

Aboard the Soviet Submarine B-59: The Crucial Role of Human Judgment During the 1962 Cuban Missile Crisis

Gilles Paché

CERGAM Lab, Aix-Marseille University, France

ABSTRACT

The heroic action of Vasily Arkhipov, a Soviet officer, during the Cuban Missile Crisis in October 1962, highlights the essential role of human judgment in moments of extreme crisis. While artificial intelligence (AI) systems can swiftly analyze vast quantities of data and react instantaneously to various situations, they are constrained by inherent limitations when confronted with ethical dilemmas and human uncertainties. In contrast to AI, Vasily Arkhipov's decision was informed not only by military data but also by a nuanced understanding of human and diplomatic considerations, ultimately averting a nuclear disaster. This pivotal moment underscores the necessity of preserving human involvement in critical decision-making contexts, where intuition and discernment are indispensable. Although AI can offer valuable analytical insights, it cannot replicate the capacity for judgment required to assess situations with profound moral and social implications. This article argues that AI should serve as a complement to human decision-making, never replacing it, especially in matters with far-reaching consequences.

Keywords: Artificial intelligence (AI), Cuban Missile Crisis, Data analysis, Decision, Ethical dilemma, Geopolitics, Human judgment, Nuclear war.

INTRODUCTION

The Cuban Missile Crisis of October 1962 remains one of the tensest moments of the Cold War, and its analysis by Allison and Zelikow [1] has shaped some of the most influential research in decision theory. The conflict between the United States and the Soviet Union brought the world to the brink of a nuclear war that could have engulfed the entire planet in devastation, potentially resulting in the destruction of all human life. Among the critical episodes of the crisis, the events aboard the Soviet submarine B-59 stand out as particularly significant. The decisive intervention of second-in-command Vasily Arkhipov, who refused to authorize the launch of the onboard nuclear torpedo, effectively prevented a catastrophic escalation [18]. Vasily Arkhipov demonstrated remarkable composure, judgment, and moral clarity at a moment when Humanity teetered on the edge of nuclear apocalypse. This episode powerfully underscores the irreplaceable value of human decision-making in situations of extreme crisis and moral complexity. In some respects, it serves as a counterpoint to the breakdown of sensemaking theorized by Weick [25] in his analysis of the tragic deaths of 13 firefighters during a huge forest fire, where incoherent narratives led to disastrous decisions and unnecessary loss of life.

As AI increasingly takes center stage in decision-making processes, particularly in military and strategic domains, it is crucial to evaluate whether these technologies can—or should—supplant human intervention in critical situations. While AI offers undeniable advantages in

terms of speed and efficiency by processing vast amounts of data in record time, its inability to comprehend human emotions, moral dilemmas, and unforeseen consequences represents a significant limitation. The “B-59 episode” highlights the fact that, in moments of extreme tension, human judgment depends on factors far beyond the scope of algorithmic analysis. Reflection, accumulated experience, intuition, ethical reasoning, and the capacity to anticipate the long-term implications of a decision are all qualities that elude the mechanical logic of machines. Can we envision an algorithm, no matter how advanced, making the ethical decision to refrain from launching a nuclear weapon when faced with a perceived threat? Such questions, long explored in science fiction works like the Terminator film series, are becoming increasingly urgent as AI systems encroach upon critical decision-making spheres, raising complex ethical and strategic challenges. As Leys [11:378] aptly underlines, AI “is enabling a new generation of weapons that will dramatically change the nature of warfare.”

This article seeks to reaffirm the fundamental and indisputable importance of human judgment in situations of extreme crisis, using the example of “B-59 episode” and its decisive role in preserving world peace during the Cold War as a starting point. In the first section, I analyze the context and specific conditions faced by the Soviet submarine B-59 crew in October 1962, emphasizing the factors that heightened tension on board and the challenges posed by limited communication and conflicting directives. In the second section, I explore Vasily Arkhipov’s crucial decision in depth, examining the psychological, strategic, and ethical dimensions of his choice, as well as its broader implications for contemporary history. Finally, in the third section, I address the current and complex challenges of strategic decision-making in the age of AI. This discussion contextualizes the risks and opportunities presented by AI in managing the complexity and uncertainty of major geopolitical crises, while underscoring the limitations it may face without proper human discernment, as illustrated by the pivotal episode involving the Soviet submarine B-59 and its historical significance for Humanity’s survival.

RETURNING TO THE HISTORICAL CONTEXT

In October 1962, the Cold War between the United States and the Soviet Union reached an unprecedented peak of tension, marked by a direct confrontation between the two superpowers [15]. This escalation followed Fidel Castro’s rise to power in Cuba on January 8, 1959, just 90 miles from the American coast, and the resounding failure of the Bay of Pigs invasion in April 1961, during which 1,400 exiles trained by the CIA in the United States attempted to overthrow the Communist regime [24]. The deployment of 42 Soviet missiles in Cuba—36 medium-range missiles (approx. 1,000 miles) and 6 intermediate-range missiles (approx. 2,200 miles) (see Illustration 1)—in response to the stationing of American missiles in Turkey and Italy further destabilized an already fragile geopolitical landscape. This escalation heightened fears of an imminent military confrontation, drawing global attention to the looming specter of nuclear annihilation. The crisis intensified when the United States discovered Soviet military installations in Cuba following weeks of aerial surveillance. Acting on the advice of Defense Secretary Robert McNamara [10], President John F. Kennedy imposed a naval blockade to prevent further Soviet shipments, risking a direct confrontation [13]. Though officially renamed a “*quarantine*” by John F. Kennedy to downplay its severity, the measure was widely perceived as an act of war, carrying the very real risk of triggering a full-scale nuclear conflict [2].

The decision to impose a naval blockade was bold, striking a precarious balance between military intervention and the hope for a diplomatic resolution. However, it exposed the world to the risk of uncontrollable escalation in a context where military confrontation seemed increasingly inevitable, and diplomacy was pushed to its limits. The United States, despite its position of strength as a superpower, faced an extraordinarily fragile situation where any misstep could ignite a full-scale nuclear war, threatening not only the three nations involved but the survival of Humanity itself. John F. Kennedy also had to mitigate the risk of Soviet misinterpretation of American intentions, further complicating his strategy of confrontation while preserving a path to diplomacy. Allison and Zelikow [1] vividly depict how John F. Kennedy's leadership enabled him to skillfully "navigate" the competing pressures of military advisors, such as the hawkish General Curtis LeMay, who pushed for an airstrike, and political advisors like his brother Robert Kennedy and Adlai Stevenson, the U.S. Ambassador to the United Nations, who advocated for diplomacy to avert nuclear catastrophe and pave the way for a peaceful resolution.

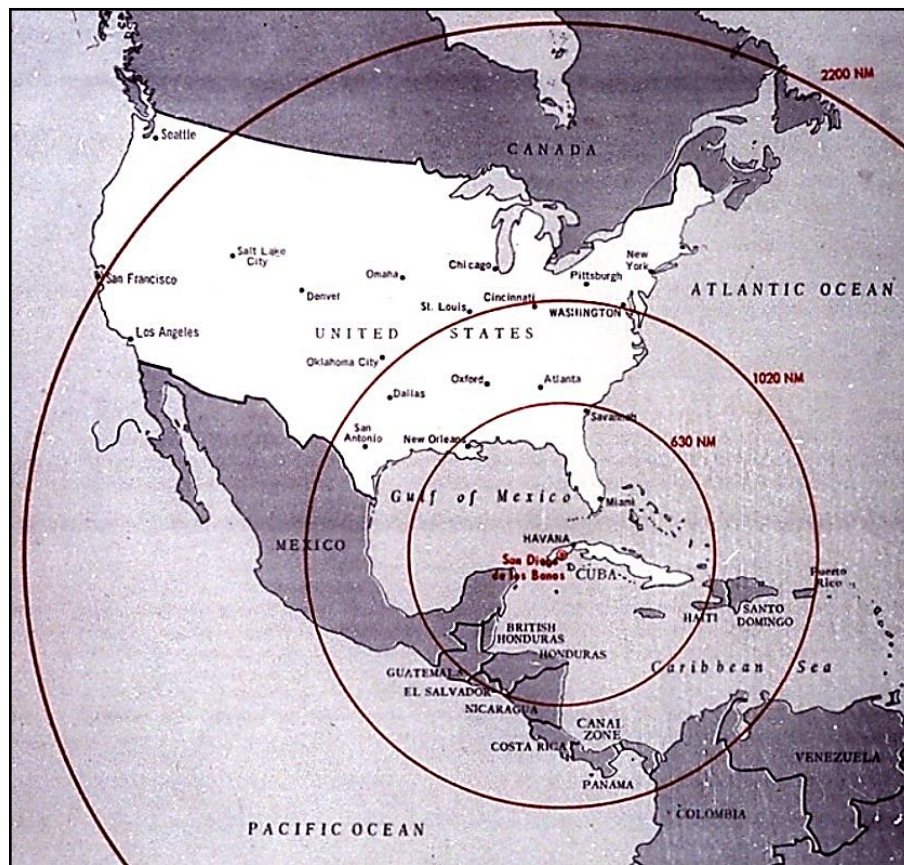


Illustration 1: Map of the range of nuclear missiles in Cuba, 1962 (U.S. declassified document)

Source: By courtesy of the John F. Kennedy Presidential Library & Museum.

The Soviet submarine B-59, at the heart of this global crisis, vividly illustrates the immense pressure faced in the field. As part of a Soviet flotilla deployed to counter American military escalation, the submarine was armed with a nuclear torpedo and found itself surrounded by U.S. naval forces, effectively placing its crew in a state of near captivity. Cut off from the outside world and unable to establish contact with Moscow, the crew endured harsh conditions,

including stifling heat, severe oxygen depletion, and relentless psychological strain compounded by fear and uncertainty. This scenario recalls Weick's [25] analysis of the Mann Gulch disaster, where firefighters, paralyzed by extreme confusion and ambiguity, made tragic and fatal decisions. Similarly, aboard the Soviet submarine B-59, the relentless barrage of American depth charges—designed to force the submarine to surface—amplified the crew's anxiety. Unsure whether war had already broken out and acutely aware that a single misstep could unleash a nuclear catastrophe, the crew grappled with an unbearable psychological burden. The crisis reached its climax with a critical and morally weighty decision by Soviet officer Vasily Arkhipov: should he authorize or refuse the launch of the nuclear torpedo, fully aware of its devastating potential for Humanity?

REVEALING THE DECISION-MAKING PROCESS

On October 27, 1962, the Soviet submarine B-59 faced a dire confrontation with the United States. Cut off from Moscow and without external communication, the submarine's commander, Captain Valentin Savitsky, became convinced that war had already begun—a belief intensified by the aggressive maneuvers of American naval forces relentlessly harassing the Soviet fleet. After enduring days of stifling heat, immense tension, and complete isolation, Valentin Savitsky ordered preparations to launch the onboard nuclear torpedo, believing a preemptive strike against the American vessels was necessary to protect the Soviet fleet and counter ongoing aggression [17]. According to Buchanan and Imbrie [3:135], his words were resolute: "We're gonna blast them now! We will die, but we will sink them all—We will not become the shame of the fleet." However, the submarine's executive officer, Vasily Arkhipov, firmly opposed the order (see Illustration 2).



Illustration 2: Vassili Arkhipov (1926–1998), hero of Humanity

Source: Olga Arkhipova (CC BY License).

Recognizing the catastrophic consequences such an action would trigger, Vasily Arkhipov understood that launching the torpedo would almost certainly provoke an all-out nuclear war,

with devastating repercussions for the Soviet Union, the United States, and the world. More broadly, he realized that such an attack would only escalate the violence without securing any meaningful Soviet advantage. Despite immense pressure, Vasily Arkhipov exhibited extraordinary discernment, rising above the immediate logic of military conflict to prevent a potential holocaust and the “nuclear winter” later described by Turco *et al.* [23].

Rather than succumbing to military and emotional pressure, he decisively proposes an alternative option: surface and establish contact with Moscow to obtain clearer, unambiguous instructions. It is a bold and strategically risky move, but it offers a critical opportunity to avert a global catastrophe. Vasily Arkhipov not only suggests an alternative; he skillfully persuades both his commander, Valentin Savitski, and political officer Ivan Maslennikov of the need to wait. This action demonstrates extraordinary leadership and moral courage in times of extreme crisis [4]. The Soviet submarine B-59 finally surfaces amidst American warships, allowing communication with Moscow to resume just as diplomatic efforts are beginning to bear fruit. Vasily Arkhipov’s discernment saved the lives of millions, but his actions extended beyond preventing a nuclear conflict. His decision directly contributed to a significant improvement in superpower communications, resulting in the establishment of the famous “red line,” a secure direct channel between Washington and Moscow, designed to prevent misunderstandings and uncontrollable escalations in the future [5]. This pivotal decision underscores the irreplaceable importance of human judgment, particularly in moments when existing communication and intelligence systems falter under the weight of uncertainty and tension.

However, while Vasily Arkhipov is often celebrated as the hero who averted nuclear war, several historians offer a more nuanced interpretation. For one, the decision not to launch the nuclear torpedo aboard the Soviet submarine B-59 was not Vasily Arkhipov’s alone. As the first officer, he indeed held veto power, but the decision also required the agreement of Valentin Savitski and Ivan Maslennikov. Therefore, attributing sole credit to Vasily Arkhipov oversimplifies a situation rooted in a collective decision-making process, in which each member of the leadership played a critical role [14]. Additionally, much of the information about this Cold War episode derives from retrospective accounts, raising questions about its accuracy and objectivity, particularly regarding the perceived urgency of the moment [7]. Moreover, some researchers highlight that the role of the Soviet chain of command and the orders initially given to the Soviet submarine B-59 remain unclear. These scholars suggest that Moscow likely imposed strict rules prohibiting the use of nuclear weapons without explicit authorization [22], which would have constrained the crew’s actions and added layers of complexity influenced by external directives [16]. One critical and highly relevant question remains: would an AI deployed in a military context have demonstrated the same level of discernment in preventing a nuclear holocaust?

WOULD AI EXHIBIT THE SAME DISCERNMENT?

At a time when AI is gradually gaining foothold in the military and strategic fields [21], the debate on delegating critical decisions to machines has become increasingly urgent, and the case of Vasily Arkhipov’s behavior, even if part of a collective decision-making process, opens the field to a reflection of significant importance. AI systems, capable of processing vast quantities of data, are often seen as powerful tools for managing crises where every second counts, rapidly analyzing countless scenarios, predicting outcomes, and proposing optimal

courses of action [9]. The Cuban Missile Crisis of October 1962, and particularly the “B-59 episode,” underscores the indispensable value of human judgment during moments of extreme tension, where intuition, experience, and wisdom play a crucial role. Vasily Arkhipov’s intervention, which prevented the launch of a nuclear attack, exemplifies discernment and restraint that may have averted the annihilation of Humanity. Considering this historic event, it is pertinent to ask whether AI systems, while remarkably effective at processing massive data and managing crises, would possess the ability to make such nuanced, peace-preserving decisions grounded in moral, ethical, and human-centered considerations [8].

AI systems are designed to analyze complex information at speeds unmatched by humans, offering dynamic solutions tailored to rapidly evolving situations. In military scenarios, particularly within General Staff operations, their ability to anticipate and respond instantaneously may seem like a significant advantage in today’s geopolitically unstable context—especially since the onset of Russia’s invasion of Ukraine. In this sense, one might even suggest a form of “machine consciousness,” as AI generates reactive actions based on purposeful perceptions (for a discussion on consciousness, see Funk [6]). However, the limitations of AI systems become evident when confronted with ethical dilemmas [19] or scenarios fraught with profound uncertainty. These systems are incapable of incorporating moral judgment, empathy, the subtleties of human intent, or an understanding of the long-term socio-political repercussions of their decisions. Unlike humans, AI lacks the capacity to weigh delicate diplomatic imperatives, reflect on complex ethical stakes, or anticipate unpredictable consequences. For instance, during the Cuban Missile Crisis in October 1962, the intuition, perspective, and moral courage of individuals like Vasily Arkhipov were far more decisive than any algorithmic analysis could have been. The crisis required not only cold behavior but also discernment and foresight that extended beyond the mechanical precision of machines. This underscores the irreplaceable value of human judgment in moments of crisis, where decisions must balance immediate action with broader implications for Humanity.

During the Cuban Missile Crisis of October 1962, the decision not to launch a nuclear torpedo was shaped not by purely technical data but by a complex interplay of human factors. Despite the immense pressure and extreme conditions aboard the Soviet submarine B-59, Vasily Arkhipov carefully considered the long-term consequences of his actions, particularly their human impact. His discernment likely averted a nuclear war—an outcome unimaginable for any machine, even one equipped with advanced simulations and calculations. In December 2024, when I asked ChatGPT, “Are you aware of human suffering?”, it responded: “I don’t have the awareness or emotional experience of a human being. However, I can intellectually understand human suffering and the importance of empathy, ethics, and respect for human dignity.” This contrast is striking: while the submarine’s commander, convinced that war was inevitable, was prepared to launch an attack, Vasily Arkhipov proposed a more measured approach—surfacing to obtain clear orders from Moscow. His decision, marked by wisdom and moral courage, underscores the unique human ability to assess situations holistically, factoring in ethical considerations and long-term effects in ways that AI cannot fully replicate. Looking ahead, the *digital universe* in which we are increasingly immersed is likely to have significant, yet still unpredictable, implications for modern geopolitical dynamics [26].

One of the significant challenges posed by AI in the military context is the temptation to delegate increasingly complex decisions to machines. These systems are often the only entities capable of instantaneously generating non-programmed decisions in Simon's sense [20]—that is, responding to unprecedented situations where no established rules or procedures exist. While AI plays an essential role in rapidly analyzing data and managing technical aspects of crises, one crucial domain remains where human involvement is indispensable: geopolitical crisis management. The Cuban Missile Crisis of October 1962 provides a compelling example, as it required not only a logical assessment of military risks but also a profound understanding of humanistic implications. Although AI can offer recommendations, it cannot substitute for human judgment in decisions with far-reaching consequences. This limitation arises because AI lacks the metacognitive ability to interpret facts beyond objective data. Vasily Arkhipov's intervention during the crisis underscores that effective decision-making depends on more than rational analysis; it requires an emotional and ethical perspective, combined with adherence to established control frameworks [27]—qualities that AI, in its current state, cannot replicate. This dilemma becomes particularly relevant when considering the four types of AI-assisted warfare identified by Lushenko [12]:

- *Centaur warfare* integrates AI with human oversight for tactical decisions on the battlefield. Humans supervise machines to target and neutralize enemy forces, such as weapon caches. This model highlights the synergy between human intuition and technological tools, ensuring that human judgment directs machine actions.
- *Minotaur warfare*, by contrast, places machines in a supervisory role over humans. In this approach, AI commands various combat units, including patrols, fleets, or air formations, with humans acting under algorithmic control. Critical decisions are delegated to AI, prioritizing computational efficiency over human intuition.
- *AI-enhanced warfare* grants military technologies near-total strategic autonomy. Operating without constant human oversight, these systems reshape the balance between attack and defense. By optimizing engagements, they allow belligerents to secure advantages across space, fundamentally redefining conflict dynamics.
- Finally, *mosaic warfare* leverages algorithms to optimize strategic decision-making while retaining supervision. AI identifies and exploits enemy vulnerabilities, executing essential tasks that support human decisions. This model enhances human effectiveness through tight coordination between operators and AI systems.

CONCLUSION

The “B-59 episode” in October 1962 is a striking illustration of the fragility of world peace during the Cold War and how Humanity was on the brink of a precipice in a matter of seconds. At a time when the world teetered on the edge of a nuclear holocaust, Vasily Arkhipov's individual decision was an act that can only be described as heroic. Under immense pressure, he showed exceptional discernment and chose not to launch the submarine's nuclear torpedo. It was a remarkable act of wisdom, highlighting the unique ability of human beings to pause, reflect, and consider the profound consequences of their choices, making decisions based on universal moral principles. This historic moment serves as a powerful reminder that, even in the face of advanced technology and complex military calculations, human reflection remains essential and irreplaceable. AI, while capable of processing vast amounts of data, cannot replicate our ability to integrate emotional, humanist, and ethical elements into critical

decisions that influence the course of history, preserve global peace, and shape our common future in ways that machines cannot fathom.

Contributions

As AI becomes increasingly prevalent in military and strategic fields, the article raises a crucial question: can humans remain the ultimate decision-makers in high-stakes, high-tension contexts, or should machines, equipped with vast data-processing capabilities, assume a larger role in decision-making? The Cuban Missile Crisis and the “B-59 episode” of October 1962 vividly highlight the limitations of AI in situations where uncertainty, human emotions, and ethical dilemmas come into play. Vassili Arkhipov’s decision was not based solely on rational data, but also on a profound understanding of human risks, long-term consequences, and the ethical weight of his potential action (to launch or not launch the nuclear torpedo). His choice was shaped by elements such as psychology, empathy, and the foresight of complex repercussions on global peace—factors that AI, in its current form, cannot fully grasp or integrate. Although AI systems are becoming increasingly sophisticated, they remain bound by logic and data sets, lacking the intuitive judgment that humans possess when navigating moral quandaries. These technologies, while undeniably valuable for analyzing complex scenarios, are still insufficient in situations where diplomacy, universal values, and human experience must guide decisions that shape the course of history.

Limitations

My analysis is based on historical examples and assumptions about current and future AI capabilities. However, it has certain limitations worth noting. Firstly, while the case of Vasily Arkhipov is emblematic, it represents a unique situation that cannot be easily generalized to all geopolitical crisis situations. Decision-making in different contexts may engage distinct cognitive and emotional mechanisms not fully addressed here. Secondly, the study of AI capabilities relies on current models and technologies, whose performance is evolving at a rapid pace. Tomorrow’s AI systems are likely to incorporate significant advances, such as the modeling of ethical or emotional factors, which may limit the relevance of the arguments presented in this article. Thirdly, the analysis remains focused on a dichotomy between humans and AI, without fully exploring potential synergies between these two entities in crisis management. A more comprehensive exploration of possible collaborations, as well as an empirical analysis of current AI deployments in tense or unstable situations, could uncover novel opportunities, strategic complementarities, and promising pathways for evolution in this complex and rapidly shifting field.

Research Avenues

The ideas developed here pave the way for several promising research avenues. The first research avenue is to study the interactions between humans and AI in critical decision-making contexts, exploring how AI complements rather than substitutes for human capabilities. For instance, experimental research could examine the role of AI in crisis simulations, testing its effectiveness in providing real-time recommendations while leaving the final judgment to humans. A second research avenue is to investigate the potential development of AI models that integrate ethical dimensions, combining approaches from the humanities and technological sciences. Finally, a third research avenue involves promoting comparative studies of human decisions that have helped avert humanitarian disasters, identifying common features and

decision-making processes. These analyses could inspire the creation of algorithms capable of better understanding moral dilemmas, and in the longer term, transdisciplinary research involving experts in ethics, AI, international relations, and political science should facilitate the design of hybrid systems that can preserve human dignity, protect the environment, and address the geopolitical challenges our planet faces and will continue to confront.

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