



The Link

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THE MUSEUM PARK: A VISION OF THE FUTURE

Anything having to do with a nation's Governmental and Military cryptology has traditionally been shrouded by a veil of secrecy. This is necessary to prevent knowledge of techniques, capabilities and successes from being compromised to actual or potential enemies. But because cryptologic endeavors must continue to be protected – in most cases for many years – cryptologic contributions to our national security are little known, yet many are incredibly significant for the nation and even for the world. A new era began in the mid-Seventies, when NSA Director Inman ordered the systematic review and declassification of World War II SIGINT records. History has been rewritten as a result, and popular interest whetted. Building on that accomplishment, in 1991 Director Studeman seized on the opportunity to use a recently acquired former motel nearby, the "Colony 7," to display some of NSA's collection of historic artifacts and to tell the story of America's unsung cryptologists. It became a very special gift to the nation during the fiftieth anniversary of World War II.

With approval from the Secretary of Defense in 1991, the Director established The National Cryptologic Museum. This was an historic

occasion for the United States and the world when it opened 17 December 1993. This was the first – and thus far the only – military museum of the Defense Department itself. It was the first time that the public would have the opportunity to learn officially about the vitally important work, which had been conducted under protective secrecy by our nation's Cryptologic Services. Many stored cryptologic artifacts – many U.S. and captured enemy cryptographic devices and documents – were examined and carefully selected for declassification and display. They constituted the initial exhibits in the converted motel that became today's National Cryptologic Museum, a showcase of the secret world of "code-making and code-breaking." As word spread, NSA found that it had a "hit" on its hands. Foreign media clamored for admittance. Families of current and former NSA and Military Service cryptologists came to learn

what Dad and Mom had done "behind the security fence." Congressional staffs and VIPs from National and local government came to learn about the mysterious world of the State's major employer.

Today, the U.S.

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OVERVIEW

Our lead article says it all. It reflects a continuing theme for those readers of *The Link* who have been with us, and it reiterates the story for those new to our ranks. It's what we're all about. I hope you read it and digest its full import, for it lays out a noble venture, a worthy objective.

I am encouraged by expressions of support and assistance that have reached my ears over recent weeks. It is premature to get into details, but one item will be of interest to all: it seems that we are getting closer to seeing the Vigilance Park become truly "joint," with the long-awaited addition of a representative reconnaissance plane from "the sea services." It probably will not be an EC-121, as hoped (recalling the shoot-down in the Sea of Japan, off North Korea), for they are in short supply these days. Rather, it may be a later, but still representative, example of the Navy-Marine Corps team aloft. I hope we can be more specific by our next issue.

Once again we express our appreciation to Eagle Alliance for their support of the annual golf tournament – and for the financial contribution it brings to our work. Thanks, fellows!

We've been busy planning for our fifth annual NCMF General Membership Meeting for 12 September. The program will account for the Foundation's work over the past year, but we will also hear about present and future activities, such as the ongoing emphasis on Homeland Security. I look forward to the occasion, coming the day after our anniversary observance of 9/11.

Elsewhere in this issue you'll see that Mrs. Mary Faletto has joined our tiny office staff – and immediately become a welcome addition, just in time for the Annual Meeting work. Mary and Sherri, our part-time administrator and secretarial assistants, represent a broad and diverse background of experience in NSA, so each has "hit the ground running." Without designating which is which they are my left and right hands, and they keep me, as well as the office, "on track." Welcome aboard, Mary.

Welcome also to Mrs. Pat Clements, another NSA veteran, who will take over the "care and handling" of Foundation volunteers assisting the Museum by acting as receptionists, occasional docents, and who will manage the Acoustiguide "hand-held" personal tour system for the Museum.

John E. Morrison, Jr.
President

THE MUSEUM PARK: A VISION OF THE FUTURE

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SIGINT endeavor is the largest and most complex of all the intelligence disciplines and also the most costly. It involves NSA and other major U.S. Government elements, first among them the Military Services. Closely related is the security or Information Security Assurance mission, which has taken on new meaning in this age of computer and communication connectivity. Considering the need for the large budgetary outlay to retain those endeavors it is critically important to gain and sustain the understanding and support of the American people. Despite its humble and now overcrowded accommodations, the present National Cryptologic Museum has been doing a superb job of demonstrating potential. It is, itself, the first and best argument for what can be and what needs to be.

INFRASTRUCTURE

Measured against modern expectations, the present facility is woefully deficient in infrastructure basics. Power sources are insufficient and unreliable, limiting the capacity of air conditioning and humidity control. Humidity, temperature, and filtered lighting are requisites for display of old materials. The building does not meet the fire code standards that a valuable museum collection requires.

A NEW NATIONAL CRYPTOLOGIC MUSEUM IS NEEDED

The current National Cryptologic Museum is housed in the Administrative and Dining-Ballroom area of the former Colony 7 Motel, a building constructed over 40 years ago. Construction at that time complied with a building code now considered obsolete. As a consequence, the current museum building is woefully lacking in many of the construction features necessary to accommodate a "first class" National-level museum.

EXHIBITION SPACE

The museum possesses far more artifacts than can be displayed where it is housed today. And the collection continues to grow, for history is a dynamic, not a static, process. There are many fascinating stories yet to be told – stories of the little known role of cryptology in the success or failure of important U.S. military and diplomatic actions throughout our history: the Revolutionary War, the Civil War, World Wars I and II, Korea, Vietnam, The Cuban Missile Crisis, the Cold War and, in due course, the ongoing War Against Terrorism. There are exciting stories that will make these events come alive for students of history and that will stimulate the imaginations of young mathematicians, engineers, computer scientists, and students of foreign languages which we hope to attract to service in the national interest. They are part of the legacy and traditions of serving cryptologists. Their stories will remain little known until we create a suitable environment in which to tell them. Lack of space is one of the most critical shortfalls.

LIBRARY

The museum's collection of unclassified and declassified books and journals on cryptology has so significantly outgrown the small library space available to it that an adequate photograph is impossible to capture. Working space for staff, shelving space for the holdings, carrel space for researchers and scholars, equipment space for micro form viewers and copiers – essential considerations expected of

a modern research library – are severely constrained. Proper temperature and humidity controls and adequate fire protection are required before many of the rare and valuable editions can be made readily available to scholars and to the public.

The famous, highly respected cryptologic historian, Dr. David Kahn, is considering donating his cryptologic book collection – an unmatched collection, valued at a half-million dollars to the National Cryptologic Museum. He may also donate his extensive, irreplaceable notes of interviews with famous cryptologists now deceased. But the present museum facility cannot safely display nor store such treasures. Heavily endowed university libraries offer him an attractive alternative.

EDUCATION AND OUTREACH TO SCHOLARS

In addition to its exhibits and provisional Research Library, today the museum is identified with a modest, but very popular program that introduces small groups of youngsters from local schools to the magic of cryptology, and enhances their learning of math and use of computers. This parallels a program that welcomes groups of school-age young people for tours of the Museum. Without an auditorium or suitably equipped meeting room, the professional museum staff and dedicated volunteer docents are hard put to provide the contextual background information to make these visits more meaningful.

IN SUMMARY

Given an adequate physical plant, a new museum facility would provide a coherent, exciting, and complete public gateway to declassified Cryptologic information, benefiting the mission of the National Security Agency. With an enhanced facility, independent researchers and scholars will be encouraged to investigate issues of historical interest and uninformed speculations. Young minds will be introduced to the excitement of technology

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IN SUMMARY

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with a new understanding of the historical context in which it was developed and perhaps become interested in careers in Cryptology, supporting our national security. Rising ranks of professionals, both civilian and military, would find a place surrounded by the evidence of their proud heritage in which to ponder and share openly with their family and friends, to celebrate their accomplishments and honor their forebears. Such a facility would do credit to the Agency, the Department of Defense, and the State of Maryland, as well as the United States of America. It would register high on the list of unique places, worldwide, for visitors and scholarly research. It would be an added attraction for tourism in the Baltimore-Washington corridor.

That is the impelling vision of the National Cryptologic Museum Foundation. It is our goal and our motivation, arm-in-arm with the National Security Agency.

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CAPTION CORRECTION

We have learned, to our dismay, that the lady on the left of the photograph accompanying the article, "Corregidor Re-Visited," in our Winter 2002 issue was misidentified. She is Evelyn Whitlock, wife of the gentleman beside her, who is perhaps the world's Number One proponent of radio traffic analysis. Our apology to CAPT and Mrs. Whitlock.



*Evelyn Whitlock; CAPT Duane Whitlock; Mr. Martin Smith, USN (Ret.)
CDR Larry Mackallor, USN (Ret.); Mr. Ken Boulier, USN (Ret.); Col.
William "Bill" Williams, USAF, Director, Center for Cryptologic History,
NSA; Mr. William F. Ferguson, NCMF Program Coordinator.*

MEET THE STAFF

We've been seeking a photograph of our "headquarters staff" at work, but it has been difficult to pin them down with a camera available. While this is a posed, smiling setting, these are the people who keep the organization afloat. (And the smiles are not "put on," for this is usually a happy bunch.) At center, of course, is Gen. Morrison, President and Board Chairman of the NCMF. Sixty-one years ago he received his gold bars and the "crossed flags and torch" of the Army Signal Corps. A "plank-owner" with the embryonic Air Force Security Service, his distinguished career has seen service in communications and communications intelligence—with field units, as the Chief of Operations in NSA, heading the DCI's SIGINT Committee and a key member of the Intelligence Community Staff, as well as (and concurrently) a staff element chief for the Director of NSA—a record that has continued into "retirement" as an Air Force Major General. (Somewhere along the line he acquired his JD degree.) On his right (your left) is Mrs. Sherri Legere, veteran executive secretary and office manager, with decades of experience in NSA and the corporate world. On his left, and newest member, is Mrs. Mary Faletto, whose NSA credentials embraced Resources Management, Operations (where she was an Intelligence Research Analyst) and adjunct faculty member at the National Cryptologic School. Say "hello" when you visit the Museum.



ANNUAL GOLF TOURNEY

The Eagle Alliance, a joint venture of Computer Sciences Corporation and Northrop Grumman, hosted its second annual golf tournament on behalf of the Foundation on 26 June at Ft. Meade's Applewood Course. Twenty-one corporate sponsors and over 130 individuals from both private and government sector participated.

The event raised donations exceeding \$48,000 for the Foundation, making it an important contributor to our annual funding.

Paul Barker, Eagle Alliance Vice-President, commented, "This is an event we all anticipate. It provides the opportunity to celebrate the heritage of our government client while doing something we all enjoy."

This year's first place winners were a foursome comprised of Tim Sheahan, Bruce Klein, Kevin Powderly, and John Powderly.

Congratulations to the winners, and our appreciation to all who participated! Our special thanks to Eagle Alliance. The Foundation looks forward to their continued sponsorship of this event in the future.



For the winning team, Tim Sheahan receives The Foundation Cup trophy from Paul Barker, Eagle Alliance Vice-President, and NCMF President Gen. Morrison.



Frank Derwin, NCMF project officer, Gen. Morrison, and Paul Barker adding the engraving of the 2003 winners to the Golf Trophy Display.

MEMORIAL REGISTRY GROWING

Since the publication of the initial listings in the Memorial Registry (*The Link*, Winter 2002), additional names have been added as follows:

Honoree

C. Carlo "Gary" Garofalo
Lawrence D. Terry
Col. James R. Clapper, Sr. USAF (Ret.)

Howard C. Barlow
Cecil J. Phillips
Thomas O'Brien
Francis X. Porrino
Wilma Z. Davis
Estelle Moodispaw

Sponsor(s)

Anthony J. Garofalo
Susan Terry Clapper
Lt. Gen. James R. Clapper, Jr. USAF (Ret.)
Chris Babich
Michael Clapper
Benjamin N. & Susan D. Hoover
Phillips children: Mary, Jeff, Chris
Anonymous
A. Dea Porrino
Mr. & Mrs. Charles E. Girhard
Charlotte Moseley Girhard

In the earlier listing, please note these corrections: Change Perry[sic: Percy] W. Filby to read P. William Filby (as "Bill" styled himself). The sponsor for Julia Ward should be "Anonymous." "Joseph" W. Morris should be corrected to "George" W. Morris. Thirty-seven names are now recorded.

A WWI RADIO INTERCEPTION SITE

David W. Gaddy

The following article is reprinted, by permission, from the Spring 2003 issue of "Military Collector & Historian," Journal of the Company of Military Historians, Washington, D.C. Founded in 1949 as an educational, scientific, and literary institution devoted to the study and dissemination of "information on the uniforms, equipment, history, and traditions of members of the Armed Forces of the United States worldwide and other nations serving in the Western Hemisphere," Company membership includes both professionals and amateurs in the field of American military history. On the rolls are not only historians, artists, writers, curators, librarians, teachers, and researchers, but people from virtually every walk of life. Among the members are serious collectors of all sorts of militaria: uniforms, accoutrements, weapons, equipage, military miniatures, artwork, and books, among other things. The Company web site is at <http://www.military-historians.org>.

When the National Security Agency was established in 1952, it became the highly secretive code-making and code-breaking arm of the U.S. government. (Some wags liked to say that NSA stood for "Never Say Anything," or "No Such Agency.") As such, it inherited a collection of reference books, manuals, and records, as well as cryptographic equipment and related devices from predecessor agencies. After four decades of growing public awareness through leaks, rare but well publicized defections and espionage cases, Congressional inquiry, and imaginative media publicity (including the claim that NSA was keeping space aliens), the agency decided to set the record straight by explaining its role in terms of unclassified or declassified "souvenirs of the past." Taking advantage of a nearby former motel at its headquarters on Fort George G. Meade, Maryland, it established the National Cryptologic Museum (NCM), drawing on its collection of artifacts, books, and records dating from the Civil War and earlier. Authorized as the only Department of Defense (as opposed to single-service) museum, the NCM was chartered to tell the story of America's "silent warriors" and their role in American history. It was opened with little fanfare in late 1993 – the first such museum known to exist anywhere in the world. In the words of former Secretary of Defense William Perry, "Maintaining secrecy has always been a vital part of any general's war planning, and concomitantly attempting to uncover the secrets of his opponents. These two related objectives took on a dramatically different

dimension and importance this century as large quantities of military planning and operational data began to be transmitted over radio and telephone." Dr. Perry's statement, displayed on a wall at the museum entrance, calls radio intelligence and security "the single most important factor in the Allied victory," avoiding "hundreds of thousands of casualties in the Allied military forces."

Among the rare items on display at the NCM exhibits is an extraordinary collection of German "Enigma" cipher machines from World War II and the only known remnant of the Japanese cipher machine called "Purple" by U.S. Army code breakers. But the American experience with codes and ciphers predated WWII. It stretches from the Revolutionary War and especially the Civil War, when wiretapping and exploitation of flag signals anticipated wireless radio and when the embryonic intelligence staffs first came to learn the value of observation and enemy message interception by the Signal Corps. To illustrate the dawn of the radio era, a special exhibit at the NCM is a life-size representation of a radio intercept station manned by the U.S. Army Signal Corps at Verdun, France, in the First World War.

Sorting through the accumulated artifacts and records, the curatorial staff had come across two official Signal Corps photographs of the Verdun station and realized, to their pleasant surprise, that virtually all of the equipment shown was in their hands. They decided to attempt to recreate a portion of the station, as illustrated in those photographs. As it turned out, the military radio receiver equipment was the least of the problems. The display features a *Contrôleur d'Ondes m[odèle] de la Radiotelegraphie Militaire, Serie II, No. 580*, marked "Ch. Beaudouin, Paris." (All of the wireless equipment is of French manufacture.) More difficult to find were such mundane items as the operator's bent-stem smoking pipe, the metal alarm clock, and the batteries. A comparable substitute for the pipe was procured, an alarm clock of the same type was discovered at a Pennsylvania flea market, and a realistic mock-up of the batteries was fabricated. Small touches were added—a heavily stained coffee mug at the side of the operator's position, a souvenir Imperial German spiked helmet laid carelessly on the floor. Instead of the revolver with lanyard loop

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A WWI RADIO INTERCEPTION SITE

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shown in the official photographs, an M1911 Colt cal. .45 semiautomatic pistol was placed in its holster on the desk. Identical windows were made, and a circa 1918 light bulb was donated to complete the ensemble.

The result is shown in the accompanying photograph (FIG. 1). It appears that the operator has laid down his headset and dashed out to deliver a "hot" message. Through the windows can be seen other exhibits relating to WWI, including radio direction-finding equipment on the Western Front. (The pistol, souvenir helmet, and other small touches were added



FIG. 1 U.S. Army Radio Intercept Station No. 1, Verdun, 1918. Courtesy of National Cryptologic Museum.

after the photograph was taken.) A close-up of the radio equipment is at FIG. 2.

Although operated by the Signal Corps, the results of the efforts of such stations—intercepting enemy transmissions and locating enemy radios through goniometric radio direction-finding—went to the headquarters intelligence staffs of their parent Army and the AEF, where the Radio Intercept section was designated A6 (Capt., later Lt. Col., Frank Moorman, Coast Artillery Corps, later General Staff) of the Information Division (Maj., later Col., A.L. Conger, General Staff) of the Intelligence Section-G2 (Maj., later Brig. Gen., D.E. Nolan). Signal Corps duties, which included occasional security monitoring of American Communications, fell under the purview of the Chief Signal Officer, AEF, and the parent Army.

Because of its unique character and content, the National Cryptologic Museum is a worthwhile stop

or even a trip destination. It is located at the intersection of Maryland Route 32 and the Baltimore-Washington Parkway (Interstate 295) between the two cities. Hours are Monday to Friday, 9 a.m. to 4 p.m., and Saturday, 10 a.m. to 2 p.m., closed on Federal holidays. Docents, most of them cryptologic veterans themselves, are present as volunteer guides or a hand-held device can be used on a self-guided tour. A small, but highly specialized library is maintained for the serious student. (Telephone 301-688-5849, email museum@nsa.gov.) A nonprofit "friends" support organization, the National Cryptologic Museum Foundation, has its office at the museum and may be reached at 301-688-5436 or e-mail cryptmf@aol.com. URLs for Internet access are www.nsa.gov and www.nationalcryptologicmuseumfoundation.com.

DAVID W. GADDY retired as a Senior Executive in 1994 after forty-one years with the National Security Agency. A co-author of *Come Retribution: the Confederate Secret Service and the Assassination of Lincoln* and translator-editor of *Essential Matters: A History of the Cryptographic Branch of the People's Army of Viet Nam, 1945-1975*, he has written and lectured extensively on the Civil War period. His principal interest is the Confederate Army's signal service. An earlier contribution to *MC&H* was "Confederate States Army Signal Corps Insignia" in the Summer 1973 issue.

FOR THE BOOKSHELF

James L. Gilbert, *The Most Secret War: Army Signals Intelligence in Vietnam*. Fort Belvoir, VA: Military History Office, U.S. Army Intelligence and Security Command, 2003. (Superintendent of Documents, U.S. Government Printing Office: ISBN 0-16-051284-0).

This pictorially attractive, softcover publication of 130 pages, horizontal format, is the work of long-time ASA Historian Jim Gilbert and the staff of the INSCOM Military History Office, including the late lamented Dr. James P. Finnegan. It is dedicated simply "To those who served . . ." The Foreword by MG Keith B. Alexander, USA, CG INSCOM reminds us that "The first unit to be deployed to South Vietnam belonged to the United States Army Security Agency (ASA) as did the first to be decorated" and the first acknowledged casualty was an ASA soldier. ASA was "out front" in Vietnam four years before major U.S. ground forces. As the Army's communications intelligence and security organization, ASA was the successor to the Signal

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Intelligence Service (and its later incarnations) of the 1930s and '40s. As we approach the thirtieth anniversary of the U.S. withdrawal from Viet Nam (and the death of "the old" ASA), it is appropriate to get some basic documentation into unclassified print.

Although (as "MASH" re-runs remind us), the Army had used helicopters in Korea, testing of the Air Cavalry concept, "vertical envelopment," and attack helicopters had been occupying Army minds and professional literature since the late 1940s. With deployment of the U.S. ground forces into Viet Nam in 1965, those tools and techniques were put to the test. ASA, on the other hand, was still saddled with tools and techniques of the earlier decades. One of the top priorities was to locate the enemy, and doing this by radio direction-finding was a principal reason for the early commitment of ASA resources to aid the Army of the Republic of Viet Nam (ARVN). An elusive foe, using low-powered HF radios and manual Morse, combined with the challenge posed by radio wave propagation in the jungle, exposed the shortcomings of HFDF equipment little changed since WWII. Such equipment – the short-range AN/PRD-1 mobile set – figured in the action in which advisor SP4 James T. Davis was killed 22 December 1961. (Never popular with the Americans, the South Vietnamese liked these sets: One Vietnamese officer remarked that the U.S. was concerned with pinpoint locations, whereas the concern for ARVN was "are they that way, or *that* way?" for which the PRD-1 could often suffice.) At the risk of a pun, ASA "rose to the challenge" as the French had a decade earlier, with Airborne Radio Direction-Finding" (ARDF). Experimenting with platforms and techniques, ASA honed its ability to locate the enemy, and continued to refine its techniques for targeting, as well as intelligence purposes, after U.S. forces entered the arena. Praised by senior commanders and field officers alike, ARDF was the great success story. Gen. Frederick C. Weyand, COMUSMACV, is quoted on page 105 as having acclaimed ARDF as "the single most important intelligence collection program providing early warning of impending enemy action."

From a distance not yet achieved, the story of

ASA and its role—its swan song—in Southeast Asia deserves study and entry into the public registry. Its unique "vertical" organization, in a "horizontally" organized army, enabled it to respond swiftly to the emergency of 1961, but branded it as "peculiar" to "the big army" and its leadership. The secrecy that surrounded it (and was often relished) also led to misconceptions or lack of appreciation – it was "odd-ball," when uniformity was desired. Experimentation developed the concept of fixed field stations as Collection Management Authorities (CMA) producing SIGINT and coordinating deployed Direct Support Units (DSU) with U.S. formations. These in turn acted as conduits for intelligence supply to field commanders and "feeding" to the CMAs. The system that was undercut, then demolished, by "Vietnamization" and withdrawal, saw an ASA that had come into its own as a combat support element of the U.S. Army. As compared with the limited distribution, strategic SIGINT of WWII, ways had been found to introduce SIGINT-derived information at the tactical level as never before.

The Most Secret War tells the story of the DANCER program, using cleared indigenous personnel for voice exploitation (which led to airborne DITS – "DANCERS in the sky" to Americans, although of a different connotation to Vietnamese), of remote operation of exposed intercept equipment (EXPLORER), of the development of ARVN cryptologic capability and tactical support units, of frustrations with COMSEC and efforts to develop voice encryption for the troops. It speaks frankly of perceived shortcomings in ASA performance. Familiar names crowd the pages – MG Charles Denholm (affectionately nick-named "Charlie Two-Stars"), George Godding, Jim Freeze, J.J. McFadden, W.J. Riley, the late "Mike" Cochrane and WWII veteran Clayton "Slip" Swears, Norm Campbell, Dave Wisyanski . . . the list goes on, prompting recall of names not mentioned but precious in memory, such as that of MAJ/LTC Don Oliver (XO to Cochrane at the 3d RRU), who, at an NSA cryptologic history symposium presentation, once recalled the poignant task of writing a letter to SP4 Davis's next-of-kin, and having to address the question, "was his death in vain?" (No, it was not, he had concluded.)

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FOR THE BOOKSHELF

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Although it lacks an index that would make it a handier reference, the appendices supply compilations useful for reference and memory-jogging – A, order of battle, by date spans; B, campaigns and unit summaries; C, key ASA personnel, by unit and date; D, a list of those fallen in battle; E, airborne systems; F, chronology; and G, acronyms. A special interest to this reviewer is Appendix H, unit insignia. Although representative, but incomplete, the colored illustrations give examples of both official, authorized insignia and also unofficial “local” insignia. The latter are often a delightful source of humor and hidden significance, unknown to the keepers of heraldry. (For example, in the peculiar reasoning of the time, “radio reconnaissance” was considered unclassified, whereas “ASA” was “sensitive” and classified. An insigne of the 8th RR Field Station, Phu Bai, page 130, spells out “ASA” in Morse code, as in the logo at the masthead of this bulletin. This recalled an earlier Phu Bai insigne depicting the traffic analyst’s Lucite diagram-drawing template with two cut-out holes, the electrical lightning-bolt of ASA, and the Vietnamese words, “KHONG BIET.” Although the words meant “I dunno,” a familiar response from Vietnamese allies, some insisted that the template was an overhead view of a Vietnamese “two-hole” privy, and that the words meant, “where were you when the lightning hit the — house?” To assert their superior knowledge and ability, Marine specialist colleagues are said to have designed their own “local insignia,” with the motto “BIET CHAC” – “[we] know very well!”) Wouldn’t it be a great delight to welcome a complete collection of such insignia at the National Cryptologic Museum?

With the 1971 “stationing study” that incorporated ASA into the Army Intelligence and Security Command (INSCOM), there ceased to be a separate cryptologic component, leaving the Navy alone with that distinction, and thereby culminating a struggle which, in the Army, can be traced directly to the Civil War, and to competition between the Signal Corps and Military Intelligence. *The Most Secret War* will appeal “to those who served” or who find interest in this chapter of military history.

LEWIS AND CLARK AND THE “JEFFERSON CYPHER”

Raymond P. Schmidt (CAPT, USNR Ret.)

In the Spring 2003 edition of *The Link*, our perspicacious editor raised the point that President Thomas Jefferson gave Captain Meriwether Lewis a Vigenère cipher, thus possibly adding an intelligence mission to an already grand design of exploration set before the Corps of Discovery. Lewis and Clark received a staggeringly enormous task: to chart the course of rivers that Jefferson believed would open a trade route to the West Coast, to record the flora and fauna in the lands they crossed, and to establish relations with people inhabiting those lands. Were they also charged with reporting on activities and intentions of the British, the French, and the Spanish? Did they use the cipher?

I wrote to the best authority I know on the Lewis and Clark expedition – Dr. Gary E. Moulton, Thomas C. Sorensen Professor of American History at the University of Nebraska and editor of the definitive, multi-volume record containing documents relating to that unprecedented exploratory mission which began in 1803 and ended in 1806. [*The Journals of the Lewis and Clark Expedition*, 13 vols. Lincoln: University of Nebraska Press, 1983-2001, followed in April 2003 by a one-volume abridgment, *The Lewis and Clark Journals: An American Epic of Discovery*.] His reply:

“Yes, Jefferson did provide a cipher for Lewis, and it is printed in Donald Jackson’s *Letters of the Lewis and Clark Expedition with Related Documents, 1783-1854* (2nd ed. 2 vols. Urbana: University of Illinois Press, 1978), 1:9-10. I’ve included a copy here for you with Don’s note to the document. As you see from Don’s explanation the key word for Jefferson was ‘artichokes,’ although he used the classic ‘antipodes’ as an example.

“You will also see from Jackson that the code became a moot point with the purchase of

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LEWIS AND CLARK AND THE “JEFFERSON CYPHER”

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Louisiana Territory. Lewis wrote Jefferson in regular English along the way as he traveled down the Ohio and up the Mississippi rivers in the fall of 1803. He continued to write from St. Louis during the expedition's stay in that vicinity during the winter of 1803-04. And Jefferson was writing Lewis, also in conventional English, during this same time period. Finally, during the expedition the captain wrote from Fort Mandan, the party's [1804-5] wintering post in modern North Dakota, and again used regular English. A small return party carried the letters and other items (including some journals) back to St. Louis for shipment to Jefferson, while the permanent party headed west. Jefferson received those materials in August 1805 while Lewis was ascending the Rocky Mountains. Perhaps Lewis may have encrypted letters to Jefferson had a boat come to the Oregon coast during the party's time there [at Fort Clatsop] in the winter of 1805-6, but none arrived."

Professor Moulton kindly provided copies of two pages from the late Donald Jackson's massive 3872-page, two-volume set, which are reproduced here, courtesy of the University of Illinois Press, for convenience because they may be of interest to *The Link* readers. Note that Jackson's penultimate sentence concludes – as does Dr. Moulton – that the cipher was apparently not used by Lewis and Clark.

What we know *for certain* is that trappers and traders from European nations continued working in the Louisiana Purchase and adjacent lands, despite the negotiations in Paris that resulted in Napoleon's huge sale. The lesson is that permanent U.S. possession of lands within our current borders should not have been considered a foregone conclusion. And everyone who knows about the surprising U.S. victory at the Battle of Lake Champlain in September 1814 will appreciate how real was the possibility that the American Revolution, and thus the Louisiana Purchase, could easily have been at

risk—even a decade after Lewis and Clark returned home.

The history of these first decades of our nation reveals a number of major challenges that faced the former colonies. Any one of them might have altered the course of our young country. *The Link* readers might also reflect on the historical judgement that the War of 1812 itself presented a strange fight with Britain, one that ended without resolving the issues over which it had been fought. This so-called “War of Faulty Communications” might have been avoided entirely in that the British Government stated—before war started—she intended to repeal the laws which had raised U.S. concerns; and the final battle at New Orleans should not have occurred because it came after the treaty of peace had been signed – emphasizing once again the value of rapid, reliable, and secure communications in international crises.

Weighing this information in the context of U.S. national security during the first decades of the 19th century, perhaps the National Cryptologic Museum *should* devote space to an exhibit on the Lewis and Clark expedition and the security of government communications at the time.

(Captain Schmidt, whom we have met before on these pages, served as the first Reserve Forces Advisor to the Director, NSA/Chief, CSS, from 1982-88. As a civilian, he had been selected in 1968 as the first U.S. Navy Cryptologic Historian since World War II, and as Naval Security Group Command Historian, he produced or participated in a wide range of classified and unclassified studies before transferring to the Office of Naval Intelligence in 1981. His efforts at the historic Nebraska Avenue headquarters resulted in establishing the Naval Security Group records program and its central depository of cryptologic and related records; he also directed the Navy cryptologic records classification team that began work in 1978. Before retiring in 2000, he headed the records declassification program of the Department of the Navy. He remains active, conducting research and writing from his home in Bethesda, Maryland – Ed.)

Continued on page 11

LEWIS AND CLARK AND THE "JEFFERSON CYPHER"

Continued from page 10

7. Cipher for Correspondence with Jefferson

[1803]

Suppose the key word to be 'antipodes'

Write it thus a n t i p o d e s a n t i p o d e s a n t i p o d e s
to be cyphered t h e m a n w h o s e m i n d o n v i r t u e b e n t
 u v y u g b & m g t s f r c s s s n j e m c u g i t m

then copy out the cyphered line thus. uvyvgb&mgtsfrcsssnjemcugitm
numbers are thus. 18. is bu. 1798 is thus bubg

The method is this.

Look for

t in the 1st vertical column, & a in the 1st horizontal one, gives u
h n v
e t y
m i u
a p g
n o b

[9]

Jackson, Letters of L & C, pp. 9-10

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	1
b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	2	
c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	3		
d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	4			
e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	5				
f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	6					
g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	7						
h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	8							
i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	9								
j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	10									
k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	11										
l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	12											
m	n	o	p	q	r	s	t	u	v	w	x	y	z	13												
n	o	p	q	r	s	t	u	v	w	x	y	z	14													
o	p	q	r	s	t	u	v	w	x	y	z	15														
p	q	r	s	t	u	v	w	x	y	z	16															
q	r	s	t	u	v	w	x	y	z	17																
r	s	t	u	v	w	x	y	z	18																	
s	t	u	v	w	x	y	z	19																		
t	u	v	w	x	y	z	20																			
u	v	w	x	y	z	21																				
v	w	x	y	z	22																					
w	x	y	z	23																						
x	y	z	24																							
y	z	25																								
z	26																									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	

AD, SC (DLC). Endorsed, "Cypher establd. with Captain Lewis. Key. Artichokes." For notes on the operation of the cypher, see "Method of using Mr. [Robert] Patterson's cypher," fol. 22130 (DLC), and the documents that follow. For another copy of the cypher given to Lewis, apparently an earlier one, see fol. 22136. On that one a sample message encoded by Jefferson reads, "I am at the head of the Missouri. All well, and the Indians so far friendly." The key word is the same: artichokes. Apparently no occasion for Lewis to use this form of communication arose during the expedition. The cypher and Jefferson's explanation have been transposed here to avoid a difficulty in paging.

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