The Link

BULLETIN OF THE NATIONAL CRYPTOLOGIC MUSEUM FOUNDATION, INC.

VOLUME 4, NUMBER 4 Winter 2000/2001

BEFORE ENIGMA

JAN KOWALEWSKI AND THE POLISH CIPHER BUREAU, 1919-1922

By Robert J. Hanyok, Center for Cryptologic History

The early days of modern cryptology in the 20th century were dominated by the exploits of a handful of pioneering individuals. These men and women, who were part savant, part autodidact, with some bits of visionary and buccaneer mixed in, came to define cryptology and the directions it took in the different countries they worked. In the English speaking countries of the United States and the British Commonwealth, we are mainly aware of names like Yardley, the Friedmans (William and Elizebeth), Denniston, Tiltman, "Blinker" Hall, Agnes Driscoll, Laurence Safford, and others. Sadly, outside of this narrow Anglo-American coterie, little is known of the work of early cryptologists from other countries. This is all the more our loss, because some of their stories are as interesting as those in the United States and Great Britain. In many cases, these individuals were well known to their Anglo-American counterparts, both as allies or adversaries. At the same time, these pioneers affected the history of their own countries as much as those in the United States and England. Of these cryptologists, one of the most fascinating is the Polish army officer, Jan (or Ian) Kowalewski, the founder of the Polish Cipher Bureau.

In trying to reconstruct Kowalewski's life, one of the major problems is the lack of primary archival sources. The Nazi conquest of Poland is the main reason: the records of the Polish Cipher Bureau (Biuro Syfrow) that the Germans did not capture were probably destroyed deliberately by the retreating Poles. Most of the Bureau's personnel (though not all) escaped to France, via Rumania, and later to England. After the war, Kowalewski stayed in Great Britain and edited a magazine on Central European affairs. What we know of his exploits comes from interviews with him and others from the Bureau. Additionally, the anti-Soviet British writers who recorded his cryptologic achievements probably minimized the contributions of other Poles, as well as downplayed the influence of French and Japanese technical exchanges and training during the first days of the Cipher Bureau. What has been recovered of his career and exploits is fragmentary and occasionally contradictory; no photograph of Kowalewski is readily available. Still, we can draw a good picture of one of this century's cryptologic pioneers.

Jan Kowalewski was born in 1892 in the city of Lodz, which is about 60 miles southwest of Warsaw, in the portion of eastern Poland which was part of the Czarist empire. Intelligent and talented, he , like many Poles at the turn of the century, was passionate about a free Poland. In 1911, Jan went to Belgium to study chemical engineering. When the First World War broke out, he returned to Russia and took a commission in the Czar's army. At the time of the Bolshevik revolution in 1917, he was elected by a soldier's committee to command the unit. When Polish national units started to defect to the newly established state of Poland, Kowalewski marched west

Continued on page 5

IN THIS ISSUE

OVERVIEW

Whether you celebrated the millennium last year, or insisted that it didn't start until this year, we've now turned another page of the calendar and can agree that we're in the Twenty-first Century, the new millennium. The excitement of the past fall – the third General Membership meeting, the SIGSALY exhibit – has abated, but your Foundation continues to be busy, behind the scenes, doing such necessary things as reviewing and updating our Strategic Plan. (Talk about exciting!) At the recommendation of Jim Boone, whose Acquisitions Committee initiated the drive for a new home for the National Cryptologic Museum, we have obtained the voluntary service of a recently retired NSA official with long years of experience in logistics – Ed Kirk. Ed will take over from Acquisitions the Foundation's effort with respect to a new facility and work with Agency counterparts. To put some teeth into the effort on our part, the NCMF Board of Directors has established a separate category in our budget, and started it off with $45,000 seed money. (This comprises the total of $25,000 from SASA, presented at the General Meeting and described in the Fall 2000 issue of *The Link*, plus two separate donations of $10,000 each from two of our members.)

It is discouraging not to be able to report success in obtaining an EC-121 to add to the recon aircraft in the National Vigilance Park, in tribute to the Navy-Marine Corps role in Cold War aerial electronic reconnaissance. (The choice of the EC-121 is to be a memorial commemoration of the Sea of Japan shoot-down by North Korea, which cost the lives of Navy and Marine cryptologists as well as flight crew.) Certainly we have been trying. Perhaps this will be the year.

The Board has also agreed to set its quarterly meetings on the first Friday, starting 2 March and continuing in June, September, and December. Since I attend meetings of the Executive Action Group (which acts on behalf of the Board between the quarterly meetings), EAG chairman Bob Rich felt it proper to step aside and have me chair that group, and I agreed. He will continue to back me up, and I want to thank him for having established the group and making it into an action-oriented tool for the Foundation's work.

The concurrent realignment of organizational structure and procedures within NSA, which has occupied much attention and attracted an unusual amount of media interest over this past year, seems also to have settled. Among the "tightened up" results, in October Lt. Gen. Michael Hayden, USAF, the Director, NSA (DIRNSA), selected the Deputy Director of his Program and Budget office, RADM Joseph D. Burns, USN, for the position of Chief of Staff to the Director. With the centralization of command lines under the Director or the Chief of Staff a key feature of the realignment, we expect smoother and speedier action interface between the NCMF and the Agency – while recognizing that the Agency's current operational requirements always take priority.

Finally, let me thank the Foundations' officers and staff who made it possible on 14 December for us to recognize and express thanks to the Museum staff, including the docents, library, and gift shop personnel, as well as our own staff.

John E. Morrison, Jr.
President

MUSEUM HAPPENINGS

Museum director and curator Jack Ingram reports that some 55,550 *counted* visitors came to the National Cryptologic Museum in 2000. There were 940 tours, with 59 school groups, 28 Scout troops, and 29 media groups. The Museum was the site for 43 social events. During NSA's annual Family Day in September, over 1500 visited the Museum, and 14 tours were conducted. Four tour groups from the National Youth Forum were guests in October. That same month a Congressional staff group toured, and, in November, thirty wives from the current CAPSTONE group (orientation program for new general officers) came to visit.

To afford even better recognition of the facility, a proposal to re-name the entrance road is working its way through the system. Plans are also underway to improve handicapped access to and within the Museum, including an electronically-controlled entrance door.

Notwithstanding the state-of-the-art, hand-held personal tour guide (INFORM, available for free rental at the gift shop), there continues to be a

Continued on page 5

NAZI WORLD WAR II CRIMES AND THE CONTINUING DECLASSIFICATION OF U.S. RECORDS

By Raymond P. Schmidt

Ink had scarcely dried on Executive Order 12958 ("Classified National Security Information") in April 1995 when Congress was asked to authorize a special government-wide effort to declassify specific U.S. records disclosing information about Nazi war crimes. The dual objective was to obtain public release of *all* records pertaining to persons who were involved in Nazi war crimes, as well as those pertaining to transactions involving assets taken from Nazi victims. As of December 2000, nearly 2 million pages of records had been released to the public by the National Archives at College Park, Maryland under the new law. Phase I of the task is moving toward completion as scheduled by January 2002, and Phase II has already begun. This new law vastly expands decades-long efforts of the Department of Justice Office of Special Investigations (OSI) into Nazi war crimes. It impacts heavily on the intelligence community, and its impact on the history of World War II will be significant.

The first draft of legislation was introduced in the House by Representative Carolyn B. Maloney (D-New York) and in the Senate by Senator Mike DeWine (R-Ohio). On 14 June 1996, the Subcommittee on Government Management, Information, and Technology of the House Government Reform and Oversight committee held hearings concerning H.R. 1281 ("War Crimes Disclosure Act"). House Report 104-819 issued in September 1996 recommended passage of the bill, but it died in the 104th Congress without coming to floor vote.

Two companion bills were introduced in the 105th Congress: H.R. 4007 and S. 1379 ("Nazi War Crimes Records Disclosure Act"). The House bill was replaced by an amendment, Joint resolution 1281. Senate co-sponsors of the amended bipartisan bill included Senators now familiar to most Americans: Hatch, Leahy, DeWine, Kohl, D'Amato, Dodd, and Moynihan. The full Senate Judiciary Committee unanimously reported out the bill, and it was placed on the Senate calendar two months later. The Senate subsequently amended S. 1379 and passed it on 19 June 1998. The next month, the same House Subcommittee held hearings on the House and Senate bills, which resulted in passage by the House on 6 August. With strong bipartisan support, the amended bill was signed by the President on 8 October 1998, and took effect on 6 January 1999. The Congress of the United States thereby put its full support behind decades of ongoing efforts "to bring to light the full story of Nazi crimes against persons and their property, and [to shine a spotlight on] Nazi criminals and the U.S. Government's knowledge about them."

PL 105-246 amends the Freedom of Information Act (FOIA) (Title 5 United States Code Section 552), and silences part of the National Security Act (N.S.A.) of 1947 (Title 50 U.S.C. Section 431). It expands the FOIA by establishing a stated presumption that Nazi war criminal records shall be made available to the public on an accelerated basis. It silences a part of the N.S.A. of 1947 by specifying that Section 701(a) of that act shall not apply to any operational file, or part of any such file, that constitutes a Nazi war criminal record. Stated simply, this provision means that the Director of Central Intelligence may not exempt Nazi war criminal records from public disclosure on grounds that they are "operational files of the Central Intelligence Agency."

The Nazi War Crimes Records Disclosure Act further accelerates the demanding pace of Executive Branch agency declassification review of records established by EO 12958 and already under way. Speed is indeed a major concern of this Act because agencies were initially given only <u>one year</u> [subsequently increased to three years] from the date of enactment of the Act [8 October 1998, subsequently extended by three months] to "locate, identify, inventory, recommend for declassification, and make available to the public . . . all classified Nazi war

Continued on page 4

NAZI WORLD WAR II CRIMES AND THE CONTINUING DECLASSIFICATION OF U.S. RECORDS

Continued from page 3

criminal records of the United States." In May of 2000, the National Archives reported that some 1.5 million pages of records have been declassified and made available to the public; even more have been released since then and the rate of release appears to be accelerating.

As required by the Act, the President issued Executive Order 13110 in January 1999 less than a week after the law went into effect. The Order created the Nazi War Criminal Records Interagency Working Group (IWG) comprised of seven agency heads [represented by high-level officials] and three public members. No time was wasted in completing the survey by 31 March, which revealed a possible universe of 600 million pages subject to the Act; the number of pages actually responsive to the Act is expected to be considerably fewer, of course, estimated now to be around 10 million pages. The IWG held 20 regular meetings by the end of 2000, and also has conducted three special forums in Los Angeles, New York, and Cleveland; created a Historical Advisory Panel and hired two Historical Consultants; testified before the House Subcommittee and the Senate Select Committee on Intelligence; consulted with the directors of the Federal Bureau of Investigation and the Central Intelligence Agency and their general counsels; and worked closely with the Presidential Advisory Commission on Holocaust Assets in the United States.

Most of the records released were created or stored by the Department of State, the Central Intelligence Agency, and the Department of the Army. Files already declassified include records of the Tripartite Gold Commission, the DoD Foreign Scientists Case Files, investigative dossiers compiled by the Army Counter Intelligence Corps, and the Office of Strategic Services. Significant volumes of microform records must be reviewed, multiple agency coordination completed, and care exercised to ensure that intelligence methods and sources and atomic energy information remain protected. Foreign government information provided in confidence also poses additional review concerns.

Predictably, the task is far from complete. One reason is that several agencies have not yet completed their reviews for any number of reasons, lack of resources being the primary one. Another reason is that the Act requires that records related to war crimes committed by "any government which was an ally of the Nazi government of Germany" must also be disclosed to the public. This obviously means Japan, and thus the disclosure program has begun its second phase.

Everyone recognizes that a budget for a project of such scope is vital to success. The DoJ OSI provided $400,000 to NARA for travel, meeting expenses, and contractor support to the IWG. In addition, the National Archives included $200,000 in its budget for FY2000 contractor support. Whether these sums are adequate to meet the schedule remains to be demonstrated.

Ray Schmidt served two tours at NSA, first as a Navy junior officer from 1959 until the Cuban missile crisis in 1962, and from 1982-1988 as Captain, USNR. As a Naval Security Group (NAVSECGRU) civilian for 14 years, he established the first modern U.S. naval cryptologic records management, archival, and history programs, then expanded into curatorial activities and created and directed a unique naval cryptologic museum, opened in 1976 and named in honor of RADM Joseph N. Wenger, the Navy's first cryptologic flag office. While assigned to the office of the Chief of Naval Operations in 1995, he directed the Navy's efforts responsive to the requirements of EO 12958. In June 1998 he relinguished responsibility as head of Naval Information Security Policy and assumed full-time duties as Director of the Navy and Marine Corps Declassification Program. When he retired 18 months later, 235 million pages had been reviewed. In December 1999, he was invited to serve as an independent contractor for the company that supports the IWG and the National Archives and Records Administration.

MUSEUM HAPPENINGS

continued from page 2

desire for the personal touch of a human being, one of the docents (volunteer guides), most of whom are retired cryptologic professionals who know whereof they speak. As noted in *Overview* (page 2), the Foundation honored these stalwarts, as well as the Museum staff and its own office crew, in a party at the Museum on 14 December.

The Holiday Party was in the spirit of the season: the normal appearance of the Museum was transformed through miniature live Christmas trees, hanging colorful crepe paper in red and green, and a centerpiece; a "boom-box" and seasonal CDs offered background. Contrary to "F6" rumors that he would be arriving as Santa, the Foundation President, Gen. Morrison, did distribute Santa hats to all, and some thirty to fifty (accounts varied) took part. As a surprise, a Navy group from Norfolk came to present a print of charcoal drawings of personalities associated with the Battle of Midway. This was presented to Gen. Morrison and added to the Museum's Midway exhibit. (Photo in the spring issue.)

The Museum also provided the setting for a major segment of an NSA program featured on the cable television History Channel series, "History's Mysteries," which aired 14 January. Among those appearing (in addition to the Director, NSA) were Foundation director Ann Caracristi, Museum curator Jack Ingram, and Dr. David Hatch, Director of the Center for Cryptologic History. The program included some rare shots of the interior of the NSA buildings, "behind the fence."

BEFORE ENIGMA

Continued from Page 1

with them. There, he became a staff officer for General Joseph Pilsudski, Poland's first head of state and a marshal of its armies.

In mid-1919, hoping to expand its territory (and recover portions of a "historic", greater Poland) at the expense of a Bolshevik Russia, itself threatened by allied interventionist forces and the loose coalition of Russian counter-revolutionary forces, Poland invaded western Russia, seizing parts of Lithuania and Byelorussia. At the time, the fledgling Bolshevik regime in Moscow could do nothing to stop the Poles, since it was besieged from several points, the most dangerous being the western powers-backed armies of the counter-revolutionaries or "White" Russians, led by Generals Wrangel and Denikin and Admiral Kolchak. It was at this point that the most trivial of events happened that led to the start of the amazing cryptologic career of then Lieutenant Kowalewski and the subsequent founding of the Polish Cipher Bureau.

As Kowalewski told it, one day a friend of his was getting married and asked Jan to fill in for a fortnight at his post in a radio station. At the site, Kowalewski's job was to review the station's intercept of foreign radio broadcasts and telegrams and evaluate them, looking for anything of intelligence or propaganda value. A master of several languages, Jan easily took to the work and became intrigued by the job. One day, a radio operator handed him some coded Bolshevik messages that he had intercepted. Within two days, he had broken the Bolshevik codes - their systems were quite elementary, including simple codes and substitution and transposition ciphers such as the "Caesar" system. What these messages revealed was the Bolshevik appreciation of the Whites' military situation. In this case, General Denikin's drive towards Moscow was being threatened (unknown to him) by two Bolshevik divisions which had been trailing him and were slipping behind his forces to cut their lines of communication.

Kowalewski passed the information up the Polish chain of command to the intelligence branch of the General Staff in Warsaw. Electrified that they could watch both the Reds and Whites (at the time, the Poles actually feared the ultimate designs of the Whites more than they did those of the Reds, seeing that the Whites might try to reclaim portions of Poland for a reconstituted imperial Russia), the Chief of Staff, General Rozwadowski, ordered Jan to form an intercept and deciphering unit. The Polish Radio Telegraphic Department's entire broadcast monitoring staff was given to him while officers with foreign language and mathematics abilities were assigned to his new department. To handle the enormous amounts of coded and enciphered Bolshevik military messages now being collected by the Polish radio intercept sites, a number of mathematicians were transferred to Kowalewski's burgeoning Cipher Bureau.

By early 1920, the Poles could read nearly all of the Red Army's secret communications. The Poles were also helped by the policy of the Bolshevik Minister of

Continued on page 6

BEFORE ENIGMA

Continued from Page 5

Defense and Commissar of the Red Army, Leon Trotsky, who had ensured that his formations were well supplied with radios which, in turn, assisted Warsaw's intercept of Bolshevik messages. However, Red Army communications and cipher security had not advanced much since the Czarist Imperial Army's disaster at Tannenberg in 1914. In that battle, Germany had exploited Russian communications to defeat its two armies in detail. Bolshevik ciphers remained simple substitution and transposition systems which were easily broken. The Polish Cipher Bureau had reached the point that intercepted messages were broken, translated, and reported to the Polish General Staff in the same day. The Polish military command had in its hands the strengths, plans, and shortcomings of Trotsky's military forces.

In March 1920, the Polish forces began the invasion of the Ukraine, hoping to detach this historically contested territory from Moscow. Marshal Pilsudski dreamed of forging an alliance of independent national states, such as Lithuania and the Ukraine, to oppose communist Russia, but this ambitious plan never had a chance to succeed. Even though his forces had reached the Ukrainian capital, Kiev, by May they were dangerously overextended. Having ignored warnings from Kowalewski's cryptologists of an impending Bolshevik riposte from the South, Pilsudski's troops found their lines of communications threatened and were forced into a hasty retreat back to Warsaw. By summer, Trotsky had organized a massive counterattack by the Red Army. In the north, command of General Mikhail Tukachevsky, perhaps Trotsky's most capable military leader. To the south, heading for Lublin, was General Semyon Budenny's Southwestern Front composed of his battle-hardened cavalry troops with Joseph Stalin as its political commissar. To hold liaison between the two fronts, an ad hoc unit, the Mozyr Group (Mozyrskoya Gruppa) was organized. As long as the Mozyr Group held a front of 30 miles, there was no problem, for it could protect the vulnerable gap between the main two Red Army fronts. Moving inexorably westward, the two fronts pushed the defending Poles closer to the gates of Warsaw on the banks of the Vistula River. Behind the troops came a provisional Polish government under the charge of Feliks Dzherzinsky, a Polish communist and the head of Lenin's notorious secret police apparatus known as the Cheka. The Bolshevik leaders, flush with an impending victory and not unlike the Poles a few months earlier, had a greater ambition before their eyes - to carry the Bolshevik revolution into a fragile Germany and the rest of the weary, post WWI Western Europe. But, as the Soviets closed on Warsaw and central Poland, their main forces drifted apart on separate axes of advance and the gap that the Mozyr Group had to cover dangerously widened.

As the Russian armies advanced westward, Kowalewski's radio men intercepted messages that revealed their order of battle, the locations of their various divisions, their avenues of attack, and even the new cyptographic keys for the Bolshevik ciphers. The most important information came from the Mozyr Group's commander who radioed that the gap between Tukachevsky's and Budenny's force was too wide for him to cover with his meager force of cavalry troops. The Cipher Bureau passed this information to the intelligence staff of Polish General Headquarters in Warsaw. When Pulsudski was told of the gap he saw an opportunity to unhinge the Soviet advance by attacking through it and then swinging north behind Tukachevsky's lines of communication. He needed to know one more thing: were there any reserves to meet the proposed Polish counterattack? Kowalewski's answer was no. Ignoring the advice of his French advisors, Pilsudski seized the opportunity, and on 6 August 1920, he ordered Polish units into the gap. The Mozyr Group was overwhelmed. Tukachevsky did not react for two days to the growing Polish threat to his rear because Kowalewski, in addition to his intercept work, had organized a massive jamming of all Fourth Army radio communications, utilizing the national network of Polish radio stations similar to the one that Kowalewski had started in the year before. Totally confused and isolated, Tukachevsky's forces collapsed. Three of his armies disintegrated, and the fourth fled to Lithuania to be interned there.

To the south, a final, desperate riposte by Budenny's cavalry force to cut off the Polish breakthrough was stopped at Zamosc. His mounted troops, who had harried Polish forces westward across the Ukraine all summer, were decisively stopped. This attack had been anticipated by Pilsudski: again, he had been tipped off by the reports of troop concentration by Kowalewski's bureau.

In Polish history, this event became known as the "Miracle on the Vistula." Jan Kowalewski was awarded Poland's highest medal, the Virtuti Military, by

Continued on page 7

BEFORE ENIGMA

Continued from Page 6

Pilsudski himself. Yet, this was not the end of Kowalewski's cryptologic career.

After the Russo-Polish war, Kowalewski's bureau found itself involved with major new targets such as Russian diplomatic maneuvers in the Baltic region and the secret rearming and training by the German Reichswehr. Poland's position between these two powers - both with a national grudge against Poland - mandated the expansion of the Cipher Bureau. To improve its capabilities, the Polish Cipher initiated a series of contacts with the cyptologic organizations of major powers. One natural choice was France with its history of tactical COMINT successes during the First World War. It is possible that French and Polish contacts had begun as early as 1919 during the war with Bolshevik Russia; there had been a large French military advisory mission in Warsaw during the conflict. In late 1920, senior Polish cryptologists began to go to Paris for formal training.

In 1922, the Poles approached the Japanese about technical exchanges. This feeler possibly was not the first meeting between the two countries on cryptologic issues. In 1920, even as the Bolshevik armies neared Warsaw, there is a suggestion that the Japanese had offered some technical advice or information on Soviet codes based on their own experience in the Far East; then, again, the Poles, thanks to Kowalewski's bureau, already knew of the shortcomings in the Russian codes. However, in 1922, the Poles developed their own enticement for the Japanese: decrypts of Russian diplomatic messages relating to Soviet-Japanese negotiations over the port of Darien (known today as Dalien). Intrigued by the Polish successes against the Russians, the Japanese requested lectures and technical advice on cryptology. Kowalewski, who had just returned from Paris where he had taken a staff course on radio intelligence from the French military, was dispatched to Tokyo.

In Japan, Kowalewski, now a Captain, delivered a series of lectures to Japanese naval and army officers. Sitting in his audience among these officers were Commander Risaburo Ito, the future designer of the Red and Purple diplomatic machines, and Lieutenant Commander Nakasugi, who later organized the Imperial Japanese navy's first radio intelligence unit. The main emphasis of Kowalewski's lectures was the development of codes and ciphers - cryptography - and the improvement of Japanese systems. He taught the Japanese how to strengthen ciphers by varying inscription and transcription methods, thus making stereotypical Japanese formats and text less susceptible to cribs. He also conducted cryptanalytic workshops for neophyte Japanese codebreakers using the United States State Department GRAY code for their exercises.

Did his lectures help? Kowalewski told the story that during a break in one of his lectures one day, he spotted Japanese officials burning up old papers and books in a courtyard of the building he was teaching. He asked his interpreter what was happening. The response was that ever since his talks, the Japanese realized how poor their old codes and ciphers were, so they had begun destroying them and designing new ones. Eventually, Kowalewski would receive a special bejeweled sword from the Japanese for his work.

Praise came from another, and unexpected quarter, as well. Herbert O. Yardley, the founder and head of the American "Black Chamber", a cryptologic office jointly funded by the U.S. State and War Departments, when working on Japanese Army cipher systems at the time, had found a sudden increase in sophistication which required many months of work with ". . . all our skill . . ." to break. He attributed this increase to Kowalewski's work, though Yardley never mentioned his name and always referred to him as the "Polish Cryptographer."

However, upon returning from Japan with all the accomplishments, Captain Kowalewski, like some Cryptologic Cincinnatus, just walked away from the Cipher Bureau. He took a staff position in Warsaw and then went on to be the Polish military attache to Moscow and then Bucharest. He was never directly involved with cryptology again. Still, his legacy is impressive. He founded the Polish cipher Bureau and gave it its initial expertise and élan, which in a few years, under the leadership of Francizek Pokorny and Gwido Langer, would break the German Enigma - arguably the most impressive intellectual feat in 20th century cryptology. His bureau's efforts during the Russo-Polish war of 1920 demonstrated the applications of COMINT to the success of military operations. Finally, his lectures and workshops with the Japanese set that country's cryptologic efforts in a more sophisticated direction, leading to the legacy of codes and cipher systems which so challenged American cryptologists in the Pacific before and during WWII.

From "NCVA Cryptology," Spring 1998, by permission.

Join the National Cryptologic Museum Foundation

ANNUAL MEMBERSHIP APPLICATION

❑ Please begin/renew my membership in the Foundation

❑ $25 Sustainer	❑ $1,000 Sponsor
❑ $100 Contributor	❑ $5,000 Patron
❑ $250 Supporter	❑ $10,000 Benefactor
❑ $500 Donor	

The Foundation is certified as a non-profit organization by the I.R.S.

Name _____

Address _____

City _____

State _____ Zip _____

Phone _____ E-mail _____

Date _____

Please make your check payable to:
The National Cryptologic Museum Foundation

The National Cryptologic Museum Foundation, Inc.
P. O. Box 1682
Ft. George G. Meade, Maryland 20755-9998

PLACE STAMP HERE