

The US Army War College Quarterly: Parameters

Volume 31
Number 4 *Parameters Winter 2001*

Article 14

11-20-2001

Review Essays

Parameters Editors

Follow this and additional works at: <https://press.armywarcollege.edu/parameters>

Recommended Citation

Editors, Parameters. "Review Essays." *The US Army War College Quarterly: Parameters* 31, 4 (2001).
<https://press.armywarcollege.edu/parameters/vol31/iss4/14>

This Article is brought to you for free and open access by USAWC Press. It has been accepted for inclusion in The US Army War College Quarterly: Parameters by an authorized editor of USAWC Press.

Review Essays

From *Parameters*, Winter 2001-02, pp. 144-52.

Michael G. Roskin, "[New Looks at NATO](#)," pp. 144-46.

Russell W. Ramsey, "[Strategic Writing on Cuba](#)," pp. 146-49.

Arthur C. Winn, "[Codebreaking in World War II](#)," pp. 149-52.

New Looks at NATO

MICHAEL G. ROSKIN

© 2001 Michael G. Roskin

Suddenly, after 11 September, Russia is an ally and NATO is unimportant. It is sometimes forgotten that alliances are based on interests, not on abstract notions of "community." Russia and America, at least for a while, have common interests in combating Islamic terrorists. Before, we criticized Russia for brutality in Chechnya; now we stay silent. In 2001 NATO invoked Article 5--an attack on one is an attack on all--of the 1949 treaty for the first time, but this requires nothing specific from member countries, and that is what Europe delivered. What can NATO do in the Middle East? If responsibilities there fall exclusively on the United States, NATO will slide into irrelevance. Considering what could go wrong in the Gulf region--Saudi oil and Pakistani nuclear weapons falling into the hands of Islamist terrorists--the Cold War in Europe may seem like extended rest and recreation. One wonders if books on NATO enlargement will interest more than historians.

Gale Mattox and Arthur Rachwald, both professors of political science at the US Naval Academy, have edited and contributed to *Enlarging NATO: The National Debates*, a collection of country-by-country reviews explaining how present NATO members, new members, and nonmembers to the east reacted to the enlargement that was formally proposed in 1994 until the addition of Poland, the Czech Republic, and Hungary in 1999. The essays present a great deal of material--including public and editorial opinion, and parliamentary debates--and will be valuable to historians trying to reconstruct the episode.

Each country handled the question differently, on the basis of its perceived national interests, but two generalizations stand out: (1) no country (except Russia) made it a major issue, and (2) it was an elite decision with little citizen input. Poland is an exception, as many Poles were enthusiastic about joining. Czechs and Hungarians were lukewarm but went along with their leaders' preferences. NATO membership offers US-backed security and opens the door to the European Union. We might recall here that most Spaniards did not want to join NATO, but Socialist Prime Minister Felipe Gonzalez, head of a party that had been anti-NATO, persuaded his countrymen to vote for it in a 1986 referendum. His helper, trendy leftist Javier Solana, was scathing about NATO in the 1977 elections. Solana eventually became Secretary General of NATO, and an excellent one at that. Career advantage generates its own enthusiasm. (In political science, this is called "rational-choice theory.")

Russia paid more attention to NATO enlargement than anyone else, argues contributor Irina Kobrinskaya of the Moscow Center of the East-West Institute. Russian politicians played the nationalist and threat cards and claimed NATO actions in Bosnia and Kosovo proved their point. We don't know if Moscow really believes that NATO is a threat. Actually, NATO has some utility only if Moscow sees it as a potential threat. Balkan deployments are more than peace operations; they are exercises and demonstrations, and it is just as well the Russians don't like them, although polite people do not speak of such things in public.

Thomas Szayna, as part of a RAND project for the US Air Force, presents the most methodological and technical case in *NATO Enlargement, 2000-2015*. He assumes that NATO has already transformed itself into "a true security community" and has only a "residual collective defense function." (Then what good is it?) NATO, he claims, has accepted a "power projection role." (Projecting into where? Into Chechnya? The Middle East?) The fleeting references to the 1999 Kosovo campaign suggest that Szayna had largely completed the study before Operation Allied Force. Kosovo shows less of a security community and more of a free-rider syndrome based on US willingness to stabilize Europe. Kosovo actually proves very little--about air power, about a "security community," or about Washington's willingness to get involved in something similar.

Using cost-benefit analyses, Szayna sees Slovenia joining NATO--a good value at low cost--followed in descending order by Slovakia, Estonia, Latvia, and Lithuania as a group, Bulgaria, Romania, Macedonia, and Albania. None, he admits, can contribute much military strength. Spurious admissions criteria mean that some countries with the biggest security problems are least likely to be admitted anytime soon. Some of the candidate countries actually have "oversized" armies, big but poorly trained and equipped. Szayna's contract apparently included no cost-benefit analysis of how open-ended NATO enlargement affects US security. Szayna has a specialized chapter on how new members must upgrade their readiness in air power.

In *NATO After 2000: The Future of the Euro-Atlantic Alliance*, Thomas-Durell Young, a longtime researcher at the US Army War College and now at the Naval Postgraduate School, and the late John Borawski, by asking some devastating questions, offer an antidote to Szayna's assumptions. Europe has never spent adequately on defense, and in the post-Cold War spends less. Europe contributed little to Desert Storm or Kosovo. NATO's mission has shifted massively to the Balkans, but nowhere is this written or formalized, and this creates a consistency or hypocrisy problem: If we cover the Balkans, why not the Caucasus or Rwanda? Young quotes French President Chirac: Does NATO "give itself the right to intervene where it wants and when it wants"? Under what circumstances do human-rights violations let us intervene inside a sovereign state? Have we developed new principles of international law? Are we prepared to follow through with them? The Organization for Security and Cooperation in Europe can play no role; the Serbs laughed OSCE observers out of Kosovo.

The three books complement each other: Mattox and Rachwald on the historical evolution of NATO expansion, Szayna on the criteria for further expansion, and Young and Borawski on the problems of expansion. "NATO could become a relic of the past," said Secretary of Defense William Cohen in 2000. It could, but NATO has long been fissiparous and quarrelsome. Europeans have always resented Washington's leadership, which they now call "unilateralism." Europeans want to build their own Rapid Reaction Force, but--small and outside of NATO--it is unlikely to be of much use. A weakened and cautious Russia will for some years present no threat to NATO, and that was the glue that held the alliance together. The real test of NATO will be its ability to act in the Middle East, where a cutoff of oil could concentrate both European and American minds.

BIBLIOGRAPHY

Borawski, John, and Thomas-Durell Young. *NATO After 2000: The Future of the Euro-Atlantic Alliance*. Westport, Conn.: Praeger, 2001.

Mattox, Gale A., and Arthur R. Rachwald, eds. *Enlarging NATO: The National Debates*. Boulder, Colo.: Lynne Rienner, 2001.

Szayna, Thomas S. *NATO Enlargement, 2000-2015: Determinants and Implications for Defense Planning and Shaping*. Santa Monica, Calif.: RAND, 2001.

The Reviewer: Dr. Michael G. Roskin is a professor of political science at Lycoming College (Pa.) and in 1991-94 was a visiting professor at the US Army War College.

Review Essay

Strategic Writing on Cuba

RUSSELL W. RAMSEY

Seven years have passed since this reviewer's essay "On Castro and Cuba: Rethinking the 'Three Gs'" appeared in *Parameters*, and policy lines on US-Cuban relations have hardened in both Washington, D.C., and Havana since then. Yet there are important signals of impending policy changes emanating from both countries, and we explore here several works which set the tone for understanding the issues, followed by a more detailed examination of three new books which are significant contributions to the massive literature on this topic.

In 1994, Premier Fidel Castro carried out his sweeping policy adjustments occasioned by the collapse of the Soviet Union and its previous mentorship of Cuba. Politically, these adjustments included the authorization of a massive economic emigration from Cuba to Florida and the lifting of state censorship and other tight security rules affecting Cuban relationships with foreigners visiting or living in Cuba. Economically, Castro opened the Cuban socialist economy to allow about one-third of his population to live "outside the revolution," which means holding a job in a growing free-market sector created primarily by European investment and using the US dollar as primary currency. At the time of my earlier review, most Cuba analysts concluded that the demise of Fidel Castro as Premier and of *fidelismo* (passionate belief in Fidel's revolution) was imminent. Those analysts were wrong, and the works reviewed below show why.

To appreciate what has happened in Cuba since the demise of the Soviet Union, one should read Robert T. Buckman's chapter on Cuba in the Stryker-Post volume *Latin America 2001*. Buckman shows, dispassionately, that *fidelismo* may seem to be an illogical, failed policy to the outsider, but that Fidel Castro and his revolution are deeply meaningful to the seven million or so Cubans who live within it. Their basic necessities of life (food, first-line medical care, education, and shelter) are taken care of in exchange for a drab economic existence in old houses with leaky roofs and utilities that function with increasing irregularity. This judgment is corroborated by lectures delivered by Dr. Gilberto Fleites, a Cuban oncologist, on 7 January 2000, and from Dr. Juan Valdez Paz, a Cuban historian, on 14 January 2000, both at the Felix Varela Institute in Havana. For an overview of where scholarship is moving on Cuba and its tumultuous history, Robert Whitney's "History or Teleology?" in *Latin American Research Review* is the best short summary. The books reviewed by Professor Whitney point clearly to a growing emphasis on the "mambi" theme, a reference to Cuba's non-white eastern population who have always been excluded to some degree from the island's political system and among whom all revolutions have either started or at least had an important strand. This view was further confirmed by Dr. Herbert Perez, another Cuban historian at the Oriente (Eastern) University in Santiago, on 10 January 2000.

Professor Thomas C. Wright's revised (2001) edition of *Latin America in the Era of the Cuban Revolution* reflects the somewhat chastened writing of the neo-Marxist left in the United States. Gone are the romantic interpretations of Castro's role in the Cuban struggle of 1956-1959, and of Ernesto "Che" Guevara's ill-fated filibuster in Bolivia in 1967. Professor Wright accurately portrays the limited neo-Marxist dimensions seen in Colombia's recent years of domestic mayhem. He continues to laud the Salvador Allende administration of Chile and judges the Augusto Pinochet dictatorship to have been all bad, an externally imposed pawn of the US Central Intelligence Agency. Yet I have heard prominent Chilean Marxist scholars who suffered at the hands of General Pinochet's terror apparatus, the DINA, state that the Allende government was ineffective, and that the system imposed by Pinochet now calls on Chilean leftists to become social democrats working to achieve an economic safety network for the poor. Further, Professor Wright insists that the Nicaraguan people genuinely wanted the continuance of the Sandinista government in 1990, while dozens of former Sandinistas state that their government was venal, needlessly militarized, and economically counterproductive. While chastened in tone, some US neo-Marxists within academia still cling to a governmental philosophy that was shown by Professor Timothy Wickham-Crowley's 1992 study, *Guerrillas and Revolution in Latin America*, to have little authenticity within Latin America, and appearing to succeed (Cuba and Nicaragua) only as a result of external financial support now vanished with the collapse of the USSR.

The book *Cuba: The Contours of Change*, edited by Susan Kaufman Purcell and David Rothkopf, is the one reviewed here which will attract most readers, for it addresses the fundamental policy questions extant between the two bad

neighbors. This slim volume is a set of essays presented at a conference series entitled "Cuba: Preparing for the Future" conducted from April to June 2000 by the Council of the Americas, a think-tank group often sought-after by US political leaders for advice and endorsement of their Cuba policies. Professor Purcell is vice-president of the Americas Society and Council of the Americas, with a long record of influential policy writing on Cuba, and she concludes in this book that the US economic embargo of Cuba is unfortunate but necessary. She cites the demonstrated durability of Fidel Castro's regime as evidence that his 1994 policy adjustments are not a transition to free-market economics and political democracy, but are, in fact, a shrewd scheme for maintaining his personalistic revolution in power. This view is opposed by Professors Andrew Zimbalist and Manuel Pastor, Jr., who see the 1994 reforms as stop-gap measures which are economically unsustainable within the greater environment of NAFTA and the Caribbean Economic Community (CARICOM). Rabid opponents of Fidel, however, will not take much comfort here, for Zimbalist and Pastor merely conclude that the reforms are unstable and unsustainable, but do not see them as soon to be replaced by sweeping neo-liberal policies in Cuba. The facts behind both of these viewpoints were clearly sustained in lectures by the Cuban economist Dr. Julio Carranza on 7 January 2000, and by diplomatic history specialist Dr. Carlos Alzugaray on 13 January 2000, both at the Varela Institute in Havana.

Politics of Illusion: The Bay of Pigs Invasion Reexamined, edited by James G. Blight and Peter Kornbluh, revisits the Bay of Pigs fiasco of April 1961. It does for the failed invasion by an exile force what Dino A. Brugioni's 1991 book *Eyeball to Eyeball*, and Anatoli I. Gribkov and William Y. Smith's 1994 book *Operation ANADYR* did for the November 1962 Cuban Missile Crisis. *Politics of Illusion* uses actual participants' accounts to establish what happened, at a time when major documents have just been declassified. This book too will draw much blood, like the Brugioni book and the Gribkov and Smith work, for both liberals and conservatives among the US inventory of policymakers on Cuba love to throw ideological bombshells at one another. What emerges from a careful reading of *Politics of Illusion* is a sad realization of three points. The United States, with all its massive resources and strategic advantages, developed very few workable options to the ill-conceived invasion. Each bureaucratic entity of the US government protected its own interests and image. No one, until President John F. Kennedy's final announcement of the tragic failure, took overall responsibility for conceiving and guaranteeing a coordinated strategy. So, as the book concludes, all parties indulged themselves in the politics of illusion and rendered flawed judgments. That appraisal squares with my own exposure to the planners of the era as well.

A book to love in this cluster is the photo-rich *Cuban Miami*, by Robert M. Levine and Moises Asis. Here we see the superbly energetic and creative side of the Cuban character, bound together by the tragedy of losing their homeland, but free to achieve in the country that still applauds Jacksonian Democracy. They are all represented here: the baseball stars, the dancers, the cartoonists, the architects, the housewives, and the domino players. Because the news media have presented the Cuban exile community as an orchestrated mob of howling anti-Castro right-wingers, this book is a charming, refreshing, and long-overdue antidote. Furthermore, it contains many well-written pages of sociologically precise detail to accompany the superb photography. With this book, one sees the glory and the shame of the Cuban Revolution--the glory of what Cuba could now be under a climate of genuine democratic freedom, and the shame of having its talented people driven from their homes while those who remained built a dysfunctional welfare state on pillars of mythology.

The books reviewed here lead me to the same conclusions of my essay seven years ago--namely, that Fidel Castro has dug in for the long haul, and that the Cuban economy can stumble along for a few more years, sustained by a loyal leadership that glories more in the revolution than in the joys of neo-liberal economics. But one new conclusion also occurs: The time is nigh to apply the US policy of engagement. An exchange of diplomatic, cultural, economic, police, and military figures between the two countries, with careful attention to the nominations of the Cuban exile community, would create multiple links through which a gloriously endowed Caribbean island could reach its potential as a significant and respected nation.

BIBLIOGRAPHY

Blight, James G., and Peter Kornbluh, eds. *Politics of Illusion: The Bay of Pigs Invasion Reexamined*. Boulder, Colo.: Lynne Rienner, 1998.

Buckman, Robert T. "The Socialist Republic of Cuba." *Latin America 2001*. 34th ed. Harpers Ferry, W.Va.: Stryker-

Post Publications, 2001.

Council for International Educational Exchange, New York. Lectures and interviews with: Dr. Julio Carranza (economics), Havana, 7 January 2000; Dr. Herbert Perez (history), Santiago, 10 January 2000; Dr. Jorge Herrera Ochoa (education), Havana, 10 January 2000; Dr. Carlos Alsugaray (international relations), Havana, 13 January 2000; Dr. Mayra Espina (sociology), 13 January 2000; and Dr. Juan Valdez Paz (historiography), 13 January 2000.

Levine, Robert M., and Moises Asis. *Cuban Miami*. New Brunswick, N.J.: Rutgers Univ. Press, 2000.

Purcell, Susan Kaufman, and David Rothkopf, eds. *Cuba: The Contours of Change*. Boulder, Colo.: Lynne Rienner, 2000.

Ramsey, Russell W. "On Castro and Cuba: Rethinking the `Three Gs.'" *Parameters*, 24 (Winter 1994-95). Rpt. in *Strategic Reading on Latin America*. 3d ed. Bloomington, Ind.: 1st Books, 2001.

Whitney, Robert. "History or Teleology? Recent Scholarship on Cuba before 1959." *Latin American Research Review*, 36 (No. 2, 2001).

Wickham-Crowley, Timothy P. *Guerrillas and Revolution in Latin America*. Princeton, N.J.: Princeton Univ. Press, 1992.

Wright, Thomas C. *Latin America in the Era of the Cuban Revolution*. Westport, Conn.: Praeger, 2001.

The Reviewer: Russell W. Ramsey, Ph.D., D.Min., is Distinguished Visiting Professor from Troy State University to the Western Hemisphere Institute for Security Cooperation, founded in January 2001, at Fort Benning, Georgia.

Review Essay

Codebreaking in World War II

ARTHUR C. WINN

The three books reviewed here cannot be read just once--not if the reader wants to gain the most complete picture of American and British activities (independent, competitive, and cooperative) with regard to World War II codebreaking. Nor if the reader desires an understanding of the interrelationships, and at times lack thereof, among the military services and the various American and British government agencies which were, or wanted to be, directly involved in codebreaking. As the authors clearly show, the interrelationships were at times cooperative, at times marked by bureaucratic internecine warfare.

Stephen Budiansky is a correspondent for *The Atlantic*. He received a master's degree in applied mathematics from Harvard and has worked on classified military studies as a Congressional Fellow. The theme in his *Battle of Wits: The Complete Story of Codebreaking in World War II* is in the subtitle of his book. This work is comprehensive and thorough. Only time will tell if his story is "complete" in the absolute sense of the word.

David Alvarez is a professor of politics at Saint Mary's College of California. His research for his book *Secret Messages: Codebreaking and American Diplomacy, 1930-1945* was completed while he held an appointment as a scholar-in-residence at the National Security Agency's Center for Cryptologic History. The principal theme is an appraisal of the role of codebreaking in the formulation of diplomatic policy. As the author notes, the opening date coincides with the creation of the US Army's Signal Intelligence Service (SIS), so his book is also an operational history of SIS. He does not address codebreaking in the military or naval spheres.

Maurice Freedman served in the Royal Air Force (RAF) Bomber Command No. 100 (Special Signals) Group during

World War II. After the war he pursued a career in public administration, teaching, and journalism. He has been a regular lecturer on Ultra (Enigma-based intelligence) and related issues. The theme in his *Unravelling Enigma* is the codebreaking carried out at Bletchley Park, the wartime home of Britain's Government Code and Cypher School. Freedman refers to it as "Britain's greatest twentieth-century achievement," the essence of which was decoding and intelligence processing on an industrial scale.

All three authors emphasize that people were the key factor in the codebreaking efforts in Britain and the United States. They identify key personnel and provide examples of their contributions. Freedman notes that the results achieved were founded on "previous experience, mathematics, language, and psychology, as well as some bright ideas, and were nothing if not shrewd, well-informed, and intelligent." The people "were drawn from a section of society loosely called 'intellectuals,' not a group particularly favoured by the military." At times he refers to them as "boffins," an essentially British term probably best defined as a government scientific technician who appears unconventional or absent-minded.

Most of those involved had little or no prior experience with cryptology. Alvarez mentions a 24-year-old math teacher who accepted a position as a junior mathematician with the US Army Signal Intelligence Service. He had no idea of what a junior cryptanalyst did, but he knew what a crypt was and guessed that the job had something to do with military cemeteries. The young man, Frank Rowlett, was later to head the General Cryptanalytic Branch at Arlington Hall.

Although Alvarez's focus is the period from 1930 through the end of World War II, he does highlight some earlier episodes--as early as the American Revolution. These episodes suggest an amateur and unsystematic approach to codebreaking that characterized American activities in the field well into the 20th century. He writes, "No one in Washington thought that the interception and decryption of secret messages was sufficiently useful to the United States government to require some system and organization." At least not until June 1917 when the US Army established a cipher office, known as MI-8, in its Military Intelligence Branch. The office was entrusted to Herbert Yardley who, as Alvarez and Budiansky show, became both famous and infamous.

Alvarez notes that despite MI-8's successes in solving foreign diplomatic codes during World War I, there is no evidence that this had any effect on American diplomacy during the war or during the Versailles Peace Conference. He attributes this to President Wilson's distaste for espionage and his resistance to the influence of any intelligence, let alone that from intercepting diplomatic traffic.

Following World War I, the Cipher Bureau (perhaps more widely known as the American Black Chamber) was created with funding shared by the War Department and the State Department. The high point in its history occurred during the Washington Conference on the Limitation of Armaments in November 1921 when the Cipher Bureau provided the US Secretary of State advance information on Japan's negotiating strategy.

After the Washington Conference, Japan was the only significant power whose messages were regularly read. Alvarez and Budiansky highlight the problem as one of intercept. Without message traffic, the most skilled analysts are helpless. During the war, censorship on all international communications and copies of all foreign diplomatic cables entering or leaving the United States had been automatically provided to MI-8 by the censorship authorities. After the war, these sources of raw traffic stopped. State Department funding was also stopped by US Secretary of State Henry Stimson, who believed it was inappropriate for the State Department to engage in covert activities of any sort. The American Black Chamber ceased operations in May 1929.

In April 1929, the Military Intelligence Division, the War Plans Division, and the Signal Corps agreed on a plan to consolidate the Army's code compilation and code solution activities in a new Signal Corps unit, the Signal Intelligence Service (SIS). William Friedman was appointed principal cryptanalyst and effective director of the SIS. Both Alvarez and Budiansky trace the development of SIS and its activities through the end of World War II.

David Alvarez sums up his view of codebreaking and American diplomacy during this critical period in his final paragraph:

The President's failure to grasp the diplomatic advantage proffered by signals intelligence would have

marginalized the codebreakers even if their efforts had not been constrained by operational difficulties. Together, the various factors ensured that, for all its expansion and achievement, signals intelligence would have little appreciable impact on American diplomacy in the period 1930-1945.

Maurice Freedman notes that successful decoding during World War I led to the creation of the Government Code and Cypher School (GC&CS) as an interservice organization (due to the disastrous lack of cooperation in intelligence matters during the war). He writes that the name was "probably devised by some Foreign Office wag." Budiansky notes that the name was "dreamed up" by the head of the Foreign Office's Communication Department, Courtenay Forbes.

Both Freedman and Budiansky provide examples of agreements and disagreements over the handling of the deciphering/decoding of diplomatic and military intelligence. They also address the relationships between GC&CS and the service intelligence directorates--which at times, as Freedman describes it, "was one of stalemate."

Freedman and Budiansky also cite operational examples in which Ultra, as well as direction finding and traffic analysis, was used with and without success throughout World War II, in North Africa, in Europe, during the Battle of the Atlantic, and in countering U-boat operations. They also cite examples where commanders chose not to believe the signals intelligence. For example, Budiansky in his comments about the Battle of the Bulge notes that Ultra had provided ample warnings of the German attack. However, the Allied generals who looked at the situation as professional military men had concluded that the German army was simply too battered to go on the attack, a view held by the German generals as well. It was Hitler who disagreed with both and ordered the attack.

Budiansky also addresses US codebreaking operations against the Japanese. He examines the Japanese diplomatic Purple cipher (intelligence from it was code-named MAGIC) as well as the Japanese Fleet General Purpose Code. The author notes that intercepted Purple messages of 3 and 6 December 1941 indicated that Japan was about to go to war with the United States. However, not a single Japanese Fleet message (which would have contained details) was read by the time of the Pearl Harbor attack. Following the war, when cryptanalysts examined the unread traffic, they found some of the details. Although none of the messages specifically mentioned Pearl Harbor, Budiansky points out that had the pre-Pearl Harbor Japanese Fleet traffic been decoded and read at the time, it would have certainly conveyed heavy hints about the attack. That it was not decoded was partly a matter of manpower and partly one of priority. MAGIC was such a dazzling find that it blinded its possessors to possible attack information that lay buried among Japanese Fleet supply orders and maneuvers. Lesson to be learned: Consider the potential ramifications of priorities.

The Japanese Fleet Code was broken in March 1942. Budiansky provides an excellent summary of the key role it played in the Battle of Midway in June 1942 and of the relationships of key individuals--i.e., Commander Joseph J. Rochefort, Station Hypo officer in charge; Captain Edwin Layton, Pacific Fleet intelligence officer; and Commander John H. Redman, in command of OP-20-G. According to Budiansky, Redman at first claimed that Rochefort was wrong in identifying Midway as a Japanese target and then after the battle tried to claim sole credit. As Budiansky writes, "The denouement of the Battle of Midway was not one of the US Navy's finest hours."

Budiansky and Freedman address the functioning of the Enigma machines and the various aids and machines used in codebreaking. They include pictures and excellent appendices. Budiansky's Appendix A provides an excellent chronology of cryptanalysis-related events from 1923 until the surrender of Japan in 1945. Readers who are cryptologists will appreciate the talent that went into developing the machines; readers who are not will find themselves grabbing a pencil and paper and working through the examples they provide.

These three books are not the first to address codebreaking during World War II. And they certainly will not be the last to do so. But together they do highlight some areas for the reader's consideration: analytical aptitude, knowledge databases, linguistic skills, machine translations, statistical security, enemy and friendly operating procedures, interpretation and evaluation of incomplete signals information, diplomatic and military operational use, source protection, measurements of success. Questions and the answers in each of these subject areas will forever be related to the conditions and attendant circumstances at particular moments in time.

BIBLIOGRAPHY

Alvarez, David. *Secret Messages: Codebreaking and American Diplomacy, 1930-1945*. Lawrence: Univ. Press of Kansas, 2000.

Budiansky, Stephen. *Battle of Wits: The Complete Story of Codebreaking in World War II*. New York: The Free Press, 2000.

Freedman, Maurice. *Unravelling Enigma: Winning the Code War at Station X*. South Yorkshire, Eng.: Leo Cooper, Pen & Sword Books, 2000.

The Reviewer: Colonel Arthur C. Winn, USA Ret., has worked for the past 20 years for civilian professional service firms as a program manager and senior analyst on DOD- and Army-sponsored targeting and intelligence systems programs. He retired from the Strategic Studies Institute at the US Army War College in 1979 after more than 30 years of active service as a Corps of Engineer, Special Forces, and Military Intelligence officer, with tours in Japan, Korea, Vietnam, Germany, and as the Assistant US Army Attaché in Israel.

Reviewed 20 November 2001. Please send comments or corrections to carl_Parameters@conus.army.mil