# NSA ANNOUNCES ANNUAL ROWLETT AWARDS

The National Security Agency announced the winners of the prestigious **Frank B. Rowlett** awards for Information Assurance at a ceremony at Fort Meade on 3 November 2005. NSA established the Rowlett Awards in 1989 to recognize outstanding excellence in Information Assurance and to honor Mr. Rowlett, a distinguished American cryptologic pioneer and leader at NSA.

**Dr. Anup Ghosh**, Defense Advanced Research Projects Agency, was honored with the 2005 Rowlett Individual Excellence Award for his breakthrough research into cyber defense to include technology that automatically quarantines computer-based worms, limiting their migration and restoring the user's computer to its pre-infected state within minutes. Dr. Ghosh's seminal work has yielded dramatic results.

(The Individual Achievement Award is given annually to the individual within a U.S. Government organization making the most significant contribution to improving his/her element's information systems security posture, information assurance readiness, or the conduct of defensive information operations.)

**The Department of State's Cyber**

**Threat Analysis Division** received the 2005 Rowlett Organizational Excellence Award for demonstrating exceptional ingenuity and leadership in assisting the Federal Law Enforcement and Intelligence communities in carrying out the White House National Strategy to Secure Cyberspace. This effort also helps in meeting the emerging cyber security challenges outlined in the President's National Counterintelligence Strategy.

(The Organizational Achievement Award is given annually to the U.S. Government organization recognized as making the most significant contribution to the improvement of national information systems security, operational information assurance readiness, or the defensive information operations posture of the United States.)

The Director, National Security Agency, is designated as the National Manager for all national security information systems throughout the U.S. Government. National security systems are those telecommunications and information systems operated by the U.S. Government, its contractors, or agents that contain classified information or that involve intelligence or cryptologic activities related to national security, systems for command and control of military forces, equipment that is an integral part of a weapon or weapon system, or systems that are critical to the direct fulfillment of military or intelligence missions. ■

# OVERVIEW

As the Foundation enters its tenth anniversary year, it is interesting to flip back through past issues of *The Link*. The topics recall highlights from our first decade—accomplishments and frustrations, and the recognition—and the passing--of notables in our field. I was struck especially by the Summer issue of 2001 (Vol. 4, No. 2), and re-reading my "Overview" article, "We Interrupt this Program." Using those familiar words, originated in the era of radio, I took note of "what has become a new, defining moment in history, the horrendous events of 11 September 2001." That placed in sharper focus what has transpired since that time. As we scan the subsequent reviews of **David Kahn's** biography of H.O. Yardley and **Tom Burn**'s account of the establishment of NSA, we realize that the Agency and the practice of COMINT (or SIGINT) as my generation knew it have gone through a transformation, generally conforming to the tenure of Gen. Hayden as Director (1999-2005). It is the nature of "the business" that the defining details be secret for the foreseeable future. The best we might expect is that the broad dimensions will emerge. How we connect that to our past, to ensure that both professionals and the public understand and appreciate the continuity undergirding American cryptology, will be a challenge to the National Cryptologic Museum. This adds urgency to our goal of building a new structure to house and tell that story.

To do that, at the urging of **Dr. Bob Hermann** at our December 2005 Board meeting, fellow Director **"Linc" Faurer** has agreed to head a Task Force to bring order and direction to our building program. Gen. Faurer's leadership and dedication will enable the Foundation to concentrate its energy on the priority task before us. Building on efforts dating back over the past decade, he is drawing upon the ideas and assistance of both Foundation officers and other volunteers. Those efforts, sketched on the pages of *The Link*, range from **Jim Boone's** tapping the talent of Prof. **Ralph Bennett's** University of Mary-land School of Architecture and the later sharing of ideas and experience so generously made available by and through **Randall M. "Rand" Griffin**, to the fund-raising recommendations of the Ketchum study. Serious work is ahead, and a challenge confronts all of us, especially the Faurer group.

In that connection, we are most appreciative of donations received from corporate and individual members of the Foundation, some of which we recognize in this issue. I was struck by the December 2005 obituary of **Lt. Col. Otto E. Haenchen**, USAF (Ret) (see below under "Memorial Registry"), wherein the family stipulated that, "in lieu of flowers, memorials may be sent to" the NCMF, noting that Col. Haenchen's uniform is displayed in the Museum. I believe that that is the first such request I have seen. May I belatedly extend public thanks (as well as our condolences) to the Haenchen family. Perhaps others will want to follow their lead in designating the National Cryptologic Museum as a memorial recipient.

The ceremony marking the generous donation of General Dynamics to our Building Fund is recounted here, as promised in the last issue. Joining them is Booz Allen Hamilton, among corporate donors for the New Museum. Raytheon, repeating its support for the popular "aka SMART" program for schools, was again generous. We thank them all, as we do the individual donors and patrons.

Finally, it was with the greatest of pleasure that we have added to the ranks of our Board of Directors the name of **Dr. James R. Schlesinger**. Whether as Director of CIA, Secretary of Energy, Secretary of Defense, or working quietly behind the scenes to support and promote other enterprises such as our own, he brings new meaning to the words "citizen" and "patriot." A hearty welcome to Jim Schlesinger!

John E. Morrison
President

## GENERAL DYNAMICS' DYNAMIC CONTRIBUTION
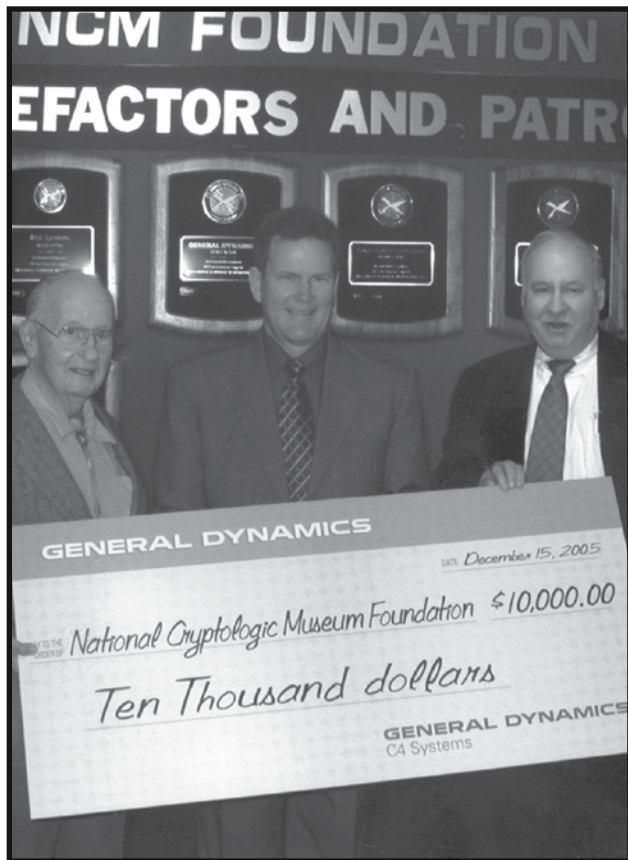


*l to r:  General Morrison, John Cole, Vice President, and Stan Johnson, Business Development Mgr.*

As briefly noted in the Fall issue of *The Link*, on 26 October 2005, General Dynamics, C4 Systems, made a donation of $10,000 to the NCMF Building Fund.  On 15 December, a short ceremony was held at the Museum for installation of a plaque commemorating the donation. Afterward, despite an early "snow closing" of non-essential NSA activities, officials and guests traveled to the Linthicum, MD, office of General Dynamics for presentation of a second commemorative plaque in an open house, with ribbon cutting ceremony and reception. In the accompanying photograph, a delighted **Gen. Morrison** poses with a representation of their check, with **John Cole**, Vice President and General Manager of the Information Assurance Division and **Stan Johnson**, Business Development Manager of the Information Assurance Division of General Dynamics (C4 Systems).

## Western Union -STOP- Ends Telegram Service

"For more than 150 years, messages of joy, sorrow and success came in signature yellow envelopes hand delivered by a courier. Now the Western Union telegram is officially a thing of the past." With those words, P. Solomon Banda of the Associated Press rendered honors to another pioneer in the field of information promulgation in an article on 2 February 2006. Many readers will recall "Greetings from the President," calling them into service, or "We regret to inform you" telegrams conveying news of the loss of a loved one.

"Formed in April 1856 to exploit the hot technology of the telegraph to send cross-country messages in less than a day… Western Union is now focusing its attention on money transfers and other financial services, and delivered its final telegram on Friday," the article continued.

Several telegraph companies that eventually combined to become Western Union were founded in 1851, and a decade later Western Union built its first transcontinental telegraph line.

"At the time it was as incredible and astonishing as the computer when it first came out," said Tom Noel, a history professor at the University of Colorado at Denver. "For people who could barely understand it, here you had the magic of the electric force traveling by wire across the country."

Telegrams reached their peak popularity in the 1920s and 1930s when it was cheaper to send a telegram than to place a long distance telephone call. People would save money by using the word "stop" instead of periods to end sentences because punctuation was extra while the four character word was free.

Telegrams were used to announce the first flight in 1903 and the start of World War I. During World War II, the sight of a Western Union courier was feared because the War Department, the precursor to the Department of Defense, used the company to notify families of the death of their loved ones serving in the military, Western Union spokesman Victor Chayet said.

With long distance rates dropping and different technologies for communicating evolving--including the Internet--Western Union phased out couriers in the late 1960s and early 1970s.

By last year, only 20,000 telegrams were sent at about $10 a message, mostly from companies using the service for formal notifications,  according to Chayet.

Last week, the last 10 telegrams included birthday wishes, con-

## BOOZ ALLEN HAMILTON

At the 3 March 2006 meeting of the NCMF Board of Directors, Board member and Booz Allen official **Keith R. Hall** presented a check for $5,000 for the New Museum Building fund.



## RAYTHEON PRESENTATION

19 Jan 2006 – **Arthur Grant**, Raytheon Vice President for Intelligence, Space and Geo-spatial Programs and Ms. **Linda Taylor**, Senior Manager for Intelligence Programs, visited the Museum to present the NCMF with a donation of $10,000 for "aka SMART," the computer-based crypto-math program designed for school children and sponsored by the Foundation. An NCMF reception followed.
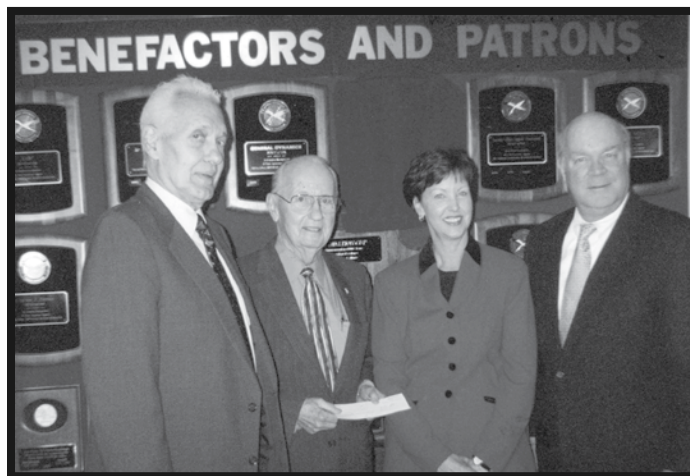


*(l to r) Morrie Cove, Gen. Morrison, Linda Taylor, and Arthur Grant*

### Western Union Ends Service
*continued from page 3*

dolences on the death of a loved one, notification of an emergency, and several people trying to be the last to send a telegram.

"Recent generations didn't receive telegrams and didn't know you could send them," Chayet said.

Samuel Morse, inventor of the Morse Code, sent the first telegram from Washington to Baltimore on May 26, 1844, to his partner Alfred Vail to usher in the telegram era that displaced the Pony Express. It read "WHAT HATH GOD WROUGHT?"

"If he only knew," Chayet said of the myriad of choices today, which includes text message on cell phones, the Internet and virtually freelong-distance calling rates.

"It definitely was an anachronism," Noel said. "It's amazing it survived this long."



*Raytheon's Linda Taylor visits aka SMART at Jones Elementary School in Severna Park, MD with General Morrison*

*"Documenting Horror" – the role of SIGINT in the quest to account for U.S. Prisoners of War transported from the Philippines to Japan.*

As another in the series of occasional lectures presented by the National Cryptologic Museum Foundation, and in commemoration of the 7 December 1941 Japanese attack on Pearl Harbor, **Lee A. Gladwin**, an archivist with the Archival Services Branch of the Center for Electronic Records, National Archives and Records Administration (NARA), and Rear Admiral **Donald M. "Mac" Showers**, USN (Ret.) addressed this subject at an 8 December 2005 program at the Museum.

Mr. Gladwin, whose prior experience includes curriculum design and development for computer systems, and as an assistant professor for U.S. History at Shenandoah University, has specialized in the area of cryptologic history at NARA since 1995. His two-part article, "American POW's on Japanese Ships Take a Voyage into Hell" published in *Prologue*, the journal of the National Archives, graphically describes the horrors endured by US POWs aboard Japanese ships and his efforts to research and document the role of SIGINT in POW accounting.

RADM Showers' World War II assignments at Pearl Harbor with the Fleet Radio Unit, Pacific, as an intelligence and research analyst; as an intelligence analyst with the Joint Intelligence Center, Pacific Ocean area; and as an Assistant Fleet Intelligence Officer on Fleet Admiral Chester W. Nimitz's staff allowed him to provide a true insider's contemporary view on how SIGINT was used both to audit the veracity of Japanese POW reports and as targeting information.

The experiences of thousands of American military personnel captured by the Japanese in the Philippines in 1942 come close to the levels of Hell described by Dante in his classic *Inferno*. Having survived the months-long sieges of Bataan and Corregidor, the Bataan Death March, and ill treatment in the infamous Japanese prison camps, thousands of the survivors experienced an even greater level of horror during the latter stages of the war. Crammed below decks in Japanese merchant vessels with barely enough room to stand, lacking food and water, subject to ill treatment through indifference or calculated cruelty, the POWs thought that things could get no worse – but they were wrong. The slow moving ships were prime targets of US aircraft and submarines maintaining the blockade of Japan's home islands. The bombing, strafing and torpedo attacks on the ships compounded the misery and the casualty counts.



*Gen Morrison thanks speaker Lee Gladwin*

By accident or design, Japanese reporting on the status of POWs was, at best, late and incomplete, and, at worst, inaccurate or non-existent. To fill the information gap US intelligence used SIGINT in an attempt to check on the accuracy of the Japanese reports and to add to the overall POW database. After-the-fact reports on US casualties revealed the transport of the POW's out of the Philippines. What we knew and when we knew about the true "cargo" of the hell ships and whether the attacks could have been avoided were among the issues addressed in the presentation.

As a post-script, fellow NCMF members and readers of occasional references in *The Link* to **Dr. Ralph Weber**, retired history professor and author (and first historian-in-residence at the Center for Cryptologic History), may be interested to know of a special tie his wife shares with this subject. **Rosemarie Weber**'s father, **Lt. Neil F. Hoyt**, was captured on Bataan, imprisoned in Cabanatuan some 70 miles north of Manila, and then in

# BOONE BOOK PROMOTED

Former NCMF Secretary **John Garcia** (now Chairman, Membership Committee) reports that NCMF member **James V. Boone**, a former NSA Deputy Director for Research and Development and author of *A Brief History of Cryptology* (reviewed in *The Link*, Vo, 8, No, 2, Summer 2005) was the featured luncheon speaker at the 9 November 2005 symposium of the Central Maryland Chapter of the Armed Forces Communications and Electronics Association, AFCEA. Invited specifically to talk about his book, Jim captivated the audience with stories about some of the personalities—the giants in cryptology—and cautioned everyone present that cryptology is a field in which the United States must remain Number One. On 7 December 2005, he held a book-signing at the Museum for the book, with the proceeds for sales consigned to the NCMF.



*Jim Boone with AFCEA CMC Fall Symposium
Co-chairman John Tyrell*

# CHANGES AT CRYPTOLOGIA
**Dr. David H. Hamer - NCMF**

An announcement in the October 2005 issue of the quarterly, *CRYPTOLOGIA*, proclaims that, beginning with the January 2006 issue, the new publisher of the scholarly journal will be the internationally known and prestigious publishing firm of Taylor & Francis. The Editorial Board of the journal has been reconstituted, with the Center for Cryptologic History and the National Cryptologic Museum Foundation well represented within the new Editorial body.

Newly appointed to the Editorial Board are the following individuals variously associated with NSA's Center for Cryptologic History [CCH] and the National Cryptologic Museum Foundation [NCMF]:

**David W. Gaddy**
NCMF Board Member and Editor of *The Link*

**David H. Hamer**
NCMF Vice-Chairman of Acquisitions

**Bob Hanyok**
CCH

**David Hatch**
CCH

…while two of the journal's founders, NCMF Board Member and former CCH Scholar-in-Residence, **David Kahn**, and Foundation member **Louis Kruh** continue, with the title Founding Editors.

## FREE BOOKS FOR SALE

If you are offended by the notion of obtaining gratis publications of NSA's Center for Cryptologic History (see last issue's monograph on the origins of NSA, for example) or think a free publication on your professional bookshelf might somehow be demeaning, there is an alternative at hand. An enterprising seller on eBay has offered **Dr. Ralph Weber**'s *"Masked Dispatches: Cryptograms and Cryptology in American History, 1775-1900"* (a CCH publication, available gratis) for only $34.99 (plus shipping and handling). So keep an eye on eBay for opportunities to purchase other free NSA literature.

## THOMAS L. BURNS

Thomas L. "Tom" Burns (1918-2006) passed away on 15 March 2006. One of the original Army cryptologists to serve at Arlington Hall Station in World War II, Tom had gone into the service in 1941, and, over the next four decades, personally experienced and contributed to the growth of cryptology, through the Armed Forces Security Agency (1949-1952) and the creation of NSA. His final active duty as a civilian at NSA was in a staff element supporting the Director, from which he retired in 1981. Returning as a Re-employed Annuitant, Tom devoted his efforts to detailed study and documentation of the origin and emergence of the National Security Agency. In that capacity he became a "plank owner" in the newly formed Center for Cryptologic History (CCH) in 1989, and a valued storehouse of readily-available information to his colleagues. The fruition of his project, in its original classified form, took place in 1990 under the watch-care of NSA Historian Henry F. Schorreck and became the first book published by the Center. It was with great delight on Tom's part that he lived to see it edited into a declassified form, published in 2005 as *The Quest for Cryptologic Centralization and the Establishment of NSA, 1940-1952* (United States Cryptologic History, Series V, Volume VI). A review appeared in the Fall 2005 issue of *The Link*.

## ROBERT E. "BOB" DRAKE

Robert E. Drake, 82, of Annapolis, MD, a former Deputy Director of the National Security Agency, died of congestive heart failure 12 January 2006 at his home.

Mr. Drake was born October 11, 1923, in Northfield, Minn. Following service as a B-24 "Liberator" bomber pilot in the Pacific during World War II, he graduated with honors from Carleton College in 1948, where he was also elected to Phi Beta Kappa. He subsequently received a Master's degree in International Affairs from the George Washington University (1965), following graduation from the National War College the year before, an honor he deeply cherished.

He retired in 1980 as Deputy Director of the National Security Agency (1978-80, to VADM Bobby R. Inman, USN), its senior civilian post, after serving 31 years in a variety of analytical, administrative and policy positions, including tours of field duty in Europe and the Pacific. Along with colleague Milt Zaslow, Bob Drake was instrumental in shaping COMINT/SIGINT reporting to the form it took in the latter half of the Cold War years. Always the gentleman, "Bob" is especially remembered for his inspiring leadership and sage guidance as office chief by those who labored on "the Southeast Asia" problem in the 1960s. (One Saturday morning, he came in to see how "his people" were doing. He asked if there were anything he could do to help and received the facetious answer that he could help "run" some traffic. Rising to the task, Bob removed his coat, rolled up his sleeves and spent the morning as a Vietnamese traffic analyst, working alongside juniors who were inspired by his presence, but obviously enjoying himself.)

For exceptional government service in the cryptologic field, he earned the National Security Agency Meritorious and Exceptional Civilian Service Awards, the Department of Defense Distinguished Civilian Service Award, the Central Intelligence Agency Distinguished Service Medal, and the National Intelligence Distinguished Service Medal (awarded by the Director of Central Intelligence on behalf of the Intelligence Community).

After retirement, he spent one year as a program manager with General Dynamics (Electronics Division) and served as part-time consultant on various projects for the National Security Agency, the Director of Central Intelligence and the Office of the Independent Counsel for Iran-Contra. He also served on the Board of Directors of BAE Systems North America for 10 years.

In April, Mr. Drake's ashes were returned to Florida, for burial alongside those of his first wife of 56 years, Helen.

## ELEANOR LOWMAN

Services were held May 3 at Maryland Veterans Cemetery in Crownsville for Eleanor Sather "Tutu" Lowman, 77, a yearlong resident of Charlestown Retirement Center in Catonsville, who died April 15 at Anne Arundel Medical Center after a two-month illness and complications following open heart surgery.

A former resident of Heritage Harbour in Annapolis, Mrs. Lowman was born June 14, 1928, in Los Angeles, the daughter of the late Otis Howard and Mildred Richardson Sather. She graduated from Stanford University in California in 1949 and earned a master's degree in history from George Washington University in 1954.

Listed in the 1956 edition of "Who's Who in Science Writers" and the 1957 "Directory of American Scholars," she helped develop a federal government standard for measuring educational achievement for children in the 1950s. She wrote more than 200 published articles on a wide variety of topics and was also a speechwriter for the heads of the Department of Defense, the Central Intelligence Agency and the Air Force, receiving commendations for her work.

An expert on Soviet education, scientific and professional manpower, she wrote several books on the subject, including "Education in the USSR."

She appeared on television, spoke on public radio programs and was featured in several national magazine articles.

Her career took her to the former Department of Health, Education and Welfare, the Air Force, the National Science Foundation, the Office of Defense Mobilization, the Academy of Science, the Center for International Studies at MIT and the State Department.

She also wrote about gardening, the history of the Severn River area and social issues in a column, for the local magazine Along the Severn, for which she was editor-in-chief.

She was honored by the Ikebana Sugetsu School of Flower Arranging during the group's 60th anniversary with the Japanese name, Entei (Harmonious Garden) and had an orchid named for her in 1990, the Eleanor Lowman Sophrolaeliocattleya. She was president of the Hawaiian Chapter of the International Ikebana Association. She was an active member of the Ben Oaks Garden Club, the Phoenix Society and the Genealogical Societies in Florida, Maryland and Ohio. She also participated in the National Cryptologic Museum, Women's Club of Severna Park and League of Women Voters.

On July 16, 1949, she married **David D. Lowman**, a career intelligence officer with the National Security Agency, who died in April 1999.

## KATHERINE L. SWIFT

Crypto-linguist Katharine L. Swift, age 95, died 31 March 2006 of a heart attack. A highly respected NSA authority in the fields of linguistics and cryptology, she received the NSA Exceptional Civilian Service Award before retiring in 1972 with 30 years of government service, but continued teaching for the Agency for two additional years. Her major opus was a classified manual, *Standards and Techniques of Code Reconstruction*, plus a companion compilation of selected, illustrative technical papers by other practitioners.

Born in Michigan, Kay was graduated from Kalamazoo College. In 1932 she received a Master's degree in English from the University of Michigan, followed a decade later by a second Master's, in French. During WW II, she came to Washington, DC, where she was employed by the Army forerunner of NSA, and later NSA. Teacher, literary authority, role model-always a lady-her interests were as diverse as her authority was imposing. She served for years as teacher, volunteer on the Information Desk of the Museum of Natural History, Meals on Wheels helper, a guide at the National Capitol, and a reader for the blind. At Collington Episcopal Life Care Community in Mitchellville, MD, where she lived for twelve years, she was a member of the drama club and a medical advocate, yet found time to compile the World War II reminiscences of fellow residents.

Ms. Swift was a longtime Phoenix Society member. Having no surviving next-of-kin, in a characteristic gesture, she donated her body to science.

***The Admirals' Advantage: U.S. Navy Operational Intelligence in World War II and the Cold War*** by Christopher Ford and David Rosenberg, Naval Institute Press, Annapolis, Maryland, 2005. Reviewed with commentary by NCMF member, **CAPT Raymond P. Schmidt, USNR (Ret)**.

## Little Book—Big Agenda

Operational intelligence has been defined variously as a discipline, a process, a product, and a historically critical weapon needed especially by modern warfare commanders who must make immediate decisions and take near-term actions based on their estimate of the location, activity, and likely intentions of their adversaries. In this 140-page exposition, the authors argue that OPINTEL also played an essential role in shaping the Maritime Strategy of the United States during the final decades of the 20th century. This was crucial because it enabled the US Navy and its allies ultimately to hold the Soviet submarine force at risk and prevent a Third World War. That Maritime Strategy, the Director of Naval Intelligence concludes, "assured the success of the American national policy of deterrence" through the end of the Cold War.

Authors Ford and Rosenberg track the origins of US Navy OPINTEL to the early years of World War II (1942-1943). They correctly credit the British Admiralty's Operational Intelligence Center, created soon after it was proposed in 1937 by Admiral Sir William James, RN. James had served as head of the Admiralty's "Room 40" (the British World War I cryptanalytic bureau) and understood the value and urgent need to coordinate all available intelligence for operational use. The OIC played a vital role in the long Battle of the Atlantic, and established a model later used by US Navy Intelligence in tracking the Soviet submarine force during the Cold War.

US Navy OPINTEL traces its origins to the "war room" designated as OP-38W on the staff of the Chief of Naval Operations, Admiral Harold Stark. Modeled after the British OIC, this responsibility was shifted in December 1941 to Stark's successor, Admiral Ernest J. King, US Fleet Commander in Chief, and designated F-35--later F-32. F-3 directed the operations of the Fleet and supplied complete combat intelligence to commanders, maintaining the "war room" to track German U-Boats.

Recognizing this *close relationship between combat information and operational control* is essential to understanding how the war room operated and the reasons for its success. King became the commander in charge of all aspects of the entire US Atlantic naval theater of operations. Like the British model, this "*centralization of operational*

control created a corresponding 'demand' for centralized intelligence analysis." Therefore, centralization of decision-making led to centralization of information analysis and intelligence production, which in turn led to the "fusion" or integration of all available sources to provide the commander the most complete battle picture.

Similarly, in March 1942 proposals for such centralized intelligence support to naval commanders in the Pacific led to creation of the Intelligence Center, Pacific Ocean Area (renamed the Joint ICPOA, or JICPOA, in autumn of 1943). JICPOA "became a large and truly all-service intelligence staff" with some 2,000 Army, Navy, Marine Corps, and Coast Guard personnel. It drew upon radio intercepts, prisoner of war interrogations, air intelligence, and photo interpretation. This organizational structure should be recognized for the revolutionary new approach that it fostered in intelligence support. The ***global scope of collection, the effort to integrate analyses from different sources, and the coordination among the Services as well as initiatives to disseminate a coherent product on a timely basis***—all these characteristics continue to energize practitioners currently engaged in OPINTEL.

In the first 15 years after World War II, US Navy intelligence worked its way through the same evolutionary changes to mission, organization, new skill requirements and duty assignments for officers and enlisted personnel, training, and technology as did the operating Navy. The emergence of Soviet submarines as a *strategic threat* during the 1950s and 1960s spurred the creation and expansion of the worldwide Ocean Surveillance Information System. Early OSIS capabilities aimed at tracking these nuclear-powered and -armed submarines as they ventured out of their normal operating areas. Information from the OSIS underwater acoustic arrays merged with that from other sources: communications, photographs, and electronic emissions. Accompanying the fusion of these "INTs" (ACINT, COMINT, PHOTINT, ELINT) came the application of new data processing equipment and concepts to gain speed and retain accuracy of data. Moreover, with each improvement in sources and technology, commanders pressed hard to connect Fleet elements to the shore-based analytical and processing centers.

OPINTEL "came of age" throughout the 1970s and 1980s when the new "INTs" and quantum leaps in technology combined with policy innovations and organizational breakthroughs to *push tailored all-source fused intelligence support forward directly to the admirals on the front lines at sea*. This reviewer witnessed first-hand the innovative surge in October 1982 while serving with the Blue Force commander on board ***USS Carl Vinson*** (CVN-70) during Fleet Readiness Exercise

3-82. Ship commanding officer CAPT Richard L. Martin, USN, directed his intelligence officer to automate information from all sources to display the current disposition of Blue and Red forces on a screen in secure spaces on board near the admiral's command post. Similarly, many readers will find *The Admirals' Advantage* helpful in fitting their professional experiences into the context of the development of OPINTEL.

Support to commanders at sea soon became possible by creation of a global ocean surveillance system using Fleet Ocean Surveillance Information Centers and Facilities at London, Pearl Harbor, and Norfolk as well as at Rota, Spain and Kamiseya, Japan. These unique US Navy nodes facilitated and supported the "forward-leading" and "offensively oriented" Maritime Strategy that emerged as the Navy response to Soviet challenges in the crucial decade of the 1980s.

One contribution made by the FOSIFs and FOSICs was that the national assessment of Soviet naval strategy looked significantly different in 1991 than it did in 1978. In the analysis of Ford and Rosenberg, these changes pictured the Soviet Navy as a primarily defensive force rather than the "Deep-Sea Antagonist" described 13 years earlier. New intelligence and fresh analyses characterized the revised perception of the mission of the Soviet navy as "providing combat stability for their SSBNs [ballistic missile submarines] and defeating the West's nuclear capable strike forces." The resultant radical revision of US Navy operational doctrine attests to the influence of Navy intelligence and the Office of Naval Intelligence on formulating National Intelligence Estimates. The revised Maritime Strategy "required more, better, and more difficult operational intelligence than ever before—and got it" None of this would have been possible, the authors conclude, "had the Navy not already possessed an enormously sophisticated and effective operational intelligence system."

The Ocean Surveillance Information System that produced OPINTEL drew from a number of global sources: underwater listening arrays, ocean-surveillance SIGINT stations, oceanwide ELINT collection, and "other radar detection, merchant ship locator data, visual reports, and electronic collection from platforms at sea." The Centers and Facilities that synthesized these inputs and analytic contributions were thereby able to give Navy planners and commanders a "coherent, real-time operational picture" of opposing forces "both theater-wide and globally on a day to day basis." US OPINTEL capabilities to track Soviet naval forces, especially their SSBNs, gained a commanding advantage over Soviet efforts to detect US SSBNs and, thus, over "Moscow's

attempt at real-time, all-source intelligence fusion." In the end, sustaining that advantage made a significance difference in the outcome of the Cold War.

Success during the Cold War has brought new challenges to OPINTEL: "Stable bipolar strategic alignments of the Cold War" have given way to "complex, shifting multilateral alliances." Today, those same admirals who enjoyed advantages during the Cold War must contend with unpredictable conflicts among a range of potential national and other opponents who often use friendly or neutral coastal areas to plan and launch strikes. The symbolic toppling of the Berlin Wall brought political claims that the country needed a "peace dividend" and unremitting calls for reductions in Defense budgets and personnel. The consequent tighter reductions of vital resources increased pressure to achieve even greater operating efficiencies and to do more with less. Just as World War II centralization of operational control compelled a centralization of intelligence support, these policy and budgetary realities compelled further post-Cold War consolidation.

Thus, one response to these challenges spurred by the Goldwater-Nichols Act of 1986 harked back to the JICPOA organization of World War II. Joint intelligence centers have been created to support the US European Command in London, the Atlantic Command in Norfolk, and the Pacific Command in Hawaii. These transitions took most of the 1990s as the Army and Air Force personnel gradually fleshed out the Joint Intelligence Centers and Joint Analysis Centers. Furthermore, by the end of 2000, British and Australian facilities were also using the US OSIS Baseline Upgrade system.

All these adjustments made in OPINTEL over half a century required *dedicated professionals* to identify the correct targets, to keep pace with the accelerating transformation of information and communications technology, and to cope with the emergence of voluminous data from multiple intelligence sources and methods. Attracting and retaining highly skilled people was critical to the creation and operation of a sophisticated OSIS system that demonstrated convincing capabilities and helped shape a winning US Cold War Maritime Strategy. Creative and visionary active duty, civilian, and reserve personnel contributed directly to victory in both World War II and the decades-long struggle with Soviet forces that followed. That vital role has not diminished.

Some of the most illuminating text of this slim volume appears in the 58 pages of Notes. Locating notes is vastly facilitated by identifying their page of usage at the top of each page of Notes. Books and periodicals listed in the 10-page Bibliography suggest useful references for further reading, but the official sources,

## PATRON AND SPONSORS

Support of the NCMF has been expressed by the following individuals, and is gratefully acknowledged:

Patron-**ADM Bobby R. Inman**, USN (Ret.)

**Dr. Jon Gerbracht**

Sponsor: **Vera Filby**, **John Garcia**, **Dr. Robert Hermann**



*(l to r) NCMF VP Gene Becker, Mrs. & Dr. Jon Gerbracht, and General Morrison, at January 2005 unveiling plaque*

## DO YOU HAVE AN ACROBATIC MIND?

Fi yuo cna raed tihs, yuo hvae na arocbitac mnid too. Cna yuo raed tihs? Olny 55 % plepoe can.

I cdnuolt blveiee taht I cluod aulaclty uesdnatnrd waht I was rdanieg. The phaonmneal pweor of the hmuan mnid, aoccdrnig to a rscheearcher at Cmabrigde Uinervtisy, it dseno't mtaetr in waht oerdr the ltteres in a wrod are, the olny iproamtnt tihng is taht the frsit and lsat ltteer be in the rghit pclae.

The rset can be a taotl mses and you can sitll raed it whotuit a pboerlm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe. Azanmig huh? yaeh and I awlyas tghuhot slpeling was ipmorantt!

## A SPECIAL PRESENTATION



At the March 3, 2006 Board Meeting, **Gen. Morrison** presents a golf cart clock to NCMF member **Bill Saadi**, in appreciation for his work on the website and assistance to the Finance Committee.

## MEMORIAL REGISTRY

The following names have been added to the Foundation's Memorial Registry in the Museum:

#65 –  Honoree: **Otto E. Haenchen, Lt Col USAF (Ret)**
Sponsors: Nancy and David Rogers
#66 –  Honoree: **Delmar C. Lang, Lt Col USAF (Ret)**
Sponsor: Steve Feit
#67 –  Honoree: **Robert N. Tharp**
Sponsors: Yale Institute of Far Eastern
Languages & USAFSS Alumni
#68 –  Honoree: **Jesse L. Tanner**
Sponsor: Eugene Sattler
#69 –  Honoree: **Katherine L. Swift**
Sponsor: Harry Rosenbluh

*Correction:* Honoree #54 (**Walter G. Deeley**) (*The Link*, Vol. 7, No. 2, Fall 2004)
Change Sponsors to read: Patricia Deeley (wife) and children – Patricia, Edward, James, Brian, Kathleen, Keven, Maureen, and Sean.
Major General John E. Morrison, Jr. USAF (Ret)
Anonymous

## NCMF VISION STATEMENT

*The Foundation is established to support the National Cryptologic Museum in its effort to inform the public about the contribution made to the national security of the United States by the signals intelligence and information security services, and to commemorate the men and women who have participated in these important activities. Our objective is to help the Museum become the best institution of its kind in the world.*

*We will assist the Museum with advisory support and with the acquisition and display of memorabilia and artifacts that explain the role played by cryptology in peace and war. We will also aid the Museum in facilitating research into now-unclassified materials about signals intelligence and information security.*

## EMERY W. TETRAULT

Emery W. (Ted) Tetrault died on 8 February 2006 in Lewes, DE, after a long illness. He was 75. Born 27 September 1930 in Worcester, MA, he graduated from Assumption College in 1952 and enlisted in the U.S. Air Force that year. He served in the Korean War and was honorably discharged in 1956. He later received his Master's degree in linguistics from American University. In 1955 he began a 40-year career with the National Security Agency. He was instrumental in developing many of the federal government's foreign language teaching programs at the National Cryptologic School. He was nationally recognized as an expert in adult language learning, teaching methodologies and translation. Teaching was his love, and he taught unprecedented numbers of cryptologic language analysts in those subjects; his work influenced virtually every NCS foreign language instructor and language course. Due to the nature of his work only his colleagues know and fully appreciate his service to his country. Interment was at Delaware Veteran's Cemetery. ∎

## STAMPS, ANYONE?

NCMF member, **Prof. Mark Sommer** of New Jersey has shared further examples from his collection of intelligence and cryptologic-related stamps and "covers" (envelopes, etc.).

Encoded Message on PRC Olympic Stamp?

Does a Peoples' Republic of China 1992 Barcelona Olympic stamp include a veiled protest of the 1989 Tiananmen Square Massacre?



The 5-yuan stamp pictures six marathon runners, the first three of which have numbers on their uniforms. From left to right, the numbers are "64," "9," and "17."

At the time the stamp was issued, some stamp dealers and traders in China reported these numbers referred to June 4, 1989, the day the military began the crackdown that crushed the democracy movement. This was sometimes called the "6-4 Incident." The "64" could represent that date.

Of course, getting "1989" out of the numbers "9" and "17" is more difficult.

Newspapers reportedly explained how it was supposed to work: Of the remaining, numbers, adding "1" and "7" equals "8"—combining that with "9" gives us "8-9" or the year "1989."

According to the Associated Press story, the stamp designer, Yin Huli, refused to say if there is any connection between the stamp design and the democracy movement.

## WAVES/WRENS COVERS

Issued on 05 August 2005, this First Day Cover celebrates the ultra-secret work carried out during WW II by American and British Women of the WAVES (Women Accepted for Volunteer Emergency Service) and the WRENS (WRNS, Women's Royal Naval Service). On both sides of the Atlantic they operated machines known as "Bombes" to decode German "Enigma" messages.

The cover was released during the American Philatelic Society Stamp Show in Grand Rapids, Michigan. The "American Eagle" Stamp on the red and white cover was first issued at the show and the accompanying "White Ensign with Enigma" Stamp was specially commissioned from Royal Mail by Bletchley Park Post Office. Pictures featured on the cover were provided courtesy of the National Security Agency and the Bletchley Park Trust. The covers are made even more unique by the signature of NCMF member Maureen Miller Rodgers, who served as a WREN at Bletchley Park during WW II.

The First Day Covers are available from the NCMF for $30 which includes shipping and handling. ∎

## THE HELL SHIPS

October 1944, loaded aboard the Japanese cargo Hell Ship, *Arisan Maru*. Several days out of Manila, on October 24th, this ship was sunk by US subs. Only eight survived: her father did not. Mrs. Weber and her mother did not learn of Lt. Hoyt's death until June 1945. In Seattle, during the fall of 2005, they met with 86 year-old veteran **Glenn Oliver**, who did survive the sinking, and he told them about this tragic event, rekindling interest and making the NCMF program especially opportune. Although unable to attend the presentation, the Webers have received a recording and related hand-outs.

(A limited number of "marginal quality" experimental recordings in DVD format are available for a reduced price of $7.50, including shipping and handling, from the NCMF.)

## ALSO AVAILABLE FROM THE NCMF

The Foundation recently acquired a multi-hour videotaped oral history of Captain Forrest R. "Tex" Biard, USN, (Ret). Captain Biard is the sole living Japanese crypto linguist member of the US naval code breaking organization with knowledge of what we and our Allies knew and did not know at 8 a.m. Hawaiian time on 7 December 1941. Biard served in all three US Navy code breaking stations: Hawaii, Washington, D.C., and Melbourne, Australia. He had extensive assignments afloat during the war in the Pacific as Officer in Charge of Radio Intelligence Teams (Now referred to as Direct Support Units) assigned to major task force commanders, including RADM Frank Jack Fletcher of the USS Yorktown in the Coral Sea.

Of particular interest are his views on how communications intelligence was used—or not used—by decision makers prior to and during the war; what President Roosevelt and others knew about Japanese intentions; MacArthur's efforts in the Philippines, debates surrounding the Yamamoto shoot down; the Battles of the Coral Sea and Midway; and many others. Captain Biard also provides live commentary on life in pre-war Japan and his experiences studying and socializing with the local populace.

The oral history is available on 6 CD's for $79.95 and on 6 VHS tapes for $59.95 – both prices include shipping and handling.

## FOR THE BOOKSHELF

including the interviews and presentations for the Director of Naval Intelligence Operational Intelligence "Lessons Learned" Project of 1994-2004, remain largely classified; the book underwent close vetting to allow publication of this general outline of the OPINTEL story without compromising national security. An 11-page index and 5-page list of commonly used acronyms and abbreviations are helpful--only MASINT (Measurement And Signature INTelligence—*e.g.*, advanced radar, nuclear, electrooptical/infrared, and geophysical systems) is not expanded or explained, and only one interview mentioned in the Notes is not listed in the Bibliography, although it is identified fully when first introduced and appears in the index. Sixteen pages of illustrations inserted in the center of the volume may help readers recall related personal images of World War II and the Cold War.

As this summary suggests, much of the background story of this book will sound familiar to students of cryptologic history, especially those who lived through the Cold War. Make no mistake: Signals Intelligence was the heart of OPINTEL for much of the 20th century. On a broader scale, however, *The Admirals' Advantage* could be used as a text for studying the entire intelligence craft. It exemplifies the point that examining the history of intelligence can lead to learning lessons crucial to the difference between victory and defeat, between survival and destruction.

This slim volume also presents an excellent distillation of numerous published sources on the cold war period, and a masterful synthesis of numerous sources that still remain classified. Perhaps the most remarkable aspect of this book is not its clear exposition of OPINTEL and how it evolved through the second half of the 20th century, but rather that it has been published at all! Those currently engaged in intelligence activities in support of the United States of America should read this book if for only one reason: Our opponents, antagonists, and enemies certainly will.

## NSA 50TH ANNIVERSARY COMMEMORATIVE CALENDAR

Still available, this calendar is a true collector's item. It is artfully done and chronicles many significant events in the storied history of NSA and its predecessors. For example, on 13 June 1952, the Brownell Committee published a report that led to the creation of NSA and on 27 June 1958 a USAF C-118 was shot down over Soviet Armenia.

The calendar is available from the NCMF for $6.50 which includes shipping and handling.

# AROUND AND ABOUT THE NCM

Ideated by **Mary Faletto**
NCMF Administrator


*Museum Gift Shop Manager, Robin Bunch*


*Donna*
*Museum Cleaning Serives*


*Museum Receptionist Nancy Arteche greeting museum visitors with "CryptoKids" items and Acoustiguide services*


*4 logo choices - coffee mugs*


*Rick Henderson, Museum Registrar*


*Pat Clements and tour group*

**Visit the museum soon!**


*Museum Grounds Maintenance Crew*


*N. H. Szymanowski (Ski) with tour group*


*Home of Museum Mascots, Ralph & Franklin (groundhogs)*

# "THEY'RE SHORT, THEY'RE SMART, THEY'RE STYLISH…"



**Rosetta Stone** (fox): Language - A free spirit with a fox-cination with language and culture, she learns something new every day…

**T.Top** (turtle): Computer Science - He won't challenge you to a foot race, but he's lightning fast in the science of computers…

**Joules** (squirrel): Engineering - A burst of energy, she's quite the innovator and loves to shock her friends with new ideas…

With the above words, on 1 November 2005, the National Security Agency/Central Security Service (NSA/CSS) introduced a new and improved "Kids' Page" on the agency's Internet web site (**www.nsa.gov**). With a new set of "hip" characters *(The CryptoKids)*, leading-edge software technology, and interactive games, puzzles, animation, and sound, this site is sure to inspire future generations of codemakers and codebreakers. The CryptoKids (and their specialty fields) include:

**Crypto Cat:** Information Assurance - The purr-feet little feline, she loves to create secret messages to purr-plex her friends…

**Decipher Dog:** Signals Intelligence - The ultimate codebreaker, he looks for the hidden message behind the words, symbols, and sounds…

**Sergeant Sam** (eagle): CSS - A natural born leader with an eye for excellence, he guides the kids through cryptologic fun…

**Slate** (rabbit): Mathematics - This MC (Math Caper) is no square, juggling numbers in the air, no doubt he's one cool hare…

The CryptoKids are intended to make learning about America's cryptologic heritage (and about NSA/CSS) fun. They provide activities and games ranging from simple coloring pages to complex code¬making and code-breaking exercises. They offer information on the Agency's educational programs and future employment opportunities. And they provide teachers and parents with resources for taking the study of language, mathematics, and science from "boring" schoolwork to just plain cool work. (In that sense, the new feature would seem a natural complement to the NCMF-sponsored "**aka SMART**" program for schools.) Check 'em out.



ROSETTA STONE, THE CRYPTOKIDS LANGUAGE ANALYST, IS LEVITATING IN THE NSA BREAK ROOM.