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THE CUBAN MISSILE CRISIS AT SEA

Avoidance of Nuclear War Not Left to Chance

Theodore Voorhees

Crisis management was in the mix, but the indispensable ingredient was luck. Very good luck.

MARTIN J. SHERWIN, *GAMBLING WITH ARMAGEDDON*

It was Slaughter's searchlight and the message he was transmitting that saved the situation. But that required a stroke of good luck.

SERHII PLOKHY, *NUCLEAR FOLLY*

In 1962, the world got lucky.

MAX HASTINGS, *THE ABYSS*

On the night of 27–28 October 1962, an American antisubmarine warfare (ASW) carrier task force that included multiple destroyers compelled a Soviet diesel-electric submarine (designated *B-59*) to come to the surface in the Sargasso Sea outside the quarantine line during the Cuban missile crisis.¹ *B-59* had been tracked by the destroyers and aircraft flying overhead, and it was directed to surface by loud sound signals produced from the destroyers' ultrahigh-amplitude sonar equipment and by the detonations of harmless "practice depth charges" (PDCs) dropped in repeated series. The submarine's captain, Valentin Savitsky, eventually brought his vessel to the surface because of a shortage of both power and breathable air. The incident ended peacefully and passed relatively unnoticed by history for four decades.

But in 2002, on the occasion of an anniversary conference on the lessons of the missile crisis, the Western public first learned that *B-59* carried a nuclear torpedo and that in a moment of panic below the surface, Savitsky briefly had considered firing the atomic weapon at his American pursuers in retaliation for their

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harassment of his vessel from above. At this critical juncture, other Soviet naval officers on board who had kept their heads, including a man named Vasily Arkhipov, managed to calm Savitsky down. Ultimately, no torpedo was fired, and the vessel

subsequently was brought to the surface amid a crowd of USN destroyers and ASW aircraft. Shocked conference commentators and members of the news media in 2002 quickly awarded the cool-headed Arkhipov the title “the man who saved the world.”² This dramatic story of below-the-surface heroism suddenly became epic in world history, and some later historians would perceive it as an almost-miraculous stroke of luck as the world teetered on the brink of a potential World War III.³

However, subsequent reports soon would reveal that there was yet a second shocking drama to come—this time above the surface—and it curiously would mirror the first Savitsky-Arkipov face-off. *B-59*’s below-surface episode occupied a four-hour interval that began at 4:59 PM on Saturday afternoon, 27 October, when an American ASW destroyer dropped a sequence of five PDCs above the submarine. The U.S. State Department had announced this signaling practice both to the Soviet Union and to the rest of the shipping world several days before.⁴ The below-surface events ended just short of four hours later at 8:52 PM when the submarine finally rose into the night air and started the second, above-surface phase of the drama, which lasted for a shorter but less-well-defined period of a few hours thereafter—most likely ending well before midnight the same day. During this further episode, while Savitsky and Arkhipov were standing outside on *B-59*’s conning tower, the captain once again was seized by panic and called for deployment of his atomic weapon, but for a second time Arkhipov was there to restore calm, as will be recounted later in this article.

The two sets of dramatic revelations have been explored in nine scholarly books and papers over the two decades that followed the 2002 anniversary conference. The expanding *B-59* story has become one of the more widely recognized cautionary tales about the escalatory risks posed by nuclear weapons. Yet these nine analyses also have provided an array of noticeably divergent eyewitness accounts and exposed numerous unexplained factual gaps and contradictions on key points. These problems have been especially notable for the contrasting testimonies of the American and Soviet naval participants. Many of the U.S. servicemembers created individual, contemporaneous, written logs and narratives of what they did and observed, while their Russian counterparts executing Operation ANADYR mainly have come forward decades after the fact with only their unaided recollections.

This article will provide a first comprehensive assessment of the many conflicts and contradictions that emerge from a close reading of the nine published accounts of the *B-59*/ASW unit confrontation. The assessment leads to two main conclusions: first, that despite the conscientious efforts of multiple thoughtful scholars, there remains insufficient credible evidence to anoint any participant in the *B-59* incident “the man who saved the world”; and second, that there is no substantial basis for the assertion that the peaceful conclusion of this naval confrontation should be attributed to good luck.

2002, PETER A. HUCHTHAUSEN, *OCTOBER FURY*

Two major accounts of the *B-59* saga were published in 2002; Huchthausen's *October Fury* was the first, but only by a matter of months.⁵ Huchthausen briefly mentioned the below-surface events experienced by the submarine's officers and crew on 27 October 1962.

The USS *Cony* began to drop practice depth charges, in accordance with the U.S. notice to mariners. Savitsky had received the notice on the submarine broadcast two days earlier. . . .

The first contact with the hunter-killer group was at about ten in the morning, and by four the next morning the Russians were practically suffocating and had thrown in the towel. After nearly a day of those simulated attacks, Savitsky was finally forced to surface amid his hunters to charge batteries. Savitsky surfaced slowly and carefully on the prescribed easterly course[;] . . . there was little else they could do. They were heavily outnumbered by ships and aircraft.⁶

Huchthausen did not mention any hostile actions by ASW aircraft; he wrote only that a P2V Neptune surveillance aircraft “suddenly swooped out of the darkness and dropped several small incendiary devices, presumably to activate its photoelectric camera lenses.”⁷ This led to an unsettling incident that subsequently would be described in greater detail by Gary Slaughter (see below) in which *B-59* “wheeled” toward *Cony*, “unmask[ed] her forward torpedo tubes and looked about ready to launch,” drawing an immediate apology from *Cony*'s captain, which defused the incident.⁸

Huchthausen also mentioned a minor, innocent incident that occurred the next morning while the Soviet submarine was moving on the surface that caused the sub's captain to become fearful.

The next morning Savitsky permitted his signalmen to ask *Cony* for bread and cigarettes. The destroyer moved in to about eighty feet alongside the submarine to set up a light line transfer. Then *Cony*'s bosun[s] mates fired a shot line to the sail of the submarine (the shot line is fired from what appears like a sawed-off shotgun, which projects a weighted “monkeyfist” which is made up to another line, a considerable distance). When the bosun fired the line gun the Russians in the sail cockpit ducked and scampered below. They thought the Americans had opened fire on them. When the Russians realized what *Cony* was trying to do, they settled down.⁹

Huchthausen relied in part on an interview from 5 October 2000 with Vadim Orlov, who had served as *B-59*'s communications intelligence officer. Orlov's interview apparently had provided no indication that there were any tense moments between *B-59* and the American warships either before or after *B-59* surfaced. He talked about his initial difficulty in identifying the correct name of the American aircraft carrier of which his communications team had become aware while below

the surface by intercepting “carrier radio call signs and the pilots’ chatter as they launched and landed aboard.” Orlov told Huchthausen that as soon as *B-59* surfaced, “Savitsky realized they were not in a state of war.” He also described how the American sailors seemed “good-natured” as “a jazz band paraded” on a destroyer’s torpedo deck. The “whole scene” appeared to him to be “comical.”¹⁰ Two years later, however, Orlov would provide a remarkably different version of the event.

**2002, WILLIAM BURR AND THOMAS S. BLANTON,
“THE SUBMARINES OF OCTOBER: U.S. AND SOVIET NAVAL
ENCOUNTERS DURING THE CUBAN MISSILE CRISIS”**

This second published analysis of the *B-59* incident, prepared by George Washington University’s National Security Archive, drew heavily on Orlov’s first-person account, amplified by new revelations from him, which dealt mainly with events that occurred while *B-59* still was submerged and being hounded by the U.S. Navy’s ASW task force directly above.¹¹ Orlov’s undated statement bearing the title “Recollections of Vadim Orlov (USSR Submarine *B-59*): We Will Sink Them All, but We Will Not Disgrace Our Navy” was included in an account written by Aleksandr Mozgovoy and published in Moscow in 2002.¹² Orlov described a chaotic scene below the surface as *B-59*’s captain and crew began to succumb to stifling conditions that were growing steadily worse in the trapped submarine. Referring to the PDCs being dropped by the USN destroyers overhead, Orlov stated the following:

We were suffering like this for about four hours. The Americans hit us with something stronger than the grenades [depth charges]—apparently with a practical depth bomb. We thought—that’s it—the end. After this attack, the totally exhausted Savitsky, who in addition to everything, was not able to establish connection with the General Staff, became furious. He summoned the officer who was assigned to the nuclear torpedo, and ordered him to assemble it to battle readiness. “Maybe the war has already started up there, while we were doing summersaults here[?]—screamed emotional Valentin Grigorievich [Savitsky], trying to justify his order. “We’re going to blast them now! We will die, but we will sink them all—we will not disgrace our Navy!” But we did not fire the nuclear torpedo—Savitsky was able to rein in his wrath. After consulting with Second Captain Vasili Alexandrovich Arkhipov [deceased] and Deputy political officer Ivan Semenovich Maslennikov, he made the decision to come to the surface.¹³

The captain’s outburst suggesting a determination to “blast them” with a nuclear torpedo was certainly alarming. But did Savitsky seriously consider firing the nuclear torpedo at an aircraft overhead or a nearby destroyer, as opposed to simply giving vent to an outburst of anger and frustration? The latter interpretation seems more probable given the certain, simultaneous self-annihilation that use of a nuclear weapon against such a nearby target would have meant for *B-59* and its crew. And there is some fragmentary evidence that it was indeed a nearby

destroyer that was the subject of Savitsky's outburst in his moment of panic and frustration.¹⁴

It is also noteworthy that Orlov's first recorded recollection of Savitsky's seemingly unhinged order was that the torpedo should be "assembled" rather than "placed" or "loaded" in the firing tube. Does this indicate that the nuclear warhead actually may have been stored in the submarine separately from the torpedo body so that it needed time-consuming assembly or coupling to a torpedo body before use? There is some suggestion in the technical literature that this may have been so.¹⁵ But if assembly was necessary, how long would this operation have taken to accomplish? Aboard *B-59*, was the assembly order actually carried out, and if so who performed the task? Orlov's account published by Mozgovoy did not provide answers to any of these questions. Orlov concluded his Mozgovoy narrative by detailing Arkhipov's timely counsel, aided by *B-59*'s political officer Maslennikov, "rein[ing] in" Savitsky's wrath and getting the captain to reverse his panicked order.

The "Submarines of October" editors did not resolve directly the timing question of when the nuclear torpedo actually had been "placed" or "loaded" into a tube (much less "assembled") for possible later firing. Regarding both questions, however, Burr and Blanton introduced a seed of doubt: "Orlov's description of the order to assemble the nuclear torpedo is controversial and the other submarine commanders do not believe that . . . Savitsky would have made such a command."¹⁶ Despite these important reservations, the public readily accepted the later Orlov rendition of Arkhipov's heroism in persuading Savitsky to desist from his Armageddon plan and adopted the shocking image of the world being saved at the very brink of nuclear catastrophe.¹⁷ In 2012, the Arkhipov story was featured in a PBS documentary entitled "The Man Who Saved the World."¹⁸

Helpfully, Burr and Blanton's paper also provided links to USN destroyer deck logs and naval aircraft pilot narratives covering the periods when *B-59* was submerged and after it surfaced. These logs and narratives provide a contemporaneous, detailed record of key events during the night of 27–28 October 1962. The following excerpts are from USS *Beale*'s deck logbook for 27–28 October:

[27 Oct., 4:59 PM] Dropped 5 hand grenades as challenge to submarine for identification. No response. . . .

. . . [8:50 PM] Submarine, identified as USSR type "FOXTROT[.]" surfaced at [location coordinates] on easterly course, slow speed. [8:52 PM] Aircraft commenced illumination and photographic runs on submarine. . . . [10:00 PM] Commenced approach from astern of submarine for close-in photo run. Maneuvering to pass 500 yards on parallel course. Commenced illuminating with 24 [inch] searchlight and aircraft searchlights.

. . .

. . . [28 Oct., after midnight] Aircraft from the USS RANDOLPH (CVS-15) are illuminating and photographing the submarine.

The following excerpts are from USS *Cony*'s deck logbook for 27–28 October: 27 October, 5:29 PM: “Challenged submarine contact by dropping five (5) hand grenades.” 8:52 PM: “Submarine surfaced.” 10:27 PM: “Passed submarine 100 yards to starboard for better identification.” 11:08 PM: “Maneuvering to remain within 3000 yards.”

Previously, on 24 October 1962, the U.S. Naval Oceanographic Office had transmitted a special notice to mariners (NOTMAR), 45-62, directed “to all ships and stations” and “placed it on the international warning lists for all countries to copy.”¹⁹ The NOTMAR specified the submarine surfacing and identification procedures (SSIPs) that would be used in conjunction with the naval quarantine of Cuba. The SSIPs included the following steps: “Quarantine Forces will drop four or five harmless explosive sound signals which may be accompanied by the international code signal quote IDKCA unquote meaning quote Rise to Surface unquote. . . . Submerged submarines, on hearing this signal, should surface on Easterly course.”²⁰

It is important to note that the two separate drops of five “hand grenades” mentioned in the *Beale* and *Cony* logs—with the *Cony* series dropped approximately a half hour after the *Beale* series—demonstrate that each destroyer was observing the precise instruction for the number of PDCs (five grenades) to be dropped as spelled out in the SSIP transmitted by the NOTMAR. Also, the deck logs confirm the equally noteworthy fact that *B-59* did not surface immediately after *Cony* dropped the second round of grenades at 5:29 PM but waited a further three hours and twenty-three minutes before doing so, at 8:52 PM.

The Burr and Blanton paper also contained in its annex the official postaction “narratives” written by three of the Tracker aircraft pilots who participated in the surveillance of *B-59* on 27 October 1962: Commander L. M. Millsaps, the executive officer of Tracker aircraft squadron VS-36 assigned to the carrier USS *Randolph*, who launched his Tracker at 4:35 AM; Lieutenant Commander James L. Miller of *Randolph*'s Tracker squadron VS-26, who launched his aircraft at 7:00 PM; and Commander John F. Gillooly, flight leader of Tracker squadron VS-26, who launched his aircraft at midnight on 27–28 October. All three pilots were flying the S2F-3 model of the Tracker aircraft.²¹

Commander Millsaps located a Russian trawler named *Shkval* about one hundred miles east of *Randolph*, decided to concentrate on the area around the Soviet vessel, and laid out a “JEZEBEL Sonobuoy pattern.” Sonobuoys were passive acoustic buoys dropped into the sea. They first were developed during World War II and were designed to be dropped from ASW aircraft or surface ships in various shaped patterns in the sea. Sonobuoy system technology advanced rapidly during

the 1950s along with techniques for overflying aircraft to process the signals they were receiving from the sounds of submerged submarines. Jezebel was the code name for one of several such signal processing techniques used for “search and localization” of the target submarine.²²

Lieutenant Commander Miller launched his Tracker aircraft from the carrier USS *Randolph* on 27 October at 7:00 PM. His flight narrative, “concerning participation in prosecution of contact C-19,” stated:

[W]eather marginal. Rain and low ceilings had been [prevalent] most of the day. . . .

. . . [Beginning shortly after 8:50] [w]e passed close enough . . . to see definitely that the contact was surfacing. . . .

. . . Numerous illumination and photographic runs were made as the contact made no effort to evade. He even showed running lights and maintained a steady course to the East. . . .

. . . The [OAU?] advised the aircraft to complete an adequate number of runs and then orbit the area while the Small Boys closed for illuminating and photographing. They also used a signal light to ask the contact if he needed any assistance. . . .

Just prior to being relieved on station the aircraft made more illumination and photographic runs with different small boys alongside. Throughout most of the illumination runs personnel were observed topside as well as an obviously displayed national ensign.²³

Miller’s aircraft remained over *B-59* until relieved at 11:20 PM; no gunfire was noted in Miller’s report.

Commander Gillooly launched his Tracker from USS *Randolph* at midnight on 27–28 October 1962

to maintain surveillance of a surfaced Soviet “FOXTROT” submarine 20 miles north of the RANDOLPH. . . .

Ringling the submarine in a 3 mile circle were five destroyers. . . . [Flight leader] made searchlight illuminating and photographic runs on the submarine for the entire on station time [12:20 AM to 4:30 AM]. . . .

For the first hour on station the submarine maintains a course of 090 at five knots. As rain and poor visibility hampered the entire mission USS MURRAY (DD 576) provided close-aboard searchlight illumination of the submarine to aid in positive identification on the first three photographic runs.

. . . At 0120 hours, the submarine and the destroyers approached a heavy squall line rainstorm.²⁴

No gunfire was noted on Gillooly’s report at any time, whether from machine gun or cannon.

2003, GARY WEIR AND WALTER BOYNE, *RISING TIDE: THE UNTOLD STORY OF THE RUSSIAN SUBMARINES THAT FOUGHT THE COLD WAR*

Gary Weir and Walter Boyne, like Huchthausen and the editors of “Submarines of October” before them, relied heavily on a “first-person view of *B-59*” provided by Orlov, the “radio surveillance officer” on board the Soviet submarine who headed an “OSNAZ group of ten highly qualified radio officers” who were responsible for monitoring, sending, and receiving radio transmissions.²⁵ Orlov took care of “transmission with Moscow and the Northern Fleet during Operation Anadyr; interboat communication if that became necessary; radio transmission surveillance of the American forces at sea; radar detection; the surveillance of American commercial radio; and intelligence derived from high-frequency direction finding.”²⁶

Over the course of two months during the late summer of 2002, Orlov provided Weir and Boyne with an “oral history” of the event and with a “personally prepared source essay” entitled “The Story of a Radio Surveillance Officer,” and he would continue to be a primary source for almost all the later writers who covered the *B-59* story.²⁷ Notably, however, the details provided in Orlov’s varying accounts would expand and change shape as time went by. Here are the key elements on which Weir and Boyne relied:

Savitsky would surface his diesel-powered Foxtrot at night to recharge the batteries, remaining submerged during the day with both snorkel and antenna up, to renew the air, recharge if necessary, and maintain communications.

As they approached the eastern coast of the United States, Orlov’s group concluded from their intercepts that the U.S. Navy had initiated an alert and four aircraft carrier task groups would address any ASW challenge. They informed both Savitsky and Northern Fleet headquarters. The latter reacted by confirming their orders to Mariel.

An American aircraft carrier ASW group detected *B-59* on October 19, 1962. Savitsky found himself in water about 1,800 feet deep and far too warm for comfort. The tropics began to have their effect and the necessity to remain submerged quickly rendered the air hot and stale. At about 2300 hours, Savitsky’s efforts to elude began to fail in the face of overwhelming force. He found himself at 450 feet with an eight-ship American task group just above. The destroyers rattled them with active sonar pings and the customary three-grenade explosion signal ordering them to surface.²⁸

The *Rising Tide* Orlov account notably provided the wrong date and time (20 October at 4 PM) for *B-59*’s surfacing. This error was especially glaring since 20 October was two days before U.S. president John F. Kennedy’s speech to the nation (and the world) announcing the discovery of the Soviet missiles in Cuba and four days before the institution of the naval quarantine. Orlov also did not mention any ASW aircraft firing machine guns or cannon. He did report, according

to Huchthausen, that a P2V Neptune “suddenly swooped out of the darkness and dropped several small incendiary devices.” This led to the unmasking incident mentioned above.

Orlov also excluded and included colorful details that subsequently would lend further drama to the event and thereby lead to confusion and controversy as later commentators attempted to reconstruct what happened. For example, Orlov failed to tell Weir and Boyne about Savitsky’s moment of panic or Arkhipov’s calming intervention below the surface. Here is how that scene was described: “Extremely angry at his situation and the behavior of the Americans, Savitsky ordered the nuclear torpedo placed in the tube in the forward torpedo room just before surfacing. He did not know what to expect and would take no chances.”

Weir and Boyne noted that the then-new Soviet nuclear torpedoes had been tested to “detonate by means of a time fuse and not on contact” with the target.²⁹ How could the time fuse have been set while *B-59*’s captain was below the surface and not yet prepared to fix on any particular target?

Similarly, Orlov neglected to tell Weir and Boyne about threats or hostilities between the submarine and the U.S. Navy’s ASW task force after *B-59* surfaced (which actually occurred at 8:52 PM on the evening of 27 October):

The captain began signaling his intention to surface with his active sonar in conformity with international rules. He surfaced at 1600 on October 20th into a whirlwind of dazzling lights, a near circle of surface ships, and a helicopter hovering about ninety feet above his head. The sudden surge of fresh air made Savitsky, his political officer, the watch officer, the signalman, and Orlov feel drunk as they filled their lungs on ascending to the sail bridge. As these senior officers watched the circus on the surface, Orlov’s people worked furiously to communicate with the Northern Fleet. It took them a while to get through, but when they did it took Gorshkov only twenty minutes to respond. The admiral ordered them to escape, evade, and head for Bermuda. He advised them that no war had begun, so they should avoid starting one at all costs.³⁰

Orlov did, however, provide for Weir and Boyne this important description of *B-59*’s system of control over the nuclear torpedo it was carrying: “When Savitsky ordered the torpedo loaded only hours before[,] the crew remained calm and followed orders. Three officers aboard the boat held the keys necessary to use the weapon—the commander, the executive officer, and the political officer. A KGB officer on board guarded the torpedo and never left it, sleeping next to the device in what could often become the coldest compartment on the boat.”³¹

This “three key” requirement was the Soviet adaptation of what was becoming an international “two-man rule” or “dual key” system standard for regulating the use of nuclear weapons and preventing accidental or malicious launches.³² The United States had institutionalized a comparable initial regulatory framework in President Kennedy’s 6 June 1962 National Security Action

Memorandum (NSAM) 160. NSAM 160 introduced a rule requiring the use of permissive action links (PALs) to regulate the process for arming a nuclear weapon prior to its use by introducing time-consuming steps and a redundancy of independent operators to reduce risk of a hasty decision or the intervention of an unauthorized or unstable actor. NSAM 160 referenced and appended a 29 May 1962 memorandum to the president, authored by his chief science adviser, Jerome B. Wiesner, that stated, “In evaluating the utility of this [PAL] equipment, it must be recognized that it is simply intended to buy time. . . . I believe it would give further (and probably decisive) protection against individual psychotics and would certainly cover unauthorized use by military forces holding the weapons during periods of high tension or military combat.”³³ Various adaptations of the two-man rule soon would become common in the nuclear age as additional nuclear powers endeavored to maintain tight control over their atomic weapons.³⁴

Orlov’s rough description of Savitsky ordering the nuclear torpedo to be “placed in the tube in the forward torpedo room just before surfacing” leaves more questions than answers. When was that order issued? Did Arkhipov approve? Was the order obeyed by the responsible torpedo department officers and crewmembers and by the KGB or other intelligence officer who continuously guarded and even “slept next to” the nuclear weapon at all times?³⁵ Orlov did not provide any of these details, and, as detailed below, subsequent researchers would provide differing answers to these questions.

If the torpedo loading did occur, when and under what circumstances was the nuclear device removed from the torpedo tube? The Orlov account in Weir and Boyne did not say exactly, other than to observe that this occurred while the submarine’s captain was on the surface and able to see for himself that “no war had started and it did not seem as if one would,” and that the placing or loading had occurred “only hours before.” Orlov also added his own personal feeling of being “physically relieved” when Savitsky “ordered the forward torpedo room to remove the nuclear torpedo and place it back on its reserve rack.”³⁶ Once again, this account did not provide details regarding the timing or other circumstances when this subsequent order was issued, nor were the officers or crewmembers who carried it out identified.

2005, SVETLANA V. SAVRANSKAYA, “NEW SOURCES ON THE ROLE OF SOVIET SUBMARINES IN THE CUBAN MISSILE CRISIS”

Savranskaya was the first scholar to tell the *B-59* story using her access to extensive records from both U.S. and Soviet archives and her personal interviews of many of the Soviet naval officers.³⁷ Her narrative focused solely on events that took place while *B-59* was below the surface.

Savranskaya's article made an important contribution toward scholarly understanding of the Soviet navy's instructions to the captains of the four Foxtrot-class submarines regarding the circumstances under which the nuclear-armed torpedo could be used. She noted there was a distinction between what the surviving witnesses "recalled" being their instructions and what the official written instructions issued to each captain actually said. Regarding individual recollections, she wrote: "The only instructions concerning nuclear weapons that the captains remember receiving were given in that briefing [the day before departure]. As Nikolai Shumkov recalls, he heard Admiral Fokin say 'if they slap you on the left cheek, do not let them slap you on the right one.'"

A second captain, Ryurik Ketov, who was a friend of Captain Savitsky, had a different memory: "Vice-Admiral Rassokha . . . said, 'Write down when you should use these. . . . In three cases. First, if you get a hole under the water. A hole in your hull. . . . Second, a hole above the water. If you have to come to the surface, and they shoot at you, and you get a hole in your hull. And the third case—when Moscow orders you to use these weapons.'"

As for the official written orders, there were "packets with secret orders," which each captain "could only open at sea." These "secret orders" provided that "[c]onventional weapons could be used on the orders of the Commander-in-Chief of the USSR Naval Forces, and the nuclear weapons could be used only on special orders from the Defense Minister."³⁸ Savranskaya's research found no evidence of resort to force by the U.S. Navy: "It is important to note that . . . the US ASW forces were following strict orders on engagement with Russian submarines, did not use any weapons other than practice depth charges (PDC) to signal the Soviet submarines to come to the surface, and did not intentionally use any provocative tactics."³⁹

Nor did she identify any overt show of hostility by *B-59* other than repeating Orlov's account of Savitsky's outburst and Arkhipov's calming intervention.⁴⁰ And while her account did not provide full closure on the question whether the submarine's nuclear warhead was ever either "assembled," or "armed," or "placed," or "loaded" in a torpedo tube, Savranskaya did contribute additional reason to doubt that *B-59*'s crew ever actually obeyed Savitsky's frantic order by taking any specific steps to ready an atomic torpedo for firing.

Importantly, however, it appears that no action was taken during those emotional minutes [under the surface], other than the commander's outburst described above [by Orlov]. The captain guarding the torpedo did not receive the orders to flood it or otherwise manipulate the weapon to prepare it for possible use. . . .

At the conference on the 40th anniversary of the Cuban missile crisis in Havana in October 2002, Vadim Orlov recounted his story in detail but emphasized that the

utmost danger came not from an intentional launch of a nuclear torpedo, which even in the tense atmosphere of the last days before the surfacing remained very unlikely, but from malfunctioning equipment or an accident, which could have happened even under less trying conditions.⁴¹

What did Savranskaya mean by her phrase “or otherwise manipulate the weapon to prepare it for possible use”? She did not explain. Furthermore, the current historical record of the *B-59* saga does not make clear what specific steps were needed under Soviet navy rules either in the general case or in the explicit instance of *B-59* to ready a nuclear-armed torpedo for launch.

2008, MICHAEL DOBBS, *ONE MINUTE TO MIDNIGHT: KENNEDY, KHRUSHCHEV, AND CASTRO ON THE BRINK OF NUCLEAR WAR*

One Minute to Midnight by Michael Dobbs became the first scholarly account to add a further dramatic naval confrontation that occurred above water.⁴² But Dobbs’s rendition still lacked any hint that Savitsky might have experienced a second moment of panic above the surface, or that Arkhipov had to calm him down a second time.

B-59 actually started interacting with the U.S. Navy on the afternoon of 27 October while *above* the surface with “[s]everal men . . . visible in the tower,” but it had to submerge suddenly after being spotted by an S2F Tracker aircraft from USS *Randolph*. “By the time the S2F came round for a second pass, the Soviet sailors had disappeared and the decks of the Foxtrot were underwater. On the third pass, the sub was fully submerged.”⁴³

Dobbs stated, without citation, that *B-59* had been “unable to communicate with Moscow for more than twenty-four hours,” which indicates that the submarine *had* been able to be in touch with its headquarters the day before, on 26 October, likely in the afternoon. Dobbs speculated, however, that Savitsky might have feared an outbreak of nuclear war in the meantime. With Savitsky’s having missed his daily contact with Moscow on the afternoon of 27 October because of the sudden appearance of the Grumman Tracker, helicopter, and destroyers, Dobbs imagined that “[f]or all [Savitsky] knew, World War III might have broken out while he was underneath the waves.”⁴⁴

Although Savitsky passed away before *Midnight* was published, Dobbs opined—apparently on the basis of his interview with Orlov—that the captain had been totally unaware of the U.S. Navy’s announced SSIPs: “Savitsky was in the control room, along with Arkhipov and the chief of the signals intelligence team, Vadim Orlov. He knew nothing about the signaling procedures introduced by the U.S. Navy.”⁴⁵

Dobbs quoted Orlov’s recollection of Savitsky’s rage or panic attack and his outburst (“We’re going to blast them now!”) in response to the grenade

detonations he heard outside *B-59*, coupled with the highly challenging heat and airlessness inside the vessel, as had been reported by earlier scholars. Orlov added, without citing Savitsky's specific words, that he "summoned the officer who was in charge of the nuclear torpedo, and ordered him to make it combat ready."⁴⁶ But he did not mention what then actually happened to the nuclear torpedo that was on board—in particular, whether it had been assembled, armed, or loaded into the firing tube. Nor did he identify the "officer" whom Savitsky had "summoned." Was it *B-59*'s torpedo officer, Anatoly Leonenko? Or a KGB or other intelligence officer?⁴⁷ Rather, Dobbs closed out this stage of the episode by noting that *B-59*'s captain conferred with his colleagues, was persuaded to "calm down," and "finally concluded that the only reasonable choice left open to him was to come to the surface."⁴⁸ Dobbs's account provided no timing for this sequence of events. Thus, he did not offer any explanation for why there was more than a three-hour delay between the last PDC discharge outside *B-59* and the time the submarine surfaced. Nor did he describe what, if any, actions were taken during that interval regarding the order to make the nuclear torpedo "combat ready." Nor did Dobbs provide any specific information on the torpedo's actual location or status at any time while the submarine was below the surface.

Dobbs's depiction of *B-59*'s reception on surfacing was brief but vivid. He described the U.S. Navy's disconcertingly "powerful searchlights" flooding *B-59* as it rose to the surface, combined with flares being dropped from aircraft that were executing "low-level runs" over the submarine and making "a brilliant incendiary display." He also commented that, "[f]rom the bridge of *B-59*, it seemed as if the planes were making practice bombing runs. Lookouts reported that the Americans were spraying the sea with machine-gun tracer fire."⁴⁹

Dobbs's account of the surface action made no mention of Savitsky suffering a repeat panic attack and made no suggestion that the captain needed a second calming intervention by Arkhipov. Nor did Dobbs mention any aggressive "wheeling" or swerving maneuver by *B-59*, followed by an apology from USS *Cony*, as would be reported by Gary Slaughter. Rather, Dobbs brought his description of the surface events to a close by noting that "[a]fter an hour or so, a radio message arrived from Moscow instructing *B-59* 'to throw off your pursuers' and move to a reserve position closer to Bermuda," and by adding descriptions of a few other benign events as time went by, including a musical interlude performed for *B-59*'s crew by a "jazz band on deck" of one of the destroyers, and U.S. efforts to transmit cigarettes and cans of Coca-Cola to the submarine's beleaguered sailors, which in combination made it clear, and "a relief to know," that indeed "World War III had not broken out."⁵⁰

2016, GARY SLAUGHTER, *SEA STORIES: A MEMOIR OF A NAVAL OFFICER (1956–1967)*

Gary Slaughter's 2016 *Sea Stories* account of the *B-59* naval confrontation offered his eyewitness perspective as an ensign and watch officer stationed on the bridge of USS *Cony*, an American destroyer that tracked *B-59* closely.⁵¹

Unlike the destroyer deck logs and aircraft narratives that provided exact times when events occurred, Slaughter's account gave mostly general time frames. *Cony* had "acquired a solid sonar contact" on *B-59* at approximately 5:00 PM on 27 October and promptly began signaling the submarine to surface. Following the instructions in the Navy's NOTMAR, *Cony* "dropped five Practice Depth Charges (PDCs) in close proximity to *B-59*," and in addition used an "underwater radio transmitter (*Gertrude*)" to transmit "the International code *IDKCA*, which also meant *come to the surface*."⁵²

B-59's captain appeared to ignore these signals over the ensuing four hours, and Slaughter described how *Cony* "pounded the submarine with ultra-high amplitude sound waves from the huge sonar dome under our bow." The submarine eventually surfaced at 9:00 PM, whereupon its main deck hatches "popped open" and the "sub's crewmen streamed out of the open hatches, stripping off their sweat-soaked uniforms." Slaughter observed all this up close "as we followed alongside *B-59* from a position about 200 feet off the submarine's starboard beam" and bathed it in the "blue-white light from our huge 24-inch search lights." Slaughter noted that "[s]oon after" the submarine surfaced, he began to interrogate *B-59*'s conning tower by flashing light "employing the Cyrillic transliteration table, the International Signals Book, and Morse code," asking, "Do you require any assistance?" to which Savitsky "answered with a curt, *Nyet*."⁵³

The two vessels continued to move slowly side by side "[f]or the next hour" (i.e., most likely between around 9:30 and 11:00 PM) as "Savitsky and I simply stared at each other, and the situation settled into an uneasy standoff." Then: "Suddenly, out of the pitch-black night sky, . . . [a] P2V Neptune . . . dropped several incendiary devices which sounded like a string of large firecrackers exploding. *Bam! Bam! Bam!* While the light flashes were absolutely blinding, they activated [the Neptune's] photoelectric camera lenses to photograph the submarine."

At this moment Slaughter saw things take a dangerous turn: "Believing he was under attack, Savitsky cleared his conning tower and wheeled his boat around, bringing his forward torpedo tubes to bear on *Cony*. *Cony*'s commanding officer, Captain Morgan, immediately directed me to signal Savitsky and apologize for the provocative nature of the P2V's unannounced arrival. . . . Savitsky returned to his conning tower and acknowledged my apology. Closing his torpedo-tube doors, he wheeled to port and returned to his easterly heading."⁵⁴

Like James Miller, who had been flying overhead in his Grumman Tracker, Slaughter made no mention of machine-gun fire or cannonading by aircraft, or of any indication that the submarine was preparing to submerge.

2020, MARTIN SHERWIN, *GAMBLING WITH ARMAGEDDON: NUCLEAR ROULETTE FROM HIROSHIMA TO THE CUBAN MISSILE CRISIS*

With the arrival of Martin Sherwin's 2020 account of the *B-59* story, an entirely new narrative of the naval confrontation took shape, derived from several previously unavailable accounts of the above-surface events. Sherwin relied on Orlov's Mozgovoy account but also on further comments by the communications officer provided to Savranskaya and recorded in "New Sources on the Role of Soviet Submarines."⁵⁵

Sherwin wrote that *B-59*'s captain had been unaware of the U.S. Navy's special, quarantine-specific, global NOTMAR proclamation describing the SSIPs for signaling submarines to come to the surface.⁵⁶ He cited as support of his conclusion an article by Peter T. Haydon, a Canadian naval historian who had analyzed the NOTMAR procedure from the perspective of Canada's participation in enforcement of the U.S. naval quarantine of Cuba.⁵⁷ Haydon focused on a somewhat elliptical and ambiguous statement by Alexis Johnson at a 24 October 1962 White House meeting of the Executive Committee of the National Security Council about the NOTMAR proclamation's delivery to Moscow: "I have not got acknowledgment of [Moscow's] receipt of that. As far as our proclamation is concerned, it was delivered to the Soviet foreign office last night and very promptly returned. . . . It was also delivered to the embassy here last night. We have not yet received it back." Haydon's article then stated equivocally: "[I]t *appears* that the Soviet submarines were unaware."⁵⁸

Sherwin repeated much of the below-surface story covered by earlier authors, including that Savitsky summoned "the officer who was assigned to the nuclear torpedo, and ordered him to assemble it to battle readiness."⁵⁹ But did the "special weapons officer" who supposedly was tasked with accomplishing this "assembling" step in fact carry out the captain's order before it was retracted? Sherwin offered no further information.

According to Sherwin, Captain Ryurik Ketov, who commanded another of the Soviet submarines and was Savitsky's close friend, "provided the most detailed description of the dramatic events that took place in those critical minutes aboard *B-59*." Ketov had not been present on *B-59* and therefore must have been providing a secondhand account using information Savitsky presumably told him. Should historians credit his hearsay testimony? According to Sherwin, Ketov stated that while surfacing, *B-59* "came under machine-gun fire from . . . Tracker aircraft.

The fire rounds landed either to the sides of the submarine's hull or near the bow. All these provocative actions carried out by surface ships in immediate proximity, and ASW aircraft flying some 10–15 meters . . . above the boat, had a detrimental impact on the commander, prompting him to take extreme measures . . . the use of 'special weapons.'"

But the final ellipsis in the above-quoted passage, extracted from Ketov's 2005 article in the *Journal of Strategic Studies*, exaggerates the nuclear threat. Adding the words Sherwin's limited quote had deleted (which are italicized below) makes this clear: "All these provocative actions carried out by surface ships in immediate proximity and ASW aircraft flying some 10–15 meters above the boat had a detrimental impact on the commander, prompting him to take extreme measures. *Mere chance prevented Savitskii [sic] from resorting to the use of 'special weapons.'*"⁶⁰

As can be seen, Savitsky did not specifically "take" the "extreme [measure]" of assembling, loading, or otherwise deploying his single nuclear-armed torpedo; rather, he experienced a moment of panic, "prompting" him in that direction, immediately whereafter Arkhipov calmed him down.

Moreover, even Ketov's account—which was secondhand at best, since he was not aboard *B-59*—clearly confuses the facts even further. He first stated that it was "while surfacing" that the submarine "came under machine-gun fire from *Tracker* aircraft." Yet in the very next paragraph Ketov asserted that Savitsky "sent a radiogram to the surface ships, demanding that all provocative actions be halted by ASW aircraft, and pointing out the boat's allegiance to the USSR, *after which* the boat surfaced and began to recharge the battery."⁶¹ Thus, not only was Ketov the only Russian commentator to have claimed that *B-59* came under machine-gun fire while it was still in the process of surfacing, but he promptly contradicted himself by asserting that Savitsky had experienced the hostile "provocative actions . . . by ASW aircraft" *even before* surfacing, prompting him to demand by radiogram that the firing and other aggressive tactics be stopped while his vessel was still below the surface. It is hard to give credit to any part of this confused secondhand account.

Sherwin said, however, that he had "no trouble believing Ketov's account," even though he acknowledged that firing live ammunition at a Soviet submarine "was strictly prohibited. Secretary [Robert S.] McNamara had made that clear to the chief of naval operations (CNO), Adm. George Anderson . . . four nights earlier (October 23)." Sherwin speculated that "perhaps the crew of the *Tracker* had 'not gotten the word,'" or "perhaps the combustible mix of adrenaline, testosterone, and frustration led the *Tracker* crew to demonstrate clearly to that 'Commie sub' just who had won the cat-and-mouse game."⁶²

Sherwin cited a previously unheralded speech by Arkhipov to a missile crisis thirty-fifth anniversary conference in Moscow on 14 October 1997 that

mentioned the presence of aggressive American P2V and Tracker aircraft overflying *B-59*. This early account by Arkhipov did not reach a Western audience until it was reported by Sherwin in late 2020.⁶³ Prior to Sherwin's revelation, historians who commented on the *B-59* incident largely had overlooked events that occurred after the submarine surfaced.

Sherwin also located a contemporaneous Soviet written account of the above-surface events in a December 1962 after-action report by the "USSR Northern Fleet Headquarters" that stated: "Airplanes and helicopters from the aircraft carrier *Randolph* flew over the submarine 12 times at the altitude of 20–100 meters [65–328 feet]. With every overflight they fired their aviation cannons (there was a total of about 300 shots). . . . The destroyers maneuvered around the submarine at a distance of 20–50 meters demonstratively aiming their guns at the submarine, dropped depth bombs and hydro-acoustic buoys when they crossed the course of the submarine."⁶⁴

Sherwin quoted Arkhipov's 1997 presentation as describing aggressive overflights by "four P2Vs, three Tracker airplanes." Here is the key Arkhipov passage that closely tracks the 1962 after-action report: "Overflights by planes just 20–30 meters above the submarine's conning tower, use of powerful searchlights that blinded Savitsky, fire from automatic cannons (over 300 shells), dropping depth charges, cutting in front of submarines by destroyers at dangerously [small] distance, targeting guns at the submarine, yelling from loudspeakers to stop engines, etc."⁶⁵

Sherwin went on to state that, "[c]onvinced that he was under attack, Savitsky ordered an 'urgent dive' and 'arm torpedo in the front section [the nuclear torpedo]'. But when he tried to descend he was [luckily] blocked by the signaling officer. . . . During that short delay Arkhipov realized that the planes were firing 'past and along the boat.' It was not an attack. 'Cancel dive, they are signaling,' he countered."⁶⁶

There are at least four curious features of the 1962 Soviet after-action report and Arkhipov's 1997 account that may raise doubt about the two reports' reliability. First, Arkhipov's 1997 comments closely tracked the after-action report, but they left out any mention of what Sherwin reported as Savitsky's second panicked moment while on *B-59*'s exposed bridge and Arkhipov's cancellation of the captain's urgent dive or torpedo-arming orders. To the contrary, Arkhipov's comment was that because of the overflying aircraft's "powerful searchlights" that "blinded the people on the bridge," the "commander physically could not give any orders, could not even understand what was happening." Arkhipov made no mention of countermanding any order but rather noted that after the commander "blinked his eyes and could see again, it became clear that the plane was firing past and along the boat. And the subsequent similar actions . . . were not as worrisome any longer."⁶⁷

Second, Arkhipov's listing of the overflying P2V Neptunes and Grumman Trackers failed to mention another important class of aircraft that was present on the scene and would have been readily apparent and exceptionally noisy: American ASW helicopters deployed from USS *Randolph*. Hovering directly over *B-59*, these would have been every bit as threatening as, if not more so than, the Neptunes and Trackers.

A third curiosity is Arkhipov's and the after-action report's identical and precise statements about the large cannon shell count ("over 300 shells"). How would Arkhipov or any other Soviet witness have managed to keep count of such a high number of cannon shells, and from what location would they have been able to count while undergoing the fusillade? If the location was from the exposed eyewitness position Arkhipov held on the bridge of the submarine, why would he have remained in such a vulnerable spot throughout so prolonged a cannon-fire attack? And if the one keeping count was located inside the submarine and unable to see what was going on outside, how would he have known what noises he was counting? Could he have been hearing the loud thump-thump-thump of a hovering helicopter's main rotor blades rotating a mere ninety feet above the submarine?⁶⁸

Fourth, what did Arkhipov mean by his 1997 references to alleged U.S. provocations against the surfaced and slowly moving submarine, including "dropping depth charges" and destroyers "cutting in front" at a "dangerously [small] distance"? Why would a destroyer drop *depth charges* on a surfaced submarine? And why would it cut sharply in front of a slow-moving vessel that was conforming to the NOTMAR-mandated easterly direction and with which it was keeping close, side-by-side company?

2021, SERHII PLOKHY, *NUCLEAR FOLLY: A HISTORY OF THE CUBAN MISSILE CRISIS*

Serhii Ploky's recounting of the *B-59* events used both U.S. and Russian accounts and covered actions occurring both below and above the surface. He cited an apparently new statement by Orlov and several previously unavailable or overlooked statements by two additional Russian officers aboard *B-59* that were published at an unspecified date in a Russian blog: one by Anatoly Leonenko, who was "the officer responsible for the torpedo launchers," and another by Viktor Mikhailov, who was *B-59*'s navigator.⁶⁹ Ploky's most-noteworthy new contributions are summarized below.

"Captain Dubivko [who commanded another one of the four Soviet submarines sent to Cuba] recalled a written order that read: 'Use standard weapons on orders from the Commander in Chief of the Soviet Navy or in case of an armed attack on the vessel. Torpedos with nuclear warheads are to be used only on

special orders from the USSR Ministry of Defense or the Commander in Chief of the Soviet Navy.”⁷⁰

Ploky concluded that “[i]n fact Savitsky and Arkhipov had received the [U.S.-announced NOTMAR identification and surfacing] procedures but had trouble distinguishing the practice charges from the real ones.”⁷¹

The decisions to cancel Savitsky’s orders to “prepare” the nuclear torpedo and later to surface the submarine were made by consensus. “According to Orlov, the order to prepare the nuclear-armed torpedo was rescinded after Savitsky calmed down and discussed the situation with Arkhipov and the political officer, Maslennikov. The three of them decided to bring the submarine to the surface.”⁷²

Ploky’s account still left at least three points of uncertainty or confusion about the status of the nuclear-capable torpedo at the critical juncture when the submarine surfaced. First, what was meant by Savitsky’s initial order to “prepare” the nuclear-armed torpedo? Was it necessary to attach a separately stored nuclear warhead to the body of a not-yet-armed torpedo? And if so, could this operation have been performed during the short time that elapsed before Savitsky “calmed down” and his order was “rescinded”? Ploky did not explain. Second, was the “prepare” order rescinded *before* any steps could be taken to “prepare” the torpedo and load it into tube number 1? That seems likely, but, again, Ploky’s account did not provide clarification.

Third, did anyone on *B-59* ever *in fact* try to carry out the below-surface “prepare” order? Ploky’s narrative account of the events made a surprising and ambiguous chronological shift on this point away from the “atomic torpedo,” which could be fired only from tube number 1 located in the *bow* of the vessel, to a different order by Savitsky to load the *stern* tubes. Citing a written account by Anatoly Leonenko, who was in charge of *B-59*’s torpedoes, Ploky wrote: “Leonenko recalls that Savitsky ordered him to get the torpedoes in the seventh stern compartment of the submarine ready to fire.” The torpedo officer’s written account emphasized that this was Savitsky’s “previous order,” which “had concerned regular torpedoes,” as opposed to the later order concerning tube number 1 that he may or may not have issued while on *B-59*’s conning tower after the submarine had surfaced.⁷³

Ploky recounted the trouble Leonenko faced in carrying out even the order involving only regular, nonnuclear torpedoes in the stern tubes. When Leonenko reached the stern compartment he “was met with bewilderment by his subordinates” and “was faced with something close to insubordination.” The torpedo officer persisted, however, using “every term of abuse,” and the crew eventually “fell into line.” Leonenko then “reported to Savitsky that his order had been carried out” and the submarine “began to surface.”

The decision to surface the submarine came at around 8:52 PM, approximately four hours after U.S. destroyers dropped two series of grenades while circling the ocean surface overhead. According to Ploky's account, "The sub's navigator, Viktor Mikhailov, and the officer responsible for the torpedo launchers, Anatoly Leonenko, agree that the decision to surface was prompted not by the American practice charges and grenades, which the vessel could withstand, but by the simple fact that its batteries had run down and it could no longer remain underwater."⁷⁴

Leonenko's account in the Savranskaya-provided portion of the V. V. Naumov collection included an additional comment that appears to confirm that *B-59*'s officers were aware that the detonations they were hearing were signaling grenades, not attacking depth charges. Leonenko's statement was: "By exploding grenades Americans sent us signals to surface. But only, when accumulators produce[d] water instead of electricity and batteries ha[d] been completely depleted of electricity, the decision was made to surface."⁷⁵

It seems clear that the deteriorating ambient conditions in *B-59*, however awful, did not become absolutely unbearable until 8:52 PM—long after the last grenade sound was heard—when Savitsky finally felt compelled by the stricken condition of his overheated and fainting crewmembers to make the hard decision to surface and thereby place his vessel at the mercy of his American pursuers.

Here is how Ploky described the moment *B-59* came to the surface:

The Soviet officers . . . on the bridge of the submarine on the night of October 27 were its captain, Valentin Savitsky, and the commander of a task force of four Foxtrot-class submarines lurking in the warm waters of the Atlantic on the approaches to Cuba, Vasili Arkhipov. They were of equal rank, with their parade uniforms displaying the shoulder boards of captain second grade, equivalent to lieutenant colonel in the army. Savitsky was in charge of the submarine, but Arkhipov was his superior.⁷⁶

Ploky concluded that the dramatic episode involving a USN P2V aircraft dropping loud flares occurred "approximately an hour and a half after the submarine came to the surface"—which would have placed the time of that incident at about 10:30 PM, consistent with Slaughter's narrative of events.

But Leonenko's and Mikhailov's accounts reported in V. V. Naumov gave no indication of a period of calm following the surfacing. Instead, they described an immediate frightening display of overhead aircraft "threatening and harassing the slow-moving Soviet submarine" by firing "tracer bullets" and a "cannonade." Mikhailov said the aircraft "flew low down the length of the submarine and, illuminating it with their searchlights, fired tracer bullets ahead of it." Leonenko provided a confusingly divergent account in which the aircraft "circled the submarine from the right in hedge-hopping maneuver," rather than flying down the vessel's

length, and “approaching the deck, opened fire with such force that voice communications at the central post were drowned out by the roar of the cannonade.”⁷⁷

Notably, however, neither officer was on *B-59*'s bridge, and thus both men presumably were below deck performing their duties as navigator and torpedo officer.⁷⁸ Thus, neither officer would have been able to see the light paths distinguishing tracer bullets being fired at night, nor would they have been able to delineate the precise flight paths of overhead aircraft or determine the location where tracer bullets were entering the sea. And neither officer mentioned a P2V aircraft dropping loud flares. Plokhly's references to Mikhailov's and Leonenko's statements did not specify whether either man was in a position to witness for himself the action taking place outside the vessel.

Leonenko's testimony is further suspect because his written account indicates that he heard the captain's “emergency dive” order “that Savitsky gave after climbing down from the bridge,” whereas—according to Sherwin's research—Savitsky had been unable to climb down from the bridge because both he and Arkhipov had been “blocked” by the signals officer, whose descent was being impeded by his signaling equipment.⁷⁹

Although Savitsky's statement, as recalled by Leonenko, did not mention the nuclear torpedo specifically, the torpedo officer *surmised* that the captain necessarily had been referring to the nuclear torpedo specifically because he remembered that “tube no. 1 contained the nuclear-armed torpedo.”⁸⁰ This account did not make clear, however, what Leonenko may have meant by his use of the word “contained” (e.g., when, if ever, did *B-59* tube number 1 physically “contain” a nuclear-armed torpedo, or did he merely mean that tube was *designated* for the nuclear-armed torpedo *if* that weapon ever was to be deployed?). Nor did Leonenko make clear why he understood Savitsky's order to specify readying the nuclear-armed torpedo necessarily for firing, since the captain's order simply called for two torpedo tubes to be prepared, both of which could have handled conventional torpedoes. Moreover, even if the nuclear-armed torpedo had been loaded into tube number 1, there would have been a conventional torpedo loaded simultaneously into tube number 2. That fact presumably indicates that, at a minimum, Savitsky would have been preserving his option to fire a conventional torpedo rather than the nuclear weapon for which he had received no approving order from Soviet naval headquarters.

There is a final contradiction of great significance between the accounts provided by Sherwin and Plokhly regarding Arkhipov's crucial observation from *B-59*'s bridge that prompted him to rescind Savitsky's order to “submerge immediately.” Sherwin stated that Arkhipov “realized that the planes were firing ‘past and along the boat,’” so he called out to Savitsky, “Cancel dive, they are signaling.”⁸¹ By contrast, Plokhly concluded, derived from Leonenko's

recollection, that Arkhipov “noticed Slaughter’s searchlight and read the message. It was an apology. As Leonenko recalled, Arkhipov, realizing that the ‘American frigate had begun signaling us by searchlight to respond, gave the order to stop preparations for firing.’”⁸²

2022, MAX HASTINGS, *THE ABYSS: NUCLEAR CRISIS CUBA 1962*

In the most recent account of the *B-59* episode, Hastings was more cautious than Sherwin and Plokhly in reaching conclusions about what transpired. He concluded that Savitsky and his officers “had been informed of [the U.S. submarine challenge procedure]” yet rejected it “as a matter of pride.” Hastings cited Orlov’s testimony about Captain Savitsky’s enraged outburst in response to the PDC detonations outside his vessel, but then moved on to the order to surface *B-59* at 8:50 PM on 27 October without mentioning any order or action taken to arm or load the nuclear torpedo. Thereafter, Hastings described the “explosive incendiary devices” dropped by the overflying Neptune aircraft, noted that a “second version of events aboard *B-59* holds that Savitsky’s loss of temper” occurred at this point on the surface, and speculated that possibly “it was then that he ordered the nuclear torpedo to be readied.” Yet he concluded with the following skeptical observation:

No definitive account of what took place aboard *B-59* during those hours is possible, unless or until further Russian documentation becomes available. Some Soviet submarine veterans of those days have cast doubts on Orlov’s account; they question whether his boat or its captain ever came anywhere near to precipitating a nuclear explosion. Three keys were required to arm the weapon on board, and the evidence seems overwhelming that this process was never completed—probably not even commenced.⁸³

WHERE DO MATTERS NOW STAND REGARDING THE KEY QUESTIONS SURROUNDING THE *B-59* INCIDENT?

When Did They Know about the U.S. Notification?

Did Savitsky and Arkhipov know prior to 27 October about the U.S. notification that PDCs would be used to signal a need to ascend? Historians’ verdict on this important question is mixed, yet the preponderance tilts decidedly in favor of Savitsky and Arkhipov indeed learning about the U.S. notification prior to 27 October.

In 2002, Huchthausen concluded that they did know: “Savitsky had received the notice on the submarine broadcast two days earlier.”⁸⁴ Also in 2002, Weir and Boyne suggested that Orlov and his team had learned of the notification because of “their intercepts that the U.S. Navy had initiated an alert,” and they “informed both Savitsky and Northern Fleet headquarters.” Although some

later commentators have argued that the four Soviet Foxtrot submarines could not communicate with Moscow during daytime hours, because they had to be continuously below the surface to avoid detection, Orlov's testimony was that *B-59* was able to conduct daytime operations with snorkel and antenna above the surface, enabling the submarine's OSNAZ group "to maintain communications."⁸⁵ The *Rising Tide* authors also described the noise signals being propagated by the ASW destroyers as "active sonar pings and the customary three-grenade explosion signal ordering [*B-59*] to surface."⁸⁶

In 2005, Savranskaya demurred, noting that Huchthausen *assumed* that the *B-59* officers "must have known about the signaling procedures and were familiar with the way PDCs sounded."⁸⁷ Dobbs in 2008 stated flatly, yet without explanation, apparently citing Orlov, that the two Soviet officers did *not* know about the notification.⁸⁸ Sherwin reached the same conclusion as Dobbs, relying on the incomplete and ambiguous Haydon paper mentioned above.⁸⁹

Plokhly concluded that the Soviet officers *did* know about the notification: "In fact Savitsky and Arkhipov had received the procedures but had trouble distinguishing the practice charges from the real ones."⁹⁰ Plokhly noted that USN surveillance had detected *B-59* on the surface several times in the days following the notification when the submarine would have been able to access electronic messages.

Hastings agreed that Savitsky did know about the surfacing procedure. It is also noteworthy that *B-59* came to the surface on an easterly course that complied precisely with the U.S. NOTMAR notification.⁹¹ Orlov seemed to demonstrate indirectly the Soviet officers' awareness of the U.S. notification in his statement published by Mozgovoy, first by using the terms "depth charges" and "grenades" interchangeably, and then by distinguishing these from what he called "a practical depth bomb." Thus, Orlov stated that "following all the canons of the military art, they surrounded us and started to tighten the circle, practicing attacks and dropping depth charges. . . . The Americans hit us with something stronger than the grenades [depth charges]—apparently with a practical depth bomb."⁹²

Is it plausible that the loud sounds they were hearing with no physical impacts could have led officers on *B-59* to conclude that they were under actual attack and in danger of being destroyed? They had been tracked closely for hours yet had been exposed only to periodic explosive noises in regular numeric sequences. Despite its location almost certainly having been fixed precisely by its pursuers for some significant period, *B-59* actually had not been hit or even damaged by any depth charge or other weapon, even once. Could the submarine's officers genuinely have believed that their USN tormenters were at the same time acting so malevolently as to be trying to sink their vessel, and yet proceeding so incompetently that they had not even come close to inflicting damage on, far less

destroying, the submarine despite having available a full suite of advanced ASW weapons, and having the further advantage of attacking so defenseless a target at such close range?⁹³

The most plausible answer to such questions is no. Apprehension that *B-59* was under lethal attack would have been unjustified in the circumstances, especially to trained sailors and officers, because of what actually was happening. Savitsky's fellow officers were able to calm him down and persuade him to bring the submarine to the surface—an act that would have been suicidal if there had been a plausible reason to believe the vessel was under active, murderous attack. Moreover, *B-59*'s officers clearly had prolonged their passive resistance below the surface for a further three and a half hours after the last PDC sounds (until 8:52 PM) before Savitsky finally signaled his intention to surface.⁹⁴

What Was the State of the Nuclear Torpedo?

Were any actual, concrete steps in fact ever taken by *B-59* specifically to assemble, ready, or load a nuclear-armed torpedo into a firing tube? Weir and Boyne reported, using Orlov's testimony, that "Savitsky ordered the nuclear torpedo placed in the tube in the forward torpedo room just before surfacing." Orlov also said that at some point hours later, offering no specific time frame, "The captain ordered the forward torpedo room to remove the nuclear torpedo and place it back on its reserve rack."⁹⁵ Curiously, however, Orlov did not mention either of these two orders in his Mozgovoy account.

Savranskaya's research found no evidence that *B-59*'s crew ever actually readied the nuclear torpedo for use. "The captain guarding the torpedo did not receive the orders to flood it or otherwise manipulate the weapon to prepare it for possible use."⁹⁶

Plokhly broadly and somewhat confusingly asserted that "Savitsky indeed gave the order to prepare the atomic torpedo for firing and only then agreed to have the vessel surface." But Plokhly almost immediately contradicted this conclusion in the very next sentence of his account when he cited Leonenko as having said that Savitsky directed him with a below-surface order to "get the torpedoes in the seventh stern compartment of the submarine ready to fire." The nuclear torpedo was located in the *bow* compartment and could be fired only from tube number 1, which was in the bow, not the stern, compartment.⁹⁷

When Leonenko endeavored to comply with this specific order, he was met with protestations from two members of the stern compartment torpedo group. They eventually "fell into line," however—presumably loading conventional torpedoes in the stern tubes—and Leonenko "reported to Savitsky that his order had been carried out," whereupon *B-59* "began to surface." Plokhly identified no specific action taken regarding the nuclear torpedo in *B-59*'s bow compartment—no assembly, no arming, no loading.

When Plokyh then, on the next page of his book (p. 270), moved on to discuss subsequent above-surface events, he recounted—like Sherwin—that Savitsky became panicked while on the bridge after concluding that his vessel was under attack from the air. He then ordered, “Emergency dive! Prepare torpedo tubes 1 and 2 for firing!” Plokyh explained at this point, citing Leonenko, that Savitsky’s “previous order had concerned regular torpedoes,” but “this one” (now being announced from the bridge with *B-59* above the surface) was intended “for the first compartment, and tube no. 1,” which Plokyh interpreted to mean the nuclear torpedo. This narrative, which admittedly is confusing, tends more to support than to contradict the conclusion that nothing had been done at any time to “prepare” the nuclear-armed torpedo for firing. Why “prepare” something that has been prepared already? Moreover, as will be seen below, Savitsky’s later panicked order from *B-59*’s conning tower, similar to his earlier panicked order issued while still below the surface, almost immediately was countermanded by Arkhipov, presumably before any other officer or crewmember on the submarine could have taken any of the steps necessary to execute a nuclear arming order.

Moreover, there is no indication in the accounts of any of the Soviet officer witnesses regarding who may have tried to execute Savitsky’s supposed nuclear arming or assembly orders or what would have been involved in completing that process. The Soviet navy’s first operational nuclear torpedo used “a ‘universal’ nuclear warhead” that “was developed for 21-inch torpedoes.” These “were placed on board submarines beginning in late 1962,” and the warheads “could be fitted to specific torpedoes in place of high-explosive warheads *while the submarine was at sea.*”⁹⁸ Orlov’s statement that Savitsky ordered the nuclear torpedo to be “assemble[d]” for “battle readiness” is consistent with the notion that the nuclear warhead on *B-59* was stored separately from its torpedo so that it would require installation before firing (similar to the handling of the Soviet nuclear missile warheads that were shipped to Cuba and stored there in locations separate from the missiles themselves). If this were so, how long would that process have taken to accomplish? Most likely it could not have been done within the few moments between Savitsky’s first reported panic attack while below the surface and Arkhipov’s first, immediate calming intervention, nor between his second above-surface moment of panic when he heard (or was blinded by) the detonating flares and again was restrained quickly by Arkhipov’s second intervention and countermanding order.

Finally, consider what Savitsky would have been thinking as he “wheeled” *B-59* around and pointed its open forward torpedo tube in the direction of *Cony*, a mere two to three hundred feet away. Certainly, that must have been a shocking moment for Slaughter, even if he was contemplating only a conventional torpedo facing him. But from Savitsky’s perspective, one must ask, what was the chance

that he actually planned to ready a nuclear-armed torpedo for firing at a target so inconsequential in the larger scheme (a destroyer) and so close at hand in those circumstances? Surely, that chance would have had to be mighty small. To reach this conclusion, one only need consult the words of another Soviet submarine captain who found himself in similar circumstances not far away from *B-59*: Aleksey Dubivko, the commander of *B-36*. His submarine, too, had found itself on the surface and in the undesirable company of a nearby American ASW destroyer that had attached itself to his vessel on a parallel course. Dubivko noted in his narrative of the event a sequence of actions and an outcome remarkably similar to the story recounted by Gary Slaughter: “They transmitted a Russian text in light Morse alphabet ‘Do you need help?’ We responded in the same mode, ‘We do not need any help. Asking you not to interfere with my actions.’ We have to be fair to the enemy—the destroyer did not bother us, but was following a parallel course in the distance of 50 to 150 meters. They did not move farther away, knowing that that was the dead zone for the torpedoes on the submarine.”⁹⁹

Dubivko’s insight coupled with common sense would appear to confirm that a submarine’s torpedoes of any kind are not practical against targets within the point-blank range of 150 to 450 feet. There is a more plausible explanation for *B-59*’s sudden maneuver. If Savitsky did in fact wheel his submarine about to face *Cony*, he did so most likely as a gesture to inspire momentary fear (or, to echo Admiral Fokin’s expression, to deliver a corresponding “slap on the cheek” to his adversaries), not to fire a torpedo at such close range, much less one that was nuclear armed. As noted above, Hastings concluded that “the evidence seems overwhelming” that no action ever was taken to arm the nuclear torpedo or otherwise prepare it for firing. That conclusion seems eminently sound.

Did the Overflying U.S. Tracker Aircraft Ever Fire Their Cannon or Machine Guns at or near B-59?

Neither Huchthausen, nor Burr and Blanton, nor Weir and Boyne, nor Slaughter mentioned U.S. aircraft firing at or near the submarine. Detailed logs prepared by the Tracker pilots who were overhead during the relevant time frame on the night of 27 October mentioned no gunfire by aircraft. Savranskaya concluded: “It is important to note that . . . the US ASW forces were following strict orders on engagement with Russian submarines, did not use any weapons other than practice depth charges (PDC) to signal the Soviet submarines to come to the surface, and did not intentionally use any provocative tactics.”¹⁰⁰

Dobbs discussed events that occurred after *B-59* surfaced, but he did not mention the fact that crewmembers of *B-59* immediately had emerged from deck hatches onto the submarine’s deck as they gasped for fresh air. Furthermore, he did not note the three flares that were dropped from U.S. aircraft making loud, explosion-like sounds, nor that there was any sudden order by Savitsky from the

submarine's conning tower to arm the nuclear torpedo, nor any countermanding order by Arkhipov.

Slaughter, stationed on the bridge of *Cony*, would have been in an ideal position to witness any gunfire from ASW aircraft during the night of 27–28 October if such had occurred, yet he mentioned none. He did describe the flares being dropped from an overflying P2V Neptune aircraft, which made loud “*Bam! Bam! Bam!*” sounds as the flares illuminated. Slaughter witnessed the *B-59* officers on the conning tower become alarmed at the sound (and perhaps also the blinding effect) of the flares, and he observed *B-59* then “wheeling” around, with its forward torpedo tubes in an “open,” ready-to-fire position, pointed at *Cony*. But he also stated that *Cony* immediately sent an apology signal that was acknowledged promptly by the submarine's captain, who then closed “his torpedo-tube doors, . . . wheeled to port and returned to his easterly heading.”¹⁰¹ None of these actions involved gunfire.

Sherwin was the first Western historian to assert that there was extreme danger of nuclear escalation while *B-59* was on the surface and supposedly came under cannonade attack from U.S. aircraft. Sherwin relied on a 1997 Arkhipov statement that Savitsky ordered an “urgent dive” and to “arm torpedo in the front section,” which Sherwin interpreted as meaning the nuclear-armed torpedo. Savitsky issued these orders, according to Sherwin, while still outside on the bridge and never managed to descend, because he was blocked by the signaling officer. But Arkhipov, who also was delayed in his descent, countermanded these orders almost immediately. Sherwin concluded that Arkhipov was able to see, despite the night darkness, that the U.S. aircraft were “firing ‘past and along the boat’” rather than aiming for the submarine, and he ordered, “Cancel dive, they are signaling.”¹⁰² Sherwin did not mention that Arkhipov received any apology signal from *Cony*. Nor did Sherwin reference or comment on *B-59*'s turning or “wheeling” about to aim its forward torpedo tubes at *Cony*, as reported in Slaughter's account of these events.

As noted earlier, Sherwin had “no trouble” believing Soviet captain Ketov's hearsay statement that machine guns had fired on *B-59*. But there are numerous reasons for disbelieving this statement. Jan Drent—a retired commodore of the Canadian navy and former Canadian naval attaché in Russia, Finland, and Poland who wrote a 2003 journal article on the ASW operations around the Cuba quarantine line—rejected the machine-gun fire account as “not credible,” given his understanding that “Trackers did not carry these weapons.”¹⁰³ There are numerous materials available online calling attention to the fact that the armaments with which the S2F-3 Trackers and P2V Neptunes were equipped in 1962 during the Cuba quarantine operations did not include cannon or machine guns.¹⁰⁴ Yet the scholars who have relied on statements by Orlov and Arkhipov indicating

that *B-59* encountered cannon and machine-gun fire from U.S. aircraft failed to address this fundamental problem with the Russian story.

But even if one of the Neptune or Tracker aircraft had been armed with cannon or machine guns, why would the pilot have fired spontaneously on a submarine that an ASW task force just moments before had forced to the surface at night and that was surrounded by U.S. destroyers, especially if the assignment the pilot had been given (and was dutifully executing) simply was to illuminate and photograph the vessel? And why would *B-59*'s crew, having crowded onto the submarine's deck to breathe fresh air, then remain there for a lengthy period (per the pilot narrative reports) if they were coming under machine-gun or cannon fire from overflying aircraft? And why would *B-59*'s captain have continued to maneuver slowly in the NOTMAR-required easterly direction with a USN destroyer alongside at one hundred yards' distance if machine-gun or cannon fire was raining down on him from above?

Sherwin also cited Arkhipov's 1997 statement that an overflying American plane had fired three hundred cannon rounds at *B-59*.¹⁰⁵ Plokhly made no mention of this 1997 evidence, but he relied on Mikhailov's and Leonenko's somewhat conflicting reports of "tracer bullets" being fired "ahead" of *B-59* (Mikhailov) and a plane "open[ing] fire with such force that voice communications at the central post were drowned out" (Leonenko).¹⁰⁶ Plokhly did not comment, however, on whether either man—both of whom were assigned to below-deck operations—could have been in a position to witness the aircraft action. Nor did he attempt to explain why Arkhipov would have remained on the submarine's bridge while cannon fire and machine-gun tracers were raining down.

It would appear that the balance of the evidence refutes the accusation by Russian sailors located inside *B-59*—even if repeated by Arkhipov forty years after the fact—that gunfire and cannon fire were being delivered outside the vessel.

Were the Russian Witnesses Simply Spooked by the Loud Sounds of Three Nighttime Flares (or Possibly by Helicopter Rotors) Rather Than by Cannon Fire?

In the Russian accounts, there are a number of anomalies and many variances between the December 1962 Soviet navy's after-action report and the testimony of other witnesses. Orlov mentioned no aggression by the Americans after *B-59* surfaced. Why would destroyers have been dropping "depth bombs" around a surfaced submarine, as stated in the Soviet report? How could three hundred cannon shots have gone unreported by Orlov and unnoticed by Slaughter standing on nearby *Cony*?

That leaves only the statements of three Soviet navy witnesses (Arkhipov, Mikhailov, and Leonenko) that rely on their memories decades after the fact. Of the three, only Arkhipov was outside on the *B-59* bridge and able to see and hear

the events with his own eyes and ears; the other two presumably were confined inside the submarine and thus were not eyewitnesses (unless they, with regular crewmembers, had climbed through the hatches on the deck, which theoretically is a possibility, although it is unsupported by any of the available evidence). One thus also must ask the following regarding Mikhailov and Leonenko: How could they know exactly what was happening outside? And as for Arkhipov: Is it plausible that he would have remained in an exposed, outside position on *B-59*'s bridge throughout the period of twelve separate overflights by hostile aircraft if they were firing three hundred cannon shots at or near the submarine? During his 1997 presentation, Arkhipov apparently repeated almost verbatim the details of the Soviet after-action report.¹⁰⁷ It would appear that he merely may have been reciting the highlights of the “official” Kremlin record mechanically.

Regarding all three men, one also must ask: How much weight should be accorded to their memories evoked decades after the fact, given the readily apparent inconsistencies among their statements about the same event? And what temptation to stray from the actual facts might they have been subject to as they tried to re-create these long-ago events in their later years? Would they not have been vulnerable, at least to some extent, to an incentive to dramatize retrospectively the events in ways that would provide a more appealing, even a heroic, portrayal of the circumstances they faced that precipitated their captain's voluntary decision to bring *B-59* to the surface, thus placing the crew and their vessel at the mercy of the Americans?

In the contrasting American accounts, the USN officials on the scene produced copious documentation of their actions and perceptions in contemporaneous, formal, after-action destroyer deck logs and similar narrative reports of aircraft pilots.¹⁰⁸ The reports are remarkably consistent, containing only very minor disparities. These USN witnesses would have had a strong incentive to report details correctly, because their many fellow officers would have observed the same incidents, and any false reporting or omissions would have been detected easily. Furthermore, there would have been no opportunity for destroyer officers or crewmembers to harmonize their logs with the carrier pilots' narratives. Why, for example, would both the officers on *Cony*'s bridge and the airmen flying above have neglected to report strafing and cannon fire from the ASW aircraft if such had been unleashed?

Slaughter's 2016 statement placed the detonating flares incident within a brief period beginning approximately one hour after the 8:50 PM surfacing of *B-59* (i.e., at around 9:50 PM). He also noted that “main deck hatches popped open to allow the fresh night air to flow inside and cool the submarine. The sub's crewmen streamed out of the open hatches, stripping off their sweat-soaked uniforms.”¹⁰⁹ USN pilot Miller's report placed his aircraft overhead of *B-59*

making illuminating/photographing runs almost continuously from 8:50 PM to 11:20 PM that night, and he mentioned that “[t]hroughout most of the illumination runs personnel were observed topside.” So, *B-59* crewmembers would have been continuously present, on deck, and exposed to any gunfire if such had been occurring. Yet neither Miller nor Gillooly included any reference to gunfire from their aircraft (or other U.S. planes) that night.

Relatedly, why would an overflying P2V or Tracker aircraft, even if suitably armed, have opened fire in these circumstances, against their orders to avoid aggressive action, in nighttime darkness, and with USN destroyers tracking *B-59* at a distance of somewhere between two and three hundred feet? With such a predominance of U.S. naval power on the scene, what would have been the point of aircraft opening fire on a surfaced and slow-moving Soviet submarine that was bearing in the mandated easterly direction and presenting no obvious threat to any U.S. military assets? Would it also not have been concerning to the pilots that friendly U.S. destroyers and helicopters were close to the line of fire of their aircraft?¹¹⁰ Would not the risk of “friendly fire” casualties have been a prominent, top-of-mind deterrent to them, especially given the darkness and the poor weather conditions? And if the P2V indeed had been attacking the slow-moving submarine with cannon or gunfire from low altitude and at close range, how could the aircraft have missed its target entirely? The stories of gunfire from overhead aircraft simply do not add up. It would appear from the predominance of credible evidence that no guns were fired on or around *B-59* during the night of 27–28 October 1962.

Was the Brief Delay Occasioned by the Signal Officer’s Difficulty in Descending from the Conning Tower Really a Meaningful Factor in Assessing How Close B-59 Came to Firing a Nuclear Torpedo?

Let us suppose, for the sake of argument, that Savitsky’s panicked order from the bridge had been communicated instantly to Leonenko and the torpedo officer obediently had tried to comply. Would he once again have encountered the same or even greater resistance from the KGB or other weapons watch officer and other crewmembers in following orders to prepare the nuclear torpedo for firing, given what had transpired earlier when another order involving only a conventional weapon had generated resistance? Would the KGB or intelligence officer and crewmembers not have been even *more* likely to resist, given what had happened the last time their captain had panicked? Was *B-59*’s situation while on the surface—with its crewmembers out on deck catching their breath, direct communications being conducted with nearby U.S. vessels, and radio contact having been reestablished with superiors in Moscow—not significantly more reassuring than that which the submarine had faced while below the surface, where contact with the outside world was limited or impossible?

Separately, what was the significance of Savitsky having ordered that *two* torpedo tubes be prepared, with the second tube necessarily having to receive a conventional torpedo, since there was only one nuclear weapon on board? Was Savitsky planning to fire the conventional torpedo first, and was not yet sure whether he ever would have to fire the nuclear torpedo? Was he mindful of the written order from headquarters to which Captain Dubivko referred, which specified different authorizations for use of conventional versus nuclear-armed torpedoes? The record detailed in Ploky's account neither addresses these questions nor provides answers to them.¹¹¹

Nor did Ploky discuss whether—even if there had been no apology signal from *Cony*, and even if Arkhipov had come down from the bridge—Savitsky could have persuaded his fellow officers to follow through on launching the nuclear strike that he was urging against a peaceful nearby ship, an attack that surely would have obliterated *B-59* and its entire crew simultaneously with the American destroyer. Why should it be assumed that Arkhipov or Leonenko would have responded obediently to this second emotional outburst from a seemingly distraught captain, especially during a period when the following were true: communication with Moscow headquarters had become possible once again; *B-59* had sustained no damage from flare drops, depth charges, bombs, cannon shells, or machine-gun bullets; and an apparently peaceful hiatus had been holding for over an hour, with a quiescent USN destroyer only one hundred yards to starboard?

Did Good Luck or the Odds or Contingency Play a Leading Role in Averting a Possible Nuclear Incident?

Over the years, many have tried to ascribe the peaceful outcome of the Cuban missile crisis, and implicitly of the *B-59* incident, to luck. Dean Acheson famously said that the peace was kept as a result of “plain dumb luck.”¹¹² President Kennedy tried to put “the odds” of preventing nuclear war during the crisis as ranging “between one-in-three and even.”¹¹³ One must ask, however, whether Kennedy could look to a sufficiently large set of comparable cases, or credibly apply any accepted and even remotely relevant probability metric, to estimate the odds of nuclear war breaking out at any time, let alone the odds of a first-ever nuclear war in October 1962. After all, there had been no prior outbreak of nuclear war in world history. More likely, the most that can be said of the president's pronouncement is that his opinion was *ex cathedra*. Even Martin Sherwin, who devoted significant attention to asserting an arguable role of luck in the Cuban missile crisis, acknowledged that “historians tend to overlook those deviations caused by inexplicable luck, both good and bad: They are too hard to discern, even harder to contextualize, and—most problematic—they resist rational explanation.”¹¹⁴

Contingencies, both large and small, occur with great frequency at all times and in all places, most assuredly including all international conflicts. The main

problem with attempts to consider the role of contingency is that such events are ubiquitous. Focusing for the moment on potentially lethal contingencies in the military context, this necessitates careful planning, training, practice exercises, the provision of redundant protective measures, and readiness to adapt in the face of new developments. But, of course, even the best planning, training, and adaptation cannot avoid absolutely the risk of adverse outcomes arising from the sudden occurrence of unexpected contingencies.

In the *B-59* episode, the most obvious contingency was the unobserved presence of a nuclear-armed torpedo in a Soviet submarine whose captain proved to be unstable when he came under pressure. What stopped the captain from firing the torpedo? Was it merely luck? Of course not. To ascribe the outcome to luck, one would have to overlook the nearly universal management practice—accepted at the time by both the Soviet Union and the United States and put into practice in the four Foxtrot submarines sent to Cuba—of ensuring that both headquarters would have to authorize and multiple ranking officials present at the scene where such a decision would need to be made and executed would have to agree and cooperate with the captain before his order to fire a nuclear weapon could be carried out. This management practice was in effect on *B-59*, and it worked out as planned on the night of 27–28 October 1962.

But the effect of good management practice governing the use of a nuclear weapon was not the whole story of how intentional peacekeeping operated during the naval confrontations that occurred during the Cuban crisis. In their book *Cold War Submarines*, Norman Polmar and K. J. Moore cite the Navy's official after-action analysis of the ASW operation during the Cuba quarantine, which was given the code name CUBEX (Cuban Exercise). Although the analysis "provided considerable insight into Soviet submarine capabilities and tactics as well as problems," the Navy's report concluded the following: "The reliability of results of CUBEX evaluation is affected by . . . two major artificialities. The factitious aspects of the operation included the non-use of destructive ordnance and the priority scheduling of aircraft during daylight hours for the visual/photographic needs of the Cuban quarantine force. The unnatural case of not carrying a contact through 'to the kill' affected the tactics of both the hunter and hunted, as did the unbalanced day/night coverage."¹¹⁵

This "artificialit[y]" in the "unnatural case" of the Cuba quarantine affected the Soviet side no less than the American one. As Polmar and Moore state of the submarine commanders: "But knowing that they probably were safe from attack with lethal weapons, and not being required to carry out attacks against U.S. ships, the Soviet submarine captains were not realistically tested in a conflict situation."¹¹⁶

What is most striking about the different stories laid out in Soviet and American firsthand accounts is their commonality on a basic point: each side's witnesses

claim to have heard or seen their opponent committing what they thought was a reckless, violent aggression threatening potentially uncontrollable escalation, and yet they desisted from responding in kind, choosing instead the path of peaceful accommodation. When Arkhipov, Savitsky, and Maslennikov may have had at least some reason to worry that their vessel might be coming under attack by real depth charges, two of them (Arkhipov and Maslennikov) remained calm and the third (Savitsky) quickly was persuaded by his colleagues to recover his calm. Thereafter, all three abided stoically and peaceably for more than three additional hours, bearing up under increasingly horrendous atmospheric conditions inside the submarine, until they finally elected to surface, despite the Soviet navy's nearly absolute aversion to doing so in a place where it was likely the submarine would be placing itself at the mercy of its opponents.

Later, one or both of Arkhipov and Savitsky may have thought, however briefly, that their submarine was being strafed by low-flying American aircraft. Once again, Savitsky reflexively panicked, while Arkhipov stayed cool. Within a matter of seconds Arkhipov's steadiness prevailed, the perception of *attacking* gunfire was dispelled (or, to accept an alternative account, a prompt American apology was discerned and then accepted), *B-59* stayed on its course, and the Soviets stood down from mounting any military response.

The Americans, for their part, also acted with exceptional restraint in the face of what, according to Slaughter, they believed to be an audacious act of aggression and lethality: a nearby, surfaced enemy submarine suddenly "wheeling" about and aiming its "open" forward torpedo tubes at the unprotected flank of a destroyer cruising slowly only one hundred yards away. Whether the Americans knew they might be facing a nuclear torpedo or only a conventional one, they found themselves staring imminent death in the face. And what was the American response? No attacking aircraft were summoned. No naval gun was fired, although many were armed, trained on the target, and exceedingly capable of doing so. Nor was an emergency escape or evasion maneuver even attempted. Rather, the threatened destroyer's captain immediately ordered transmission of an apology signal, and his apology was accepted instantly.

None of these actions or instances of remarkable self-restraint from taking reprisal action was simply a magical stroke of good or dumb luck. Rather, all were the product of a Cold War environment in which the two contending sides shared an extreme reluctance to engage in military action that might threaten escalation to nuclear warfare. And in this tense situation, both sides adopted similar versions of a dual- or multiple-key rule of constraint whereby the decision to use a nuclear weapon could not be made by one individual acting alone. Multiple actors were required to reach agreement, thereby reducing the risk of reckless action. And it must be added that, in the minds of Russian naval officers aboard *B-59*, there was

almost certainly an extra measure of reluctance to take action using their own nuclear weapon that would have been the equivalent of committing suicide.

So, what were the odds of this thankfully nonviolent outcome occurring sequentially at three successive junctures occurring within the space of less than four hours? While no reliable calculation can be made, history does provide a remarkable, decades-long track record of consistent nuclear nonuse that offers a baseline for at least a tentative assessment. After America's intentional dropping of atomic bombs on two Japanese cities in August 1945, there has not been a single occasion in which an intentional or even accidental detonation of a nuclear weapon of any kind has occurred in international conflict. This unbroken pattern has held true despite the fact that many thousands of nuclear weapons of all potencies have been held by a growing number of nations throughout that period. Is this consistent pattern of nonuse simply a matter of luck? If it were, human beings—who have been extraordinarily unlucky in their international relations in so many other respects—have managed to sustain an almost magical stroke of uninterrupted good luck in this one domain.

Rather, if chance or odds are to be considered, we must acknowledge that the chance of nuclear war breaking out for the first time ever on the night of 27–28 October 1962 was exceedingly small. It would seem that the most likely explanation for nonescalation that day was the almost universal abhorrence of nuclear escalation that had kept these weapons silent since August 1945, coupled with each nuclear nation taking care to reserve the decision on actual nuclear use to its top executive authority, in consultation with a coterie of senior military advisers, and with hypercareful management down the chain of command (including application of a mandatory “two-man rule” or “dual key” system on the scene) over the decision to pull the nuclear trigger. Arkhipov, Maslennikov, and the KGB (or Sixth Department) minder were present on *B-59* along with the vessel's captain not because of chance or luck, but rather because of simple, sensible, realist planning to prevent an untoward contingency of human malevolence or frailty from producing a needless, horrific outcome.

NOTES

1. The epigraphs are taken from, respectively, Martin J. Sherwin, *Gambling with Armageddon: Nuclear Roulette from Hiroshima to the Cuban Missile Crisis, 1945–1962* (New York: Knopf, 2020), pp. 5, 28; Serhii Plokhyy, *Nuclear Folly: A History of the Cuban Missile Crisis* (New York: W. W. Norton, 2021), p. 271; Max Hastings, *The Abyss: Nuclear Crisis Cuba 1962* (New York: HarperCollins, 2022), p. 478.
2. Marion Lloyd, “Soviets Close to Using A-bomb in 1962 Crisis, Forum Is Told,” *Boston Globe*, 13 October 2002, www.bostonglobe.com/. “‘The lesson from this is that a guy called Vasil[y] Arkhipov saved the world,’ said Thomas Blanton, director of the National Security Archive.” Len Scott and R. Gerald Hughes, eds., *The Cuban Missile Crisis: A Critical Reappraisal* (Abingdon, U.K.:

- Routledge, 2015), p. 197. “Vasil[y] Arkhipov has now entered the literature as the ‘guy who saved the world.’”
3. Arthur Schlesinger Jr., a historian of the Kennedy administration, commented: “This was not only the most dangerous moment of the Cold War. It was the most dangerous moment in human history.” Lloyd, “Soviets Close to Using A-bomb in 1962 Crisis.” See, for example, Sherwin, *Gambling with Armageddon*, pp. 29, 469. “How and why the United States and the Soviet Union nudged each other to the edge of the nuclear abyss, and how they avoided a suicidal plunge, is the paramount story of our age. In lives gambled and saved, it was history’s luckiest nonevent. . . . Avoiding a nuclear war depends on the judgment of the national leaders who control nuclear arsenals, which is to say that it is contingent on the world’s dwindling reservoir of good luck.”
 4. See text accompanying notes 19 and 20.
 5. Peter A. Huchthausen, *October Fury* (Hoboken, NJ: Wiley, 2002).
 6. *Ibid.*, p. 169. Huchthausen’s reference to “four the next morning” is somewhat unclear and is not consistent with the contemporaneous narratives of U.S. military aircraft flying overhead and USN destroyers circling the submarine, which uniformly placed the time of *B-59*’s surfacing at around 8:52 on the evening of 27 October. See note 24 below.
 7. The Lockheed P-2 Neptune (designated P2V before 1962) was a maritime-patrol and ASW aircraft. The Grumman S-2F Tracker was the first “purpose-built” aircraft for ASW. The Tracker was capable of carrying both aerial torpedoes and a nuclear depth charge for attacking enemy submarines but was not equipped with machine guns or cannon. *Wikipedia*, s.v. “Grumman S-2 Tracker,” en.wikipedia.org/.
 8. Huchthausen, *October Fury*, pp. 170–71.
 9. *Ibid.*
 10. *Ibid.*, pp. 172–73.
 11. William Burr and Thomas S. Blanton, eds., “The Submarines of October: U.S. and Soviet Naval Encounters during the Cuban Missile Crisis,” National Security Electronic Briefing Book 75, *National Security Archive* [hereafter *NSA*], 31 October 2002, nsarchive2.gwu.edu/.
 12. Vadim Orlov, “Recollections of Vadim Orlov (USSR Submarine *B-59*): We Will Sink Them All, but We Will Not Disgrace Our Navy,” trans. Svetlana Savranskaya, doc. 16 in *ibid.*, annex 2. Originally published in Russian in Aleksandr Mozgovoy, *The Cuban Samba of the Quartet of Foxtrots: Soviet Submarines in the Caribbean Crisis of 1962* [in Russian] (Moscow: Voyennyi parad, 2002).
 13. Orlov, “Recollections of Vadim Orlov.”
 14. See Sherwin, *Gambling with Armageddon*, p. 27. “[I]n March 2004 Arkhipov’s widow, Olga Grigoryevna, a physics teacher in Baku, reported that her husband had told her the story of how Captain Savitsky almost fired a nuclear torpedo at an American destroyer.” It would be pure speculation, but nevertheless is tempting, to surmise that if Arkhipov indeed did tell this story to his wife, he would have spoken the word “destroyer” in a derisive tone to accentuate the evident instability of the captain’s state of mind and the utter senselessness of the plan he was groping to formulate.
 15. See Norman Polmar and K. J. Moore, *Cold War Submarines: The Design and Construction of U.S. and Soviet Submarines* (Lincoln: Univ. of Nebraska Press, 2004), p. 28. The first nuclear warheads designed for use in Soviet submarines “were placed on board submarines beginning in late 1962,” and the warheads “could be fitted to specific torpedoes in place of high-explosive warheads while the submarine was at sea” (emphasis in original).
 16. Burr and Blanton, “Submarines of October.”
 17. Maslennikov’s role quietly was overlooked.
 18. *Secrets of the Dead: Unearthing History*, season 12, episode 6, “The Man Who Saved the World,” aired 22 October 2012, on PBS, available at www.pbs.org/.
 19. Huchthausen, *October Fury*, pp. 145–46.
 20. Chief of Naval Operations to Commander in Chief, Atlantic Fleet et al., 24 October 1962, doc. 2 in “The Underwater Cuban Missile Crisis: Soviet Submarines and the Risk of Nuclear War,” ed. Thomas Blanton, William Burr, and Svetlana Savranskaya, National Security Archive Electronic Briefing Book 399, *NSA*, 24 October 2012, nsarchive2.gwu.edu/.
 21. Carrier Division 16, “Report of ASW Barrier Operations during the Cuban Missile

- Crisis by Group Built around *Randolph*,” 14 December 1962, doc. 47 in Burr and Blanton, “Submarines of October,” annex 2. S2F-3 was the latest model for Grumman Tracker aircraft in 1962. See note 104.
22. Owen R. Cote Jr., “The Third Battle: Innovation in the U.S. Navy’s Silent Cold War Struggle with Soviet Submarines,” *Federation of American Scientists*, March 2000, p. 18, man.fas.org/.
 23. “Narrative by LCDR James L. Miller, USN, VS-26,” enclosure 11 in Carrier Division 16, “Report of ASW Barrier Operations.” B-59 was referred to in USN reports during this period as “C-19.” “Small Boys” was a nickname that Navy aircraft pilots often used in referring to destroyers. See Jeff Crowell, “Naval Terminology, Jargon, and Slang FAQ: Part 2—N through Z,” *Haze Gray & Underway*, 31 October 2003, www.hazegray.org/.
 24. “Narrative by CDR John F. Gillooly, USN, VS-36,” enclosure 6 in Carrier Division 16, “Report of ASW Barrier Operations.”
 25. Gary E. Weir and Walter J. Boyne, *Rising Tide: The Untold Story of the Russian Submarines That Fought the Cold War* (New York: Basic Books, 2003). The Russian acronym OSNAZ dates back to a special covert operations unit (Osoboga Nazhacheniya) of the World War II-era Soviet NKVD. See David T. Zabecki, ed., *World War II in Europe: An Encyclopedia* (New York: Garland, 1999), p. 769.
 26. Weir and Boyne, *Rising Tide*, p. 98.
 27. *Ibid.*, p. 334.
 28. *Ibid.*, pp. 101–102.
 29. *Ibid.*, p. 79.
 30. *Ibid.*, p. 102.
 31. *Ibid.*, p. 103. Indeed, the Soviet version of this precautionary rule was, if anything, even more conservative than the American rule. The Russians required agreement of three officers rather than two, and as a practical matter may have had what amounted to a “four key” rule if the KGB officer guarding the nuclear weapon is considered a further safeguard against inappropriate use.
 32. Jeffrey G. Lewis and Bruno Tertrais, *The Finger on the Button: The Authority to Use Nuclear Weapons in Nuclear-Armed States* (Monterey, CA: James Martin Center for Nonproliferation Studies, 2019), available at www.nonproliferation.org/.
 33. Jerome B. Wiesner to the president, memorandum, 29 May 1962, app. A in John F. Kennedy, “Permissive Links for Nuclear Weapons in NATO,” National Security Action Memorandum no. 160, 6 June 1962, p. 2, available at www.cs.columbia.edu/. See Robert D. Pedersen, *Two-Person Control: A Brief History and Modern Industry Practices* (Livermore, CA: Sandia National Laboratories, July 2017), available at www.osti.gov/.
 34. See Lewis and Tertrais, *The Finger on the Button*, p. 2. “While the two-person rule is common throughout the chain of command, several nuclear-armed countries choose to concentrate the legal authority to order the use of nuclear weapons in the hands of a single political leader. It is important to note that authority is not the same thing as ability—in most, if not all, nuclear-armed countries, the legal authority to order the use of nuclear weapons is held at a much higher level than is the actual ability to launch those weapons. Effectively, the two-person rule divides the ability to carry out the action among multiple persons, thus increasing the likelihood that nuclear weapons will only be used on the order of the appropriate authority.”
 35. Svetlana V. Savranskaya, “New Sources on the Role of Soviet Submarines in the Cuban Missile Crisis,” *Journal of Strategic Studies* 28, no. 2 (April 2005), p. 239.
 36. Weir and Boyne, *Rising Tide*, p. 103.
 37. Savranskaya, “New Sources.”
 38. *Ibid.*, p. 240.
 39. *Ibid.*, p. 242.
 40. *Ibid.*, pp. 246–47.
 41. *Ibid.*, p. 247.
 42. Michael Dobbs, *One Minute to Midnight: Kennedy, Khrushchev, and Castro on the Brink of Nuclear War* (New York: Knopf, 2008).
 43. *Ibid.*, p. 299.
 44. *Ibid.*, p. 301.
 45. *Ibid.*, p. 303.
 46. *Ibid.*
 47. Leonenko’s reported recollections of the incident are described below. This author met with Ms. Savranskaya on 17 August 2022 and

discussed at length our respective understandings of the *B-59* incident. Savranskaya, who personally had interviewed many of *B-59*'s officers, expressed her opinion that the unnamed officer who was personally guarding the nuclear warhead, and whose cooperation also would have been necessary before a nuclear-armed torpedo could have been readied for use, most likely was not a KGB officer but rather an officer from within the Soviet navy's Sixth Department responsible for nuclear weapons.

48. Dobbs, *One Minute to Midnight*, p. 317.
49. *Ibid.*, pp. 317–18.
50. *Ibid.*, pp. 318, 327–28.
51. Gary Slaughter, *Sea Stories: A Memoir of a Naval Officer (1956–1967)* (Nashville, TN: Fletcher House, 2016). See also Gary Slaughter, “A Soviet Nuclear Torpedo, an American Destroyer, and the Cuban Missile Crisis,” *Task & Purpose*, 4 September 2016, taskandpurpose.com/.
52. Slaughter, *Sea Stories*, p. 115. Emphasis in original.
53. *Ibid.*, pp. 115–17.
54. *Ibid.*, p. 118. No other commentators have picked up on Slaughter's recollection of *B-59* turning on the surface to aim its forward torpedo tubes in open position at *Cony*. Slaughter repeated this account in a podcast presented on 23 May 2022, adding that the two vessels were only one hundred yards apart when the incident occurred. Katy Milkman, “Under Pressure: With Guests Svetlana Savranskaya, Gary Slaughter & Modupe Akinola,” 23 May 2022, in *Choiceology*, produced by Charles Schwab, podcast, www.schwab.com/. But Slaughter's 2022 account left out any comment about the flares being deployed to illuminate the darkness, and he said nothing about *Cony*'s remarkable restraint in response to this apparent provocation. Did *B-59* actually make a full 90-degree turn to face *Cony* directly at only one hundred yards' distance? How could such a sharp maneuver have been accomplished in so tight a space? How long would it have taken to complete that dramatic wheel-about, and what was Arkhipov doing while it occurred? And what about Savitsky's reported order that the submarine submerge? Was *B-59* simultaneously wheeling about and plunging beneath the surface? What about all the Soviet sailors gasping for breath on the open deck of the submarine? Were they being given time to scramble back into the submarine? Or, perhaps far more likely, was *B-59* simply executing a brief swerve toward the Americans to deliver a reciprocal, nominal “slap on their cheek,” so as to sow fear briefly in an opponent who—as Soviet admiral Fokin was reported to have hypothesized—may have “slap[ped] you on the left cheek”? See Savranskaya, “New Sources,” p. 240. After all, the P2V maneuver, with its loud, low, and close flyover, may have seemed to Captain Savitsky like a slap in the face. And his menacing swerve in response actually would have been harmless, considering that the only torpedoes *B-59* had loaded for possible use at the time were conventional ones located in the submarine's stern tubes.
55. Sherwin, *Gambling with Armageddon*, p. 477, notes to p. 27.
56. *Ibid.*, p. 18.
57. Peter T. Haydon, “Canadian Involvement in the Cuban Missile Crisis Re-reconsidered,” *Northern Mariner / Le marin du nord* 17, no. 2 (April 2007), available at www.cnrs-scrn.org/.
58. *Ibid.*, p. 46. Emphasis added.
59. Sherwin, *Gambling with Armageddon*, pp. 26–27; see also *ibid.*, pp. 19–20, which identifies the summoned officer as the “special weapons officer.”
60. Ryurik A. Ketov, “The Cuban Missile Crisis as Seen through a Periscope,” *Journal of Strategic Studies* 28, no. 2 (April 2005), p. 227.
61. *Ibid.* Emphasis added.
62. Sherwin, *Gambling with Armageddon*, p. 25.
63. Arkhipov's presentation at Moscow conference commemorating thirty-fifth anniversary of the Cuban missile crisis, 14 October 1997, posted on the Kirov Naval Academy's website and provided to Sherwin by Savranskaya, cited by Sherwin, *Gambling with Armageddon*, p. 477, note to p. 27. Sherwin also cited in the same endnote a further unpublished document that this author has been unable to review, described as “Svetlana Savranskaya's notes on ‘Nuclear Close Calls,’ which she provided to me.”
64. Sherwin, *Gambling with Armageddon*, p. 477, note to p. 26. The Northern Fleet

- Headquarters report subsequently was published in Svetlana Savranskaya, ed., “The Underwater Cuban Missile Crisis at 60,” Briefing Book 808, NSA, 3 October 2022, nsarchive.gwu.edu/.
65. Sherwin, *Gambling with Armageddon*, p. 27. Arkhipov’s 1997 presentation also was published in the West for the first time in Savranskaya, “The Underwater Cuban Missile Crisis at 60.”
66. Sherwin, *Gambling with Armageddon*, p. 27. The source for the material quoted here by Sherwin is unclear, but is likely Savranskaya’s “Nuclear Close Calls,” which this author has not been able to review.
67. Vasili Arkhipov [Vice Adm.], “Presentation at the Conference on the Cuban Missile Crisis, October 14, 1997, Moscow,” trans. Svetlana Savranskaya, in Savranskaya, “The Underwater Cuban Missile Crisis at 60.”
68. See Weir and Boyne, *Rising Tide*, p. 102.
69. Plokhy, *Nuclear Folly*, p. 409 notes 15–17, 19. Plokhy cited two publication formats for the reported memories of the three *B-59* officers. The two are dated one year apart, in 2012 and 2013: V. V. Naumov [Rear Adm., Soviet navy], comp., *Karibskiy krizis: Protivostoyaniye; Sbornik vospominaniy uchastnikov sobytiy 1962 g.* [Caribbean crisis: Confrontation; Collection of memoirs of participants in the events of 1962] (Saint Petersburg, Rus.: V. V. Naumov, 2012), pt. 30; and a 30 January 2013 blog posting containing a portion of the V. V. Naumov collection accessible at flot.com/blog/. The link for the blog posting appears to contain only the Orlov recollections that had appeared in the 2012 V. V. Naumov publication. Savranskaya provided this author with the Leonenko and Mikhailov portions of the V. V. Naumov collection, which appear to have been extracted from the same 2013 blog posting. The Leonenko and Mikhailov extracts provided by Savranskaya are in a Russian-language document of thirteen hand-marked pages that appear to be formatted in the same manner as the 2013 blog posting and references on page 10 both V. V. Naumov and the date “30.01.2013” (cited hereafter as Savranskaya-provided portion of 2013 blog posting of V. V. Naumov). But the passages therein containing the recollections of these two officers cannot be found in the blog post link provided by Plokhy.
70. Plokhy, *Nuclear Folly*, p. 262.
71. *Ibid.*, pp. 266–67. The U.S. identification and surfacing procedures had been “passed to the Soviet side” by telegraph on the night of 23 October, and USN surveillance had observed *B-59* on the ocean surface, where the submarine’s detection of international signals traffic would have been possible, on 25 and 26 October.
72. *Ibid.*, p. 268.
73. *Ibid.*, p. 269.
74. *Ibid.*, pp. 269–70.
75. Savranskaya-provided portion of 2013 blog posting of V. V. Naumov, p. 4, trans. Irina Kats.
76. Plokhy, *Nuclear Folly*, p. 259.
77. *Ibid.*, pp. 269–70.
78. *Ibid.*, p. 269.
79. *Ibid.*, pp. 269–70; Sherwin, *Gambling with Armageddon*, p. 27. Savranskaya subsequently confirmed Sherwin’s account. In her 23 May 2022 podcast account referenced above, Savranskaya said Savitsky was still on *B-59*’s bridge, and thus within arm’s reach of Arkhipov, owing to both men being held up by the signal officer’s slowness in descending below deck. Given that Savitsky was still outside on the bridge, he was almost immediately able to see what Arkhipov said he was seeing. According to Savranskaya’s 2022 account: “Savitsky is giving the command as he is trying to get down, but in the stairwell, there is the signaling officer with a lot of equipment that he’s carrying, and he got stuck in the stairwell. Arkhipov was more calm and by pure accident, he was still standing on the conning tower when Savitsky was trying to get down, and so he had this extra minute maybe to observe the behavior of the U.S. anti-submarine warfare units, and he realized that as offensive as their behavior was, they were not trying to shoot. And he essentially reached down for Savitsky and said, ‘Wait, wait. Look, they’re signaling. They’re signaling.’ And Savitsky came back, and he gave the order to signal back to the Americans to stop these provocative actions.”
80. Plokhy, *Nuclear Folly*, p. 270.
81. Sherwin, *Gambling with Armageddon*, p. 27.
82. Plokhy, *Nuclear Folly*, p. 271.

83. Hastings, *The Abyss*, pp. 411–13.
84. Huchthausen, *October Fury*, p. 169.
85. *Ibid.*; Weir and Boyne, *Rising Tide*, p. 101. Orlov also recalled that his OSNAZ group had been able to warn *B-59*'s captain of the approach of a NATO surveillance aircraft “with a ten-minute margin to spare,” allowing time for the submarine to “go deep to avoid detection.” That ten-minute safety buffer suggests that the submarines could have risked daytime surface operation in instances of necessity.
86. Weir and Boyne, *Rising Tide*, pp. 101–102.
87. Savranskaya, “New Sources,” p. 250.
88. Dobbs, *One Minute to Midnight*, p. 303.
89. See notes 57 and 58.
90. Plokhly, *Nuclear Folly*, p. 267.
91. “Submerged submarines, on hearing this signal, should surface on Easterly course.” See text accompanying note 20.
92. See Orlov, “Recollections of Vadim Orlov.”
93. By 1962, USN ASW forces were equipped with not only highly advanced electronic-detection systems but also system-integrated attack weapons, including the destroyer-equipped ASROC (“a rocket that carried either a nuclear depth charge or a homing torpedo”) and Tracker aircraft that were equipped with “an internal torpedo bay capable of carrying two lightweight aerial torpedoes or one nuclear depth charge.” Cote, “The Third Battle,” p. 21. See also *Wikipedia*, s.v. “Grumman S-2 Tracker,” en.wikipedia.org/.
94. Deck Log Book of the U.S.S. *Cony*, DD-508, . . . 1 October, 1962, . . . [through] 31 October, 1962 [Excerpts], doc. 14 in Burr and Blanton, “The Submarines of October,” annex 2. Entry for 27 October, 5:29 PM: “Challenged submarine contact by dropping five (5) hand grenades”; 8:52 PM: “Submarine surfaced.”
95. Weir and Boyne, *Rising Tide*, pp. 102–103.
96. Savranskaya, “New Sources,” p. 247.
97. Quotations in this and the following two paragraphs are drawn from Plokhly, *Nuclear Folly*, pp. 269–70.
98. Polmar and Moore, *Cold War Submarines*, p. 28. Emphasis in original.
99. A. F. Dubivko, “In the Depths of the Sargasso Sea,” trans. Svetlana Savranskaya, p. 11, doc. 32 in Burr and Blanton, “The Submarines of October,” annex 2.
100. Savranskaya, “New Sources,” p. 242. See also Sherwin, *Gambling with Armageddon*, p. 25. “Firing live ammunition at a Soviet submarine—or any other unnecessary hostile action against any Soviet vessel—was strictly prohibited. Secretary McNamara had made that clear to the chief of naval operations (CNO), Adm. George Anderson, during a bitter exchange in the navy’s Pentagon Command Center four nights earlier (October 23).”
101. Slaughter, *Sea Stories*, p. 118.
102. Sherwin, *Gambling with Armageddon*, p. 27.
103. Jan Drent, “Confrontation in the Sargasso Sea: Soviet Submarines during the Cuban Missile Crisis,” *Northern Mariner / Le marin du nord* 13, no. 3 (July 2003), p. 12 note 35.
104. For example, “Weapons: Nuclear depth charges, conventional depth bombs, five inch rockets, Zuni rockets and homing torpedoes”; “US-2B Tracker,” *USS Hornet Sea, Air & Space Museum*, uss-hornet.org/. “Armament[.] (6) 5 in. HVAR rockets[.] (1) Mk 34 or 43 anti-submarine torpedo[.] (20) Marine Markers (smoke)”; David D. Jackson, “Grumman S2F/S-2 Tracker Basics,” *Grumman S2F/S-2 Tracker Survivors*, www.grummantracker.com/. By 1962, “all guns were deleted”; “P2V (P-2) Neptune,” *Naval History and Heritage Command*, www.history.navy.mil/. The pilot narratives of Cdr. L. M. Millsaps and Cdr. John F. Gillooly, who were the commanders of USS *Randolph* Tracker Squadrons 36 and 26, respectively, documented that each squadron was flying S2F-3 Trackers, which in 1962 were the latest models of the Tracker aircraft. As Commander Millsaps noted in his narrative, “The comparatively new S2F aircraft and its associated electronics gear performed splendidly”; “Narrative by CDR L. M. Millsaps, USN, VS-36,” enclosure 2 in Carrier Division 16, “Report of ASW Barrier Operations.” See also “Narrative by CDR John F. Gillooly, USN, VS-36.” “The addition of the MAD stinger, first on the P2V-5, and the deletion of guns as the subs went nuclear, brought the ‘Neptune’ to its final major configuration, the P2V-7, which was flown first on April 26, 1954. This last

- model was to remain in service for more than 20 years. P2V 'Neptunes' were operated by the US Navy, Army and Air Force"; "Lockheed P2V-7 (SP2-H) 'Neptune,'" *Mid-Atlantic Air Museum*, www.maam.org/. "During the early part of its life, the Neptune was equipped with .50 cal machine guns, 20 mm cannon for defensive armament, however this was eventually removed. Bombs, depth charges and torpedoes were its normal stock in trade"; "Lockheed SP-2H (P2V-7) Neptune," *HARS Aviation Museum*, hars.org.au/.
105. Sherwin, *Gambling with Armageddon*, p. 27.
106. Plokhly, *Nuclear Folly*, p. 270.
107. Sherwin, *Gambling with Armageddon*, p. 27.
108. It must be recognized that the available deck logs and aircraft after-action reports do not cover the entire period from *B-59's* 27 October appearance on the surface in darkness at 8:50 PM through the arrival of morning on 28 October, but rather end four and one-half hours later with Gillooly's report entry of 1:20 AM. Nevertheless, Slaughter's report indicates that the exploding flares incident occurred approximately one hour after *B-59* came to the surface, which was well within the period the two aircraft were over the Soviet submarine.
109. Slaughter, *Sea Stories*, pp. 116–17.
110. As mentioned, Sherwin speculated that "perhaps the combustible mix of adrenaline, testosterone, and frustration led the Tracker crew to demonstrate clearly to that 'Commie sub' just who had won the cat-and-mouse game," but he provided no specific evidence of this other than the testimony of Russian veterans offered decades later. Sherwin, *Gambling with Armageddon*, p. 25.
111. Plokhly, *Nuclear Folly*, p. 262.
112. Sherwin, *Gambling with Armageddon*, p. 4.
113. Graham Allison, "Preventing Nuclear War: Schelling's Strategies," *Belfer Center for Science and International Affairs*, 23 July 2018, www.belfercenter.org/.
114. Sherwin, *Gambling with Armageddon*, p. 3.
115. Polmar and Moore, *Cold War Submarines*, pp. 204, 370 notes 16 and 17, citing Commander, Antisubmarine Warfare Force, U.S. Atlantic Fleet, to Chief of Naval Operations, "Summary, Analysis and Evaluation of CUBEX," ser. 008187/43, 5 November 1963, p. I-3-1.
116. Polmar and Moore, *Cold War Submarines*, p. 205.