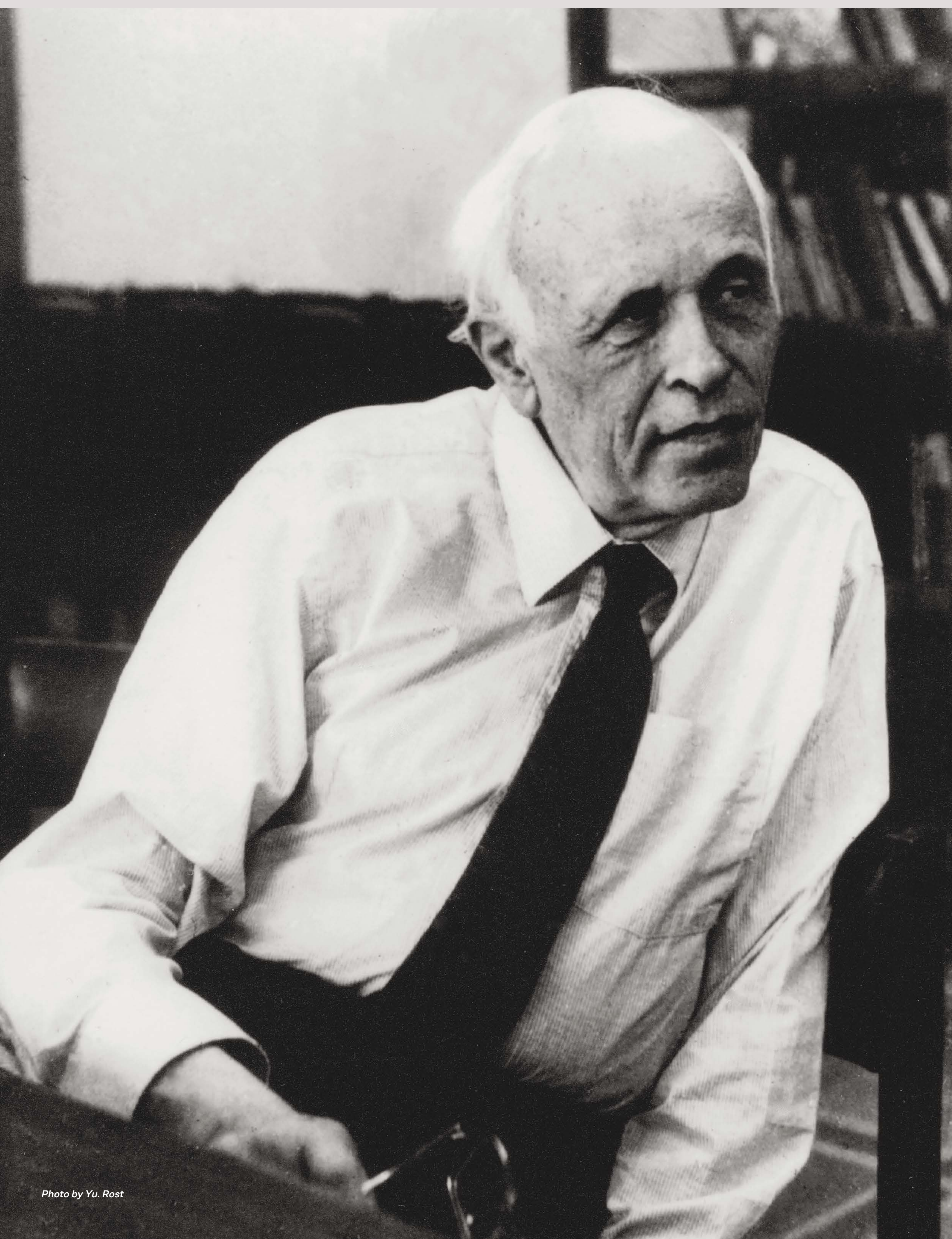


ANDREI SAKHAROV — PERSON OF THE ERA

“My destiny was in some sense exceptional (...). Not out of false modesty, but out of a wish to be precise I will note that my destiny turned out to be larger than my individuality. I merely tried to be at the level of my own destiny...”



DAWN OF A NEW WORLD

The life of Andrei Dmitrievich Sakharov practically coincided with the Soviet period in the history of Russia. The era — grand and tragic — was reflected in his life and Sakharov became a personification of the best of it.



Ⓐ Demonstration in support of the Red Terror. Petrograd, 1918.



Ⓑ Prisoners at the construction site of the Belomor-Baltic Canal. Early 1930s.

A new era in the history of Russia began on October 25 (November 7 on the new calendar), 1917. After seizing power, the Bolsheviks, under the leadership of Lenin, set about totally transforming the economic, social, and political system of the country. The end goal declared was the building of a communist society unprecedented in the history of humankind. Civil liberties were sacrificed to this utopian goal; deprivation of rights and direct violence became common instruments for conducting this state policy.

In 1924, after the death of Lenin, Joseph Stalin came to power. After coping with foreign intervention, enduring civil war and famine, suppressing peasant revolts, liquidating opposition political parties and free press, and destroying the Church, thus placing the civic and cultural life of the country totally under state control, the Soviet regime began to finally stabilize. A period in the country's history began lasting more than 60 years, notable for resistance to the rest of the world, negation of a free economy and democratic values.

By the mid-1930s, a totalitarian society had formed in the USSR, at the top of which stood the Communist Party, headed by a practically deified great leader. Massive political repressions were unleashed in the closed country, to which entry was extremely difficult and exit practically impossible. During the period of the Great Terror alone from 1937–1938, in the estimates of modern historians, more than 1.7 million people were arrested on political charges, of whom at least 725,000 were executed.

About 10 million people passed through the system of forced labor camps for a little over the three decades of its existence, including more than three million convicted on political charges.

The material, financial and human resources of the country were aimed above all at strengthening the defense capabilities of the USSR and armed resistance to the West. The young generation was raised in a spirit of Communist ideals, and unthinking loyalty to the Party and the great leader.



Meeting in Russia, 1930s. Photo by I. Shagin

1921–1941

FAMILY AND UPBRINGING

In the years of Stalinist terror, the family remained the only bulwark which resisted the efforts of the state to take under its control all spheres of a Soviet person’s life.



➊ View of Arzamas in the early 20th century. At the center is Resurrection Cathedral, whose dean was Nikolai Ivanovich Sakharov.



➋ Fr. Nikolai I. Sakharov — great grandfather.



➌ Lt. Gen. Aleksei Semyonovich Sofiano — grandfather.



➍ Ivan Nikolayevich Sakharov — grandfather.



➎ Collection of articles, Against the Death Penalty. 1906.

Andrei Dmitrievich Sakharov was born on May 21, 1921 in Moscow. His father, Dmitry Ivanovich Sakharov (1889–1961) was the son of an attorney and grandson of a priest. ➏ Dmitry Sakharov was a teacher of physics, and the author of a number of popular science books and textbooks. ➐ Andrei’s mother, Yekaterina Alekseyevna Sakharova (1893–1963), née Sofiano, ➑ came from a noble family in which the men were traditionally military officers. ➒

“My paternal grandfather was a man of liberal views for his time. [...] Following the 1905 revolution, he edited an important collection of essays advocating the abolition of capital punishment [...] I read this book as a young boy, and it made a great impression on me. [...]. ➓ My grandfather’s work on this book was an act of conscience and, to an extent, civic courage.”

“From childhood, I lived in an atmosphere of decency, mutual help and tact, a liking for work and respect for the mastery of one’s profession,”

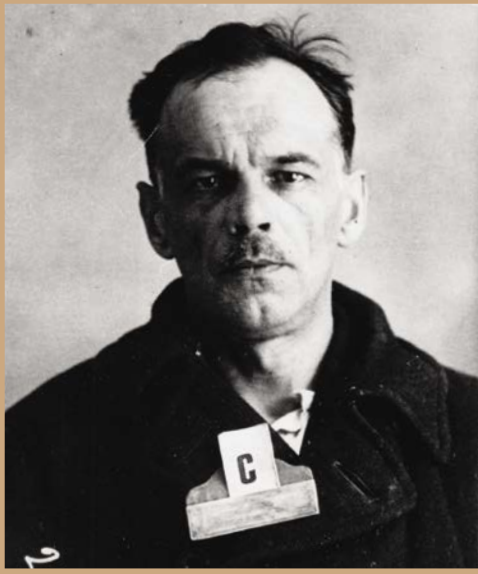
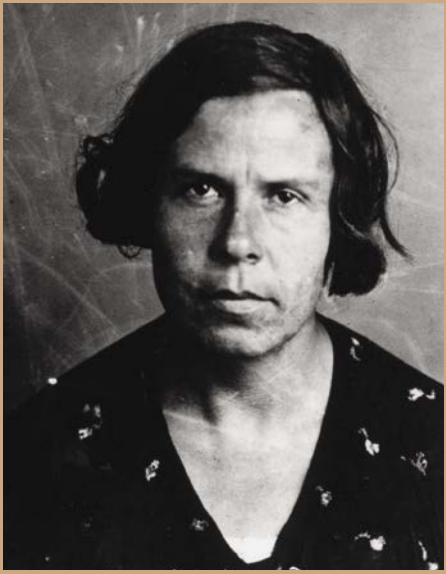
“[M]y parents arranged for me to study at home. [...] Father gave me lessons in physics and mathematics. [...] I grasped ideas quickly, with little need for explanation, and was

fascinated by the possibility of being able to reduce the whole gamut of natural phenomena to the comparatively simple laws of interactions between atoms, as expressed by mathematical formulas. I did not yet fully appreciate all the subtleties of differential equations, but I sensed and delighted in their power. It may have been this more than anything else that kindled my desire to become a physicist. [...] Apart from physics and mathematics, the subjects I liked best and found easiest were biology and chemistry.”

Political repressions affected the Sakharovs’ relatives as well. In 1933, his cousin, E. V. Sofiano, was arrested and tried as a member of an “illegal counterrevolutionary organization”. In 1934, I. I. Sakharov, an uncle, was arrested on political charges and exiled to Kazan. In 1937, another uncle — K. A. Sofiano — was arrested and later died in prison. That same year, an aunt — T. A. Sofiano — was tried on charges of espionage. ➔

“I hardly ever heard my father condemn the regime outright. But there was one occasion in 1950 when he denounced Stalin with such vehemence that Mother feared for his health. It may be that Father had refrained until then from expressing his true feelings for my sake; he may have worried that understanding too much too soon might make it difficult for me to survive in this world. This reluctance to reveal one’s thoughts even to one’s own son may be the most haunting sign of those times.”

In 1938, after graduating high school with honors, Sakharov entered the Physics Department of Moscow University. ➕



➖ Repressed relatives:
Yevgeny Vladimirovich Sofiano (executed in Norilsk Labor Camp);
Konstantin Alekseyevich Sofiano (died in Kashirskaya Prison before trial);
Tatyana Alekseyevna Sofiano;
Ivan Ivanovich Sakharov.



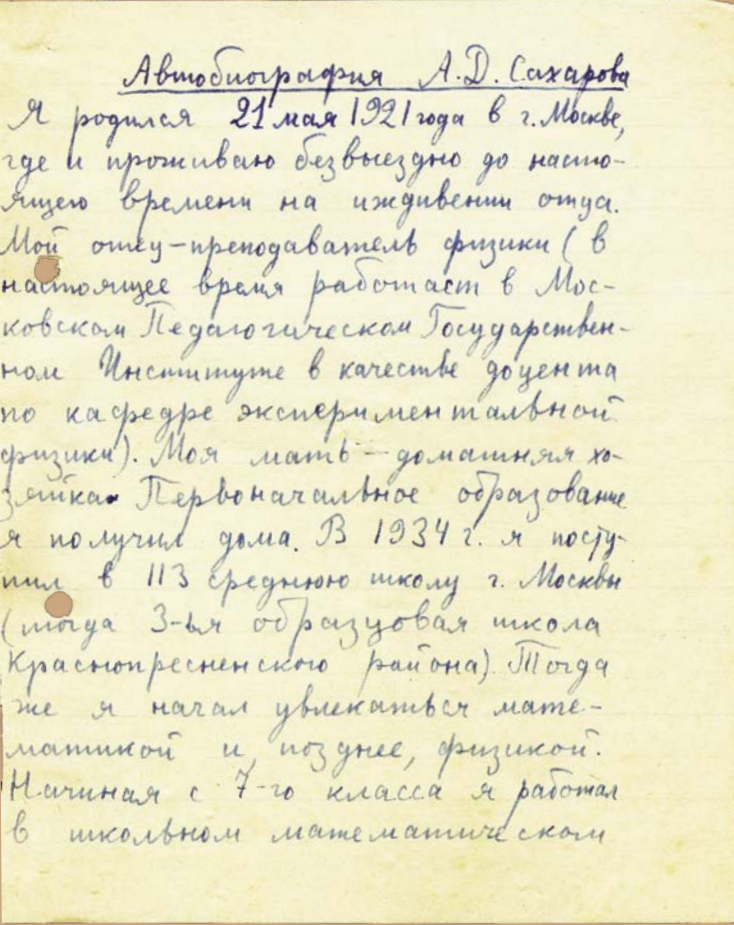
➗ Father — Dmitry I. Sakharov.



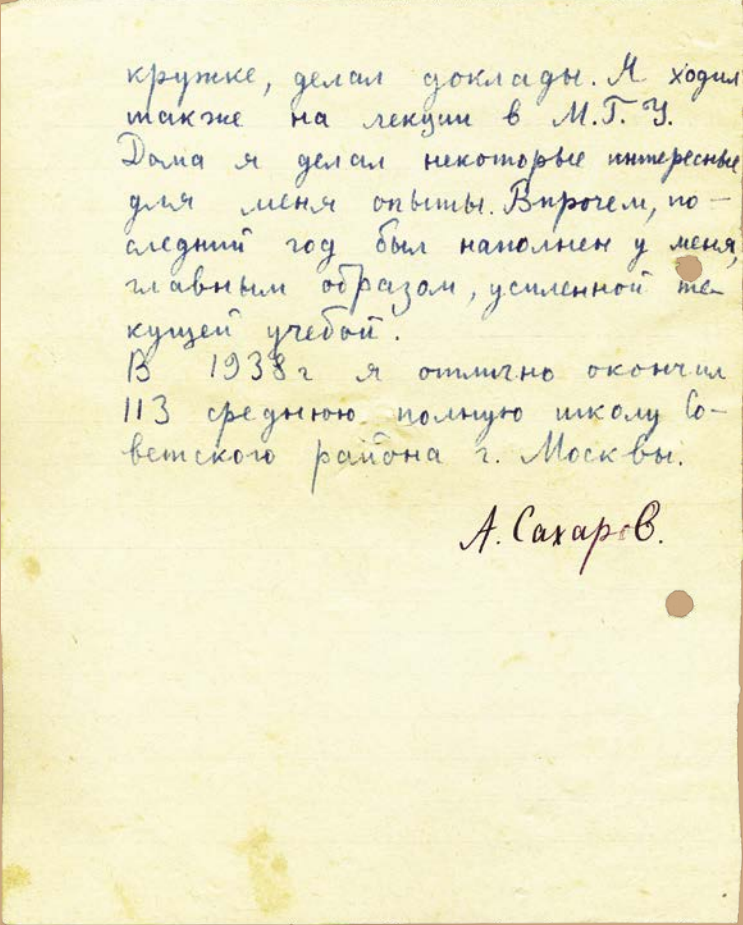
➘ Mother — E. A. Sakharova.



➙ Andrei Sakharov in childhood. 1927.



➚ Autobiography of Andrei Sakharov. 1938.



Festive illumination, Moscow, 1937. Photo by E. Evzerikhin



THE WAR

The most brutal war in the history of humankind caused enormous loss of life, destruction, and suffering for hundreds of millions of people, but the victory over Nazism did not yet mean the universal triumph of freedom.



Destroyed village in Orlov Region. USSR, 1942. Photo by M. Markov-Grinberg.

deaths. Surely the desire for peace is overriding in the minds of people everywhere. «Anything but not another war!» is the general cry — and yet for many survivors the war has remained the paramount experience of their lives, an experience that restored the pride and dignity which the daily grind of a totalitarian, bureaucratic society had all but chipped away. The war made us a nation once again [...].

We all believed — or at least hoped — that the postwar world would be decent and humane. How could it be otherwise? But instead Soviet victory seemed only to intensify the regime’s severity: soldiers returning from German POW camps were the first to feel the tightening of the screws. As the illusions faded, the nation disintegrated into separate atoms and melted away.”

World War II began on September 1, 1939 with the attack of Nazi Germany on Poland. It continued for six years until September 2, 1945, when Germany’s last ally — Japan — capitulated.

Sixty-two countries took part in World War II, and fighting was waged throughout the territories of Europe, Asia, and Africa and in the waters of four oceans. Eighty-percent of the population of the planet was drawn into the war to one extent or another. The overall losses of those killed of all the countries participating in the world was more than 71 million people, of whom 46.7 were civilians.

On June 22, 1941, Germany attacked the USSR, and the Great Fatherland War began — unprecedented in brutality and the severity of the economic and demographic damage suffered by the countries drawn into it.

After yielding nearly half of its European territory to the enemy in the first period of the war, the Soviet Union, at the cost of enormous losses and straining all of its forces, was able to avoid defeat, and relying on the economic support of the countries of the Anti-Hitler Coalition, by 1943, was able to turn the course of the war in his favor.

The Great Fatherland War ended after the capitulation of Germany on May 8, 1945, although following this the Soviet Union, fulfilling its obligations to the Allies, enter the war against Japan and continued fighting in the Far East.

“The war was a terrible trial for the nation. [...] Those who were children then still remember their mothers’ tears over the official notifications of their husbands’



American aircraft carrier Bunker Hill downed in an attack by Japanese kamikazes. Okinawa, Japan, May 11, 1945.



The capture of Frauenburg, February 9, 1945. Photo by A. Shaikhet



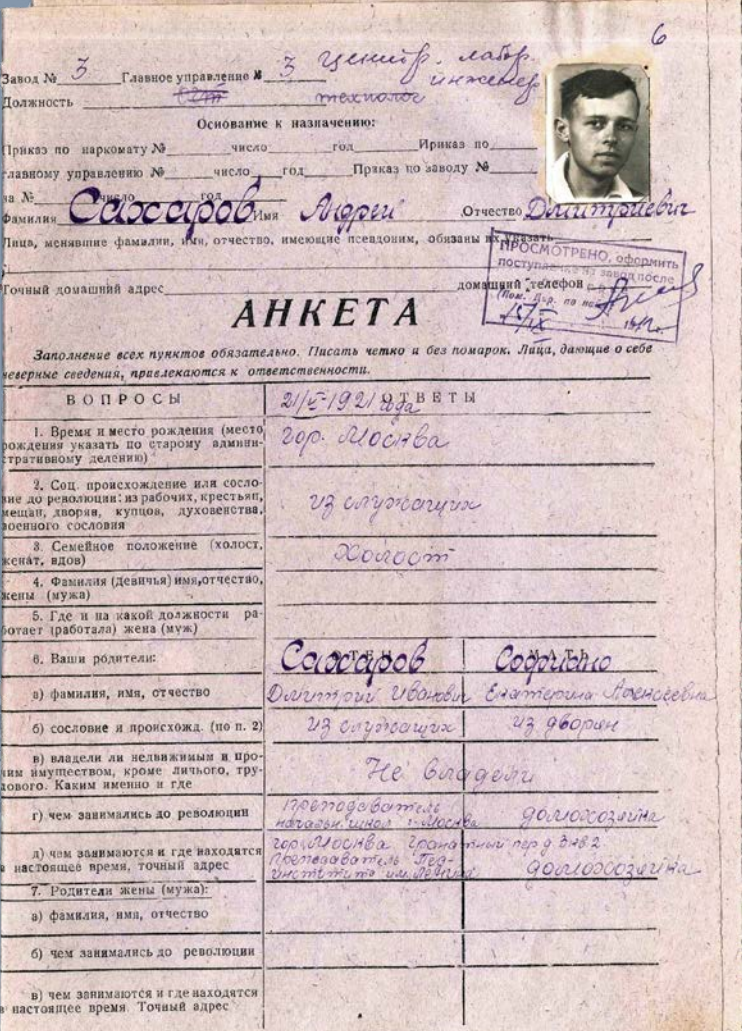
1941 – 1945

FACTORY

Even working far behind the front lines, the young scientist and physicist was able to make his personal contribution to the overall victory over the enemy. At the military plant, he discovered his talent as a designer.



1 Andrei Sakharov and Klavdia Vikhireva. 1943.



2 Application form from engineer Andrei Sakharov's personal file. Ulyanovsk, 1942.



3 Patent by Andrei Sakharov for an invention. 1943.

The onset of the Great Patriotic War found Sakharov a third-year student at the Physics Department of Moscow University. Due to his poor health, he was not drafted into the army, continued his studies, and in October 1941, together with his department, evacuated from Moscow to Ashgabat (Turkmenistan). The trip on the railroad took several weeks.

“We spent ten days in Murom waiting for the next train. Somehow those days turned out to be very profitable ones for my scientific education: reading Yakov Frenkel’s books on quantum mechanics and relativity. I suddenly achieved new insights into these subjects.”

At the time, the period of study at the Physics Department took four years. In July 1942, Sakharov graduated from university with honors. He was offered to continue his study in graduate school in theoretical physics, however he preferred to be assigned to work at one of the defense plants. In September, he arrived in Ulyanovsk and started work at the ammunition plant. 2

“The big punch presses were operated by women, recruited mainly from the surrounding villages. They sat at the deafening machines, hour after hour, in huge, dimly lit rooms, hunched over and perched cross-legged on their stools to keep their wooden shoes off the cold floor, which was flooded with water and lubricants. Their faces were hidden by kerchiefs, but when I caught a glimpse of them, I could see that they were lifeless, drained by fatigue.”

Working at the plant, Sakharov showed himself to be a talented inventor. In late 1942, he developed a model of a device for monitoring the hardening of armor-piercing bullet cores for anti-tank guns. 5 His invention was incorporated into the production. 3 6

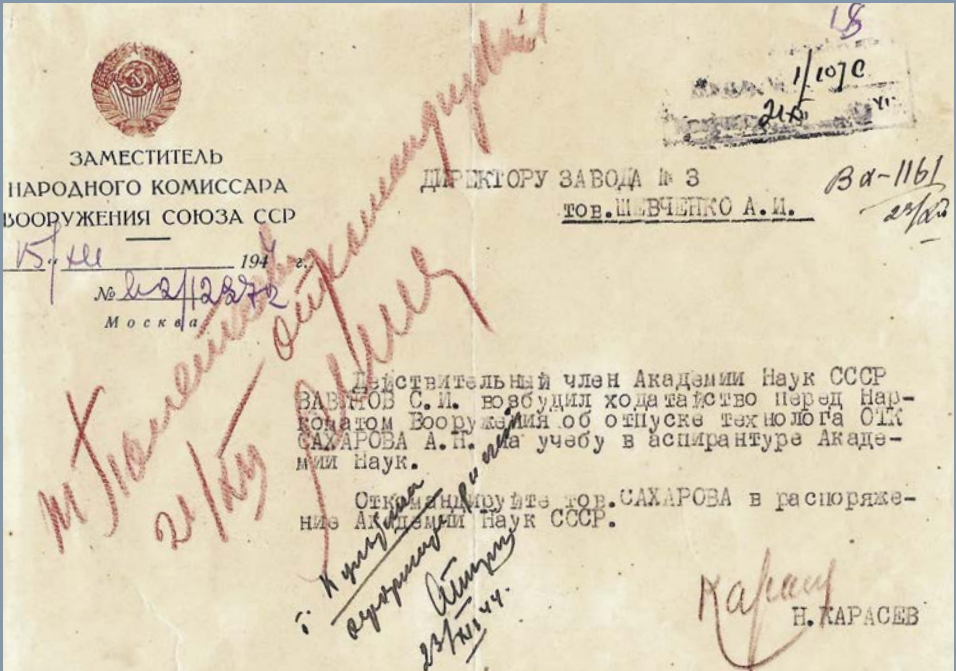
Subsequently he continued his design work at the factory and simultaneously began his first independent scientific research.

“While working at the plant, I wrote several articles about theoretical physics and sent them to Moscow for review. These first works were never published but they gave me that sense of confidence in my powers which is so necessary to every scientific worker.”

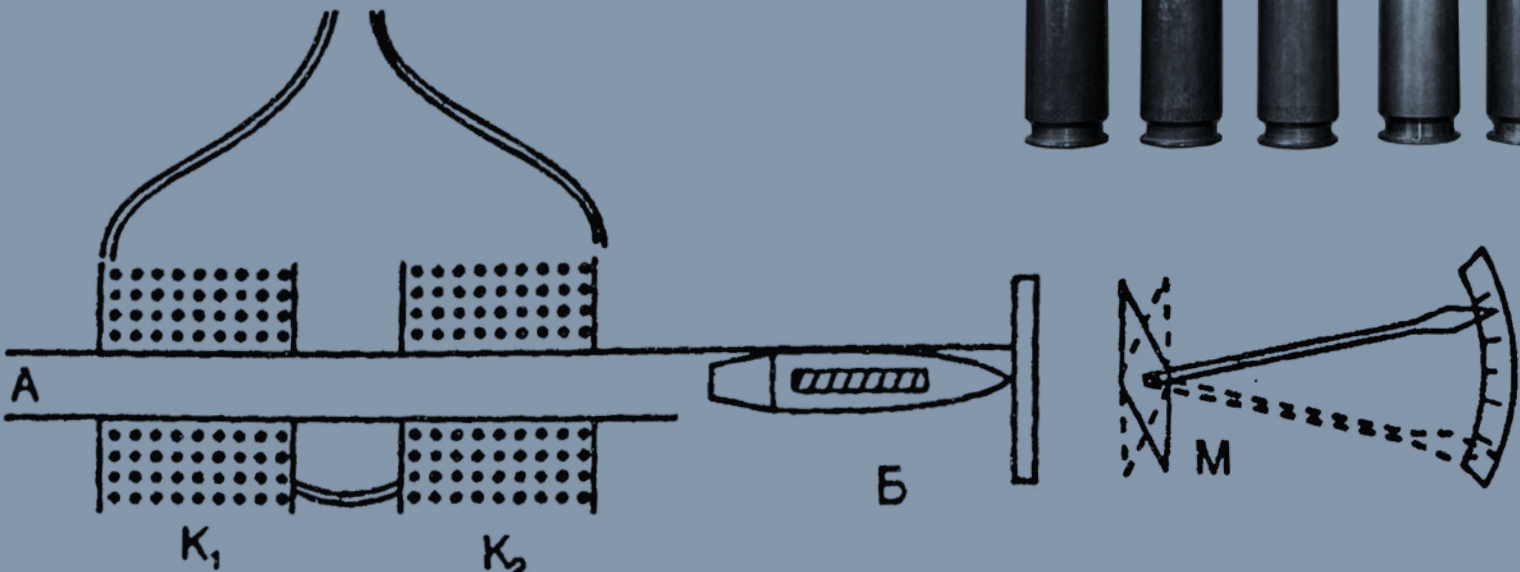
On July 10, 1943, Sakharov married Klavdia Alekseyevna Vikhireva, a 23-year-old lab worker from the same plant. 1 They lived together more than a quarter of a century until the death of Klavdia Alekseyevna in 1969. In 1945, their daughter, Tatyana, was born, in 1949, a second daughter, Lyubov, and in 1957, a son, Dmitry.

“We had periods of happiness in our life, sometimes entire years, and I am very grateful to Klava for them.”

In 1944, Sakharov made the decision to return to scientific activity and nevertheless entered graduate school. However, in war time, workers were rigidly attached to their plants, especially in the defense sphere, and for such a valuable specialist as Sakharov to leave the plant, petitioning of the Academy of Sciences was required and the consent of the director of the factory. 4



4 Letter from the deputy people's commissar of armaments to the director of the plant with instruction to assign Andrei Sakharov to the Academy of Sciences. December 15, 1944.



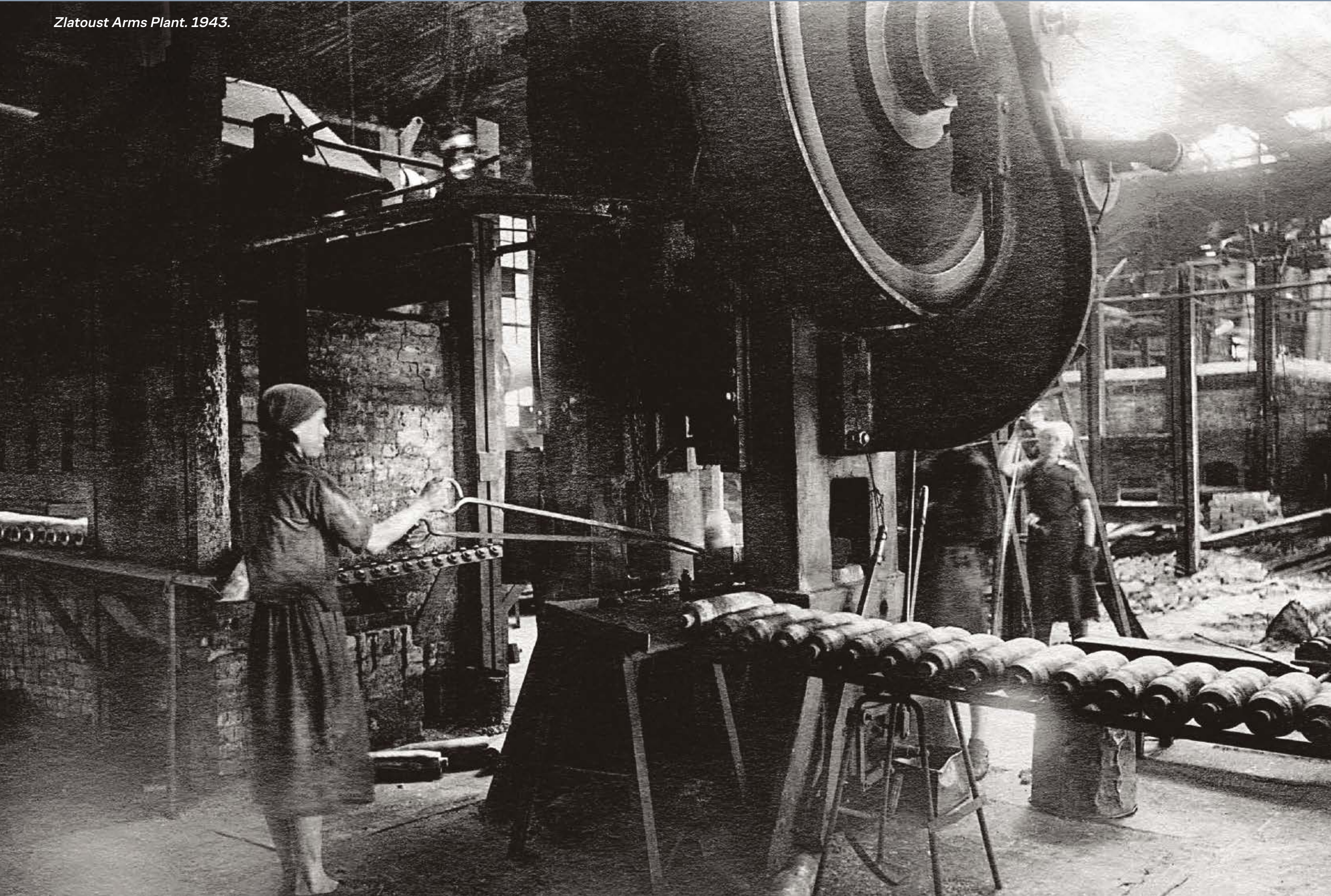
5 Diagram of the operation of a device to monitor 14.5 mm caliber armor-piercing bullet cores for the presence of longitudinal cracks. The core is inserted manually at point A, passes through the magnetizing coil K1 and the demagnetizing coil K2, and stops at point B opposite the magnet M connected to the device's indicator arrow.

A correctly tempered core is totally demagnetized, and no forces act on the magnet. If there is a defect in the core, a magnetic moment arises in it, which deflects the device's arrow.



6 Andrei Sakharov's patent for the invention. 1943.

Zlatoust Arms Plant. 1943.



MORAL LESSONS OF THE WAR

The brutality of the past war taught people a lot. Human rights became an internationally-recognized value, but the appearance of nuclear arms placed humankind before a new threat.



❶ Group of Jews before being sent to a concentration camp. Warsaw, 1943.



❷ Nuremberg Trial. In the first row are Nazi criminals: Hermann Göring, Rudolf Hess, Joachim von Ribbentrop, and Wilhelm Keitel. 1945–1946.

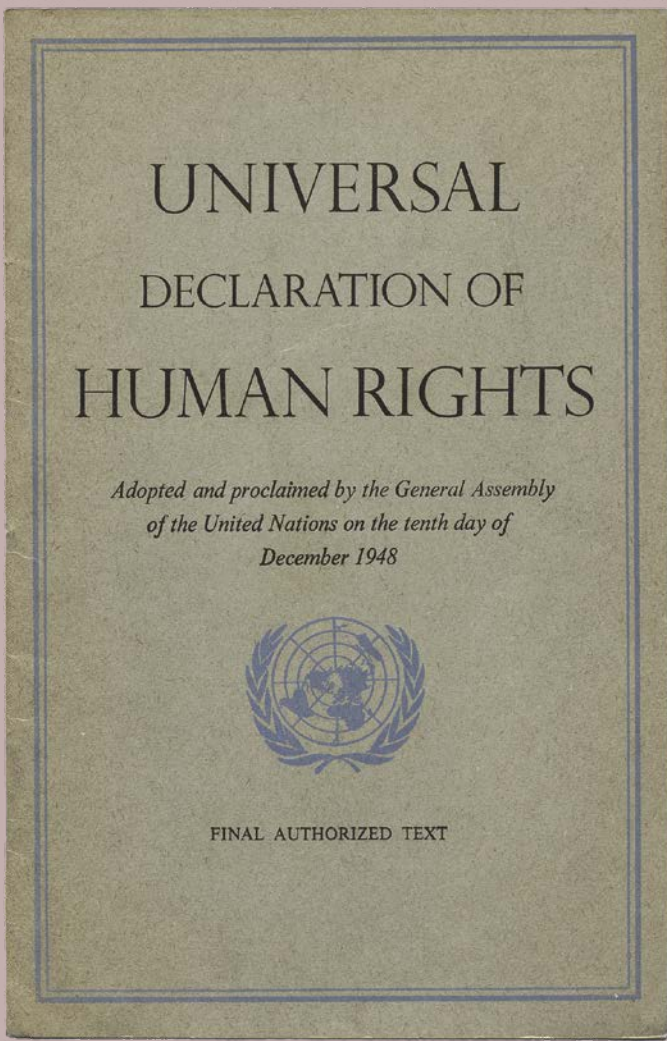
Already during the war, in 1943, the US began developing a fundamentally new weapon — a nuclear bomb, under the Manhattan Project led by the prominent physicists Robert Oppenheimer. Scientists of world renown were brought in to take part in the work, including physicists who had emigrated from Europe to escape fascism — Niels Bohr, Enrico Fermi, Hans Bethe, Edward Teller, Leo Szilard, and others.

The first nuclear test in the history of humankind was conducted on July 16, 1945 in the desert in the state of New Mexico. On August 6 and 9 of that same year, atomic bombs were dropped on the Japanese cities of Hiroshima and Nagasaki. About 70,000 to 80,000 people were killed directly from the explosion of the bombs, and by the end of the year, the total number of those killed from injuries and the effects of radiation damage was about 166,000 and continued to increase. The overwhelming majority of those killed and wounded were civilians. ❸

The appearance of a new weapon of mass destruction, unprecedented in the degree of its brutality, became the determining factor for the formation of the political reality of the post-war world. The Nuremberg Trial — the trial of the victorious powers over the political and military leaders of the Nazi Reich, which took place from 1945–1946 — was of no less significance. ❹

During this trial, the most terrible manifestations of Nazism which contradicted basic human rights were prosecuted: the unleashing of aggressive warfare; genocide which had turned into a state ideology; mass murders and enslavement of the civilian population on seized territories; inhumane treatment of prisoners of war; the building of “death factories” for mass annihilation of people. ❶ The Nazi Party, the ruling party of Germany under the leadership of Hitler, was declared a criminal organization.

The trial of German Nazism did not turn into a moral trial of totalitarianism on the whole, although the most important result of the comprehension of the results of World War II was the passage on December 10, 1948, by the UN General Assembly, of the Universal Declaration of Human Rights — the fundamental international document defining basic human rights which the UN participating states should strive to observe. ❺ The Soviet Union abstained during the vote.



❸ Universal Declaration of Human Rights, 1948.



❹ Watch stopped at the moment of the explosion in Hiroshima. Its owner, Akito Kawagoe, was 1,700 meters from the epicenter of the explosion. He was wounded but survived.



❺ Dresden destroyed by bombing. Germany, 1945. Photo by R. Peter.

Ruins of the Hiroshima Prefecture Industrial Promotion Hall, 260 m from the epicenter of the explosion.



1945–1953

SCIENCE

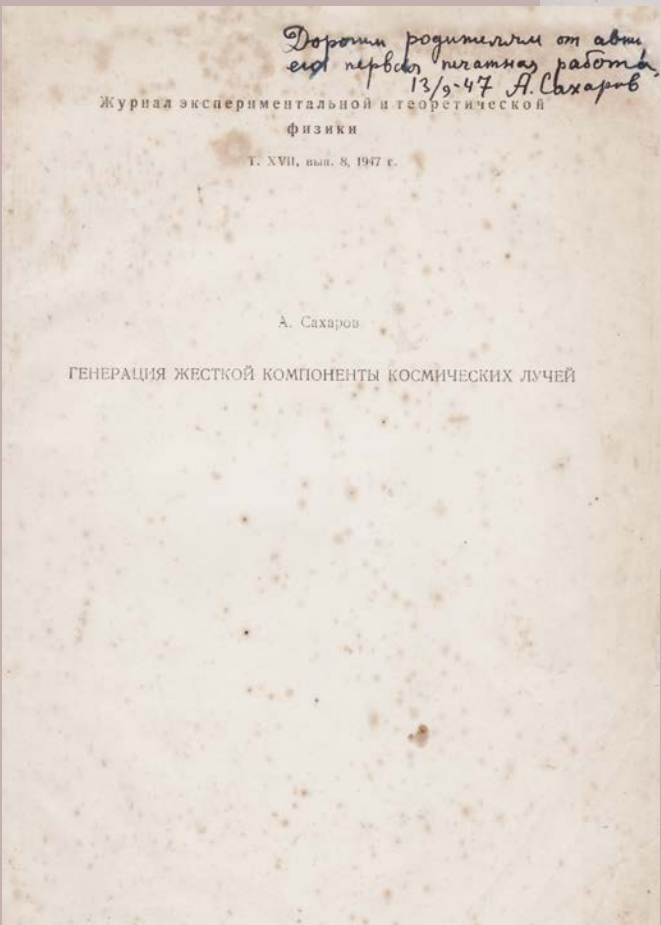
After Hiroshima, the profession of theoretical physicist could no longer be peaceful. And the more talented the scientist, the less chances he had of remaining uninvolved.



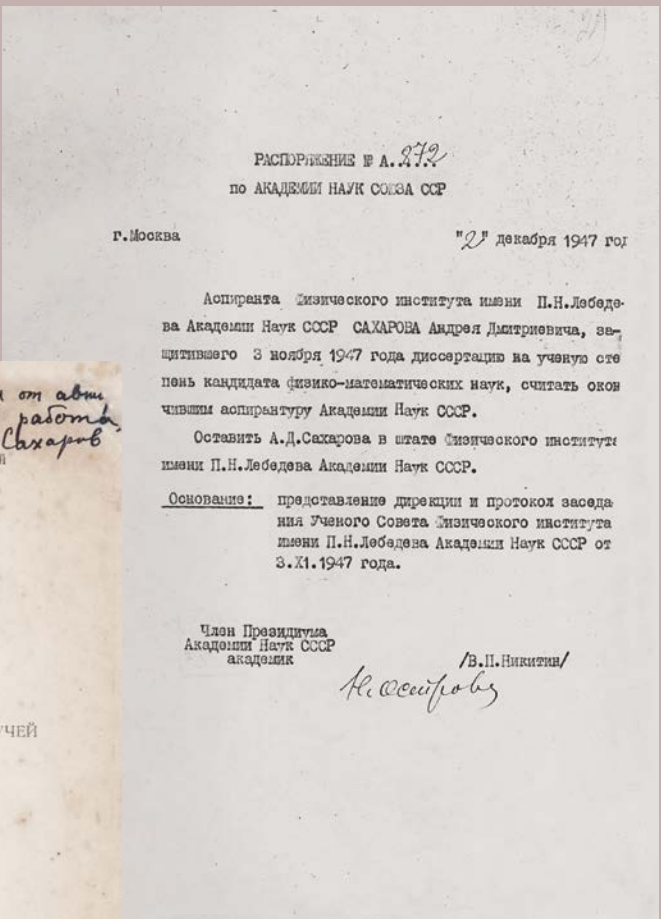
❶ Andrei Sakharov, wife, and daughter Tatyana. 1948.



❷ Igor Tamm. 1950s.



❸ Andrei Sakharov's first scientific article, “Generatsiya zhestkoy komponenty kosmicheskikh luchey” [Generation of the Hard Components of Cosmic Rays] with a gift inscription to his parents. 1947.



❹ Document of the USSR Academy of Sciences regarding the completion of Sakharov's graduate studies. December 2, 1947.

In late 1944, Sakharov left the factory in order to concentrate fully on science and entered the graduate school of the Physics Institute of the USSR Academy of Sciences (FIAN), specializing in “Theoretical Physics”. Igor Tamm became his science adviser, and later academician, and Nobel Prize laureate in physics. ❷ According to Sakharov's recollections, Tamm was an example for him of the understanding of the great mission of science in the modern world and the civic position of the scientist.

“Perhaps the great fortune of my early years was to have had my character molded by the Sakharov family, whose members embodied the generic virtues of the Russian intelligentsia, [...] and to have then come under the influence of Igor Tamm.”

In early 1945, Sakharov, his wife Klavdia and daughter, Tatyana, moved from Ulyanovsk to Moscow.

“[W]e had three ration cards for three people: mine as a graduate student, Klava's as a dependent, and Tanya's as a child. I don't want to give a misleading impression here; let me emphasize that there was nothing exceptional about our hardships, at the time. [...]. The principle problem was housing. We were never able to remain anywhere longer than two months, and for reasons beyond our control, kept having to rent new rooms.” ❸

The report of the atomic bombing of Hiroshima and Nagasaki was an enormous shock for him.

He was one of the few people in Moscow who fully understood the significance of this terrible event for the future of humankind.

“On the morning of August 7, I left the house for the bakery and stopped by the newspaper displayed on the newspaper stand. I was struck by the report of Truman's announcement: an atomic bomb of the enormous destructive power of 20 thousand tons of TNT was dropped on Hiroshima. My knees buckled. I realized that my life and the life of very many people, maybe all of them, had suddenly changed. Something new and terrible had entered our lives, and it had come from the side of the Grand science — the one that I worshipped.”

Soon under Tamm's influence, Sakharov began to specialize in research in the area of the physics of elementary particles. ❹

In November 1947, he defended his dissertation early for a candidate degree in physical and mathematical sciences ❶ and remained to work in FIAN. ❺



❾ The FIAN building in the 1950s.



❿ Bread ration cards. Moscow, 1947.



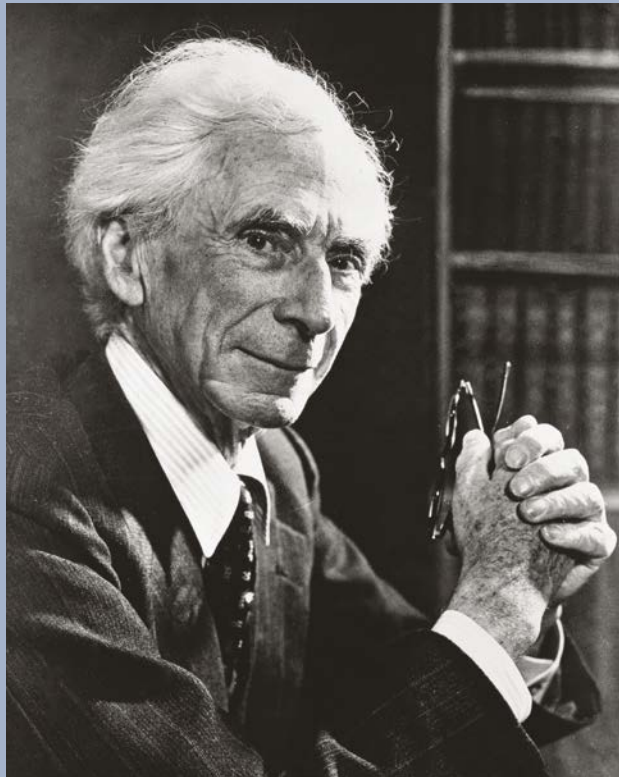
⓫ Andrei Sakharov with his father. Second half of 1940s.

The building of the Presidium of the USSR Academy of Sciences in Moscow. 1936–1939 (former Alexandria Palace).

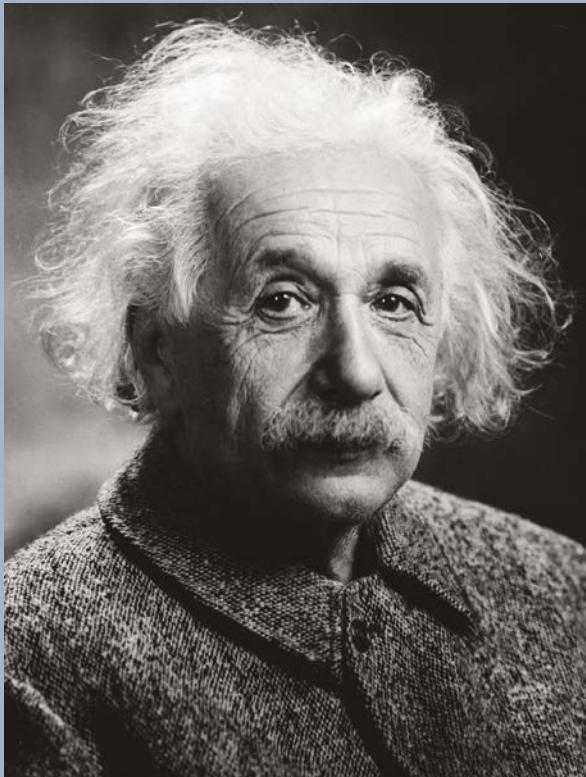


THE COLD WAR

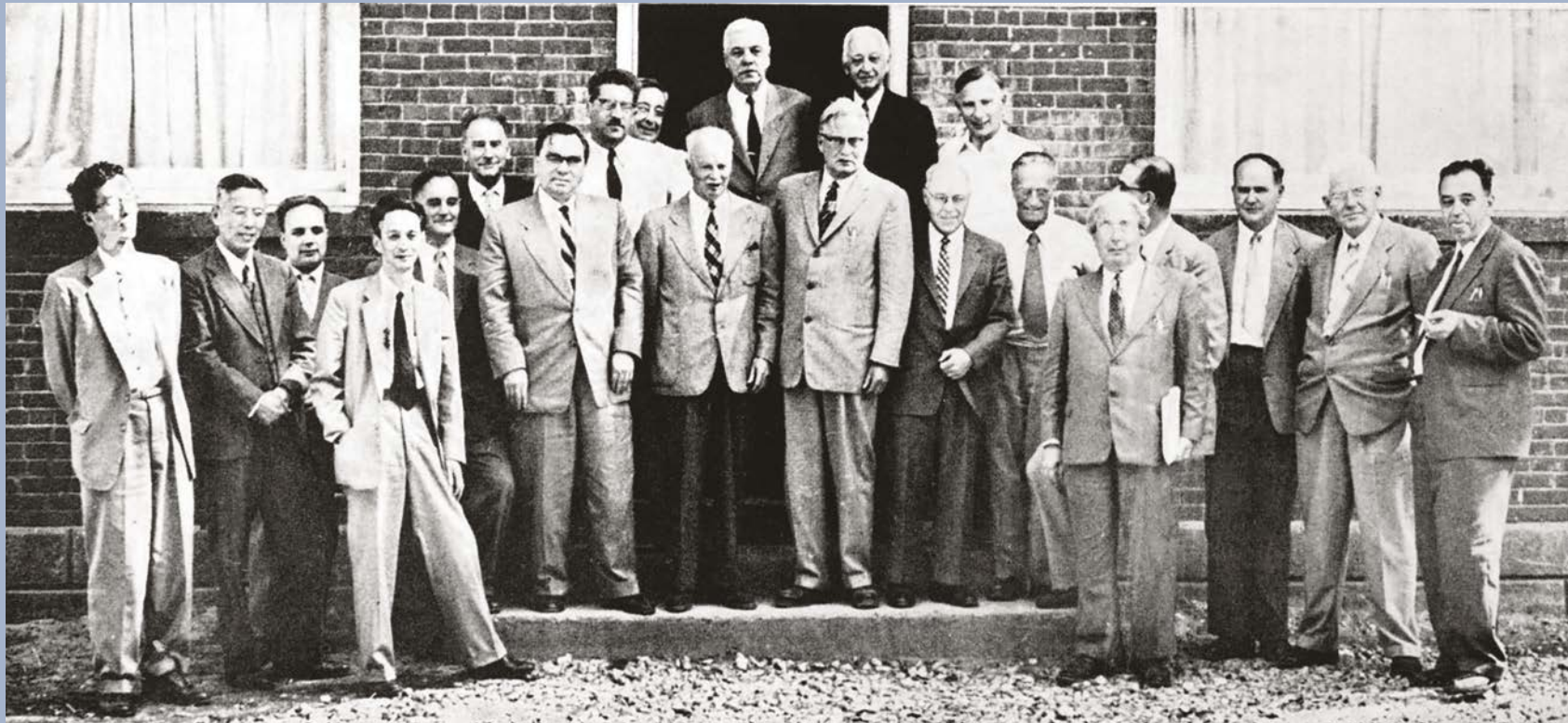
In this war, politicians were the generals, and scientists were only soldiers and officers. But they were the first who realized the danger of a global disaster and called humanity to reason. The world was united by its common fate — total death or total survival.



1 Bertrand Russell. 1957.



2 Albert Einstein. 1947.



3 Participants in the First Pugwash Conference. 1957.

The ideological, political, and military confrontation of the US and its allies on the one side, and the USSR and its allies on the other, was called the Cold War. The threat of the use of nuclear weapons was the main threat in the Cold War.

Already by the early 1950s, the scientists working on the creation of nuclear weapons began to realize what a threat for humankind they represented in the hands of irresponsible politicians. One of the first to speak up about the need for international control of nuclear energy was “the father of the atomic bomb,” Robert Oppenheimer. He paid for this by being removed in 1954 from military projects in the US.

On June 9, 1955, 11 world-famous scientists — physicists, philosophers, chemists, and biologists headed by Bertrand Russell and Albert Einstein 2 distributed a call to governments which became known as the “Russell-Einstein Manifesto,” protesting against the continuation of the nuclear armaments race and demanding that peaceful means be found to resolve conflicts.

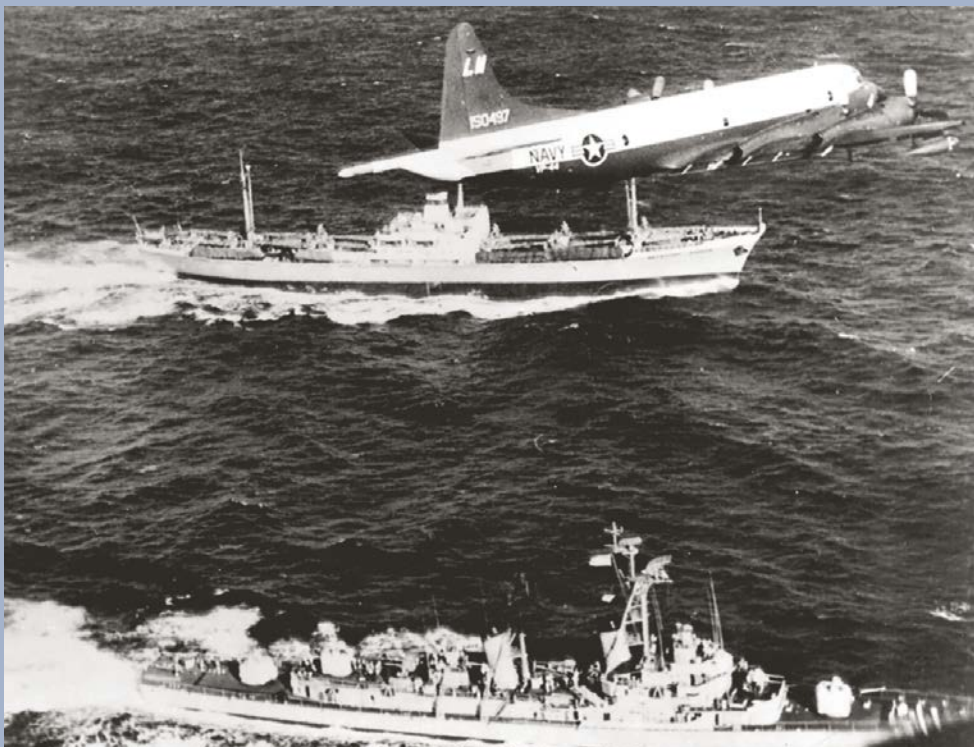
“[A]s human beings, we have to remember that, if the issues between East and West are to be decided in any manner that can give any possible satisfaction to anybody, whether Communist or anti-Communist, whether Asian or European or American, whether White or Black, then these issues must not be decided by war. We should wish this to be understood, both in the East and in the West.

There lies before us [...] continual progress in happiness, knowledge, and wisdom. Shall we, instead, choose death, because we cannot forget our quarrels?”

In 1957, in the town of Pugwash in Canada, the first international conference of scientists for peace took place. 3 Thus, began the Pugwash movement which aimed to achieve a ban on nuclear testing and nuclear weapons in general.

Nevertheless, the arms race continued. Following the US, the USSR (1949), Great Britain (1952), France (1960) and China (1964) became nuclear powers.

In 1961, the US placed its strategic missiles with nuclear warheads on the territory of Turkey, not far from the borders of the USSR. In response, Soviet missiles were placed on Cuba next to the US coast. 5 This led to the so-called Caribbean (Cuban) Missile Crisis of October 1962 which put the world on the edge of World War III. 6 Nikita Khrushchev, head of the USSR, and John Kennedy, president of the US, managed with difficulty to settle the crisis and avoid catastrophe. 4 These events led to a break in the Cold War. The Cuban Missile Crisis led to the start of mass anti-war movements throughout the world and a policy of détente in international relations.



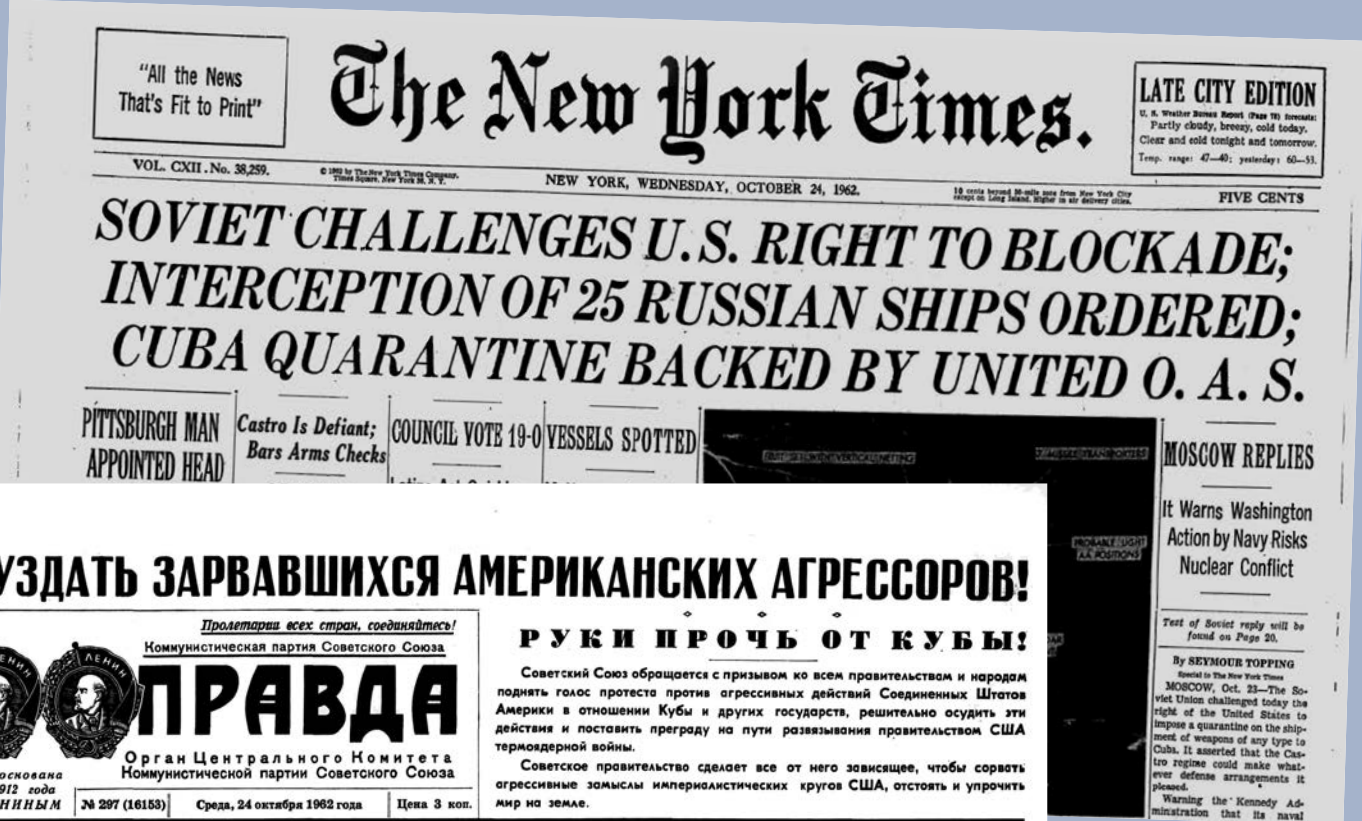
5 US Navy destroyer and American patrol plane accompany the Soviet ship heading to Cuba with a load of weaponry. November 10, 1962. Photo from US Navy plane.



6 The merchant ship Metallurg Anosov with deck cargo-missiles and rocket transporters. November 7, 1962. Photo from US Navy airplane.



4 Arm wrestle between Khrushchev and Kennedy. Cartoon by Leslie Gilbert Illingworth in the British Daily Mail, October 29, 1962.



7 Publications about the Caribbean [Cuban] missile crisis in Soviet and American newspapers. October 1962.

Barbed wire and security in front of the Brandenburg Gate in Berlin. 1961.



1946–1961

HYDROGEN BOMB

The Sakharov Paradox: the most destructive weapon in history was created for the sake of preventing war and preserving peace on earth.



1 First Soviet hydrogen bomb RDS-bs.



2 Andrei Sakharov. 1950s.



3 Andrei Sakharov and Igor Kurchatov. Moscow, 1958.



4 Sakharov and his wife at their home. Early 1950s.



5 The Sakharovs' home at the Installation.

After the United States used atomic bombs in combat at the end of World War II, the leadership of the USSR set the task in the shortest time to create their own nuclear weapon. The work was supervised by Lavrenty Beria, People's Commissar for Internal Affairs, and the science director was Igor Kurchatov. In mid-1948, a special research group to design the hydrogen bomb was created at FIAN led by Igor Tamm. Sakharov was also included in its membership.

Sakharov displayed his design talent in the first months of work. Together with Vitaly Ginzburg, he proposed an original diagram of a device for the future hydrogen bomb, which was called a "layer cake". 6

Participation in secret military designs presupposed the absolute political loyalty of Soviet atom scientists. In the fall of 1948, Sakharov received an offer to join the Communist Party, but found within himself the courage to refuse.

"[...] I could not join the Party, because a number of its past actions seemed wrong to me and I feared that I might have additional misgivings at some future time."

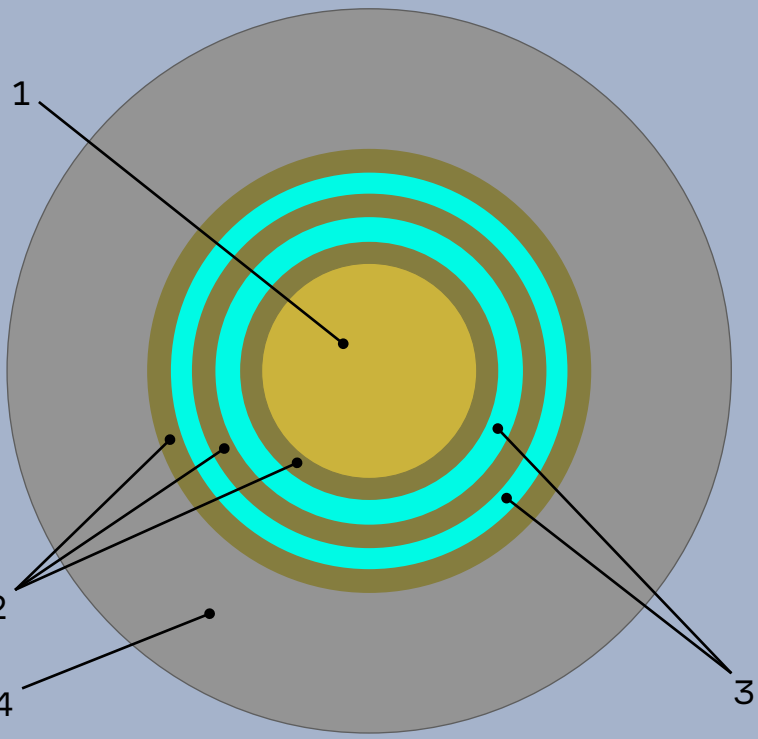
In the spring of 1949, Beria demanded that he be transferred to work at the secret design bureau directed by Yuly Kharitonov, located in the closed city of Arzamas-16 (now Sarov), 500 kilometers from Moscow. In March 1950, Sakharov transferred to the "Installation". 7

There, in a city barricaded from the outside world by barbed wire, Sakharov and his family were given half of a well-furnished cottage to live in. 4 5

"The town where we lived and worked was a curious artifact of our time [...] [and] in fact embodied a curious symbiosis between an ultra-modern scientific research institute, with its experimental workshops and proving grounds — and a large labor camp. [...] The workshops, the proving grounds, the roads, and even the housing for the Installation's employees had been built by prisoners. They themselves lived in barracks and were escorted to work by guard dogs".

"I understood, of course, the terrifying, inhuman nature of the weapons we were building. But the recent war had also been an exercise in barbarity; and although I hadn't fought in that conflict, I regarded myself as a soldier in this new scientific war. [...] The monstrous destructive force, the scale of our enterprise and the price paid for it by our poor, hungry, war-torn country, the casualties resulting from the neglect of safety standards and the use of forced labor in our mining and manufacturing activities, all these things inflamed our sense of drama and inspired us to make a maximum effort so that the sacrifices — which we accepted as inevitable — would not be in vain."

In June 1953, Sakharov was awarded a Ph.D. in physical and mathematical sciences, and on August 12, at the Semipalatinsk testing ground in the Kazakhstani steppe the testing took place of the first thermonuclear bomb in the world, the RDS-6s with the equivalent of 400 kilotons of TNT, built on the principle of the "layer cake". 1 7



6 Diagram of thermonuclear charge on the "layer cake" principle:
1 Core of the atomic bomb (Uranium-235 or plutonium);
2 Uranium-238;
3 Thermonuclear fuel (lithium deuteride);
4 Layer of explosive.

Sakharov was awarded the highest civic distinction — the title of Hero of Socialist Labor for his exceptional services to the state (subsequently he was to receive the same award twice — in 1955 and 1962). In the fall of that year, at the age of 32, he became the youngest academician at the USSR Academy of Sciences.

"We, the inventors, scientists, engineers, and craftsmen, had created a terrible weapon, the most terrible weapon in human history; but its use would lie entirely outside our control. The people at the top of the Party and military hierarchy would make the decisions."

In the years he was at the Installation, Sakharov, parallel to his military work, conducted research into the use of thermonuclear energy for peaceful purposes. Together with Tamm, he advanced the idea of a magnetic thermonuclear reactor — the Tokamak. The controlled thermonuclear synthesis even to this day remains one of the most promising directions of development of energy. He also continued to work on the fundamental problems of theoretical physics — cosmology, gravitation, and the physics of elementary particles.



7 Official statement about the testing of the Soviet hydrogen bomb. August 20, 1953.

Nikita Khrushchev at the meeting with the intelligentsia in the Kremlin, March 7, 1963. Photo by A. Ustinov



DEFENDING PEOPLE

The awareness that human life is more important than the nuclear arms race turned his world view upside down.



1 Trinitite — a glass-like mineral emerging as a result of a nuclear explosion. First discovered at the site of the Trinity nuclear test in the US in 1945. Photo by M. Rakola.



2 Sakharov’s popular science article, “On the Radioactive Danger of Nuclear Weapons Testing” in the journal Die Sowjetunion heute. 1958. № 20.



3 Andrei Sakharov at the Installation. 1950s.

Sakharov’s broadest scientific outlook included not only physics. Back in October 1954, together with many other scientists of various specialties, he signed an appeal to the Presidium of the Central Committee of the Communist Party of the Soviet Union (CPSU) on the state of biological science in the USSR, aimed against the monopoly of the anti-scientific doctrines of Trofim Lysenko. This was not only a statement in defense of the scientific principles of natural science; Sakharov was particularly interested in genetics in connection with the influence of radioactive irradiation on human heredity.

Starting in 1956, his attention was concentrated on the problem of biological consequences of nuclear tests in the atmosphere. 2

“Working on the article, “Radioactive Carbon from Nuclear Explosions and Non-threshold Biological Effects” (written in 1957 and published the following year in the Soviet journal Atomic Energy), did much to develop my ideas on the moral issues involved in nuclear testing [...]”

“In my article, I dealt with the fact [...] that ‘the number of victims of additional radiation is determined by non-threshold biological effects’. Such effects, including carcinogenesis and genetic change, which in theory might occur at even the very lowest radiation levels, could lead to many deaths and cases of disease as huge populations — over the course of many generations — are exposed to them.”

“[...] I had by this time calculated that every one-megaton atmospheric test would cost ten thousand human lives!”

The publication of Sakharov’s article was approved by the political leader of the country, Nikita Khrushchev. Subsequently, however, relations between them grew significantly more complicated. In the fall of 1961, after learning about the preparation of the latest nuclear tests, Sakharov tried to convince Khrushchev not to go ahead, but got a public rebuke in reply:

“Sakharov, do not try to dictate to us, politicians, what we should do, and how we should behave. I would be the last slobberer, and not the Chairman of the Council of Ministers if I listened to such as Sakharov!”

The Cold War continued. On October 30, 1961, the most powerful thermonuclear device, called the “Tsar Bomb,” was tested at a Soviet polar testing ground in Novaya Zemlya. The explosion of the 50-megaton bomb occurred in the atmosphere at an elevation of 4,500 meters. The explosion was visible at a distance of 1,000 kilometers from the blast site. The stony soil at the testing ground melted like glass. All of the seismic stations of the planet registered the earthquakes.

In September 1962, Sakharov carefully tried to prevent the subsequent testing of two practically identical nuclear devices.

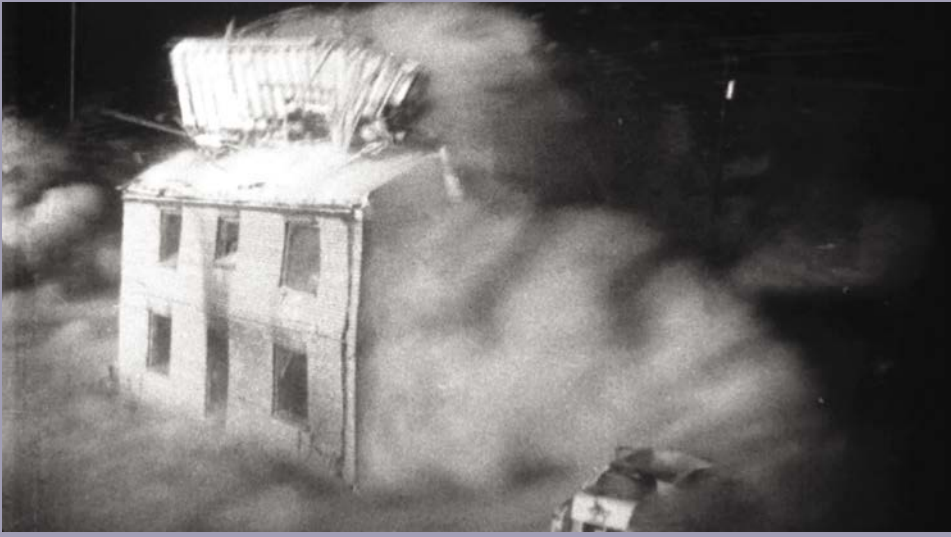
“A terrible crime was about to be committed, and I could do nothing to prevent it. I was overcome by my impotence, unbearable bitterness, shame, and humiliation. I put my face down on my desk and wept.

That was probably the most terrible lesson of my life: you can’t sit on two chairs at once. I decided that I would devote myself to ending biologically harmful tests.”

In the practice of the great powers, the nuclear arms race was accompanied by peaceful rhetoric; however, the negotiations for a total ban on nuclear testing were a stalemate due

to the impossibility of monitoring underground nuclear explosions. A breakthrough became possible after Sakharov was able to convince Khrushchev of the possibility of banning only the most dangerous tests — in the atmosphere, under water, and in space.

On August 5, 1963, the USSR, US, and Great Britain signed the Moscow Treaty on the Ban of Testing in Three Environments (the Limited Test Ban Treaty).

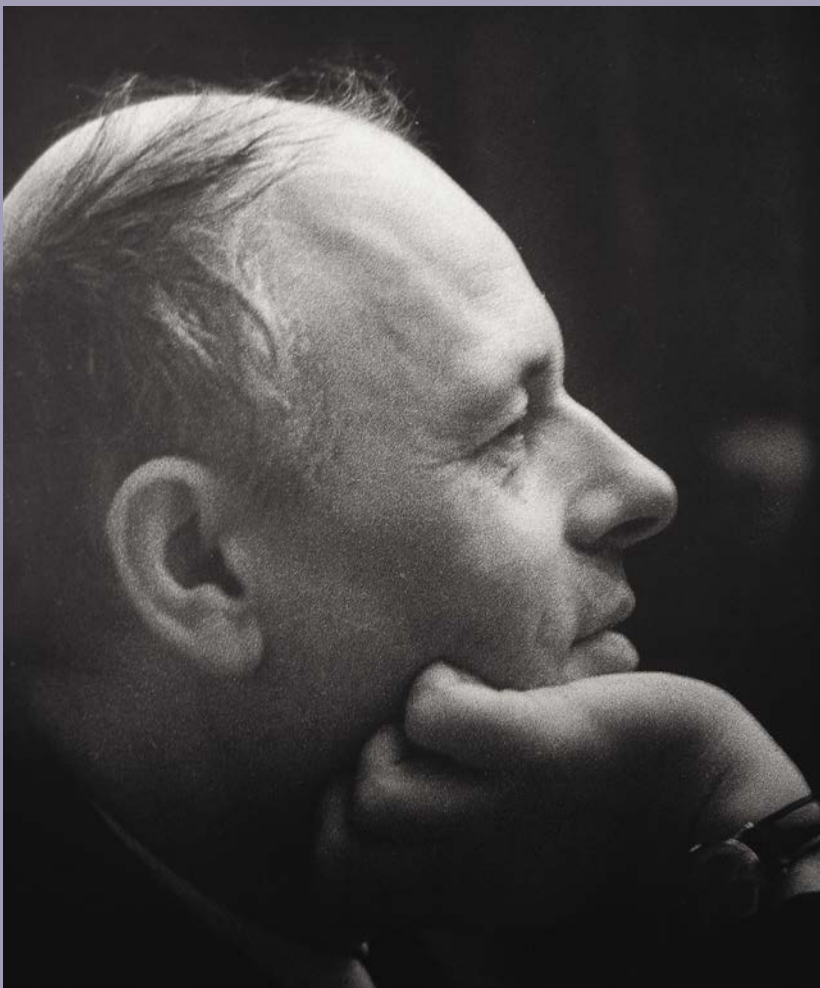


4 Effect of light radiation and shock wave during test of a hydrogen bomb. US, 1950s.

1958 – 1968

The RDS-6s hydrogen bomb test.

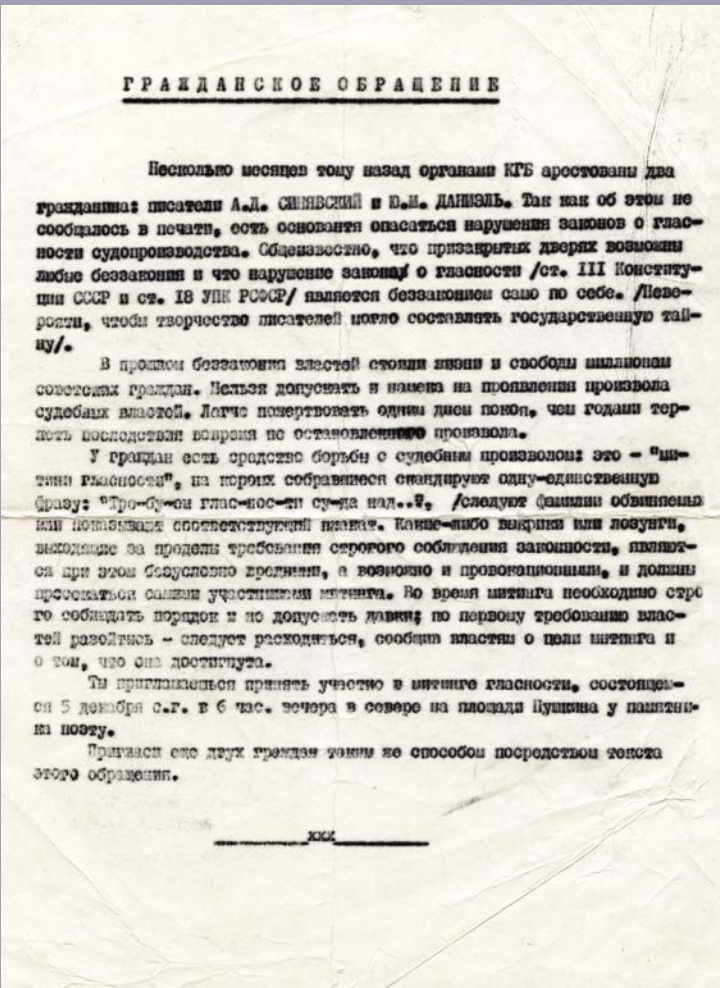
The general problems of the defense of peace and survival of humankind were for Sakharov equal to the problem of observance of human rights in one’s own country. He saw his civic duty in not reconciling himself to the harshening of the political regime and persecution of dissenters.



1 Andrei Sakharov, early 1970s. Photo by Yu. A. Tumanov.



2 Trial of writers Andrei Sinyavsky and Yuly Daniel. Moscow, February 1966.



3 Call to go to a demonstration in defense of Sinyavsky and Daniel, made by Alexander Yesenin-Volpin. 1965.

Sakharov gradually moved away from work related to the creation of thermonuclear weapons and returned to research in the area of theoretical physics. At that time, his attention was drawn to the questions of human rights.

“By the end of the fifties, public issues had become a major preoccupation for me, and they became an even greater part of my world in the 1960s. I felt compelled to speak out, to act, to put everything else aside, to some extent event science.”

The “Khrushchev Thaw,” a partial liberalization of the Soviet regime after the death of Stalin caused a revival of public life and the hope for the possibility of further reform of the country. But the forced resignation of Khrushchev in 1964 and the coming to power of Leonid Brezhnev became the beginning of reaction and the persecution of dissenters. In February 1966, the writers Andrei Sinyavsky and Yuly Daniel were sentenced to long terms of imprisonment, accused of anti-Soviet activity for publication abroad of works which “defamed the Soviet state and social order”. 25

“The years 1965–1967 were a turning point in my life. I was heavily involved in demanding scientific work, even as I was approaching a decisive break with the establishment.”

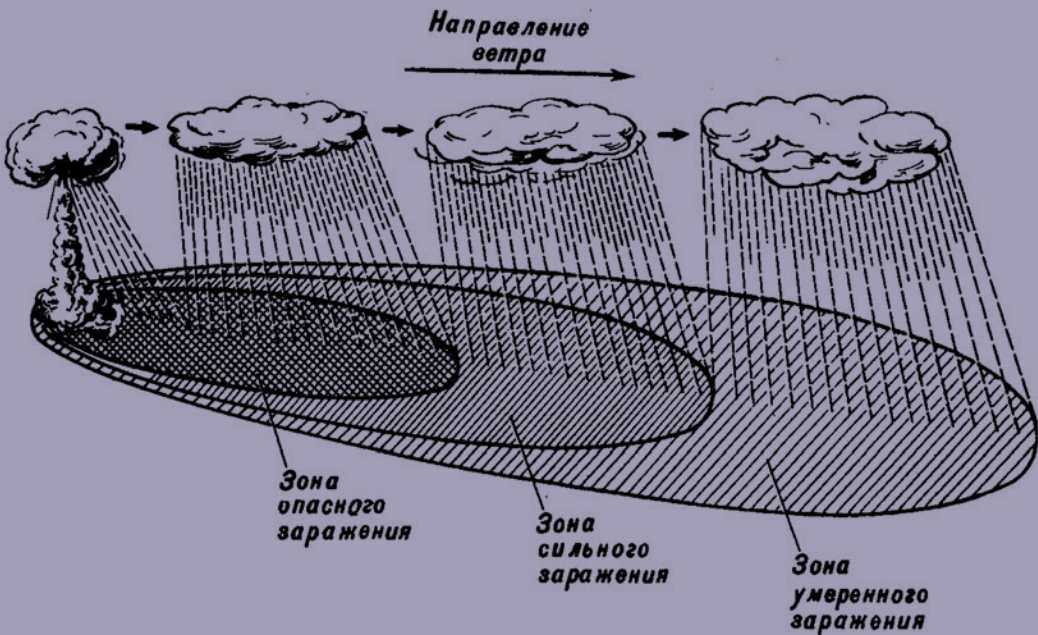
It was at this time — in March 1966 — that Sakharov made his first open public statement — he put his signature under an appeal by 25 figures of science, literature and art to the XXIII Congress of the CPSU, warning against attempts of a political rehabilitation of Stalin. After this followed a protest against the introduction to the USSR Criminal Code of new articles punishing “political” crimes. He took part in a demonstration on Pushkin Square in Moscow in defense of political prisoners, and sent personal appeals to Brezhnev and to Yuri Andropov, head of the KGB in defense of arrested human rights advocates.

He also paid attention to the problems of the environment — he supported the civic campaign in defense of Lake Baikal from pollution by industrial effluents; he personally telephoned Brezhnev, in order to persuade him to stop the construction of a dangerous facility on the shores of Lake Baikal, but Brezhnev refrained from discussing the issue.

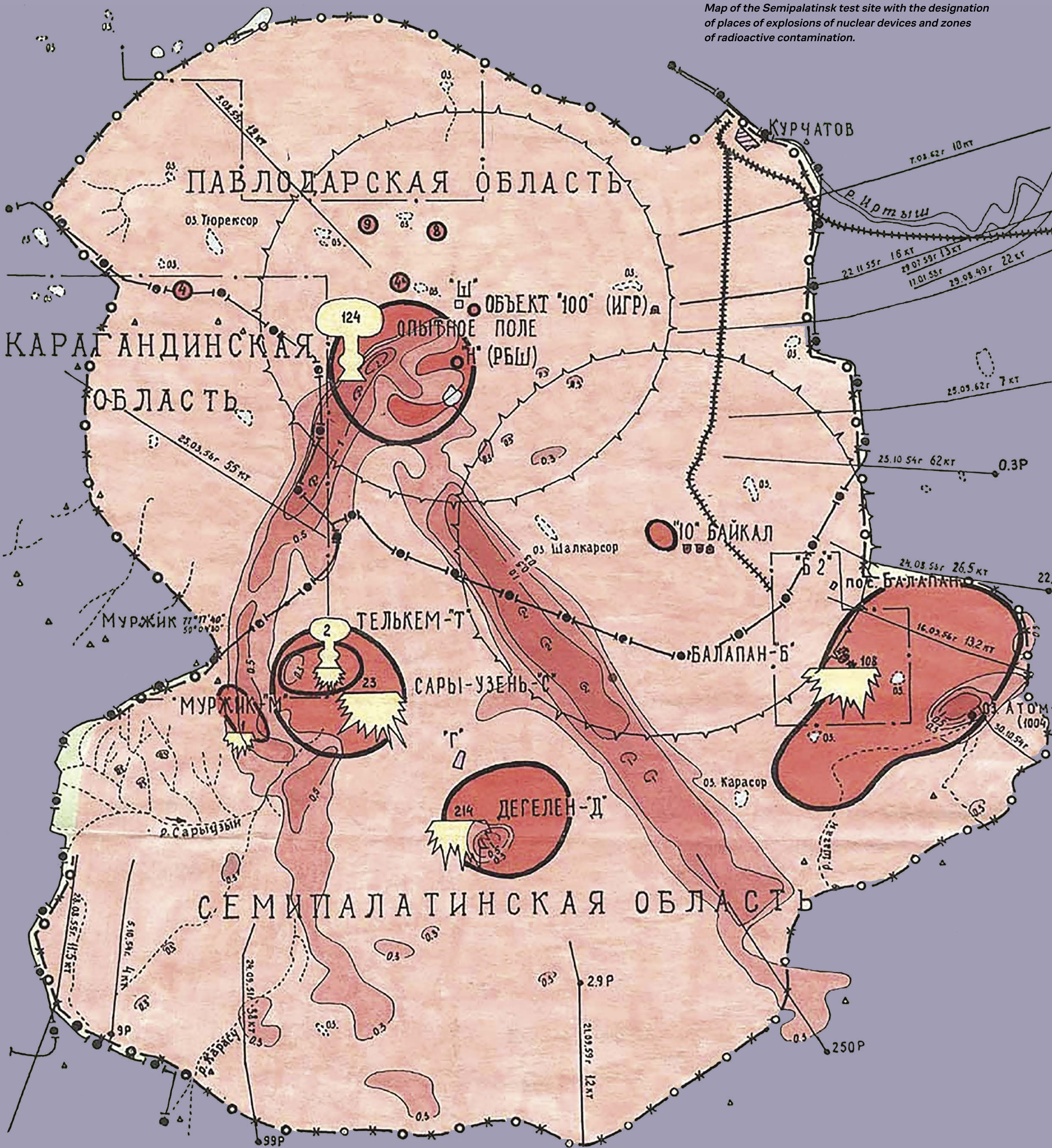
“Though our efforts to protect Baikal were unsuccessful, I did gain valuable insight into environmental problems, both in general and in the particular context of Soviet society.”



4 Semipalatinsk testing grounds. Crater from underground nuclear explosions.



5 Diagram of formation of a plume of radioactive fallout after a nuclear explosion.



Map of the Semipalatinsk test site with the designation of places of explosions of nuclear devices and zones of radioactive contamination.

CIVIC ACTIVITY

The reflections of the scientist made him a human rights defender. He was forced to pay for his freedom of thought with his career, but for him, this became the start of a new life.



Publication of Sakharov's article, "Reflections on Progress, Peaceful Coexistence and Intellectual Freedom" in various languages.

In 1968, Sakharov wrote his publicistic piece, "Reflections on Progress, Peaceful Existence and Intellectual Freedom". He himself evaluated this work as a decisive step determining his subsequent life. In "Reflections," Sakharov advanced the thesis of convergence — historical rapprochement of the socialist and capitalist systems accompanied by democratization, demilitarization, social and scientific and technical progress as the only alternative to the death of humankind.

"Intellectual freedom is essential to human society — freedom to obtain and distribute information, freedom for open-minded and unfearing debate, and freedom from pressure by officialdom and prejudices. Such a trinity of freedom of thought is the only guarantee against an infection of people by mass myths, which, in the hands of treacherous hypocrites and demagogues, can easily be transformed into bloody dictatorship."

"My work on Reflections happened to coincide with the Prague Spring. [...] What so many of us in the socialist countries had been dreaming of seemed to be finally coming to pass in Czechoslovakia: democracy, including freedom of expression and abolition of censorship; reform of the economic and social systems; curbs on the power of the security forces; and full disclosure of the crimes of the Stalin era [...]."

Sakharov sent his article to Leonid Brezhnev, General Secretary of the Central Committee of the CPSU, but did not receive an answer. Meanwhile, in the West, his article became widely known. The total print run of the publications of "Reflections" in 1968–1969 abroad was 18 million copies.

"Reflections was well received by liberal intellectuals abroad. [...] a kindred voice had reached them from behind the Iron Curtain and, moreover, from a member of a profession which in America was dominated by 'hawks'."

"[...] On the other hand, my criticism of Soviet society appealed to conservative circles [...] It circulated widely in the USSR as well — samizdat was flourishing — and the response was enthusiastic [...]. I deeply regret that many people were punished for circulating Reflections."

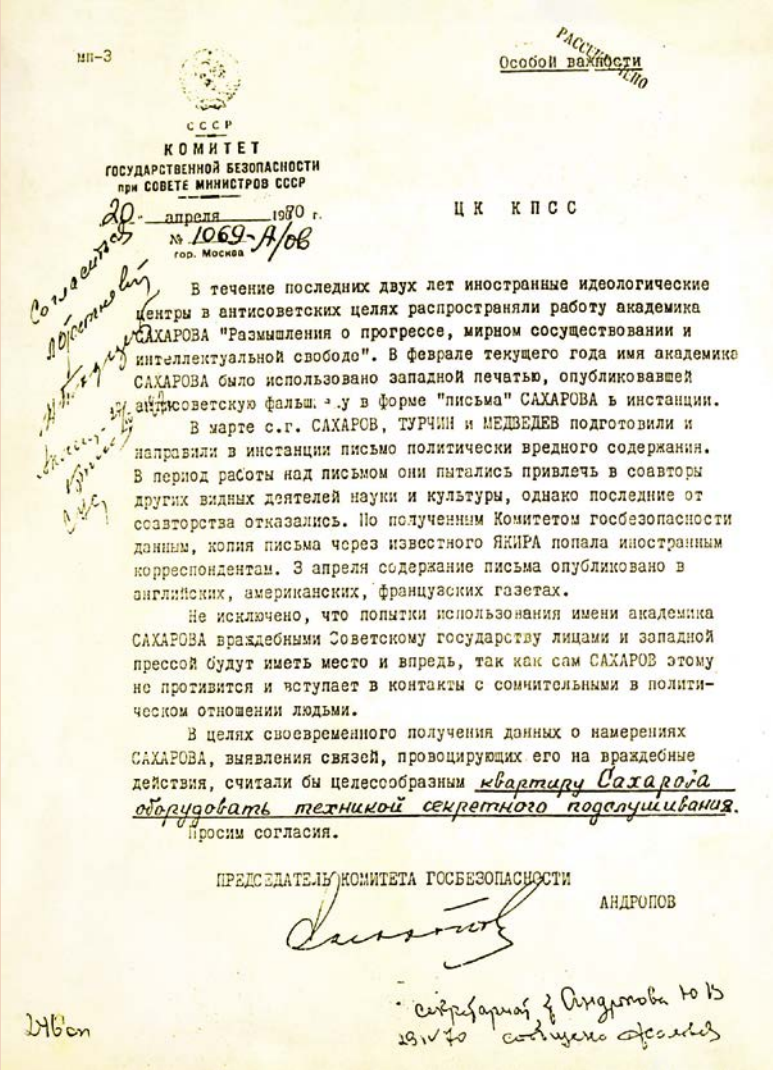
The KGB considered Sakharov's activity to be "politically harmful". As a result, he was officially removed from work on secret defense topics and left the Installation forever. After returning to Moscow, he continued scientific work at FIAN and in the subsequent years wrote a number of fundamental works on the physics of the universe. He was elected as a foreign member by a number of academies of sciences overseas for his outstanding scientific merits, including by the US National Academy of Sciences; the French Academy of Sciences; the Rome Academy of Sciences and the New York Academy of Sciences.

Along with his scientific activity, Sakharov's human rights activity also developed. In November 1970, together with Valery Chalidze and Andrei Tverdokhlebov, he created the Committee for Human Rights in the USSR "to study the problem of guaranteeing and propagating human rights in the USSR". During those years, he constantly initiated the collection of signatures to collective statements, for example, an appeal to the Supreme Soviet of the USSR regarding the abolition of the death penalty and amnesty for political prisoners.

On principle, Sakharov did not hide his views. Using the authority of a major scientist, he repeatedly bravely appealed directly to the country's leaderships with proposals to democratize the Soviet regime, protesting



Sakharov during a human rights demonstration on Pushkin Square. December 5, 1975.



Memorandum by KGB chief Yuri Andropov to the Central Committee of the CPSU on the secret bugging of Sakharov's apartment. April 20, 1970.

against "punitive psychiatry," against the use of the death penalty, and in defense of individual people who had suffered persecution for political reasons. He also sent protest letters against human rights violations in other countries of the world to international organizations. Breaking an unspoken ban, Sakharov began to meet with foreign journalists, and his statements and interviews were published in the Western press.

In the spring of 1969, his wife Klavdia Alekseyevna Vikhireva died, and in the fall of 1970, he became acquainted with the 47-year-old Yelena Georgievna Bonner. Yelena Bonner's parents were repressed in 1937; having spent the entire war as a nurse, she was working as a pediatrician. She had two adult children from her first marriage. Yelena Bonner was a well-known person in the dissident community, the organizer of help for political prisoners and their families.

Their shared beliefs brought Andrei Sakharov and Yelena (Lusia) together. Two years later they were married.

"Lusia has brought me happiness and added new meaning to my life. Although these years have been difficult, even tragic for her, she too, I hope, has found in them new purpose. [...] After my marriage to Lusia in 1971, the brunt of the authorities' pressure tactics — slander, threats, and various attempts to intimidate — shifted first to her, and soon to the children and grandchildren [...]."

Prague. August 21, 1968. Photo by B. Dobrowski



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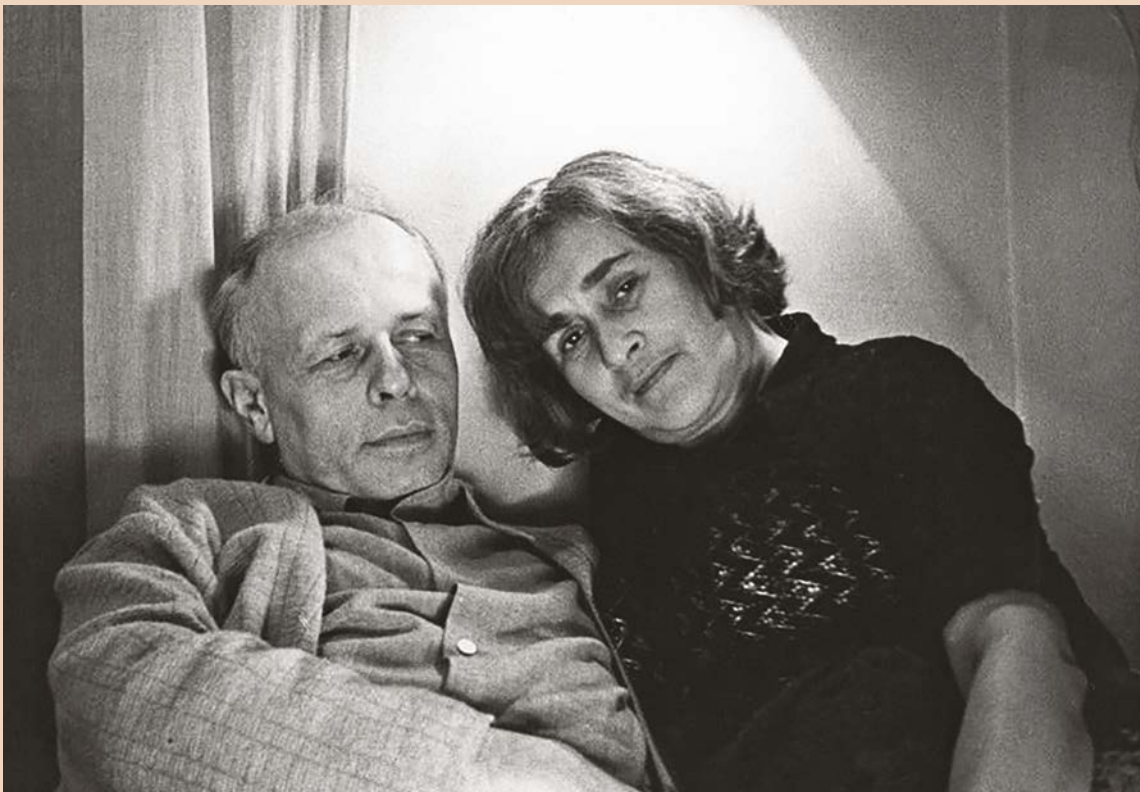
The Nobel Committee awarded the Peace Prize to Andrei Sakharov as a humanist and political thinker of planetary scale, but in the eyes of the Soviet authorities, his ideas remained dangerous sedition.



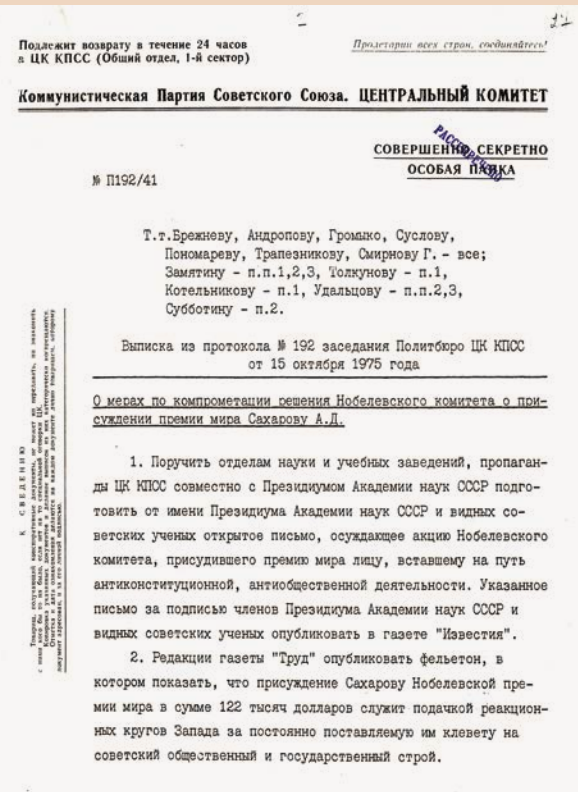
① Sakharov at the courthouse during the trial of human rights advocate Yury F. Orlov. Moscow, 1978. Photo by O. Kaplin.



2 Sakharov with a group of human rights advocates.
October 16, 1977.



3 Sakharov and Bonner soon after their wedding. 1972.
Photo by R. Tsimerinov.



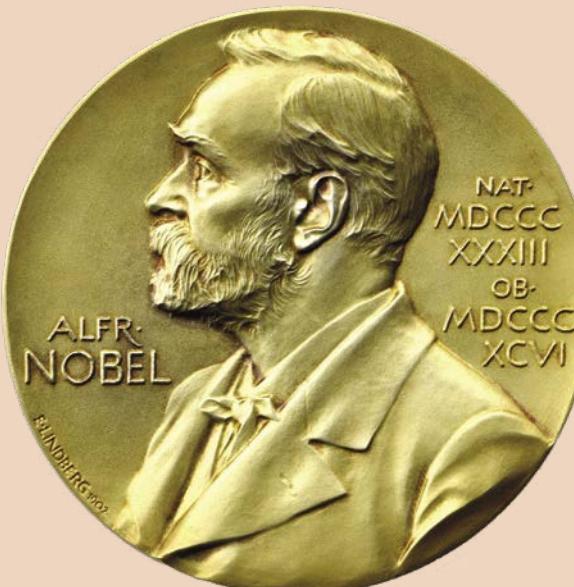
④ *Excerpt from the transcript of a meeting of the Politburo of the CPSU Central Committee, October 15, 1975.*

In the summer of 1973, at the initiative of the KGB, the public harassment of Sakharov himself began. A series of open letters from workers, artists, writers, composers, and scientists were published in the press, including a letter signed by 40 academicians condemning the civic activity of their colleague. 6

Nevertheless, Sakharov's publicist activity increased. In an article titled "On My Country and the World" (1975), he called on the world community to actively oppose any violations of human rights; urged socialist countries to greater openness; proposed solutions to the problem of gradual reduction of nuclear armaments throughout the world; and advanced a wide-scale program of political, social and economic reforms in the USSR.

From July 30 to August 1, 1975 in Helsinki, the heads of 35 countries, including the USSR, US, and Canada, signed the Final Act of the Conference on Security and Cooperation in Europe. The participating states undertook in particular obligations to observe human rights and fundamental freedoms.

This document states: “The participating States recognize the universal significance of human rights and fundamental freedoms, respect for which is an essential factor for the peace, justice and well-being necessary to ensure the development of friendly relations and co-operation among themselves as among all States.”



⑤ Nobel medal

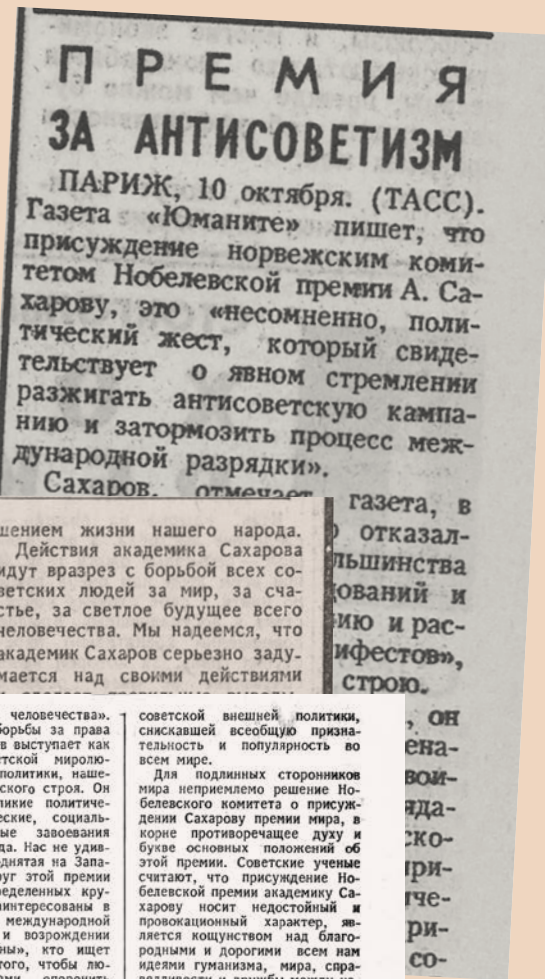
Despite the signing by the Soviet Union of the Helsinki Final Act, violation of human rights in the USSR continued. In the eyes of the world community, this lent particular significance to the activity of the human rights activists.

On October 9, 1975, Academician Sakharov was awarded the Nobel Peace Prize “for impartial support of fundamental principles of peace between peoples and for the courageous battle against abuses of power any forms of pressure on human dignity.” In the opinion of the Nobel Committee, “Sakharov uncompromisingly and effectively fought not only against abuses of power in all their manifestations; with equal energy, he defended the ideal of a state based on the principle of justice for all. Sakharov persuasively expressed the idea that only the inviolability of human rights can serve as a foundation for a genuine and lasting system of international cooperation.” ⑤

The Soviet authorities refused Sakharov permission to travel to Norway to take part in the award ceremony. Instead of the laureate himself, on December 10, 1975, his wife, Yelena Bonner, received the prize on his behalf. She also read the text of Sakharov's Nobel lecture.

“Peace, progress, human rights — these three goals are insolubly linked to one another: it is impossible to achieve one of these goals if the other two are ignored. [...] I am convinced that international confidence, mutual

understanding, disarmament, and international security are inconceivable without an open society with freedom of information, freedom of conscience, the right to publish, and the right to travel and choose the country in which one wishes to live. I am likewise convinced that freedom of conscience, together with the other civic rights, provides the basis for scientific progress and constitutes a guarantee that scientific advances will not be used to despoil mankind, providing the basis for economic and social progress, which in turn is a political guarantee for the possibility of an effective defense of social rights. At the same time I should like to defend the thesis of the original and decisive significance of civil and political rights in moulding the destiny of mankind”.



ЗАЯВЛЕНИЕ СОВЕТСКИХ УЧЕНЫХ

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С. И.	КАПИЦА А. А.	ЛЮГОВЫЙ А. А.	А. ПИОТРОВСКИЙ Б. Б.	И. ТИМАКОВ В. Д.
	КАРАКЕЕВ К. К.	МАЛЕЙСТЕР А. К.	А. ПОСЛЕПОВ А. А.	Д. ТИХОНОВ А. Н.
	КАРПЕНКО В. К.	МАРКУС А. А.	П. ПРОКОПОВ А. М.	А. ТРИКОМИ А. А.
	КЕДЫШ М. В.	МАТУСИЧ Ю. А.	П. ПУТОВ	Н. ФЕДОСЕЕВ С. Н.
	КОНСТАНТИНОВ Ф. В.	МЕЛЬНИКОВ Ю. В.	В. РУМЯНЦЕВ	Н. ФЕДОРЕНКО Н. П.
	КОСЫХ В. А.	МОНАХОВ В. А.	М. РАВЕНСКИЙ А. М.	Г. ФЕДОРОВ Г. Н.
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	КУНАЕВ А. М.	НЕСМЕЯНОВ А. Н.	С. СЕЛЕНОВ С. С.	В. ФРУЗКИН А. А.
	КУРДЮМОВ Г. В.	ОПАРИН А. И.	С. СКОБЕЛЬДЫН В. С.	Н. ХАРАЧЕНКО Н. Н.
	КУРСАКОВ А. Л.	ОСИНОВ В. А.	С. СОВЕТОВ Г. В.	А. ХОДОВИЧ Г. А.
	ЛАВРЕНТИЙ М. А.	ПЕТРОВ С. В.	В. СМОРДИН	В. ЦИГАНОВ
				В. ЦИГАНОВ

⑥ *Publications in the Soviet press against Sakharov. 1973, 1975.*



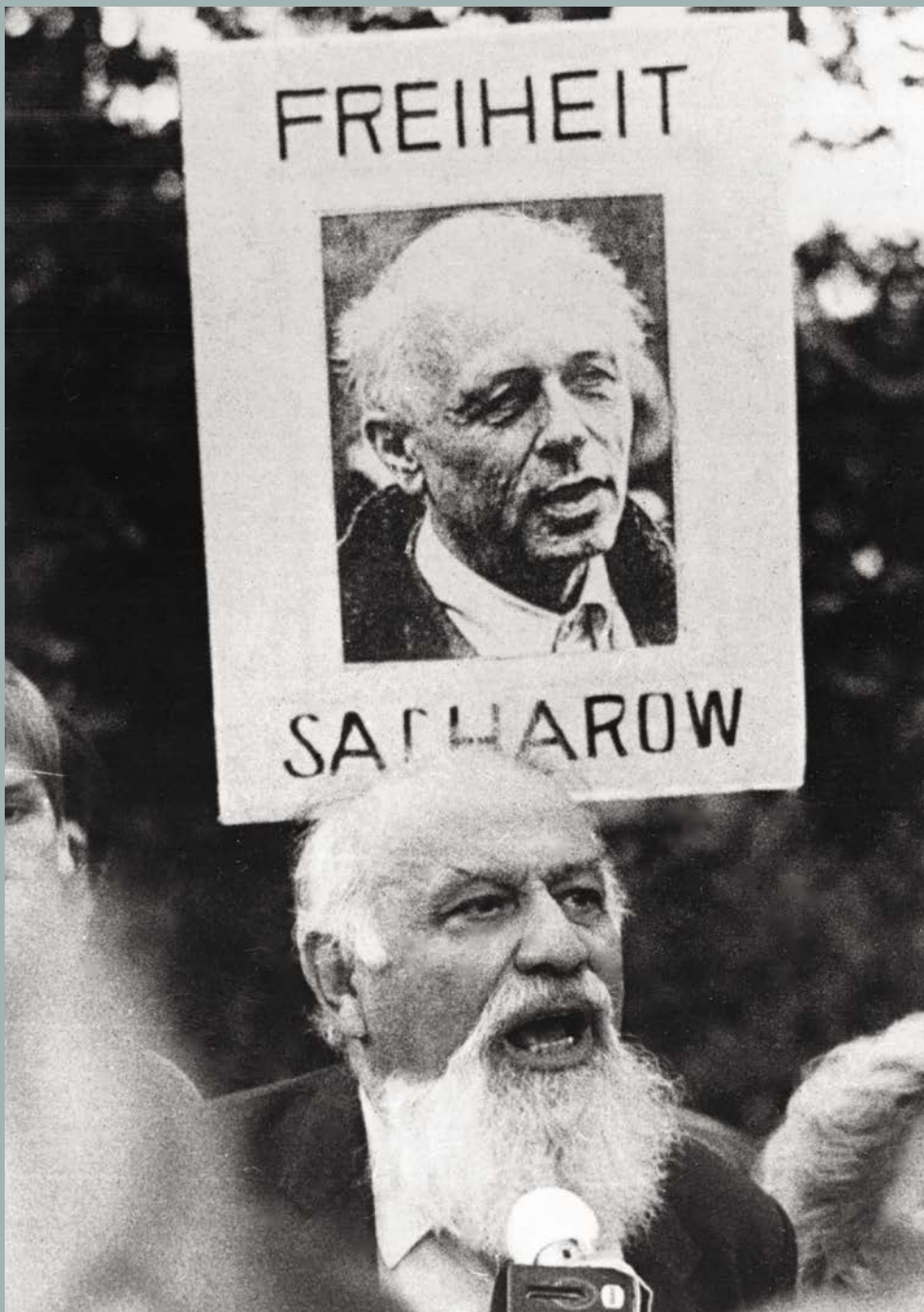
Delegates welcome Leonid Brezhnev, 1970s. Photo by A. Gostev

EXILE IN GORKY

In order to silence Sakharov, who had defended the rights of others, he himself was sent into unlawful exile without a trial. But it was impossible to shut him up.



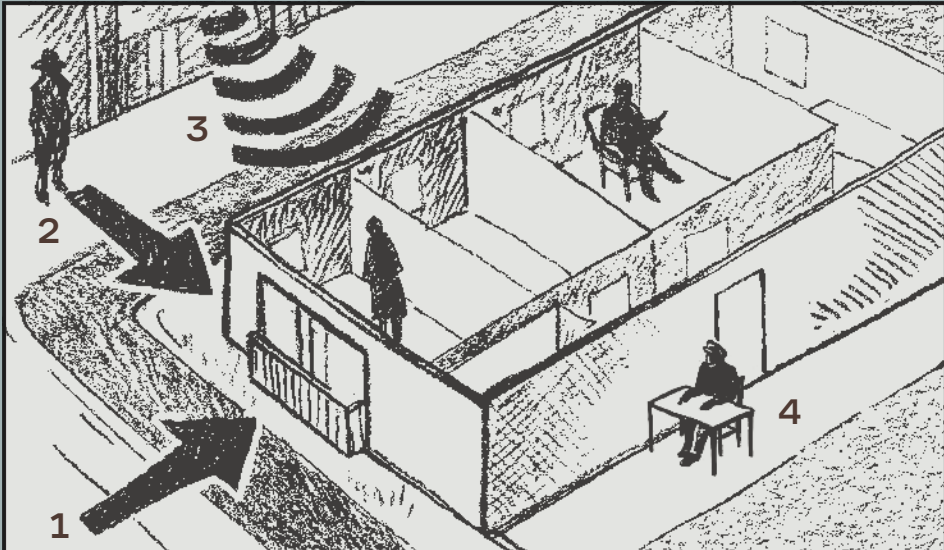
1 Andrei Sakharov in Gorky. February 1980. Photo by Y. Bonner.



2 Human rights advocate Lev Kopelev speaks at an action in defense of Sakharov in Germany. 1985.

In the second half of the 1970s, Andrei Sakharov became for the world community a symbol of the struggle for human rights against totalitarianism, for the common peaceful future of humankind. But in the USSR, his intensive human rights activity provoked the hatred of the authorities. All of Sakharov’s life and the life of his family were under the KGB’s surveillance. Sakharov was threatened, but for a long time, the authorities could not make up their mind to apply direct repressions to him.

In early 1980, Sakharov, in an interview with Western media, strongly condemned the sending of Soviet troops to Afghanistan. On January 22, he was detained on his way to work at FIAN and brought to the USSR Procurator General’s Office, where he was informed of the stripping of his state awards and honorable titles and about administrative exile from Moscow.



3 Diagram of Sakharov’s isolation and surveillance of him in his apartment in Gorky
1 Surveillance from the building across by KGB officers;
2 External security;
3 Artificial jamming of signals from radio stations;
4 24-hour police post at the apartment entrance.



4 Building in Gorky where Sakharov lived. 1980.

That same day, Sakharov, and his wife, accompanied by officers of the KGB, were taken by a special flight to the city of Gorky (now known as Nizhny Novgorod) and settled on the outskirts of the city. 14

This exile without trial lasted nearly seven years. Its purpose was to limit Sakharov’s outside contacts to the maximum extent and above all his communication with foreigners, who were prohibited from travel to Gorky. There was no telephone in the apartment where Sakharov and Bonner lived. Clandestine searches were made repeatedly, and manuscripts confiscated, and listening devices were installed in the rooms. At the front door, police officers were on duty round the clock, not allowing through any undesired visitors. 5

“A policeman sat in the corridor before our door for the entire seven years, never leaving. There was a little table on the stair landing, and the policeman would sit at it with his back to our door. If I or Lusya went out, he would sit motionlessly, not turning his head, or greeting us. In the morning, one of us would go out for the newspaper, which the postman would leave with him on the little table (he was forbidden to ring our door) and “our” policeman silently handed the newspaper to us over his shoulder.”

Nevertheless, even under such conditions, Sakharov continued his scientific work and his civic activity. His connection to the outside world was his wife, Yelena Bonner. Despite her poor health (during these years she suffered three heart attacks), she would bring the texts he wrote out of Gorky and send them to the West; she would hold press conferences and inform the world community on the situation of Academician Sakharov.

In response, the Soviet press published smears of Sakharov, extending the libel to his wife. The exiles received letters by mail supposedly from ordinary people, outraged at their “anti-Soviet activity”. There were even threats of physical reprisals.

“All the measures applied to me do not even have the semblance of legality; this is part of the general brutal campaign against dissenters, an attempt to force me to be silent and make it easier to punish others. [...] Each time my wife leaves, I do not know if she will get there without hindrance and once again safely return to me. [...] It is impossible to predict what is in store for us. Our only defense is glasnost, and the attention of friends throughout the world to our fate.”

Yelena Bonner managed to make more than 100 trips to Moscow until in 1984, charges were filed against her of “slander of the Soviet social and state order,” and she was sentenced to five years of exile to be served at the place of her husband’s residence, in Gorky. Sakharov was now totally isolated.



6 “Yet Another Aggression”. Cartoon by Herbert L. Block (Herblock) in the American newspaper Washington Post, January 24, 1980.

Soviet troops in Afghanistan. The Salang pass, 1980s. Photo by A. Solomonov / RIA



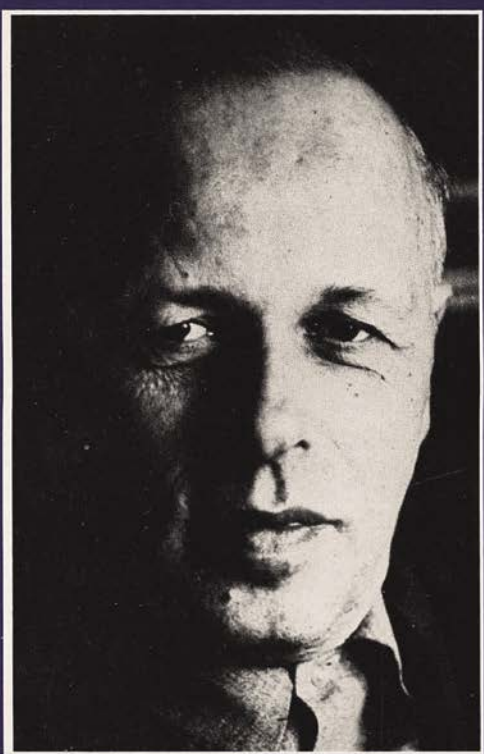
1980-1986

The isolation, threats, harassment, libel, and persecution of family members — for nearly seven years, the government did everything to break Sakharov. This battle by the state machinery with the prominent human rights defender made his name a symbol of civic courage and firmness of moral principles.



1 Sakharov and his wife after the end of one of his hunger strikes. October 25, 1985.

Сахаровский сборник



21 мая 1981 года
АНДРЕЮ ДМИТРИЕВИЧУ САХАРОВУ
исполнилось 60 лет.
Сейчас он живет в г. Горьком
проспект Гагарина, д. 214 кв. 3

ИЗДАТЕЛЬСТВО "ХРОНИКА"
Нью-Йорк 1981

2 Sakharovskiy sbornik [Sakharov Anthology], published in New York in 1981 for Andrei Sakharov's 60th Birthday.

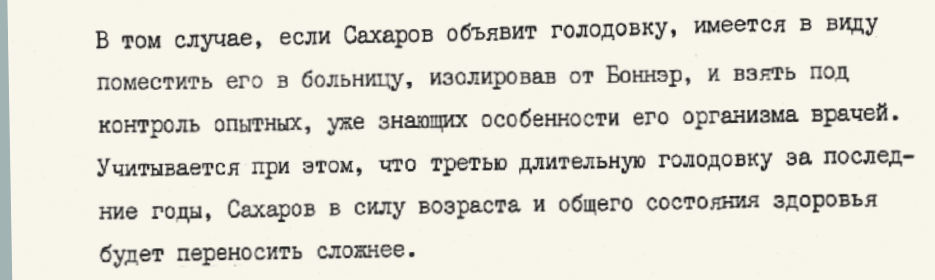
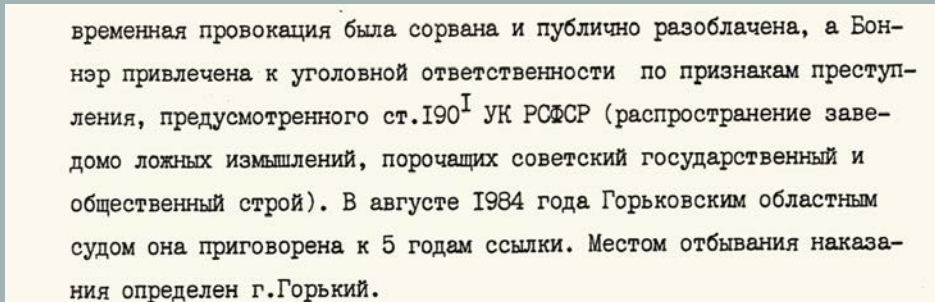
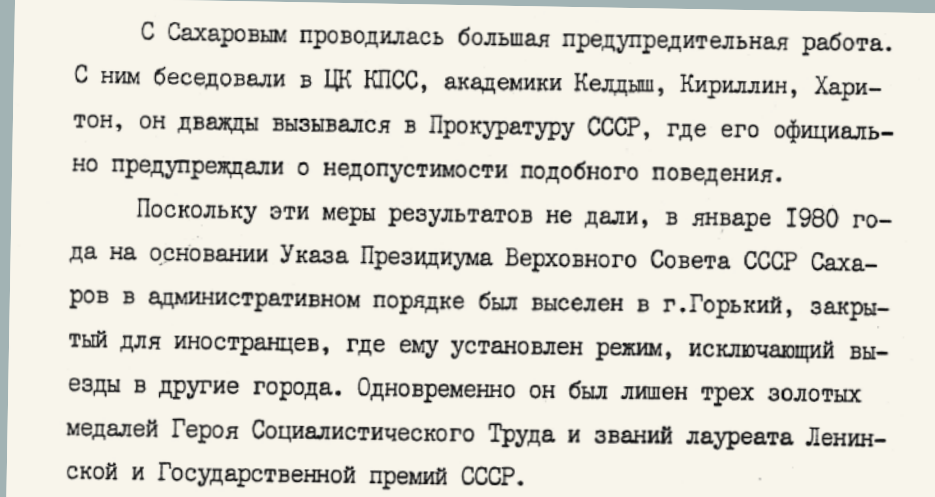
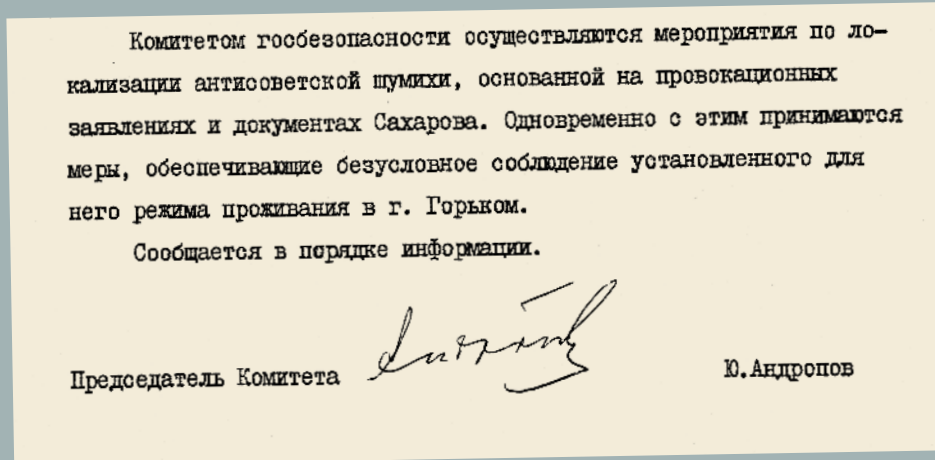
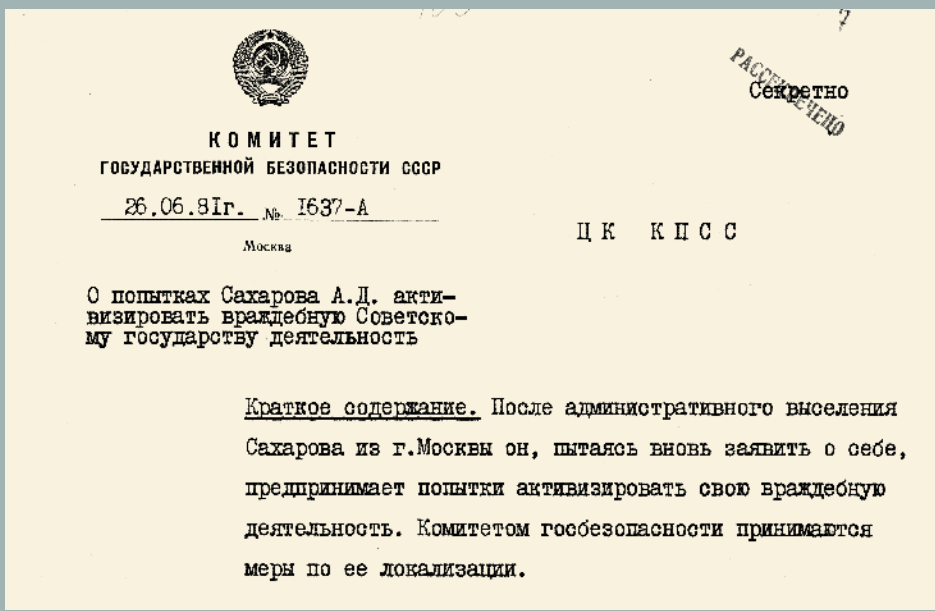
During his exile in Gorky, Sakharov was three times forced to resort to the method of hunger strikes for many days to protest against the pressure placed on his family. In 1981, together with Yelena Bonner, he staged a 17-day hunger strike, demanding that Yelizaveta Alexeyeva, the fiancée of his stepson, Alexei Semyonov, be allowed to go abroad to join him, as he had earlier emigrated to the US. This demand was met by Soviet authorities. In 1984, Sakharov fasted for 26 days, demanding that his wife be allowed abroad to have a complicated heart operation – but without result. In the spring of 1985, he renewed the hunger strike and kept it up with breaks for 178 days. 1 During that time, twice he was subject to forcible hospitalization, accompanied by the torturous procedures for forced feeding. Permission for Yelena Bonner's departure from the country for medical treatment was given only after Sakharov, in the hospital in total isolation and fearing for the life of his wife, addressed a letter to Mikhail Gorbachev, General Secretary of the Central Committee of the CPSU, with a promise to concentrate on scientific work and “make no more public statements, apart from exceptional cases”.

A campaign in defense of Sakharov was launched in many countries. A number of foreign universities gave him honorary science degrees. In Washington, the square where the building of the Soviet Embassy was located was re-named “Sakharov Square”. French President François Mitterrand, US President

Ronald Reagan, and German President Richard von Weizsäcker personally appealed to the leaders of the USSR with a request to cease the persecution of the world-renowned scientist and defender of peace and human rights. While she was abroad, Yelena Bonner was received by heads of states and governments of Italy, France, Great Britain and also high-ranking US officials and Pope John Paul II.

The USSR authorities could not go on ignoring world public opinion.

On December 15, 1986, a telephone was suddenly installed in the Sakharovs' apartment. 3 A KGB officer, who was present during the work, warned that an important phone call must be expected the next day. On December 16, Mikhail Gorbachev personally informed Sakharov in a telephone conversation about his release. His exile was over. On December 23, Andrei Sakharov and Yelena Bonner returned to Moscow.



6 Excerpts from documents from the USSR KGB concerning Andrei Sakharov and Yelena Bonner, 1981–1985.



3 Telephone on which Sakharov spoke with Gorbachev on December 16, 1986.



4 Sakharov at the Semashko Gorky Regional Hospital. KGB surveillance footage. July, 1985.

A.D. Sakharov's return from exile. Moscow, Yaroslavsky station. December 23, 1986. Photo by Yu. Rost



THE WAY TO FREEDOM

The return of Academician Sakharov from exile became the first ray of hope for real changes in the country. The recent political exile became a person whose words were heeded by millions.



1 Sakharov's speech at a rally in memory of the victims of political repressions. Moscow. June 25, 1988. Photo by A. Turusov.



2 Rally of scientists in support of the nomination of Sakharov as candidate in the elections of the Peoples' Deputies of the USSR. February 2, 1989. Photo by M. Golovkin.



3 Sakharov in Syktyvkar. May 19, 1989. Photo by L. Zilberg.

In January 1987, soon after Sakharov's release, Gorbachev announced the start of a broad program of political and economic reforms which was called "perestroika". Its purpose was to provide new stimulus to the country's development while preserving the socialist system as before under the control of the Communist Party.

Sakharov viewed the changes in the political line with restrained optimism. He was alarmed at the stubborn resistance to processes of democratization which the Party and state elite was showing.

"[...] Gorbachev and his close associates themselves may still not have completely thrown off the prejudices and dogmas of the system they inherited."

The restructuring of our country's command-type economic system is an extremely complex matter. Without the introduction of market relations and elements of competition, we are bound to see serious shortages, inflation, and other negative phenomena. [...]

Only a nationwide surge of initiative can give substance to democracy, and our chiefs are not ready for this [...]

Sakharov's first public speech after returning to Moscow took place in February 1987 at the international forum "For a Non-Nuclear World, for the Survival of Humanity". His position on the question of reducing the number of medium- and short-range missiles without additional conditions (rejection of the "package" principle) was soon supported by Gorbachev. This enabled the negotiations between the USSR and US to advance significantly, and already by the end of 1987, for an agreement on the destruction of medium- and short-range missiles to be signed — the first treaty on real reduction of existing nuclear weapons.

Sakharov's situation after release from exile remained ambiguous for a long time. He was able to meet with foreign journalists freely and meet with the heads of foreign states who visited Moscow, but only a few short articles and interviews appeared in the Soviet press. Nevertheless, Sakharov received enormous public recognition as a moral authority. Hundreds of appeals came to him with requests for help and support.

In 1988, Sakharov became one of the founders of a political discussion club called "Moscow Tribunal" and honorary chairman of Memorial Society, created to perpetuate the memory of the victims of Stalin's repressions. 4

He sought permission for the publication in the USSR of The Gulag Archipelago, the book of Alexander Solzhenitsyn and stubbornly insisted on the full release of Soviet political prisoners. At the same time, he did not leave his work in physics. The questions of international security remained in the sphere of his interests and also the problems of the environment, the questions of the safety of nuclear power, and inter-ethnic relations in the USSR.

After the ban on his foreign travel was removed, in 1988–1989, Sakharov visited Great Britain, the US, France, Italy, Canada, the Netherlands, Norway, Switzerland, and Japan. 5



4 Sakharov's deputy's identification. 1989.



5 Meeting of US President Ronald Reagan with Andrei Sakharov at the White House on November 14, 1988. Photo by S. Biddle / Sakharov Archive



6 Speech by Mikhail S. Gorbachev at the UN. December 7, 1988. Photo by S. Lwin / UN.

"Perestroika is us". Leningrad. July 1, 1987. Photo by Yu. Belinsky, O. Porokhovnikov / TASS



1987-1989

Perestroika put an end to Soviet totalitarianism and set the task to construct a new political system. Sakharov did everything possible so that it would become democratic.



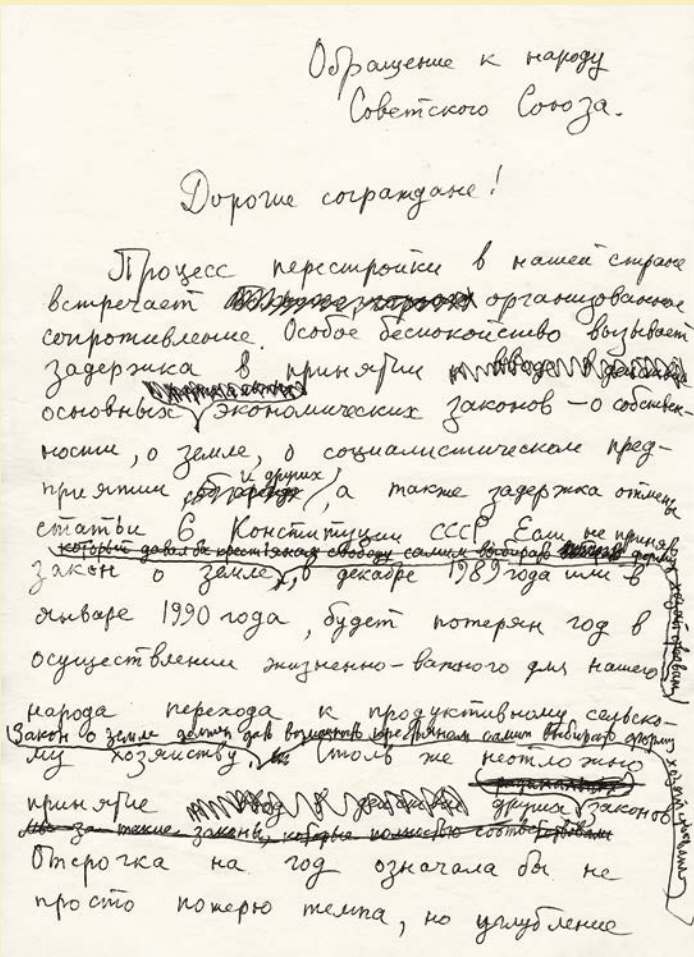
❶ Co-chairmen of the Interregional Deputies' Group: Yuri Afanasyev, Boris Yeltsin, Andrei Sakharov, Gavriil Popov. Moscow, May 28, 1989.



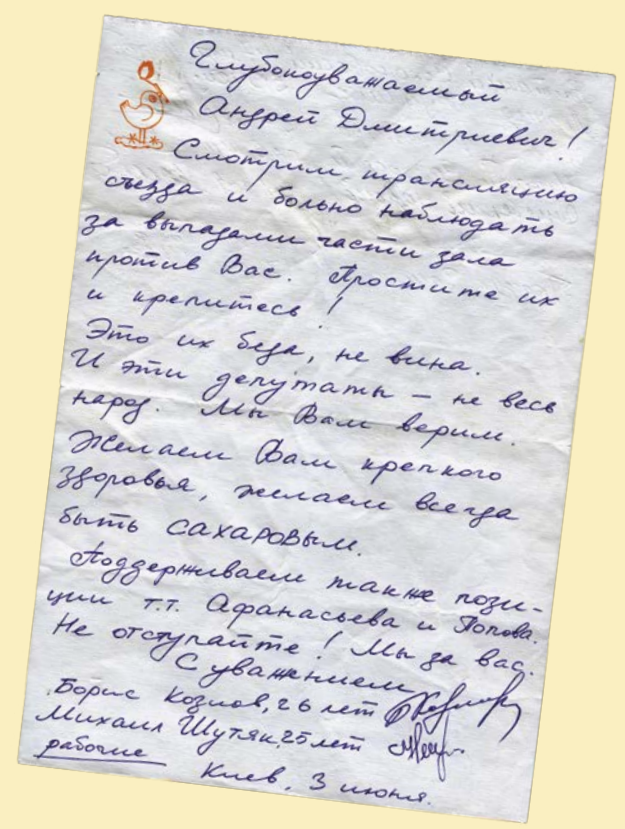
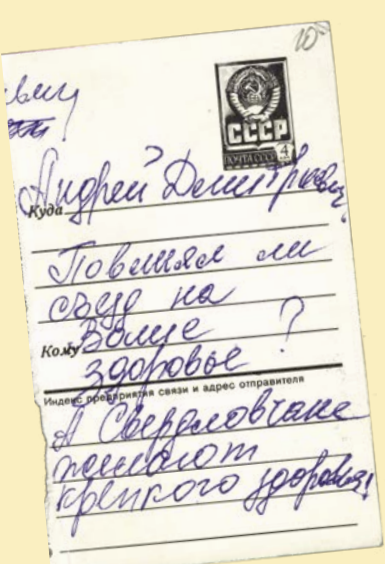
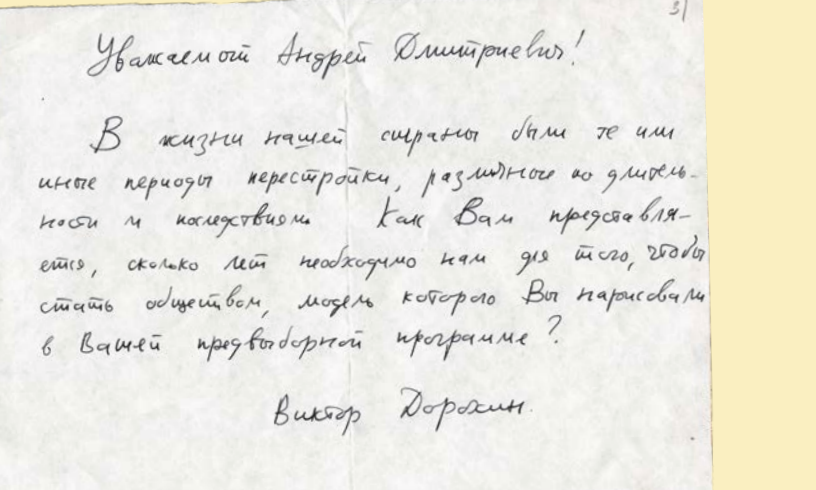
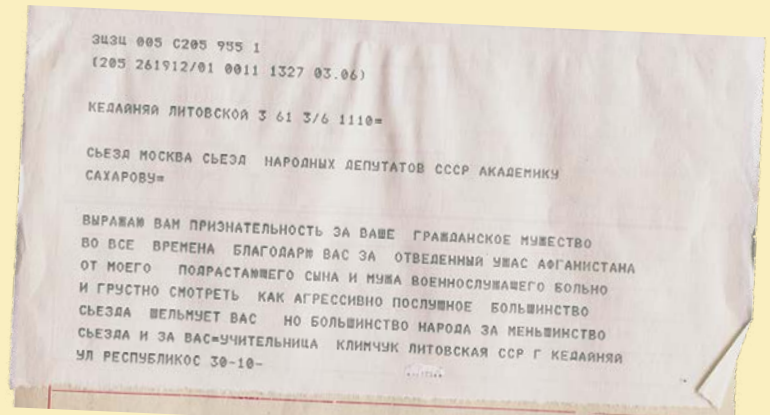
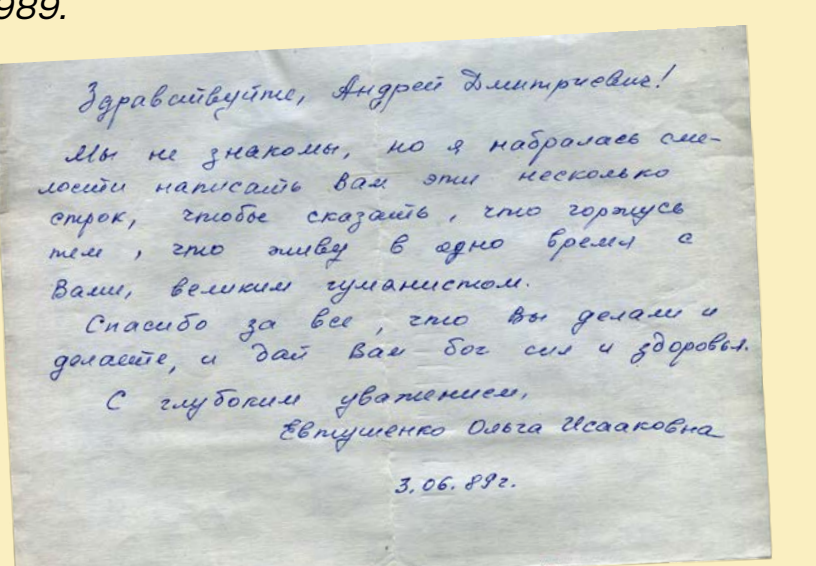
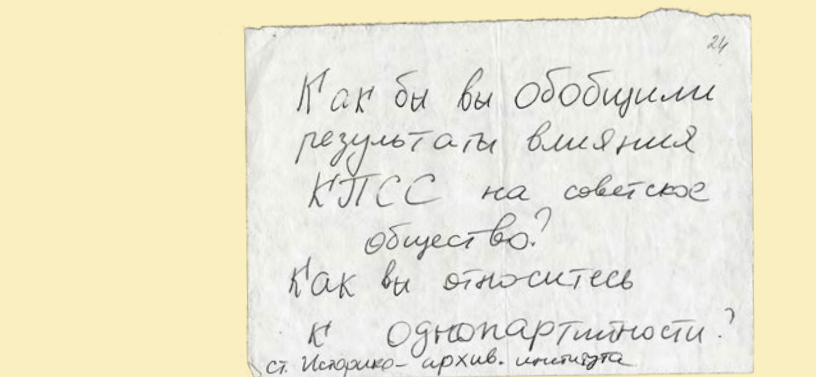
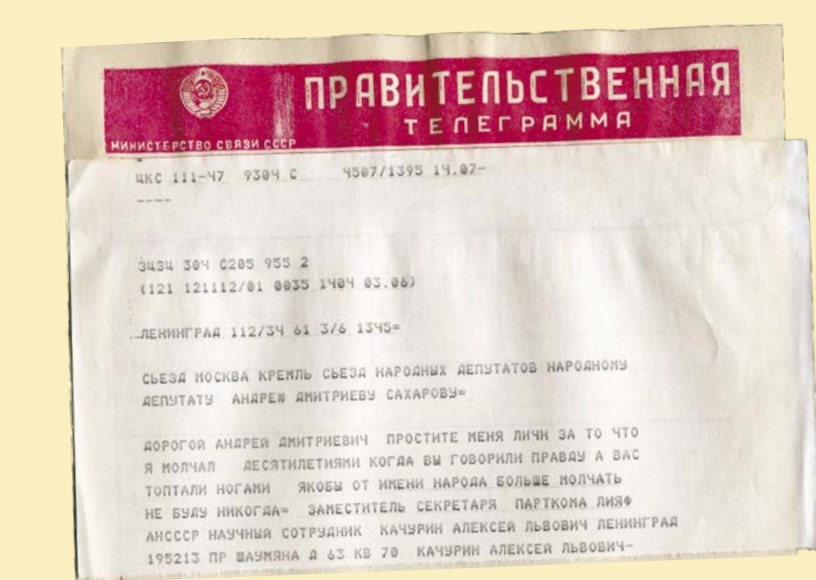
❷ Andrei Sakharov in front of a poster urging the abolition of Art. 6 of the USSR Constitution. December 11, 1989.



❸ Andrei Sakharov at the podium of the I Congress of People's Deputies of the USSR. June 9, 1989. Photo by B. Kavashkin / TASS.



❹ Appeal to the people of the Soviet Union. Manuscript by Andrei Sakharov. December 1, 1989.



❺ Letters, telegrams, notes to Andrei Sakharov. 1989.

A.D. Sakharov at the First Congress of People's Deputies. Moscow, May 20, 1989. Photo by V. Khristoforov / TASS



SAKHAROV TODAY

More than thirty years after Dr. Andrei Sakharov died at a relatively young age, his legacy lives on and continues to inspire people across the globe.



1 The conference «Freedom, public role and responsibility of intellectuals» in the Sakharov Center. 2019



2 A discussion in the Sakharov Center

Many organizations and institutions invoke his heritage to mobilize people to stand for their rights and actively contribute to the creation of a more just and humane society. Special emphasis has been made on educating younger people, who grew up after Sakharov died and who have no living recollection of his enormous contribution to world peace and human rights.

Moscow Sakharov Center

In 1990, at the initiative of Sakharov’s widow Yelena Bonner, the Public Commission for the Preservation of Academician Sakharov’s Legacy was formed. In 1994, the Public Commission created the Sakharov Archive, and on the 75th anniversary of Sakharov’s birth (1996), the Sakharov Center was opened in Moscow, not far from the house where he and Bonner had lived from 1972–1989 (except for the years of exile, 1980–1986). 3

The Sakharov Center combines the functions of a museum, library, civic and volunteer center. Here public lectures and discussions, press conferences, film screenings, theater performances, exhibitions, and charitable events are held, and educational projects are implemented. There is a permanent museum exposition dedicated to the history of Soviet totalitarianism and resistance to oppression, as well as electronic resources — databases dedicated to the history of political repression and the human rights movement.

The Sakharov Center is a common home for human rights defenders and civic activists in Moscow and throughout Russia. Every year, the Sakharov Center hosts more than 400 events dedicated to both historical memory and relevant issues of our time, primarily related to the protection of human rights. 12

Each May, the Sakharov Center holds the Sakharov May Day Festival of Freedom, timed to coincide with Sakharov’s birthday.

Since its inception, a quotation from Sakharov’s 1975 Nobel Lecture has been the Sakharov Center’s motto: “Peace, progress, human rights — these three goals are inextricably linked, and you cannot achieve any one of them while neglecting the others.”

Kaunas Sakharov Center

The same motto guides the Andrei Sakharov Research Center for Democratic Development founded at Vytautas Magnus University in Kaunas (Lithuania) in 2017 with the goal of contributing to the development of a pluralist and democratic society in Eastern Europe and the former Soviet Union based on the rule of law, respect for human rights and equal opportunities for all. The Center combines academic work with public events. A special focus of the center is on the younger generation, in order to promote their active civic participation through “young changemaker events”, where social and political developments in Europe are discussed.

Among the public events are annual Sakharov Conferences, held on or around Sakharov’s birthday on May 21, 4 and annual Leonidas Donskis Memorial Conferences, commemorating Leonidas Donskis, the prominent Lithuanian thinker and political activist who died in 2016, and for whom Andrei Sakharov was an ongoing source of inspiration.

Among the archival holdings are the world’s largest archives on the political abuse of psychiatry in the USSR, as well as archives of well-known Sovietologists and human rights activists.

Sakharov Concert

Since 2015, on or around December 14, the date of Sakharov’s death, special Sakharov Memorial Concerts are organized in Ukraine. In 2017, 2018 and 2019 the concerts took place in Odessa, attracting audiences of up to 1,200 people. 7 During the “Sakharov Days” the inner city of Odessa is full of posters with the image of Dr. Andrei Sakharov and his famous quote: “Peace, progress, human rights — these three goals are inextricably linked”.



3 Memorial museum-apartment of A. Sakharov, Moscow



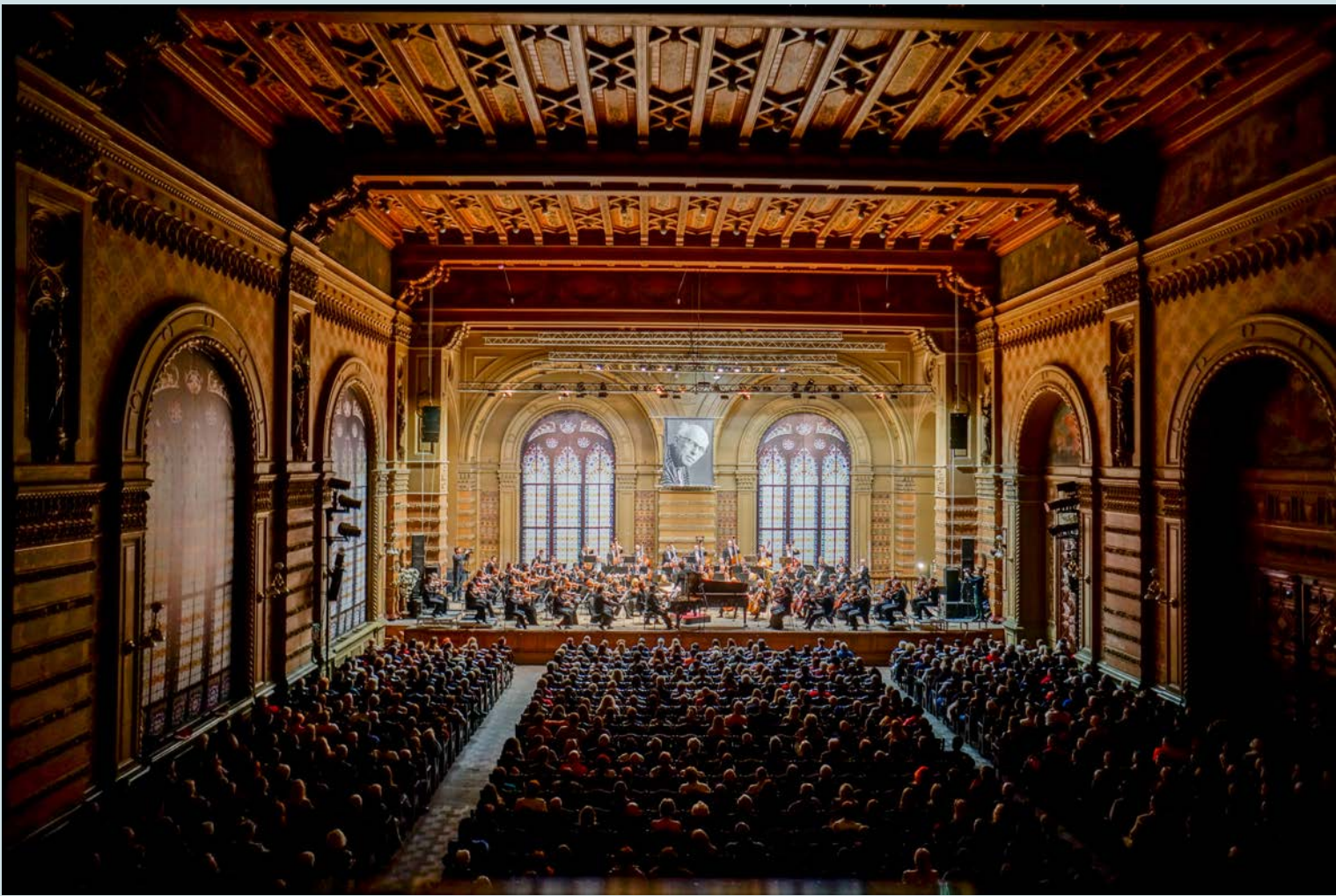
4 Ninth Sakharov Conference, 2019



5 Conference on “The Legacy of Soviet Psychiatry”



6 Nikolai and Tatyana Shchur, Russian human rights activists visiting the Kaunas center



7 Sakharov Memorial Concert, Odessa, 2018

Freedom Monument (a fragment of the Berlin Wall) near the Sakharov Center. Photo by A. Rushailo-Arno



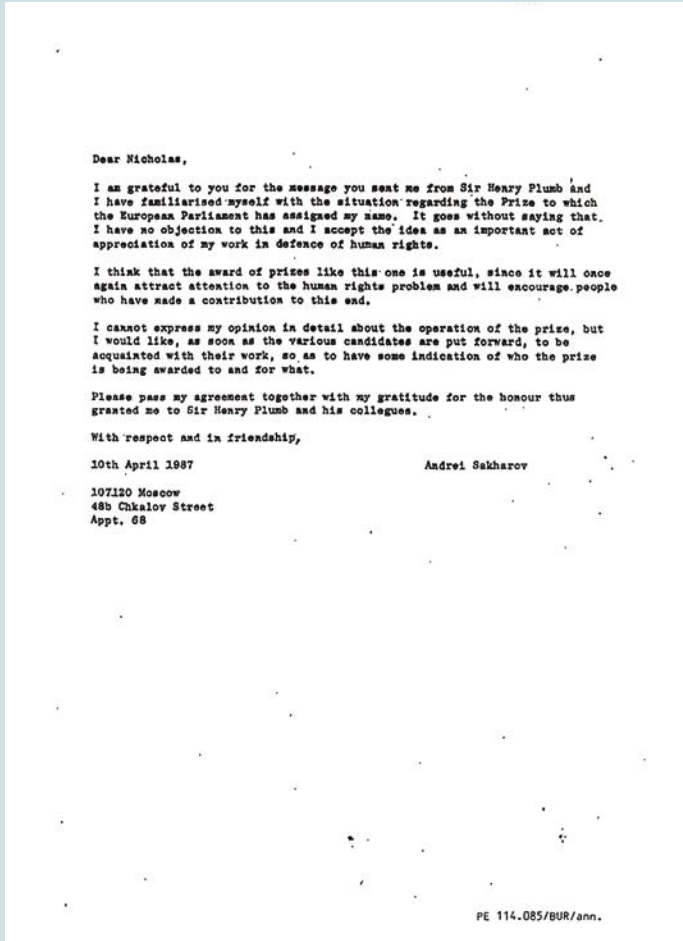
SAKHAROV PRIZE FOR FREEDOM OF THOUGHT



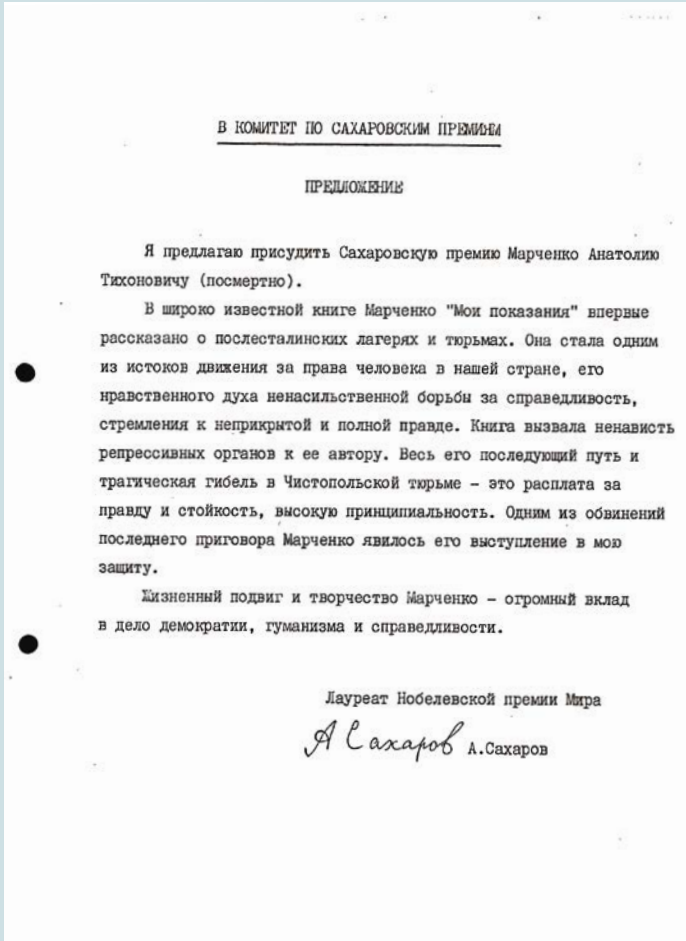
The European Parliament had actively supported Andrei Sakharov throughout 1970s and 80s and in 1988 developed a human rights prize in his honour. Inspired by Sakharov’s constant campaigning for freedom of thought, the Sakharov Prize continues to embody his work and carries his message forward to future generations.



1 European Parliament — building Louise Weiss in Strasbourg. Architectes: Architecture Studio



2 Andrei Sakharov’s letter accepting the Sakharov Prize establishment (1987)



3 Letter by Andrei Sakharov nominating Anatoli Marchenko for Sakharov Prize 1988

Since its creation in 1952 as the European body directly representing European citizens, the European Parliament has earned a reputation as a dedicated sponsor of people’s basic rights and democracy both within and outside the EU. 1

From the 1970s onwards, the European Parliament had been following Andrei Sakharov’s activism with great interest. It took the opportunity during a plenary sitting to welcome the news that he had been awarded the 1975 Nobel Peace Prize, and strongly condemned the refusal by the Soviet authorities to issue him a visa that would allow him to travel to Oslo to receive the prize in person.

The European Parliament even debated on whether to leave an empty seat in its chamber for Andrei Sakharov, but eventually adopted an alternative idea, the establishment of a prize named after Andrei Sakharov. In a favourable reply from Mr. Sakharov in April 1987, he gave his support to the creation of the prize: 2

“I have no objection to this and I accept the idea as an important act of appreciation of my work in

defence of human rights. I think that the award of prizes like this one is useful, since it will once again attract attention to the human rights problem and will encourage people who have made a contribution to this end”.

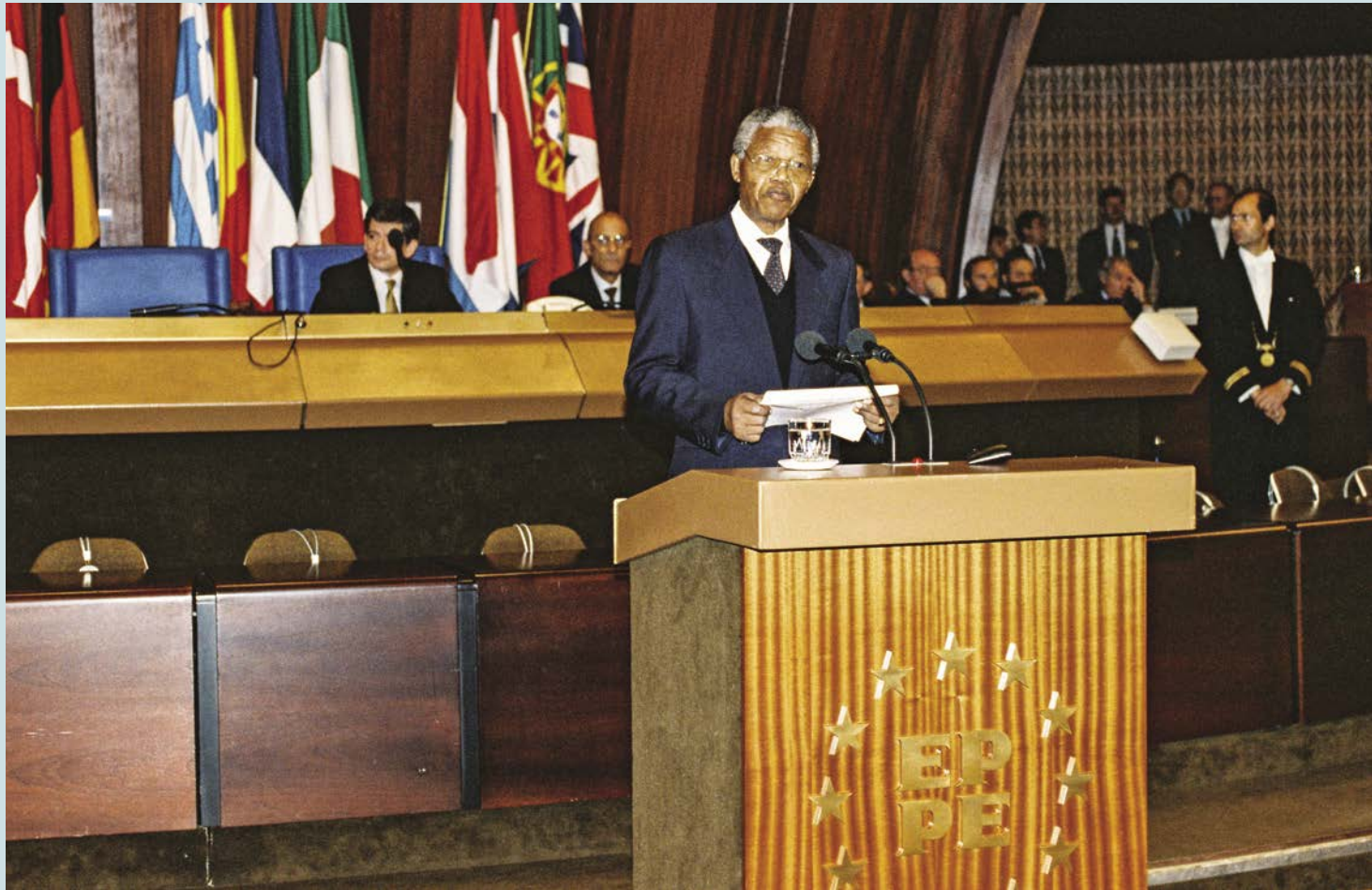
The Sakharov Prize was established and awarded for the first time in 1988 to Nelson Mandela and Anatoli Marchenko, the latter proposed by Sakharov himself. 3 4

Why was the name Sakharov chosen for the European Parliament’s award? As Jean-François Deniau, the European Parliament rapporteur on the initiative, told the Parliament plenary:

“Sakharov was a European citizen who was the personification of freedom of thought and expression and who had decided, because of his convictions and his conscience, to renounce all the material advantages and all the honours which were open to him”.



4 Drawing of Andrei Sakharov by 2011 Sakharov Prize laureate Ali Ferzat (Syria)



5 Nelson Mandela visits the European Parliament in June 1990 to receive the 1988 Sakharov Prize, just 4 months after his release from 27 years of imprisonment



6 Yelena Bonner-Sakharov visits the European Parliament for the 20th anniversary of the Sakharov Prize and receives the Robert Schuman Medal

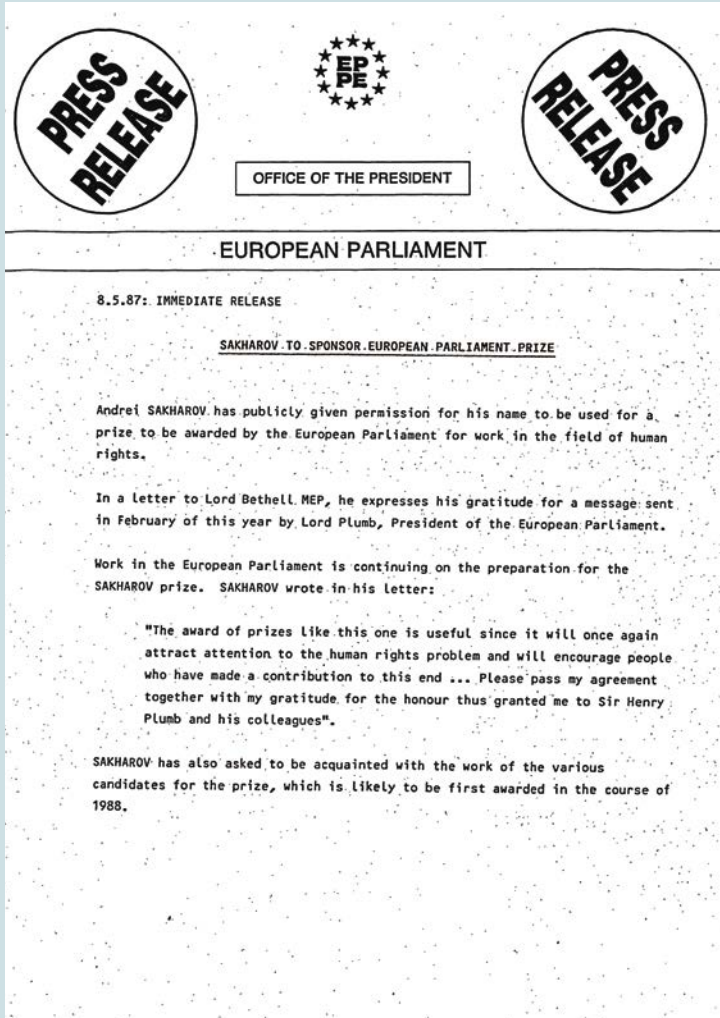
Yelena Bonner-Sakharov and the European Parliament President Hans-Gert Pottering (2008)



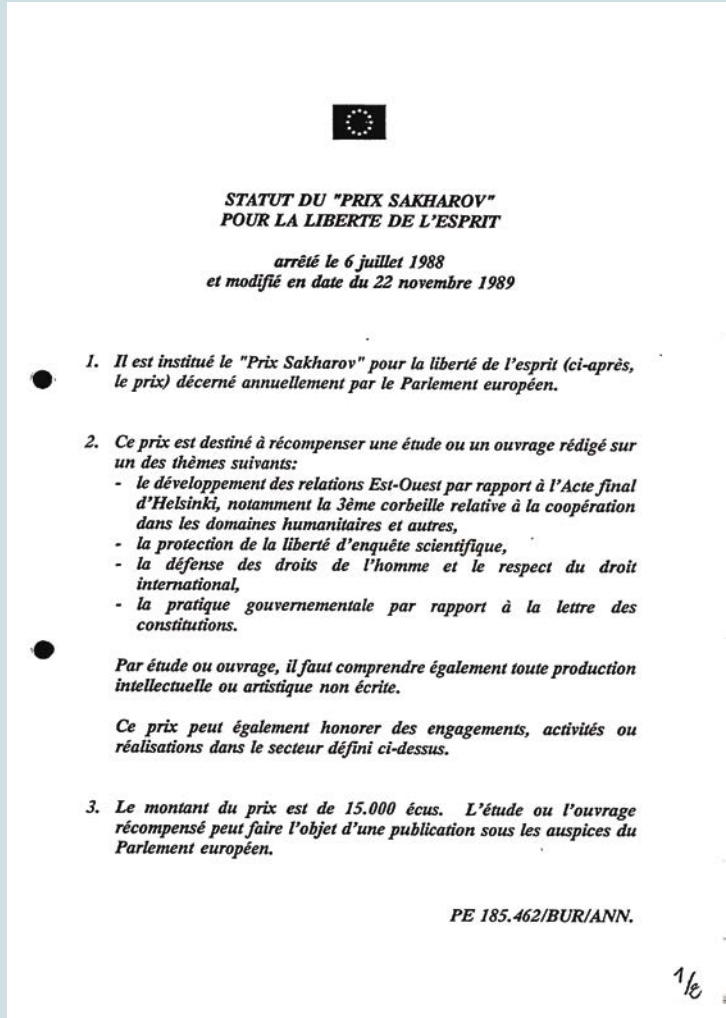
The European Parliament prize bearing Andrei Sakharov’s name reaches across borders, even those of oppressive regimes, to reward human rights activists and dissidents all over the world.



1 European Parliament President Jerzy Buzek awards the 2009 Sakharov Prize to representatives of Memorial (Russia)



2 Press release about the establishment of the Sakharov Prize (1987)



3 Statute of the Sakharov Prize (1st page)

“Perhaps Andrei Sakharov imagined a scene similar to my unreal vision when deciding to oppose the war by realizing the potential of destruction of the hydrogen bomb. We must always remember that a small war can cause many more wars, and greater ones.”

Nasrin Sotoudeh (Iran),
2012 Sakharov Prize Laureate

The Sakharov Prize for Freedom of Thought is the highest tribute paid by a European institution to human rights work, promoting freedom of expression, the rights of minorities, respect for international law, the development of democracy and the implementation of the rule of law. The European Parliament awards the Sakharov Prize, with its €50 000 endowment, at a formal plenary sitting in Strasbourg towards the end of each year. Both the prize and its community allow the European Parliament to assist the laureates, supporting and empowering them in their work.

“And I thank God for the possibility, I see now, that I can be a voice for the victims. And the Sakharov Prize gives me great strength. And this is why I have taken the decision to be a voice for the voiceless.”

Lamiya Aji Bashar (Iraq),
2016 Sakharov Prize Laureate

Several laureates, including Nelson Mandela, Malala Yousafzai, Denis Mukwege and Nadia Murad, went on to win the Nobel Peace Prize.

“Andrei Sakharov, Nelson Mandela, Vaclav Havel. I would never have imagined that one day my name would be mentioned together with theirs. It’s a huge honour and also a huge responsibility.”

Oleg Sentsov (Ukraine),
2018 Sakharov Prize Laureate



4 2013 Sakharov Prize Laureate Malala Yousafzai and the European Parliament President Martin Schulz at the Award Ceremony in Strasbourg



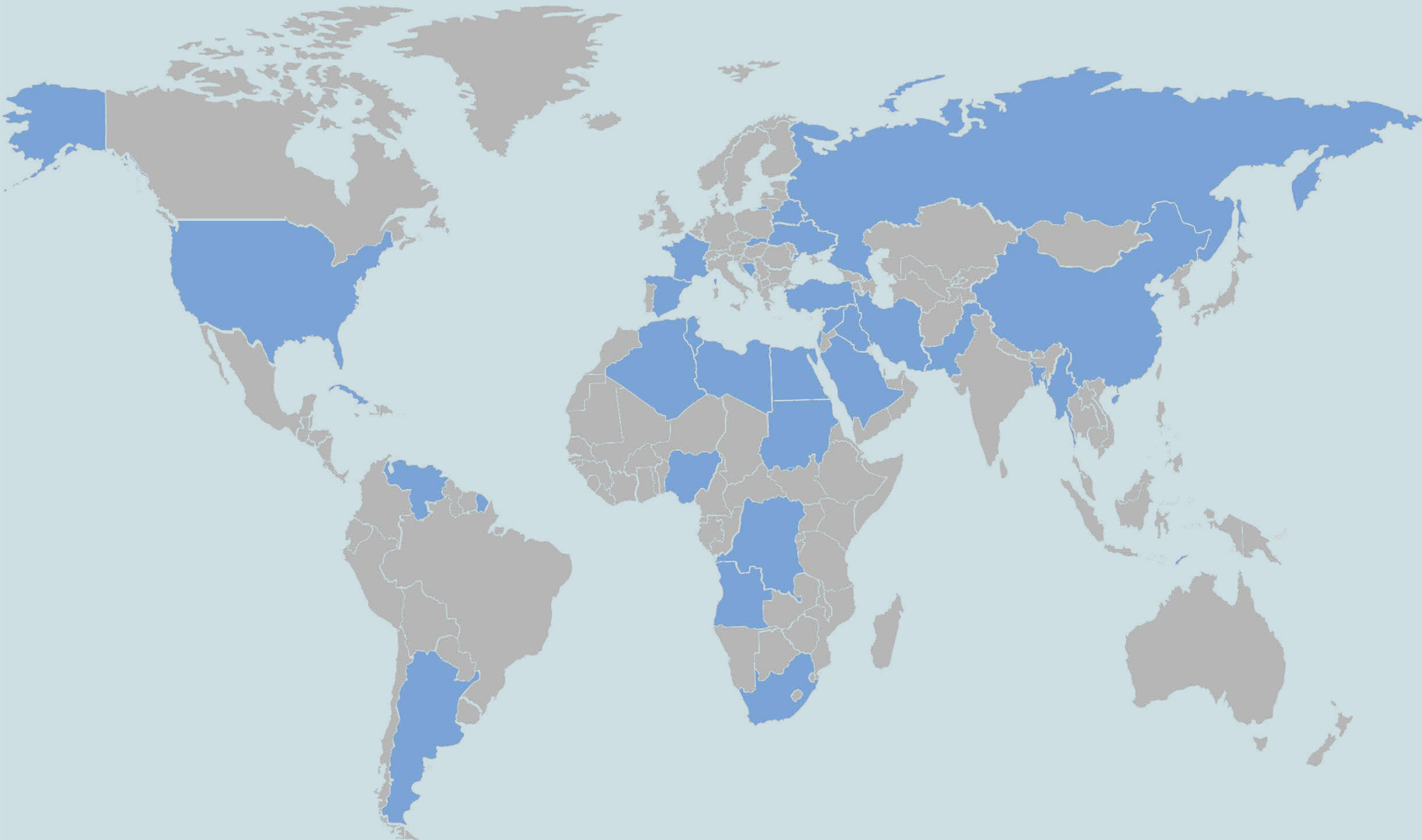
5 30 years of Sakharov Prize for Freedom of Thought. Family picture with Sakharov Prize winners and the European Parliament President Antonio Tajani (2018)



6 Jewher Ilham, daughter of the 2019 Sakharov Prize Laureate Ilham Tohti, and the European Parliament President David Sassoli at the Award Ceremony in Strasbourg

The Sakharov Prize laureates

1988 Nelson Mandela (South Africa), Anatoli Marchenko (Russia, posthumously)	1998 Ibrahim Rugova (Kosovo)	2006 Aliaksandr Milinkevich (Belarus)	2012 Nasrin Sotoudeh and Jafar Panahi (Iran)
1989 Alexander Dubček (Slovakia)	1999 Xanana Gusmão (East Timor)	2007 Salih Mahmoud Mohamed Osman (Sudan)	2013 Malala Yousafzai (Pakistan)
1990 Aung San Suu Kyi (Myanmar)	2000 ¡Basta Ya! (Spain)	2008 Hu Jia (China)	2014 Denis Mukwege (Democratic Republic of Congo)
1991 Adem Demaçi (Kosovo)	2001 Izzat Ghazzawi (Palestine), Nurit Peled-Elhanan (Israel), Dom Zacarias Kamwenho (Angola)	2009 Memorial, represented by Oleg Orlov, Sergei Kovalev and Lyudmila Alexeyeva, on behalf of Memorial and all other human rights defenders in Russia	2015 Raif Badawi (Saudi Arabia)
1992 Las Madres de Plaza de Mayo (Argentina)	2002 Oswaldo José Payá Sardiñas (Cuba)	2010 Guillermo Fariñas (Cuba)	2016 Nadia Murad and Lamiya Aji Bashar (Iraq)
1993 Oslobođenje (Bosnia and Herzegovina)	2003 Kofi Annan and the staff of the United Nations (New York, USA)	2011 Arab Spring, represented by Mohamed Bouazizi (Tunisia), Ali Ferzat (Syria), Asmaa Mahfouz (Egypt), Ahmed al-Sanusi (Libya) and Razan Zaitouneh (Syria)	2017 The democratic opposition in Venezuela
1994 Taslima Nasreen (Bangladesh)	2004 The Belarusian Association of Journalists		2018 Oleg Sentsov (Ukraine)
1995 Leyla Zana (Turkey)	2005 Damas de Blanco (Cuba), Hauwa Ibrahim (Nigeria), Reporters Without Borders (France)		2019 Ilham Tohti (China)
1996 Wei Jingsheng (China)			2020 The democratic opposition in Belarus
1997 Salima Ghezali (Algeria)			



THE SAKHAROV PRIZE COMMUNITY

Beyond awarding the prize, the European Parliament supports the laureates of the Sakharov Prize in their ongoing fight to defend human rights through the Sakharov Prize Community.



➊ Nadia Murad at the celebration of the 30 years of Sakharov Prize (2018)



➋ Hauwa Ibrahim at the celebration of the 30 years of Sakharov Prize (2018)

The Sakharov Prize Community has been developing as an extension of the Sakharov Prize since the 20th anniversary of the award in 2008. Its creation recognised the special role of Sakharov Prize laureates as Ambassadors for Freedom of Thought. Together with the European Parliament, they join their efforts through common action in support of human rights defenders around the world.

The Sakharov Prize Community broadly connects Members of the European Parliament, the prize’s laureates, and civil society in order to increase cooperation on human rights action internationally. Its members regularly reach out to raise awareness of human rights issues, promote the universality of human rights and encourage public debate.

The Community also provides a channel of communication through which laureates and the Parliament can address human rights violations and issues. Against the background of the Covid-19 pandemic, 14 Sakharov Prize Laureates and 62 Members of the European Parliament recently signed an open letter calling for the immediate release of all prisoners of conscience and human rights defenders, including all Sakharov Prize laureates.

Another meaningful example of a joint initiative enabled through the Community was the audio-visual performance “White torture underground poetry” staged by Lorent Saleh, one of the Sakharov Prize 2017 laureates from the democratic opposition in Venezuela. The performance took place at the garage of the European Parliament in Brussels on 18 February 2020, plunging the audience in the oppressive environment of a sophisticated modern torture centre.

The Sakharov Prize Community has come together for five conferences over the past decade. These conferences offer a forum for debate among Members of the European Parliament, laureates, representatives of the European Union and other international institutions and civil society, and serve as a basis for developing action for human rights.

The Sakharov Walk of Freedom is the memorial of the Sakharov Prize Community. Inaugurated in 2019, the Walk of Freedom consists of 43 ceramic-based tiles arranged on the Solidarność Esplanade outside the European Parliament in Brussels inscribed with short texts about all Sakharov Prize laureates.



➌ President of the European Parliament David Sassoli and the Sakharov Prize laureate Lorent Saleh inaugurated the “Sakharov Walk of Freedom” outside the European Parliament on the 10 December 2019 in Brussels.



➍ Denis Mukwege, 2014 Sakharov Prize laureate, at the European Youth Event 2018



➎ Conference marking the 20th Anniversary of the Sakharov Prize — Official launch of the Sakharov Prize Community (December 2008)



➏ Conference marking the 20th Anniversary of the Sakharov Prize — Official launch of the Sakharov Prize Community (December 2008)

European Parliament President Nicole Fontaine with Fernando Savater, representative of 2000 Sakharov Prize Laureate ¡Basta Ya!



THE SAKHAROV FELLOWSHIP

The Sakharov Fellowship is a programme initiated by the Sakharov Prize Community in 2013, during the 25th Anniversary Conference of the Sakharov Prize, to empower human rights defenders from across the globe.



1 Samrith Vaing, Sakharov fellow, Cambodia.
©Jerome Sessini/Magnum Photos



2 Ameha Mekonen, Sakharov fellow, Ethiopia.
©Enri Canaj/Magnum Photos

The European Parliament and Sakharov Prize laureates actively support the next generation of human rights defenders as agents of democratic change in their countries.

The Sakharov Fellowship offers up to 14 human rights defenders from non-EU countries the opportunity to follow a two-week intensive training course, with one week in the European Parliament in Brussels and one week on the Global Campus for Human Rights in Venice. The programme has been organised annually since 2016 and has continued remotely during the Covid-19 crisis in 2020.

Under the Sakharov Fellowship training programme, human rights defenders can enhance their knowledge of EU and international human rights frameworks, policies and mechanisms, and develop capacities to advocate for and effect positive change to protect human rights.

Alongside this, Sakharov fellows have the opportunity to share best practices, disseminate their knowledge and extend awareness of the Sakharov Prize and the Sakharov Prize

Community, all whilst maintaining links with the European Parliament and EU Delegations in their countries.

Candidates applying for the fellowship should have a proven record in campaigning for human rights — either as individuals or through working with an NGO or other organisation. In addition, gender balance and the representation of a variety of geographical areas and human rights issues is observed.

Sakharov Fellows have had an active role worldwide as human rights defenders. Just one recent example of this is their denouncement of the persecution of the Bahá'í minority in Iran and request for the support of the international community to counter this injustice.

In the five years since its inception, the Sakharov Fellowship programme has established connections with human rights defenders from over 40 countries worldwide. The programme continues to carry Sakharov's legacy whilst boldly facing the challenges of contemporary society.



3 Asma Kaouech (right), Sakharov fellow, Tunisia.
©Newsha Tavakolian/Magnum Photos



4 Jadranka Miličević (3rd from the left), Sakharov Fellow, Bosnia and Herzegovina.
©Bieke Depoorter/Magnum Photos



5 Sakharov fellows 2017 with European Parliament President Antonio Tajani

Group picture with Sakharov Fellows at the Global Campus for Human Rights in Venice, 2017



THE EUROPEAN PARLIAMENT, DEMOCRACY AND HUMAN RIGHTS

Whilst the Sakharov Prize is the most visible action of the European Parliament in support of democracy and human rights across the world, it is not the only work done by the Parliament in this field. In the European Union’s only directly elected institution, its Members fight against new and old attacks on human rights worldwide through a variety of actions.



1 European Parliament Election Observation Delegation in Ukraine (2014)



2 Nobel Peace Prize 2012 ceremony with presidents of three main EU institutions and winners of EU Contest Peace

Human rights apply to all people within the EU, regardless of their status or origin. Some of these rights are as old as Europe itself: life and liberty, thought and expression. But others have had to be redefined to keep pace with changes in society. Protecting personal data or prohibiting human cloning were far from the minds of the first elected Members four decades ago.

The European Parliament knows that human rights do not end at the EU’s borders. Its Members regularly speak out about human rights issues in non-EU countries in human rights resolutions at plenary sessions. As these rights are considered universal, the response is the same whether the violation takes place in Myanmar, some 8,000 kilometres away, or in Belarus, which borders on the Union. Important resolutions have regularly been adopted by the European Parliament highlighting important issues such as situation in Belarus in September 2020 and the plight of the Uyghur in China in December 2019, as well as the work and status of individual human rights defenders.

Sustaining democracy is a key part of this process, spelled out in the Universal Declaration of Human Rights: “The will of the people shall be the basis of the authority of government”. Members work to defend democratic systems around the globe — some have travelled to observe elections, mediate in conflicts and support fledgling parliaments. As just one example, the European Parliament recently observed the early legislative elections in Peru in January 2020. The EU’s own founding texts require that the Union as a whole defends democratic principles in its foreign affairs. But in the European Parliament, this effort strikes closer to home: for Members, who have themselves experienced elections and campaigns, democracy is a personal matter.



3 LIBE Committee — Public Hearing on “Fundamental Rights implications of Big Data: privacy, data protection, non-discrimination, security and law enforcement”, 2016



4 European Union observers at elections in Tunisia (October 2011)



5 European elections 2019 — Polling station in France



6 European Elections 2019 — Polling station in Belgium



Medal and diploma of the Nobel peace Prize awarded to the European Union (2012)



Andrei Sakharov

“I am not a professional politician. That is why I am always bothered by questions concerning the usefulness and eventual results of my actions. I am inclined to believe that moral criteria in combination with unrestricted inquiry provide the only possible compass for these complex and contradictory problems. I shall refrain from specific predictions, but today as always I believe in the power of reason and the human spirit.”

Heinrich Böll, German writer

“The authorities do not understand, they do not imagine, that behind the apparent dreaminess there is reason, and behind the external utopian demands there is a precision that could be called the aesthetics of verbatim and law. [...] He is meek, stubborn, relentless, precise. He is a brilliant scientist who discovered human rights as an exact science.”

Sergei Kovalyov, human rights advocate

“Andrei Dmitrievich was an absolutely normal thinker, with thinking as old as the world, that is based on reason. His intellectual activity, whether it concerned science, politics, or the struggle for human rights, totally corresponded to those qualities which in fact define a real scientist. These qualities, in my view, can be summarized as three ‘negatives’: fearlessness, unselfishness, and impartiality.”

Academician Roald Sagdeyev

“Academician Sakharov was a man who lived his life in complete harmony with his conscience, a great scientist, a revolutionary in science, who gave the world a weapon of nuclear retribution against any external aggressor, but, perhaps the even greater feat of fighting the battle against the evil which is inside us.”

Academician Dmitry Likhachev

“Sakharov overturned our conceptions about power precisely because he was not afraid of it. And he was not afraid because he never thought of himself. He gave all of himself to others.”



A.D. Sakharov at home. January 6, 1987. Photo by Yu. Rost

In the preparation of this exhibit, excerpts from memoirs and articles were used from the works of Andrei Dmitrievich Sakharov; materials from the Sakharov Archive, Museum and Library of the Sakharov Center; the A.D. Sakharov Apartment Museum in Nizhny Novgorod; the RIA Novosti photo archive; the TASS photo archive; the Yeltsin Center; the UN Photo Library; National Archives and Records Administration (USA); Russian State Library; A. V. Shchusev State Museum of Architecture; South Urals State Historical Museum; International Memorial; Hiroshima Peace Memorial Museum; Institution of National Memory (Poland); Pugwash scientists' movement; SLUB Dresden/Deutsche Fotothek; Diomedia; Akg-Images/East News; Daily Mail; The Herb Block

Foundation, Andrei Sakharov Research Center, Archives and Multimedia Centre of the European Parliament; personal archives of I. E. Tamm, I. M. Shagin, A. S. Shaykhet, M. B. Markov-Grinberg, A. V. Ustinov, A. I. Gostev, D. Kyndrová, M. Rakola, A. Rushailo-Arno.

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