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## Commonalities and Particularities in the Fates of “Atomic Soldiers” in the USSR and the USA: A Historical Overview

The article addresses a topic that has not previously been studied in Kazakhstani historiography. The article addresses a topic that has not previously been studied in Kazakhstani historiography. Its focus is on veterans who served at nuclear test sites in the United States and the USSR during the second half of the 20th century — the so-called “atomic soldiers.” Young conscripts, who believed they were fulfilling their duty to the Motherland, in reality became “atomic soldiers” within the framework of their states’ nuclear policies. The primary sources for studying the fates of these “atomic soldiers” are previously recorded interviews and memoirs of those who served in the armed forces of the USSR and the USA. Of particular importance are interviews with Kazakhstani “atomic soldiers” who were stationed at the Semipalatinsk nuclear test site. The collected evidence shows that in both the United States and the Soviet Union, service members involved in nuclear tests were often unaware of the nature of radiation exposure and were not provided with protective equipment or radiation monitoring devices. Testimonies from American veterans and Soviet participants indicate a wide range of health consequences — from skin lesions and cancers to paralysis and psychological trauma. The study also reveals that in Belarus and Russia, veteran organizations began to emerge in the 1990s, engaging in publishing memoirs and campaigning for recognition of their status. In Kazakhstan, however, public discussion of this issue has only begun in recent years.

**Keywords:** test sites, nuclear tests, atomic soldiers, radiation, consequences of nuclear testing, Semipalatinsk nuclear test site, Novaya Zemlya, Nagasaki, Soviet Union, Totsk polygon

### Introduction

Many events of the 20th century left an indelible mark on world history, among them the development and testing of nuclear weapons. Many events of the 20th century left an indelible mark on world history, among them the development and testing of nuclear weapons. The creation of nuclear weapons became one of the central issues on the global agenda and remains highly relevant to this day, especially in light of the current state of international relations.

In 1942, the United States produced its first atomic bomb. In 1943, the German physicist Klaus Fuchs passed this information to the Soviet Union. In response, the USSR decided to establish its first scientific research institute dedicated to nuclear issues, headed by physicist Igor Kurchatov. While the Soviet Union was just beginning its nuclear research, the United States conducted its first nuclear test on July 16, 1945, at the White Sands Proving Ground in New Mexico as part of the famous Manhattan Project, led by physicist J. Robert Oppenheimer. Less than a month later, on August 6 and 9, atomic bombs were dropped on the Japanese cities of Hiroshima and Nagasaki. This event spurred not only the USSR but also other countries to engage in nuclear research and, if necessary, consider the practical use of such weapons.

The use of nuclear weapons, which began in this way, continued throughout the 20th century under extraordinary and far from peaceful conditions. At the forefront of nuclear testing were the United States and the USSR, followed by France, the United Kingdom, and China. Later, India and Israel joined this group. According to available data, the United States conducted 1,032 nuclear tests, the Soviet Union 715, France 210, the United Kingdom 45, and China 47 [1; 58].

In the United States, tests were carried out in Nevada as well as on several Pacific islands — Bikini, Eniwetok, the Marshall Islands, Maralinga, Monte Bello, and others.

The Soviet Union, for its part, conducted the majority of its nuclear tests on the territory of Kazakhstan. The most famous of these were the Semipalatinsk and Kapustin Yar test sites, as well as the Novaya Zemlya site in the Russian Far East. The soldiers who took part in these tests, monitored conditions at the test sites, and cleaned contaminated areas afterward are known as “atomic soldiers.”

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The relevance of this research topic lies in the need to study the role of “atomic soldiers” in nuclear weapons testing carried out during the second half of the 20th century. This issue has been studied fairly extensively abroad, particularly in English-language scholarship, but in Kazakhstani historiography there are virtually no serious studies devoted to it. Existing works mainly focus on the impact of nuclear testing, especially at the Semipalatinsk test site, on the lives of local populations living in adjacent regions. These are usually studies by geneticists, biologists, and medical specialists. However, even in these works, the topic of “atomic soldiers” is hardly addressed.

There is no single universally accepted definition of “atomic soldiers.” However, one existing definition describes them as follows: “Atomic soldiers are military personnel of the Armed Forces of the USSR, units and formations of the Ministry of Internal Affairs (MVD), the Committee for State Security (KGB), and other structures who directly participated in nuclear weapons tests and radioactive combat agents in all three environments, as well as in the elimination of radiation accidents at military sites” [2]. Veterans of particularly hazardous units also include those who assembled nuclear warheads — a task carried out manually until 1962 — and those involved in the burial of radioactive materials. In other words, these “veterans” are also considered “atomic soldiers.”

The service of “atomic soldiers” posed a serious threat to their lives and health, primarily due to radiation exposure. After being assigned to special units, conscripts took a military oath and then signed a document obliging them to maintain military and state secrecy for 25–40 years, often for life.

Thus, the subject under consideration is not merely a one-dimensional historical or scientific study. It encompasses social and humanitarian problems, anthropological interest, and historical-political events. Through the example of “atomic soldiers,” we can speak of one of the tragic phenomena in human life that has had, and continues to have, an impact on the development of modern society.

Accordingly, the main goal of this research is to study the problem of “atomic soldiers,” which remains largely unexplored in Kazakhstani historiography and was long obscured by the secrecy of state policies.

To achieve this goal, the following tasks have been identified: to determine the extent to which the problem of “atomic soldiers” has been studied in foreign scholarship; using comparative analysis, to examine the ways and methods by which the problems of “atomic soldiers” have been addressed in different countries, particularly the United States and the Soviet Union; and to consider possible approaches to resolving these issues in the Republic of Kazakhstan.

### *Materials and Methods*

The methodological basis of our research combines general scientific approaches and methods commonly used in the humanities with methods specific to historical studies. In assessing the military service and post-service experiences of “atomic soldiers,” we followed the principle of objectivity.

One of the key methods employed was comparative analysis, or the historical-comparative method, which made it possible to identify both general patterns and particular features in the fates of “atomic soldiers” in the USSR and the USA. The historical-descriptive method also proved important in analyzing the broader military context of nuclear test sites in both countries.

In addition to general scientific methods, we relied on field research, primarily interviews, which in our case were conducted both directly and indirectly. We used various forms of interviews, including personal and online formats. During in-depth interviews — informal conversations held face-to-face — we sought to identify the beliefs of “atomic soldiers,” their attitudes toward their role in nuclear testing, and their assessments of these events and their consequences.

A substantial body of sources has been accumulated on the history of the Semipalatinsk nuclear test site, reflecting the historical process both directly and indirectly. Among these are numerous materials containing information about “atomic soldiers.” Direct sources include official documents, especially records. For the purposes of this study, documentary sources form a significant group and are represented by a wide variety of documents in terms of type, content, and purpose. Many of these documents were classified as “secret” or “top secret” for a long time. This includes official records such as reports, information bulletins, state commission documents, memos, and reports from special expeditions sent to Semipalatinsk to study the consequences of nuclear testing for the environment, human health, and local ecosystems.

Other documents, which indirectly reflect the past, also provide valuable insights into the fates of “atomic soldiers.” These include narrative sources such as letters, diaries, and memoirs. The article also draws on interviews and recollections of “atomic soldiers” who served in the armies of the USSR and the USA. We analyzed interviews published in the books of Andrianov [3] and Zelensky [4] in Russian. In addi-

tion, we used testimonies and memoirs of “atomic soldiers” published in Russian online journals such as *Ruso* [5], *Bukinist* [6], and *Argumenty i Fakty* [7]. For comparative analysis, we relied on accounts of American “atomic soldiers” from works by Harvey Wasserman and Norman Solomon [8], Beck et al. [9], and Caldwell et al. [10].

In October 2024, “atomic soldiers” of Kazakhstan held a press conference in Almaty entitled “Urgent Appeal of Atomic Soldiers to the President of the Republic of Kazakhstan.” During this event, we conducted interviews with four Kazakhstani “atomic soldiers,” and these materials have also been incorporated into this study.

In November 2024, during the conference “The nuclear factor in the modern world: history and modernity” held in Karaganda Buketov University, the research team interviewed two other “atomic soldiers.”

Thus, drawing on both empirical data and scholarly literature, we have sought to provide a critical assessment of the consequences of nuclear testing through the experiences of “atomic soldiers” in the two major nuclear powers of the second half of the 20th century.

### *Results*

The term “atomic soldiers” was introduced into the Russian-speaking context in 1990, during the collapse of the Soviet Union, by Vladimir Yakovlevich Bentsianov. He was neither a scientist nor a researcher affiliated with any scientific institution or laboratory connected to nuclear weapons. V.Y. Bentsianov was one of the participants in the 1954 military exercise involving the detonation of an atomic bomb at the Totsk test site in the Orenburg region of the USSR. He played a key role in raising public awareness and organizing support for veterans of hazardous military operations, which led to the creation of the Committee of Veterans of High-Risk Units.

At Totsk, an airburst explosion with a yield of 40 kilotons was conducted at an altitude of 350 meters. Around 45,000 people were mobilized for these exercises. At the time, however, strict prohibitions on discussing such events were in place. Every participant in nuclear tests and related operations (including accident cleanup efforts) was required to sign a written pledge of secrecy lasting 25 years or more, and in some cases, for life.

In both the United States and the Soviet Union, military personnel who participated in nuclear tests were often unaware of the nature of their radiation exposure and were not provided with protective gear or radiation monitoring equipment. They were bound by long-term secrecy agreements, which limited their access to adequate medical care and public recognition.

Testimonies from American veterans (such as Lyman Quigley) and Soviet participants (from Totsk, Novaya Zemlya, and the Semipalatinsk test site) point to widespread health problems, including skin lesions, cancer, paralysis, and psychological trauma. Kazakhstani veterans recalled alarming environmental degradation in testing zones: sick and balding livestock, ill villagers, and sudden weather changes following tests. These accounts highlight the long-term ecological consequences and public health impacts in nuclear testing regions.

Despite geopolitical differences, atomic soldiers from the United States, the USSR, and post-Soviet states faced strikingly similar problems: secrecy, unprotected radiation exposure, lack of early medical monitoring, and systematic neglect of their long-term medical and social needs.

According to U.S. Department of Defense data, about 210,000 servicemen participated in the U.S. nuclear tests, though many researchers argue that this figure is underestimated. The National Association of Atomic Veterans estimates the actual number at between 250,000 and 400,000. This figure excludes thousands of civilians who lived near test sites and were also likely exposed to radiation.

The United States has published numerous studies and official documents related to this issue. Several documentary films were also produced and released. Epidemiological studies in the U.S. eventually confirmed significantly elevated rates of leukemia and other illnesses among nuclear test participants, prompting belated federal investigations in the late 1970s and early 1980s.

Declassified U.S. government documents contain detailed information about the radiation exposure levels faced by former servicemen — later veterans and retirees — during various nuclear tests, as well as the diseases they subsequently developed. In these documents, the affected servicemen are referred to as “atomic veterans” [9].

Between 1946 and 1962, U.S. soldiers were officially ordered to participate in hundreds of nuclear detonations. The logistics of their roles varied according to location, but one constant remained: radioactive fallout and repeated government assurances of its harmlessness.

Until the late 1970s, the U.S. government did not conduct any epidemiological assessments of these servicemen's health or study the long-term consequences of radiation exposure. Researchers note that for at least seventeen years, the health and well-being of some 250,000 American soldiers directly exposed to atomic radiation during nuclear testing were effectively ignored — they were treated as “guinea pigs” [8].

Thousands of Soviet soldiers were also exposed to radiation, many of whom received little to no medical assistance or legal compensation. In Belarus and Russia during the 1990s, veterans' organizations emerged that published memoirs and fought for recognition. The *Book of Courage: Atomic Soldiers* and *Atomic Soldiers of Belarus: Memoirs* compiled eyewitness accounts that revealed the emotional and physical consequences of radiation exposure. These works show how, even decades later, veterans remained without adequate medical or legal status.

In Kazakhstan, public discussion of this issue began only after the closure of the Semipalatinsk test site in 1991. Interviews conducted by us in 2024 with Kazakhstani veterans revealed similar symptoms, including loss of vision, chronic illness, and disability. Veterans of the Semipalatinsk test site (for example, from military unit No. 33799 and “Semey-22”) gave testimonies describing severe health deterioration, lack of protective equipment, and ignorance of radiation risks during their service at the site.

Today in Kazakhstan, only a handful of comprehensive studies are dedicated to “atomic soldiers.” The issue has only recently entered the public sphere and remains mostly confined to scattered journalistic publications.

### *Discussion*

One of the key principles of nuclear testing was maximum secrecy. Every participant in nuclear tests and related operations (including accident cleanup) was required to sign a written obligation not to disclose military secrets for 25 years or more, and in some cases for life. This secrecy had a profound impact on Bentsianov and his comrades. Despite losing his eyesight and suffering from serious health problems, he continued to work until the end of his life. He dedicated many years to addressing the problems of “atomic soldiers” and achieved several notable successes. Bentsianov founded the public organization Committee of Veterans of High-Risk Units. He introduced the term “atomic soldiers” so that the state would recognize its former servicemen as dependents and provide them with social support and guarantees [5].

In general, all nuclear powers relied on such personnel to conduct their tests. American researchers, in particular, sought out and interviewed “atomic soldiers” to better understand their experiences. According to several foreign scholars, the first American “atomic soldiers” were those who carried out their military duties in Hiroshima and Nagasaki in 1945.

One of them, Lyman Quigley, made a significant contribution by sharing his personal account of the situation in Nagasaki after the atomic bomb was dropped. According to Quigley, he and his fellow servicemen had no idea what kind of bomb had been used, as they had been given no instructions or warnings. They were shocked by the state of the city. The scene was horrifying: corpses still burning in the open air, while men and women suffered from hair loss and festering wounds on their heads, ears, and bodies.

Despite the grief and horror around them, Quigley and other soldiers initially perceived these scenes as something affecting others, but not themselves. Quigley and his unit — about 150 U.S. Marines — were housed in a partially destroyed concrete school building located directly above the blast site. Their orders included no safety measures or protective precautions. Quigley and his comrades drank water from the city reservoir and worked in the blast zone without any protective clothing or special equipment. They were not provided with radiation dosimeters or devices to measure radioactive exposure.

Under Quigley's supervision, the Marine unit used bulldozers to demolish damaged buildings, remove debris, clear roads, and level the ground in the area. “When I returned, I had burning, itching, and festering sores on the crown of my head and around my ears,” Quigley recalled. He noted that the wounds resembled those he had seen on Nagasaki residents. During a routine medical exam in December 1945, he pointed them out to a doctor: “In my medical record this was listed as a fungal infection, but now I know what it really was...” [8].

Here we provide only a brief outline of Quigley's story. His fate was truly tragic — he spent the rest of his life suffering from the long-term consequences of radiation, battling multiple radiation-related illnesses.

In the 1970s, when some media outlets began drawing attention to claims that nuclear test participation had caused serious illnesses, the U.S. government denied any responsibility. The Department of Veterans Affairs continued to reject claims from veterans and their widows about radiation exposure linked to military

service, insisting that servicemen had only been exposed to “low-level” radiation, which was considered harmless.

An article published in 1980 in the Journal of the American Medical Association stated: “In 1977, more than thirty years after Test ‘Able,’ pressure from widely publicized disputes between the Veterans Administration and atomic test veterans prompted the federal agency — the Centers for Disease Control and Prevention — to conduct the first health study of American atomic veterans” [10]. The same article reported valuable findings: “...The study was limited to 3,224 men who participated in military maneuvers in the Nevada desert in 1957 during nuclear tests codenamed ‘Smoky.’ The initial assessment, published in 1979, showed that among these servicemen the incidence of leukemia was more than twice the normal level. In more detailed statistical data that followed, federal researchers identified nine cases of leukemia among the same soldiers — nearly three times the expected average. ‘This represents a significant increase compared to the expected 3.5 cases,’ the research team led by CDC official Dr. Caldwell stated in the study summary...” [10; 1575].

There are also a number of studies and publications on “atomic soldiers” prepared by Russian and Belarusian scholars. A notable example is *The Book of Courage: Atomic Soldiers*, published in Russia in 2015 [3]. This work reveals previously classified information about “atomic soldiers” who served in high-risk units during the Soviet era, with deep patriotic dedication to building the USSR’s nuclear shield. It also tells the stories of those who knowingly exposed themselves to high doses of radiation, believing they were preventing nuclear war and serving a great cause — often at the cost of their health.

Numerous publications have focused on the Totsk test site. One of them provides recollections based on interviews with “atomic soldiers.” The first comes from Glebov, a resident of Leningrad: “...About 15 minutes before the explosion, I, the radio operator Volodya Zibrov, and the driver Yermolenko (both from Ukraine) were ordered to restore government communications. We immediately set out, connected the lines, and at that moment the explosion occurred. Numerous publications have focused on the Totsk test site. One of them provides recollections based on interviews with “atomic soldiers.” The first comes from Glebov, a resident of Leningrad: “...About 15 minutes before the explosion, I, the radio operator Volodya Zibrov, and the driver Yermolenko (both from Ukraine) were ordered to restore government communications. We immediately set out, connected the lines, and at that moment the explosion occurred. We were in the open, with no protection! Afterwards, I felt very ill — headaches, nausea. We were immediately hospitalized. Later, Zibrov’s mother wrote to me that he died a year after demobilization from an unknown illness. I know nothing about Yermolenko — is he still alive? As for me, I am still constantly ill, though I continue working...” [6].

The second testimony comes from the wife of a soldier who took part in the Totsk nuclear tests: “My husband, Lieutenant Colonel Kolychev Alexey Georgievich, also participated in those exercises. At the time, we lived in Belarus. He stayed at the site for about three and a half months but could not and did not want to talk about it. He only sighed and sometimes wept, saying: ‘I saw things that are impossible to comprehend.’ Two years later it began. First, he had severe headaches, and in 1960 he became paralyzed. He was only 35 years old and had never complained about his health — he was an avid skier and hunter. Then he developed tumors. Doctors could not make a clear diagnosis. Once, a neurologist asked me: ‘Was your husband involved with nuclear weapons?’ But what could I say? We were forbidden to speak about it. He suffered for 18 years and died in 1978. He never received any benefits, though he was a war veteran. And I too have no right to any support... With deep respect, Kolycheva Valentina Konstantinovna” [6].

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That they were later called “atomic soldiers” is directly confirmed in the testimony of Zelensky, another participant of the Totsk test: “...An order was given to end the exercise. We took off our uniforms, washed up to the waist, got into a truck, and returned to camp. All soldiers and officers had headaches. We didn’t know from what — helmets, radiation, sand, smoke, or gas. At that time, no one measured radiation. What

dose each of us received — only God knows. And what about the infantry, who stormed ‘enemy’ positions on foot at the front? That’s why we were called “atomic soldiers” [5].

Another major Soviet nuclear test site — second only to Semipalatinsk — was on the Novaya Zemlya archipelago. This Arctic territory consists of two large islands, Severny (48.9 thousand km<sup>2</sup>) and Yuzhny (33.3 thousand km<sup>2</sup>), as well as dozens of smaller islands. The two main islands are divided by the narrow Matochkin Shar Strait and surrounding islets.

Unlike Semipalatinsk, the local population of Novaya Zemlya was resettled to the coast before the tests began, but the test site still inflicted enormous environmental damage on the region. Established in 1954, the Novaya Zemlya test site was designed for all types of nuclear testing: surface, underground, underwater, maritime, and atmospheric. In 1961, the most powerful nuclear device in human history — the 58-megaton “Tsar Bomba” — was detonated there.

Those who participated in these tests also shared their experiences, shedding light on the hardships faced by “atomic soldiers.” One such account appeared in the Belarusian edition of *Argumenty i Fakty*, which published an interview with nuclear test participant K. Churilo: “...The main group of conscripts, thoroughly screened by the KGB, was sent to Novaya Zemlya. In 1961, personnel of the 831st and 837th military construction units were deployed to the Matochkin Shar area. At site D9, a large-scale operation prepared the test ground for nuclear explosions. We worked without any protection or monitoring. Our daily water came from a glacial stream near the site of 26 nuclear detonations in 1958! In the summer of 1962, members of the 837th returned to collect soil samples in lead cylinders and prepare the ground for another 36 nuclear tests. Let me remind you: on October 30, 1961, the most powerful atomic bomb, nicknamed ‘Tsar Bomba,’ was detonated at Novaya Zemlya. It was impossible to leave that environment unscathed. Soldiers’ health was not monitored, and radiation doses were not recorded. This is evident from my medical records. To conceal widespread illness and death among soldiers, each of us was forced to sign a 25-year non-disclosure agreement, even forbidding us from telling doctors the cause of our symptoms. Without knowing the true cause, we could not get proper treatment — the risk of death was extremely high. In the Slonim district, five out of seven men died; in Dyatlovo, five more by 1993. It is impossible to prove a causal link between diseases and participation in tests: only in the 2000s did we receive official documents stating that we had ‘directly participated in atmospheric nuclear tests at the Novaya Zemlya test site.’ On this basis, we were issued liquidator certificates. Yet under current law we are not entitled to meaningful medical assistance. This token support and vague legal classification of our status as ‘participants in the elimination of other radiation accidents’ is offensive and incomprehensible. The USSR had a state program for the creation and testing of the nuclear shield, carried out by servicemen — a distinct category. It’s not about benefits, though timely medical care was critical. It’s about the fate of the ‘atomic soldiers,’ who were abandoned in the USSR and deprived of legal status and due recognition in modern Belarus. For some reason, I receive commemorative pins as a nuclear test participant from Russia, where ‘atomic soldiers’ hold special veteran IDs as members of high-risk units...” [7].

In addition to the above, the book *Atomic Soldiers of Belarus: Memoirs*, which collects testimonies of Belarusian military retirees who served in high-risk units, is directly relevant to this article. Its value lies in being one of the first works to document the emergence of veterans’ committees of high-risk units in former Soviet republics after the USSR’s collapse. Their primary aim was the medical, social, and moral rehabilitation of “atomic soldiers.” The founding conference of such a committee took place in Leningrad in 1990. In 1993, the Belarusian committee decided to publish the memoirs of those who had participated in nuclear weapons production and the September 14, 1954 military exercises.

Russian and Belarusian researchers have also mentioned “atomic soldiers” at the Semipalatinsk test site. For example, retired Colonel L.S. Mayorov, who served there from 1955 to 1973, wrote about the secrecy surrounding operations: “...Service conditions were exceptional, with frequent and prolonged deployments to test sites under far from comfortable conditions, along with enormous responsibility and strict secrecy. Even in our offices, among colleagues, we were not allowed to say ‘explosion,’ but only ‘phenomenon’; not ‘charge,’ but ‘device’; not ‘test,’ but ‘work,’ and so forth.” He also provided valuable information on the health consequences of radiation: “...Unfortunately, there were serious illnesses, including cancer. For example, in the automation department, where I worked from 1955 to 1966, three employees died, including my first supervisor, V.I. Krylov, from kidney disease. Several others had to be transferred to other institutions within our ministry. Similar conditions were observed in other departments, regardless of their work. Tasks such as analyzing samples from explosion clouds in radiochemical labs or working with irradiated animals in histological labs were no less dangerous than exposure to high radiation in field zones” [4].

In 1996, the newspaper *Kazakhstanskaya Pravda* published an article entitled “It Was Hell”..., which included the recollections of one nuclear test participant, Malgis Metov, who at one time headed the Committee of Veterans of High-Risk Units in Almaty under the Nevada–Semipalatinsk movement. When asked by a journalist about the consequences of testing at the Semipalatinsk test site, he said: “Atomic soldiers are dying out unnoticed and forgotten... tens of thousands did not survive to this day... How many soldiers committed suicide, how many families were destroyed... Some tried to desert from the test site and were court-martialed.”

Among those who served at Semipalatinsk was H.S. Aldazhumanov, a native of the Karkaraly district, now a professor and Candidate of Historical Sciences, who recalled in a personal interview: “I was conscripted in 1961. Along with two compatriots from Karkaraly district, I was sent to the Semipalatinsk test site... During tests, we would leave the barracks to watch the mushroom cloud form and expand. Sometimes devices were placed in our pockets to measure radiation levels, and we were sent to the test site. When we arrived, our new devices were taken away and we were sent straight to the bathhouse. After serving there for a year, I was transferred to Kiev. Perhaps that is why I survived” [11].

In October 2024, Kazakhstan’s “atomic soldiers” held a press conference in Almaty entitled “Urgent Appeal of Atomic Soldiers to the President of the Republic of Kazakhstan.” The event included representatives of regional branches of the nationwide public organization Semey-22.

Four “atomic soldiers” interviewed during the event recalled how weather conditions changed dramatically after nuclear explosions and how these changes affected them. Their testimonies revealed health problems linked to radiation exposure.

During this conference, in a personal interview, Bakdaulet Nurtazaev, chairman of the “Semey-22” branch in Almaty region and Taldykorgan, stated: “Military researchers were equipped with protective gear, but ordinary soldiers like us were not. We worked with radiation bare-handed. At the time, we had no idea what atomic bombs or radiation were — there was no training on its dangers. Today most surviving soldiers are classified as disabled in categories I, II, or III. The rest have passed away...” [Interview with Bakdaulet Nurtazaev, 28.10.2024].

For example, Yeraly Tursyngaliuly Kuttybekov, who served in military unit No. 33799 near the Semipalatinsk test site from 1988 to 1990, described the aftermath of an underground explosion on October 19, 1989: “After the explosion, a strong wind rose, carrying dirt and dust. The weather quickly worsened. I fell seriously ill. I had open wounds all over my body. I was taken to a military hospital, and thanks to doctors from Moscow, I eventually recovered. They saved my life. I returned home from the army in such poor condition that even my own mother did not recognize me. Today I am a third-degree invalid and have lost sight in one eye” [Interview with Yeraly Tursyngaliuly Kuttybekov, 28.10.2024].

Two other “atomic soldiers” interviewed at the Karaganda Buketov University — Zhanat Amantayuly Gabdullin and Omir Sarsenbaiuly Igisinov — reported similar health problems after serving at Semipalatinsk (1987–1989): “At first we didn’t know or understand what radiation was. Only when we were hospitalized did we begin to realize that our illnesses were connected to the tests,” they recalled [Interview with Omir Sarsenbaiuly Igisinov and Zhanat Amantayuly Gabdullin, 10.11.2024]. Zhanat Amantayuly remembered that they spent 2–3 months at various sites, living in tents both in summer and winter. In winter, tents were heated with stoves. During these deployments, they unknowingly received harmful doses of radiation. Their duties also included inspecting nearby villages and pastures, where they saw alarming scenes — livestock without hair and visibly ill villagers. Kabylbek Khaydaruly Omarov from Pavlodar and Bilim Toleugaliuly from Atyrau who were interviewed during the Almaty conference, who also served at Semipalatinsk, shared similar recollections. Reflecting on their service, veterans acknowledged that while they now understand how contaminated the territory was, at the time radiation could not be seen, touched, or smelled, so they could not know the extent of their exposure [Interview with Kabylbek Omarov and Bilim Toleugaliuly, 28.10.2024].

Thus, the results of the study show, first, that in both the United States and the Soviet Union, servicemen who participated in nuclear tests were often uninformed about the nature of their radiation exposure and were not provided with protective equipment or radiation monitoring devices. Quigley noted that during his mission in Nagasaki, they had no knowledge of radiation risks, worked in the blast zone, and were not given dosimeters. Glebov similarly reported working at the Totsk site without any protection. Churilo, who served at Novaya Zemlya, also stated that they worked without protection, noting that soldiers’ health was not monitored and radiation doses were not recorded. Bakdaulet Nurtazaev, as well as Zhanat Gabdullin and

Omir Iginov, likewise recalled working without protection and having no knowledge of radiation at the time.

Second, in both the United States and the Soviet Union, “atomic soldiers” reported that the negative health effects of radiation exposure appeared many years after their service at test sites. Kolychev’s wife reported that he became disabled and suffered for 18 years, dying in 1978. Glebov described constant headaches and nausea. Churilo mentioned the deaths of seven comrades over that period. Kuttybekov reported loss of sight in one eye, while Gabdullin and Iginov directly linked their illnesses to their participation in nuclear tests.

Third, in both the United States and the Soviet Union, “atomic soldiers” did not receive official recognition of the negative effects of radiation on their health. Quigley’s illness was diagnosed as a “fungal infection.” Kolychev never received any benefits, and Churilo mentioned that he only obtained official documents in the 2000s, but those did not entitle him to adequate medical assistance.

When it comes to differences in how “atomic soldiers” were treated, the United States began to acknowledge them in the late 1970s under media pressure. The CDC even conducted a study of “atomic soldiers” in 1979. Recognition of “atomic soldiers” in the post-Soviet space began only after the collapse of the Soviet Union. No official research was conducted. Recognition of Soviet “atomic soldiers” in the independent states that emerged after the USSR’s dissolution was complicated by the nondisclosure agreements they had signed during their military service.

Another difference lies in the level of activity among “atomic soldiers.” In the United States, it was relatively high, with “atomic soldiers” having their own National Association of Atomic Veterans. In Russia and Belarus, “atomic soldiers” held conferences in 1990 and 1993. In Kazakhstan, however, the issue of “atomic soldiers” was not treated separately but only in the broader context of the Semipalatinsk Test Site. It is only recently that “atomic soldiers” in Kazakhstan have begun to make public claims.

### *Conclusions*

Thus, although the issue of “atomic soldiers” has received some coverage in foreign studies, it still requires comprehensive and interdisciplinary examination in domestic historical scholarship. In particular, not all documents related to this subject have been fully declassified, which limits access to critically important archival materials. Therefore, we believe that this topic deserves further study.

In both superpowers, servicemen were deployed to highly radioactive zones without proper protective equipment, without knowledge of the risks, and without medical supervision. As the cases presented demonstrate, many of these soldiers suffered from long-term health consequences that continue to affect them and their families to this day.

The research has highlighted several key issues concerning “atomic soldiers.” One of the main findings is that the common problem faced by “atomic soldiers” across different countries is the absence of official recognition of their status, which hinders their access to adequate moral and material support from their governments.

While U.S. veterans began speaking out in the 1970s and received some degree of recognition through organizations such as the National Association of Atomic Veterans, their Soviet counterparts remained bound by strict nondisclosure agreements. Recognition in the post-Soviet space came decades later, often of a symbolic nature. This delay was caused not only by secrecy but also by the dissolution of the Soviet Union itself—an event that left former soldiers scattered across newly formed independent states with fragmented responsibility and weak institutional memory.

Differences can also be observed in the level of veterans’ activism. In the United States, grassroots mobilization was relatively strong, supported by media attention and legal advocacy. In Russia and Belarus, veterans’ committees began forming only in the early 1990s.

In Kazakhstan, the issue of “atomic soldiers” long remained overshadowed by broader discussions of the Semipalatinsk Test Site. Only recently have Kazakh veterans begun to speak publicly and demand recognition, as evidenced by the 2024 press conference organized by members of the “Semey-22” unit. Kazakh “atomic soldiers” once dutifully fulfilled their military service to the country and have since spent decades fighting for their rights — a struggle that continues to this day. Most of them are now elderly veterans who deserve attentive and serious consideration of their problems.

Overall, the study of the role of “atomic soldiers” in nuclear weapons testing in the second half of the twentieth century contributes to a deeper understanding of the social and political consequences of nuclear testing. The voices of “atomic soldiers” reveal not only the human cost of Cold War militarism but also the



ongoing struggle for justice in the post-nuclear age. The testimonies of veteran “atomic soldiers” remind us that historical responsibility is not merely a question of the past but an obligation that requires action in the present. The testimonies of veteran “atomic soldiers” remind us that historical responsibility is not merely a question of the past but an obligation that requires action in the present.

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### **КСРО мен АҚШ-тағы «атомдық сарбаздардың» тағдырындағы ортақ және ерекше қырлар: тарихи экскурс**

Мақала Қазақстан тарихнамасында бұрын қарастырылмаған тақырыпқа арналған. Зерттеу нысаны — XX ғасырдың екінші жартысында АҚШ пен КСРО-ның ядролық сынақ полигондарында әскери қызмет атқарған ардагерлер, яғни «атомдық сарбаздар». «Отан алдындағы борышын өтеп жатырмыз» деп ойлаған жас сарбаздар іс жүзінде мемлекеттердің ядролық саясатының бір бөлігіне айналып, «атомдық сарбаздарға» айналды. «Атомдық сарбаздардың» тағдырын зерттеудің негізгі дереккөздері — бұрын жазылып алынған сұхбаттар мен естеліктер. Әсіресе, Семей ядролық сынақ полигонында қызмет еткен қазақстандық «атомдық сарбаздармен» жүргізілген сұхбаттар ерекше маңызға ие. Жиналған деректер көрсеткендей, АҚШ-та да, КСРО-да да ядролық сынақтарға қатысқан әскери қызметшілер радиациялық әсердің сипаты туралы көбіне хабарсыз болған, әрі оларды жеке қорғаныс құралдарымен немесе радиациялық бақылау аспаптарымен қамтамасыз етпеген. Америкалық ардагерлер мен кеңестік қатысушылардың куәліктері денсаулыққа тигізген кең ауқымды зардаптарды айғақтайды, яғни тері зақымдануынан бастап қатерлі ісікке, сал ауруына және психологиялық жарақаттарға дейін. Зерттеу сондай-ақ 1990-жылдары Беларусь пен Ресейде ардагерлер ұйымдары пайда болып, олар мемуарлар жариялау және өз мәртебесін мойындату үшін күрес жүргізгенін анықтады. Қазақстанда болса, бұл мәселенің қоғамдық талқылауы тек соңғы жылдары ғана басталды.

*Кілт сөздер:* ядролық полигондар, ядролық сынақтар, атом сарбаздары, радиация, ядролық сынақтардың салдары, Семей ядролық сынақ полигоны, Новая земля, Нагасаки, Кеңес Одағы, Тоцк полигоны.

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## Общее и особенное в судьбах «атомных солдат» в СССР и США: исторический экскурс

Статья посвящена теме, ранее не исследованной в казахстанской историографии. Объектом исследования являются ветераны, проходившие службу на ядерных полигонах США и СССР во второй половине XX века — так называемые «атомные солдаты». Молодые солдаты, считавшие, что исполняют свой долг перед Родиной, в действительности становились «атомными солдатами» в рамках ядерной политики своих государств. В качестве основного источника изучения судеб «атомных солдат» послужили ранее записанные интервью и воспоминания «атомных солдат», служивших в армиях СССР и США. Особо следует отметить интервью с казахстанскими «атомными солдатами», проходившими службу на Семипалатинском ядерном полигоне. Полученные данные показывают, что как в США, так и в Советском Союзе военнослужащие, участвовавшие в ядерных испытаниях, зачастую не были осведомлены о характере радиационного воздействия и не обеспечивались средствами индивидуальной защиты или приборами радиационного контроля. Свидетельства американских ветеранов и советских участников испытаний указывают на широкий спектр последствий для здоровья — от кожных поражений и онкологических заболеваний до паралича и психологических травм. Исследование также выявило, что в Беларуси и России в 1990-е годы начали появляться организации ветеранов, которые занимались публикацией мемуаров и борьбой за признание их статуса. В Казахстане же общественное обсуждение данной проблемы началось лишь в последние годы.

*Ключевые слова:* ядерные полигоны, ядерные испытания, атомные солдаты, радиация, последствия ядерных испытаний, Семипалатинский ядерный полигон, Новая Земля, Нагасаки, Советский Союз, Тоцкий полигон.

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