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**An Analysis of the Success and Failure of the Collection and Interpretation of American Intelligence, 1942-1989**

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AN ANALYSIS OF THE SUCCESS AND FAILURE OF THE
COLLECTION AND INTERPRETATION OF AMERICAN INTELLIGENCE, 1942-
1989

by

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B.A. May 1997, College of William and Mary

A Dissertation Submitted to the Faculty of Old Dominion University
in Partial Fulfillment of the Requirement for the Degree of

MASTER OF ARTS

HISTORY

OLD DOMINION UNIVERSITY
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ABSTRACT


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Old Dominion University, 1999
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The purpose of this study is to investigate several types of American intelligence collectors. These collectors include human, airborne, shipborne, satellite, and signals. The time frame for this study will begin with the American involvement in the Second World War, commencing with Operation Torch in 1942, and end with the conclusion of the Cold War, marked by the fall of the Berlin Wall in 1989. The case-study format of the paper allows the author to focus on several important areas of intelligence collection, rather than dividing analysis over a great array of topics. The significance of the thesis to contemporary scholarship of intelligence history is the comparative nature of the analysis. While several authors have written on one or several intelligence collectors, an analysis of the success and failure, based on costs and benefits, of a large variety of collectors to determine the most efficient and effective is a new topic. The comparison of intelligence collectors has ramifications for the current situation facing the Department of Defense, as it heads into the twenty-first century. The question facing the Department of Defense is how much of a limited intelligence budget should be allocated to the various collectors. This paper attempts to help answer that question.
The author would like to thank various people for the aid they have given in his thesis. First, the author is indebted to his thesis adviser, Carl Boyd, for his helpful suggestions, able direction, and accurate commentary, in addition to his thorough proofreading. In addition, the author would like to thank his thesis committee of Maura Hametz and Stephanie Annette Finley-Croswhite for their time and patience. Also, the author would like to express his gratitude to his parents and his friends, especially Kathy Newberry, who supported him with encouragement and advice throughout the process.
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CHAPTER I

INTRODUCTION

Over the centuries intelligence has played a central and vital role in a state's ability to conduct war. Intelligence, as defined by the dictionary, is the capacity to acquire and apply knowledge. The application of intelligence to the battlefield allowed commanders from Genghis Khan to Dwight D. Eisenhower to utilize their resources, human and material, far more effectively and efficiently. The ability to know where the enemy will be, and in what strength that he or she will be there, contributed far more to victory than sheer numerical advantage logistical superiority. Even the original military philosopher Sun Tzu proclaimed in his dictum "Know thy enemy and know thyself; in a hundred battles you will never be in peril." Sun Tzu claimed the use of intelligence permitted a commander to prepare for an enemy, therefore allowing a leader to concentrate his or her forces to meet the enemy from a position of strength. Besides allowing time for preparation, the foreknowledge provided by intelligence permitted states and commanders to act on an opponent's weak points or disrupt the enemy's strategy. Intelligence is also used by a state in military scientific matters to either recover a technology gap or gauge the progress of an enemy's research and development. Another use of intelligence is the penetration of an enemy's decision or policy-making apparatus through code-breaking or a human

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resource. This penetration can let a state ascertain its own intelligence shortcomings or weaknesses, such as security leaks, through the inside information gained through its own intelligence collectors. Furthermore, with the advent of advanced reconnaissance imagery, via satellite or high-altitude aircraft, the intelligence gathered about an opponent's troop strength and dispositions has allowed states to better prepare for potential future conflicts. Therefore, the primary role of intelligence on the battlefield is to allow a state to use its resources more rationally both in warfare and in peace.

With the role of intelligence so prominent in the prosecution and outcome of a conflict, attention then must turn to the collection and analysis of intelligence. Collection is defined here as the gathering of intelligence from differing sources about an enemy or opponent who does not wish to divulge secret information. Intelligence must be gathered in a way that does not endanger the means of collection. If there is the possibility that this same form of collection could have further or even greater benefits in the future, then that secure route of collection must be maintained. In addition, if the collection of information is done in such a way to alert the enemy, not only will that method of collection be sealed off by the adversary, but there is the possibility that other avenues will be threatened if the opponent overreacts in panic to its sudden vulnerability and eliminates all potential means of access. Secondly, the analysis of intelligence, that is what is done with the intelligence once it has been collected, must be accomplished in a way that extracts the premium value from the information. No matter how secret or valuable the intelligence of collected information is, if its analysis is faulty, dated, or misleading, then the whole process is ruined and the wrong conclusions are made. Operations launched on the basis of incorrectly interpreted intelligence are as dangerous as those initiated on blind faith.
Therefore, the collection and interpretation of intelligence has become crucial to a state’s opportunities in warfare.

The structure of this thesis will be a case-study format that covers a variety of methods for the collection and interpretation of intelligence used by American intelligence sources over the past fifty or so years. Thus, the aim of this study is to determine the most effective means, based on the success and failure examples provided in this paper, for the collection and interpretation of American intelligence from 1942 to 1989. Success and failure will be judged in terms of the importance of the intelligence collected and the cost in gathering the intelligence, strictly based on the American perspective.

The case-study format will be divided into five categories of collection methods: human, ship and submarine, airborne, satellite, and cryptologic. In each category there will be one example of American success and one example of the American failure in the collection and interpretation of intelligence. This study intends to determine the most effective intelligence collector based on the American experience and perspective of the last fifty-odd years. Obviously a failure on the part of the United States could be construed as a success by the United States’ chief opponent of the period under investigation, the Soviet Union. Therefore, the determination of success and failure will be ascertained from the American experience. Simply put, success would be an intelligence event that resulted in major positive ramifications, either political or military, for the United States. Conversely, failure would be an incident that came at a large cost to the United States.

Within each case-study, a description of the subject’s intelligence history along with the ramifications of the intelligence collected and interpreted is provided. The case-
study will also investigate the causes of the subject’s success or failure. The case-study structure permits a summary of intelligence history of the past fifty years while an attempt is made to distill the accomplishments and shortcomings of intelligence collection and interpretation. At the conclusion of the case-studies, there will be a detailed analysis of the success and failure of various collectors and interpreters of intelligence in order to determine the most effective means of collecting intelligence.

The lengthiest single section of the thesis, the analysis of the various success and failures in the conclusion, will compare the different collectors in an attempt to ascertain not only the most effective means of collection, in terms of information gathered, but the most efficient. The most efficient collector is that which derived the most sensitive and beneficial intelligence at the least possible cost to the United States.

The success and failure of a collector will be determined by the cost exacted on the gatherer versus the benefits gained from the intelligence amassed. Cost, in this instance, can be assessed in several ways. Cost can be defined as the actual monetary cost of the project or operation. Cost can be figured in terms of the international political damage done to the state when its intelligence collector has been compromised in another sovereign state. Cost can be calculated to include the damage done to the collector during the operation or the cost of setting up the project, getting the correct assets into the right places. Furthermore, and most importantly, cost has to encompass the human component. How many deaths or casualties did the operation cause? As a result, cost has to be assessed on an individual basis. There cannot be a sliding scale on which perhaps

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3 Though the collection of intelligence is attempted by almost every state, the public announcement of the discovery of a state’s intelligence asset where it should not be has become a source of embarrassment and recrimination in the international community.
one human life equals one hundred million dollars in the final expense report. Each case-study has to be investigated on an individual basis and only then can it be compared with the others.

The benefit of intelligence collected from an operation can be far more easily assessed on a larger scale than can the cost be assessed. For the most part, intelligence gained about far-reaching strategic concerns tends to be more valuable than information collected on a more limited tactical level. For example, intelligence on hostile Soviet intentions on the Indian sub-continent is more useful than information on a secret Soviet listening post in Cuba. Secondly, while important, intelligence gained on technological breakthroughs, unless it has a direct impact on human lives, is subordinate to those of human concerns, such as the forewarning of a planned enemy offensive. This is because the latter saves lives immediately.

The case studies that have been chosen fall into the five categories of collection mentioned above: human, ship, airborne, satellite, cryptologic. The human case studies are Fritz Kolbe, the anti-National Socialist in the German Foreign Office who worked for the Office of Strategic Services (OSS), as an example of success and, as a study in failure, Edward Howard, the Central Intelligence Agency (CIA) spy who turned classified information over to the Soviets. The examples of success and failure concerning shipborne intelligence collection and interpretation are the USS Halibut, the United States submarine that tapped Soviet undersea cables, and the USS Liberty, the United States naval intelligence ship attacked by the Israelis during the Six-Day War in 1967. In the airborne case studies, the SR-71, the untouchable American spy plane, is used as an example of success, while the U-2, flown by Gary Powers and shot down over the Soviet
Union in 1960, is the demonstration of the failure of airborne collection. In satellite reconnaissance, the resolution of the 1961 Berlin Crisis is the illustration of success and the Cuban Missile Crisis of 1963 is the example of failure. For the collection and interpretation of intelligence by cryptologic means, MAGIC, the penetration of the Japanese diplomatic code, is the success and the failure to anticipate the Tet offensive in 1968 is the obvious failure.

These case studies were chosen for a variety of reasons. The successful examples of Fritz Kolbe, the Halibut, the SR-71 Blackbird, the Keyhole series satellite, and MAGIC intelligence were chosen because of the tremendous ramifications of the intelligence delivered by each on the policies and activities of the United States during the period under investigation. In each area, research indicated that it was very unlikely to find a collector that recovered intelligence more successfully than the gatherers chosen.

The examples of the failure of American intelligence collectors, Edward Howard, the Liberty, the U-2, satellite limitations, and the Tet Offensive, were determined for slightly different reasons. These examples were each selected for their ability to illustrate the shortcomings of that type of intelligence collection. For the most part, these examples of intelligence collectors were successful gatherers of information during their career. However, in several distinct instances, these collectors failed in such a manner to have severe repercussions on the collection of U.S. intelligence. As a result, their failure demonstrated the drawbacks inherent in that form of collection.

The time period of the case studies is confined to the latter half of the twentieth century. The studies begin with the American involvement in the Second World War in 1942, with the preliminary moves into the Pacific and Operation Torch in North Africa,
and the studies end with the "thawing" of the Cold War, symbolized by the fall of the Berlin Wall in 1989. In between these two sets of traumatic events is a time when American decision-makers believed that the maintenance of American power abroad depended on the successful collection and interpretation of intelligence.
CHAPTER II

HUMAN COLLECTION AND INTERPRETATION OF INTELLIGENCE

The human subject of the first case-study on the success of American intelligence collection and interpretation is Fritz Kolbe, alias George Wood. Kolbe was a German citizen who worked in the German Foreign Office during the Second World War. Kolbe was the assistant to Dr. Karl Ritter, the Auswaertige Amt or liaison officer to the OKW (the Supreme German High Command).\(^1\) Kolbe’s job was to shift through Ritter’s incoming dispatches and prepare an intelligence briefing for him.\(^2\) These dispatches included cables and documents on German missions abroad, war plans, submarine warfare, army movement and reinforcement, activities of the Luftwaffe, and the conduct of military governments in the occupied territories. This important post put Kolbe in a position to handle classified National Socialist documents on a variety of sensitive subjects. However, what the German government did not realize was that Kolbe was a virulent anti-National Socialist.

Kolbe’s entry into the intelligence collection business was aided by a collaborative effort by a former colleague. On August 23rd, 1943, Dr. Ernesto Kocherthalé, a German agent, walked through the door of the American Legation in Bern, Switzerland and asked to speak with American attaché Gerald Mayer.\(^3\) Mayer was technically the “special to the assistant” to the Minister of the American mission in Bern, but he was in reality attached

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\(^2\) Karl Ritter had been the former German ambassador to Rio de Janeiro, Brazil, and had headed up the large Nazi spy ring in South America.
Office of Strategic Services (OSS). Mayer had been asked by a banker friend in Basel, Switzerland, Paul Dreyfuss, to receive Kocherthalier. Dr. Kocherthalier, later codenamed "Dr. Brown," asked Mayer to arrange a meeting between a friend and an American agent. To establish credibility Dr. Kocherthalier brought along three documents marked Geheime Reichssache (secret German state document), addressed to the German Foreign Office, and signed by the German ambassadors in Turkey, France, and Prague. Inside, the documents revealed French Vichy plans to penetrate the British army lines in North Africa through Algiers, a report on Czech morale after the liquidation of Lidice, and an alert to Berlin on the British attempts to sneak operatives into the Balkans via Istanbul.5 Startled, Mayer took the documents to his boss, OSS Switzerland chief Allen Dulles, who agreed to meet with Kocherthalier’s friend that evening.

For Dulles to meet with this unknown German agent was to undertake a great risk for the OSS agent. There was the chance that Kocherthalier was an agent provocateur, a person who plants information on an adversary and then reports the victim to the Swiss police, who then expel the offender from the country for illegal activities. As a neutral in the Second World War, the country did not tolerate blatant spy activity within its borders. There was also the possibility that the documents were false or fakes that disguised a German attempt to break the American code. Due to the sensitive nature of the documents, the American Embassy would have enciphered them before forwarding them to Washington, D.C.. As a result, the Germans would have foreknowledge of the text of

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4 Morgan, Great True Spy Stories, 15.
the American transmission and that would greatly increase their chances of deciphering the American diplomatic code. In fact, earlier that same day, Kocherthaler had been turned away by the British Embassy and MI-6 (British Intelligence), who refused to admit the doctor or peruse his documents. However, in the First World War, Dulles had refused to meet with a Russian revolutionary named V.I. Lenin in similar circumstances, to his future regret, and thus Dulles decided not to make the same mistake twice.

Dulles’ consenting to a meeting with Kocherthaler’s friend led to one of the greatest intelligence coups in U.S. history. On the night of August 23rd, Dulles and Mayer met Kocherthaler and his friend, Fritz Kolbe, at Dulles’ Bern flat. Kolbe introduced himself to the OSS agents and proceeded to astonish the two seasoned operatives. He had left Germany as a special courier to the German Embassy in Bern and had tied a bundle of documents around his leg to pass through the border. A fanatic anti-National Socialist, Kolbe wanted to help the Allies defeat the German government in any way he could.

During the course of the meeting, Kolbe turned over one hundred and eighty-six confidential documents from the German diplomatic files to Dulles. The documents covered a vast range of topics that concerned the prosecution of the war. The batch included reports on German morale in Russia, an inventory of damage done by the French Resistance, reports of Japanese Ambassador Oshima Hiroshi’s visits to German Foreign Minister Joachim von Ribbentrop, the progress of the rebuilding of a secret transmitter in Dublin, Ireland, to report Allied shipping routes, the policies of Laval’s Vichy government

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6 Morgan, Great True SpY Stories, 17.
7 Waller, The Unseen War in Europe, 273.
8 Joseph E. Persico, Piercing the Reich (New York: Viking Press. 1979), 66.
toward the families of the Free French, a report on the secret shipment of tungsten by Spain to Germany, and the departure times of a large Allied convoy. The last two documents paid immediate dividends for U.S. intelligence. The transcripts allowed the United States to slap an embargo on Spain for their illegal activities as a neutral and change the route and departure point of their convoy to avoid German U-boats.  

The benefits of the initial encounter between Dulles and Kolbe fueled the Americans’ desire for further contact. After their initial meeting Mayer gave Kolbe the alias “George Wood” and made arrangements to meet in Bern as soon as Kolbe was able to slip out of Germany again. Over the next two years, Kolbe or “Wood” would pass close to 1600 secret documents through German lines. Dulles stated that Kolbe’s information provided a “picture of imminent doom and final downfall” for the German Reich. Due to the import of Kolbe’s intelligence, William “Wild Bill” Donovan presented Kolbe’s reports personally to President Franklin Delano Roosevelt. Donovan, a former First World War hero, was the head of the Office of Strategic Services and his support of Kolbe’s information directed Kolbe’s reports to the upper echelon of the U.S. government.  

These reports became known in the war department and White House as the “Boston Series.”

The information gained from Kolbe’s intelligence and its ramifications were astounding. The diminutive German turned over records on all aspects of the German political-military machine. Kolbe brought reports on the progress of Germany’s new jet

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9 Morgan, Great True Spy Stories, 16.
11 “Memoranda.” Studies in Intelligence, 81.
fighter and the development of the new V-2 rocket. He revealed Sir Stafford Cripps of
the British Government as a German spy and a plan to spring the German spy Colonel
Gortz from prison. Kolbe also uncovered “Josephine,” a Swedish lawyer in Stockholm
spying for the Germans. Kolbe discovered that Admiral Wilhem Canaris, the head of the
Abwehr (German Intelligence) before his removal, had been negotiating with the Russians
since the German defeat at Kursk in July, 1943. Canaris had been disillusioned by
Hitler’s government early in the war and had been actively searching for a way out of the
war. However, Canaris had gotten involved in a power struggle with Heinrich Himmler,
the head of the Schutzstaffel (SS), and was removed from his position as a result of the
conflict. Canaris was held responsible for the ineffectiveness of the Abwehr and Himmler
suspected Canaris’ duplicity. As a consequence, Canaris was held for eighteen months of
torture before the National Socialists executed him. Canaris had been using Peter Kleist
of the German Foreign Office to negotiate in Switzerland, the first clue the Allies had of a
crumbling German regime. He condensed German surveys of Albert Speer’s production
figures of industry to gauge the effectiveness of the air war and the effect of the bombing
on German morale. Kolbe even unearthed the location and dimensions of Hitler’s
Eastern Front headquarters. On the Pacific front, he copied a military attaché’s report on a
planned Japanese offensive in Burma and produced the battle order of the Japanese
Imperial Fleet. This proved to the U.S. fleet intelligence that it had broken JN-25, the top

12 Waller, The Unseen War in Europe, 272.
14 Waller, The Unseen War in Europe, 276.
15 Morgan, Great True Spy Stories, 28.
Japanese naval code. In the latter stages of the war, Kolbe even located a German intelligence general, Reinhard Gehlen, who, due to his hatred of Hitler, was willing to turn over his unit’s records of their operations on the Eastern Front to help prosecute the National Socialist leadership. Much of this information the Allies had already gained through the use of Ultra, the British-American effort to decipher the German Enigma machine, but it served to reinforce many of the reports that the Allies had recovered by code-breaking.

However, perhaps Kolbe’s greatest success was the discovery of the German agent “Cicero.” Kolbe found communiqués from Ambassador Franz von Papen to Dr. Ritter detailing information gained from a spy in the British embassy. Digging deeper, Kolbe discovered that the spy was Elyesa Bazna, the Albanian butler to the British Ambassador Sir Knatchbull-Hugessen, because the agent was in the pay of the German Sicherheitsdienst (SD), a division of the SS. To avoid embarassment over the penetration of their embassy, the British claimed that they already knew about Cicero. Yet the sensitive nature of Cicero’s reports, including some documents labeled Overlord, the top secret codename of the planned Allied invasion of Normandy, France, indicate that Kolbe had found a mole in the British embassy in Turkey. The intelligence collected by Kolbe, perhaps more than any other source, gave Allied intelligence a clear firsthand picture of the crumbling Third Reich. In fact, after the war MI-6, the intelligence agency that had

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17 Persico, Piercing the Reich, 275.
18 The Americans and British in Bletchley Park, England, had tediously replicated a German Enigma machine, the device the Germans used to enciphered their radio transmissions. As a result, the Allies were consistently reading the German air traffic by the end of 1942.
19 Morgan, Great True Spy Stories, 16.
20 Waller, The Unseen War in Europe, 274.
turned him away and disputed his reliability after that, rated him the single best intelligence asset of the Second World War.21

The intelligence career of Fritz Kolbe was a dramatic success for several important reasons. Kolbe’s ability to deliver intelligence of such import derived from his almost unlimited access to the political and military documents of the German Reich. Kolbe’s access was the result of a long and impressive career in state service. Born in 1900 as the son of a saddlemaker, Kolbe embarked on a career in Germany’s railways. However, after becoming the youngest stationmaster in Germany at the age of twenty-five, Kolbe wanted an opportunity for more advancement; thus he switched to a career in diplomacy.22 After posts in Madrid and South Africa, the colorless and competent Kolbe was transferred to Ritter’s Foreign Office in 1938. It was in Madrid where Kolbe made the acquaintance of his future colleague-in-intelligence, Dr. Ernesto Kocherthal. Due to his long and faithful career, Kolbe was assigned the job of screening Ritter’s correspondence and wireless traffic and as a result, gained almost unlimited access to German decision-making.23

Along with access to top secret diplomatic documents, Kolbe’s long career allowed him to develop several significant friendships. One reason for Kolbe’s longevity in the spy business was a result of his ability to deliver his information by hand and not trust any other unreliable source that could include spies from the Abwehr or SS. The fact that Kolbe was able to make five trips to Bern from Berlin and one to Stockholm was due to his assignment as a special courier of diplomatic documents. This responsibility allowed him to pass through German borders virtually unmolested, and he could hide the

21 Persico, Piercing the Reich, 328.
22 Ibid., 63.
stolen documents and microfilm in his diplomatic bag, which no border guard could dare search. His duty as a special courier was a direct result of his long friendship with the head of the diplomatic couriers in the Foreign Office, who had been a member of his hiking club. Even Ritter unintentionally made Kolbe’s task easier. When Berlin came under heavy Allied bombing, Ritter had Kolbe take his family to Salzburg for safe-keeping. However, this only moved Kolbe closer to the Swiss border.

Another reason for Kolbe’s effectiveness as an intelligence collector was his purity of purpose. An avowed anti-National Socialist, Kolbe refused to join the Nazi party when it came to power; he even tried to leave the country. However, a Catholic priest friend persuaded Kolbe that he would do more good for the anti-National Socialist cause where he was rather than fleeing Germany. To that end, Kolbe refused any monetary compensation from Dulles or Mayer and this act only added to the German’s trustworthiness in the eyes of the American agents. Kolbe’s statement—that he “wanted to see Germany defeated in this war. It is the only way to save my country. I think I can help in securing that defeat”—only reassured Dulles’ faith that Kolbe was reliable. The purity of Kolbe’s cause also allowed Dulles to avoid any of the double-agent doubts that he might have entertained had Kolbe been more financially motivated. Even after the war, Peter Sichel, the Seventh Army OSS Detachment finance officer, offered Kolbe a reward and settlement in the United States for his work, but the American offer was initially refused. Kolbe did not want to garner any financial gain from what he considered his duty

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24 Quibble, Studies in Intelligence, 72.
25 Waller, The Unseen War in Europe, 272.
27 Miller, Spying for America, 279.
as a patriot. Despite the initial refusal, Dulles managed to convince Kolbe to accept the American offer of money and settlement in the United States for reasons of safety. However, Kolbe eventually did return to Germany several years later.  

However, Kolbe’s determination to aid in Germany’s defeat did pose other problems, problems inherent in a human intelligence collector. There is always a danger amongst human sources of information that the source will undertake activities that will endanger the continuity of intelligence. Kolbe’s insistence on joining the active resistance, because the post-war government would look more highly on a resistance member than a spy, was a constant thorn in Dulles’ side. A higher profile on the German resistance scene, which was heavily compromised by the SS and Abwehr, would have greatly endangered Kolbe’s deep cover and the flow of intelligence to the Allies. Kolbe even tried to convince Dulles to back a plan to support an uprising in Berlin with American paratroopers. Nevertheless, the fact that Kolbe was eventually dissuaded gave proof of the spy’s intelligence and further evidence of his zeal to the OSS agents. As a result, the OSS avoided the tendency to free-lance that human intelligence sources were subject to on occasion.  

Further evidence of Kolbe’s quick mind came during two of Kolbe’s close calls. On his return to Berlin after the first Bern trip of June, 1942, Kolbe was summoned into the security office to respond to a report that his absence was recorded for a significant period of time on the night of August the 17th. However, Kolbe explained, in a tone of embarrassment, that he had only been visiting a brothel and was ashamed of the fact. To

28 Persico, Piercing the Reich, 329.
29 Morgan, Great True Spy Stories, 20.
30 Smith, OSS, 227.
support his case, Kolbe produced an order of condoms from the embassy doctor. Kolbe had covered his bases well.\textsuperscript{31}

The other close call almost led to his immediate arrest. During his lunch, Kolbe would often sneak the documents out of the office and over to the basement of a local hospital where he had them photocopied by a friend. However, one day, Heinrich Himmler, head of the SS, appeared at the Foreign Office and demanded to see the document that Kolbe was copying at that moment. Quickly warned, Kolbe managed to get back to his office and slip the file into the collection while appearing to search for the file in question.\textsuperscript{32}

Therefore, the success of Fritz Kolbe was a result of the strategic and tactical benefits obtained by his intelligence and the absence of cost to the Allied war effort. The benefits gained in his intelligence collection was a direct result of his reasoning, his top secret access, his connections, and the purity or singularity of his purpose. At the same time, the intelligence that he collected, as it unearthed moles and reaffirmed other collectors of intelligence, had ramifications on the success of the Allied war effort as a whole.

The subject of the case study on the failure of the human collection and interpretation of intelligence is the American CIA operative Edward “Eddie” Howard. Eddie Howard was a 1972 University of Texas graduate who received his undergraduate degree with cum laude honors and graduated with fluency in several languages. After graduation, Howard earned his Masters in Business Administration and then joined the

\textsuperscript{31} Morgan, Great True Spy Stories, 20. 
\textsuperscript{32} Miller, Spying for America, 280.
Peace Corps. Having spent two years in Colombia with the Peace Corps, Howard yearned for more exciting and engaging work. As a consequence, in the early 1980s, Howard enlisted in the CIA and appeared to be the ideal CIA recruit.

Howard’s acceptance into the American intelligence community was a result of a rapidly expanding CIA. Though he had a history of drug abuse, the CIA was eager to admit him. In the early 1980s, under the directorship of William Casey and President Ronald Reagan, the CIA was in an urgent rush to expand the capabilities of its operations directorate, addressing specifically the shortfall in human intelligence. Under previous Director Admiral Stansfield Turner, the CIA had drastically cut back on its human intelligence assets because of congressional budget cuts. These cutbacks were then blamed for the US foreign policy debacle and hostage crisis in Iran in 1979-80, with the fall of the Shah. Lack of human intelligence was seen as the reason for the lack of foresight concerning the Shah’s fall on the part of the CIA. To avoid future criticism, CIA wanted to correct this intelligence deficiency by hiring a new breed of human intelligence collectors and interpreters. As a result, the CIA recruited aggressively, sometimes accepting applicants with questionable backgrounds, and vastly expanded its operations directorate. However, in 1985, this plan backfired when Eddie Howard became the first agent in the history of the CIA to defect to the Soviet Union.\(^3^4\)

In 1981, Howard entered the Central Intelligence Agency with the job description of an agent handler. The agent handler’s responsibility was the management of the CIA’s

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overseas contacts. These contacts included conventional human sources such as embassy personnel and covert sources of human intelligence (humint), such as spies. Howard was trained accordingly in a variety of surveillance and countersurveillance techniques which were designed to protect himself and his contacts. The CIA’s policy at this time to brief its trainees on all of its contacts and its methods before the agents arrived at their destination. The policy was planned to facilitate the adjustment process and allow its operatives to “hit the ground running.” As a result, Howard was given access to all the information concerning the CIA’s Moscow spy network, which would be his jurisdiction.\footnote{Woodward, Veil, 424.}

However, Howard never reached the CIA mission in Moscow. In early 1983, a polygraph test routinely administered by the CIA to all of its overseas agent handlers revealed Howard’s history of heavy drinking, drug use, womanizing, and petty theft. In fact, the polygraph also revealed that Howard had been involved in a drunken affair in 1982 where he pulled a revolver and fired at another person. This test revealed considerable instability in Howard’s character for a person to be trusted with state secrets. Moreover, the alcoholism, drug use, and womanizing left Howard extremely vulnerable to Soviet counterintelligence blackmail. As a result, the CIA fired Howard.\footnote{Chapman Pincher, Traitors (New York: Penguin Books, 1987), 285.}

The experience left Eddie Howard extremely embittered toward the CIA. Though the CIA had set him up with a job in his home state of New Mexico with the state legislature and paid for psychiatric evaluations of his problems, Howard felt intense anger and resentment as a result of his treatment by the CIA.\footnote{Miller, Spying for America, 422.} As a consequence of this anger, while on vacation in Austria Howard decided to walk into the Soviet embassy and trade
his knowledge to the KGB (Soviet intelligence) for money.38

The ramifications of Howard’s confessions were devastating to the U.S. intelligence network in Moscow. In short order, the CIA’s human intelligence sources were rolled up before the U.S. even knew that it needed to protect them. The first warning came when Paul M. Stombaugh, an undercover CIA agent handler attached to the U.S. embassy, was arrested and expelled from the Soviet Union on charges of spying and espionage. Stombaugh had been the case officer for one of the CIA’s most important human intelligence assets, Adolf Tolkachev. Tolkachev was a Soviet aviation and rocket expert who had given the U.S. most of the Soviet research on stealth technology. However, in conjunction with Stombaugh’s expulsion, Tolkachev was also arrested, tried, and executed for the crime of treason. After this incident, four other undercover CIA officers in Moscow were expelled. These developments greatly crippled the intelligence collection and interpretation capabilities of the CIA Moscow station for several years.39

To compound matters, the CIA had no idea where to search for its leak. The CIA finally got a break in late 1984 when Vitaly Yurchenko, a senior deputy KGB officer with responsibility for the United States and Canada, defected to the United States. Yurchenko reported that a CIA officer, who had been assigned to Moscow but never made it, had walked into the KGB office in Austria and sold the KGB the CIA’s Moscow secrets. Yurchenko’s confession began Howard’s exposure. Unfortunately, the CIA could not press Yurchenko for more details because he slipped his CIA escorts and returned to the Soviet embassy in a matter of days.40 Yurchenko’s second thoughts on his defection
removed a considerable source of intelligence from the grasp of the CIA and resulted in a
great deal of embarassment for the CIA.

In response to CIA demands, the FBI (the Federal Bureau of Investigation) tracked Howard down in New Mexico and put him under discreet surveillance. However, when the FBI began to make inquiries about Howard to his associates to build a case against him, Howard discovered the FBI’s probe. Worried about the appearance of an FBI arrest warrant, Howard placed a dummy in his car one night and eluded the FBI surveillance of him. Leaving his wife and his three year-old son behind, Howard used his CIA skills and KGB contacts to escape the United States and defect to Moscow in 1985.41

In addition to his defection, Howard continued to damage the CIA by other means. Now considered an accessory to murder for the roll-up of Tolkachev, Howard haunted the CIA the next year by disseminating false information. In September of 1986, Howard appeared on Soviet television to denounce the connections of Nicholas Daniloff, an American journalist accused by the KGB of spying for the CIA.42

The Eddie Howard case was an example of the failure of the human collection and interpretation of intelligence for several reasons. First of all, the CIA admitted into its organization an individual of dubious character and entrusted that individual with a variety of secrets. The CIA failure to polygraph its recruits early enough in the process to weed out those with undesirable characteristics was central to this failure. Furthermore, the CIA policy of entrusting the foundations of its spy network, expensively and tediously

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41 Pincher, Traitors, 224.
42 Ibid., 173.
organized and recruited, with a trainee was criminally incompetent—it resulted in the death of one of its contacts.

In addition to the initial mistakes of the CIA in the Howard affair, the CIA compounded its difficulties by failing to keep track of Howard after his dismissal, despite hints and allegations of his potentially treasonous behavior. In a follow-up interview with the CIA after his release, Howard admitted to his interviewers that he had loitered several times outside the Soviet embassy in Washington, DC, trying to decide whether or not to go in. Despite this red flag, the CIA did not act on this evidence and even failed to alert the FBI to confiscate or restrict his diplomatic passport. This passport eventually allowed Howard to travel to Austria, where he met with KGB agents, and aided him in his escape from the United States in 1985.43

The Howard incident was also a failure in the human collection and interpretation of American intelligence because the CIA did not even know of Howard’s betrayal until aided by a Soviet defector. The CIA had been advised by its Moscow station chief that the combination of compromises between human and technical sources of intelligence in its Moscow operation could only have come from a human source.44 Yet, the CIA failed to act on this warning by investigating further and was surprised by Yurchenko’s revelation. The failure of the CIA to police its own agent handlers and the redefection of Deputy Yurchenko, the man who led the CIA to Howard, to the USSR resulted in heavy criticism of the CIA by the Senate Committee on Intelligence, which was embarrassed by the presence of moles in the CIA.45

43 Miller, Spying for America, 422.
44 Woodward, Veil, 478.
45 Ibid., 423.
In addition to the Senate complaints, the House Intelligence Committee charged the CIA with fundamental errors involving Howard. The House accused the CIA of dangerous incompetence in its rush to expand its human intelligence capacity. In the eyes of the House committee, the CIA had admitted an known drug user, then allowed him access to highly sensitive material, and then failed to keep track of his activities after he was terminated.46

However, the CIA was not the only agency to share the blame in the Howard scandal. The FBI also acted insufficiently in response to the CIA’s complaint. The FBI, in its search for evidence on Howard, moved in on the suspect far too slowly and clumsily and, as a result, alerted the former spy to his predicament. To compound its ineptitude, the FBI also allowed Howard to slip out from under its surveillance and then failed to relocate him. The next time the former CIA agent surfaced was in Moscow under Soviet protection.

Therefore, the Edward Howard case study was a failure in the collection and interpretation of American intelligence by virtue of the inadequacy of the CIA in its recruitment of agents and its response to the crisis that developed out of that initial mistake. The defection of Edward Howard was a disastrous blow to U.S. intelligence assets because it crippled the U.S. collection and interpretation in the capital of its fiercest rival for several years. The only positive result of the Howard affair was the increased depth of background checks, mandated by the U.S. Congress, that the CIA imposed on its new employees in an attempt to avoid similar future developments. Yet this slight ray of light did not out weight the setback to the Moscow intelligence network. As a result, the

46 Miller, *Spring for America*, 423.
tremendous cost that Edward Howard exacted on the CIA’s overseas Soviet contacts means that the incident must be construed as a failure of human intelligence.
CHAPTER III
SHIPBORNE COLLECTION AND INTERPRETATION OF INTELLIGENCE

The subject of the case study on the success of American shipborne collection and interpretation of intelligence is the USS Halibut. The USS Halibut was a specially designed nuclear submarine of the U.S. Pacific Fleet. In addition to the regular equipment of a submarine, the Halibut had been outfitted with other special equipment. At the cost of seventy million dollars, its deck was mounted with a decompression and lockout chamber designed to service deep-water divers. The submarine’s topside chamber was fitted like a DSRV (Deep Submergence Rescue Vehicle) to disguise the submarine’s capabilities. Furthermore, the Halibut had been equipped with a deep-sea camera for underwater photography. With its new capabilities, the USS Halibut would successfully undertake one of the most daring underwater intelligence feats in the history of naval operations, the tapping of the Soviet underwater communications cables.¹

The USS Halibut was a nuclear attack submarine (SSGN-587) that had carried aboard the Regulus-guided missiles. Then, in 1964, it became outdated when the new Polaris attack submarine reached the U.S. Navy. After retirement from its attack submarine role, the Halibut came under the aegis of John P. Craven’s, the civilian in charge of the development of missile submarines, DSRV program. Craven wanted to create a submarine capable of withstanding the pressure of 20,000 feet of depth in order to

search the ocean floor. To that end Craven reinforced the Halibut’s outer hull and added two two-ton and twelve foot long towed cameras at the end of several miles of tractable and retractable steel cable. The cameras were powered and run by a state-of-the-art Univac 1124 supercomputer in the belly of the submarine.²

The additions to the Halibut paid immediate dividends for the U.S. Navy. In 1968, the Halibut, also known as the Viperfish, used its towed camera array to locate a sunk Soviet Golf nuclear submarine at 16,850 feet under the ocean.³ The Golf had been damaged during a training exercise and had descended uncontrollably to below crush depth level for its hull. This descent resulted in an loud implosion sound that the U.S. sonars in the Pacific, even as far away as Pearl Harbor, a distance of over seven hundred and fifty miles, had picked up.⁴ The U.S. Navy, searching for an intelligence breakthrough on the new breed of Soviet nuclear submarines, sent the newly fitted Halibut, under the codename “Velvet Fist,” to the vicinity of the implosion. After several days, the Halibut discovered the Golf on the oceanbed and took over 20,000 photographs of the wreckage.⁵

The CIA, then, in conjunction with Howard Hughes Enterprises, built the USS Glomar Explorer to recover the sub wreckage.⁶ At the cost of over forty million dollars, the Glomar Explorer was able to pull the hull of the Soviet Golf off the oceanfloor for further investigation.⁷ The operation was codenamed the Jennifer Project.⁸ However, as

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² Ibid., 61.
³ Ibid., 81.
⁴ Ibid., 75.
⁷ Though the operation was considered somewhat of a failure due to the fact that the Golf’s hull broke apart as the ship was lifted off the seabed, the Halibut’s role in locating the submarine was an impressive feat.
important as the discovery of the Golf was, the Halibut's tapping of the Soviet undersea cables produced far more benefit to U.S. intelligence.

The plan to tap the Soviet cables was the brainchild of James Bradley, the director of undersea warfare at the Office of Naval Intelligence (ONI), in late 1970. Aware of the Halibut's capabilities, Bradley wanted to use the Halibut to tap the undersea Soviet telephone cables that ran from the missile submarine base at Petropavlovsk, under the Okhotsk Sea, to merge with the land cables routed toward the Soviet Pacific Fleet Headquarters at Vladivostok. Eventually, the communication system ended up in Moscow. Bradley believed that like any normal commercial cables, the Soviet cables would have to have a noticeable entry and exit point from the sea. Such a point would give away the location of the cables. Then the Halibut, with her towed camera array, could trace the path of the telephone cables to an area where her divers could safely place a cable tap on the lines and record the Soviet conversations.9 The Halibut’s new decompression chamber, along with the new technology gathered from the Navy’s Sealab on new diving tank mixtures and saturation-diving techniques, allowed the Halibut’s divers to attempt the task.10 Furthermore, the Halibut was aided by the fact that the USSR considered the Okhoutsk Sea secure because it was nestled behind the Kamchatka Peninsula and its opening was guarded by the Soviet-controlled Kurile Islands. However, for years, unknown to the Soviet Navy, U.S. Navy submarine captains had been penetrating the Okhoutsk Sea to witness weapons tests and tail new Soviet submarines.11

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9 Sontag and Drew, Blind Man’s Bluff, 157-58.
10 Ibid., 162
11 Ibid., 160.
Like most other intelligence operations, the preparation involved in the attempt to recover valuable intelligence was lengthy. Under Commander John E. Nash, the Halibut searched for several days through the periscope before the bridge crew located the cable site. A sign, in Russian, on the western shore of the Kamchatka Peninsula warned ships to stay away because of underwater cables. Nash followed the cable for over forty miles underwater, using the towed cameras, before he found a flat sea bottom for his divers to carry out the operation. Nash had to travel outside the three mile limit of Soviet territorial waters, which he had violated to locate the cable, before he could begin to tap the cables. The tapping of the cables was accomplished with relative ease.\(^\text{12}\)

In addition to the cable tap, the Halibut had other duties prior to its mission's completion. Before the Halibut left the Okhotsk Sea, the submarine headed for a nearby Soviet undersea weapons test range to recover missile debris from the new Soviet cruise missiles for examination in U.S. Navy laboratories. These missiles posed a direct threat to the U.S. Navy's Carrier Force; with the Nixon administration worried about Soviet involvement in the Vietnam war, intelligence on the new missiles became valuable.\(^\text{13}\)

The ramifications of the intelligence from the Halibut's mission were impressive. The cable tap recorded conversations between the officers of the Petropavlovsk submarine base and high-level Soviet officials at Moscow and Vladivostok that were either in the clear or in simple code. Since no satellite, not even the newest eavesdropper, the Rhyolite satellite, or listening station could intercept a transmission on a hardwired phone line, the Soviets believed that their cable transmissions were secure and did little to protect their conversations. The confidence the Soviets displayed in the security of their phone lines

\(^{12}\) Ibid., 170-71.
only increased the value of the intelligence gathered by the U.S. Navy. The cable tap captured Soviet naval discussions on its fears and frustrations, its assessments of its successes and failures, and its intentions for the future. The recordings gave the U.S. Navy its first inside look at the Soviet navy. Furthermore, the cable tap gave the U.S. Navy intelligence from an area where its network was weak. The bulk of U.S. naval intelligence assets were pointed toward Moscow and the Soviet north coast, not the Vladivostok area.

The recovery of the missile debris also provided useful intelligence. The technicians at the Department of Energy, using the collected portions of the missile, assembled the debris into an almost entirely complete missile. In addition, the wreckage contained portions of the missile's radar altimeter which allowed the naval engineers to design effective countermeasures against the cruise missiles.¹⁴

As a result of the success of the first cable tap mission, the U.S. Navy wanted more intelligence from its investment. To that end, Halibut installed a larger and more permanent device on August 4, 1972. The first cable tap only recorded directly to the Halibut's "bat cave," the portion of the submarine containing the UNIVAC Supercomputer. The second device could record conversations when the Halibut had returned to its home base at Mare Island, California, allowing the submarine to pick up the taped discussions on its next voyage.¹⁵

The second cable tap produced similar valuable intelligence. The recordings included dialogue between Soviet fleet commanders on operational tactics, operational

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¹³ Ibid., 174.
¹⁴ Ibid., 173-74.
¹⁵ Ibid., 177.
plans, maintenance problems involving the new “Delta” class nuclear submarine, and defects on the older “Yankee” class that allowed U.S. submarines to detect the Soviet submarines in the Pacific. In addition, the tap contained command and control discussions on patrols, submarine destinations, and the composition of the Soviet Far East submarine fleet. The second tap provided the U.S. Navy with a clear picture of the inner workings of its adversary and its adversary’s daily concerns. As a consequence of its success, the Halibut’s intelligence was given the codename “Ivy Bells” by the National Security Agency (NSA), and Bell Laboratories was asked to create a new generation of cable taps that would only record the most important of conversations.  

The Halibut’s mission was a success for a variety of reasons. First of all, the Halibut and its mission had the full support of the U.S. Navy. The plan originated with Captain James Bradley, the Director of Undersea Warfare for ONI, and had the direct support of Rear Admiral Fritz Harlfinger, the Director of Naval Intelligence (DNI) and the deputy to Admiral Elmo Zumwalt Jr., the Chief of Naval Operations (CNO). Harlfinger and Bradley then enlisted General Alexander Haig’s approval for the project. General Haig was Secretary of State Henry Kissinger’s chief military liaison--Kissinger’s tacit support was needed for any collection of intelligence that broke international laws. Without the endorsement of each of these figures, the operation could have fallen victim to a bureaucracy where every department fought for funding of its own projects. The amount of support and the unity of that backing greatly increased the chances of success of the Halibut’s mission.

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16 Ibid., 182
The support of key upper echelon government personnel for the Halibut also increased its chances. By enlisting only those directly concerned with the approval of the project, Bradley kept the number of people aware of the mission to a minimum. The veil of secrecy protected the intelligence collected by the Halibut. The more people who knew about the recordings the greater the chance that vital information would leak to the Soviets or the international community. Either of these situations would result in the compromise of the cable tap and the end its usefulness.

Another factor that aided in the success of the Halibut was the lack of the traditional bureaucratic infighting between the CIA and ONI. The CIA and ONI had frequently fought over the command and control of intelligence missions. The CIA claimed that the intelligence nature of operations put missions under its aegis, while the ONI believed that its jurisdiction over naval matters gave it the command prerogative in such situations. To correct this overlap, the CIA and ONI had formed the National Underwater Reconnaissance Office (NURO) to facilitate joint ventures in underwater intelligence.\(^\text{18}\) However, the struggle for power continued. In the case of the Halibut though, the CIA was too concerned with the construction of the Howard Hughes’ ship, the USS Glomar Explorer, to get involved in another expensive operation. The consequence was that Bradley got to run his own show with the complete backing of the United States intelligence community.

Due to the sensitivity of the intelligence it acquired, the cable tap proved a tremendous success for the U.S. Navy. The unique inside perspective of the Soviet navy that the tap allowed the U.S. Navy to recoup the large investment of the Halibut. The

\(^{18}\) Sontag and Drew, *Blind Man’s Bluff*, 172.
cable tap operation succeeded because it received the support of the naval intelligence hierarchy, which directed valuable resources and personnel to the Halibut.

In the end though, the cable tap was compromised. In 1981, the USS Seawolf ran into trouble in a large storm system and landed on the Okhotsk cable. The Seawolf had been sent to gather the intelligence recorded by the cable tap on the new full size Soviet Carrier, but instead had been battered by a large typhoon while anchored over the cable tap site. In response to the interruption of their cable signal, the Soviets sent a survey ship to the area of the mishap and the ship discovered the cable tap. The Soviets lifted the tap out of the water, later it resided for years in a Soviet museum with the words “Property of U.S. Government” stenciled on the side. However, for unknown reasons, possibly embarrassment over their intelligence leak, the Soviets never brought the espionage issue to the attention of the international community. Despite the rough ending to the tap, the operation of the Halibut was an unqualified intelligence success. At very little cost, the submarine had returned hard intelligence on the intentions and concerns of its hostile adversary.

The subject of the case study in the failure of shipborne collection and interpretation of intelligence is the USS Liberty. On June 8, 1967, the USS Liberty, an American naval intelligence vessel, was attacked by boats and planes belonging to Israel; the attack came in international waters while the Liberty was patrolling up and down the Gaza Strip. The attack by the Israelis lasted for more than two hours and inflicted heavy damage on the ship and its crew. Of the two hundred and ninety four men aboard, thirty

19 Ibid., 226.
20 Ibid., 231.
four men were killed and one hundred and seventy-one wounded. With the approach of airplanes and ships from the U.S. Navy, the Israelis broke off the attack without sinking the Liberty. The Liberty, suffering from 821 rocket and machine guns holes, limped into port at Malta; it was so badly damaged that it was later sold for scrap.

The Israelis claimed that the attack on the Liberty was an mistake, but elements of the American government refused to believe the Israelis. The Israelis claimed that the Liberty’s silhouette resembled the Egyptian ship El Quseir, an aging horse carrier half the size of the Liberty and without the impressive radar array of an American intelligence vessel. As a communications intelligence ship, the forecastle of the Liberty was literally covered with radars and antenna. Furthermore, the attack was proceeded by six hours of low-level surveillance by Israeli aircraft, which gave the Israelis plenty of opportunities to identify the Liberty. The Israeli photo-reconnaissance aircraft flew within two hundred feet of the Liberty over thirteen times. To further clarify its identity, the captain of the Liberty, Commander William L. McGonagle, ordered the Liberty to fly its American flag within view of the Israeli aircraft. It was at this time that the records indicate that indeed the Israeli Defense Forces (IDF) did recognize the Liberty as a U.S. Navy vessel. A radio operator in Lebanon also reported that an Israeli pilot had identified the Liberty as a vessel of the U.S. Navy. In fact, the United States ambassador to Lebanon, Dwight Porter, listened to the same radio description of the attack on Israeli radio. However, the

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21 James M. Ennes, Jr., Assault on The Liberty (New York: Ivy Books, 1979), 124
22 Ibid., 137.
Israelis still attacked the Liberty with a combination of machine-gun fire, napalm, and torpedoes for more than two hours. The carefully coordinated attack of aircraft and ship clearly meant that the Israelis intended to sink the Liberty. The only reason the Israelis failed in their purpose was the appearance of U.S. naval aircraft, more than ninety minutes after the first distress signal—that drove off the Israeli forces. Therefore, the question remains, why did the Israelis attack the unarmed Liberty?

Several theories exist on why the Liberty was attacked. By the fourth day of the Six Days War, June 8, 1967, the Israelis had the Arab forces, under the nominal command of Egyptian President Gamal abd Nasser in full retreat. The war had begun because Nasser, as head of the United Arab Republic of Egypt and Syria, had threatened the state of Israel’s right to exist. Nasser had gathered the combined forces of Egypt, Syria, Lebanon, and Jordan on Israel’s borders and blockaded the vital Straits of Tiran, the lifeline of Israeli commerce. The Israelis responded to Nasser’s provocation with overwhelming force. By the end of the first day, the air forces of the Arabs had been destroyed on the ground. After these immediate successes, the Israeli forces gained momentum and tried to expand on their initial victories.26

With the Egyptian army in full retreat in the Sinai toward the Suez Canal, the next obvious target for the Israelis was the Golan Heights above northern Galilee. Over the past three decades, the Syrians had used their fortifications in the Golan Heights to shell Israeli settlements, kibbutzim. As a result, the Israelis wanted to end this threat permanently while the opportunity still existed and gain the strategic high ground in northern Israel before the war ended. However, the Israelis did not want to appear to be

belligerent to the international community. The threat of Arab invasion was the reason given for the commencement of hostilities, but another attack into a different Arab nation would not have held up in the United Nations. While the Syrians were involved in the pre-war build-up and the anti-Semitic rhetoric, the Syrian armed forces had not actually invaded Israel. There was also the fear that if the Israelis grew too successful the Soviets would enter the war on the side of the Arabs. The U.S. definitely did not want the Soviets to become heavily involved in the oil rich Middle East. As a result, the United States, Israel’s chief ally in the late 1960s, pushed aggressively for Israel to agree to a U.N. sponsored cease-fire. With all the external pressure from the international community, there could be no warning of the attack on the Golan Heights if the attack were to be successful. If there was a warning, international pressure would halt the attack before it could achieve its objectives. To the Israelis, the presence of a U.S. Navy communications intelligence ship, only a few miles off the Gaza Strip would have revealed the massive build-up of Israeli men and material in northern Galilee in preparation for an attack on the Golan Heights. Therefore, the Israeli High Command would have felt pressure to remove the one source that would have revealed its aggressive intent before it was too late to stop the offensive.27

Another possible reason for the attack on the Liberty was the Israeli treatment of Arab prisoners of war. During the Arab-Israeli conflicts that raged from 1949 to 1967, the Israeli army boasted to the world that it held itself to a higher moral standard than that other armies. However, Arab forces claimed that the Israelis executed as many as one

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thousand prisoners of war (POWs) during the Six Day War. If this accusation was
grounded by evidence, it would have resulted in acute international embarrassment for the
Jewish state. On June 8, 1967, the same day that the Liberty was attacked, an Israeli
historian, Gabby Bron, reported that he witnessed Israeli troops executing Arab POWs at
El Arish airport. Bron stated that he “watched as (one) man [an Arab] dug a hole for
about 15 minutes. Afterward, the (Israeli military) policeman told him to throw the shovel
away, and then one of them leveled an Uzi [submachine gun] at him and shot two short
bursts, each of three or four bullets.” After witnessing ten such executions, Bron was
ordered away by an Israeli colonel. At the same time, El Arish was under visual
surveillance from the Liberty thirteen miles off the coast. The town had caught fire during
the Israeli attack and it attracted the attention of the Liberty who reported that situation
to the U.S. Fleet. The Israelis, who were fully aware of the radio interception capabilities
of Liberty, could have worried that the ship had picked up radio traffic reporting the
atrocities that occurred with senior Israeli military present. As a consequence, the Israelis
may have become desperate enough to attack the U.S. Navy ship to cover up their
actions.29

In both cases, the Israelis acted to restrict the ability of the Liberty to report its
findings. During the attack, the Israelis “buzz-saw” jammed the Liberty’s U.S. Navy
frequencies and the international rescue frequency.30 The Israelis also shot up the
Liberty’s lifeboats, when Captain McGonagle ordered them lowered into the water in

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28 James M. Ennes, “Did Israel Commit One War Crime to Hide Another,” The Washington
29 Ibid., 3.
30 Schmucker, 2.
preparation for the abandon ship command, and rendered them unusable. If the Israelis truly believed that they were attacking the El Quseir, a ship of the Egyptian navy, then why did they jam U.S. Navy frequencies? Furthermore, the jamming of the rescue frequency, in combination with the Israeli destruction of the Liberty’s lifeboats, indicates a substantial effort on the part of the Israelis to cut off the Liberty and ensure the ship’s destruction.

The case study of the USS Liberty is a failure in the collection and interpretation of intelligence for several reasons. First of all, the U.S. navy put a valuable asset, a communications intelligence ship, in a hostile area and then failed to protect it. Prior to the Liberty’s arrival off the coast of Israel, the U.S. Sixth Fleet Commander, Admiral William Martin, promised air support within ten minutes if the Liberty were attacked. There were two carriers within range of the Liberty on June 8, the USS Saratoga and the USS America. However, neither of the carriers managed to launch aircraft to rescue the Liberty until ninety minutes after the attack started and after the Liberty had already been torpedoed. The America was engaged in a readiness drill when the Liberty radioed for help and was therefore unable to respond. While the Saratoga, under Captain Joseph Tully, launched its ready aircraft, these planes were ordered to return to Saratoga by Washington, DC.

Besides failing to protect the Liberty and its intelligence collection ability, the captain of the America, Captain Donald D. Engen, was also guilty of violating the

31 Ennes, Assault on the Liberty, 92.
32 Ibid., 43.
33 Ibid., 89.
34 Ibid., 109.
Uniformed Code of Military Justice (UCMJ), the legal code that governs all military personnel. The UCMJ states that "any person subject to this chapter who before or in the presence of the enemy . . . does not afford all practicable relief and assistance to . . . troops, vessels, or aircraft of the armed forces...when engaged in battle . . . shall be punished by death or such punishment as a court martial may direct." The failure of the America to break drill and proceed to the aid of the Liberty was in direct violation of one of the central tenets of the UCMJ. Therefore, in addition to failing to protect a valuable intelligence asset, the Liberty incident also included a violation of the UCMJ.

The inability of the United States to obtain a true apology for the attack on the Liberty also contributed to the incident as a failure in the collection and interpretation of intelligence. Immediately after the attack, the Israelis told the U.S. that it had only overflew the Liberty three times and blamed the U.S. for not alerting the Israelis to the fact that there was an American ship in the vicinity. However, the U.S. responded by claiming that since the Liberty was in fact in international waters, there was no need to alert the Israelis to the presence of the Liberty. In a letter to Pennsylvania Congressman Joseph M. Dade, President Lyndon B. Johnson wrote that "[w]e saw no need to inform Israel or any other party to the hostilities of the Liberty's location since the ship was on a peaceful mission and was in international waters." In addition, the Israelis claimed that their position at El-Arish was shelled by shipborne artillery and in their search for the perpetrator they found the Liberty, despite the fact that the vessel was incapable of shore bombardment. When the Liberty failed to identify itself, the torpedo boats were sent in.

35 Ennes, "Did Israel Commit One War Crime to Hide Another," 3.
According to the Israeli Defense Forces, only when the boats realized that the markings of the Liberty were not those of an Arab supply ship was the attack called off. But not before the Liberty was torpedoed and strafed with rockets repeatedly. In addition, the Israelis claimed there was no American flag flying on the Liberty, despite evidence to the contrary.37

However, many senior officials of the Johnson administration refused to accept the Israeli account and their attempt to shoulder the blame for the attack on the United States. Secretary of State Dean Rusk believed that the attack was no accident and declared that the Israelis demonstrated a "blatant disregard for human life." Rusk stated that "I was never satisfied with the Israeli explanation. Their sustained attack to disable and sink the Liberty precluded an assault by accident or some trigger-happy local commander. I didn’t believe it then, and I don’t believe it to this day. The attack was outrageous."38 Others who disagreed with the Israeli position on the attack were the Joint Chiefs of Staff Chairman Admiral Tom Moorer, NSA Chief General Marshall Carter, NSA Deputy Chief Lou Tordella, White House Press Secretary George Christian, and Ambassador Dwight Porter. Yet, the Johnson administration refused to do anything about the attack, despite the fact that it violated international law and the Geneva Convention.39 This decision caused a great deal of embarrassment to the U.S. Navy, which appeared to the world that it was incapable of defending its own ships adequately. As a result of the decision, the

37 Yerushalmi, Preliminary Inquiry, 4.
38 Dean Rusk and Richard Rusk, As I Saw It (New York: Norton, 1982), 112.
39 Ennes, "Did Israel Commit One War Crime to Hide Another." 2
attack on the Liberty remains the only major maritime incident in U.S. history not to be investigated by the United States Congress.40

The ramifications of the attack on the Liberty were twofold. First, the attack cost the U.S. Navy greatly in men and material. The attack left thirty-four U.S. servicemen dead and another one hundred and seventy one wounded. The new satellite linked radar antenna, called TRSSCOMM, mounted behind the Liberty's bridge, along with the expensive intelligence collection room in the depths of the ship, had cost the U.S. Navy over twenty million dollars to install.41 Yet, after the attack, the Liberty was so badly damaged that it could only be sold for scrap. Second, the attack resulted in the end of the mission and the failure to retrieve the intelligence that the Liberty was sent to the Mediterranean to collect. The cost exacted by the Israeli attack on the Liberty, especially in contrast to the impressive success of the Halibut, doomed the incident as an intelligence failure.

The failure to protect the Liberty also had other dire consequences. Less than a year later, on January 23, 1968, the North Koreans attacked the USS Pueblo, another unprotected U.S. Naval communications intelligence ship, in international waters and towed her into Wonsan harbor, a North Korean port.42 This time the North Koreans seized the ship virtually undamaged and proceeded to sell her intelligence gains to her ally, the Soviet Union. If the Sixth Fleet had not so bungled the rescue of the Liberty, there is speculation that the seizure of the Pueblo would not have been seriously considered by the

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41 Ennes, Assault on the Liberty, 20.
42 Ibid., 233.
North Koreans. As a result of this incident, in conjunction with the assault on the Liberty, the U.S. Navy moved most of its intelligence collection primarily to submarines, which were far less vulnerable to the same sort of attack. Therefore, the lesson of Liberty, unlike several of the other failures, was not incorporated into U.S. naval doctrine until another spectacular debacle occurred a year later. As a result, of the cost incurred by the Israeli attack on the Liberty, thirty-four dead and seventy-one wounded, and the lack of a positive response to the situation, the Liberty incident was a definite failure in the collection and interpretation of intelligence.
CHAPTER IV
THE AIRBORNE COLLECTION AND INTERPRETATION OF INTELLIGENCE

The U-2 spyplane is the subject of the case study on the failure of the airborne collection and interpretation of intelligence. In the late 1950s, the U-2 was perhaps the most successful collector of intelligence on the Soviet Union. Under CIA jurisdiction, the U-2, flying at heights unimaginable to other aircraft and beyond the range of Soviet surface-to-air missiles (SAMs), penetrated Soviet airspace and gathered valuable information on the progress of the Soviet rocket program and other essential projects. The CIA's Richard Bissell, the father of the U-2 program, stated in 1959 that the U-2s were bringing back "ninety percent of our hard intelligence information about the Soviet Union." In response to the violation of their airspace, the Soviets lodged several complaints with the United States in 1956 and 1958. However, because of the lack of evidence, the United States was able to refute the Soviet accusations in the international arena. As a result, the U-2, from bases in Norway, Japan, West Germany, Turkey, Pakistan, and Alaska, continued to overfly Soviet territory and that of its allies.2

President Dwight D. Eisenhower gave his full support for the U-2 project with CIA assurances that the U-2 would never be shot down. Eisenhower was worried about the potential international repercussions if one of the U-2s was compromised over the Soviet Union and had to land there. An aerial violation was much more provocative than a spy being caught on the streets of Moscow. The United States could not simply disown

one of its aircraft and, if captured, the operation could lead to charges of invasion or espionage.

Eisenhower’s CIA advisers assured him that if a U-2 was shot down, the plane would disintegrate, due to explosive charges, and the Soviets would have no proof. The U-2 was also painted entirely black and had no additional marks or insignias for identification. In conjunction with the event of the mission’s failure, the National Air and Space Administration (NASA) would release a report that one of its weather planes had strayed over Soviet territory and had been lost. Furthermore, the CIA convinced Eisenhower that the Soviets would never capture a live pilot. The U-2 pilots were trained and encouraged to kill themselves if put in danger of captivity. Nevertheless, on May 1, 1960, a U-2 spyplane piloted by Francis Gary Powers was shot down over Sverdlovsk and the downing of his plane had international ramifications.

Ostensibly, the U-2 was designed, by the Advanced Development Division or the “Skunk Works” of Lockheed, as a weather plane for NASA. In addition, the U-2 was supposedly created to act as test planes for the airlines. The U-2 would fly at 55,000 feet to experience what a commercial airliner would encounter at that altitude. However, the reality of the U-2’s purpose was quite different. Unknown at the time, the U-2 had been built for the CIA, under the codename operation Rainbow. In order to maintain secrecy, Eisenhower had cut the Air Force out of the program and left its operation to the CIA. By 1955, the U-2 had successfully reached over 70,000 feet and set the world’s altitude.

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3 Beschloss, Mavday, 8.
record. This also allowed the U-2 to fly considerably above the reach of the best Soviet surface-to-air missiles. The U-2 could photograph a license plate at over twelve miles and had the ability to record radar and radio signals. This characteristic allowed CIA technicians to chart the disposition of the Soviet air defense system in order to find weak spots. The first flight of the U-2 took place on July 4, 1956, when Harvey Stockman flew from Germany over Poland, into Belorussia, Minsk, and Leningrad, and back to Germany in nine hours. The Soviet Air Force was helpless to stop the U-2.6

Gary Powers' flight of May 1, 1960 was a routine mission. Powers' planned flight originated at a secret CIA airfield in Peshawar, Pakistan and terminated in Bodo, Norway. The flightplan covered a distance of over 3,788 miles.7 Enroute, one of Powers' aim was to overfly the Tyuratam Cosmodrome to photograph the progress of the Russian missile program.8 By the late 1950s, the United States Congress had begun to fear, due to Soviet boasts, that the Soviets were outbuilding the U.S. in its missile program thus resulting in the so-called "missile gap."

However, the photographs that the U-2s brought back from the Soviet Union indicated the massive bomber and missile programs were merely boasts; the Eisenhower administration was reassured that the "missile gap" did not exist. Where the Soviets claimed there were hundreds of missiles, the previous U-2 flights only located less than a dozen missiles. Yet, fears of a massive Soviet missile building program continued in the Eisenhower administration. As a result, the Tyuratam Cosmodrome was one of the

6 Ibid., 140-45.
7 Beschloss, Mayday, 14.
8 The Tyuratam Cosmodrome was the premier Soviet aerospace facility. The Cosmodrome housed Soviet advances in satellites, fighters, and missiles.
primary targets of the U-2 overflights. In April of 1960, the intelligence community was pushing hard for another U-2 flight over Tyuratam, despite Secretary of State Christian Herter’s pleas, because of the advances the Soviets had made in the development of their first intercontinental ballistic missile (ICBM). Herter was worried about the possible effect of the mission on the Paris Summit that was scheduled for May 16, 1960.

The Powers mission, however, had problems right from the start. First of all, bad conditions over the Soviet Union almost postponed his flight. Then, just past the Tyuratam Cosmodrome, the autopilot on the U-2 malfunctioned and Powers was forced to fly the plane by hand, a tedious job in a nine hour flight. On his approach to Sverdlovsk, Powers encountered heavy anti-aircraft fire from a prepared and forewarned Soviet air defense system. Though the U-2 could, up to this point, outfly the best Soviet missiles and fighters, it was not invisible on radar. As a result, Premier Nikita Khrushchev and Defense Minister Marshal Radion Malinovsky knew exactly when the U-2 crossed the Soviet border and readied their defenses. The Soviets had also built a new surface-to-air missile, the SA-2 Guideline of which the Americans unaware. It was capable of reaching 60,000 feet in altitude. Timing the U-2’s approach, the Soviets fired fourteen SA-2 in tandem. As a consequence, one of the SA-2 reached high enough to explode near Powers’ U-2 and the resulting shrapnel devastated the plane, along with a trailing MiG, forcing Powers to bring the U-2 down. However, due to centrifugal forces created by the plane’s rapid descent, Powers was unable to destroy the plane by tripping the explosive charge. He had to parachute out. The landing knocked him out and he and his

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plane were captured by a group of irate Soviet farmers, whose field the U-2 had ruined.\(^\text{12}\)

In fact, for several hours, the farmers believed that Powers was a Soviet pilot. It was not until they reached a militia checkpoint that Powers was actually apprehended.\(^\text{13}\)

The ramifications of the downing of the U-2 and the capture of Powers were remarkable. The shooting down of the U-2 had taken place on the eve of the Paris Summit arranged by the French President Charles de Gaulle among President Eisenhower, Premier Khrushchev, and British Prime Minister Harold Macmillan. The summit had been scheduled for May 16, 1960, only two weeks after the downing of the U-2. At Lubyanka Prison in Moscow, Powers was interrogated by the KGB on why the flight was flown so close to the Summit Meeting and was asked whether this was a deliberate attempt to sabotage those talks.\(^\text{14}\)

On May 5, Khrushchev appeared before the Supreme Soviet to announce that Soviet air defenses had shot down an American spy plane over Soviet airspace. However, Khrushchev did not announce that the KGB had captured the pilot. He wanted to save that information for a later accusation of espionage against President Eisenhower to score a propaganda victory over the United States heading into the Paris Summit.\(^\text{15}\)

Unaware that the Soviet Union had captured Powers, the "Bissell Center" of the CIA released a statement that a NASA U-2 weather plane had left Turkey but encountered radio problems and had accidentally strayed into Soviet territory. The CIA presumed that since the Soviets had moved all of the wreckage of the U-2 to Moscow for further

\(^{12}\) Powers, *Operation Overflight*, 89.

\(^{13}\) Beschloss, *Mavday*, 30.

\(^{14}\) Powers, *Operation Overflight*, 100.

investigation, it meant that Powers was dead. However, on May 7, Khrushchev again stood before the Supreme Soviet and announced that they had captured the pilot of the U-2 spy plane. He accused Allen Dulles, the director of the CIA, of espionage and gave Eisenhower an opportunity to escape by stating "I am quite willing to grant that the President knew nothing about the fact that such a plane was sent into the Soviet Union." This statement forced Eisenhower to either become the first U.S. president to admit to espionage or appear that he had no control over his country's military.

By early 1960, Premier Khrushchev was struggling to retain his control over the Politburo and the Supreme Soviet, and this struggle was exacerbated by the downing of the U-2. He had entered a period of relative stability in the U.S.S.R.-U.S. relationship by placing his trust in the integrity of President Eisenhower, despite harsh criticism from opponents in the Politburo. His political adversaries believed that he had been duped by Eisenhower in his publicized Camp David visit in the late 1950s. Yet, Khrushchev anchored his foreign policy around a strategy of non-confrontation with Eisenhower and the United States. Khrushchev believed that he could work with Eisenhower. However, his domestic policies had begun to fail in the Soviet Union. Industrial growth in the Soviet Union had stagnated badly, the country was struggling with increasing inflation, and the Soviet wheat harvest, due to his controversial agricultural programs, was on the verge of a total failure. Khrushchev had also engineered the Sino-Soviet split of 1959, still unknown in the West, when he pulled Soviet technicians out of China and had refused to part with Soviet atomic secrets. As a result, Khrushchev could not afford to appear any weaker in

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17 Beschloss, *Mayday*, 44.
his foreign policy or he would fall victim to opponents at home. Since Khrushchev had sided with Eisenhower in his foreign policy, he needed Eisenhower to apologize publicly for the intrusion. An apology would also help Khrushchev maintain the Soviet leadership of the communist world, damaged by the Sino-Soviet split, by appearing anti-imperialistic.19 However, after a long debate in the administration, Eisenhower not only failed to apologize for the incident, but he took personal responsibility and even implied that the U.S. would continue to overfly the Soviet Union if necessary at a later date, though at that moment, Eisenhower had suspended the U-2 program. Eisenhower believed that if the United States had to suffer the espionage activities of the KGB in silence, he would not apologize for his actions nor promise to cease any future operations.20

Eisenhower’s refusal to appease Khrushchev essentially ended any hope of a Paris Summit. Once Eisenhower released his decision to take personal responsibility for the U-2 incident, Khrushchev was backed into a corner. He had attached so much of his foreign policy to the idea the Eisenhower was a man that the Soviet Union could work with that he had no choice but to react harshly to the current situation. Khrushchev announced to the world that without an apology for the intrusion of the U-2 and the punishment of those responsible, he would not meet with Eisenhower and the Paris Summit was canceled. Khrushchev stated that “[t]o receive Eisenhower without first hearing him apologize would be an intolerable insult to the leadership of our country.”21 Officially, Khrushchev had postponed the Summit until after Eisenhower was out of office. Not only had the U-2

20 Wise, The U-2 Affair, 88.
21 Beschloss, Mayday, 275
incident endangered the Paris Summit, but, according to Llewellyn Thompson, an adviser to President Eisenhower, it also cost the United States "a major loss in Soviet public opinion and probably around the world." The U-2 disaster had cost the United States the chance to work with a leader of its chief adversary who months earlier had been willing to cooperate with the United States on a variety of issues. From that point on to the end of his career in the mid-1960s, Premier Khrushchev, under pressure at home and abroad, grew increasingly belligerent in his dealings with the United States.

There were also several other ramifications of the U-2 incident. In order to secure the return of Gary Powers, whom the CIA wanted desperately to question, J. Edgar Hoover, the director of the FBI, had to swap Rudolph Abel, a KGB colonel who had run the Soviet spy network in North America. In addition, Japanese Prime Minister Kishi, whose nation had provided airfields for the U-2s, used the incident to remove the "demeaning" Constitution of 1951. As a result, the U.S. signed a new security treaty with Japan that forced the U.S. to consult with the Japanese on the uses of their military bases in Japan.

Due to the high political cost of the incident, the U-2 downing is a failure in the collection and interpretation of intelligence. The downing occurred for several reasons. First of all, the CIA made certain assumptions about the abilities and motivations of the pilots of the U-2. The CIA assumed that the pilots would be forthright in their attempt to eliminate themselves and the aircraft as evidence of American espionage. Not only did Powers fail to take the pin of shellfish poison that the CIA had placed on all of its pilots,

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22 Ibid., 63.
23 Wise, The U-2 Affair, 239.
24 Benson, Mayday, 269.
but he warned his captors of the presence of the pin. Powers also failed to explode the U-2.  

The CIA stated that once the pilots pulled the detonation switch, they had seventy seconds to escape the plane. However, most U-2 pilots did not believe that. They were convinced that the CIA had considerably shortened the detonation interval to eliminate both the plane and the pilot at once. As a result, this conviction probably contributed to Powers' inability to detonate the aircraft. Furthermore, once Powers underwent light KGB interrogation at Lubyanka, he immediately caved in to the pressure and admitted that he was a civilian employee of the CIA. Powers had also violated CIA rules by carrying his ID on him during the trip and the KGB found this on his person. Therefore, the CIA made a mistake by underestimating the human factor in their damage control equation. As a consequence, the Soviets ended up with both the wreckage of the spy plane and the pilot who almost immediately confessed his identity. This human factor inescapably pinned the blame for the flight squarely on the shoulders of the U.S.

However, the U-2 flight was not a failure solely for reasons of human frailty. The U-2 incident was also a failure due to technological reasons. The failure of the autopilot, which forced Powers to fly manually before he wanted to, may have contributed to the shooting down of the U-2. The U-2, no longer under an automated flight plan, may have inadvertently strayed into range of the SA-2 before Powers could check his instruments. The U-2 was a very demanding plane to fly and only slight adjustments were needed to change the airflow across the wings and start the plane plummeting toward the ground.

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25 Ibid., 35.
26 Ibid., 8.
27 Powers, Operation Overflight, 102.
28 Beschloss, Mavday, 36.
The U-2 had also been in service since 1955. As a result, the Soviet Union, which had been protesting the penetrations of the U-2 since 1956, had over five years to identify and create a means to eliminate the U-2 threat. Eventually, the technological prowess of the Soviet Union would allow it to create a missile capable of reaching the altitude of the U-2. In fact, Clarence “Kelly” Johnson, an aerodynamist, from Lockheed’s “Skunk Works,” the company that manufactured the U-2, believed that the U-2 was eventually doomed. He thought that the Soviet Union had made the U-2 overflights a matter of national honor and were therefore determined to end the intrusion. In addition, Powers’ U-2 flight was scheduled for May 1st or May Day to the Soviets, a close equivalent of July 4th in the United States, giving the Soviets even more incentive to bring down the U-2. Therefore, the outcome of the U-2 experience was inevitably bound to end in failure or disaster.

The nature of the U-2 threat also assured the fact that the Soviets would find a way to eliminate the overflights, because it aroused virtually all of the traditional Soviet fears and concerns. Since the U-2 took off from a number of bases in Turkey, Norway, Alaska, Japan, and West Germany, it brought the idea of encirclement to Soviet attention. The penetration of Soviet borders and the violation of its airspace reminded the Soviets of the Russian history of invasion, which dated back to Napoleon and extended into the present with Barbarossa, the German invasion of the U.S.S.R. in 1941. The mission of the U-2, the photographing and eavesdropping on the Soviet military, reaffirmed the Soviet lack of secrecy and confirmed Soviet weakness, which played on the Soviet fear of

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military inferiority. These reasons all contributed to the failure of the U-2 mission and the CIA failed to consider these concerns in their continuing overflights of the Soviet Union.

The cost of the U-2’s failure was the end of the Paris Summit along with other important concessions. Furthermore, the U.S., for the period of several years, was unable to extract the same quality of intelligence from inside the Soviet Union. However, the compromise of the U-2 did lead to further innovations in the intelligence community. The upside to the U-2 disaster was increased funding for the United States’ infant satellite program and the development of the highly successful SR-71 Blackbird were a direct consequence of the U-2 incident. As a result of the political damage done by the U-2 incident, the new U.S. spy plane, the SR-71 Blackbird, was put under tighter restrictions than the U-2 had been. The SR-71 was legally restrained from crossing into Soviet territory and provoking the Soviet Union in the same way.

Yet despite these changes, the U-2 incident exacted to high a political cost on the United States to be considered anything but a failure. Though the U-2 had brought back important information on the Soviet Union for several years between 1956 to 1960, the intelligence gained on Soviet missile programs did not outweigh the damage done to the Paris Summit by the U-2. The incident conclusively ended the ability of the United States to deal with Premier Khrushchev, whom the U.S. continued to deal with into the mid-1960s, on an amiable basis and contributed to the deepening of the Cold War in the early 1960s.

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30 Beschloss, Mayday. 57.
The subject of the case study on the success in the airborne collection and interpretation of intelligence is the SR-71 Blackbird. The Blackbird, engineered by the "Skunk Works" Division or Advanced Development Division of Lockheed, first came into service in 1964 and was finally decommissioned in 1990 by Secretary of Defense Richard "Dick" Cheney. The development of the Blackbird started in 1956 as an extension of "Skunk Works" idea of building a hydrogen-driven plane that could travel three times faster than the speed of sound. Lockheed, under Kelly Johnson and Ben Rich, wanted to stay ahead of the Soviets in the airborne reconnaissance contest. They both believed that the U-2 would soon be compromised by Soviet advances in surface-to-air missiles. They both were proved correct when Gary Powers’ U-2 was shot down on May 1, 1960.\(^\text{31}\)

Initially, President Eisenhower was reluctant to approve the Lockheed project to replace the U-2. He had already spent a billion dollars on the Agena rocket, which was designed to boost American spy satellites into orbit.\(^\text{32}\) He did not need another top secret and expensive program. However, Johnson, current CIA boss Allen Dulles, and CIA operations head Richard Bissell managed to convince Eisenhower otherwise. The CIA accepted the twelfth model of the Lockheed experiment, once Lockheed was able to reduce the radar signature of the aircraft by ninety percent. It was called the A-12 and codenamed the project Oxcart. The CIA and the Department of Defense initially agreed to purchase five of the A-12s for 96.6 million dollars, roughly twenty-three million dollars apiece. The first A-12, now named the SR-71 Blackbird, flew on April 26, 1962.\(^\text{33}\) Over


\(^{32}\) Rich and Janos, Skunk Works, 194.

\(^{33}\) Ibid., 225.
the next twenty-five years, the Blackbird amassed a service record unparalleled in airborne reconnaissance. After 3500 sorties, the Blackbird retired in 1990 as the only military aircraft never to be shot down or lose a single crewman to enemy fire.\textsuperscript{34}

The SR-71 Blackbird was built specifically for the airborne collection of intelligence.\textsuperscript{35} Although several versions of the Blackbird were made, including an interceptor version and a bomber version for the Strategic Air Command (SAC), the primary role of the Blackbird was photographic and electronic reconnaissance. Fittingly, the flight doctrine of the Blackbird was the proposition that the aircraft is a reconnaissance platform with the primary goal of getting to its target area and then getting out as quickly and as safely as possible.\textsuperscript{36} The main use of the Blackbird was the collection of photographic intelligence, but the SR-71 was also capable of capturing and recording a variety of radar and other electronic signals that it attracted. The Blackbird was one hundred and seven feet long and fifty-six feet wide, driven by Pratt and Whitney J-58 turbo ramjets with an afterburner that created over thirty-two thousand pounds of thrust. As a consequence, the Blackbird in July, 1976, set both a world speed record of 2,193.6 miles per hour and a world altitude record of 85,069 feet. However, the ceiling of the Blackbird was suspected to be around 105,000 feet and just shy of Mach four (four times the speed of sound), which allowed the SR-71 to outfly Soviet interceptors and Soviet air defense systems.\textsuperscript{37} The Blackbird was also built with a small cross section, due to the chine border around the edges of the aircraft, radar absorbent materials in the tail and

\textsuperscript{34} Ibid., 241.
\textsuperscript{35} The SR in SR-71 stood for strategic reconnaissance.
\textsuperscript{37} Ibid., 160.
frame, and was equipped with electromagnetic fields that all combined to blunt, deflect, and absorb radar pulses. As a result, the Blackbird was very difficult to track on radar. This decreased the possibility of a surface-to-air missile strike.  

The Blackbird was also equipped with several sophisticated sensors for the collection of overhead intelligence. The Blackbird had two forty-eight inch focal length technical objective cameras, controlled by an astrotracker that was preset to take overlapping pictures over a distance of between 833 to 1,619 nautical miles. These cameras were mainly used when the Blackbird overflew countries in the Middle East, Africa, Latin America, and most of Asia. These were states that lacked the capability to shoot down an SR-71. The Blackbird also contained a nose-mounted optical bar camera that took long-range, 1478 to 2930 miles, panoramic, 72 miles wide, oblique pictures over the borders of nations such as the Soviet Union and China, which had advanced air defense systems. There was also a high-resolution side-looking airborne radar (SLAR) that had the ability to collect photo-imagery even in bad weather and at night. This camera had a range of ten to eighty miles and had been used to photograph Soviet submarine pens. Finally, the Blackbird accommodated several electronic intelligence receivers that could collect radar and radio signals within a 390 mile radius of the aircraft.  

The ramifications of the intelligence collected by the Blackbird were remarkable. Walter Rostow, President Johnson’s National Security Adviser from 1966 to 1968, declared that “[t]he Blackbird reconnaissance missions over North Vietnam, which began  

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in late 1966, were invaluable to the President. Since Johnson was afraid of accidentally hitting a Soviet or Chinese ship in Haiphong harbor or civilian targets, he relied on Blackbird intelligence as the decisive factor in whether to launch tactical air operations against North Vietnam. The Blackbird obtained the precise locations of North Vietnamese missile and antiaircraft batteries, which ships were unloading, and up-to-date intelligence for the bombing missions. In addition, after the Pueblo was seized in 1968 by the North Koreans, the Blackbird was the first U.S. intelligence asset to locate the vessel in Wonsan harbor. This timely intelligence aborted plans for U.S. airstrikes against the harbor that would have resulted in the killing of our own servicemen.

The Blackbirds were also used to keep track of Soviet military assets. While the SR-71 did not violate Soviet borders, due to a presidential order, this did not mean that the Blackbirds could not keep tabs on the Soviet navy. From the Mildenhall operation in Suffolk, England, Fred Carmody, director of the SR-71 program abroad, would send Blackbirds up to Murmansk on the Kola Peninsula to photograph Soviet nuclear submarine pens. The Soviet submarines carried a Polaris-type nuclear missile that was a direct threat to the U.S. cities on the Eastern seaboard. It was essential to keep track of which submarines had left and which were in port. The photographic capability of the Blackbirds allowed U.S. intelligence to count the missile silos on the submarines as well as the screw size of the propellers, even underwater.

Besides photo-reconnaissance, the Blackbird had several successful examples of the collection of electronic intelligence. Captain Norbert Budzinske, an Air Force

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40 Rich and Janos, *Skunk Works*, 244.
Reconnaissance Systems Officer (RSO) on the SR-71, stated that the Blackbirds used to tip off the North Vietnamese and Chinese that they were coming. The Blackbirds in the South Pacific operated out of Kadena Air Base in Okinawa. Whenever the Blackbirds would launch from Kadena, two Soviet trawlers off the coast would report their take off. As a result, by the time the Blackbirds reached Hanoi or Haiphong, both the Chinese and the North Vietnamese air defense radars were lit up and the pilots were able to gain vital technical intelligence on the frequency and pulse repetitions of the radars.\(^4^3\) In another instance, Major Butch Sheffield, another Air Force RSO, overflew a Chinese naval exercise and collected data on over three hundred ships. Sheffield’s was also the first Blackbird to record the radar signature of the Soviet’s new SA-5 surface-to-air missile at Vladivostok. The SA-5 was the only missile capable of reaching the SR-71 in altitude and speed. The data gathered by the Blackbirds allowed Air Force technicians to devise electronic countermeasures to the Soviet and Chinese radar defenses.\(^4^4\)

The intelligence collected by the Blackbirds was also put to different uses. In 1973, during the Yom Kippur War, when Israel was attacked by several Arab armies, the Soviets repositioned their Cosmos satellites to give their Arab allies real time intelligence on the battlefield. However, the SR-71 allowed President Nixon to respond immediately to this development and Blackbird overflights gave the Israelis Arab troop positions and deployments within twelve hours.\(^4^5\) In 1982, when the Polish government led by General Jaruzelski closed its borders and began to crackdown on the Polish Solidarity reformers, the intelligence gathered by the SR-71 revealed to President Reagan that the Soviet

\(^4^3\) Ibid., 246.
\(^4^4\) Ibid., 249.
\(^4^5\) Ibid., 256.
military had no intention of responding militarily to crush the uprising of its neighbor. This information permitted President Reagan to help calm the situation. Therefore, the SR-71 Blackbird is considered an intelligence success because the information that it delivered was beneficial to U.S. interests and the intelligence gained was done so at a relatively miniscule cost to the United States.

There were several reasons for the abundant success of the SR-71 Blackbird. First of all, until the advent of the SA-5, the SR-71 was invulnerable to any air defense system in the world. At a height of 85,000 and a speed of over Mach three, no missile could track it down. The Blackbird was also untouchable against the best Soviet fighter interceptors. The MiG-25 Foxbat was the Soviet Union’s best high-altitude interceptor and it only had a speed of Mach 2.8 and a ceiling of 80,000 feet. Lieutenant Viktor I. Belonko, a Russian MiG-25 pilot who defected to Japan, revealed the SR-71’s invulnerability to airborne interceptors. Belenko stated that “[e]ven if we could reach it, our missiles lack the velocity to overtake the SR-71 if they are fired in a tail chase. And if they are fired head-on, their guidance systems cannot adjust quickly enough to the high closing speed.”

Another reason for the success of the SR-71 was that it was far less provocative than its predecessor, the U-2. The SR-71 was forbidden, by presidential order, from overflying the Soviet Union and the Eastern Bloc. Not only did the Blackbird avoid the air defenses of the only nations capable of shooting an SR-71 down, but the mission profile was far less aggressive to the Soviets. No longer were Soviet borders and Soviet

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46 Ibid., 256.
aerospace being violated at will by the United States. As a result, the SR-71 was not as
direct a threat to Soviet military prestige. Furthermore, the Blackbird was kept under a
veil of secrecy by the CIA. Ben Rich, the boss of Lockheed’s “Skunk Works,” declared
“the airplane and its operations were kept so secret that few inside or outside our
government knew it was flying. But the Russians knew. So did the North Koreans, the
North Vietnamese, and the Chinese. And there was nothing they could do to stop it.”

The technological developments and the less provocative nature of the SR-71, in
comparison to the U-2, contributed to the ability of the SR-71 in avoiding the same fate of
the U-2 program. As a result, the SR-71 remained in service in the intelligence arsenal far
longer than the U-2 had.

The success of the Blackbird was also due to the backing of its supporters. Like
any other expensive military project, the Blackbird program needed to be approved by the
Department of Defense. However, Johnson and Rich, the two preeminent backers of the
Blackbird, had to fight Secretary of Defense Robert McNamara, who was nicknamed
“Mac the Knife” for his cuts in the military’s budget, and Air Force Chief of Staff Curtis
LeMay, who had thrown his support behind the B70 bomber program. In addition, the
Department of Defense was hesitant to award two huge contracts to the same contractor
and Lockheed was building the satellite rocket boosters for the military. However, with
the support of the CIA’s Dick Bissell, the “Skunk Works” managed to convince
McNamara that the Blackbird was of far more benefit to the U.S. military than any other
project.

49 Ibid. 227-28.
The success of the Blackbird's career in the airborne collection of intelligence is unmatched. However, in 1990, Secretary of Defense Dick Cheney decided to terminate the Blackbird program. He was heavily influenced by a campaign by then Air Force Chief of Staff Larry Welch to scrap the SR-71 in favor of spy satellites because of its expense, roughly two hundred and sixty million dollars a year. In a tribute to the role of the Blackbird, one of its supporters, Senator John Glenn, stated, "[t]he termination of the SR-71 is a grave mistake and can place our nation at a serious disadvantage in the event of a future crisis." In addition, Admiral Bobby Inman, the former director of the National Security Agency (NSA), declared that "satellites will never compensate for the loss of the Blackbird. [The Joint Chiefs of Staff] have nothing in the wings to replace it and we may be in for some nasty surprises and a whole new set of intelligence problems because of this." The value and success of the SR-71 as an intelligence collector was again demonstrated during the Gulf War when the Air Force asked the Defense Department to recommission the Blackbird to provide much needed overhead intelligence.

51 Rich and Janos, Skunk Works, 259.
52 Ibid., 260.
CHAPTER V

SATELLITE COLLECTION AND INTERPRETATION OF INTELLIGENCE

The subject of the case study on the success of the satellite collection and interpretation of intelligence is the Lockheed reconnaissance satellite series, also called the Keyhole series.¹ The first photo-reconnaissance satellite, or spy satellite, the Discoverer 13, was put into orbit by the CIA in 1960, before President Eisenhower left office.² Eisenhower believed that the United States needed to keep track of the ballistic missile program of the Soviet Union in order to safeguard United States’ interests. In fact, Eisenhower thought that the United States and the Soviet Union should police each other to prevent the rampant production of intercontinental ballistic missiles (ICBMs) and misunderstandings. However, Eisenhower’s “Open Skies” proposal was rejected by Premier Khrushchev in 1955.³ The primary means of photo-reconnaissance over the Soviet Union up until this point, the U-2, had been compromised in 1960. As discussed in the previous chapter, on May 1, 1960, a U-2, piloted by Francis Gary Powers, was shot down over the Soviet Union with political repercussions.⁴ Yet, the United States needed solid intelligence on the Soviet missile programs. In addition, President Eisenhower believed that satellite reconnaissance was a less threatening and aggressive means of obtaining overhead intelligence than the U-2, because the satellite did not directly violate

¹ The Keyhole series of satellites, all manufactured by Lockheed Missiles and Space Company, included the Discoverer or Corona group, the Samos II group, and the “Big Bird” edition.
³ Cline, The CIA, 181-82.
⁴ Beschloss, Mayday, 6.
Soviet airspace. As a result, the Lockheed Missiles and Space Company, a branch of the defense contractor that manufactured the U-2 and the SR-71, was given a billion dollar contract to produce the Keyhole series satellite and the Agena rocket to boost the satellite into space. After twelve failures, Lockheed finally launched the Discoverer 13 into space in June 1960.5

The early versions of the Keyhole series satellites had a variety of shortcomings and liabilities, but Lockheed’s later editions had far better photo-reconnaissance capabilities. The Samos series, called KH-1, and the Discoverer or Corona series, called KH-4, were limited by several factors. First of all, the spy satellites could not remain in orbit very long due to small fuel payloads. Secondly, the intelligence gathered by most of the satellites could not be transmitted to earth. Rather, the satellite’s orbit would gradually deteriorate over the period of several weeks and the satellite would land in the ocean.6 Specially fitted C-119s would then attempt to catch the capsule in the air, but the bulk of the recovery fell on satellite retrieval ships such as the Haiti Victory.7 In addition, the photographs collected by the early satellites were not very clear or focused.8

The U.S. also built its first photo-reconnaissance satellites to serve a couple of functions. The first type was a search-and-find satellite designed for a large-area surveillance of the Soviet Union and China. The aim of the satellite was to search the vast expanses of those states to detect the new construction of facilities of strategic interests, such as missile silos. The search-and-find satellite could also transmit, using a laser

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device, its information to several ground stations around the world. The intelligence was analyzed in the National Photographic Interpretation Center (NPIC) in Washington, DC.⁹

The second type of satellite was labeled a close-look satellite and was designed to undertake a more detailed examination of the sites already catalogued by the search-and-find satellites. In contrast to the search-and-find satellites that used a moderate resolution camera, the close-look satellites used a high-resolution or multi-spectral camera. These satellites could typically remain in orbit for only a couple of weeks and had to be recovered to extract the information from them. However, using the complementary operation of the two types, the United States was able to gather valuable intelligence on several of its adversaries.¹⁰

The “Big Bird” series of Lockheed demonstrated a large step in the evolution of photo-reconnaissance satellites. The “Big Bird” was launched for the first time on June 15, 1970. The “Big Bird” was roughly five times the size (25,000 pounds and 50 by 10 feet) of previous satellites. It required two of the Titan 3D rocket boosters to lift it into an orbit, and it employed a new camera that could provide ground resolution to about one foot from an altitude of over one hundred miles. In addition, the “Big Bird” could maintain its orbit for far longer than the previous Keyhole satellites. Moreover, it returned photographic intelligence to earth through a series of ejectable capsules. As a consequence, the United States was able to reduce the number of photo-reconnaissance satellites in orbit from eight to thirteen in 1965-68 to only four in 1970, while also

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¹⁰ Ibid., 13.
providing far more days in orbit. The ramifications of the satellite intelligence gains in the 1960s were astonishing. Photo-reconnaissance satellites brought back information on a variety of important strategic concerns for the United States. Perhaps the incident the satellite intelligence had the most influence on was the Berlin Crisis of 1961. Over the previous decade, the Soviet Union, under Premier Khrushchev, had boasted of the production of large numbers of ballistic missiles, the SS-6. The U.S. press elaborated on the story and fears escalated over a supposed “missile gap” between the U.S.S.R. and the U.S., in the Soviets favor. Members of Congress questioned the Eisenhower Administration on the issue of the “missile gap.” Eisenhower, using the U-2, had been convinced by existing intelligence returns that the so-called “missile gap” did not exist. However, Eisenhower, due to secrecy concerns, had been unable to inform the rest of the nation that Khrushchev’s claims were merely boasts.

When President John F. Kennedy entered office in 1961, he, too, was inundated with claims from the Congress that the U.S. was falling behind in the missile race. Even the Air Force joined the fray and claimed that the Soviets had over three hundred ballistic missiles. Yet, due to the Powers downing in May, 1960, Kennedy could not rely on the U-2 to substantiate any evidence to the contrary.

This situation finally reached crisis level in June, 1961, in Vienna. In early 1961, Khrushchev had invited Kennedy to Austria for a Summit meeting to replace the canceled Paris Summit of 1960. However, when Kennedy arrived Khrushchev was so belligerent

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11 Ibid., 14.
12 Steinberg, Satellite Reconnaissance, 49.
13 Beschloss, Mayday, 5.
14 Steinberg, Satellite Reconnaissance, 24.
and hostile that Kennedy believed that the U.S.S.R. was on the verge of going to war.\textsuperscript{15} In conjunction with this aggressive stance, Khrushchev also used his perceived superiority in ballistic missiles to demand that Kennedy turn over West Berlin, split since 1946, to Soviet control. With tensions high, Kennedy called up the national guard and the reserves and put the nation’s military on alert.\textsuperscript{16}

However, Kennedy was able to call Khrushchev’s bluff due to intelligence gained from photo-reconnaissance satellites. The Discoverer 13, the first U.S. spy satellite in orbit, returned on August 10, 1961, and indicated that the Soviet missile force consisted of fewer than twenty ballistic missiles, not the hundreds imagined.\textsuperscript{17} Then on September 30, 1961, the Discoverer 29 was retrieved from the Pacific Ocean. The Discoverer satellite had found the first Soviet ICBM offensive launch site at Plesetsk and, with the photogrammetrists at NPIC ruling out other suspected sites, the number of ballistic missiles was reduced to between ten to sixteen.\textsuperscript{18} In response, Secretary of Defense Robert McNamara stated that “[t]here appeared at this time no signs of a Soviet crash effort to build intercontinental ballistic missiles.”\textsuperscript{19} This information was leaked to \textit{Washington Post} reporter Joe Alsop, who used the intelligence to gain and solidify public support for the Kennedy Administration’s stance of no tolerance toward Khrushchev.\textsuperscript{20}

The final result of the Berlin Crisis of 1961 was the Soviet attempt, due to their international embarrassment over Berlin, to have reconnaissance satellites declared illegal.

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\textsuperscript{15} Rich and Janos. \textit{Skunk Works}. 229.
\textsuperscript{16} Steinberg, \textit{Satellite Reconnaissance}. 48-50.
\textsuperscript{18} Burrows, \textit{Deep Black}. 111.
\textsuperscript{20} Steinberg, \textit{Satellite Reconnaissance}. 51.
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by the United Nations. To that end Premier Khrushchev stated "[a] spy is a spy, no matter what height it flies."\(^{21}\)

The intelligence gained from satellite reconnaissance also had other important effects. On April 27, 1971, the Secretary of Defense Melvin Laird revealed that the "Big Bird" photo-reconnaissance satellite had discovered that the Soviets had resumed construction of an anti-ballistic missile system (ABM), after a three-year lull. The same satellite series also revealed that the Soviets had built a new ballistic missile, the SS-11, and had over sixty new missile silos from which the Soviet Union could launch the missiles. The overhead intelligence on the Soviet's strategic missile capabilities allowed the United States to match Soviet advances and maintain the nuclear status quo.\(^{22}\)

The "Big Bird" also provided the Department of Defense with an early warning system for the launch of intercontinental ballistic missiles. Though not particularly effective as an early warning system for submarine-launched ballistic missiles (SLBM), it was estimated that the "Big Bird" could give the Strategic Air Command (SAC) an extra five to ten minutes warning on a ICBM launch. Therefore, the chances that SAC would get its B-52s off the ground were far greater.\(^{23}\)

The success of Lockheed's Keyhole satellite series in the collection and interpretation of intelligence was the consequence of several reasons. First of all, the Department of Defense and several presidential administrations shrouded satellite intelligence in a veil of secrecy. The Department of Defense actually published budget

\(^{21}\) Ibid., 56.
\(^{22}\) Klass, "Recon Satellites," 12.
figures for the photo-reconnaissance satellites until 1961, when the Kennedy administration ordered those numbers to be kept secret. The Kennedy administration believed that if the United States did not admit to satellite surveillance of the Soviet Union, then there would be less pressure on the Soviets to shoot down the satellites or hide their strategic assets from overhead reconnaissance. As of December, 1971, the Soviets appeared capable of intercepting a satellite in a orbit of between 360 to 550 miles, far above the 100 mile orbit of the “Big Bird” and other reconnaissance satellites. The Kennedy administration did not wish to provoke the Soviet Union into attacking our satellites.

The other reason for the success of the Keyhole series was continued technological advances. The Department of Defense, in conjunction with Lockheed Missile and Space Company, managed to refine the Keyhole series in a very short period. As a result, the photo-reconnaissance satellites were far more capable and effective in 1970 than they were in 1961. No other area of intelligence saw as rapid an advance in its capabilities than satellite reconnaissance. The consequence of this improvement was increased funding and support by repeated presidential administrations. The manufacture of reconnaissance satellites is now the single largest item in the intelligence community’s budget.

With the United States’ ability to collect overhead intelligence of the Soviet Union compromised, at a critical juncture, by the downing of the Powers U-2, the development of the photo-reconnaissance satellite was an important event. As a consequence, though

26 Durb, National Interests, 44.
the information blackout on satellites still existed, John McCone, the Director of the CIA under President Kennedy, stated that satellites gave the U.S. the ability to “penetrate the Iron Curtain.”

The subject of the case study on the failure of the satellite collection and interpretation of intelligence focuses on the limitations of the Keyhole series satellite. As a result of the secrecy involved in satellite reconnaissance and the intelligence gathered in satellite reconnaissance, the few failures that have been experienced by the United States have not been well publicized and as a result not much information exists. Therefore, this section is devoted to the explanation of the limitations and drawbacks of satellite reconnaissance, rather than the conventional case study format.

The first limitation of satellite reconnaissance is the cost of satellite programs, including the spacecraft and the booster. The first booster built by Lockheed, the Agena rocket, cost the Department of Defense over one billion dollars to develop and the “Skunk Works” was an efficient organization. The launching of a photo-reconnaissance satellite was estimated to be around sixty million in 1970. This sum could be boosted to one hundred and twenty five million if a signals intelligence eavesdropper was attached to the payload package. The satellite itself cost around one hundred million dollars. The first launching of the Discoverer or Corona series in 1961 took twelve attempts at a cost of around one hundred and fifty million dollars apiece for the United States government.

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27 Steinberg, Satellite Reconnaissance, 51.
28 For the price of twelve U-2s. Lockheed’s Advanced Development Division produced three extra planes and enough spare parts to fit five more aircraft. This was unusual for a defense contractor.
29 Burrows, Deep Black, 154.
30 Rich and Janos, Skunk Works, 193.
By 1965, the United States had thirteen search-and-find satellites in orbit and an equal number of close-look satellites. Though the number dropped to four with the advent of the "Big Bird" series, the new satellite was roughly double the price of the Samos II and Discoverer groups. Therefore, the United States had invested roughly one billion dollars in 1970 in satellite reconnaissance, not including signals interception intelligence.\(^{31}\)

By 1980, the figure had escalated. The Aeronautics and Astronautics report of the president revealed that around 9.4 billion dollars a year were spent on satellites.\(^{32}\) One KH-11 satellite cost the Department of Defense five hundred million dollars in 1980 and the booster required to launch the satellite, the Titan 34D, cost two hundred and fifty million.\(^{33}\) As a result, miscues like the explosion of a Titan 34D with a KH-11 on August 28, 1985, and a Titan 34D with a KH-9 on April 18, 1986, combined to cost the United States one and a half billion dollars with nonexistent returns on intelligence.\(^{34}\) Despite its expense, until the arrival of the space shuttle in the 1980s, if a satellite malfunctioned or its sensors failed the satellite could not be repaired and had to be written off.

Another drawback to satellite reconnaissance was that satellites were prisoners of their orbits. Since satellites had limited room for fuel, their ability to maneuver from their original course was greatly restricted.\(^{35}\) This development had several ramifications. First of all, the Soviets knew exactly where the satellite would pass and could hide their


\(^{32}\) Durch, National Interests, 44.


\(^{34}\) Burrows, Deep Black, 159.

\(^{35}\) Ibid., 152.
strategic assets from the satellites field of view. Secondly, since the Soviets knew the path of the satellite, the satellite was very vulnerable to satellite interception. As already noted, by 1971, the Soviets had demonstrated the ability to destroy satellites at an altitude of between 360 to 550 miles above the earth. Since most reconnaissance satellites operated at an altitude of 100 miles, they were well within range of the Soviet Anti-Cosmos Defense Force (PKO), the Soviet’s satellite interception group.36

The distinct orbits of satellites led to problems during the Cuban Missile Crisis of 1962 that underlined the limitations of reconnaissance satellites. When reports of medium-range Soviet ballistic missiles in Cuba reached the Kennedy administration, the president needed hard intelligence on the situation. However, the island of Cuba is long and narrow on an east-west axis while the U.S. reconnaissance satellites orbited on a north-south axis. The result was that the satellites hit the island at a right angle and the satellites were unable to gather useful intelligence. As a consequence, Kennedy was forced to use the U-2, an intelligence asset already compromised by advances in Soviet missile technology, to confirm the presence of the ballistic missiles. The limitations of satellites pushed Kennedy into a potentially disastrous situation if the U-2 was again shot down.37

Other shortcomings of the satellite reconnaissance include its ability to transmit information. The search-and-find satellite, which relayed its information to ground stations via lasers, could only transmit a portion of its photographs in the ten minutes it

36 "Soviets Achieve Low Altitude Satellite Intercept." Aviation Week and Space Technology, 112.
37 Burrows. Deep Black, 117.
was in range of the ground station.\textsuperscript{38} There were only seven ground stations in the world capable of receiving the satellites' transmissions. Furthermore, the satellite could not change missions while in orbit. Specific equipment could not be loaded on and off the satellite for certain missions. In addition, most satellites could not pause or loiter long enough over a target area for effective signals interception or telemetry tracking.\textsuperscript{39} This hindered the collection ability of satellites, especially in comparison to the contemporary airborne collectors, such as the U-2 and SR-71, which did not suffer from the same drawbacks.

For such an expensive intelligence asset, the reconnaissance satellite had plenty of limitations; these were specifically identified in the Cuban Missile Crisis. Yet, despite its pricetag and vulnerability, satellite reconnaissance has continued to become a larger part of the intelligence community. The strengths of satellite reconnaissance are both the non-invasive nature of its collection of intelligence and the method of collection. Most satellites, unlike ships, listening stations, spies, and planes, are not visible to the naked eye. As a result, states, like people, tend to forget their exact purpose, the collection of overhead intelligence. In addition, while states can camouflage or hide information from satellites, satellites do fulfill the need for overhead intelligence on the Soviet Union that had been missing since the U-2 disaster of 1960.

\textsuperscript{38} Klass. "Recon Satellites," 14.
\textsuperscript{39} Burrows. Deep Black, 154.
CHAPTER VI

SIGNS COLLECTION AND INTERPRETATION OF INTELLIGENCE

The subject of the case study on the success of the signals collection and interpretation of intelligence is the MAGIC cryptanalytical work of the Second World War. MAGIC was the codename for intelligence obtained by the United States Signal Intelligence Service (SIS) from Japanese diplomatic messages enciphered by the Purple machine. The term MAGIC was originally derived from William F. Friedman, the head of SIS. He referred to his staff of cryptanalysts as "magicians." The SIS and its sister intelligence branch of the Navy, OP-20-G or the Naval Code and Signal Section, were outgrowths of Herbert Yardley's "Black Chamber" of the 1920s. The "Black Chamber" had been breaking Japanese codes since the Washington Naval Conference of 1921-22. However, due to the policies of Secretary of State Henry Stimson, the "Black Chamber" was dismantled in the late 1920s. Yet, in the 1930s, a new signals intelligence unit was needed to monitor the activities of the bellicose Japanese Empire. The Japanese had begun to make inroads into the Asian mainland and even threatened U.S. possessions in the Pacific with their aggressive militarization. As a result, the SIS was founded in 1930.

It was not until the Second World War that the SIS and MAGIC started to pay dividends. In late 1940, even before the U.S. entry into the Second World War, the SIS, led by Friedman and the mathematician Frank B. Rowlett, broke the Japanese diplomatic

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1 Carl Boyd, Hitler's Japanese Confindant: General Oshima Hiroshi and MAGIC Intelligence, 1941-1945 (Lawrence, KS: University of Kansas Press, 1993), 1.
2 Edward J. Drea, MacArthur's Ultra: Codebreaking and the War against Japan, 1942-1945 (Lawrence, KS: University of Kansas Press, 1993), 8.
code by solving the complex Purple machine. The purpose of the Purple machine was to enciphered Japanese diplomatic radio transmissions. As a consequence, the United States Army gained the ability to monitor Japanese policy and thus garnered a fair amount to the understanding of Japanese aims in the Pacific. Yet, due to the circumstantial nature of the messages, the SIS was unable to predict or gain foreknowledge of the Japanese attack on Pearl Harbor. However, this did not prevent the SIS from playing a vital role in the Second World War.

Not only did SIS’s ability to decode the Purple machine contribute in the Pacific theatre, but MAGIC also contributed impressively in the war against Germany. Since the United States could read Japanese diplomatic messages, this meant that the U.S. retrieved communications between Tokyo and its ambassador in Berlin, General Oshima Hiroshi. Oshima’s position as ambassador and his close relationship to the German Foreign Minister Joachim von Ribbentrop and Adolf Hitler allowed him incredible access to the German war machine. Oshima arrived in Germany in 1934 as a military attaché and began to make connections with influential members of the National Socialist Party. In 1938, Oshima assumed the position of ambassador. Though he was removed briefly in 1939 and 1940, Oshima returned to Germany in February, 1941 as the Japanese ambassador and resumed his close ties with the German leadership. Joseph Goebbels, the German Minister of Propaganda, announced that “Oshima is really one of the most successful champions of Axis policies.” From his position, Oshima unwittingly gave the Allies an

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3 Boyd, Hitler’s Japanese Confidant, 2.
5 Boyd, Hitler’s Japanese Confidant, xi.
6 Ibid., 18.
inside view of the policies and decision-making of the German Reich. While the information extracted from Ultra, the British solution to the German Enigma machine, gave the British impressive intelligence advantages, it could not reveal the "play of the mind" and the "character and quality of the thinking" that the MAGIC intelligence did. Furthermore, Oshima’s telegrams provided the Allies with hard intelligence with immediate applications to the Allied war effort. George Marshall stated that "[o]ur main basis of information regarding Hitler’s intentions in Europe is obtained from Baron Oshima’s messages from Berlin reporting his interviews with Hitler and other officials to the Japanese Government." As a result, MAGIC supplied the Allies with insight on German intentions, armaments, and economic problems, along with intelligence applicable in the Pacific.

From its inception, the ramifications of the MAGIC intelligence were unprecedented. Oshima’s transmissions, recovered by MAGIC, informed the United States on a variety of concerns. The first dividend paid by MAGIC was reached even before the American entry into the Second World War. In April, 1941, Oshima gave the United States forewarning of Operation Barbarossa, launched in June, 1941. He had been briefed by Ribbentrop on the aims and scope of the German invasion of the U.S.S.R. and he immediately relayed this information to Tokyo. As a result, the United States was able to warn Joseph Stalin, the Premier of the U.S.S.R., of the imminent invasion. However, Stalin did not believe the American intelligence and the invasion resulted in tremendous

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8 Ibid., 232.
9 Boyd, Hitler’s Japanese Confidant, 29.
losses in men, material, and territory for the Soviet Union. Yet, despite this setback to the Soviet Union, Oshima again provided MAGIC with information to help the Soviet Union. Oshima revealed to SIS cryptanalysts the Japanese decision to focus their military might toward the South Pacific and honor their neutrality pact of 1940, rather than engage the Soviet Union. This intelligence allowed Stalin to shift troops from Siberia to meet the German threat. These troops arrived in Moscow in time to stall the German advance on the capital city in December 1941. As a result, the Germans were forced to fight throughout the winter on the outskirts of Moscow before they were swept away by a spring counterattack by the Soviets. The MAGIC intelligence contributed directly to the ability and effort of the Soviet Union to remain in the Second World War.

Oshima’s transmissions also provided the Americans and British with important information on their secretive and reticent ally, the Soviet Union. In addition to informing the Soviet Union of Axis developments, MAGIC informed the Americans and British of Soviet deployments, operations, and losses, through Oshima’s reporting of the details back to Tokyo. In fact, Oshima visited Hitler’s Eastern Front Headquarters to follow the progress of the invasion of the Soviet Union. Later in the war, Oshima disclosed the fact that Hitler would not broker a separate peace with the Soviet Union. This information reassured the Americans and British that the Soviet Union would remain in the war.

The MAGIC interception of Oshima’s telegrams also provided intelligence on German weapons development. Oshima and the Japanese naval attaché in Berlin devoted

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12 Boyd, Hitler’s Japanese Confidant, 50.
a significant portion of their transmissions to describing the progress of the German jet-fighter program, in which Tokyo was very interested. By the time the Arado 234 jet-fighter reached the Luftwaffe in 1944, the Allies were well informed. MAGIC provided the Americans and British with the dimensions of the Arado, its maximum speeds, its bombloads and their effect on the Arado’s speed, its rate of climb, its altitude ceiling and cruising range, its autopilot, its landing speed, and the Luftwaffe units to which the jet would be delivered.\footnote{Lewin, American Magic, 236.} MAGIC even captured an interview between the Japanese naval attaché and Professor Ernst Heinkel on the advantages of the new ME-163 jet-fighter, about which the Allies were concerned.\footnote{Ibid., 236-37.} The Allied Air Command feared that the new German fighter program would give Germany air superiority in the Allies final advance on Germany, making the operation far more costly. However, the information provided by MAGIC helped to allay these concerns and the Allied air commanders were free to focus on more pertinent issues. Combined with the intelligence gained from Ultra and radio traffic analysis, MAGIC gave the Allies an accurate picture of German jet deployment and production.

MAGIC also revealed the shortcomings of the Allies strategic bombing campaign. The contemporary belief, held by the British and American air forces, was that a round-the-clock bombing effort would bring National Socialist Germany to its knees. As a result, the British Lancasters hit Axis Europe at night and the American Flying Fortresses and Liberators bombed during the day. However, in the scope of the Allied war effort, the
bombing campaign was very costly in men and material.\textsuperscript{15} MAGIC intercepts demonstrated that the bombing campaign was not nearly as successful as the Allied "bomber barons" believed. In fact, Oshima, in 1943 and again in 1944, commented that German production was rising despite Allied bombing efforts.\textsuperscript{16} He cabled "the Germans seemed to have achieved a remarkable expansion in their production of essential weapons."\textsuperscript{17} Through the impressive efforts of Albert Speer, the German Minister of Industry, German production rose throughout the Second World War, until at least December 1944. The only consequences of the Allied strategic bombing campaign on Germany was a hardening of the German morale in support of the German war effort.\textsuperscript{18} MAGIC revealed this to the Allied Supreme Command.

The intelligence collected by MAGIC also informed the Allies of the construction of the Atlantic Wall. In fact, Oshima personally visited the building of the Atlantic Wall in late October and early November 1943. His analysis of the progress and layout gave the Allies a clear picture of Germany's command structure in Northwest Europe, the array of the defensive systems, and the number of divisions and their rotation in the West.\textsuperscript{19} His report was followed up a week later by further analysis from Lieutenant Colonel Takeichi Nishi, a Japanese military attaché, who relayed the exact defensive arrangements of Dieppe, Boulogne, Le Havre, and La Rochelle.\textsuperscript{20} This advance intelligence allowed the Allies to prepare in full for what would be the most ambitious undertaking of the Second

\textsuperscript{16} Lewin, \textit{American Magic}, 234.
\textsuperscript{17} Ibid., 236.
\textsuperscript{18} Hastings, \textit{Bomber Command}, 400.
\textsuperscript{19} Lewin, \textit{American Magic}, 237.
\textsuperscript{20} Ibid., 239.
World War, Operation Overlord.

In addition, the MAGIC information also provided the Allies with a close description of Hitler’s intentions. Since Oshima was a trusted source, he often met with Hitler and was even invited to Hitler’s secret Eastern Front Headquarters, as already noted. As a result, the Allies learned of Hitler’s obsession with the invasion of Norway, which supplied Germany with much of its mineral ore. The British were able to use this fascination to distract Hitler from the eventual invasion of Normandy. Oshima also revealed Hitler’s belief, due to Allied misinformation, that the Allies would land in the Balkans in 1943 and not Italy. This belief was reflected in Hitler’s decision to station eighteen divisions in Italy and place twenty-two divisions of the Wehrmacht (German Army) in the Balkans. Oshima had divulged the extent of the success of the deception to the Allies. Oshima even disclosed Hitler’s shift to a defensive strategy in 1943 to protect Fortress Europe.

The signal intercepts of MAGIC also exposed collaboration with the Axis by neutral states in South America and Iberia. The SIS recovered a thank you telegram from Japan to Chile for aid in infiltrating Japanese agents into the United States. More importantly, MAGIC discovered the extent of Spanish and Portuguese collaboration with Germany and Japan. The Spanish Foreign Minister, Ramon Serrano Suner, had passed intelligence on to the Axis on the departure of Allied convoys from Lisbon, the Pan-American airlines schedule, and the start of a U.S. air-ferry service to Africa. In addition, Oshima stated “through the good offices of Foreign Minister Suner we are now, in

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21 Ibid., 233.
22 Ibid., 237.
strictest secrecy, in touch with the chief of the Falangist branches in New York and Washington, D.C.

Oshima had used, in conjunction with Suner, the Spanish embassies to establish a spy network in the United States.

The MAGIC intelligence also had applications in the Pacific Theatre. The MAGIC intercepts revealed the Japanese construction of a Burmese railroad in 1942 with the slave labor of British prisoners-of-war. MAGIC also disclosed the attitudes of the Japanese leadership toward the China campaign and Japan’s tenuous relationship with the rest of the Far East. In addition, MAGIC recovered transmissions that contained the Japanese command structure in Southeast Asia and the flow of reinforcements to support the offensive at Imphal in 1944.

However, MAGIC’s most important contribution in the Pacific Theatre was the elimination of the Yanagi blockade runners. Early in the war, Germany and Japan had exchanged raw materials and heavy machinery that the other state had only in short supply. The Germans had a high demand for rubber and tin, which the Japanese had in abundance, and the Japanese needed locomotives, trucks, and heavy metals. The Axis had used the Soviet railroads to exchange the needed commodities, but the German invasion of the Soviet Union had closed that supply route in 1941. As a result, the Axis turned to the use of blockade runners, Yanagis, to exchange their goods. The use of the Yanagis by the Axis was uncovered by MAGIC intelligence in 1942. Then the Allies, using Ultra, tracked down the Yanagis and eliminated them. MAGIC, in turn, revealed the success of the

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23 Ibid., 240.
24 Drea, MacArthur’s Ultra, 5.
Allied effort when Oshima transmitted his report on the failure of the Yanagis and the switch to submarine transportation as a result.25

MAGIC also reported the success of Ultra in the interception of the Japanese merchant fleet, the Marus. The U.S. Navy, using its submarine force, targeted the Japanese merchant fleet for destruction. As early as 1942, the Japanese suffered tremendous losses in their merchant fleet and this affected their ability to resupply their far-flung empire.26 As a repercussion of the sudden shortage of merchant vessels, the Japanese were forced to abandon Guadacanal, which marked their farthest point of advance. The SIS authenticated the U.S. Navy’s success in sinking the Marus when it intercepted a cable that redirected five-sixths of all steel devoted to ship-building to the merchant navy and not the battle fleet.27

The success of MAGIC in the collection and interpretation of intelligence was the result of several factors. First of all, the secrecy surrounding the MAGIC intelligence, much like the Ultra intelligence, contributed to the success of cryptanalysts at SIS. George Marshall, the Army Chief of Staff during the Second World War, kept the access to MAGIC very restricted in order to preserve the value and continuous flow of the intelligence.28 If the Japanese were alerted to the vulnerability of their codes, they would re-encipher their transmissions immediately—both the Enigma and Purple machines took Allied codebreakers almost a decade to decipher. If the Japanese moved to a new code system, the effectiveness of U.S. cryptanalytic intelligence would be severely compromised

26 Prados, Combined Fleet Decoded, 424.
27 Lewin, American Magic, 224.
28 Boyd, Hitler’s Japanese Confidant, 96.
for years. Therefore, it was important to protect MAGIC as a secret source of intelligence. Marshall and Chester W. Nimitz, the commander in chief of the Pacific Fleet, even denied the submarine fleet access to MAGIC because they were not sure that the submarines could use the intelligence without compromising its source.\(^{29}\) The limited access to MAGIC also assured that the information would quickly reach the right hands before the opportunity to act on the intelligence expired.

Another factor that contributed to the success of MAGIC was the ignorance of the Japanese. The Japanese, like the Germans, believed that their codes were completely secure. As a consequence, the Japanese felt comfortable transmitting even the most sensitive documents. This resulted in a windfall of information for SIS throughout the war. However, the Japanese never suspected that their vaunted Purple machine had been solved, even when they had reason. In May, 1943, after the United States intercepted a set of pearls that were bound for the Spanish embassy in Washington, D.C., to finance the Japanese-Spanish spy network, Ambassador Sumer declared “[i]t is strange how quickly the United States finds out about matters such as these. I wonder if Japanese codes are safe.”\(^{30}\) In immediate response, Japanese Foreign Minister Mamoru Shigemitsu replied, “I have studied the matter from a number of angles, but I cannot believe it is the result of [Americans] having solved our codes.”\(^{31}\) The Japanese could not fathom the possibility that their codes were compromised and their transmissions were being deciphered. The

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\(^{30}\) Ibid., 242.

\(^{31}\) Ibid., 243.
repeated statement that “all is well” by the Japanese leadership only served to increase the success of MAGIC.32

Finally, the success of MAGIC was not only the result of the collection of intelligence, but the interpretation. Though this is true for all types of intelligence, cryptologic intelligence collected over great distances is especially subject to misinterpretation, which can ruin even the most concrete information. MAGIC was always used in conjunction with other sources of intelligence. The Allies did not often act on MAGIC intelligence alone. They used other methods such as radio traffic analysis, human intelligence, airborne intelligence, and even other cryptologic systems such as Ultra to come to corroborate other intelligence. As a result, the chances that MAGIC intelligence would be used effectively were greatly increased.33

The MAGIC intelligence gained by the cryptanalysts at the Signal Intelligence Service played an extremely important role in the Second World War. MAGIC was an unqualified success because it delivered valuable and beneficial intelligence to the United States war effort without great cost, even monetarily.34 Since “[o]perations in the Pacific . . . [were] largely guided by information we obtain[ed] of Japanese deployments,” according to General Marshall, MAGIC played a vital role in the direction of limited U.S. assets to the places they could be of most value.35 Therefore, MAGIC intelligence allowed Admiral Nimitz to adapt well to the late-starting position of the United States in the Second World War. As a result, Brigadier General Carter W. Clarke, the chief of the

32 Ibid. 242.
34 Even after the SIS broke the Japanese Diplomatic Code in 1940 the budget for the department remained around 100,000 dollars, not a particularly large number even for those days.
Military Intelligence Service of the War Department General Staff during the Second World War, stated that he knew "of nothing in the field of intelligence in all military history that...[equaled] the importance and value of the Oshima messages." In contrast to the success experienced by MAGIC intelligence in the Second World War, the Tet Offensive demonstrated the limitations of signals intelligence.

The subject of the case study on the failure of the signals collection and interpretation of intelligence is the Tet Offensive of January 30, 1968. The Tet Offensive was a concerted effort by the North Vietnamese Army (NVA), in conjunction with its Vietcong cadres, to spread confusion among American and South Vietnamese (ARVN) forces in Vietnam. The "General Offensive-General Uprising" plan, formulated in 1967, hoped to gain the support of discontented South Vietnamese and inflict a major defeat on U.S. ground forces. The Vietcong cadres planned to infiltrate South Vietnam's major cities, while the NVA attacked along the North-South Vietnam border. In addition, the NVA and Vietcong realized that the rear echelon forces of the ARVN and United States in South Vietnam had been lulled into complacency and a false sense of security. They hoped that their offensive would spread terror amongst South Vietnamese cities and create a psychological victory over the American forces.

The United States had warning of the Tet Offensive before January 1968. The early planning date by the North Vietnamese meant that portions of their strategy could be compromised. Starting in November of 1967, intelligence reports from National Security

36 Boyd, Hitler's Japanese Confidant, 2.
38 Ibid., 549.
39 Ibid. 560.
Agency (NSA) analysts indicated to the Military Assistance Command of Vietnam (MACV) that a series of attacks in South Vietnam were imminent. United States intelligence organizations in South Vietnam had captured documents that described the nature and location of a series of attacks throughout South Vietnam. The document stated that "[t]he central headquarters had ordered the entire army and people of South Vietnam to implement a general uprising in order to achieve a decisive victory . . . . Use very strong military attacks in coordination with uprisings of the local population to take over towns and cities. Troops should flood the lowlands. They should move towards liberating the capital city, Saigon, take power and try to rally enemy brigades." In addition, United States signals intelligence units in South Vietnam recorded a tremendous increase in radio traffic between the North and the South and on the North-South Vietnamese border. On January 17, 1968, fewer than two weeks before the Tet Offensive began, NSA signals intelligence analysts released a bulletin that warned American forces that NVA units in the province of Kantum, Pleiku, Darlac, Quang Nam, Quang Tim, Quang Ngai, and Binh Dinh were preparing to attack. As a consequence of this warning, a signals intelligence report labeled "Coordinated Vietnamese Offensive Evidenced" was released on January 25, only five days before the attack. It cited an "almost unprecedented volume of urgent messages . . . passing among every major [enemy]command." Yet, no precautions were taken by the MACV in regard to the signals intelligence bulletins. A good portion of the American troops were on local liberty

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41 Ibid., 202.
42 Ibid. 215.
for the Tet holiday, the celebration of the lunar new year, and almost the entire ARVN army was allowed leave. As a result, the Tet Offensive began with limited American forces on duty who were not even on alert.\(^{43}\)

In actuality, the Tet Offensive was a tactical disaster for the North Vietnamese forces and the Vietcong. Caught in the open streets of South Vietnam’s cities and unprepared for the ferocity of the American defense of its installations, the Vietcong forces were ravaged. Of the 80,000 troops committed to the Offensive, roughly half of them were killed. The NVA and Vietcong only managed to combine their forces in the ancient capital of Vietnam, Hue, and those soldiers met a bloody defeat. In addition, there was no general uprising by South Vietnam’s citizens in support of the Offensive.\(^{44}\)

For the United States forces in Vietnam, the outcome of the Tet Offensive was a tactical success. Not only did they decimate the Vietcong in the pitched battle they had waited four years for, but the United States Air Force devastated two full NVA divisions in the battle for Khe Sanh, an American listening post in the central Vietnamese highlands. However, the political repercussions of the Tet Offensive far outweighed the limited tactical gains and the incident was marked as a defeat.\(^{45}\)

The political ramifications of the Tet Offensive on the Vietnam War were extraordinary. By and large, the Tet Offensive was a devastating psychological blow to the American war effort in the Vietnam War. Previously, the American public was told by the Johnson administration and General William Westmoreland, the commander of the MACV, that the end of the war was close. He insisted there was “a light at the end of the

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\(^{43}\) Millett and Maslowski, *For the Common Defense*, 560.

\(^{44}\) Ibid., 558.

\(^{45}\) Ibid.
The Tet Offensive of January 30, 1968, came as a surprise to the American forces in Vietnam and strongly disapproved the Johnson administration’s conduct of the war. The American public backlash against the Johnson administration for the incredibly high casualty list surrounding Tet and the following months shocked the President. As a consequence, Lyndon B. Johnson rejected General Westmoreland’s request for 206,000 more reinforcements to pursue the battered Vietcong forces in South Vietnam. This marked the end of Johnson’s belief that the United States could win the war in Vietnam and his administration reflected that belief. Therefore, Tet marked a distinct turning point in American attitudes toward the conflict in Vietnam.

The political failure of Tet also had other consequences. Shock over the public reaction to Tet, led Johnson to curb Operation Rolling Thunder, the bombing of the Democratic Republic of Vietnam (DRV) or North Vietnam. The president had hoped this development would bring the North Vietnamese to the bargaining table, but it had the opposite effect. The North Vietnamese, now more than ever, believed that they could defeat the United States.

The failure at Tet also compounded the domestic problems of President Johnson. Johnson’s administration presided over racial conflict and riots in America’s inner cities, a fiscal policy damaged by the cost of the Vietnam War, and his “Great Society” program in disarray. Tet hastened Johnson’s decline. A few months after Tet, Johnson announced that he would not seek re-election to the Presidency. His successor, Richard M. Nixon,

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47 Millet and Maslowski. For The Common Defense, 560.
won the presidency in 1968 on a campaign of de-escalating the Vietnam War and bringing American forces back home. Therefore, the Tet Offensive marked the high point of U.S. involvement in the Vietnam War. Though the number of troops in South Vietnam would continue to rise, the American psyche and its belief in victory had been severely damaged by the Tet Offensive. From then on the American public simply desired to end the conflict as quickly as possible.49

The Tet Offensive was a failure in the signals collection and interpretation of intelligence due to a multitude of reasons. First, the failure of signals intelligence in Tet was not a consequence of a shortcoming in the collection of information, but an inadequacy in the interpretation of that information. In one example of a deficiency in interpretation, CIA analyst Joseph Hovey accurately predicted and estimated the outbreak of the Tet Offensive two months prior to the event. However, Hovey’s report ran contrary to the consensus of the intelligence community, including the senior command of the MACV, and, as a result, was not accepted as an accurate estimate.50 The CIA had fallen victim to the “intelligence-to-please syndrome” that supported the policies of the Johnson administration rather than the actual facts.51

In addition, despite previous intelligence, in the months leading up to the Tet Offensive the signals intelligence capabilities of the MACV were increasingly distracted by the activity surrounding Khe Sanh. The North Vietnamese had made it a priority to subdue the marine base at Khe Sanh and thereby inflict a major ground defeat on the U.S.

50 Wirtz. The Tet Offensive, 258.
51 Ibid., 274.
forces. To accomplish the task, the North Vietnamese built up large sums of men and material around Khe Sanh. The base at Khe Sanh was very isolated in the central highlands of South Vietnam and had been essentially under siege for several months. As a consequence, Westmoreland’s attention became focused on Khe Sanh and the heavy volume of radio traffic drew the notice of the MACV’s signals intelligence units. In contrast, the movements of the Vietcong around the South Vietnamese cities drew little attention, because their deployment produced little radio traffic in comparison to operations in the north. Captivated by the electronic images generated by the NVA, the signals intelligence analysts ignored or downgraded intelligence documents that indicated Tet preparations in the south. Therefore, U.S. radio traffic or pattern analysis was misled in the Tet Offensive. The analysts had fallen victim to the “ultra syndrome.” The analysts placed their faith in systems that had a reputation for timely and accurate information and disregarded other sources of information.

Unlike the cases Ultra and MAGIC in the Second World War, the senior leadership in South Vietnam failed to use signals intelligence data in combination with other intelligence assets. On January 28, only two days before the attack, ARVN soldiers recovered “Qui Nhon” tapes from captured prisoners-of-war. These tapes indicated that communist attacks on the cities of Saigon, Hue, and Da Nang were imminent. However,

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52 Duiker, Communist Road to Power in Vietnam, 268.
54 Wirtz, The Tet Offensive, 203.
55 Ibid., 274.
the MACV failed to compare this intelligence with what had been gathered by signals intelligence when the two conclusions would have been mutually supporting.56

There were other forms of intelligence that could have been used in conjunction with signals intelligence. Premature attacks, which constitute the clearest sign of a major offensive that can be collected by an intelligence unit, in two provinces provided the MACV with ample warning, as well as a preview of the enemy’s behavior and tactics. Yet, these attacks were not added to the previously collected intelligence that warned of a major North Vietnamese offensive around the same time—both sets of information were wasted.57

In addition to these other failures, U.S. signals intelligence also failed to process the final warnings immediately preceding the onset of the Tet offensive in a timely and effective manner. With over ten thousand uniformed personnel and over one hundred civilians involved in intelligence in South Vietnam, the capabilities to absorb data and translate it immediately existed.58 However, this quick turnaround of intelligence into policy never occurred in the days leading up to Tet. By the time the MACV intelligence center finally reached a conclusion anticipating the Offensive, the verdict came twelve hours after the decision to grant leave to the ARVN and U.S. troops. The analysts at MACV failed to overcome the lag time between the discovery of information and effective action.59

56 Ibid., 257.
57 Duiker, *Communist Road to Power in Vietnam*, 269.
As a result of the failure of the interpretation of intelligence to produce an effective warning, the Tet Offensive became a turning point in the Vietnamese War. The collection of intelligence in this incident was effective, however, the organization involved, the MACV, did not allow the information to reach the correct hands. In the Second World War, the intelligence derived from MAGIC, for example, reached General Marshall’s hands in a timely manner, and effective operations resulted. In the Vietnam War, sufficient intelligence, gathered by capable analysts, was routed away from the persons able to make competent decisions. While the U.S. Army eventually learned from its intelligence debacle in Vietnam, as the success of the Gulf War demonstrated, the failure of signals intelligence in the Tet Offensive directly contributed to the defeat of the United States in the Vietnam War.
CHAPTER VII
CONCLUSION

Over the past century the value of intelligence to a state’s ability to conduct war has been exceedingly evident. The information provided by the different types of intelligence have allowed states to focus their resources on areas where those resources might be of greatest benefit to the state. Conversely, the poor gathering or interpretation of intelligence has resulted in often disastrous consequences for states. One recent example of the unfortunate consequences of faulty intelligence is the North Atlantic Treaty Organization’s (NATO) bombing of the Chinese embassy in Belgrade, Yugoslavia, on May 7, 1999. In this instance, shortcomings in both the collection and interpretation of intelligence were evident. Initially, the CIA misidentified the Chinese embassy as the Yugoslav Directorate of Supply and Procurement, a prime NATO target and only several hundred meters away from the embassy. However, the other organizations involved in the air war on Yugoslavia, NATO, the U.S. European Command, and the Joint Chiefs of Staff, failed to identify the mistake in the information and proceeded to approve the plan. As a result of the misidentification, three people were killed in the embassy and another twenty injured, six seriously. The inadvertent bombing had other repercussions. On Sunday, May 10, over twenty thousand Chinese protesters gathered outside the American embassy in Beijing, China, and chanted anti-American slogans. The protesters, in the largest demonstration since Tiananmen Square in 1989, threw rocks and even several

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gasoline bombs at the U.S. embassy.\textsuperscript{2} At present there is no indication of the effect of the misidentification on the NATO air strikes on Yugoslav, NATO's attempt to resolve the situation in Kosovo. While the importance of intelligence to a state's ability to conduct war is apparent, there are several means for the collection and interpretation of intelligence. Each of these techniques approaches the collection and interpretation of intelligence from a slightly different angle and with differing strengths and weaknesses. As a result, these strengths and weaknesses give each technique certain nuances that make it difficult to ascertain which technique should receive the support of the limited U.S. intelligence budget. Therefore, it becomes important to determine the most effective means, through an analysis of their success and failure, for the collection and interpretation of American intelligence from 1942 to 1989.

Each of the techniques for the collection and interpretation of intelligence under investigation have certain benefits and drawbacks. Human intelligence (humint), as demonstrated by Fritz Kolbe, has the ability to recover intelligence on both strategic and tactical concerns. In addition, human intelligence can provide hard intelligence on a subject. That is, human intelligence can produce the actual documents that contain the statements of the adversary's intentions and objectives, rather than conclusions culled from the material from indirect sources such as photographs or traffic analysis. Furthermore, human intelligence sources usually have a great deal of access to information. Theoretically, if a humint source is deep enough undercover there is no limit on the sensitivity of the information that that source can deliver. Therefore, the

intelligence produced by a human source tends to be reliable, due to the primary nature of
the documents, and important, because of the access of the source.

Another benefit of human intelligence is the cost. On occasion, as in the example
of Fritz Kolbe, a human intelligence source can be extracted cheaply based on the
motivation. However, in most instances this does not happen. While painstaking effort is
required in the preparation needed to set up the source and his or her support network,
human intelligence is relatively cheap. A good human intelligence source will cost a
intelligence organization a price numbering only in the tens of thousands.\(^3\) In addition, if
the source is caught, the spy is either imprisoned or killed and if the support network is
uncovered, like it was in the Edward Howard incident, it is usually expelled from the
country. While expulsion from the country is unfortunate, this type of intelligence keeps
the cost in human lives at a minimum. In contrast, seaborne and airborne collectors often
carry far more crew, in the example of the Liberty thirty servicemen lost their lives.

Another advantage of human intelligence is the recent change of environment.
With the end of the Cold War that resulted in the dissolution of the Soviet Union and the
Warsaw Pact, the opportunities for human intelligence gains have been drastically
increased. Previously, the closed societies of the Eastern Bloc had limited the
opportunities for Western intelligence organizations to penetrate the governmental
apparatus. However, the end of the communist ideology in the Eastern Bloc and the
influx of capitalism have meant that there are far more sources willing to sell their
information. While the West has had to deal with this problem for several decades, it is a
new development for the states of the former Warsaw pact. As a result, the opportunity

\(^3\) Pincher. Traitors. 81.
for American human intelligence to play an increasingly important role in the area has presented itself.

However, there are some drawbacks to human intelligence. As Edward Howard demonstrated, a human intelligence source can be vulnerable to human frailty. Frailty means that, on occasion, a human intelligence source can develop an addiction to either drugs, sexual involvement, money, or a combination of the three. As a result, the vulnerability created by human frailty compromises the integrity of the humint source and leaves the source open to persuasion or extortion by opposing states or organizations. The result of this persuasion can be that spies change into a double-agent, an agent who nominally works for one state while feeding information that is false or relatively unimportant while in reality working for the opposing side. In the Second World War, British intelligence, over the period of several years, slowly exposed Germany’s spy network in Great Britain. However, instead of imprisoning the compromised agents, the British turned the exposed into double-agents. As a result, these agents fed the unsuspecting German Reich false information that hid the true British intentions. This double-agent network created by British intelligence was instrumental in disguising the Allied preparations for Operation Overlord, the Allied invasion of Normandy in June, 1944. The threat of double agents is an ever present concern in human intelligence.

Another limitation of human intelligence is the recovery of information. Since the intelligence gathered is done by operatives in deep cover, the information needs to be passed secretly back to the state supporting the agent. This transfer of intelligence also creates vulnerability. First of all, the transfer at least doubles the number of people involved in the operation and this increases the chance that the operation might be
compromised. The fewer people who know about an operation the smaller chance that someone will expose the network. Secondly, it is at the point of transfer, where the agent carrying the sensitive information meets the representative of an opposing state, that the agent is most vulnerable. Therefore, the transfer of information by human intelligence sources can result in the compromising of that source. The vulnerability of human intelligence sources to compromise, in a multitude of ways, is the primary drawback of humint. However, as it has been demonstrated, to a certain extent all of the collectors are vulnerable to the human factor, some more than others. Since the human factor increases the potential for failure, the extent to which each collector is vulnerable to the human factor is important in assessing the effectiveness of the collector.

There are also relative benefits and costs associated with the shipborne collection and interpretation of intelligence. Though shipborne intelligence can on occasion provide visual information, the primary type of intelligence recovered by shipborne collectors is electronic intelligence (elint). While electronic intelligence cannot capture the same quality of information as human intelligence, elint can be very valuable. For the most part, the elint recovered is derived from monitoring the enemy’s deployments and defenses via radar and other electronic listening devices. Only on rare occasions can shipborne intelligence deliver information on an adversary’s intentions, such as the Halibut’s cable tap. In most instances, information has to be interpreted from the intelligence gathered, such as signals from an enemy’s radar installations or missile sites. This information, provided by photo or analysts, is not as direct as the primary documents gained by human intelligence. The interpretation and analysis involved in the process, the human factor,
increases the possibility of mistakes. Therefore, the intelligence extracted, electronic in nature, is not as valuable as that extracted by human intelligence.

There are also several distinct drawbacks to the shipborne collection and interpretation of intelligence. A large crew is needed to maintain an intelligence ship and its collection and interpretation abilities. In addition, the cost required to outfit a surface ship or submarine with the technology to retrieve electronic information is tremendous, often running into the several tens of millions of dollars. As a result, if a vessel is compromised, because of its intelligence capabilities, like the Liberty in 1967 and the Pueblo in 1968, casualties can potentially mount into the hundreds. Even submarines are vulnerable to loss. The explosion of the USS Scorpion in 1967 and the Soviet Golf II in 1968 attest to this vulnerability. These incidents have historically made shipborne intelligence failures costly in dollars and human lives.

In addition, shipborne intelligence also suffered from several other limitations. Since intelligence vessels were usually not attached to the U.S. battle fleets, they were vulnerable to attack or seizure. This was proved by the Liberty and Pueblo incidents. However, the increased use of submarines to collect intelligence has diminished this vulnerability considerably. Furthermore, ships are visible on radar and to the naked eye. This development restricts some of their ability to collect valuable information. If an enemy detects an intelligence vessel or is aware of the presence of one, the enemy will hide or camouflage anything it considers particularly sensitive. In comparison, one of the strengths of human intelligence is that the adversary is usually unaware of the presence of the source. The appearance of intelligence vessel off an opponents coast, in full view, may

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4 Sontag and Drew, Blind Man's Bluff, 90.
provoke an opponent to attack or chase off the vessel. The intelligence ship is restricted by territorial waters and, as a result, must remain at least three miles off the coast in international waters (Some states have claimed twelve miles for the limits of their territorial waters). A breach of this international law could be considered an act of war by some states. Likewise, a ship is restricted to the ocean in its movement. This hinders the ships ability to collect information on targets considerably inland and it means that shipborne collection can only be applied in certain situations. Lastly, since most shipborne collection relies upon electronic intelligence, intelligence vessels are left vulnerable to jamming, which prevents any collection of intelligence. Therefore, the shipborne collection and interpretation of intelligence suffers from several severe and restrictive limitations.

The airborne collection and interpretation of intelligence is hindered by several of the same concerns as shipborne. After the U-2 incident of May, 1960, the airborne intelligence collectors of the U.S. had to respect the boundaries of its most advanced adversaries, China, the Warsaw Pact, and the Soviet Union. With that development the U.S. lost its ability to gather direct overhead intelligence on its opponents. As a consequence, the U.S. was unable to monitor effectively the progress of either the Soviet or Chinese rocket programs. In addition, the U.S. aircraft were vulnerable to attack, due to the advance surface-to-air missiles, in much the same manner as their ocean-going counterparts. Unlike human intelligence, the present environment acted to restrict opportunities for airborne intelligence. The U.S. spyplanes also could be tracked on Soviet radar and stimulate the Soviet Union to react hostilely in the same way that the shipborne
collectors did. While the U.S. remedied some aspects of the situation with the
development of the SR-71 Blackbird, it still could not risk overflights of those countries
with advanced air defenses.

Another drawback to the SR-71 Blackbird was its mission profile. The SR-71 was
manufactured specifically to stay ahead of Soviet missile innovations and collect
intelligence on the Soviet Union. Yet, the SR-71, for a variety of forementioned reasons,
did not completely restore the overhead intelligence capacity that the U.S. enjoyed in the
late 1950s. As a result, the SR-71 is not an example of a complete intelligence success.
However, with its technological capabilities and unblemished service record, the SR-71 is
the most successful airborne collector of intelligence in the U.S. arsenal.

However, one advantage of the SR-71 and the U-2 was that it did not endanger
more than the people aboard. If a plane was lost or shot down, losses were light in
comparison to shipborne intelligence. The U-2 carried only its pilot while the SR-71 held
only a pilot and a reconnaissance systems officer. Since the success and failure of the
collector is defined by the benefit or cost of an operation, this is an important distinction.
Due to the fact that seaborne collectors carry far more crew, the potential for a
exceedingly high cost to an seaborne collector is greater than that of an airborne collector.
As a result, the airborne collector is an more efficient type of collector than a seaborne in
this aspect.

The benefit of airborne intelligence collection and interpretation was its mission
flexibility. The U-2 and later the SR-71 could be readied to fly a photo-reconnaissance
mission within minutes and over a variety of landscapes. This capability provided U.S.
decisionmakers with the benefit of essentially real-time intelligence in battlefield situations.
The abilities of the SR-71 were especially important over continents such as Africa or South America where the plane could overfly states with impunity. The U.S. even considered returning the SR-71 to service in the Gulf War, two years after its retirement, because the U.S. forces in Operation Desert Storm did not have an intelligence asset capable of providing the type of immediate information that airborne intelligence collectors provided. Therefore, in comparison to the shipborne collection and interpretation of intelligence, the airborne gatherers returned fundamentally the same information at roughly the same cost and with similar limitations, but risked far fewer service people.

With the overflights of airborne intelligence collectors limited by air defense advances, the Department of Defense, along with U.S. intelligence organizations, increasingly turned to satellite reconnaissance. The satellite, though susceptible to anti-satellite missiles, was far less vulnerable than either shipborne or airborne collectors. The high orbit of U.S. reconnaissance satellite placed it out of the direct line of sight of its intended targets. As a result, the satellite was a far less provocative collector than the ship or airplane that appeared on Soviet radar along the Soviet border. The satellite also did not have the limitations of state’s boundaries to which the shipborne and airborne harvesters were subject. As a result, the satellite could accumulate direct overhead imagery of its targets and not violate international law or run the risk of being attacked.

However, the satellite did have several other limitations. Satellite reconnaissance, like shipborne and airborne, specifically collected electronic intelligence. While electronic intelligence hints at what an opponent intends, the information does not tend to be as

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5 Ibid., 260.
concrete and revealing as the documents and intelligence recovered by human intelligence. The satellite collection of intelligence could also not avoid the human factor. Elint still suffers from the need for interpretation by analysts. The more information is subjected to interpretation, the greater the chance that the information will be distorted to produce an incorrect conclusion.

In addition, the orbits of satellites make their overpasses fixed and predictable. This development hinders the collection of data through satellite imagery in two ways. First, traveling along a known path, adversaries can chart the progression of satellites in order to conceal the object that the satellite aims to capture on film or radar. Secondly, the predictable pattern of the satellite’s movement, restricted by the small amount of fuel for maneuver that the satellite is able to carry, makes it vulnerable to anti-satellite missile systems. The fact that an opponent knows where and when a satellite will be makes the job of destroying a satellite far easier.

The cost of satellite reconnaissance is also prohibitive in the search for complete effectiveness in the collection and interpretation of intelligence. By 1980, an individual satellite could cost up to five hundred million dollars to purchase. Furthermore, by 1980, the Aeronautics and Astronautics report of the president revealed that around 9.4 billion dollars a year were spent by the Department of Defense on satellite reconnaissance. In addition, as shown by several dramatic failures, frequent technical problems have resulted in failed launches and damaged satellites that have added to the cost of satellite reconnaissance without any intelligence returns for the investment. Compared to the

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6 Drouch, *National Interests and the Military Use of Space*, 44.
accomplishments that human intelligence achieved at far less cost to the budget, satellite reconnaissance seems to be cost prohibitive in light of the information it has produced. However, the safe and reliable nature of satellite reconnaissance assures it of support by the intelligence organizations of the United States, while airborne and shipborne collector have been downsized.

The benefits of the signals collection and interpretation of intelligence are remarkably similar to those of human intelligence. Like human intelligence, signals intelligence gathers hard intelligence on a variety of subjects. Cryptology, used by American intelligence in the World Wars, Korea, and Vietnam, deciphered thousands of sensitive enemy documents and transmissions covering all aspects of their enemies' war efforts. The two famous instances of American cryptologic success were use of Ultra and MAGIC in the Second World War. Along with providing technical intelligence on innovations, the American cryptanalysts revealed enemy intentions, grand strategy, tactics, and deployments as well as enemy problems and frustrations. The information provided by signals intelligence exposed documents that often required little analysis but, rather, openly disclosed enemy thinking. The U.S. intelligence organizations then had merely to place the document in the correct hands for effective action to be taken.

When signals intelligence failed, like in the Tet Offensive of 1968, it was strictly due to interpretation shortcomings and not collection. In Tet, the U.S. intelligence organizations in Vietnam had accurate intelligence in their hands and several analysts came to the correct conclusion. Yet the senior military leadership in Vietnam chose to stall on the verdict because it did not fit a previously arranged consensus on the war. Therefore, the deficiency of the intelligence existed in the hierarchy of U.S. military leadership in
Vietnam and not in the nature of signals intelligence.

However, signals intelligence also has other uses. The U.S. Signals Intelligence Service has historically plotted the amount of enemy radio traffic to reveal a build-up of enemy forces or material. Since large movements of men and material often involve close communication, a large amount of radio traffic could indicate a potential offensive or marshaling point or even a target of opportunity such as a supply depot.

The safe nature and cost of signals intelligence are also a benefit. The codebreaking of the Second World War occurred often in safe basement offices of U.S. military installations. If signals intelligence is compromised, it is only the flow of information that is endangered and not an actual human being. In addition, the equipment provided to signals intelligence is not lost or damaged and can be re-applied to solve the next cipher. Furthermore, the monetary cost of signals intelligence is relatively low. The success of cryptology and traffic analysis is a result of the intelligence of its human component. While technological advances have necessitated expensive equipment, the cost of these computers and other machines runs in the millions and not the billions.

There are also several limitations to signals intelligence. To be effective, signals intelligence requires operations intelligence. If the opponent does not use radio waves to transmit documents then signals intelligence is ineffective. Similarly, if an opponent uses hard-wired phone lines, like those that existed in Western Europe, to pass information, signals intelligence is again rendered unproductive. Signals intelligence, however, was particularly effective in the expanses of the Russian steppes where phone lines did not exist in great numbers and the German army was forced to rely on radio transmissions.

The effectiveness of signals intelligence can also be harmed by the human element.
If a member of a signals intelligence unit exposes the success of his or her organization in signals collection and interpretation, much like Herbert Yardley did in the 1920s, than the further success of that collection source is jeopardized. After Yardley revealed the success of American cryptologists in breaking Japanese codes in his book the “Black Chamber,” the Japanese re-enciphered their codes in a different system that was not completely solved until the eve of the Second World War, over a decade later.\(^8\) Much like human intelligence, signals intelligence is dependent upon the integrity of its operatives much more so than the other intelligence collectors.

Therefore, the most effective and efficient form for the collection and interpretation of intelligence information, due to the evidence presented, is signals intelligence. Both signals and human intelligence provided information that involved both strategic and tactical concerns. At the same time, both of these collectors came at a relatively inexpensive monetary cost, especially important now in the age of Defense Department budget cuts. However, signals intelligence is a far safer endeavor. If the source of information in signals intelligence is compromised, the conduit of information is shut-off or contained while the adversary changes his or her codes or behavior. If the source of information in human intelligence is compromised, the exposed agent will be subject to either a good portion of his or her life in prison or summary execution.

Furthermore, the compromise of a human intelligence agent is far more likely to have repercussions on the United States than an opponents’ discovery of the penetration of their codes. In the latter instance, it is far harder to prove that a code has been deciphered.

and far more embarrassing. In contrast, the capture of an enemy agent could boost a state’s reputation.

On balance, the shipborne, airborne, and satellite collectors of intelligence have too many drawbacks to be considered efficient. The type of intelligence collected by these means, electronic intelligence, does not have the same ramifications as the other two gatherers. Though as demonstrated by the Halibut, seaborne collectors can return more than secondary intelligence from electronic means. However, on most occasions this type of intelligence find is not available to seaborne collectors. In addition, the intelligence gathered by human and signals intelligence was translated into effective action than the other collectors. In addition, the human factor’s tendency to degrade the effectiveness of intelligence is also more prominent among sources that collect electronic intelligence.

However, it is clear that a relative balance must be struck amongst the different forms of collection. In several instances, the information collected by the different means was combined to reach a similar, but more complete conclusion on the situation at hand. In contrast, during the Tet Offensive, several different forms of intelligence pointed toward the imminent North Vietnamese attack. Yet, each of these pieces of information existed in a vacuum and the pieces were never used together to form a cogent theory on the immediate future.

As military and intelligence budgets continue to shrink, the onus will be on intelligence collectors to become more and more efficient. It will be interesting to monitor the choices that the intelligence community makes to determine its priorities. As the recent incident in Belgrade, Yugoslavia, indicated, the senior intelligence leadership must
choose shrewdly because intelligence shortcomings often result in tragic mistakes with considerable international ramifications.
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PRIMARY SOURCES


SECONDARY SOURCES


VITA

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