

CHAPTER TEN TARGET

The Soviet Union in all respects was - and is - the principal intelligence target of the CIA. The agency seeks to monitor the Soviet economy, as well as Soviet armed forces, weapon systems, order of battle, geography, politics, leaders, population, space effort, health - everything. Langley is probably the foremost repository of accurate information on the Soviet Union in the world. Its analytical side, in which the Soviet Union is the largest single component accounts for the majority of CIA staff.

For over forty years the agency has kept close watch on the USSR and has informed and advised Presidents and policymakers. But its message, as in Vietnam, has not been received with enthusiasm. Intelligence services are popularly believed to be hyper-suspicious of the other side, always finding new schemes and plots. The agency distinguished itself in being persistently sceptical about the Soviet Union's military and economic capabilities. In a period of major U.S. alarm after the launch of the first Soviet sputnik, the agency remained calm. In 1960 it published a landmark report on the Soviet economy, the message of which was: "relax, they're not ten feet tall!" But this was a view that was unpopular in U.S. military circles, and in Kennedy's White House. It antagonised the military which had an institutional bias towards bigger budgets and it also antagonised the politicians who had a vested pork barrel interest in military expenditure for their constituencies. These were to be consistent factors in the agency's management of its analysis of the Soviet Union.

THE ATOM THREAT

In September 1946, Clark Clifford, special counsel to President Truman, wrote a report for the President on the rapidly escalating Soviet threat in which he stressed the importance of full and accurate intelligence:

"Suspicious misunderstanding of the Soviet Union must be replaced by an accurate knowledge of the motives and methods of the Soviet government. Only through knowledge will we be able to appraise and forecast the military and political moves of the Kremlin: without that knowledge we shall be at the mercy of rumours and half-truths."¹

Soviet communist ambitions were seen as the single greatest threat to U.S. national security. But for most of the 1940's and early 1950's, the scale and nature of that threat was frustratingly difficult to measure. It was virtually impossible to obtain good information about the USSR and its central and eastern European regimes. Defectors and communications intelligence such as Operations Gold and Silver were the principal sources, and they were inadequate, as Richard Helms, who had long experience on the clandestine side of the house, admitted:

"For some years we used the same methods, learned from the British in World War II, that had been tried and proven. But the Soviet bloc in peacetime, particularly the Russians themselves -suspicious, disciplined, possessed of a

1 Arthur Krock, *Memoirs: Sixty Years on the Firing Line* (New York, 1968), p. 428.

formidable security police - proved a tough nut to crack."²

By the time the agency was founded, the U.S. had already been subjected to intensive Soviet spying which was particularly targeted at the atomic programme, and the burning question of when the Soviets would acquire their own bomb had exercised the CIA from its earliest days.

In December 1947, Hillenkoetter told Truman that since the full impact of the Soviet atom spy ring was not yet known, the Soviets were probably still some years away from acquiring their own bomb. In July, 1948 the CIA estimated that the earliest possible date was mid-1950 but that a more probable date was mid-1953. The air force disagreed with CIA's estimate and said that in their opinion the USSR was "on the brink of success in the development of their bomb". This disagreement was one of the first in a series of major disagreements between the agency and the air force over the next three decades.

Truman and his advisers knew that sooner or later the Russians would develop their own bomb, but it came in August 1949, much sooner than predicted. Seven months later the CIA office of reports and estimates presented a grim analysis of the implications of the Soviet bomb for the U.S. It believed that the Soviets would not use the bomb to achieve a communist-dominated world, but that it would continue to use all methods short of war to achieve this objective. The big difference was that if war was a result it could now involve the devastation of the U.S.³

Because the the air force was the first line of U.S. security against attack, and the first line in any U.S. attack, it was by far the most hawkish of all the services. Before the intercontinental missile age, it was particularly concerned with the bombers which the Soviets would need to drop their atom bombs. At the 1948 May Day parade in Moscow the fly-past of a new Russian bomber took place, the TU-4, which looked remarkably like the American B-29. The air force reasoned that if the Soviets had built a new long-range bomber, then their atomic and bomber capabilities were probably far more advanced than had been thought. This led to an argument with the CIA over the "bomber gap", the forerunner of the "missile gap" of the 1960's and 1970's.

In the agency's opinion, the air force's anxieties were not based on any hard evidence about the TU-4's real strategic capability, only on observation and defector information. Indeed, the agency thought that the Soviet bomber was much less advanced than it seemed. Six years later, at the 1954 May Day Parade, U.S. air force attache observed a new, much larger bomber, the Bison, and this convinced the air force that the Soviets were far more advanced than the CIA had estimated. The air force calculated that by 1959 the Soviet Union would have a strike force of over one thousand bombers. The air force chief of staff, General Curtis Le May, used this figure to press for an even bigger B-52 strike force, claiming that there was a bomber gap developing.

The agency's analysts, working from specialist technical and economic literature, argued that the Soviet Union's industrial base was not capable of building over one thousand Bison bombers since there were not enough tool

2 Donovan Award Dinner, 24 May 1983.

3 CIA, Estimate of the Effects of the Soviet Possession of the Atomic Bomb upon the Security of the United States and upon the Probabilities of Direct Soviet Military Action, 6 April 1950.

production lines or aluminium forges to do the job. The argument was finally closed in 1956 when the CIA's U-2 spy plane demonstrated conclusively that the Soviets did not have a bomber fleet. There had been no "bomber gap" at all. The air force attache had witnessed a deception by the Russians: they had simply flown the same planes in different formations, giving the impression that there was a squadron of Bisons when in fact there were only eight.

U-2

Richard Helms described the U-2 and its successors as:
"the intelligence explosion of the century... which turned analytical work on these so-called denied areas from famine to feast. Our best Russian agents... suddenly seemed pale and inadequate."⁴

The U-2 was the brainchild of Clarence "Kelly" Johnson, Lockheed's brilliant aerospace engineer and president, but the idea for using it came from a committee. In 1954 the intelligence advisory board, the official interagency intelligence coordination body, received a report by a subcommittee chaired by Edwin H Land of the Polaroid Corporation on methods of accurately monitoring Soviet military capabilities and dispositions. Land's committee recommended that a new airplane be developed which could fly higher than Soviet anti-aircraft missiles along a north-south path across the Soviet Union without refuelling. Kelly Johnson's design was to hand. The plane would carry a newly-developed camera capable of high definition photography at an altitude of thirteen miles. The board accepted these recommendations and they were approved by Eisenhower in December 1954.

The CIA was given overall control of the project, the full cost of which - approximately \$22 million - came from the discretionary fund of the DCI. This obviated the need for congressional involvement, an essential factor in view of the extreme secrecy of the project. The plane became known as the U-2 and was one of the most highly-classified secrets in the agency. Even the "U" term was designed to disguise its real function: "U" for utility.

Responsibility for the U-2 was given to Richard Bissell, special assistant to Allen Dulles, who had joined the agency only a few months earlier. Bissell's talent and abilities were formidable. An economist by training, he had studied at the London School of Economics under Harold Laski and returned to the U.S. to teach Keynesian economics at Yale - the first person in the United States to do so. He organized allied shipping during the war and after the war was closely involved in the implementation of the Marshall Plan. Bissell was also well connected, being acquainted with senior agency men like Dulles and Frank Wisner, and up-and-coming young politicians like John F Kennedy.

Bissell was the pioneer technocrat who guided the CIA into the new age of intelligence. He was one of the first to realise that accurate factual information, rather than simply accurate political intelligence, was essential to counter the Soviet threat in a nuclear age. He turned this recognition into a bureaucratic programme and in the process brought about an intellectual and management revolution in intelligence. All the technological advances being made in electronics, flight engineering, space research and computer science were

⁴ Donovan Award Dinner, 23 May 1983.

exploited to the full. Parallel projects were set up to develop methods and equipment for intelligence purposes. He put together resources and talent in a concerted, coherent way. The emphasis was on cool, dispassionate, strategic management, designed to be effective and long-lasting.

Within nine months of the U-2 project being approved, Bissell supervised the first flight of the new plane in August 1955. The first operational flight took place nine months later in May 1956, seventeen months from the very start. It was a remarkable achievement. The plane had been built from scratch; it could fly higher and longer than any other plane had ever flown. Its construction drew on the best and most inventive minds from leading U.S. companies. Lockheed built the plane; a new fuel for it was developed by Shell; Pratt & Whitney designed special turbo-jet engines; Land's Polaroid Corporation invented a new wide-angle lens camera; Eastman Kodak developed a lightweight film stock.

In all, a fleet of twenty-two airplanes was eventually built and stationed at U.S. air force bases in Britain, Germany, Norway, Turkey, Taiwan, Japan, and Pakistan. The U-2 was a difficult plane to fly and required first-class pilots. The pilots chosen were all civilians, with military service backgrounds, under contract to the CIA. They had to spend hours in pressurisation preparations and wore special pressure suits during the flight. The cockpits were small and cramped and since flights could last over ten hours, pilots felt extreme fatigue and discomfort. The planes were also hard to manoeuvre: sharp turns were impossible and there was a high risk of not being able to get out of a steep dive.

The first operational flights over the Middle East and the Mediterranean took place in May and June and recorded for the U.S. government the preparations being made by the British, the French and the Israelis for their invasion of the Suez canal zone in October that year. In June Eisenhower gave permission for the first flights over Soviet territory. Within weeks the U-2 had detailed photographs of the Soviet Aviation Day fly past over Moscow.

The first U-2's had a range of 2,200 miles which was increased to 3,000 miles within three years. It could fly over 13 miles high and the normal operational altitude was over 70,000 feet. Each flight had specified targets, with the aim of avoiding repetition of areas photographed from flight to flight. Pilots were allowed to deviate from their flight course but not from their altitude. When one particular pilot decided to deviate because he saw something beyond the edge of his camera range, the results were spectacular, as Bissell recalled:

"He was flying over Turkestan, and off in the distance he saw something that looked quite interesting and that turned out to be the Tyuratam launch site - and unlike almost every other target we went after, not even the existence of that had been suspected... He came back with the most beautiful photographs of this place, and within about five days the photographs of this place, and within about five days the photo-interpreters had built a cardboard model of the whole Tyuratam site - roads, railway sidings, feeder roads, everything."⁵

The Russians tracked U-2 flights on their radar from the very first flight, but were unable to shoot the plane down. Lawrence Houston, the CIA's general counsel, believed that sooner or later the Russians would have the capability of shooting down the planes and wanted to be sure that the flights were worth the risk. When he consulted the air force, the reply was unequivocal, he recalled: "They said the

⁵ Interview, 18 July 1983.

U-2 information had forced them to completely retarget the USSR."⁶ U-2 photographs revealed new towns and cities, as well as military sites, that until it flew had been unknown to the United States. A result was the complete remapping of the USSR.

Eisenhower was also alert to the political and military repercussions of the project and carefully restricted the number of flights. Bissell managed to circumvent these restrictions by getting the British and the Germans to undertake U-2 missions of their own with planes supplied by the CIA.

Most of the flights were conducted during a two-year period between 1956 and 1958, by which time the bulk of military information had been assembled. In 1959 only a few flights took place and when Francis Gary Powers' U-2 was brought down on 1 May 1960, it was only the third flight that year. The risks to the U-2 had increased enormously by 1960. Powers' flight had been prompted by U.S. anxiety over the speed in Soviet advances in missile technology. Powers was to fly over the Tyuratam site, then north to the main atom research centre at Sverdlovsk, and finally to Plesetsk, the base for the SS-6 intercontinental ballistic missiles recently developed by the Soviets. Four hours into the flight, Powers came down.

The flight had been scheduled for 1 May because a summit conference was due to take place in Paris in mid-May between the Americans, British, French and Russian leaders and Eisenhower did not want any flights while the summit was on. In the event, when the U-2 was shot down, Khrushchev cancelled the summit. Powers was captured, tried, and gaoled. In 1962 he was exchanged for Rudolf Abel, a KGB colonel who for nine years ran a network of Soviet agents in the U.S. until his arrest by the FBI in 1957.

The Powers incident marked the end of U-2 flights over Russia, but not elsewhere. Its utility was graphically demonstrated during the Cuban missile crisis. The plane continued to operate right into the 1980's with flights over China, the Far East and the Middle East.

In its very short history of deployment against the Soviet target, the U-2 had dramatically revised downwards the estimated numbers of Soviet long-range bombers; discovered the existence and method of deployment of Soviet medium and long-range bombers; revealed Soviet methods for storing nuclear weapons at air bases; provided evidence of Soviet ICBM deployment; provided information on Soviet intermediate and long-range missiles; revised downward estimates of the numbers of Soviet ICBM's; provided information on the Soviet nuclear programme in general, and located uranium mining, processing and storage sites.⁷

MISSILE GAP

The launch of the first Soviet sputnik on 4 October 1957 provoked a wave of public alarm in the U.S. The Soviets were seen to have overtaken American technology with their SS-6 intercontinental rocket, and sputnik was recognized as having a bombing capability. This gave credence to the political campaign launched by the Democrats during the Presidential election the year before that

⁶ Interview, 8 July 1983.

⁷ Jeffery T Richelson, *American Espionage and the Soviet Target* (New York, 1987), p. 151.

there was an enormous "missile gap" in which the U.S. lagged seriously behind Soviet guided-missile development and production.

Given the cold war atmosphere of the time the missile gap controversy made a considerable impact and was a major issue in the 1958 midterm and 1960 presidential elections. In fact, as Eisenhower and the CIA were well aware, the Soviet missile threat was far less dangerous than the Democrats claimed. The U-2 had already disproved the existence of a "bomber gap", and now U-2 photographs provided evidence that there was no great Soviet intercontinental missile force and that the few SS-6's constructed by the Soviets were being used for their space effort. Eisenhower was also aware of the technological superiority of the American space effort which, although some years away from being operational, was far in advance of its Soviet equivalent. The Soviets used outmoded analog computers which meant that they could shoot rockets and satellites into space - like bullets: in straight lines - but could not move around in space. Stalin, at the start of the Soviet space effort, had declared that digital computer methods were "unhuman". At the time, the analog system was far more powerful than the digital one, and with sputnik this gave the Soviets an apparent early lead. The digital system had far more potential, however, and Truman and Eisenhower determined to develop it, taking the risk that the Soviets might be the first in space, but knowing that when the U.S. arrived there, it would be with formidable and much superior capability.

With this knowledge behind him, after the launch of sputnik Eisenhower assured Congress and the American public that the U.S. would stay ahead in the missile race. However, his assurances seemed to smack of complacency. It was not until a Soviet moon capsule crashed into the moon in 1966 that the inadequacy of the analog system was clearly demonstrated, leaving the United States firmly ahead in the space race. But this was years in the future from sputnik. In the 1958 midterm elections the Democrats won votes with "missile gap" allegations. The problem for both Eisenhower and the agency was that they could not reveal the U-2 information. This left the field open to critics of administration complacency and to the air force which consistently leaked estimates of a huge Soviet missile force. For frustrated agency analysts it was a phoney "bomber gap" type campaign. In the 1960 estimate on Soviet capabilities and intentions, the CIA concluded that evidence from all sources indicated that the Soviets were far less advanced in missile technology and deployment than the air force believed and, indeed, the agency's own previous estimates had stated. By 1963, drawing on vastly improved technical intelligence, the agency calculated that the Soviets might have only about 200 intercontinental ballistic missiles.

Such information had little effect on the 1960 presidential election. Although Kennedy had received pre-election briefings from the agency on the missile gap, he continued to make extensive use of air force leaks to support his "missile gap" allegations during the campaign. This was to have unforeseen and far-reaching consequences because Kennedy's opponent, Vice-President Richard Nixon, believed bitterly that the agency had failed to convince Kennedy that the missile gap was a myth, thereby contributing to his losing the election. Nixon, ever alert to slights and conspiracies, did not forget.

TECHNICAL INTELLIGENCE

The extraordinary shift from famine to feast that the U-2 and its camera made possible led to serious conflicts within the agency about the merits of technical intelligence versus human intelligence. The two protagonists were Helms and Bissell, the former believing that "gadgets cannot divine man's intentions", and the latter convinced that gadgets were, in the main, preferable to agents. It was a dilemma which has remained persistent.

Bissell gathered around him a staff who in those early experimental years of technical intelligence gathering were aware of its limitations while never doubting its ultimate potential. But later, the very ease and security with which information was acquired by technical means led to less speculative assessments in favour of staying only with what was certain. And what was certain was usually voluminous and often photographic, tending to make a great and immediate impression on the users of intelligence.

In 1958 Bissell succeeded Frank Wisner as deputy director of plans, to the disappointment of others in the agency, particularly Wisner's number two, the chief of operations in the DDP, Richard Helms. Helms started out as a journalist, but had been in U.S. intelligence since he joined the OSS in 1942, working almost continuously on the clandestine side in plans. He was dedicated to the institution of the agency, seeking to further its role in informing decision-making, nurturing its relationships with the White House, Congress (where he was highly regarded), and other government departments. In Helms' view:

"Intelligence always has a policy effect, no matter what you say to a policy maker ... You can't divorce intelligence from policy. The only thing you can do is what I did, which was to try not to get into the actual policy-making process by trying to influence it one way or another."⁸

Helms had long experience in handling agent networks and case officers. It was an arcane and often impenetrable world which, in the opinion of his senior colleagues, Helms knew better than anyone else except Allen Dulles.

Bissell had a more utilitarian approach: if U-2's and spy satellites were more efficient in providing accurate intelligence about the Soviet Union, then there was need to risk agents' lives. Helms felt Bissell had scant regard for his work and this made his position as Bissell's deputy increasingly difficult. The conflict between technical and human intelligence was personified by Bissell and Helms. Bissell later acknowledged that some of the blame for the tense relationship lay with himself, saying in particular that he wished he had consulted Helms more on the Bay of Pigs operation:

"There was a large element of philosophic difference and the trouble was that the philosophic difference did not get brought out and discussed. If I had been more effective and had tried to draw him in more, he could have given wise counsel. I sure as hell needed it. I don't think at the time I knew it."⁹

THE DIRECTORATE OF SCIENCE AND TECHNOLOGY

After the Bay of Pigs and the departure of Allen Dulles and Richard Bissell from

⁸ Interview, 26 July 1983.

⁹ Interview, 18 July 1983.

the agency, John McCone determined that Bissell's achievement in developing technical intelligence was such that a new directorate of science and technology was required. A directorate of research was established in 1962. He asked Bissell to stay on as its head, but Bissell refused, preferring to leave the CIA altogether than to accept a post that would be seen as lower than DDP, the unofficial No. 3 position in the agency. As first head of the directorate, McCone appointed Herbert Scoville who left after a year. He then appointed Albert "Bud" Wheelon, a young CIA officer and aeronautical engineer, who proved to be a brilliant manager and bureaucratic player, as head of an expanded directorate of science and technology.

Wheelon inherited two key projects from Bissell: the SR-71 and Corona, both of which he ushered to success. In 1956, two years after the start of the U-2 project, the CIA's development project staff began research on a supersonic spy plane, the SR-71. It took much longer than the U-2 to deploy, ten years in all, but it was a far more advanced machine. While the U-2 was subsonic, the SR-71 was supersonic; while the U-2 could fly 13 miles high, the SR-71 could fly at the very edge of space. In 1990 when the air force decommissioned its SR-71 wing, one of the planes broke the world airplane speed record on its last flight. It holds the world record for sustained altitude flying at 85,069 feet.

At the same time as the SR-71 project began, the air force started work on a programme code-named WS-117L: America's first spy satellite. In 1958, after his success with the U-2, Eisenhower gave Bissell effective control of the project which was developing a reconnaissance satellite called Corona which would send back to earth a recoverable photographic capsule. The first Corona satellite was launched in February, 1959. The explanation for public consumption was that it was a weather/scientific satellite called Discoverer. Despite the initial success of the first Corona/Discoverer satellite, subsequent launches were disastrous failures and it took two years for Bissell to iron out the problems. Once the program was underway, the results were spectacular and galvanized the agency's analytical work in the same way the U-2 had until the Powers' flight. There was a huge need for photo-interpreters and eventually over 1,200 agency employees were involved in photo-interpretation. In 1961 the CIA combined with the military to create the National Photographic Interpretation Centre under the control of the DDI, thus establishing close working ties with the other departmental intelligence services.

Wheelon left the agency in 1967, having started a major development of satellite intelligence collection systems. His successor, Carl Duckett, DDS&A from 1967 to 1976, another effective manager, pursued this development, with the result that by the early 1970s the United States was receiving extraordinarily detailed photographic, telemetry, and communications intelligence, and the DDS&T was firmly established at the hub of the intelligence system, outshining the analysts in the DDA.

During Duckett's time, several of the most effective technical intelligence systems became operational. The Samos (launched under Bissell and operational into the early 1970s), Keyhole - KH-8, and the two "Big Birds" KH-9 (launched first in January 1971) that used a telephoto lens camera, and the KH-11 (launched first in December 1976) that uses a television camera giving high-resolution real-time visual intelligence, and also monitors communications -and other satellite

systems developed with the National Reconnaissance Office (a joint CIA-military organization responsible for SR-71 and satellite intelligence) enabled U.S. analysts to listen to conversations and telephone calls to and from the Kremlin. In the days after the Korean airlines plane on flight KAL 007 was shot down over the Sea of Japan by Soviet fighter planes in September 1983, President Reagan made public U.S. intercepts of the conversations within the Soviet chain of command that preceded the shoot down, revealing the incredible detail of satellite penetration of the USSR. The U.S. satellite photographs provided extraordinary detail from hundreds of miles away in space: the KH-8 could photograph objects of about six inches in length from 70 miles; the KH-9 could resolve detail of under twelve inches from over 100 miles; the KH-11 used digital imaging cameras to enhance its pictures to the point where they could detect missiles inside silos.

Other technical intelligence collection systems were also developed. U.S. submarines attached sensors to Soviet undersea cables. Golf tee size electronic pins, activated by satellites, placed in walls and in the earth, could pick up conversations and evidence of Soviet nuclear tests. The Glomar Explorer deep sea rescue ship, built by the agency, retrieved half of a Soviet nuclear weapon submarine from over 16,000 feet in mid-Pacific in March 1968. Underwater monitoring devices tapped into Soviet communications cables.

So much photographic intelligence was produced by DDS&T in the late 1960s and early 1970s that the National Photographic Interpretation Center was transferred to the control of the directorate of science and technology in 1975.

Establishing factual intelligence on the Soviet Union, however, was not the same as gauging Soviet intentions, and the continuing argument about technical versus human intelligence flares up whenever there is disagreement about U.S. security and foreign policies.