

# Mysterious Checks from Mauborgne to Fabyan

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## Abstract

It has long been known that George Fabyan's Riverbank Laboratories provided the U.S. military with cryptanalytic and training services during World War I. The relationship has always been seen as voluntary. Newly discovered evidence raises the question of whether Fabyan was in fact paid, at least in part, for his services, but available records do not provide a definitive answer.

At the start of World War I, the United States military had no formal cryptanalytic organization. There was certainly some expertise, notably in the persons of Parker Hitt, Joseph O. Mauborgne, and Herbert Yardley [12], but three people, however capable, cannot handle the demands of a war.

There was a pocket of civilian expertise at George Fabyan's Riverbank Laboratories in Illinois. He had set up a cryptologic group to find the alleged "hidden" cipher messages in Shakespeare's plays [12]. Fabyan offered his services to the government; his staff, led by William Friedman, did some cryptanalysis (especially of Mexican government messages) and trained Army officers [3, p. 107]. It has long been thought that Fabyan provided these services gratis. Indeed, Friedman himself said so [3, p. 109]:

It should be noted, and it gives me considerable pleasure to tell you, that this instruction was conducted at Colonel Fabyan's own expense as his patriotic contribution to the U.S. war effort. I can't, in this lecture, say much more about this than it involved the expenditure of many thousands of dollars, never repaid by the government — not even by income-tax deduction or by some decoration or similar sort of recognition.

Mauborgne said the same thing in a December 1960 oral history interview [11, Memo from Dr. Thompson, Signal Corp Hist. Div.]:

Fabyan offered gratis to take 50 army officers and enlisted men and teach them, an offer which Army G-2 accepted.

There is further support for this notion in a letter from Fabyan to Hitt [6]:

I have written to Major Gowen today. They have got a lot of funny laws in Washington. I don't believe the M.I.D. is posted on the acceptance of free services from civilians — God knows they have had a lot and are asking a lot more.

"M.I.D." is the Military Intelligence Division, where Yardley worked [13]; it was the beneficiary of Riverbank's services. Fabyan seems to be grouching about some laws—just which aren't clear—that are preventing him from being paid.

It might not have been that simple.

A recent chance Internet query found a sales listing for a July 1918 check from Mauborgne to Fabyan for \$40 (Figure 1). Correspondence with the seller revealed the existence of at least three more checks: November 26, 1917 for \$25, January 2, 1918 for \$40, and August 5, 1918 for \$40. Furthermore, he had sold other Mauborgne checks over the years; he does not know if any more of them were to Fabyan [5].<sup>1</sup>

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<sup>1</sup> All four known Mauborgne-Fabyan checks are now at the National Cryptologic Museum.



Figure 1: A personal check from Mauborgne to Fabyan. Note the lack of an account number: the signature had to be legible enough for the clerk to debit the proper account.

The question, of course, is why Mauborgne sent those checks. It seems hard to believe that they were personal payments; the known checks alone total \$145, a considerable sum for an army officer whose salary then was about \$5,000 per year [21]. It seems much more likely that he was paying Fabyan for Riverbank's services, and was in turn being reimbursed by the Army.

The checks were written on Mauborgne's personal account. More precisely, there are other checks from him of similar vintage that were undoubtedly personal, such as ones to the Grolier Society, the publisher of the Grolier Encyclopedia [5]. Furthermore, were this an official check drawn on a government account, he'd likely have signed his name "Major Joseph O. Mauborgne;" this signature has no title.<sup>2</sup>

Fabyan was a demanding, controlling individual. A feel for his personality can be gleaned from Friedman's discussion of possibly moving from Riverbank to M.I.D. [14, pp. 330-331]:

But [Fabyan] refuses to see it that way...he expressed in no uncertain terms his intention of making it exceedingly uncomfortable for everybody connected with MI-8.

Otherwise, he has been no more upset than I expected him to be at the news. We are going to part on friendly terms, though I feel that he will not hesitate to hurt us if he could for what he chooses to insist on calling 'a breach of loyalty to Riverbank.'

<sup>2</sup> Mauborgne was a major at the time the first three checks were written; he received a temporary promotion to Lt. Colonel on July 30, 1918, shortly before the last known check was written.

Fabyan was also stingy, and rather proud of it. In a letter to Mauborgne while Friedman was trying to crack Gilbert Vernam's one-time pad machine, he wrote [7]:

We don't want any information which is not consistent and which cannot be obtained readily by the enemy. Please remember that we have no control over the finances and budget system of the enemy, and any funds to cover the expense to obtain what the enemy might have comes out of the constipated pocket of. . . [George Fabyan].

If Fabyan could have found some way to be paid, he would have insisted on it. Laundering the money through Mauborgne would have been one possible way to accomplish this, despite the laws that apparently prohibited it; this is one plausible motive for these payments.

A second possible motive for making the payments this way was to hid the existence of the activity. SIGINT is generally a covert activity; hiding the existence of an organization to perform it would have been seen as a good idea. The official publication of the U.S. order of battle describes the cipher division's functions strictly in terms of protecting U.S. communications [4, p. 58]; there is no mention of SIGINT functions. This would have been especially important with respect to Mexico: Germany already had ample reason to suspect that Britain and France were engaged in similar activities, and one more such operation would not have increased their caution. (The British also tried to keep their cryptanalytic activities secret; they were rather upset, several years after the war, when the story of the Zimmermann Telegram was published [8]. Their caution may have been in vain; by late 1918, German Foreign Office cryptologists had already concluded that no known ciphers were secure [19]. Indeed, in official German government hearings in 1919–1920 on responsibility for the war, the government realized that cryptanalysis was behind the disclosure of this telegram [10, p. 18, quoting the German hearings].)

There is even precedent from around that time for intelligence agencies hiding funds in private bank accounts. After World War I, about \$100,000 in secret naval intelligence money was left over; to conceal it from Congress, the Director of Naval Intelligence deposited it in a personal bank account. When a new DNI took office, the money was transferred to him [2, p. 4].

The dates on the four known checks are consistent with a periodic payment schedule: they're all around the beginning or end of a month. (In 1917, Thanksgiving was the last Thursday of November [20], which was November 29; November 26 was the Monday of the holiday week.) However, the amounts are too low to be full compensation. Friedman speaks of "many thousands of dollars"; \$40 per month does not come close. Perhaps these were reimbursements for actual out-of-pocket expenses, a category perhaps not prohibited by law.

We have not been able to learn if Mauborgne was repaid by the Army for these expenditures. An examination of his service record by Betsy Rohaly Smoot found no evidence of such payments; on the other hand, there was also no salary information, suggesting that financial information was not included in the file. The National Archives says that payment records from that era were generally not kept for more than a few years.

Assume, then, that these checks do indeed represent laundered payments. There is another problem: the analysis is based on the hypothesis that the services for which Fabyan was being paid were Riverbank's well-known activities on behalf of M.I.D. Mauborgne, however, was not part of M.I.D.; he was in charge of Engineering and Research for the Signal Corps. Why would such payments be routed through him? Yardley, who headed M.I.D.'s cipher bureau, would have been a more logical conduit. On the other hand, given his position in the Signal Corps Mauborgne would have been involved with new codes, ciphers, and devices to protect U.S. Army communications. Might he have engaged Riverbank to analyze new cryptographic methods? The concept is not inconsistent with his other behavior; around this time, he introduced the AT&T personnel working on the Vernam machine to Fabyan and Friedman: "[I] feel sure that if they can see the machine they will get some additional notions which may be of value to all of us" [16]. (We should note that there is no chance that these checks were intended to pay for Riverbank's work on the Vernam machine. For one thing, the timing is wrong. The earliest known check, from November 17, 1917, is before the generally accepted date—December, 1917—of the invention of the Vernam machine [12]. Mauborgne wasn't advised of it until at least April 1918 [12], and didn't write his introductory note until late May. Finally, there is no mention in the AT&T archives of any payments; indeed, Fabyan himself noted he himself was covering the expense of that evaluation [7].)

That Fabyan did some work for the Signal Corps, too, is an intriguing hypothesis; however, there is no evidence for it and some evidence against it. Mauborgne's introductory note speaks only of Fabyan's work

on “confidential ‘cipher-breaking’ work for the Army, the Navy, and the State Department”, but says nothing about evaluating new schemes; that is what would have been appropriate here. The two roles are not the same. Certainly, cryptanalysis is needed for evaluation, but an evaluator would also need to mention possible operational issues. Friedman himself was aware of this; he wrote [9, Addendum 1], “Since carelessness on the part of the personnel to be entrusted with the operation of machine ... [is] to be expected, the existence of this opening for an attack must be admitted’.” Mauborgne’s service record makes no mention of this sort of activity, nor has anyone noted this in the Signal Corp archives from the period. Furthermore, the second rationale given above for laundering payments—to conceal the existence of the work—doesn’t seem to apply; it’s very normal for countries at war to use encryption.

Some recently declassified letters in the Friedman Collection appear to rule out all of these hypotheses: they categorically state that he was not paid or reimbursed, and they outline his complete service to both M.I.D. and the Signal Corps [15]. It is worth quoting at length from a letter by Mauborgne to the Chief Signal Officer supporting the case:

The facts on which the recommendation should be based are as follows: Colonel Fabyan, at the outbreak of the war, had a cipher laboratory established (which he rapidly expanded), and took over for the United States Government and the various Departments just mentioned [the Signal Corps, M.I.D., the Naval Communications Service, and the Justice Department], the “breaking” of codes and ciphers concerned not only with the operation of German spies in this country but also the Mexican operations. His Cipher Bureau “broke” many messages of great importance to the various Departments in Washington at a cost of *absolutely zero to the Government* [emphasis added], the whole burden of the expense of maintaining a cipher laboratory, the pay of the employees, their housing, and all other expenses being borne by Colonel Fabyan. In addition, Colonel Fabyan proposed to the War Department, and had accepted by the Chief Signal Officer, the proposition of sending to Geneva, Illinois, to Colonel Fabyan’s laboratory, a number of selected Signal Corps officers and men for training in cipher work. A very successful course was given by Colonel Fabyan’s operatives to the selected Signal Corps personnel, at a considerable expense to Colonel Fabyan. The volume of work done by his cipher laboratory was tremendous, and his only recompense has been a letter of commendation from the Chief Signal Officer of the Army.

This was a purely internal Army communication, from Mauborgne to the Chief Signal Officer; there would have been no need to dissemble about who paid for what. Furthermore, this letter stresses Fabyan’s expenditures as crucial to the case for the award:

It may be argued that Colonel Fabyan does not deserve this medal on account of the fact that it was his employees who did the work, but this view does not recognize the part played by Colonel Fabyan *in the expenditure of money* [emphasis added] and time in the organization of his bureau, and in a thousand other ways, which places the credit for his success on his own shoulders.

The same file also seems to rule out any major work of any other sort performed for the Signal Corps. The aforementioned commendation letter notes his cryptanalytic work and his training efforts, as well as his efforts on the Vernam and Morehouse machines [1]. The latter is described as his greatest achievements, but (as noted) that was after these checks were written. The letter does speak of “numerous other problems” that his lab worked on, but it seems more likely that that refers to the other government departments he aided—this was a letter about his contributions to the Signal Corps.

If the checks were not laundered payments—that is, if they really were personal checks—what might they be for? That is, why would Mauborgne pay Fabyan that much money? They had some shared interests. Mauborgne was also an artist [18] while Fabyan collected Asian (especially Japanese) art [17, p. 12]; perhaps Fabyan had lent him money to purchase some art. Despite his stinginess, Fabyan could also be quite generous [17, p. 6].

At this point, we do not know the answer. That said, the checks exist; it would be good to learn their purpose.

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