

*Seward's other folly*

## America's First Encrypted Cable

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On the early morning of 26 November 1866, before American Minister to France John Bigelow was out of bed, a secret encrypted cable from Secretary of State William Seward began arriving in the Paris telegraph office. The dispatch's last installment was completed late the following afternoon. News and rumors about the lengthy encoded telegram spread rapidly through the French governmental departments and the diplomatic corps, but Bigelow maintained a determined silence. The first streamer from New York to arrive in France after the dispatch was written brought a reprint of the confidential cable in the pages of the *New York Herald* newspaper!

This strange episode in American foreign relations commenced a fascinating chapter in American cryptology history. Moreover, the event shaped American State Department code books for the next two generations and provoked a costly lawsuit against the US Government.

### Security Concerns

In August 1866, Bigelow had written to Seward praising the inauguration of the Atlantic cable, which he termed the "umbilical cord with which the old world is reunited to its transatlantic offspring." Bigelow recognized the new challenges for communications security that accompanied the new Atlantic cable, completed on 28 July 1866. He advised Seward to develop a new cipher for the exclusive use of the State Department so that Seward could communicate secretly with his diplomatic officers. Even better, he suggested a different cipher for each of the legations overseas.

Bigelow was concerned that the State Department code—the Monroe Code—was no longer secret, for he believed copies of it were taken from the State Department archives by the "traitors to the government" working in an earlier administration. Bigelow

concluded by warning Seward that the Department should take steps to "clothe its communications with that privacy without which, oftentimes, they would become valueless."<sup>1</sup>

Seward, replying to Bigelow's dispatch, dismissed the conjecture that traitors took copies of the code. And he added an astonishing statement: the Department code, in service for at least half a century, is believed to be the "most inscrutable ever invented." Because he held this opinion, Seward wrote that he rejected the offer of five or six new ciphers each year.

### Costly Communications

Seward had first discussed the new transatlantic cable with the parent company, the New York, Newfoundland, and London Telegraph Company, at a celebration in New York on 29 August 1866 honoring President Andrew Johnson. At the conclusion of the evening's festivities, one of the directors of the company, Mr. Wilson G. Hunt, asked Seward why the Federal Government did not use the new Atlantic cable. It was a question that would eventually lead to a \$32,000 claim against the State Department. Seward told Hunt that the tariff was too costly and that "the Government of the United States was not rich enough to use the telegraph."<sup>2</sup>

In fact, the provisional tariff rates were very expensive: cable charges between America and Great Britain were \$100 or 20 pounds sterling for messages of 20 words or less, including address, date, and signature. Every additional word, not exceeding five letters, cost 20 shillings. Code or cipher messages charged double.<sup>3</sup> And all messages had to be paid in gold *before* transmission.<sup>4</sup>

Given the "oppressive and extortionate"<sup>5</sup> cost of the tariff and faced with an immense Civil War debt, Seward told Hunt that the State Department would

lose public confidence if it incurred the great expense of telegraphic communication under the existing tariff. Moreover, Seward recognized that a code or cipher would have to be employed for telegraphic communication in order to maintain confidentiality. Using the cipher code for a cable, Seward said, “increased the number of words about five times, and the expense of transmissions 10 times.”<sup>6</sup>

After some discussion, in which each party apparently misunderstood the other’s position, Hunt came away believing that he would soon receive a written message from Seward requesting lower rates. Seward, in turn, believed he could send a trial message as an experiment for lowering rates, with Seward determining what the proper pay would be for the trial message. The seeds of confusion grew when Seward failed to send the written communication to the company’s proprietors.

Several months later the company, bowing to public pressure, lowered its rates. Wilson Hunt then sent Seward a listing of the new prices. Ten days after the new tariff went into effect on 1 November 1866, Seward sent in plain text the first State Department cable via the Western Union Telegraph Company. It was a brief dispatch to John Bigelow in France telling him that his successor was embarking later that month.<sup>7</sup> Shortly after sending the plain-text message, Seward decided he needed to send a coded dispatch to Bigelow containing a warning, to be delivered to Emperor Napoleon III, about France’s interventionist activities in Mexico.

## A Historic Document

Seward believed it was necessary to send an encoded message to Bigelow because his highly confidential message would pass through the hands of American and foreign telegraphers. But encoded American diplomatic dispatches had become a distinct rarity in the years after 1848. The decline of encrypted diplomatic communications mirrored a new liberal tradition sweeping Great Britain. In support of oppressed Polish leaders and others persecuted by Russia or Austria, the British abolished the secret foreign-letter monitoring branch of the Post Office along with the deciphering office.

Seward’s decision to send the encrypted message was prompted by an alarming dispatch from Bigelow earlier in November about continuing French designs on Mexico. Seward believed the message would be in accord with the trial cost agreement he thought he had reached with Wilson Hunt in August.<sup>8</sup> Expecting that Bigelow would read the message in its entirety to the Emperor, Seward left no word out for reasons of economy.

Seward’s original plain-text message of 780 words, when encoded, grew to 1,237 number groups, with an additional 88 code symbols spelled out. Moreover, there were more than 35 transmission errors, and some phrases were mistakenly repeated. The dispatch, now 3,722 words long,<sup>9</sup> took six hours to transmit. This historic document became the first encoded American diplomatic dispatch to use the new Atlantic cable.

The State Department clerk who prepared the cable, John H. Haswell, later recalled that the cablegram “. . . was an important one addressed to our minister at Paris. It caused the French to leave Mexico. I was directed by the Secretary to send it in cipher, using the Department’s code which had been in vogue since colonial times but seldom used.” Despite the age of the code, Haswell wrote that “it was a good one, but entirely unsuited for telegraphic communication. Its cumbersome character, and what was of even more importance, the very great expense entailed by its use impressed me, and turned my attention to an arrangement for cipher communication by telegraph.”<sup>10</sup>

## A Big Bill

And indeed the cable was expensive, especially in comparison with previous costs. Earlier State Department monthly bills for using domestic telegraph lines were quite modest. In September, for example, the bill—with an 8-percent discount—came to \$73.79. For October, the bill was \$76.34<sup>11</sup> and November (minus the encrypted message) \$46.94. But the charge for the 23 November encrypted message was \$19,540.50! This cost, together with other cables sent in November, added up to \$24,996.12, an amount equal to the yearly salary of the President of the US and three times more than that paid to Seward.<sup>12</sup> The Secretary of State was unwilling, and unable, to pay the cable charges.

Further, the use of expensive encryption was questionable, given that Seward, only days later, testified in some detail before the Senate Committee on Foreign Relations on the subject of the dispatch. And the Secretary of State provided the full plain text of the 23 November dispatch to the *New York Herald*! For more than six decades, the Monroe Code had provided a limited degree of protection for diplomatic communication. Seward's release of the information to the Senate Committee and to the *Herald* greatly lessened communications security and the value of the code.

At Seward's request, Wilson Hunt and Cyrus Field, the manager of the New York, Newfoundland and London Telegraph Company, met with the Secretary to discuss the bill.<sup>13</sup> Seward asked Field to accept a partial payment of between \$5,000 and \$6,000, based on the number of words in the original message before encryption. Field, recognizing that Seward had no idea encipherment would be so expensive, questioned the Secretary's decision to use a code that had been in use since the formation of the nation. Seward replied that a new, economical cipher would replace the old one. And he promised that the company would eventually be paid in full and that the State Department would continue to use Field's company. Seward's compromise offer was not accepted, and he ended the conversation by stating he would not pay the bill. He did, however, invite the gentlemen to dine with him.<sup>14</sup>

Someone leaked the news about the Seward-Field-Hunt exchange to the *New York Herald*. The newspaper reported inaccurately that the company had charged \$25,000 for the November dispatch and that Seward had paid only \$5,000. The editor commented that the *Herald* had paid for all of its cable dispatches in gold before transmittal and had never made any request for "abatement or delay" in payment. The editor concluded that "It is a shame for the United States Government not to be able to pay its telegraph bills as promptly as a New York newspaper."

### More Trouble

Another cable dispute involving Seward began in March 1867, when the Russian Minister to the US sent an encrypted 1,833-word cable to St. Petersburg.

The cable was transmitted through the newly organized State Department telegraph office at a cost of close to \$10,000.<sup>15</sup> The cable, which contained the basic treaty conditions for the purchase of Russian America for \$7 million, was sent, according to the Russian Minister, at the "... request of Seward who pays for it . . . ."<sup>16</sup> The charges for the cable thus were transferred to the American account, which by now had grown to over \$42,000!

Wilson Hunt, acting on behalf of the telegraph company, made further efforts to recover the money from Seward. Always a tough negotiator, Seward succinctly replied: "I have received and attentively read your letter of the 1st instant. I am, dear sir, Your obedient servant."<sup>17</sup> One week later, the cashier for the telegraph company asked the State Department accounting clerk if he could collect on the account and received a prompt "No."<sup>18</sup>

### A New Code

Seward's unhappiness with the cable costs for transmitting dispatches in the Monroe Code brought into existence the first new State Department code in 50 years. This awkward code, devised for economy, was based on the letters of the alphabet. The 23 words used most frequently in dispatches were assigned one letter of the alphabet. For example, "a" was *the*; "b" was *it*; "c" was *have*; and so forth. "W" was not used for the code (though it was in cipher) because European telegraph operators were not familiar with this letter. The next 624 most frequently used words were encoded by two letters of the alphabet. For example, "ak" was *those*; "al" was *who*; and "az" was *such*. Three letters were used for the remainder of the diplomatic vocabulary and a fourth letter could be added for plurals, participles, and genitives.

On 19 August 1867, a copy of the new code was sent to US envoys serving overseas.<sup>19</sup> For security purposes, Seward asked that the code be used with discretion and that the ministers have a small box made that could be fastened with a lock, the key to which should be kept by the head of the legation.

This novel code, which delighted the thrifty Seward, would be used from August 1867 until 1876. It proved to be a disaster because European and American telegraphers often merged code groups, and dispatches were frequently unread until mailed copies reached the State Department weeks later. Indeed, the first encoded message received at the Department from the American minister in Turkey formed a long string of connected letters and remained a conundrum until finally decrypted by an assistant clerk after days of puzzlement. A similar message from Vienna was never decoded.<sup>20</sup> Seward's battle over money with the cable company had as its result, then, a supposedly thrifty but flawed encryption system.<sup>21</sup>

### Lower Tariffs

Meanwhile, the battle over money continued. The telegraph company did not contact Seward again until it had a new tariff schedule that lowered rates by 50 percent. Further, under the new schedule, messages in code carried no extra charges. In notifying Seward of these modifications, Wilson Hunt politely renewed his request for payment of outstanding charges, including the cable sent by the Russian minister and other Department cables. Appealing to Seward's patriotism, Hunt noted that 90 percent of the New York stock was owned by citizens of the US.<sup>22</sup>

Seward's reply, written exactly one year after the famous dispatch to Minister Bigelow in Paris, praised the tariff reduction. But Seward regretted that no reductions had been made in previous charges, and he added that the Department was not responsible for the cable sent by the Russian minister because the dispatch was neither signed nor ordered by him.<sup>23</sup>

### Stalemate

In the ensuing months, a tedious exchange of polite letters between the company and Seward led nowhere. Frustrated by the failure to resolve the issue, the company suggested that the entire matter be referred to the Attorney General for his opinion, which the company was prepared to accept as final.

Two years after the Paris dispatch, and with only three months remaining as Secretary of State, Seward wrote his last letter to the cable company. In one sentence, he explained that he had no authority to make, nor the Attorney General to entertain, an adjudication of the claim.<sup>24</sup>

### Paying Up, Finally

When the new Secretary of State, Hamilton Fish, endorsed his predecessor's position, the company finally decided to go to court. On 25 February 1870, the New York, Newfoundland and London Telegraph Company filed a petition with the courts requesting that the government pay \$32,240.75 in gold coin for the cable messages.<sup>25</sup>

The case was heard before the Chief Justice and Judges of the Court of Claims in Washington, DC, on 26 May 1871. The Court decided for the claimant in the exact amount requested by the company.<sup>26</sup> But the State Department had one victory: payment in gold was not required.<sup>27</sup> Finally, on 28 August 1871, almost five years after the cable to Bigelow in Paris, the Comptroller's Office paid the full amount in dollars and cents!<sup>28</sup>

### NOTES

1. Bigelow to Seward, 3 August 1866, in Record Group 59, General Records of the Department of State, Dispatches from US Ministers to France, Microcopy 34, Roll 62, National Archives. Hereafter cited as RG 59, M34, R62, NA.
2. Deposition of Wilson G. Hunt, 8 June 1870, RG 123, Box 307, NA. In his deposition, Lathers said at first he thought Seward was being facetious, and the conversation began rather jocularly; it then turned serious as Hunt listened carefully to Seward's criticisms.
3. Petition of the New York, Newfoundland & London Telegraph Co. vs. the United States, filed 25 February 1870, Claim No. 6151, RG 59, M179, R319, p. 7, NA.

4. In November 1866, a gold dollar equalled about \$1.40 in greenback currency: cf. Wesley Clair Mitchell, *Gold, Prices, And Wages under the Greenback Standard* (Berkeley: The University Press, 1908), p. 302.
5. Deposition of William Seward, 27 July 1870, RG 123, B307, NA. Seward knew that Hunt, Peter Cooper, and Cyrus Fields, all of New York, were principals in the cable company.
6. Deposition of Seward, RG 123, B307, NA.
7. Seward to Bigelow, Washington, D.C., 10 November 1866 in RG 59, M77, R58, NA.
8. At least one principal European power was using a code similar to the Monroe Code: cf. Haswell, "Secret Writing, *Monthly Magazine* 85 (November 1912), 88.
9. William Seward to John Bigelow, Washington, 23 November 1866, in RG 84, Instructions to the US Legation at Paris, Ci.1, NA. The letter book copy of the dispatch may be found in Diplomatic Instructions of the Department of State, 1801-1906, RG 59, M77, R58, NA.
10. John Haswell to John Sherman, Washington, D.C., 20 January 1898. Photocopy in author's possession; the original letter is in the possession of Mrs. Lester Thayer, Albany, New York.
11. Leonard Whitney to George Baker, Washington, D.C., 20 November 1866. RG 59, Records of the Bureau of Account: Miscellaneous Letters Received, Entry 212, NA.
12. Leonard Whitney to George Baker, Washington, D.C., 17 December 1866, *ibid.*
13. Fields received a letter from Baker, which included Seward's request to come to Washington for a discussion of the cable issue: cf. Fields to Seward, New York City, 12 December 1866, Seward Papers, R98, Library of Congress.
14. Deposition of Wilson G. Hunt, 8 June 1870.
15. Russian Minister Stoeckl to Gorchakov, Washington, D.C., 25 March 1867, RG 59, Telegrams Sent by the Department of State, 1867-69, Entry 309, NA.
16. Stoeckl to Gorchakov, Washington, D.C., 25 March 1867, *ibid.*
17. Seward to Hunt, Washington, D.C., 11 June 1867, *ibid.*, p. 38.
18. Whitney to Baker, Washington, D.C., 19 June 1867, RG 59, E209, NA.
19. Seward to Minister to France John Dix, Washington, D.C., 19 August 1867. RG 59, M77, R58, NA.
20. John Haswell to Hamilton Fish, Washington D.C., 8 July 1873, Hamilton Fish Papers, R95, Library of Congress.
21. State Department Telegrams, 1867-1869, in RG 59, E209, NA reflect the complications posed by this code.
22. Hunt to Seward, New York, 20 November 1867, in the Petition, RG 59, M179, R319, p. 40, NA.
23. Seward to Hunt, Washington, D.C., 23 November 1867, *ibid.*, p. 41.
24. Seward to cable company, 21 November 1868, as reprinted in the Petition, RG 59, M179, R319, p. 51, NA.
25. The Petition, RG 59, M179, R319, p. 56, NA.
26. "Findings of Fact and Conclusions of Law, Court of Claims, 26 May 1871, RG 123, B307, NA.
27. Had payment in gold been stipulated, the cost to the government would have been \$35,787 in greenback currency: cf. Mitchell, *Gold*, p. 316.
28. No. 180406, Comptroller's Office, 28 August 1871, *ibid.*