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The U-2 plane

The U-2, OXCART, and the SR-71

U.S. Aerial Espionage in the Cold War and Beyond

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Today, October 16, 2002, the National Security Archive publishes on the Web a comprehensive documentary history of U.S. aerial espionage in the Cold War and beyond. This publication comes 40 years to the day after CIA analysts briefed President John F. Kennedy on what is probably the most famous overhead reconnaissance photograph of all time. **The image** - snapped from 70,000 feet by a U-2 reconnaissance aircraft - proved conclusively that the Soviet Union was installing medium-range ballistic missiles in Cuba, touching off the most dangerous episode of the Cold War: The Cuban Missile Crisis.

This Electronic Briefing Book includes 50 declassified documents from the CIA, the White House, the Department of Defense and other agencies, tracing the bureaucratic turf battles and intelligence requirements that shaped the development of America's aerial reconnaissance program throughout the Cold War and into the 21st century.

One of the most significant consequences of the work of the Wright brothers was the use of aircraft to conduct reconnaissance of the battlefield during war, and of foreign territories in peacetime. During World War I aerial reconnaissance played a significant role in supporting German and British combat operations, including the Battle of the Somme. In the interwar years Britain and Germany conducted covert reconnaissance flights over each other's territories. When World War II came, the United States, Britain, Germany, and Russia all conducted extensive aerial reconnaissance operations - some in support of battlefield operations, others in support of strategic targeting.(1)

World War II witnessed the introduction of a second type of aerial reconnaissance. On March 6, 1943, a specially equipped B-24 overflew the Japanese-held island of Kiska in the Aleutians. The objective of the mission, which was successful, was to intercept the emanations of the Japanese radars on the island.(2) As a result, such flights, known as "ferret" flights, became commonplace in the southern Pacific.

In the aftermath of the defeat of Germany and Japan, the United States soon found itself faced with a former ally turned adversary. That the Soviet Union had suffered massive devastation during the war did not eliminate it as a potential threat, given its size and the weakness of any collection of European nations. Thus, by the late 1940s, the U.S. was employing modified bombers to try to penetrate the veil of secrecy that had been established by the Soviet government around activities, particularly military activities, in the Soviet interior. Most missions involved peripheral flights near Soviet borders. Oblique photography allowed aircraft to bring back photos of facilities inside, but not too far inside, Soviet borders. Electronic reconnaissance missions brought back signals, which provided data on the existence of Soviet radars at particular locations, as well as their technical characteristics (including pulse duration, pulse repetition, and frequency) that could be used in electronic warfare operations.(3)

In addition to peripheral missions there were a number of actual intrusions into Soviet territory - in some cases to photograph targets that could not be imaged from the periphery, in other cases to induce the Soviets to turn on radar systems about which the U.S. was eager to collect intelligence. In July 1956, the ability of the U.S. to penetrate Soviet territory in the pursuit of intelligence, particularly photographic intelligence, took a big step forward when the CIA's U-2 successfully completed its first missions over the Soviet territory. The U-2 was not a modified bomber, but had been designed for its role in overflying Soviet territory. Its virtues included the ability to fly at over 70,000 feet, which, for several years, kept it out of harm's way from MiGs and anti-aircraft missiles.(4)

Less than two years before its first flight over Soviet territory (there had been reconnaissance missions over Eastern Europe in the spring), a November 1954 letter from James Killian and Edwin Land, scientific advisers to President Eisenhower, had urged Director of Central Intelligence Allen Dulles to pursue the development of the exotic spy plane being proposed by Kelly Johnson of Lockheed. Given Eisenhower's strong support of the project Dulles established the AQUATONE program to develop such a plane, and delegated the responsibility for managing the program to the CIA's Richard Bissell. Bissell's assistant would be an Air Force general, Osmond Ritland, and the Air Force would play a major role in the program. It would soon acquire its own fleet of U-2s for peripheral reconnaissance and nuclear sampling missions, and, in 1974, assume control of the CIA U-2s.(5)

Through the end of April 1960, there had been 23 U-2 overflights of Soviet territory - all successful. However, on May 1, Francis Gary Powers and his U-2 would be knocked out of the sky by the shock wave from an anti-aircraft missile that exploded near his aircraft. The Soviet success in violently terminating Powers' mission also terminated the use of the U-2 to overfly the Soviet Union. But the end of Soviet overflights did not end the U-2s role as a major intelligence collector - overflights of other nations, including Cuba and Israel, yielded valuable intelligence while the Air Force continued its employment of the planes for both peripheral and nuclear sampling missions.(6)

In 1958, well aware that the U-2 could not continue to overfly the Soviet Union with impunity, and in the absence of any guarantee that satellite reconnaissance programs would be successful, President Eisenhower approved CIA plans to build a successor to the U-2 - one that would fly higher and several times faster than the U-2. The OXCART program would yield a exotic-looking aircraft capable of flying at 100,000 feet at a speed of about Mach 3.1 (2,170) mph. For a variety of reasons, the plane would not make its first operational flights until 1967 and the program would be terminated in 1968. It never flew over Soviet territory due to the success of satellite reconnaissance programs as well as the unwillingness of U.S. leaders to take the risks involved in any overflights.(7)

OXCART was terminated in favor of an Air Force modification - the SR-71. That plane carried a 2-man crew rather than just a pilot and flew somewhat slower (Mach 3.0) than OXCART - although it carried a greater variety of sensors. The replacement of the OXCART with the SR-71 in 1968 was the result of a multi-year bureaucratic battle involving the CIA, Air Force, National Reconnaissance Office, and Bureau of the Budget. From 1968 till the termination of the SR-71 program in 1990, the SR-71 would be the most technologically advanced reconnaissance aircraft operated by the United States. Although there was significant Congressional pressure to revive the SR-71 program during the 1990s, that pressure was consistently resisted by senior Department of Defense officials.(8)

Note: The following documents are in PDF format.
You will need to download and install the free Adobe Acrobat Reader to view.

Document 1

J.H. Carter, Strategic Reconnaissance, November 30, 1953, Top Secret, 3 pp.
Source: Donation

This memo, written by J.H. Carter, the Lockheed Corporation's assistant director for development planning, notes that then current aircraft would be suitable for aerial reconnaissance after the outbreak of hostilities. Carter identifies several fruitful areas for further work, including the production of sensors that operate outside the visible-light portion of the electro-magnetic spectrum (e.g. infrared, radar) and improving the ability to process the "tremendous amount of raw data collected from all intelligence sources." In addition, he notes the "urgent need for the development of a pre-D-Day reconnaissance systems." He reports that the most practical means of acquiring intelligence about the Soviet Union would be through overflights and provides some of the characteristics of the type of aircraft that would be required - including the ability to fly at extreme altitudes.

Document 2

J.H. Carter, Strategic Reconnaissance and Intelligence, n.d., Top Secret, 5 pp.
Source: Donation

This memo, from Lockheed assistant director for development planning J.H. Carter, reviews the background of Air Force thinking with respect to strategic reconnaissance and intelligence operations. It analyzes the problems associated with pre D-Day reconnaissance, and notes two principal categories - broad area search operations aimed primarily at identifying areas of unusual activity, and operations designed to gather specific and detailed information concerning individual target areas. Carter also observes that thinking among Air Force planners "is that a specially designed, exceptionally high performance manned aircraft may be a practical vehicle..."

Document 3

Letter, Edwin Land to Allen Dulles, November 5, 1954 w/att: Memorandum for the Director of Central Intelligence, Subject: A Unique Opportunity for Comprehensive Intelligence- A Summary, November 5, 1954, 6 pp.
Source: Dwight D. Eisenhower Library

The letter and memorandum, written in Land's capacity as chairman of the intelligence committee (Project 3) of President Dwight D. Eisenhower's Technological Capabilities Panel, urged a reluctant Director of Central Intelligence, Allen Dulles, to pursue development of a special high-altitude aircraft to overfly the Soviet Union and obtain detailed photographs of Soviet installations. The ultimate result would be a CIA-Air Force program, first known as AQUATONE by the CIA, that resulted in the development (by Lockheed's Skunk Works) and deployment of the U-2 aircraft, which remains in operation today.

Document 4

United States Air Force and Central Intelligence Agency, Organization and Delineation of Responsibilities: Project OILSTONE, August 2, 1955, Top Secret, 3 pp.
Source: Freedom of Information Act Request

In late 1954, President Eisenhower approved the project supported by Land, assigning the Central Intelligence Agency to take the lead in overseeing Lockheed's development of what became the U-2. While the CIA could serve as project manager it required Air Force support (including the provision of pilots and their training) and the CIA official charged with supervising the project had an Air Force deputy. This agreement, signed about the same time that the first U-2 was being test flown, specified the division of responsibilities between the two organizations. OILSTONE was the Air Force designation for the project.

Document 5

Herbert I. Miller, Memorandum for: Project Director, Subject: Suggestions re Intelligence Value of AQUATONE, July 17, 1956, Top Secret, 3 pp.
Source: National Archives, CIA 2000 Release.

On July 25, 1955, less than eight months after Lockheed had been given official approval to begin the project, the first U-2 aircraft was delivered to the secret Nevada test site that would become known as Area 51. On July 4, 1956, after overflights over Eastern European countries, the first U-2 targeted on the Soviet Union photographed Leningrad's naval shipyards, as well as several major military airfields. The following day, another mission overflew Moscow as well as a number of airfields in an attempt to determine the threat from Bison heavy bombers. The intelligence from these early U-2 missions would be crucial in eliminating fears of a "bomber gap."

Three additional flights followed, on July 9 and 10. Also, on July 10 the Soviet Union, whose radars proved more capable of detecting the flights than expected by the CIA, filed their first protest note concerning the intrusions. As a result, later that day, President Eisenhower ordered a halt to all overflights until further notice. This memo, by CIA official Herbert Miller, summarizes the intelligence value of the AQUATONE flights and argues that the danger to the United States of stopping the flights was greater than that of continuing them.

Document 6

A.J. Goodpaster, Memorandum for the Record, June 2, 1960, Top Secret, 1 p.
Source: Dwight D. Eisenhower Library

In 1958, anticipating that the U-2 would have a limited lifespan in terms of its ability to overfly Soviet territory without incident, President Eisenhower had approved a new CIA-led program to develop a successor the U-2. The codename given to the project - OXCART - was deliberately deceptive, as the projected successor was to fly not only higher than the U-2 (in the vicinity of 100,000 feet) but far faster - over Mach 3 (2,100 mph) in contrast to the U-2 speed of less than 500 mph. This memo, written a month after the shootdown of Francis Gary Power's U-2, summarizes Eisenhower's attitude toward the project. While he approved continuing with the project he did not consider it a high priority and suggested that his advisers might conclude that it should be cancelled.

Document 7

Notes on [OXCART], June 3, 1960. Secret, 1 p.
Source: Dwight D. Eisenhower Library

This memo, probably written by Eisenhower aide Andrew Goodpaster, sets forth some of the issues involving the OXCART project in the light of the May 1 U-2 incident. It discusses the timing of the first test flight and operational use, the issue of vulnerability to air defenses, and basing considerations, and security requirements.

Document 8

CIA, Situation Estimate for Project CHALICE - Fiscal Years 1961 and 1962, March 14, 1960. Top Secret, 15 pp.
Source: National Archives, CIA 2000 Release

Despite Eisenhower's concerns about the consequences of a loss of a U-2 over the Soviet Union, he did approve further missions after his initial, July 1956, order to halt the flights. During a 23-day period in August 1957, U-2s conducted Operation SOFT TOUCH - seven overflights of the Soviet Union and two of the People's Republic of China.(9) This activity, particularly with regard to the Soviet Union, was atypical. Thus, Francis Gary Powers May 1, 1960 overflight would be the 24th and last of Soviet territory. This situation estimate, prepared a little less than two months before the shootdown, was intended to provide "guidance for the planning and conduct of project operations during the FY1961-62 time period." In addition, it provides a concise history of the program (which had been renamed CHALICE in place of AQUATONE) and an assessment of the intelligence desired from future flights.

Document 9

CIA, Future of the Agency's U-2 Capability, July 7, 1960, Top Secret, 11 pp.
Source: Dwight D. Eisenhower Library

The May 1, 1960 incident resulted in a halt of U-2 overflights of Soviet territory. By that time the agency's U-2 program had conducted overflights of a number of other countries and areas - including the People's Republic of China, Indonesia, and the Middle East. It had also been used to conducted peripheral reconnaissance missions of the Soviet Union. However, this July 1960 document considered the question of whether the CIA should maintain a U-2 capability or cede the mission to the Strategic Air Command, which had been employing U-2s for nuclear air sampling and peripheral reconnaissance missions. The study explored a number of issues - including intelligence requirements, U-2 vulnerability, basing needs, and cover arrangements. It proposed that the CIA maintain "a greatly reduced and redeployed U-2 capability." The CIA would, in fact, continue operating U-2s through 1974, conducting peripheral reconnaissance missions as well as flights over the PRC, Cuba, the Middle East, Vietnam, and several other Southeast Asian nations.

Document 10

CIA, Debriefing of Francis Gary Powers, February 13, 1962, Top Secret, 31 pp.
Source: National Archives, CIA 1998 Release.

Francis Gary Powers parachuted to earth after his U-2 had been shot down and was turned over to Soviet authorities. A well-publicized trial followed and he was sentenced to 10 years "deprivation of liberty," the first three in a Soviet prison, but was exchanged in 1962 for Soviet spy Rudolf Abel.(10) Upon return to the United States, Powers was debriefed extensively. This is one of a number of transcripts from his debriefing. Among the topics discussed are the moments before and after a Soviet surface-to-air missile detonated near his plane, bringing it, and him, down.

Document 11

McGeorge Bundy, National Security Action Memorandum No. 208, Cuban Overflights, December 6, 1962 w/att: Guidelines for the Planning of Cuban Overflights, November 30, 1962, Top Secret, 3 pp.
Source: John F. Kennedy Library

An October 14, 1962 U-2 mission provided conclusive proof that the Soviet Union was deploying medium-range ballistic missiles to Cuba. That discovery led to the showdown between the US and USSR over the missiles - which led to a Soviet pledge to withdraw all the missiles in Cuba. The U.S. carefully monitored, with U-2s and other intelligence systems, Soviet implementation of that promise. In NSAM 208, national security adviser McGeorge Bundy notifies John McCone, the director of central intelligence, that President Kennedy has approved the attached memo with regard to overflights of Cuba. The memo, written about a month after the Soviet pledge, specifies the type of information needed from continued overflights. Not surprisingly, the first priority related to the issues of offensive weapons in Cuba. Other requirements included intelligence on Soviet activities in Cuba and the general situation in Cuba. It also expresses a U.S. Government preference for use of high-altitude (i.e. U-2) overflights rather than low-altitude flights.

Document 12

J.V. Charyk, Memorandum for the Secretary of Defense, Subject: Reconnaissance Aircraft, January 13, 1963, Top Secret, 3 pp.
Source: Freedom of Information Act Request

At the time Joseph Charyk wrote this memo he was director of the National Reconnaissance Office, which had been established in September 1961 to coordinate the research and development, production, and operation of satellite and aerial reconnaissance systems used in overflights of the Soviet Union and other nations. In his memo, Charyk notes that part of the Air Force's requirement for future reconnaissance aircraft includes development an aircraft similar to the CIA's A-12, produced by the OXCART program. The memo goes on to provide a program plan for development and procurement of the modified A-12, designated the R-12. The R-12 would eventually become the SR-71.

Document 13

National Photographic Interpretation Center, IPIR: Brass Knob Mission 3536, 5 April 1963, April 1963, 20 pp.
Source: National Archives, CIA 2000 Release.

This report provides NPIC's analyses of the imagery returned from the April 5, 1963 U-2 mission over Cuba ("Brass Knob"). In keeping with McGeorge Bundy's guidance from November 30, 1962,a substantial focus of this mission focused on intermediate- and medium-range ballistic missile sites that were at the heart of the Cuban Missile Crisis. With respect to those sites, the NPIC report contains statements such as "Site appears abandoned. No military activity observed." The report also contains the analysis of imagery of surface-to-air missile sites, airfields, ports, and military camps.

Document 14

Letter, Secretary of the Air Force Eugene Zuckert to General Bernard Schriever, April 8, 1963, w/att: Procurement and Security Provisions for the R-12 Program, Top Secret, 3 pp.
Source: Freedom of Information Act Request

Attached to the letter from the Secretary of the Air Force to Bernard Schriever, head of the Air Force Systems Command is a key memo relating both to the history of the NRO and the R-12/SR-71 program. It notes that the R-12 program has become the responsibility of the NRO, with the responsible component designated "Program D." It also provides guidance on security, financial and contracting matters, and reporting - as well as participation of the Strategic Air Command. The KEDLOCK program, referred to in the section on security, was the program to develop an advanced fighter version of the A-12.

Document 15

Letter, General Bernard Schriever to Eugene M. Zuckert, July 11, 1963, Top Secret, 2 pp.
Source: Freedom of Information Act Request

This memo represents an early attempt by the Air Force to gain control over all the OXCART related programs, except OXCART itself, being managed by the CIA and NRO. In his letter to the Air Force Secretary, Air Force Systems Command head Bernard Schriever notes that the program plan that had been prepared would transfer Program D (the component of the NRO responsible for the R-12/SR-71), the AF-12 (the fighter version of OXCART), the R-12 (the version of the A-12 being procured by Program D) and Tagboard (the program to produce D-21 drones, drones that were to be carried to their launch point by A-12s). The letter also discusses the change in security that might follow the transfer, and the circumstances that might result in such a change.

Document 16

National Photographic Interpretation Center, Mission [GRC-169], 23 August 1963, August 1963, Secret, 29 pp.
Source: National Archives, CIA 2000 Release.

In 1961, the CIA had arranged with the Nationalist Chinese government on Taiwan to provide pilots to fly U-2 missions over mainland China. Those missions began in 1962. Among the priority targets were known or suspected Chinese nuclear facilities. This report provides NPIC's interpretation of imagery obtained by a late August 1963 U-2 mission, flown over the People's Republic of China by U.S-trained, Nationalist Chinese pilots (known as the "Black Cat Squadron"), flying from Taoyuan, Taiwan. The apparent designation for such missions, at least in 1963, was "Church Door." The targets imaged included a missile launch site, an arsenal, airfields, aircraft manufacturing facilities, ports, and industrial complexes.

Document 17

Diary Notes, September 27, 1963, Secret, 3 pp.
Source: National Archives, CIA 2000 Release.

These diary notes, written by Col. Red White, the CIA's Deputy Director/Support include a reference to the disclosure at a CIA Executive Committee meeting that the editor of *Aviation Week* had told the director of the Defense Intelligence Agency (Lt. Gen. Joseph Carroll) that he had solid information about the existence of a successor to the U-2. Although the editor promised to refrain from publication as long as everyone else did, DCI John McCone noted that "OXCART is going to blow sooner or later." He then asked several key aides to study the issue.

Document 18

Memorandum for the Record, Subject: Memorandum of Discussion at Luncheon - September 15th, Secretary Rusk's Dining Room, September 17, 1964, Secret, 4 pp.
Source: Donation

This memo, reporting on a luncheon meeting of the secretaries of state and defense (Rusk and McNamara), the national security adviser (Bundy), and the director of central intelligence (McCone), deals with both proposed U-2 and OXCART missions. Item 1 apparently deals with a proposed U-2 mission whose purpose would be to provide specific information as to when the People's Republic of China would first detonate an atomic device and reports that Rusk felt that such advance information would be of little value to him. Item 5 reports on SKYLARK - proposed OXCART flights over Cuba. SKYLARK represented one of a number of unsuccessful proposals to employ the OXCART on operational missions. Approval for OXCART missions would not be forthcoming until 1967.(11)

Document 19

Directorate of Science and Technology, Preliminary Report, U-2 Reconnaissance Mission C015C, Flown 8 January 1965, February 8, 1965, Top Secret, 9 pp.
Source: National Archives, CIA 2000 Release.

In 1964 and 1965, Nationalist Chinese pilots made several attempts to fly a U-2 equipped with an infrared scanner over nuclear facilities at Baotou and Lanzhou to determine if they were active. The first two missions, conducted in 1964, were aborted. However, mission C015C, targeted on Lanzhou was conducted successfully and led to the determination that the facility was operational.(12)

Document 20

Lt. Colonel [Name deleted], Memorandum, Subject: U-2 Characteristics, July 16, 1965, w/att: Desired Characteristics of New Model U-2, Top Secret, 3 pp.
Source: National Archives, CIA 2000 Release.

This memo and its attachment, prepared by the CIA's Office of Special Activities, looks ahead to the requirements for an improved version of the U-2. The attachment specifies 23 different characteristics the modified plane should possess. Areas covered by the memo include, inter alia, range, altitude, maneuverability, photographic capabilities, positioning accuracy, and read-out capabilities. A new U-2, the U-2R, with many of the characteristics specified, would become operational in 1968.(13)

Document 21

Brig. Gen. Jack C. Ledford, Briefing Note for the Director of Central Intelligence, Subject: Bureau of the Budget Recommendations for the OXCART Program, November 16, 1965, Secret, 1 p.
Source: National Archives, CIA 2000 Release.

This memo represents an early stage in what would be a protracted bureaucratic battle over the CIA's operation of the OXCART fleet. From the CIA's point of view, their principal nemesis was W.R. Thomas III, of the Bureau of the Budget - who suggested that the CIA role in OXCART be terminated and the Air Force SR-71s be relied upon to provide high-altitude, high-speed aerial reconnaissance.

Document 22

[Name deleted], Memorandum for: Director of Special Activities, Subject: Comments to W.R. Thomas III Memorandum to the Director, BOB, July 27, 1966.
Source: National Archives, CIA 2000 Release.

This memo, prepared for the head of the CIA's Office of Special Activities, attempts to provide a detailed rebuttal to the suggestions of the Budget Bureau's W.R. Thomas that the OXCART program be terminated in favor of the SR-71 program (which was also known by the designation SENIOR CROWN). Among the issues discussed are operational readiness, range, altitude, and possible utilization. A major element of the discussion concerns maintenance of a non-military (covert) overflight capability - while Thomas sees little utility in doing so, the author of the memos stresses high-level policy decisions in this regard as well as the Soviet Union's attempt to depict Francis Gary Powers's U-2 mission as one conducted under military auspices.

Document 23

Memorandum for the President, Subject: Advanced Reconnaissance Aircraft, December 26, 1966, Top Secret, 4 pp.
Source: Freedom of Information Act Request

The question of the composition and, as result, management, of the U.S. advanced aerial reconnaissance effort was the subject of this memo. It was based on a mid-December discussion among Cyrus Vance (the Deputy Secretary of Defense), Donald Hornig (presidential science adviser), Richard Helms (the Director of Central Intelligence), and C.W. Fischer (of the Bureau of the Budget). The memo summarizes the status of the OXCART (A-12) and SR-71 fleets, noted that originally they had different purposes, and that while they were being developed the U.S. had acquired an increased overhead reconnaissance capability through satellites and drones. It further discusses views of fleet size, identifies fleet reduction alternatives and the arguments for and against those alternatives, and presents recommendations. All the participants except for Helms recommend mothballing the entire OXCART fleet. On December 28th, President Lyndon Johnson approved that recommendation and the phaseout of the fleet by January 1968.(14)

Document 24

Cyrus Vance, Deputy Secretary of Defense, Memorandum for the Chairman, Joint Chiefs of Staff, Secretary of the Air Force, Director, National Reconnaissance Office, Subject: SR-71 Plans, May 1967, Top Secret, 1 p.
Source: Freedom of Information Act Request.

This memo represents another step in the process of turning over the advanced aerial reconnaissance

mission to the Strategic Air Command. It envisioned an operational "SR-71-type aircraft" capability over Southeast Asia and China by December 1, 1967. A capability to overfly Cuba with such aircraft was to be established even earlier - in July. The reference to "SR-71-type aircraft" presumably allowed for SAC to employ A-12 aircraft if SR-71s were not available, or considered less capable than A-12s for a given mission.

Document 25

National Photographic Interpretation Center, Black Shield Mission X-001, May 31, 1967, Secret, 30 pp.
Source: National Archives, CIA 2000 Release.

Before the December 1 date set for SAC to be ready to conduct missions over Southeast Asia or China, the CIA received an opportunity to demonstrate the value of the A-12. Concern about whether surface-to-surface missiles, SCUDs, had been deployed to North Vietnam, led President Lyndon Johnson, in May 1967, to approve the deployment of a contingent of A-12s to Kadena AB in Japan and the commencement of a flight program. The first of those flights, which were designated BLACK SHIELD, took place on May 31, 1967. It produced imagery of surface-to-air missile sites, air facilities, naval activities and ports, and other military targets, but produced no data indicating the presence of SCUDs.

Document 26

National Photographic Interpretation Center, CIA. BLACK SHIELD Mission BX 6723, 17 September 1967, November 1967, Secret, 10 pp. (Extract).
Source: National Archives, 2000 CIA Release.

In addition to monitoring North Vietnam for the presence of surface-to-surface missiles and providing other military intelligence about that country, this BLACK SHIELD mission was also able to provide photography of installations in southern China. As shown in the approximate track of the mission, the plane flew to very northern portion of North Vietnam, giving it the opportunity to photograph installations across the border. Targets photographed included depots, a railroad segment and related installations, and several military complexes.

Document 27

9th Strategic Reconnaissance Wing, Subject: NICE GIRL Target Routes, circa November 1967, Secret, 4 pp.
Source: Freedom of Information Act Request

As a result of the capabilities OXCART demonstrated in its missions, presidential advisers and congressional leaders began to question the decision to terminate the program. The CIA continued to argue that the A-12 was the superior aircraft because it flew higher and faster and had better cameras. The Air Force contended that its two-seat SR-71 had a superior suite of sensors, with three different cameras (search, high-resolution, and mapping), side-looking radar, and ELINT collection gear. To try to settle the issue three sets of missions, designated NICE GIRL, were flown over the continental United States between October 20, 1967 and November 3, 1967. This memo discusses the target routes associated with NICE GIRL missions, which proved inconclusive.

Document 28

Paul H. Nitze, Deputy Secretary of Defense, Letter to Donald F. Horning, Special Assistant to the President for Science & Technology, November 11, 1967, Top Secret, 3 pp.
Source: Freedom of Information Act Request

This letter from Nitze to Horning summarizes the case for terminating the OXCART program and relying on SR-71 aircraft for high-altitude, high-speed reconnaissance operations. It appears that the evaluation of sensor performance discussed in the first paragraph pertains to the data generated by the NICE GIRL missions (Document 27). Among the factors Nitze notes in favor of the SR-71 are the actual nature of the missions that an OXCART or SR-71 aircraft would be asked to perform and the primarily tactical value of the information generated by actual OXCART missions. He also informs Horning of plans to begin the phase-out of OXCART on March 31, 1968. In late December, Nitze informed key officials of a decision to maintain the OXCART capability through June 30, 1968 but also announced plans to introduce the SR-71 into reconnaissance operations over North Vietnam as rapidly as possible.(15)

Document 29

Lt. Gen. Joseph F. Carroll, Director, DIA, Memorandum for the Chairman, Joint Chiefs of Staff, Subject: Requirement for a Second BLACK SHIELD Mission Over North Korea, January 29, 1968, Top Secret, 2 pp.
Source: Freedom of Information Act Request

Some BLACK SHIELD missions overflew North Korea. The first North Korean overflight occurred on January 26, 1968, in response to the seizure of the Pueblo three days earlier. This memo specifies

additional information in three categories (jet capable airfields, naval order of battle, and ground force activity) that the Pacific Command and Defense Intelligence Agency wished to see provided by a second mission over North Korea. The Pacific Command, in particular, "urgently requested" that another mission be flown - which was done on February 9.

Document 30

Unattributed memo, Short Resume of SR-71 Management Arrangements, n.d., Top Secret, 1 p.
Source: Freedom of Information Act Request

The February 9, 1968 OXCART mission over North Korea (Document 29) was followed by another on May 8. That mission would be the last and marked the end of the OXCART program as the result of the decision by Secretary of Defense Clark Clifford to confirm the earlier decision to replace the the CIA A-12s with Air Force SR-71s and President Johnson's concurrence with Clifford. This memo traces the management arrangement associated with the SR-71 program from first Air Force interest to the Strategic Air Command's ("the White Air Force") assumption of control of the program in July 1969.

Document 31

Lt. Col. [deleted], Memorandum, Subject: Critique of IDEALIST/TACKLE Mission C198C, November 15, 1968, Top Secret, 2 pp.
Source: National Archives, CIA 2000 Release.

This memo is the result of an after-action review of one of the last U-2 missions flown over China (U-2 flights by Nationalist Chinese pilots constituted the TACKLE component of the IDEALIST program). It shows how the mission review produced tasks for a number of CIA components - including the Aviation Division of OSA, the Office of ELINT, and the Office of Scientific Intelligence - in order to produce additional intelligence as well as to enhance the survivability of U-2 missions.

Document 32

CIA, Memorandum for: 303 Committee, Subject: Recommendations for Retention of the CIA IDEALIST Program, December 18, 1969, Top Secret, 4 pp.
Source: Freedom of Information Act Request

In a December 17, 1969 meeting with the director of the Bureau of the Budget, President Richard Nixon expressed his intention of ending the CIA's role in U-2 operations, assigning the Air Force sole responsibility for the U-2 program - a course of action also favored by NRO director John McLucas. This memo, produced by the CIA, probably in response to word of Nixon's decision, for the 303 Committee - the National Security Council committee responsible for overseeing sensitive intelligence operations - argues the case for the CIA continuing to operate a U-2 fleet. It focuses on capabilities of CIA U-2s in contrast to Air Force U-2s, the CIA's ability to carry out covert overflights, and the U-2's utility in the event of crisis or interference with U.S. satellite reconnaissance systems.

Document 33

Henry A. Kissinger, Memorandum for the President, Subject: Disposition of CIA Covert U-2 Reconnaissance Program, January 7, 1970, Top Secret/[BYEMAN], 2 pp.
Source: Freedom of Information Act Request

This memo represents one of at least two instances in which national security adviser Henry Kissinger successfully changed President Nixon's mind concerning a decision adverse to the CIA with respect to reconnaissance matters.(16) Kissinger notes Nixon intention to terminate the CIA role in the U-2 program. In addition to transmitting the CIA's December 18 memo, Kissinger, summarizes its main points, and reports the views of the 303 Committee - based on the discussion at a December 20 meeting. The committee members, he reports, strongly support the retention of a CIA U-2 fleet. Nixon would revoke his decision to assign sole responsibility for the U-2 program to the Air Force - although the issue would be revisited on a yearly basis.

Document 34

Richard Helms, Director of Central Intelligence, Memorandum for: Assistant to the President for National Security Affairs et. al., Subject: IDEALIST Program, August 4, 1970, Top Secret, w/att: Carl E. Duckett, Director of CIA Reconnaissance Programs, Memorandum for: Assistant to the President for National Security Affairs et.al., Subject: IDEALIST Program, August 4, 1970, Top Secret, 6 pp.
Source: Freedom of Information Act Request

These two memos - both directed to Kissinger by DCI Richard Helms and his Deputy Director for Science and Technology, Carl Duckett - were written in apparent anticipation of a new challenge to the CIA's role in U-2 operations. Duckett's memo offers an overview of the status and capabilities of the program, the issues involved in possible termination, and alternative allocations of U-2 aircraft between the Air Force and CIA.

Document 35

John L. McLucas, Director, National Reconnaissance Office, Memorandum for the Secretary of Defense, Subject: Consolidation of the U-2R Fleet, August 17, 1970, Top Secret, w/att: CIA IDEALIST - AIR FORCE SENIOR YEAR U-2 PROGRAMS, n.d., 6 pp.
Source: Freedom of Information Act Request

As McLucas explains in his covering memo, the attached paper focuses on the roles and missions of the U-2 fleets maintained by the Air Force and CIA and examines costs and operational considerations as well as the recommendation that the Air Force assume responsibility for the entire U-2 mission. The conclusions that U-2s are being used in an overt rather than covert role, that the Air Force can perform such missions, and that savings are possible with consolidation lead to the recommendation to consolidate the U-2 fleet under SAC.

Document 36

Office of the Secretary of Defense, Program Analysis and Evaluation, A Study of SR-71 Utility for Post-Strike Reconnaissance, August 11, 1971, Top Secret, 13 pp.
Source: Freedom of Information Act Request

One key mission envisioned for the SR-71, but not the A-12, was post-strike reconnaissance - its use in the event of a nuclear war with the Soviet Union as well as in other scenarios. This draft study describes the SR-71 aircraft and its sensors, the deployment of aircraft, the location and capability of processing sensors, details of its envisioned pre-launch, penetration, and target coverage activities, and an evaluation of SR-71 utility for post-strike reconnaissance. The data collected could possibly contribute to both generalized estimates of ballistic missile performance and the evaluation of whether specific targets were destroyed.

Document 37

Secretary of Defense, Memorandum for the Director of Central Intelligence, Subject: Management of the U-2R Fleet, n.d., Top Secret, 1 p.
Source: Freedom of Information Act Request

This undated memo was apparently sent to DCI James Schlesinger in the spring of 1973, proposed that the U-2 program be placed under the central management of the Air Force. It notes that the Air Force fleet "has been under considerable operational and resource pressure to satisfy current mission needs" and suggests that requirements could be more efficiently satisfied if the entire U-2 fleet was under central management. Schlesinger responded in June that he saw no problem in transferring the CIA's U-2s to the Air Force.(17)

Document 38

Joint Chiefs of Staff, Memorandum for the Members of the Special Committee, Subject: Proposed SR-71 Deployment, October 8, 1973, Top Secret, 3 pp.
Source: Freedom of Information Act Request

This proposal, written shortly after the beginning of the Yom Kippur War, suggests employing the SR-71 to collect intelligence - both via peripheral coverage of targets in Syria and Egypt as well as overflights when satellite reconnaissance or other sources failed to provide adequate information. At the time the U.S. did not possess a real-time satellite imagery capability that could yield timely coverage. The memo goes on to specify what actions would need to be taken to conduct such an operation. Ultimately, the Strategic Air Command did conduct one or more SR-71 missions after the conclusion of combat - launching from a base in upstate New York.(18)

Document 39

NRO Staff, Memorandum for Dr. McLucas, Subject: November Forecast of NRP Satellite and Aircraft Overflight Activities, October 19, 1973, Top Secret, 2 pp.
Source: Freedom of Information Act Request

Addressed to John McLucas, the director of the NRO, this memorandum provides an overview of projected/requested U-2 and SR-71 reconnaissance activities for November 1973 as well as of missions recently completed. Despite its brevity, the memo provides significant data on the codenames assigned to various reconnaissance activities, the nations targeted, as well as the specific facilities or activities that were to be photographed or electronically monitored.

Document 40

NRO Staff, Memorandum for Dr. McLucas, Subject: Denied Area Aircraft Reconnaissance, October 25, 1973, Top Secret, 4 pp.

Source: Freedom of Information Act Request.

One of John McLucas's goals as director of the NRO when he assumed the position in 1969 was to terminate the office's role in the development or operation of aerial reconnaissance systems - a job he believed could be effectively performed by the Air Force. This memo reviews the relationship between the NRO, JCS Joint Reconnaissance Center, and CIA Office of Special Activities with regard to the management and approval of aerial overflight missions and notes the existence of flaws in the system when crisis situations arise. It then explores "whether or not the way we operate is the best way" and states that "we see even less need for the NRO to be involved in aircraft overflight operations." Finally, it suggests that correspondence be initiated to transfer full responsibility for aircraft overflights to the JCS.

Document 41

Deputy Director, NRO, Memorandum for Mr. Plummer, Subject: Operational Control of Intelligence-Related Reconnaissance Aircraft over Non-Combat Areas, February 8, 1974, Top Secret, 3 pp.
Source: Freedom of Information Act

James Plummer replaced John McLucas as NRO director in late 1973, with the issue of the NRO's role in aerial reconnaissance still unresolved. In this memo to Plummer, the office's deputy director noted McLucas's desire to transfer authority to the JCS and the actual movement towards that objective. However, he suggests that rather than relinquish authority in the area, the NRO reassert it - enumerating the reasons why he believed the NRO should continue to manage aerial overflight operations.

Document 42

Cable, for [Deleted], From Brig. Gen. Wendell Bevan [Director, Office of Special Activities], June 26, 1974, Secret, 3 pp.
Source: National Archives, CIA 2000 Release.

As noted earlier, in 1969, NRO director John McLucas raised the possibility of ending the CIA's role in the U-2 program.Over the next several years, President Nixon and the NSC's 40 Committee decided that the CIA should continue conducting U-2 overflights. But, in June 1973, DCI James Schlesinger concluded that the CIA's role in the U-2 program could be safely terminated. The 40 Committee decided that the CIA role should conclude on August 1, 1974.

This cable announced that the Republic of China had agreed to the end of the TACKLE program, the component of the IDEALIST (U-2) program (JACKSON was the codename for British participation in the U-2 program) that involved use of Nationalist Chinese pilots in operations directed against the PRC. With the OXCART program having been terminated in 1968 and the end of CIA involvement in the U-2 program, the CIA's Office of Special Activities would be disbanded in early 1975.

Document 43

W.E. Colby, Director of Central Intelligence, Memorandum for: Chairman, 40 Committee, Subject: Re-institution of Airborne Reconnaissance of Cuba, September 16, 1974, Secret, 2 pp.
Source: National Archives

In an earlier memo Colby had informed the chairman of the 40 Committee, the NSC element responsible for oversee sensitive intelligence and covert action operations, that there had been no aerial overflights of Cuba - a particularly difficult target for reconnaissance satellites - since the end of May 1974. It also noted that resumption would send a "negative signal" to Cuba with regard to U.S. policy. In addition to summarizing that earlier memo, Colby notes that an opportunity presented itself to conduct overflights that would not be interpreted by the Cubans as a negative signal.

Document 44

Joseph P. Sisco, Under Secretary of State for Political Affairs, Memorandum for: The Secretary, Subject: Reinstitution of Airborne Reconnaissance of Cuba, September 17, 1974, Secret, 1 p.
Source: National Archives.

The day after Colby circulated his memo, State Department undersecretary for political affairs Joseph Sisco followed with a memo of his own to the Secretary of State suggesting that the he accept Colby's idea and support a SR-71 overflight of Cuban shortly after the expected arrival of Soviet naval units.

Document 45

Strategic Air Command, History of SAC Reconnaissance Operations, 1978, 1979, and 1980, June 1982, Top Secret, 34 pp. (Extracts)
Source: Freedom of Information Act Request

These extracts from a history of SAC reconnaissance operations focus on two of a number of U-2 and SR-71 missions described in the history. The SR-71 operation, GIANT REACH, employed SR-71s based at

RAF Mildenhall. Several of the missions involved monitoring Soviet Union/Warsaw Pact spring and autumn troop rotations - including those feared to be associated with a possible Soviet invasion of Poland. Other targets were Soviet naval forces on the Kola Peninsula. The U-2 missions described in the extract, designated OLYMPIC GAME, were targeted against North Korea.

Document 46

Major General James B. Vaught, Memorandum for Director, Joint Reconnaissance Center, Subject: SR 71 Mission Request, November 3, 1980, Top Secret, 1 p.
Source: Freedom of Information Act Request

In the aftermath of the failure of the April 1980 mission to rescue the hostages in Iran, the U.S. began planning for a second mission. This November 1980 memo represents one of many requests to collect intelligence that would be useful in another rescue attempt. It also illustrates some of the information that would be needed in attempting such a rescue.

Document 47

Defense Intelligence Agency, Future Soviet Threat to US Airbreathing Reconnaissance Platforms, 1986, 8 pp.
Source: Freedom of Information Act

This 1986 DIA study explored the Soviet threat to U.S. aerial reconnaissance systems - including the U-2 and SR-71. It explores the threat posed by surface-to-air missiles and anti-aircraft artillery, interceptor aircraft, air surveillance and control, electronic warfare, and denial and deception (Maskirovka) - as well as the implications for the United States and NATO.

Document 48

Richard Cheney, Secretary of Defense, Memorandum for the Secretary of the Air Force, Subject: SR-71 Program Termination, June 21, 1990, Unclassified, 1 p.
Source: Freedom of Information Act

In the late 1980s the Air Force began trying to terminate the SR-71 program. While a national intelligence asset, the expensive program was funded out of the Air Force budget, and key Air Force officials, including Chief of Staff Larry Welch, thought the money would be better spent on additional fighter aircraft. Thus, they sought to terminate the program and redirect the money. Despite support among key members of Congress, their goal was achieved in 1990, as indicated by this memo.

Document 49

Coy F. Cross, 9th SRW, The Dragon Lady Meets the Challenge: The U-2 in Desert Storm, circa 1992.
Source: Freedom of Information Act

In Operation Desert Storm, the U-2 overflights of Iraq provided a large quantity of imagery. These two chapters of the monograph, written by the 9th Reconnaissance Wing's historian, provide an overview and assessment of U-2 operations in Desert Storm.

Document 50

Letter, William J. Lynn to Members of Congress, August 21, 1998.
Source: Freedom of Information Act

The support for an SR-71 operational capability did not dissipate with Richard Cheney's 1990 memo. Proposals were made to reinstate an operational SR-71 capability during the Gulf War and later. All such efforts failed, and this letter from [position] to members of Congress represented one more rejection of such a proposal.

Notes

1. Jeffrey T. Richelson, *A Century of Spies: Intelligence in the Twentieth Century* (New York: Oxford University Press, 1995), pp. 157-172.

2. Alfred Price, *The History of U.S. Electronic Warfare, Volume I: The Years of Innovation - Beginnings to 1946* (Washington, D.C.: Association of Old Crows, 1984), pp. 52-53.

3. See William E. Burrows, *By Any Means Necessary: America's Secret Air War in the Cold War* (New York: Farrar, Straus, Giroux, 2001).

4. Chris Pocock, *The U-2 Spyplane: Toward the Unknown* (Atglen, Pa.: Schiffer Military History, 2000), pp.

42-61.

5. Jeffrey T. Richelson, *The Wizards of Langley: Inside the CIA's Directorate of Science and Technology* (Boulder, Co: Westview, 2001), pp. 172-174.

6. Chris Pocock, *Dragon Lady: The History of the U-2 Spyplane* (Shrewsbury, England: Airlife, 1989), pp.59-199; Seymour M. Hersh, *The Samson Option: Israel's Nuclear Arsenal and American Foreign Policy* (New York: Random House, 1991), pp. 52-58.

7. Richelson, *The Wizards of Langley*, pp. 20-22, 98-100, 138-146.

8. Paul F. Crickmore, *Lockheed SR-71: The Secret Missions Exposed* (Oxford, England: Opsrey, 2000), pp. 176-201.

9. Norman Polmar, *Spyplane: The U-2 History Declassified* (Osceola, WI.: MBI, 2001), pp. 108-110.

10. Ibid., p.142.

11. Richelson, *The Wizards of Langley*, p.142.

12. Ibid., pp. 94-95.

13. Polmar, *Spyplane*, p.272.

14. Gregory W. Pedlow and Donald E. Welzenbach, *The Central Intelligence Agency and Overhead Reconnaissance: The U-2 and OXCART Programs, 1954-1974* (Washington, D.C.: CIA, 1992), p. 310.

15. Richelson, *The Wizards of Langley*, p. 145.

16. Kissinger also intervened to convinced Nixon to approve the CIA plan to build what became the KH-11 electro-optical imaging satellite.

17. Richelson, *The Wizards of Langley*, p. 173.

18. Paul Crickmore, *Lockheed SR-71 Blackbird* (London: Osprey, 1986), p.164.