Sputnik and US Intelligence: The Warning Record

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That Sputnik's ascent surprised the US public and press is now common knowledge, but not everyone was surprised.

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Introduction

The soul-searching about US technological competence that enveloped the nation in the wake of the successful launching into space of the world's first artificial satellite, *Sputnik-1*, by the Soviet Union (USSR) on 4 October 1957 came as a psychological shock to the American public and engendered a period of reflection that reshaped US priorities and scientific programs in the 1960s.

Sputnik-1 was the first in a four-satellite program planned as the USSR's contribution to the International Geophysical Year (IGY; July 1957 to December 1958). Sputnik ("traveling companion" in Russian) circled the earth every 100 minutes in an elliptical orbit of 215 kilometers (km) perigee and 939 km apogee. Slightly larger than a basketball, the satellite was an aluminum, 22-inch sphere packed with radio and telemetry equipment sprouting four long antennae. It weighed about 180 pounds and transmitted a periodic rhythmic signal—a "beep"—to ground controllers.

Sputnik's sudden appearance, in addition to raising questions about the standing of US technological competence, also brought to the fore the critical question of whether the USSR had or would shortly have an intercontinental ballistic missile capability. Once the Soviets paired the rockets with the atomic weapons they had developed unexpectedly quickly by 1949, the United States, it was thought, would be at a severe military disadvantage.[a] Americans panicked, and accusations of "intelligence failure" and "missile gap" spread across the nation like a virus.

That Sputnik's ascent surprised the US public and press is now common knowledge, but not everyone in the United States was surprised. US intelligence, the military, and the administration of President Dwight D. Eisenhower not only were fully informed of Soviet planning to launch an earth satellite but also knew a Soviet satellite would probably achieve orbit no later than the end of 1957. For intelligence and administration

a. The Soviets set off their first test/demonstration explosion earlier than expected partly because they had been able to steal atomic secrets from Los Alamos Proving Ground during World War II.

officials, there was no surprise and no intelligence failure, but the Soviets achieved a political and propaganda triumph because Eisenhower had believed a rush into space was unwarranted and that a Soviet arrival there first would have little meaning. For Eisenhower, there was no "space race."

"All the News That's Fit to Print"

The New York Times.

LATE CITY EDITION

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SOVIET FIRES EARTH SATELLITE INTO SPACE; IT IS CIRCLING THE GLOBE AT 18,000 M. P. H.; SPHERE TRACKED IN 4 CROSSINGS OVER U. S.

HOFFA IS ELECTED TEAMSTERS' HEAD; WARNS OF BATTLE

Defeats Two Foes 3 to 1 —Says Union Will Fight 'With Every Ounce'

IN TOKEN OF VICTORY: Dave Beck, retiring head of the Teamsters Union, raises hand of James R. Hoffa upon his election as union's president. At right is Mrs. Hoffa.

COURSE RECORDED

Navy Picks Up Radio Signals—4 Report Sighting Device

560 MILES HIGH

Visible With Simple Binoculars, Moscow Statement Says

Device Is 8 Times Heavier Than One Planned by U.S.

SATELLITE SIGNAL BROADCAST HERE

FAUBUS COMPARES HIS STAND TO LEE'S

Says He Will Remain Loyal to People of Arkansas—All Is Quiet at School

Flu Widens in City; 10% Rate Predicted; 200,000 Pupils Out

ARGENTINA TAKES EMERGENCY STEPS

State of Siege Proclaimed in Buenos Aires Region —Arrests Reported

The New York Times depiction on 5 October 1957 of the launch of Sputnik-1 the day before. The issue of the fourth included a front page story detailing a Soviet scientist's briefing of his nation's IGY rocket developments. No mention was made of Sputnik. The issue of the 6th included multiple articles addressing details of the satellite, explaining the status of the US effort (a launch seemed likely in 1958), and introducing early rumblings of political discontent in an item about congressmen decrying cuts in spending on US missile programs. © New York Times.

Nevertheless, Eisenhower's explanation during a press conference on 9 October of US plans and his administration's lack of concern about the Soviet achievement was believed neither by the press nor by the public. That the United States had matched Soviet technological advances and was able to launch its own satellites early in 1958 calmed no one. The press disregarded the president and wrote a "first draft of history" about how the Soviets surprised the United States and how CIA had failed to provide warning that was wholly inaccurate and that can still be heard today.

That Sputnik had not been a surprise to the US government began to be rediscovered in the 1970s, with more information becoming available each subsequent decade, but the story still remains out of the mainstream in declassified government documents, academic articles and niche books. Phrases like "Sputnik stunned the world" or "completely surprised the Eisenhower administration" continue in common use. The fact that the press and public were surprised has, in the minds of many observers, meant that CIA and the Eisenhower administration also were surprised.

This focus on intelligence failure has also had the unfortunate effect of obscuring the important lesson that foreknowledge of an adversary's planning a future event (strategic warning) does not always come with detailed information about the adversary's schedule (tactical warning). The focus on failure also obscures the truth that even with one or both levels of warning, policymakers bear ultimate responsibility for their responses to the warnings they receive.

The White House Was Well-Informed

Eisenhower's reaction to the Sputnik's launch contrasted sharply with the reaction of the American public. He remained calm, and his much-quoted claim on 9 October that Sputnik "does not raise my apprehensions, not one iota"—although borne out by the record—was met with skepticism.[1] The reason for the president's calm, according to former Eisenhower adviser James R. Killian,[a] was Eisenhower's knowl-

a. Killian was the President of the Massachusetts Institute of Technology and in 1954, chaired Eisenhower's Technological

edge of Soviet plans and intentions based on intelligence provided to him over several years: "The U.S. public was unaware of how much was on the boards in their own country when *Sputnik* burst upon their unprepared consciousness, and this lack of information contributed to their alarm. But Eisenhower was amply informed."[2]

In the years before Sputnik was launched, CIA had been keeping Eisenhower and his advisers informed about Soviet missile capabilities and warned them of Soviet plans to go into space, a fact Gen. Andrew Goodpaster, Eisenhower's staff secretary, confirmed in 2000. Speaking of Sputnik, he recalled that Eisenhower had remarked that a Soviet satellite launch was "not anything I haven't been worrying about for three years or more." Goodpaster added that, for Eisenhower, Sputnik itself was not a threat; rather, "the important thing was what it told us about [Soviet] capabilities for long-range missile attack. That had been very much on his mind for three or four years before that time." Goodpaster added that intelligence in the 1950s was generally better than is believed today: "So far as being caught by surprise, I don't know that we ever were, even on Sputnik."[3]

CIA informed Eisenhower and the National Security Council (NSC) through a combination of finished intelligence products and briefings. Before October 1957, CIA published two National Intelligence Estimates (NIEs) that included assessments of when the Soviets could orbit an "earth satellite vehicle" (ESV), as it

IGY First day cover. Photo © Matt Knannien

was called at the time. In December 1955, an NIE predicted that the Soviets could orbit a "relatively uninstrumented vehicle by 1958." By March 1957, another NIE concluded that the Soviets were capable of launching a satellite before the end of the year.[4]

The primary focus of these NIEs was on overall Soviet military capabilities, with the estimates on satellite developments presented after the arguably more important intelligence on Soviet missile and bomber capabilities. However, CIA also produced numerous current intelligence products for senior policymakers and the president focusing specifically on Soviet earth satellite developments. Director of Central Intelligence (DCI) Allen Dulles also briefed the NSC and the president multiple times on these subjects.[5, 6, 7]

Policy Context: Science Over Speed

Both the United States and Soviet Union had raced to capture German scientists at the close of World War II to take advantage of their demonstrated expertise in rocketry. The Germans had already designed and successfully used rockets such as the V-1 (simple drone or cruise missile) and V-2 (ballistic missile). Each expected that rocketry would advance after the war and feared the other might be the first to gain a decisive advantage in the ability to deliver devastating weapons.

US plans to launch satellites, which would require advanced rocket technology, began to develop in the late 1940s. As early as 1946, a RAND report projected that the United States could launch the first satellite in 1951, and proponents of the idea began advocating urgency in rocket and satellite development. A second RAND study in 1947 already was suggesting that a satellite might be able to transmit images back to earth. However, according to Paul Dickson in *Sputnik: The Shock of the Century,* supporters of satellite development lacked political influence, and it was 1950 before the US government began to seriously consider forays into space.[8]

Capabilities Panel. After Sputnik, Eisenhower appointed him Special Assistant to the President for Science and Technology.

Eisenhower and his advisers decided in 1955 to advance a policy that ostensibly kept the satellite program separate from military guided missile programs

The satellite project gained traction with the institution of the IGY, a period during which nearly 70 countries participated individually and jointly in research projects involving the earth sciences. At a meeting in Rome in October 1954, the International Council of Scientific Unions approved a resolution that called for satellites to be launched during the IGY. The United States and the Soviet Union each had representatives at the meeting.[9] Launching a satellite for scientific purposes and under the peaceful auspices of the IGY intrigued Eisenhower and led him to initiate the US satellite program the following year.[10]

Several key considerations influenced Eisenhower's decisions in the mid-1950s on US satellite development. Eisenhower and his advisers decided in 1955 to advance a policy that ostensibly kept the satellite program separate from military guided missile programs, despite the fact that no "civilian" rocket program existed because the military labs conducted the research for all rockets. Eisenhower wanted to emphasize the peaceful nature of the satellite effort, prevent exposure of military technology to the Soviets, and ensure that satellite research would not impede the military's progress on the higher priority guided missiles. Finally, Eisenhower was eager to prove the concept of "freedom of space," which would allow any nation to pass over another's territory without incurring military threat. The principle was expressed in his July 1955 "Open Skies" proposal, in which he suggested freedom for both the United States and the Soviet Union to conduct aerial reconnaissance of each other's territory. A scientific satellite would aptly demonstrate that principle and pave the way for reconnaissance satellites.[11]

In July 1955, the White House announced a plan to launch a satellite during the IGY. Shortly after the US announcement, the Soviets also declared their intention to launch satellites as part of the IGY.[12] Branches of the US military put forward proposals for the first satellite, and in the fall of 1955, the administration chose to pursue the Naval Research Laboratory's Vanguard program. Vanguard was an unclassified project and, because it offered a more sophisticated level of satellite instrumentation than other proposals, played to the administration's goal of emphasizing the scientific mission. However, Vanguard did not promise to be the most expedient option, because two stages of the rocket were still under development. It would not be ready before 1958, a full year later than the Army's proposal, which involved use of the already-developed Redstone rocket.[13]

The Vanguard decision risked allowing the Soviets to steal a march on the United States. As historian Yanek Mieczkowski wrote, "The administration rated science higher than speed."[14] Karl Weber wrote in his 1972 history of CIA's Office of Scientific Intelligence (OSI) that CIA believed the first satellite launch in history would generate considerable prestige and propaganda value for the country that achieved it,[15] but those concerns did not resonate with Eisenhower. Weber criticized the administration's belief that a speedy launch was not important with the exasperated observation that, for Eisenhower, "Time was a secondary factor!" He believed the administration failed to consider the satellite proposals from "a political or psychological warfare viewpoint" and instead based the decision on "which [system] would provide the most valuable research tool for the least money." Weber called Vanguard "in essence, a program to 'reinvent the wheel'" because the United States could have accomplished the same result, and sooner, had it incorporated existing, advanced military technology.[16, 17]

Concern about Prestige

Before the Vanguard decision was made, CIA analysts were well aware of Soviet intentions and of the propaganda value of a first satellite launch, and CIA leaders pressed policymakers to initiate a US satellite program. As early as September 1954, Special Assistant to the Director for Policy and Coordination Richard Bissell[a] advised DDCI General Charles Cabell that, in the context of the broader Soviet missile program, "the launching of a small earth satellite in the next three years is almost certainly feasible… . The capability of the Soviet Union and the United States of placing in orbit a satellite to collect basic scientific data is approximately the same." Bissell suggested the United States be the first to place an artificial satellite in orbit, perhaps during the IGY, to "gain the prestige of this achievement" and drafted a letter the DCI could give to President Eisenhower along with CIA studies

a. Bissell became deputy director for plans on 1 January 1959 and in 1997 was named a CIA Trailblazer.

Richard Bissell. Undated CIA file photo

on earth satellites. Bissell analyzed the psychological and military implications of a Soviet satellite launch and warned that "a capability in this area, not properly anticipated and neutralized, would represent a serious threat to U.S. national security."[18]

In March 1955, Dulles asked Bissell to contact Deputy Secretary of Defense Donald Quarles about the earth satellite program.[19] Bissell in late April wrote another memo to the DCI suggesting that Quarles and he recommend the satellite project to the NSC and again expressed the need for haste. Bissell wrote,

> *The project for an earth satellite vehicle has now reached a stage where a Governmental decision is urgently required.... You may wish to recommend that such action be taken forthwith.... I should advise you that there is understood to be much support for this project in the Pentagon but the rate of progress toward any kind of decision in that imposing building seems to be little better than glacial.*[20]

These discussions culminated in the NSC policy statement 5520 of 20 May 1955, which Eisenhower approved and which outlined the purpose and scope of the US satellite program. The NSC noted that "considerable prestige and psychological benefits will accrue to the nation which first is successful in launching a satellite."[21]

CIA's was not the only voice prompting Eisenhower to consider the psychological impact of the first satellite launch. Nelson Rockefeller, who served as Eisenhower's special assistant on governmental operations, sent a memo in May 1955 to the executive secretary of the NSC, noting, "I am impressed by the psychological… advantages of having the first successful endeavor in this field result from the initiative of the United States… The stake of prestige that is involved makes this a race that we cannot afford to lose."[22]

CIA Intelligence Assessments and Briefings, 1955–57

——1955——

President Eisenhower's CIA, still in its infancy, routinely attempted to address gaps in intelligence, particularly about Soviet military and scientific developments, by conceiving and executing innovative collection plans such as the Berlin Tunnel cable-tap operation; launching camera-equipped balloons over the Soviet Union; overseeing design and use of U-2 reconnaissance aircraft; and leading planning and development of reconnaissance satellites. To assist in organizing and overseeing these collection efforts, Eisenhower created the President's Board of Consultants on Foreign Intelligence Activities (PBCFIA) in February 1955.

That year, CIA and the fledgling Intelligence Community (IC) beefed up analytic and collection efforts on Soviet missile development. CIA supplemented the Guided Missiles Branch in the Office of Research and Reports (ORR) with an *ad hoc* Guided Missiles Staff, added a Guided Missiles Intelligence Coordinator in the Directorate of Intelligence, and created a Guided Missiles Division in OSI. These units focused on the industrial and economic aspects of the Soviet program. An IC-wide organization to follow Soviet progress, the Guided Missiles Intelligence Committee, began work in January 1956; one of its first statements concerned large gaps in US knowledge of Soviet missiles.[23]

The first finished intelligence product CIA published specifically on the Soviet earth satellite program in 1955 was an item in the *Current Intelligence Weekly Summary,* a product typically distributed to customers at the NSC and to the president. On 21 April, OSI's article, "Soviet Research on Earth Satellite," noted a public announcement of six Soviet scientists on the Permanent Interdepartmental Commission for Interplanetary Communication of the Academy of Science. OSI judged the Soviets had assembled this group to examine "the theoretical problems involved in the establishment of a space station" and noted that "construction of the propulsion device required to place a small object into an orbit around the earth is considered scientifically possible."[24]

In December, CIA released NIE 11-12-55, *Soviet Guided Missile*

During the mid-1950s, the Soviets routinely discussed space and offered to coordinate Soviet and American satellite programs,

Capabilities and Probable Programs, which included this assessment on earth satellites: "We estimate that the Soviets are attempting to develop such a vehicle at the earliest practicable date and could have a relatively uninstrumented vehicle by 1958."[25]

——1956——

In January 1956, CIA designated OSI as the "focal point" for intelligence on the Soviet ESV.[26] CIA officers were also assisting the Department of Defense (DoD) in its research into Soviet satellites and supplied intelligence to Dr. C. C. Furnas, assistant secretary of defense for research and development. Dulles wrote Furnas personally to advise him that Dr. Herbert Scoville, a noted CIA scientist and the assistant director of scientific intelligence, would be the CIA's representative to DoD "on matters relating to the scientific earth satellite program."[27]

Within a week, CIA had prepared and supplied to DoD's Furnas a four-page paper, *Status of the Soviet Earth Satellite Program*, that reviewed what the IC knew in early 1956 about Soviet progress. The article reviewed early Russian and later Soviet interest in space travel and ESVs from 1903. It took note of the December 1953 statement of the president of the Soviet Academy of Sciences that an earth satellite was "becoming practical."[a] OSI knew of the creation of the Soviet Commission for Interplanetary Communication in late 1954, before the Soviets announced it the following April, and wrote that it indicated serious Soviet emphasis on developing a satellite.[28]

During the mid-1950s, the Soviets routinely discussed space and offered to coordinate Soviet and American satellite programs, and CIA reviewed a number of significant announcements for Furnas. Finally, CIA referred Furnas to the most recent NIE,[b] which estimated the Soviets could orbit a simple satellite by 1958 but noted that, as of January 1956, "we in OSI/CIA now estimate that if the Soviets consider the psychological advantages of obtaining the world's first satellite vehicle of prime significance, and if no cost or effort is spared, the Soviet Union could launch a satellite vehicle in late 1956 or early 1957."[29]

The NSC in May 1956 discussed the status of the satellite program and whether it should be continued, given the rising cost of Vanguard and other budgetary and national security priorities. The director of the National Science Foundation even argued that, on the contrary, it should be expanded, with six satellites added to the six already planned.[30] Eisenhower decided to forge ahead with the Vanguard program, given that the White House had already publicly announced its intentions. He deferred a decision on the additional satellites. Minutes of the meeting reflect Eisenhower's lukewarm attitude toward the program in general: "The President said that he had not been notably enthusiastic about the earth satellite program when it had first been considered by the National Security Council, but that we certainly could not back out of it now."[31]

CIA leaders supporting these discussions cited indications of Soviet progress and urged advancement of the US program. For example, ahead of the May NSC meeting, on 10 April 1956, Scoville wrote to Allen Dulles echoing Bissell's 1954 concerns, noting that "serious damage would be done to United States international scientific prestige" if it did not launch satellites during the IGY and before the Soviets. And, in the same paragraph: "Abandonment or deferment of the program in the face of what may well be a successful Soviet counterpart program might impair world confidence in U.S. advanced scientific and technical capabilities." Scoville wrote those words to support a pending letter to President Eisenhower about possible US courses of action with regard to its satellites.[32]

On the same day, at the DCI's request, Scoville sent another memorandum summarizing OSI analysis on Soviet ESVs. Scoville asserted that "the USSR possesses all the necessary knowledge and basic components to attain the altitude and velocity necessary for an orbiting earth satellite vehicle." He repeated the January OSI analysis that the "numerous statements by Soviet officials" reveal a "strong Soviet interest" in ESVs and reminded Dulles that while

a. CIA had had formal responsibility for tracking the careers and activities of Soviet scientists since 1948. It was hoped that the collection effort would offer clues to Soviet technological development and identify future collection directions. (See NSCID 8, 25 May 1948—pursuant to National Security Act of 1947—approved for release 26 Aug 2008.)

b. Specific NIE not given in the record, but the most recent NIE at the time on this topic probably was NIE 11-12-55, 20 December 1955.

the December NIE had allowed that a 1958 launch was possible, OSI had modified its position by January and assessed that the Soviets might be able to launch a satellite by 1957 if not earlier.[33] Finally, on what must have been a busy 10 April, Scoville sent a third memo to the DCI , this time with analysis supporting rapid movement on the satellite program to avoid incurring a psychological defeat were the Soviets to launch a satellite before the United States.[34]

In preparation for a DCI briefing at the NSC in early May, the CIA Collection Staff assembled a list of "Key Soviet Statements Re: Earth Satellite Vehicle." The statements ranged from Unclassified to Secret and demonstrated the difficulty of using them to predict Soviet actions. While some statements indicated that the Soviet plans were progressing and might even have been ahead of US efforts, the memo flagged a 12 April 1956 CIA report of a statement by Leonid Sedov, the lead scientist in the Soviet program, which appeared to walk back Soviet intentions.[a] According to the report, Sedov stated that "it is possible that the Soviet Union will not have its earth satellites ready for firing during the international geophysical year. He believes that the US has put itself on a spot by its optimistic statements."[35] The memo equivocally concluded that the statement "could represent Soviet recognition of greater difficulties in the earth satellite project or that it could be a deliberate plan intended to reduce pressure for haste in the U.S. program."[36]

The report also shows that the Soviets made no apparent attempt to hide their plans and gave clues to the potential launching site.

An August 1956 report provided more complete analysis of Sedov's statements and those of another Soviet professor who had attended a conference that February. OSI noted that "the Soviets plan to launch 12 to 14 satellite vehicles from a launching site located in the 'middle' of the USSR and on such an orbit that the USSR will have 'maximum length of time for observation.'"[37] Analysts extrapolated from this information that the size of the Soviet program could be twice that of the US program, which had six vehicles, because CIA believed it likely the "12–14" number did not include test vehicles.

The report also shows that the Soviets made no apparent attempt to hide their plans and gave clues to the potential launching site. At the conference, Soviet delegates were asked if the Soviets would announce publicly the launch date, to which they replied that "the radar built by the United States will spot the Soviet satellite within a few minutes after launching." CIA analysts seized on that comment in a 6 August memorandum to the DDI: "This statement undoubtedly refers to [radar surveillance of] the Kapustin Yar Guided Missile Test Range and furnishes the first indication that the Soviets probably intend to launch their earth satellite vehicles from the Kapustin Yar area."[38]

In October, CIA analysts held to their belief that the Soviets would be capable of a launch in early 1957. Scoville reviewed the DoD progress report that Eisenhower had requested at the May NSC meeting and provided an update to the deputy director for intelligence on CIA's information. Scoville noted, "We believe that the USSR will make a major effort to be the first country to orbit an earth satellite. We further believe it has the capability of orbiting a small vehicle, in early 1957, which could acquire scientific information and data of limited military value."[39] The same week, CIA published a *Current Intelligence Weekly Summary* article describing as "noncommittal" public comments Soviets had made at recent conferences, including one in Barcelona."[40] The article concluded, however, that the Soviets might be limiting their public statements on purpose and again estimated that they had the capability to launch by early 1957.[41]

——*1957*——

The DCI conveyed OSI's assessment—that the Soviets were capable of a launch in early 1957—in a briefing to the NSC on 24 January 1957.[b] The written briefing noted that "we still do not have firm information on the numbers of vehicles, their size, and the Soviet launching plans."[42] NIE 11-5-57, released in March, repeated almost verbatim the conclusions Scoville conveyed in his October 1956 memo and presented

a. NASA scientist Wernher von Braun, in an oral history interview with OSI on 3 October 1961, noted the difficulty of eliciting information from Sedov. In his view, Sedov was "very, very astute in this field, and if he feels you're trying to pump him [for information], he just doesn't talk at all anymore."

b. The DCI used the word "capable" and for the record made clear to the NSC in March 1957 that the Soviets probably *could* launch a satellite in 1957. However, OSI did not know whether the Soviets *would* launch a satellite.

Soviet statements in the summer of 1957 strongly suggested an impending satellite launch; one scientist told the Soviet press it would occur "in the next few months."

little new information: "The USSR will probably make a major effort to be the first country to orbit an earth satellite. We believe that the USSR has the capability of orbiting, in 1957, a satellite vehicle which could acquire scientific information and data of limited military value.[43]

In April 1957 a big break in the intelligence occurred. CIA analysis of new information indicated that the Soviets appeared to be getting ready for a launch.[44] The question was how to interpret the new information– were the Soviets preparing to test an ICBM or launch an earth satellite?

- CIA published different versions of its analysis on these developments in current intelligence pieces on 5 and 11 April.[45] Both items noted that either interpretation—ICBM or satellite—could be correct, although the 11 April article included an assertion that the new information might be "related to Soviet plans to launch an earth satellite during the International Geophysical Year."[46]

- On 10 May 1957, Dulles decided at the last minute to include in his briefing to Eisenhower recently-obtained U-2 evidence of Soviet missile activities at a second missile site, Tyuratam, distant from Kapustin Yar. As intelligence scholar John Prados wrote, "analysts at CIA's Office of Current Intelligence associated the activity with preparations for a satellite launch using an ICBM vehicle."[47] Mentioning this intelligence also prepared Eisenhower for the Soviets' claim of a successful ICBM test in August 1957.

- By June 1957, OSI had also advised select members of Congress that the Soviets were capable of launching an ESV, according to Karl Weber's history of the office.[48]

Soviet statements in the summer of 1957 strongly suggested an impending satellite launch; one scientist told the Soviet press it would occur "in the next few months." The statements, combined with the missile site activity, may have provided a convincing picture of imminent launch. At the same time, CIA analysts appeared reluctant to convey a specific time frame to policymakers.

- A *Current Intelligence Weekly Summary* article published on 27 June 1957 hedged on interpreting Soviet statements as definitive, although its title, "Soviet Preparations for Early Launching of an Earth Satellite," suggested a launch early in the IGY was possible. The article caveated the Soviet press statement about "the next few months," noting that official Soviet announcements at a recent IGY conference "revealed nothing new."[49]

- On 5 July, Dulles sent a memo to Deputy Secretary of Defense Quarles, updating him on OSI's analysis. He wrote, "Information concerning the timing of launching of the Soviet first earth satellite is very sketchy, and our people here [OSI] do not believe that the evidence is sufficient as yet for a probability statement on when the Soviets may launch their first satellite."[50] The memo discussed the possibility the Soviets might consider 17 September, the 100th anniversary of the birth of a founder of Soviet rocketry, but it also provided reasons the date was unlikely.

- According to a 17 July 1957 report, a Soviet scientist told another scientist that "we will launch it this September or October."[51]

- On 30 September 1957, CIA published a report based on material from a recent conference in Washington, DC, that left the impression a launch was not imminent. A Soviet scientist claimed that details of the satellite "will not be discussed in Washington because the satellite is still undergoing tests."[52] The Soviets launched Sputnik on the final day of the conference.

In the weeks before the launch, CIA had received clues of an "impending event," as Dulles later phrased it, but CIA's coverage of Soviet missile sites was still incomplete, making it difficult to piece together information.

Years later a CIA historian wrote,

> *On 26 August 1957,* [the official Soviet news agency] *TASS reported the first successful flight of a Soviet super-long-distance intercontinental ballistic rocket, adding it is now possible to send missiles to any part of the world. The same item also reported a high-altitude thermonuclear weapons test. This Soviet launch had taken place on 21 August from the new test*

range at Tyuratam. Three days after the Soviet announcement, the Congressional Subcommittee on Military Applications of the Joint Committee on Atomic Energy asked for a CIA briefing on the Soviet ICBM test. DDCI Cabell could only tell them that the available intelligence could neither confirm nor deny the Soviets' boast that they had successfully launched an ICBM.[53]

Whatever the degree of uncertainty at the time, the concern was great enough that DCI Dulles was asked to brief the issue to the NSC on 12 September 1957.[54] The lack of information about Soviet activity at their missile sites also made it difficult for analysts to provide warning of a launch that October. Not long before the launch, CIA had indications that the Soviets were about to conduct a launch, but a definitive link to an earth satellite could not be made at the time. Dulles sent this information in a post-launch report to Eisenhower on 5 October, and it was published the same day in a Top Secret *Current Intelligence Bulletin* article on the launch.[55] For CIA, all the pointers to a specific launch date came together at the last minute.

Aftermath

Eisenhower Press Conference

In his first press conference, on 9 October, after Sputnik's entry into orbit, Eisenhower explained why the United States had failed to put up a satellite first. His principle reason—a preference for developing a valuable scientific tool while keeping military programs secure and on track—was intended to provide reassurance:

Merging of this scientific effort with military programs could have produced an orbiting United States satellite before now, but to the detriment of scientific goals and military progress. Vanguard, for the reasons indicated, has not had equal priority with that accorded our ballistic missile work. Speed of progress in the satellite project cannot be taken as an index of our progress in ballistic missile work. Our satellite program has never been conducted as a race with other nations."[56]

Eisenhower repeatedly, and testily, downplayed the idea that the United States was in a space race with the Soviets, notwithstanding the media's treatment of the event. He spoke of the spending increases he had approved for the Vanguard program but deflected personal responsibility for the timing of the launch to the scientists, saying, "There never has been one nickel asked for accelerating the program. Never has it been considered as a race; merely an engagement on our part to put up a vehicle of this kind."[57]

Having dismissed earlier intelligence warnings of the potential propaganda and psychological consequences, Eisenhower continued to downplay the cost of being second, saying, "if we were doing it for science and not for security, which we were doing, I don't know of any reasons why the scientists should have come in and urged that we do this before anybody else could." He did acknowledge that the Soviets may have scored a psychological victory "in the political sense." Finally, Eisenhower promised that the US satellite, when launched, would deliv-

President Eisenhower wagging a finger at a questioner during his 9 September press conference in the Oval Office. Photo © Getty Images/Bettman Collection.

Eisenhower chose not to address the intelligence either because he prefered not to reveal US capabilities or because he thought his other statements would be sufficiently reassuring.

er even more promising results than Sputnik: "The satellite that we are planning to put in the air will certainly provide much more information, if it operates successfully throughout… it will provide much more information than this one can."[58]

During the press conference, Eisenhower did not allude to foreknowledge of the launch, other than mentioning Soviet attendance at the international conference in Rome in 1954, when satellites were proposed as IGY projects. Nor did he reveal that his confidence in US military capabilities vis-à-vis the Soviets and his lack of concern about Sputnik derived from credible classified intelligence reporting and analysis. Data from the U-2 flights had told Eisenhower the Soviets were not that far ahead of the United States in ICBM development.[59]

Eisenhower chose not to address the intelligence either because he preferred not to reveal US capabilities or because he thought his other statements would be sufficiently reassuring. As Killian wrote, however, the secrecy surrounding the US ballistic missile program left Eisenhower vulnerable to political criticism, which followed quickly.[60] Democratic Sen. Stuart Symington, who had long argued the Soviets were outpacing the United States in missile development, called on Eisenhower "to convene a special session of Congress, appoint a 'missile Czar' to direct the American ICBM effort, and lift the ceiling on defense spending." Other Democrats also criticized Eisenhower's claim that America's satellite program was superior, with Lyndon Johnson sarcastically noting, "Perhaps it will even have chrome trim and automatic windshield wipers."[a, 61]

CIA Faces Criticism

Themselves unaware of the state of Soviet space programs and the extent of intelligence information available about them, journalists almost immediately put CIA leaders on the defensive for the perceived lack of warning given to policymakers. In a meeting with his directorate chiefs on 11 October, Dulles heard Frank Wisner, deputy director for plans, propose

> *that in view of the unfavorable comments we have been receiving in a part of the press alleging another intelligence failure for lack of advance warning of the USSR earth satellite, we send a message to certain key stations to counteract these allegations.*

Dulles agreed with the proposal, although it is unclear what, if any, steps were actually taken.[62]

A flurry of press articles in early November 1957 noted a public disclosure from the President's Committee on Scientists and Engineers that CIA's Scoville had, a few hours before the launch on 4 October, warned that "it wouldn't surprise us if such an announcement came at any time."[63] One article mocked his statements as "foresight," erroneously indicting the government for having provided no "advance notice on the practical end" from the State Department, the military, or "the many billion dollar Central Intelligence Agency."[64] A Cleveland newspaper recorded the remarks of a congressman from Ohio, Rep. William E. Minshall (Republican), who accused CIA of being "asleep at the switch." He went on saying, "[CIA's] purpose is to collect, evaluate, and disseminate Soviet information. It failed badly in one, if not all three, of these functions."[65] In fact, Minshall had most likely been kept in the dark; he almost certainly was not among the very few members of Congress to receive CIA's briefings on Soviet earth satellite developments in 1956 and 1957.

It was not illogical for some congressmen, such as Minshall, to believe CIA had failed. A memo prepared for the DDI in January 1958 noted that during 1956–57, the Joint Committee on Atomic Energy (JCAE) had received five CIA briefings on Soviet guided missiles while the Senate Armed Services Committee received three briefings, but that "the records include no mention of our estimate on Soviet capabilities to launch an earth satellite prior to the actual launching of Sputnik I, although this might have been mentioned in some session where no record was made."[66]

a. In November, Allen Dulles had advised Eisenhower to make public US ability to photograph Soviet missile sites, but Eisenhower chose not to even though the disclosure might have stemmed the criticism. (Divine, *The Sputnik Challenge,* 41.)

CIA had briefed a small circle of senior congressmen about Soviet ESV developments, in addition to the president and his advisers. The chairman of the Senate Armed Services Committee, Sen. Richard Russell (D), told a journalist in October 1957 "that the CIA had kept the senior members of Congress completely informed of the Soviet progress in rocket development and regarding their capability to orbit the Sputnik."[67]

When the journalist sought comment from the DCI, Dulles replied that "CIA of course has been alert to the time and effort which the Soviets were devoting to such a project… and had kept some senior members of the Congress informed of the Soviet progress." Director Dulles also "humorously stated that of course we did not tell them the launching would occur on a particular day or month."[68]

The Perennial Warning Challenge

Dulles's comment highlights the distinction between strategic and tactical warning and the difficulty intelligence analysts have in delivering both. IC agencies have often provided strategic warning—stating that an event was likely to occur within a certain period of time, or that a country or group was militarily, logistically, or technologically *capable* of conducting a particular operation. But analysts have often been unable to offer tactical warning—a specific date or time the forecast events will actually occur.[a] In such cases, policymakers are left with the decision of what to do with clear strategic warning absent specific, tactical warning.

The search for greater specificity in scientific reporting was one outcome of the post-Sputnik CIA internal review.

The search for greater specificity in scientific reporting was one outcome of the post-Sputnik CIA internal review. CIA's estimates proved correct; the launch of Sputnik coincided with the time given in CIA's strategic forecasts from 1954 onward. However, those estimates contained little tactical information. As a history of OSI from 1953–60 noted,

> *The post mortem on NIE-11-5-57 found that the estimate was based more on educated guesses than on hard facts.… There was a continuing and pressing need for up-to-date intelligence on Soviet guided missile research and development organizations, facilities and personalities and on testing activities.*

A 1958 CIA review of NIEs on the Soviet Union took note of the difference between estimating when a certain capability will be within reach, and predicting when that capability actually will be achieved. With Sputnik, the achievement happened to coincide with CIA estimates on capability. The review explained, "We said that the Soviets could orbit an earth satellite in 1957. When the Soviets did so we were very proud of ourselves, and indeed our estimate was triumphantly proved valid. Yet we had not predicted that the Soviets would launch a satellite."[69]

A few years after Sputnik, Herbert Scoville also lamented the lack of tactical information on the Soviet launch until a few months beforehand. The following is an excerpt from a speech Scoville gave in 1961 to CIA's Junior Officer Training class:

> *For a period of about one year prior to the launching of that first Soviet earth satellite, we had repeatedly predicted that the Soviets would launch such a satellite. To some extent this prediction was based upon our knowledge of the Soviets' general scientific capabilities and on what we knew . . . they were doing in the missile field. On the other hand, we had no specific reports stating that they had a vehicle ready and that they were going to launch a satellite on a particular date. We thought originally that they might do it at the end of 1957 or early in 1958 at the very beginning of the International Geophysical Year. There was, however, no firm evidence to give backing to this belief. But as the summer wore on and we received more and more little bits of indications, public statements . . . and similar things, we were led to believe that the launching of a satellite was imminent and might occur at any time.*
>
> *We put these beliefs into the* National Intelligence Estimates*, the* Scientific Intelligence Digest[b]

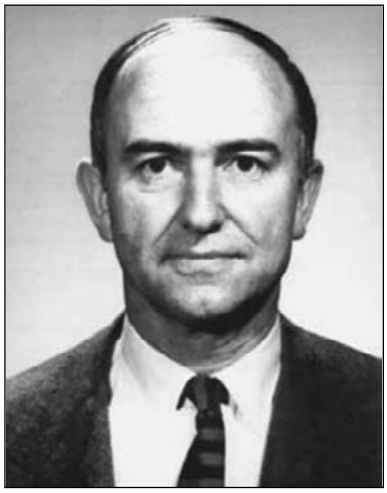
a. A more recent, now famous, example of such a circumstance is the *President's Daily Brief* article of August 2001, which addressed al-Qa'ida's intention to directly attack the United States.

b. CIA's classified *Scientific Intelligence Digest* (SID) first appeared in July 1951. In 1957 CIA had evaluated ahead of the launch and published in the SID "several key

and into the Current Intelligence Digest*, but we had no really hard facts to go on…. I quote this as an example of where we guessed right, but still did not succeed. We have got to do a better job of getting our product across so that it can be acted upon. One of the most important things in selling a given intelligence item is to have some facts. If you have some actual data to go on, then you're going to get better credibility for the point you're putting across. That is not the only reason we want facts. We need facts in order to make better judgments in the first place. In many respects we are very, very poor in terms of the factual material that we have available.*[70]

Scoville's comments reflected the pressure analysts were under to present accurate and detailed pictures of Soviet missile capabilities in the early 1960s. Scoville also raised the now age-old issue of how much responsibility IC leaders should bear for how policymakers choose to act, or not, on the intelligence they are given. While Scoville implies that more specific information might have spurred policymakers to act differently, in this case, given Eisenhower's recorded positions on a "space race" and protectiveness of military and intelligence technology, it is questionable that more detailed and "factual" reporting would have changed the president's approach to the coming Soviet triumph.

aspects of the Soviet Satellite program" and pointed to those articles in late 1957 as part of the body of work CIA had carried out on Soviet earth satellite programs.



Herbert Scoville in undated CIA file photo.

"We Had Everything There Was To Know:" A Collector's Perspective

Scoville's speech presents an analyst's view of the issues surrounding the launch of Sputnik 1. For an operational perspective, we can look to OSI's counterpart in the DO, a collection unit in the Scientific Operations Division (SOD) known in the early 1950s as the Technical Guidance Staff.[a] CIA Trailblazer Eloise Page worked in this unit in the years preceding Sputnik, and in an interview years later she recalled the efforts to learn as much as possible about Soviet earth satellite developments.

Page rejected the idea that Sputnik represented an intelligence failure. She also appeared to take issue with Scoville's lament about the lack of factual reporting, suggesting that much, including the timing of the launch; had been acquired in the months before the launch: "We had been getting a lot of reports. We had dozens of them." Many of these would have come through the high-level contacts she maintained in the US geophysical sciences community.

By May of 1957 we had everything there was to know about the Sputnik.[b] *We had the angle of launch, we had the date. It was to be between September 20th and October 4th.* [Emphasis added.] *September 20th (sic.) was the 100th anniversary of the birth of the father of Soviet rocketry. The 4th of October was the last window that they could launch.*

We had everything else there was to know about it. By this time, all of the consumers were interested. There was a Scientific and Technical Intelligence Committee (STIC), which was headed by Colonel White of OSI,[c] *and they tried to get him to put something out that would go to the policymakers on this. They wanted to put out a STIC memo on it because we had all this information, and by this time it was obvious that it was good information. He said, "No. I'm not going to do that because*

a. According to a 1951 survey of the Office of Special Operations (OSO), the branch was responsible for the "stimulation of the collection of scientific and technical information and for close liaison between OSO and the Office of Scientific Intelligence."

b. May 1957 is earlier than currently available reports suggest. The earliest report available to the authors was issued in July 1957 and stated that the Soviets would launch a satellite in September or October 1957.

c. Colonel Jack A. White was head of the missile division within OSI and a CIA representative to the Guided Missiles Intelligence Committee.

that comes from the Soviets and I don't believe anything the Soviets say [publicly]*." They started making noises about it, and he said, "Nope. We are not going to put it out."*

So finally I did something you are not supposed to do. In July I went over to see him and I said, "You really ought to put this out, because if you don't it's going to go off and we are going to have an intelligence failure." He said, "I don't care." So, there was nothing more I could do about that.

Page recalled in her interview:

I bet [Colonel White] *a case of champagne that* [the launch] *was going to go off. You should have seen my office on Monday morning. I had cases of champagne stacked up like that! The committee met in an emergency session on Sunday. They put a memorandum out with all of the information about Sputnik that they had. It was a great report, but, of course, it was after the fact. Then I got a letter of commendation from OSI."*

Indeed, the OSI letter notes that "the information obtained by SOD was essential and indispensable; the speed with which it was collected and made available to OSI and the complete cooperation and all out efforts made by SOD to comply with OSI requests make this a unique instance."

Eloise Page 1969 badge photo.

Conclusion: Policy Failure, Intelligence Success?

Although CIA had several times advised its customers of the impending launch, and perhaps *because* the US government had been fully apprised of Soviet ESV progress, the administration saw little need to attempt to blunt the effect of the Soviet political victory. That the Eisenhower administration had already planned to launch a satellite and did so in early 1958 made little difference in public perceptions. The Soviet launch shocked the American people and the rest of the world, and would result in profound national introspection followed by significant changes on the policy and intelligence front. As Weber noted, "Not since the investigation into causes of the Pearl Harbor disaster that led to the creation of CIA in 1947, perhaps, had so much soul searching into the strengths and aims of the U.S. been carried on."[71]

CIA's response to Sputnik presaged future instances in which a perceived intelligence failure has led the agency to review its collection capabilities and establish a task force to improve communication and collaboration across divisions. Even though CIA estimates had proven accurate on Sputnik, the agency still lacked specific information on Soviet guided missile developments.

The satellite launch sparked political concern that a "missile gap" existed between US and Soviet development. A panel of experts on guided missiles reviewed OSI's estimates and informed the DCI that "U.S. experience in ballistic missiles did not match that of the USSR and was, in fact, 'lagging by two to three years'… For this reason the consultants recommended that the technical competence of CIA should be expanded without delay and that direct connections between CIA and U.S. missile contractors be effected." CIA leaders subsequently ordered the establishment of a Guided Missiles Task Force, with representation from the analytic, operations, and technical components. Sputnik also led to greater collaboration and cooperation between OSI and ORR.

As in other crises in CIA history, analysts assigned to the hot topic of the day found themselves thrust into the limelight and experienced a boost in morale because of the attention their work received. From OSI's perspective,

The effect on OSI of the lively debates and discussions in Congress, Administration circles and the public press was an immediate rise in the requests for briefings and estimates on Soviet S&T capabilities… It was stimulating to most analysts to find that the products of their labors were at last sought after and found applicable to prob-

lems of national importance.[72]

In the lead-up to Sputnik's launch, CIA's support to its most important customer – the president – provided accurate strategic warning. The president was not surprised. This achievement is especially notable because it occurred in the first 10 years of the agency's existence, when scientific collection was still a relatively new field and during an era of rapid military and technological development in both the United States and the Soviet Union. That CIA foresaw the significance—politically, psychologically, and militarily—of satellite development and attempted to inform and shape policy discussions accordingly, demonstrated that it had the skilled employees and resources to meet the challenges of the day. Although most Americans were not aware of it at the time and probably are not today, the Sputnik episode was an instance of successful intelligence collection and warning.

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The informal, internal US space race was won by the Army's Juno rocket (shown here), which took Explorer 1 into space on 31 January 1958. The Navy's Vanguard, which the president originally preferred, would not successfully orbit a satellite until 17 March of the same year.
Photo: NASA

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