



## When Intelligence Made a Difference

— EARLY 20TH CENTURY —

### The Impact of Herbert O. Yardley

#### A Glass Half Full

Gregory J. Nedved

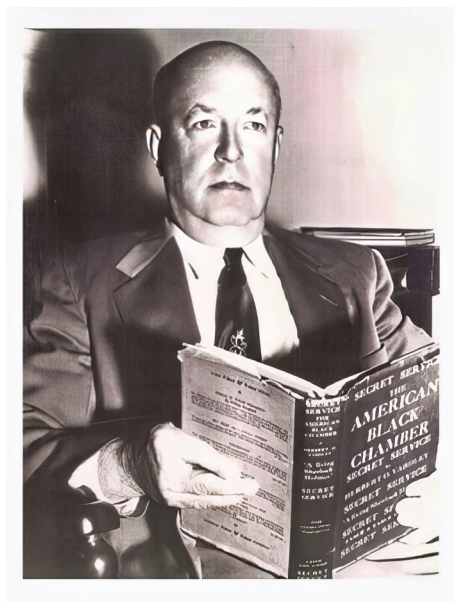
**H**erbert O. Yardley will always be a controversial figure in cryptologic history. His 1931 tell-all book, *The American Black Chamber*, revealed U.S. cryptologic tradecraft and capabilities to the rest of the world and so damaged his reputation that he was never trusted by the American or British cryptologic establishments. Yardley lived the rest of his life defending his actions and working as a cryptologic mercenary for whomever would hire him.

Despite his controversial actions Yardley contributed greatly to the field of cryptology, which made him a true cryptologic pioneer. He was one of the first to be inducted into the National Security Agency's (NSA) Cryptologic Hall of Honor in 1999. Yardley had superior cryptologic managerial skills. He was a superb organizational builder. In a cryptologic career cut short because of the abovementioned fateful decision, he still managed to build four successful organizations, in three separate countries, three of them in wartime.

Of the four, the Cipher Bureau, the first peacetime cryptologic organization in the United States, brought him by far the most laurels, making him the most noted cryptologist in the country at the

time. In its ten-year operation from 1919 to 1929, the Cipher Bureau enjoyed considerable success breaking diplomatic codes for both the Army and the State Department, particularly those of Japan and Mexico. Two particular achievements merit mention.

The Cipher Bureau's most celebrated achievement was its codebreaking during the 1921-1922 Washington Naval Disarmament Conference. From this, the United States learned that the Japanese would actually settle for a lower limit of Dreadnaught capital ship tonnage than had been sought by their negotiators. The final ratio was 5-5-3-1.75-1.75, for the United States, Great Britain, Japan, France, and Italy respectively. At roughly the same time, the United States was contesting Japanese control of the Pacific Island of Yap, the site of a major international undersea cable intersection. Yardley's Cipher Bureau learned that the Japanese were willing to give the Americans what they wanted cable-wise provided that they respected the international mandate authorizing Japanese control over Yap. The end result was a victory for American commerce.<sup>1</sup>



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The other three organizations he ran were all short-lived, with each enjoying success in their own way. In 1917-1918, as a junior Army officer, he ran the Code and Cipher Section of the Military Intelligence Branch, which dissolved when World War I ended. The Code and Cipher Section's greatest achievement was breaking German sabotage codes within the United States. Its decrypts, for example, led to the nabbing in 1918 of German spy Lothar Witzke, aka Pablo Waberski,<sup>2</sup> who was linked to the massive Black Tom Island explosion of July 30, 1916 in New York harbor.<sup>3</sup>

1. *The Reader of Gentlemen's Mail: Herbert O. Yardley and the Birth of American Codebreaking*, David Kahn, Yale University, 2004, pp. 61, 72-80; Gregory J. Nedved, "Herbert O. Yardley Revisited: What Does the New Evidence Say?," *Cryptologia*, Vol. 45, 2021, Issue 2, pp. 102, 106, 120; Robin Denniston, "Yardley's Diplomatic Secrets," *Cryptologia*, Vol. 18, 1994, Issue 2, pp. 83-86, 106-111.

2. Kahn, pp. 27, 41-44; Nedved, 106.

3. *Cryptologic Bytes*, "On This Date in History" Calendar, "1918: German spy Lothar Witzke was arrested carrying a coded message," January 18, 2022, [https://cryptologicfoundation.org/what-we-do/educate/bytes/this\\_day\\_in\\_history\\_calendar.html/event/2022/01/18/1642482000/1918-german-spy-lothar-witzke-was-arrested-carrying-a-coded-message-/84967](https://cryptologicfoundation.org/what-we-do/educate/bytes/this_day_in_history_calendar.html/event/2022/01/18/1642482000/1918-german-spy-lothar-witzke-was-arrested-carrying-a-coded-message-/84967).

After spending most of the 1930s out of government, Yardley next created the Chinese version of his Cipher Bureau (1938-1940). Among this bureau's success was the breaking of several codes, to include a Japanese air force code, which alerted the Chinese to air strikes, and a German five letter code. He left there against the wishes of his employer, i.e., the notorious spymaster Dai Li, as his health had deteriorated (Yardley lost 40 pounds in China).<sup>4</sup> He went to Canada in 1941, where he created the Examination Unit under the National Research Council. Yardley's six-month contract with the Canadians was not renewed, the direct result of British and American pressure on Canada to replace him. Nonetheless, his Examination Unit enjoyed success against both German and Vichy French targets.<sup>5</sup>

If one needed an organization stood up in hurry, Yardley was the man to call. The U.S. governmental system has always adhered to civilian control over the armed forces. Yardley proved that a civilian, similarly, could run a cryptologic organization for a military customer. For the record, Yardley himself was a competent albeit not brilliant codebreaker.<sup>6</sup> His ability to create a competent cryptologic organization quickly is clearly a positive contribution. He also made other contributions that cannot be called positive at face value (though they ended up that way). These are related to the release of his tell-all book. Essentially, Herbert Yardley inadvertently "reshaped" cryptology. Due to his disclosures, cryptology was suddenly forced to deal with new issues it had never dealt with before. There are ramifications to this day.

First, the release ignited a debate about the role of communications security in an open society. In the year 2021, the question is "What is the proper balance between privacy and security? Yardley, to be certain, did not have that question in mind when he wrote his book in 1931. While his exact reasons for writing the book will always be debated (financial gain seems most likely), he did say publicly that the book was intended to alert the U.S. Government to the inadequacies of its own cryptology.<sup>7</sup> The debate he ignited in the early 1930s, was "How much should the public

know about cryptology?" For the first time, cryptology took on a societal function. Where did it fit in society?

He even made cryptology litigious. His second book, *Japanese Diplomatic Secrets* (1933), was effectively stopped from publication because the U.S. Government passed legislation to block it. The issue was so paramount that this legislation (Yardley himself called it the "Secrets Act") was actually signed by Franklin Roosevelt during that famous first 100 days that opened his administration in 1933.<sup>8</sup> Although there had been earlier laws that dealt with protecting government secrets, none of these specifically referred to leakers. Of course, there would eventually be major disclosures and legislation to control leaks. It all started with Yardley though.

Finally, Yardley evolutionized cryptology. Thanks to his disclosures, the United States got the wake-up call that Yardley thought it needed. One can conclude it was even a blessing in disguise, since it resulted in the adoption and perfection of cryptosystems that greatly facilitated U.S. victory in World War II, e.g., machine generated ciphers. Frank Rowlett, arguably the best U.S. cryptologist during the 1930s and 1940s, opined that Yardley's disclosures "helped us a lot more than it hurt us."<sup>9</sup>

Darwin's "survival of the fittest" concept even applied to cryptology—cryptologic organizations now realized that they had to adopt to new realities. One reality was that one could not remain complacent concerning techniques and technology and survive. Another reality was the insider threat. No cryptosystem, in this new age, could stay safe for very long. Cryptology became elastic by design. Again, this all started with Yardley.

One might be surprised to learn that there is still much to learn about Herbert O. Yardley. Some recent NSA releases, for example, suggest that he was more technologically savvy than credited, and that he thoroughly understood the communications collection process of the time. It is also important to note that despite allegations there is no solid evidence supporting charges that he willfully provided intelligence to the Japanese in both 1930 and 1941. By his unprofessional actions, he undeniably discredited the intelligence profession. However, as David Kahn said of Yardley, he was "a rotter, not a traitor."<sup>10</sup>

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4. Kahn, pp. 187, 191, 193, 197-198

5. Kahn, 204-205, 208, 210-213; Nedved, 120; See Peter St. John, "Canada's Accession to the Allied Intelligence Community 1940-45," *Conflict Quarterly*, Fall 1984. <https://journals.lib.unb.ca>

6. Kahn, p. 237.

7. "The Many Lives of Herbert O. Yardley," accessed April 21, 2021, p.12, [https://www.nsa.gov/Portals/70/documents/news-features/decclassified-documents/cryptologic-spectrum/many\\_lives.pdf](https://www.nsa.gov/Portals/70/documents/news-features/decclassified-documents/cryptologic-spectrum/many_lives.pdf); Kahn, p.168.

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8. Kahn, pp. 171-172; *The Many Lives*, p.13.

9. Kahn, pp. 136, 168; *The Many Lives*, p.12.

10. Nedved, pp. 111-116, 124; Herbert O. Yardley Collection. <https://www.nsa.gov/News-Features/Declassified-Documents/Yardley-Collection/>, accessed April 21, 2021; Kahn, pp. 240-241.

Anyone reading this article might conclude that, by emphasizing the good over the bad in Yardley's disclosure, I am thereby aiding and abetting future reckless behavior. The purpose of this article, as a reminder, is to focus on his contributions and nothing more. This is the reason for my "glass is half-full" approach. Reckless behavior more times than naught gets its just reward. Most courts and peer groups are not very sympathetic to "I did it for a good cause" argument (one needs to remember that "the road to Hell is paved with good intentions"). Yardley, disowned by his own country, learned soon enough that there were consequences to actions.

Gregory J. Nedved has been a historian at NSA's Center for Cryptologic History since 2011. Prior to this, he spent much of his professional career (military and U.S. government) working with the Chinese language in various capacities, e.g., language analyst, translator, instructor, etc. He is a two-time winner of NSA's Cryptologic Literature Award (2011, 2019) for China-related topics.