel Weeks Whipple, a Major General of volunteers. The fort on Arlington Heights overlooked Georgetown and Washington, D.C., and was about half a mile from Aqueduct Bridge. It was within the boundaries of present day Fort Myer, named in honor of Myer February 4, 1881.

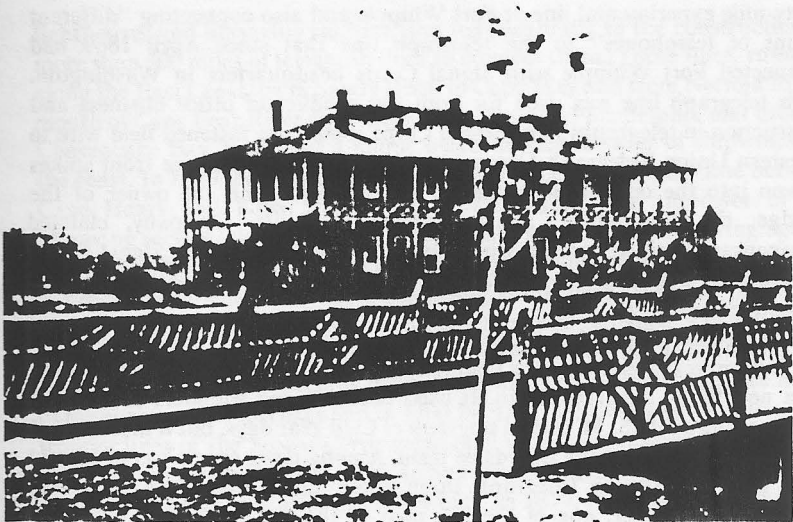
Although Myer could not have been very well satisfied with the physical facilities at Fort Whipple when he established the signal school there in 1869, he was pleased with its location. The post, he said in his annual report for 1869, "is well located for the purpose for which it is occupied, on the heights overlooking the valley of the Potomac, whence ranges for near and distant practice may be had from five to thirty miles." That it was a good location for visual signaling was demonstrated on one occasion by Norton at Fort Whipple when he communicated with Howgate away off on Sugar Loaf Mountain in Maryland. In the vicinity of Whipple itself, as Myer said, the ground "is suited for the drills of telegraphic trains and for experiments with electric lines erected and left standing. The post is now a school for the officers and men of both the land and naval service."

The facilities for housing the school and the men at Fort Whipple left much to be desired in the early period, despite some new construction. Not long after the school moved there, it got a new wooden barracks with a two-story central building and two wings. It was heated by four stoves and had poor ventilation. The officers' quarters (two one-story frame buildings), a guardhouse, and a frame hospital with an office, a dispensary, and a small kitchen completed the inventory of facilities. There was no storeroom, messroom, bathroom, or privy connected with the hospital; indeed, there were no bathing facilities or sinks or privies anyplace on the post, which led the medical authorities to report in 1870 that the sanitary condition at Fort Whipple "is decidedly bad." The water supply was from a spring which furnished "pure, cool water," according to the medical officers, who also reported that the drainage "is excellent."

By the spring of 1875, according to the report of Assistant Surgeon L.W. Ritchie, who had helped prepare the earlier report, conditions were much better. Certainly Fort Whipple had taken on a new appearance. On four sides of a parade ground, there now stood buildings that included an improved and ventilated barracks for 200 men; a twelve-room instructional building that also housed the post headquarters; a kitchen and mess hall, described by Ritchie as "ample and commodious"; quarters for married soldiers consisting of two buildings that would house eight families; and the two sets of officers' quarters which were "comfortable and well arranged." The guardhouse, "well adapted to its purpose," stood south of the barracks.

There was a new regulation two-story, twelve-bed hospital, erected in November 1871, surrounded by cleared grounds on which trees had been planted at intervals. An acre of ground had been set aside for a garden that would provide vegetables for the hospital and there was a fifteen-acre post garden. In a ravine a hundred yards northwest of the barracks, there were now some sinks or privies sufficient for the command. The spring water was still excellent and a reservoir and steam pump for securing an adequate supply of water were contemplated. Moreover, five cisterns, presumably to supply water for bathing and for the horses as well as for fire protection, were under construction. There was even an icehouse. Improvements evidently came about slowly in those years, for Myer's successor found Fort Whipple to be something of a mudhole in 1880.

In 1870, the Signal Corps moved from 1815 G Street, N.W., in Washington where it had been since early 1869, to larger quarters at 1719 G where on Nov. 1, 1870, the nation's new national weather service began functioning. The Signal Corps expanded into the adjoining building at 1721 G Street in Nov. 1871 where the offices remained until several years after Myer's death. From this place, Myer directed all Signal Corps activities, including those at Fort Whipple. Here Myer, who had such an excellent private library and such prized works of art that they drew public comment, built up an official library that had, "exclusive of maps, charts, and pamphlets, 2,900 volumes



Post Hospital, Fort Whipple (now Fort Myer), Arlington Heights, Virginia, 1876. Photograph from Records of the Office of the Chief Signal Officer in the National Archives, Washington, D.C.

by 1876 and 4,425 volumes by 1880. These were on the various technical subjects for which the Signal Corps had responsibility, including military signaling, telegraphy, meteorology, and that most arcane subject, ciphers.

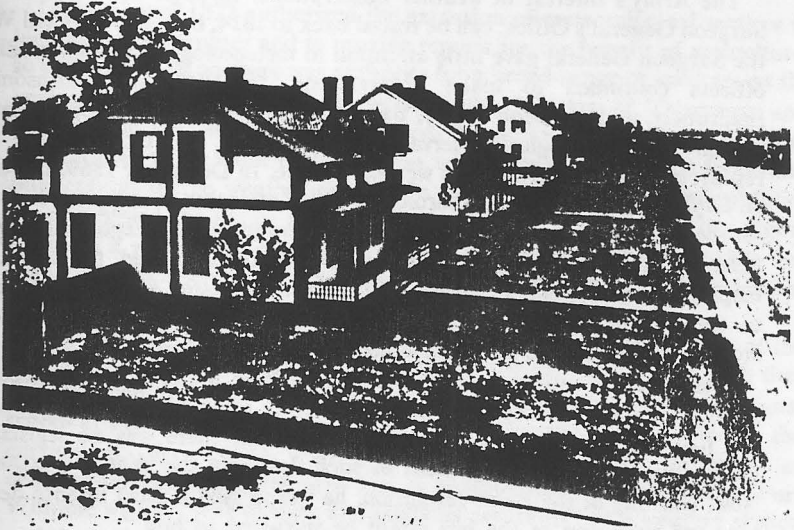
Some of the flavor of the times is evoked by noting certain practices and rules of the signal office in the 1870's. Clerks were called to attend to particular duties by a small bell, while messengers were snapped to attention by strokes on a gong. Those in immediate charge of the office at various times of the day were to see that there was "no improper use of the office rooms, such as lounging or sleeping in any of them." Other instructions laid it down that "the glasses, cups or other vessels provided at this office for drinking purposes, will not be used by any one in taking medicine, nor will the taking of medicine at the water coolers be permitted under any circumstances."

Photography, which later would become an important activity of the Signal Corps, received attention in 1870 and 1871, when Howgate ordered some photographic supplies and Myer purchased a camera and hired George W. Rice, a civilian photographer. Means of signal communication to which Myer and the Signal Corps attended in this period were more important than photography, however. One was the heliograph, which the Signal Corps tested in the 1870's after its development in the Anglo-Indian army. This device afterwards saw considerable use in the Southwest and remained in use until the beginning of World War I.

In 1878 the Signal Corps first experimented with the telephone, building a forty-mile experimental line at Fort Whipple and also connecting "different forms of telephones" to the telegraph line that since April 1869 had connected Fort Whipple with Signal Corps headquarters in Washington. This telegraph line was used for both the conduct of office business and instruction in telegraphy. The Signal Corps sometimes fastened field wire to Western Union Telegraph Company poles and strung its wire from spikes driven into the outside of Aqueduct Bridge, for which the owner of the bridge, the Alexandria Canal, Railroad & Bridge Company, claimed compensation, since besides using the bridge for its wire, the Signal Corps "travels it Constantly with Ambulances and Supply wagons, without compunction."

The electric telegraph was one of Myer's major concerns in postwar years. Of first importance to him was field telegraphy. Myer saw to the development of a new flying telegraph train. It used batteries and sounders as had the trains of the old U.S. Military Telegraph of Civil War days, but it also carried insulated wire as had the Beardslee train. Among those specialists of his old rival the U.S. Military Telegraph, upon whose talents Myer now drew, was John C. Van Duzer, one of the key men in the old organization.

Legislation of 1866 authorized federal aid in the construction of telegraph lines and to secure their use for postal, military, and other governmental purposes. In 1872 the Secretary of War made the Chief Signal Officer responsible for carrying out the War Department's responsibilities under this Act. Legislation in 1873 provided for the establishment of signal stations at



Commanding Officer's Quarters and a Main Street, Fort Whipple (now Fort Myer), Arlington Heights, Virginia, 1876. Photograph from Records of the Office of the Chief Signal Officer in the National Archives, Washington, D.C.

lighthouses and lifesaving stations, and led eventually to the construction of more than 500 miles of telegraph lines to connect them. Those lines, running along the East Coast, from Sandy Hook to Cape May and from Norfolk to the mouth of Cape Fear River with leased lines through Philadelphia and around Chesapeake Bay, furnished a highly useful service in cases of shipwreck on the coast. In 1878 the Signal Corps connected telephones on the line between Cape Henry and Kitty Hawk. The Coast Guard, the successor of the lifesaving service, claimed that its predecessor was the first lifesaving agency in the world to use the telephone "as a life-saving medium."

These coastal lines were only a beginning, for in 1874 Myer and the Signal Corps became responsible for the construction, maintenance, and operation of telegraph lines authorized for the Southwestern frontier, and then for the Northwest. Myer was especially fortunate in having Greely to supervise much of the construction in Texas and in what became the Northwest Division. The frontier lines of the Signal Corps eventually connected military posts across the Southwest from Denison, Tex., to San Diego, Calif., and in the Northwest from the Dakotas to Washington Territory. In 1879, they were 4,000 miles in extent and embraced seventy-seven stations.

In the late 1860's, Myer had turned to meteorology as a possible new function for the Signal Corps; for the rest of his life, it was to be his principal concern.

The Army's interest in weather observations, through the work of the Surgeon General's Office, can be traced back to 1814, but after the Civil War the Surgeon General gave little attention to meteorology, although medical officers continued to make observations. In 1847 the Smithsonian Institution, under Joseph Henry, had established a relatively sophisticated system of meteorological observations and reports, but did not have the resources to support a national weather service. In December 1869, Increase A. Lapham, a Wisconsin meteorologist, called attention to shipping disasters on the Great Lakes and proposed the creation by the Chicago Academy of Sciences of a network of meteorological observers around the lakes. In response, Rep. Halbert E. Paine of Wisconsin suggested extending the plan to the entire Nation and drafted a Joint Resolution providing for a storm-warning service to be administered by the Secretary of War.

Presumably wanting the Signal Corps to have a substantial peacetime mission, Myer had already proposed that it be given meteorological duties but had been turned down on the grounds that there was no legislative authorization for the assignment of such duties to the War Department. Now, learning of the Paine resolution, he "expressed a most intense desire that the execution of the law might be intrusted to him."

In early February 1870 Congress passed Paine's resolution and President Grant signed it on February 9. Although the resolution did not mention the Signal Corps, Secretary of War William W. Belknap on February 28, 1870, assigned the work to the Chief Signal Officer. The old Signal Corps restored for the year 1870 attest to Myer's labors in getting the Signal Corps weather service under way at 7:35 a.m., Washington time, November 1 of that year.

Organizing and equipping the new service and training signalmen and officers for it demanded Myer's best talents. An important aspect of the initial organization of the work was arranging with private telegraph companies, particularly the Western Union Telegraph Company, to carry weather reports. Although under existing law the government could insist that they carry them, Western Union caused trouble almost from the beginning by demanding a monopoly of the government's telegraph business and in March 1871 actually terminated service for a time. Participating companies also sought to secure prepayment of charges for meteorological reports.

The weather service thus was quite dependent upon private telegraph lines for the transmission of weather reports to the Office of the Chief Signal Officer in Washington, which issued various periodic and occasional publications including weather maps, bulletins, and, beginning February 18, 1871, synopses and probabilities. When military telegraph lines were constructed in the 1870's, Myer quickly integrated a number of the telegraph stations on those lines into the Signal Corps weather reporting system, while continuing to depend upon private lines for reports from the many stations not on the military lines.

Legislation of 1872 authorized the extension of meteorological services to include flood warnings and to provide reports for the benefit of agriculture, so that from then on there was authority for a broad range of services. At the beginning, Myer organized the work in the Division of Telegrams and Reports for the Benefit of Commerce. Then, in 1872, he added "and Agriculture" to the name of the division, which was used on all the forms and publications of the weather service. In practice these new responsibilities "soon occupied the major part of the time" of his office and of the Signal Corps as a whole. As Greely said, "military signaling was relegated to the rear." Weather service, it may be added, is a name of convenience rather than a legal name.

Enlisted men, usually called observer-sergeants, administered most of the field stations and sent regular telegraphic reports to Washington. Both they and their commissioned instructors and supervisors went through the signal school at Fort Whipple where instruction in meteorology was added to the curriculum. As things stood in 1880, to be fully qualified as observer-sergeants, enlisted men had to combine preliminary work at Fort Whipple with a "year of duty and study as assistants" at a weather station and then take additional instruction in the "higher branches" of meteorology at the Fort Whipple school.

The enlisted men who manned the stations on the military telegraph lines, did not have to be as fully qualified as the observer-sergeants who administered the more important weather stations. Yet, as reported by Will Croft Barnes, who learned telegraphy at Fort Whipple and then served at Fort Apache in 1880, their reports were supposed to be made carefully and on time, beginning at 4:00 a.m. The last word in the code message at 9:00 p.m. was a prognostication, "fair" or "foul" as to the ruling weather for the next twenty-four hours.

During the great railroad strikes of July to early August 1877, Myer had his weather observers in the various strike centers send telegraphic reports on the strike situation to Washington around the clock. These Myer passed to President Rutherford B. Hayes and the Secretary of War either as copies of messages received or in the form of telegraphic summaries. This service no doubt played a significant role in the breaking of the strike.

At the time Myer established the weather service, Cleveland Abbe of the Cincinnati Astronomical Observatory "was probably the only person in the United States besides Joseph Henry who had had any experience in forecasting." Myer, desiring excellence for his new work, hired Abbe in January 1871 and surely never regretted it. In 1873 Abbe began publications of the *Monthly Weather Review*, which still comes out regularly. Abbe continued as the nation's leading meteorologist until his retirement in 1916, long after he moved to the Department of Agriculture in 1891, when the old Signal Corps weather service became the U.S. Weather Bureau.

As a result of his direction of the weather service, Myer soon became a national figure in a way his work in military communications had not made

him. Because of publication in the early years of the weather service of "probabilities" (instead of the later "indications" and "forecasts") he became known, somewhat incongruously, as "Old Probabilities." The name might have fitted the fatherly figure of Cleveland Abbe better. In fact Thomas Corwin Mendenhall, who worked with Abbe in the 1880's, claimed that Abbe had become, in his Cincinnati days, "though barely thirty years of age, the original "Old Probabilities" or "Old Prob." Nevertheless, it was Myer, as head of the weather service, who became known nationally by this affectionate sobriquet. After assignment to duty in 1871 according to his brevet rank of Brig. Gen., he was neglectful about using "Brevet" in his title until reproved by the War Department in 1872. He used it so unflinchingly thereafter that the *Fargo Argus*, in the heading of a story about his death declared:

Old Prob is Dead, that Good Old Soul, His
Like we Ne'er Shall Find
He Used to Sign His Little Name, "Brig.—
Gen. Brevet Assigned."

For making atmospheric studies the Signal Corps employed professional aeronauts, beginning in 1871, and established several mountain stations. Signal Corps observations were made on Mount Washington, N.H., one of the stormiest spots on the continent, as early as November 1870, and a summit station was maintained there continuously until 1887. When established it was "the highest meteorological station in the world." Myer also established stations on Mount Mitchell and Pikes Peak and in such other places as the West Indies, Alaska, and the Aleutian Islands. There were 25 regular stations in 1870 and 60 in the following year, with more to come.

In 1873 Myer attended the International Meteorological Congress in Vienna and there proposed international simultaneous observations, to which that congress agreed. Beginning in 1875, the Signal Corps published for several years the *Daily Bulletin of International Simultaneous Meteorological Observations*. Myer and the Dutch meteorologist C.H.D. Buys-Ballot were asked to make reports on the results of simultaneous observations, and on how they might be further developed, for presentation at the Second International Meteorological Congress at Rome in mid-April 1879. Myer arrived in Rome too late to participate in the sessions of the Congress, but while he was there, had a personal interview with the King of Italy concerning the establishment of a weather service in Italy. In Venice he was ill. In June, however, he was in Paris, and in early July before returning home, he went on to London for consultations at the British meteorological office.

During his administration of the weather service, Myer sought the widest possible dissemination of meteorological information, and also sought and received the support of trade associations and newspapers. An impressive list of meteorological services was provided by 1879, by which time the accuracy

of general predictions compared very favorably with that of today's. At that time the tri-daily synopses and indications went by telegraph at the moment of issue, 1,095 times a year, to all the principal cities of the United States. In one form or another they were published "in almost every newspaper in the country" and also bulletined in many public places. Special bulletins for farmers also went out by telegraph from 19 cities in the early morning of each day, excepting Sunday, to 6,042 rural subcenters where postmasters had instructions to post them "and to report in writing to the Chief Signal Officer" the time of receipt and display. In order to make the reports even more useful to agricultural interests there were arrangements with 103 railroad companies for distribution of daily reports to 3,180 railroad stations, where they were posted.

Many farmers resided too far from any railroad station or postoffice however, to benefit from the reports posted in those places. To provide them with the meteorological information they needed, Myer devised what he called the "Weather Case" or "Farmer's Weather Indicator," on which he received a patent in 1879. The case contained a barometer, a wind disk, a sunset disk, a wet-and-dry bulb thermometer, and instructions for using them. With this equipment, which he proposed to sell to farmers at cost, Myer hoped that each farmer might become his own meteorologist.

Although Myer's administration of the weather service is not without evidence of his interest in meteorological research, his principal interest was in public services of the kinds described, and it was to those that he devoted his principal attention.

The Signal Corps, preoccupied as it was with a civilian function that was relatively expensive to operate (its cost increased from \$15,000 in fiscal year 1871 to \$375,000 in 1880), became a target for those who favored the line over the staff in a time of commotion over reducing the Army. William T. Sherman, the General in Chief, who was bitter not only because he believed the line was neglected but because he had little or no control over the staff bureaus, explained quite frankly his attitude toward the Signal Corps. The 450 men of the "signal detachment," as he called it in testimony reported in 1874, "are no more soldiers than the men at the Smithsonian Institution. They are making scientific observations of the weather, of great interest to navigation and the country at large. But what does a soldier care about the weather? Whether good or bad, he must take it as it comes." Sherman thought "the military duty of the Signal Department might be imposed on the adjutants of regiments, and the non-commissioned staff," and that otherwise it could be dispensed with. He did not aim his barbs exclusively at the Signal Corps, however, for the Engineers and others also felt them.

Given such opposition, there were various proposals in the 1870's for merging the Signal Corps with other agencies, both military and civilian. But there was not yet sufficient support for so drastic a change in the organization of the popular service. Pressure mounted after Myer died and in the end the advocates of separation carried the day. In October 1890



Monument to Brigadier General Albert J. Myer, Fort Myer, Arlington Heights, Virginia. U.S. Army photograph from a negative presented to the author by Major General Frederic J. Hughes, Jr., Medical Corps. The year 1828, not 1829, is the correct year of Myer's birth.

legislation transferred the weather service to the Department of Agriculture where it became the U.S. Weather Bureau the following year.

Kate Myer and the children — two sons and four daughters — with Myer joining them when he could, customarily spent their summers in or near Lake View, later a part of Wanakah, New York. Their winters they spent in Washington, living for a number of years in rented houses. About 1878 they moved into a fine house at 1627 I Street, N.W., which stood where the Army and Navy Club now stands, and which became known as the Myer mansion.

Although he has come down through the years a pretty serious fellow, Myer could be relaxed and even humorous among his friends. On one occasion in May 1878, after attending a very pleasant social affair, he sent a personal note to William K. Rogers, the President's secretary, asking him to show the enclosure, which was probably a clipping about the weather, to the President, saying: "As I assumed charge of the weather *in person* at the Grand Reception I wish to have it known I was sustained!" The *New York World* observed after Myer's death that much of his "official success and popularity was due to the magnificent style in which he entertained" in Washington.

On June 17, 1880, Myer finally received a regular commission as a Brigadier General, which was to run from June 16, the date of legislation raising the Chief Signal Officer to a brigadier's rank. Certainly he was pleased, though surely the promotion was not unsought, for the new general was doubtless the author of a memorandum declaring, in the third person, that the Chief Signal Officer had been a colonel for fifteen years and had seen departmental chiefs "go over his head." Moreover, the time could not be long when he would have to "leave the Service"; hence, "at this time of his life" and "for his previous standing and for what he has accomplished he ought to be at least not degraded."

Many honors came to Myer in the 1870's as his name became widely known at home and in meteorological circles abroad. It may be supposed, however, that among his most prized honors were the two honorary degrees he received, although there was so much informality about them in his day that he did not know about one of them until after it had been awarded. This was the honorary Doctor of Laws degree he received from Hobart College at its 1872 commencement. Hobart's President Maunsell Van Rensselaer wrote Myer that he had received it "both as a tribute to your ability and your services to the Country, especially in the establishment of the Signal Service Corps on its present admirable and efficient basis; and also as a fitting memorial of the twenty-fifth anniversary of the graduation of your class." The other degree was the honorary degree of Doctor of Philosophy which Union College conferred upon him at Schenectady on June 23, 1875. When President Eliphalet Nott Potter sent Myer a certificate of the degree in 1876, he wrote Myer that everybody was glad to have him "among our honorary Alumni," which included "Edison of Electric and magnetic note," who had been honored at the last commencement. "We think," Potter said, that "we

may claim in this brotherhood two of the choicest, Most practical and useful of American Scientists.”

Little or nothing is known about the state of Myer's health from the time he recovered from his illness in Texas before the Civil War, when he was seriously ill with scorbutus, to the last years of his life. To all appearances he was in good health, but apparently he developed a heart condition about 1877 or 1878. In 1879, according to George Martin Kober, a Washington physician, Myer “was prostrated” while in Venice on his Italian trip “by serious cardio-vascular symptoms” and “after his return to the United States his heart and kidney disease grew gradually worse.” The kidney disease referred to was nephritis, or Brights disease.

Upon his return from Europe in 1879 Myer was busy, and as late as May 1880 he and Kate were also active socially. As the summer of 1880 advanced, however, he went to New York City to consult his old friends and medical professors, Dr. Frank Hamilton and Austin Flint, two of the leading physicians of the day. “After a week of intense suffering” in New York he went to Buffalo, where he died on August 24, 1880, his twenty-third wedding anniversary. He would have been fifty-two the following month.

Myer's funeral took place on Friday afternoon, August 27, 1880, at St. Paul's Cathedral in Buffalo. It was a military funeral with Myer's body dressed in his brigadier general's uniform with an American flag covering his coffin. At Fort Whipple, thanks to telegraphic signals over Western Union lines between Buffalo and Washington, minute guns boomed out from the beginning of the funeral procession until the end of the services. Thereafter the body rested in a vault in St. Paul's until later interment in an elaborate mausoleum in Buffalo's Forest Lawn Cemetery.

Bibliographical Notes

This paper is based upon the author's “Albert James Myer, Founder of the Army Signal Corps: A Biographical Study” (unpublished Ph.D. dissertation, Department of History, The American University, 1965) and upon his continuing work, partly supported by the American Philosophical Society, on a full-length biography of Myer. Of basic importance are the main body of the Albert J. Myer Papers in the Signal Corps Museum, Fort Monmouth, N.J. and the small collection in the Manuscript Division, Library of Congress, which are available on microfilm, together with the Records of the Office of the Chief Signal Officer and the Records of the U.S. Weather Bureau (R. G. 111 and R. G. 27, respectively) in the National Archives, Washington, D.C. Of particular usefulness among the published materials on the subject, in addition to those referred to in the paper itself, are the annual reports of the Chief Signal Officer for the years 1861-1880, which are especially voluminous for the first decade of the weather service, 1870-1880. J. Willard Brown, *The Signal Corps, U.S.A., in the War of the Rebellion* (1896), will always remain as the most useful single reference work on the history of the Corps in the

Civil War. George Raynor Thompson, "Civil War Signals," *Military Affairs*, XVIII (Winter, 1954), 188-201, and the author's "Union Signal Communications: Innovation and Conflict," *Civil War History*, IX (December 1963), 399-421, bring to the subject of the Signal Corps in the Civil War the perspective gained from its study at a much later day. The author's description of Fort Whipple in the 1870's rests upon two publications of the Army Surgeon General's Office: *A Report on Barracks and Hospitals, with Descriptions of Military Posts* (Circular No. 4, 1870), and *A Report on the Hygiene of the United States Army, with Descriptions of Military Posts* (Circular No. 8, 1875).

Donald R. Whitnah, *A History of the United States Weather Bureau* (clothbound, 1961; paperbound, 1965), which has several chapters dealing with the Signal Corps weather service is the best work on the subject. Whitnah is inaccurate, however, in his references to the military telegraph lines as an important reason for assigning meteorology to the Corps in 1870, for the Signal Corps did not have any military lines, excepting the short Washington to Fort Whipple line, until the 1873-1874 period. The author's "Will Croft Barnes, Soldier and Citizen of Arizona," *Arizona and the West*, II (Autumn, 1960), 205-211, summarizes Barnes' brief career as a Signal Corps enlisted man. The *Army and Naval Journal* and the Rutherford B. Hayes Papers in the Hayes Library, Fremont, Ohio, the first of the presidential libraries, provide useful bits of information on the social life of Kate and Albert Myer.