DOCID: 3080872
Declassified and approved for release by NSA on 9 January pursuant to E.O. 12958, as amended. MDR-51909.

(U) Vietnam: A SIGINT Paradox (Part I)

EO 1.4.(c)

(U) The American cryptologic experience with the Vietnam problem demonstrated the complexities of producing SIGINT. Both time and analysis are required to produce SIGINT. There are numerous examples in cryptologic history that demonstrate that the accumulation of knowledge gained through traffic analysis, cryptanalysis, and language analysis and translation should make it easier to produce SIGINT. However, the Vietnam experience demonstrated that study and preparation do not automatically lead to success.

~~(S//SI-REL)~~ SIGINT failures have occurred because we were unprepared for unexpected crises. However, this was not the case in Vietnam. As American involvement in the Vietnam War began to increase during the 1960s, NSA had a distinct advantage compared to the rest of the intelligence community [redacted]

(U) The first part of this two-part article [redacted] What did we know about North Vietnamese COMINT capabilities? This article will also demonstrate the cryptographic talents of the Viet Minh and their communist successors. Part II will focus on one explanation of why NSA lost its advantage.

The 1950s: A Decade of Cryptanalytic Study

(U) To appreciate NSA's activities on the Vietnam problem [redacted], it is necessary to look at the historical setting. Vietnam has a long history of opposition to dominance by colonial powers. In May 1941 Ho Chi Minh established the Viet Nam Doc Lap Dong Minh, or Viet Minh (The League for Vietnamese Independence) to formalize this resistance. At the end of the war, on 2 September 1945, Ho declared the independence of Vietnam and announced the formation of the Democratic Republic of Vietnam. With the Allies' permission, France reclaimed its colonial hold over Vietnam. Ho reacted by warning the French prime minister, Georges Bidault, in a meeting on 14 September 1946, that "If we must fight, we will fight. You will kill ten of our men, and we will kill one of

yours. Yet, in the end, it is you who will tire."

(U) After a war which lasted approximately nine years, the French were defeated at Dien Bien Phu and forced to come to terms. However, what the Viet Minh won on the battlefield was taken from them at the Geneva peace conference. The Geneva Accords divided Vietnam at the seventeenth parallel into North Vietnam and South Vietnam. With that division in place, the accords imposed a cease-fire and provided for the withdrawal of French forces from North Vietnam and of Viet Minh forces from South Vietnam within the next three hundred days. New foreign troop placements were prohibited throughout Vietnam, and both the French and the Viet Minh were to withdraw their troops from Laos and Cambodia. Finally, the accords provided for free elections in 1956, with the goal of reunifying the two Vietnams.

(U) South Vietnam did not sign the accords. To preserve his regime, Ngo Dinh Diem, the head of the South Vietnamese government, used this failure to sign the accords as an excuse to cancel the 1956 elections. North Vietnam, on the other hand, remained determined to achieve a united country.

EO 1.4.(c)
P.L. 86-36

(U) Vietnamese was a difficult language for NSA students to master. Vietnamese is a tonal (with six tones), monosyllabic language. Moreover, Westerners have to learn a new alphabet consisting of 27 consonants and 12 vowels. The task of mastering this language was particularly difficult because there were no Vietnamese-English dictionaries. NSA linguists had to look up a word in a Vietnamese-French dictionary, then consult a French-English dictionary to finish the translation of the Vietnamese word.

EO 1.4.(c)

(U) Gaddy further explained: "Despite the excellent instruction provided at the NSA school, linguists really had to learn their trade from on-the-job training. Native instructors lacked clearances, so they were never told what jobs we performed. They could not tailor our instruction to job requirements. NSA told the instructors to emphasize reading over pronunciation, which made it difficult to really learn a tonal language."

(U) Cryptolinguists faced additional challenges. Vietnamese cannot be transmitted by using standard international morse code because of its peculiar letters and the use of accent

marks. The cryptolinguist had to learn the system created by the Vietnamese to express these features in morse before tackling an actual translation. For instance, the vowels u and o appear as simple letters or with hooks. To indicate the use of the letter u with a hook, the Vietnamese operator sent the letters uw. W does not exist in the Vietnamese alphabet so it was available for special assignment. Since uo with hooks is a frequent letter combination in Vietnamese words, the morse operator used the shortcut wow rather than uwow in morse to indicate these hooked letters. Such a system made on- the-job training essential.

~~(S//SI-REL)~~ [redacted] the North Vietnamese were transformed from a poorly equipped guerrilla organization to a regular, standardized military establishment. These changes became apparent through COMINT, which now contained references to military rank and terminology for rockets and missiles.

EO 1.4.(c)

~~(S//SI-REL)~~ Gaddy reported a similar growing sophistication in cryptography: "Through cryptographic changes, NSA analysts suspected that the Viet Minh were being trained in cryptography by the Chinese. [redacted]' This suspicion was confirmed by the North Vietnamese in their publication Essential Matters, which was translated into English in 1990 (and which is available from the Center for Cryptologic History). The North Vietnamese revealed that the first group of cryptographers studied in China as early as 1950-51. They left in 1950, studied for six months, and returned home in May 1951.

~~(S//SI-REL)~~ [redacted] North Vietnam had organized a unit called Group 559, to begin work on refurbishing the southern infiltration route, popularly known as the Ho Chi Minh Trail. The Ho Chi Minh Trail ran from North Vietnam through the Laotian panhandle into South Vietnam [redacted] the North Vietnamese also organized Group 759 to find ways to supply their southern forces. [redacted]

(U) In 1961, as American advisers began to provide assistance to South Vietnam, NSA analysts knew that our opponents were good at the cryptologic trade and maintained a healthy respect for the cryptologic abilities of the North Vietnamese.

~~[(U//FOUO)~~ Sharon A. Maneki, Center for Cryptologic History, 972-2893s, samanek]

Content Owner: Feedback

Web POC: Feedback

Last Modified: by nsr
Last Reviewed: February 28, 2003
Next Review: 365 days

TOP SECRET//COMINT//REL TO USA, AUS, CAN, GBR and NZL//X1

~~DERIVED FROM: NSA/CSS MANUAL 123-2~~
~~DATED: 24 FEB 1998~~
DECLASSIFY ON: X1