Screenplay for the film "1931 — Academician Pyotr Kapitsa. Historical Chronicles with Nikolai Svanidze" written by Marina Zhukova, translated by AI, and preceded by a summary also written by AI

Screenplay Summary:

The text is a dense biographical and political portrait of Pyotr Kapitsa, a brilliant Russian physicist caught between a flourishing career in Cambridge and the brutal realities of Stalin's Soviet Union. It opens in 1931: Kapitsa is a Royal Society Research Professor, only the second foreigner in two centuries to hold this prestigious post, head of the Mond magnetic laboratory under the presidency of Ernest Rutherford. We are reminded how he reached England: after devastating personal losses in post-revolutionary Russia (within one month in 1919–1920 he lost his father, his two-year-old son, his wife and his newborn daughter), he was taken abroad by Ioffe and Krylov as part of an Academy commission. In Cambridge, he earned Rutherford's respect while teasing him mercilessly – calling him "the Crocodile", inscribing a cheeky dedication on his first paper – yet clearly fearing him at first.

Kapitsa's life interweaves with major figures in science and politics: Vavilov, Bukharin, Pavlov, Landau, Fock, the Vavilov brothers, Kamenev, Kuibyshev, Beria, and Stalin. In 1931, in the dining car of the Berlin–London train, he meets Bernard Shaw, just back from a staged tour of the USSR. Shaw's enthusiastic public defence of Stalin – declaring that there is "no parliament or other nonsense" in Russia, praising the "humane" penitentiary system, dismissing rumours of famine because he himself ate well – is contrasted with the text's stark account of collectivisation, the beginning of mass famine in Kazakhstan, the creation of Karlag, bodies in the steppe "from horizon to horizon," and hunger and rationing in Moscow. In parallel, the regime orchestrates show trials (the "48 wreckers"), a propaganda campaign against Einstein, and then quietly ignores Einstein's 1931 letter of regret for having once endorsed a Soviet verdict.

Repeated invitations to return cannot initially tempt Kapitsa away from Cambridge. In 1929 he is warned by his future father-in-law Krylov that "if you come once to the USSR, you may remain forever," and listens. But in 1934, after he drives to the USSR for the Mendeleev centenary, Kuibyshev proposes detaining him; Stalin agrees. His British visa is cancelled, his wife sent back alone to England, and he is effectively under house arrest in Leningrad. He tries to shift fields and work with Pavlov on muscle physiology; the political leadership blocks this, insisting he must do physics. Eventually, an Institute for Physical Problems is created for him in Moscow, after lobbying by academicians and the discreet intervention of Alexandra "Shura" Klushina, an influential "Kremlin lady" who befriends him. The author argues that Soviet science – and the very lives of Landau and Fock – owe much to this unlikely go-between.

Kapitsa quickly grasps that in a system built on nomenklatura appointments, one-man command and fear, the only effective strategy is to deal directly with the very top. From 1936 to 1950 he writes 42 detailed letters to Stalin, complaining about the low productivity of Soviet science, the prevalence of khaltura (moonlighting to survive under rationing), the deforming effect of party "promoted workers" in research institutes, and the intrusion of the secret police into scientific disputes ("argue on the strength of your scientific arguments, not on the strength of Comrade Yezhov"). At crucial moments he intervenes personally: in 1937 he writes to Stalin about the arrest of theoretical physicist Vladimir Fock, explicitly comparing the reaction of scientists to the expulsion of Einstein from Nazi Germany; Fock is released and later becomes an academician. In

1938–39 he does the same for Lev Landau, who has called Stalin "the chief fascist" and the Soviet system "fascist": after a year in Butyrka prison and near-lethal torture, Landau is freed and reinstated at Kapitsa's institute, later becoming a Nobel laureate without renouncing his political views.

During World War II, Kapitsa joins Beria's Special Committee on the atomic bomb but bluntly tells Stalin he cannot be a "blind executor" and asks to be relieved. The result is a compromise: in 1945–46 he is removed from the atomic project and stripped of his institute, but Stalin orders Beria not to "touch" him. For ten years, Kapitsa works at his dacha at Nikolina Gora in his self-styled "hut-laboratory," assisted quietly by Academy president Sergey Vavilov, whose brother Nikolai had died in prison. The text underlines Stalin's cruel staging: one brother scientist killed, the other raised to high office and forced to collaborate. Kapitsa's relationship with Vavilov is complex, but Vavilov repeatedly shields him – even blocking his expulsion from the Academy when he does not attend a session for Stalin's seventieth birthday.

The portrait that emerges is of a fiercely independent scientist, ironical and stubborn, navigating a deadly system with a mixture of candour and tactical prudence. Two unsent letters to Stalin beg to be allowed back to Cambridge because he feels "constantly unhappy" in the USSR; in 1966 he joins a remarkable coalition of writers, artists and academics (Sakharov, Plisetskaya, Chukovsky, Ehrenburg, etc.) in a letter to the Central Committee stating that no partial or indirect rehabilitation of Stalin is acceptable. Kapitsa appears as a man who understood exactly what the regime was, yet chose to stay, to work, and to use his authority to protect others and defend the integrity of science as far as he possibly could.

Screenplay:

1931. Pyotr Kapitsa

On one of the first days of August 1931, into the dining car of the Berlin–London train walked a *Royal Society Research Professor*, the thirty-seven-year-old Pyotr Leonidovich Kapitsa. "Research Professor" of the Royal Society was the most prestigious scientific position in Great Britain. Election to it took place with fanfare and the publication of the winner's name in the newspapers.

By 1931, Pyotr Kapitsa was only the second foreigner in two hundred years to be awarded this honour. He was returning to Cambridge, where he was director of the Mond Laboratory (the magnetic laboratory). The president of the Royal Society was the great scientist Ernest Rutherford. It was Rutherford who, in 1921, had taken Kapitsa on when he arrived from Russia.

Kapitsa entered the dining car at about seven in the evening. At one of the tables he saw Bernard Shaw. After dinner and some Rhine wine, Kapitsa plucked up the courage to speak to the famous writer. They had met once before, ten years earlier, when Herbert Wells came back from Russia and gave a reception in London for Russian scholars. Bernard Shaw had been there.

Now, in 1931, Shaw was returning from a trip to the USSR via Berlin. In Moscow he had visited the Kremlin, the Mausoleum, the Park of Culture and Rest, driven around the city by car, and gone to Tairov's Kamerny Theatre. They had taken him to a factory. He had rested at the Uzkoe sanatorium. He had called on Gorky and Krupskaya. The Moscow tour ended with the celebration of Shaw's

seventy-fifth birthday in the Columned Hall of the House of Trade Unions. In the Columned Hall, Shaw announced:

> "I want Stalin, before I leave Moscow, to become for me a living human being, and not remain just a name."

The birthday man's wish was fulfilled the next day. Stalin's conversation with Bernard Shaw lasted three hours. Also present at the meeting were Lady and Lord Astor. She was a Conservative, the first woman member of Parliament; he was the owner of *The Observer* newspaper.

In the dining car of the Berlin–London train, Lady Astor told Kapitsa that, more than anything else after talking with Stalin, she had been struck by the care for children in the USSR and the position of women.

Back in London from Moscow, on 6 August Bernard Shaw gave a ninety-minute talk. Here are a few fragments:

> "There is no parliament in Russia and no other nonsense of that sort."
> "The penitentiary system in Russia is very severe, but extremely humane. You can kill a man very cheaply – you get away with four years in prison. But for a political crime you are executed. Only the stupidest remnants of the unfortunate intelligentsia object to this so-called terror."

In answer to the question whether the rumours of famine accompanying collectivisation were true, Shaw replied:

> "Come now, when I got to the Soviet Union I had the most filling meal of my life."

At the time when Shaw was returning from Moscow, the Second International Congress on Science and Technology was finishing in London. Among others in the Soviet delegation were Nikolai Bukharin – full member of the Academy of Sciences and former member of the Politburo – and Nikolai Vavilov, the famous geneticist, an academician. It was precisely this trip to England that would be held against Nikolai Ivanovich Vavilov during his NKVD interrogations in 1940. They would demand that he confess that in 1931 in England he had established connections with Western intelligence.

In 1942, Vavilov, like Kapitsa, would be elected a foreign member (professor) of the Royal Society in London, in absentia. Vavilov would never learn this – he would be sitting in Saratov prison, where he would die a year later. Bukharin met with Kapitsa in Cambridge. Bukharin tried to persuade him to return to the USSR.

On that trip to London Bukharin bought an excellent leather suitcase. In the USSR it was already impossible to buy a good suitcase – in 1931 private trade had been abolished for good. It was with this London suitcase that Bukharin's wife, Anna, would pass through all Stalin's prisons and camps.

A month before his meeting with Bukharin, Kapitsa's second son had been born. The elder had been born three years earlier. Ten years before, in post-revolutionary Russia, Kapitsa's first family had perished. His first wife, Nadezhda Kirillovna, was the daughter of Kirill Kirillovich Chernosvitov, a deputy to all four State Dumas and a member of the Central Committee of the Cadet Party. Chernosvitov was shot in September 1919, when Pyotr Kapitsa was finishing his studies at the Petrograd Polytechnic Institute.

In the winter of 1919–1920, in the space of a single month, Kapitsa's father died, his two-year-old son Jeronim died, his wife died, and after her their newborn daughter, to whom they had only just managed to give the name Nadezhda. Kapitsa himself was gravely ill. Later he would say:

> "I wanted so much to die. But my mother saved me. And then I had to live."

Kapitsa was a student of Abram Fedorovich Ioffe, a scientist of the first rank. Today, the Physico-Technical Institute in Petersburg that he founded bears his name. Before the revolution and after, through his famous seminar, the "day-care of Daddy Ioffe", there passed, besides the future Nobel laureates Kapitsa and Semenov, future academicians such as Aleksandrov, Alikhanov, Khariton.

In 1921, Ioffe was appointed head of a commission of the Academy of Sciences to restore contacts with the Western scientific community. Also on this commission sat the academician, tsarist general and professor of shipbuilding Alexei Nikolaevich Krylov. It was Ioffe and Krylov who, in 1921, decided that after all that had happened, the young Kapitsa could not be left alone. They included him in the commission and took him with them to England. In Cambridge, Ioffe introduced Kapitsa to Ernest Rutherford, Nobel laureate of 1908. Rutherford took him into his laboratory.

David Shoenberg, Kapitsa's postgraduate student, said in a talk at the celebration of the centenary of his teacher:

> "When Kapitza started working in Cambridge, he was angered by Rutherford's warning that he would tolerate no political propaganda."

After publishing his first paper, Kapitsa presented Rutherford with a reprint bearing an extremely cheeky inscription:

> "In presenting this work with his best wishes, the author hopes to convince Professor Rutherford that at the moment of its stopping the alpha particle possesses no energy, and also that the author has come to Cambridge for scientific work and not for communist propaganda."

Rutherford flew into a rage and hurled the reprint back at Kapitsa. Kapitsa calmly handed him another copy with a standard inscription.

Kapitsa's wife, Anna Alexeyevna, would later say:

> "In reality, at the beginning Kapitsa was terribly afraid of Rutherford."

This was why he began calling Rutherford "the Crocodile". Evidently, a crocodile was the most frightening animal that came to mind. The nickname "Crocodile" quickly took root, became widely used in their small circle, and accumulated its own legends.

The first time Kapitsa went to England was in 1914, to practise his English. He lived with an English family. Mrs Millar treated him like a son:

> "Pierre" (she called him Pierre, not Peter), "you must eat like this and like that. Pierre, you must order yourself a dinner jacket. You will go with my husband to Edinburgh and order a dinner jacket. Because when you go out you must be dressed properly."

Twenty-year-old Pyotr Kapitsa went and ordered himself a dinner jacket, which he wore all his life – and a tailcoat as well.

In 1920, Kapitsa and his friend Nikolai Semenov went to see the painter Boris Kustodiev, author of portraits of Russian merchant women and of Feodor Ivanovich Chaliapin. Kapitsa said to him:

> "Why don't you paint a portrait of those who will become famous?"

Kustodiev painted such a portrait. Kapitsa did not deceive him: the two friends, Kapitsa and Semenov, would both become Nobel laureates. By the time Kapitsa received the Nobel Prize in 1978, his tailcoat had survived, but it was a bit too tight.

His family roots left Kapitsa little freedom of choice. Education, science – these were a family cult. In the family there were geographers, astronomers, military engineers, explorers of the Far East, specialists in the languages of the peoples of the North. It was the non-revolutionary Russian intelligentsia. The surname Kapitsa comes from the double south-Russian surname Kapitsa-Milevsky, attached to the Polish coat of arms of the Jastrzembskis.

For his first wife, Kapitsa had travelled to China, to Shanghai, where she lived with her brother, an employee of the Russo-Asian Bank.

He met his second wife, Anna Alexeyevna, in Paris. She had left Russia with her mother in 1919. Her parents were divorced. Her father was Academician Krylov, who in 1921 had helped arrange for Kapitsa to go to England. Krylov's two sons had fought in the White Army. Both were officers and both were killed in battle in 1919.

Academician Alexei Nikolaevich Krylov, as a member of the Soviet commission for scientific relations, lived abroad for seven years. In London, at the Soviet embassy, he battled to obtain a Soviet passport for his émigrée daughter. He got the passport. A year later, Krylov returned to the USSR.

In 1929, at the invitation of Kamenev, Kapitsa prepared to travel to the Soviet Union as a consultant to the Kharkov Physico-Technical Institute. But just before his departure, an academician friend of Krylov's, Uspensky – who had come abroad on a mission and would not return – passed on to Kapitsa his father-in-law's request: on learning that his daughter's husband intended to come to the USSR for temporary work, Academician Krylov strongly urged him not to do this.

> "If you come to the USSR once, you risk staying there forever,"

was the message Krylov sent to him. At that time, Kapitsa listened to the advice.

Though in 1930, 1932 and 1933 he would travel to the USSR with his family.

At the end of July 1931, on his return from London, Bukharin wrote a report on the trip addressed to Stalin. Stalin read Bukharin's report the same day. It did not contain a word about the fact that Bukharin had met with Kapitsa and spent several days living in his house.

In September 1931, the first meeting between Stalin and Beria took place. Stalin had come to rest in Tskhaltubo. At the time of this meeting, Lavrenty Beria was deputy chairman of the Transcaucasian GPU. The Transcaucasian Federation comprised Georgia, Armenia, and Azerbaijan. Beria was head of the Georgian GPU and People's Commissar for Internal Affairs of Georgia. In Tskhaltubo, he never left Stalin's side. This association ended for Beria with his appointment as First Secretary of the Communist Party of Georgia.

In 1931, immediately after this appointment, new district party secretaries appeared in all regions of Georgia. All of them had previously worked in the GPU or NKVD.

In that same year, 1931, a twenty-three-year-old theoretical physicist returned to the USSR after training abroad – Lev Landau. The following year he would head the theory division of the Kharkov Physico-Technical Institute, which Kapitsa, from England, was consulting.

In 1931, three Politburo resolutions were issued concerning the film director Sergei Eisenstein. By then, Eisenstein had been shooting his film *Que Viva Mexico!* for several years and was living in France, the USA, and Mexico. The essence of the resolutions was to bring the director back to the USSR. In the third resolution, Eisenstein was called a deserter. He returned in 1932.

In 1934, Kapitsa drove from England to the USSR by car. He came to see his mother, to rest, and to take part in the celebrations of the 100th anniversary of Mendeleev's birth. The Mendeleev Congress was being prepared by Georgy Pyatakov, deputy People's Commissar for Heavy Industry.

At the congress, Pyatakov approached Kapitsa and suggested he stay in the USSR. He promised him every condition. Kapitsa refused. Pyatakov immediately reported their conversation to Valerian Kuibyshev, First Deputy Chairman of the Council of People's Commissars (Sovnarkom).

Kapitsa already had some history with Kuibyshev. In 1926, he had received two invitations to come to the USSR. The first was from Kuibyshev. Kapitsa declined it. The second was from Trotsky. Kapitsa came.

In 1934, it turned out that Kuibyshev had not forgotten the slight. On 20 September 1934 he sent a telegram to Stalin in Sochi:

> "We propose:
> a) to speak with Kapitsa once more in the name of the government;
> b) if the talks do not lead to the desired result, to detain Kapitsa so that he can perform his military service, which he has not yet done;
> c) in any case, not to let him go abroad, even temporarily;
> d) in the last resort, to apply arrest."

The next day, 21 September, Stalin agreed to detain Kapitsa in the Soviet Union. His ciphered message no. 66 left Sochi at 17:45. At 22:55 another cipher, no. 69, followed:

> "It is not necessary formally to arrest Kapitsa. But he must definitely be detained in the USSR and not allowed to return to England, on the basis of the well-known Law on Non-Returners. This will be something like house arrest. We shall see later. Stalin."

The Law on Non-Returners, mentioned by Stalin, dated from 1929. Under this law, Soviet citizens who remained abroad were declared traitors to the Motherland and subject to execution by firing squad within twenty-four hours of their identity being verified.

By the time Stalin was deciding Kapitsa's fate, all foreign trips were already possible only with the permission of a special commission of the Central Committee.

Kapitsa's British visa was cancelled in his passport. His wife was allowed to go back to England to be with the children. Kapitsa stayed in Leningrad with his mother.

A month later, in the secretariat of Deputy Chairman of Sovnarkom Valery Mezhlauk, a letter was prepared for Kapitsa:

> “We ask you to submit your proposals regarding your work in the USSR.”

In Mezhlauk’s secretariat they did not even know what address Kapitsa was living at. The most natural mode of delivery was chosen – via the plenipotentiary representative of the NKVD for the Leningrad region, Filipp Demyanovich Medved. A month after delivering the letter, Medved was arrested for “criminally negligent attitude to state security” in connection with Kirov’s assassination and sentenced to three years in a labour camp. Later he would be summoned to Moscow, arrested again, and shot.

Before writing his reply to Mezhlauk, Kapitsa met with the famous physiologist Pavlov. They had first met in 1923 in Edinburgh, where Pavlov had come together with his physicist son, who had worked in Cambridge before World War I. Pavlov had come to England a second time, to the Kapitsas’ home, for the christening of their elder son. Now they met again in Leningrad.

Half a year later, Kapitsa recounted this meeting to his wife. They had talked about Soviet power. Pavlov had told him:

> “I have always told you, Pyotr Leonidovich, that they are scoundrels. Now you are convinced? Before, you didn’t want to believe me.”

Kapitsa recalled:

> “Pavlov was very pleased and literally jumped for joy. He paid no attention to the fact that I was very upset.”

Kapitsa met Pavlov in the morning of 2 November. That same evening he wrote his answer to Mezhlauk:

> “In the Union I see no possibility of carrying out scientific research similar to what I have been doing in Cambridge. I have decided to change the field of my scientific investigations. I am interested in problems of the mechanism of muscle function. Ivan Petrovich Pavlov has kindly agreed to provide me with a place in his laboratory.”

Mezhlauk forwarded Kapitsa’s letter to Stalin and also wrote to Stalin himself:

> “The physicist Kapitsa has been kept in the USSR and for more than a month now has been walking around idle, since he does not wish to get down to work. In my opinion, Kapitsa wants:
>
> 1. to sabotage the government decision which retained him for work in physics and not in biology;
>
> 2. and, most importantly, to maintain loyalty to the English, who have paid him generously (underlined).
> Therefore I propose: to summon Kapitsa and make things clear to him. If, even after that, he does not come to his senses, to arrest him and force him to work.”

Stalin did not react in any way either to Mezhlauk’s letter or to Kapitsa’s.

The mood in England over “the Kapitsa affair” was being monitored by the Soviet ambassador Maisky. He wrote to People’s Commissar for Foreign Affairs Litvinov:

> “I have sent the letter to Lord Rutherford informing him that Kapitza has been offered a responsible position. There has been no response from Rutherford. Thanks to the measures taken, so far we have managed to avoid an uproar in the press over the Kapitza case.”

In connection with the protests of Western intellectuals, a powerful campaign was launched in the Soviet press against Einstein. In *Izvestia* and *Pravda*, on 11 December 1930, Maxim Gorky published an article titled “To Humanists”, in which he justified “the execution of 48 criminals – organisers of the food famine in the USSR” as a legitimate “retribution of the working people”.

The sentence in the case of the “48” was widely discussed in factories and schools. Children were asked: “What should be done with these people?” – “Shoot them,” the children answered.

Bukharin, who returned in 1931 from London, where he had stayed with Kapitsa, in his report to the Politburo proposed that the campaign against Einstein be stopped. The reason was that in 1931 Albert Einstein, through a colleague, had sent a new personal statement to the Soviet public about the trial of the 48 “wreckers”. Einstein wrote:

> “At that time I considered it impossible that persons in responsible positions could deliberately harm the cause they were supposed to serve. I did not realise then that in the special conditions of the USSR things quite inconceivable to me could be possible. Today I deeply regret having given my signature then.”

The Soviet government was not Albert Einstein. It had no illusions about who the organiser of the famine was. It knew that the oncoming famine was the result of its own economic policy. But this result, at the cost of millions of lives, was not politically dangerous for it any longer, and in the future even advantageous: from now on, as a carrot, a mere piece of bread would suffice.

The famine would begin in Kazakhstan, in the autumn of 1931. The son of the First Secretary of the Central Committee of the Communist Party of Uzbekistan, Akmal Ikramov, Kamil Ikramov, recalls that in 1931, as a child, he travelled with his parents in a nomenklatura carriage across the Kazakh steppe and looked out of the window:

> “The entire steppe, from horizon to horizon, was strewn with human corpses.”

The famine in Kazakhstan was the result of the total confiscation of livestock and its death through lack of fodder. The number of livestock there fell by a factor of ten. There was nothing left to exchange for bread. People migrated towards China and died right there in the steppe.

On the territory of what would later be Karaganda and the Karaganda region, the Karlag – the Karaganda camp of the OGPU – was created in 1931. Its original name was “Karaganda Giant State Farm of the OGPU”. Before its creation, Kazakhs, Russians, Germans and Ukrainians lived on its lands. All of them were driven off their inhabited plots, their cattle confiscated for the state farm. Those who died of hunger lay along the roadside. In their place were driven peasants who had been declared kulaks and deported from every corner of the USSR.

In the summer of 1931, 52,000 peasant families were brought there and abandoned in the open. People lived in pits they dug themselves. All children under the age of six died. From 1931 to 1956, Karlag would receive two million people.

Moscow in 1931, under the ration-card system, experienced constant interruptions in supplies. From January 1931, a unified system of supplying workers was introduced, using so-called ration books.

The wife of an American engineer working in the USSR, Mamie Warren, relates:

> "Life is extremely expensive. We have to pay ten dollars for a pound of butter, fifty cents for an egg. But that is not all. The moral atmosphere is very hard. The general depression infects you. The Soviet government, by the way, is itself against American engineers bringing their wives to the USSR. American women, it seems, are too demanding in regard to sanitary conditions and the quality of food."

The catastrophic shortage of goods was partially offset by opening state commercial shops where one could buy butter, sausage and cheese without ration books. Muscovites among themselves called these shops "Stalin's museums": the products on sale were museum rarities, and their price so high that for most people there could be no question of buying them.

In 1934, Kapitsa was observing how this system affected the psychology and work of scientific staff.

He wrote to his wife:

> "Here, everyone does *khaltura*."

He explained:

> "*Khaltura* is casual work on the side."

He gave an example:

> "There is a mechanic working at the Institute. He gets a salary of 200, but at home he has a lathe. In the evenings, on that lathe he earns 2,000 – ten times his salary. His job at the Institute is useful to him for social standing and to buy materials, as they say here, 'through connections'… I am sure that if Lev Tolstoy were alive, he would be getting as much out of his art of mending boots as out of his pen."

Kapitsa said that *khaltura* disorganised work and could not be justified by anything. Meanwhile *khaltura* was the way to survive and feed one's children under rationing and high prices. Kapitsa was a new man in the USSR.

He wrote further to his wife:

> "Those research workers who do not know how to work with their hands endlessly combine jobs, give lectures on any subjects, write satirical pieces. Kolya Semenov, as an academician, has a salary of 700 roubles, but an article written in two evenings brings 200–300 roubles, and there are many journals: by altering the article a little, you can place it several times."

A research worker spent only about 20 percent of his energy on actual research. Managers of scientific institutions tried to expand their institutes to incredible sizes, in order somehow to compensate for low productivity.

> "Labour productivity in science is very low, terribly low – four times or even more lower than in Europe,"

Kapitsa wrote to his wife.

In addition, the work of institutes was complicated by “promoted workers” – random, low-qualified staff who had been “promoted” into scientific collectives in order to conduct the party line there.

Kapitsa said:

> “They are afraid of the bosses who promoted them. They promise those bosses the biggest things in the world. At the same time they display an undisguised conceit and a distorted idea of the essence of scientific creativity.”

In 1946, Pyotr Kapitsa would, in a friendly way, give advice to director Grigori Aleksandrov when he was shooting the film *Spring*. It was at Kapitsa’s suggestion that the heroine played by Lyubov Orlova became a specialist in solar energy. To say openly that she was working on the atomic project was impossible in 1946, at the height of the work of Beria’s committee, although that was clearly implied. And the character played by Rostislav Plyatt was Kapitsa’s little greeting to all the numerous “consultants” in Soviet science.

Kapitsa wrote:

> “They imagine that once they have learned that two times two is four, they can pronounce authoritative judgments.”

Kapitsa wrote this in a letter at exactly the time when he was discussing the script of *Spring* with Aleksandrov – and he wrote it not to just anyone, but to Stalin. This was in a letter of 25 November 1945 about the organisation of the Soviet atomic project. Kapitsa had already been participating for four months in the work of the Special Committee on the Atomic Bomb, headed by Beria. Here is a continuation of that letter:

> “Comrades Beria and Malenkov behave in the Special Committee like supermen. Particularly Comrade Beria. I tell him directly: ‘You don’t understand physics, let us, the scientists, judge these questions,’ to which he replies that I don’t understand people. Beria, if he were not so lazy, after working, with his abilities and ‘knowledge of people’, could undoubtedly later come to understand the creative processes in people of science and technology.
>
> I cannot be a blind executor, because I have already outgrown that position. I ask you to relieve me of participation in the Special Committee.”

In a postscript, Kapitsa wrote:

> “I would like Comrade Beria to become acquainted with this letter, for it is not a denunciation.”

After the letter was sent to Stalin, Beria phoned Kapitsa.

> “We need to talk,” said Beria.
> “I have nothing to talk about with you,” replied Kapitsa. “If you want to talk to me, come to the Institute.”

Beria came. He brought a gift – an inlaid double-barrelled shotgun from Tula.

In December 1945, Stalin relieved Kapitsa of his duties in the atomic project. Half a year later, Kapitsa was removed from all posts he held. First of all, he was stripped of the Institute for Physical

Problems, which had been created especially for him in 1934, when he had been prevented from leaving the USSR. Stalin said to Beria:

> "I'll remove him for you, but you don't touch him."

For ten years, Kapitsa would work at his dacha at Nikolina Gora, in what he called his "hut-laboratory". The president of the Academy of Sciences, Sergey Ivanovich Vavilov – brother of the geneticist Nikolai Ivanovich Vavilov, who had died in prison – helped him obtain equipment.

Vavilov's taking this post was forced: the alternative candidate was Vyshinsky, a figure unambiguously terrifying, and Vavilov agreed in the hope of somehow saving the Academy.

But at the same time Stalin had arranged his favourite mise-en-scène: one brother, a brilliant scientist, is repressed and dies in custody; the other is placed at the head of the Academy of Sciences – and accepts. This mise-en-scène gave Stalin special pleasure, because intellectuals were involved in it.

Kapitsa's attitude to Vavilov was very complex. But Vavilov helped him with money from his presidential funds. He saved him when Kapitsa failed to attend a session of the Academy devoted to Stalin's seventieth birthday. The idea of expelling Kapitsa from the Academy was raised. Vavilov said:

> "The first to be expelled should be the classic writer Sholokhov, who ignores all sessions without exception."

The question of Kapitsa's expulsion was taken off the agenda.

Once, at the beginning of 1951 – that is, during Kapitsa's period of disgrace – Vavilov invited Pyotr Leonidovich and his wife to his dacha in Mozhinka. The Kapitsas had never visited the Vavilovs before. Kapitsa's wife recalls:

> "We couldn't understand why he had invited us and why he was that evening so boundlessly frank about things that people simply did not discuss with one another then. We understood perfectly, and so did he, that the house was bugged."

Vavilov died of a heart attack three weeks after that meeting – exactly on the eighth anniversary of his brother's death.

Thus, in 1946, as a result of bargaining between Stalin and Beria, Kapitsa remained free but was deprived of the Institute for Physical Problems.

The creation of that institute had been marked by a Politburo resolution of 21 December 1934 – adopted on Stalin's birthday. The item before the Politburo was couched in the briefest possible form: "On Kapitsa."

Ten days before the Politburo resolution, Kapitsa had sent a letter to Deputy Chairman of Sovnarkom Mezhlauk, informing him that he was ready to begin scientific and technical work in the USSR. In that letter there was no longer a word about his earlier desire to do biophysics in Pavlov's laboratory.

The point is that two days before writing this letter, Kapitsa had been invited to Moscow to a session of the presidium of the Academy of Sciences. The academicians begged him to begin as soon as possible to work in physics. At that session, Pyotr Leonidovich even raised the question of

purchasing a laboratory in England. It was there, at the Academy, that the idea of finding an apartment for the Kapitsa family was first raised.

Kapitsa objected that a sharp change of climate from London to Moscow could harm the children's health. In response, he was offered a dacha in Crimea, in Foros or thereabouts. In Moscow he was promised housing in the area of the Academy of Sciences, in Neskuchny Garden, "the healthiest part of Moscow", as they said.

They asked him to find out from his wife how many rooms the apartment should have.

After the official part, the conversation among the academicians continued over lunch at the flat of Alexandra Nikolayevna Klushina – "Shura Klushina" to everyone. She lived at 19 First Spasso-Nalivkovsky Lane.

Shura Klushina had once been married to Kuibyshev, Politburo member and Deputy Chairman of Sovnarkom. She was one of the influential "Kremlin ladies", closely acquainted with the country's leadership.

She had come to Leningrad and met with Kapitsa in November 1934, when he was living in a huge communal apartment on Kamennoostrovsky Prospect. Later it would be renamed Kirov Prospect, but at that moment Kirov was still alive – he would be killed two weeks later.

Aside from the nightmarish but usual housing conditions for Leningrad, Kapitsa was tormented by the constant surveillance. Two NKVD officers would tail him, or sit in the stairwell on crates. Some acquaintances stopped visiting. Some tore up letters they had previously received from him, from Cambridge.

When Shura Klushina appeared, she took Kapitsa and his friend Semenov to the opera to see *Carmen*. For two days they strolled on the Strelka; in the evenings they went to the restaurant of the Hotel Evropeiskaya.

Kapitsa wrote to his wife:

> "Shura told me a great deal about contemporary life, which she knows well. She also passed on a message from Mezhlauk that I was wrong to want to do biophysics, and that he could not understand why I couldn't do the same things as in Cambridge. Shura invited me to come to Moscow, offered me to stay with her – I, of course, refused."

In Moscow, when Kapitsa came to the Academy session, Shura unobtrusively introduced him to the right people and accompanied him to Gorky Park to skate.

If we consider that Pyotr Leonidovich Kapitsa's consent to work in the USSR was, to some extent, thanks to Shura Klushina, then Soviet science owes her a great deal. And Academicians Landau and Fock even owed her their lives – because if Shura Klushina had not persuaded Kapitsa to stay, he would never have been able to save them.

As for Academician Pavlov, he was informed that it was inexpedient for Kapitsa to do biophysics in his laboratory. Pavlov understood. And in December 1934 he wrote a letter to the Soviet government about the situation in the country:

> "You are wrong to believe in world revolution. What you are sowing in the civilised world is not revolution, but, with enormous success, fascism. Before your revolution there was no such thing as fascism. Is this not obvious to any seeing eye?"

Pavlov had long lived and worked in the USSR. Experience suggested to him that for him, direct communication with the authorities was the safest path. Shortly before his death, Pavlov told Kapitsa:

> "I will die – and you will be the one writing to them."

In science, the concept of a "team" does not exist. In the country, everywhere – including science – the principle of one-man command prevailed. The head of an institution was appointed, given broad powers, and held personally responsible for results. But he did not have the right to choose his closest co-workers: they were all nomenklatura appointees and answerable to higher instances. Creating a "team" of like-minded people, especially among party members, was regarded as a crime and entailed accusations of factionalism.

Following Pavlov, Kapitsa very quickly understood that in the existing system it made sense to have contact only with the very top leadership – with the head of government Molotov, and above all with Stalin. It was this type of contact that he sought.

He wrote his first letter to Stalin in 1936, in room 485 of the Metropol Hotel:

> "I am sincerely afraid, I am convinced, that no one but you can influence the present situation.
>
> More than a year ago they unexpectedly detained me here, interrupted my scientific work, and then began to treat me very badly.
>
> Apparently they have suspected me of something bad, but do not say what. Agents follow me; once they even sent a dog to sniff me, evidently fearing that I might run away. My fellow scientists treat me with caution. My deputy does not obey me and runs to complain somewhere.
>
> I would never raise this personal question before you if I were simply Soviet citizen Pyotr Kapitsa. I do this only because I am supposed to head a scientific institution. I feel completely alone. But whatever happens, I will work with all my strength."

From December 1936 to December 1950, Kapitsa would write forty-two detailed letters to Stalin.

It is known that Stalin read all these letters.

Kapitsa to Stalin:

> "All the assurances that in our Union science is better off than anywhere else are untrue. I worked in England for a long time, and there I lived and worked better than here."

Kapitsa to Stalin:

> "In our discussions, not only absurd but harmful methods have begun to be used. It is necessary that someone with authority say to those arguing: argue relying on your scientific strength and not on the strength of Comrade Yezhov."

These were letters of 1937.

> "Comrade Stalin,

> Please ask Comrade Malenkov to receive me. I have already been waiting for eighteen days. I feel foolish: not like a scientist striving to influence the great industry of the country, but as if I were begging for a ration for myself."

Alongside his letters to Stalin there went others, with different forms of address:

> "Dear Bor,"
> "Dear Lord Rutherford," or "My dear Professor,"
> "Dear Little Rat" – to his wife.

On 5 February 1937, in Leningrad, the corresponding member of the Academy, theoretical physicist Vladimir Alexandrovich Fock, was arrested. Under Stalin's laws, the family of an arrested person found itself in the position of lepers. The only person Fock's wife could call was Academician Krylov, Kapitsa's father-in-law.

Fock's wife said on the phone:

> "Vladimir Alexandrovich will not be coming to lunch today."

Kapitsa happened to be at Krylov's at that moment. They immediately understood what had happened. Kapitsa at once wrote to Stalin:

> "Fock's arrest has produced the most depressing impression on me.
>
> First. This arrest widens still further the breach between scientists and the country.
>
> Second. Rough treatment of a scientist, just like rough treatment of a machine, spoils his quality.
>
> Third. Such treatment of Fock will provoke among scientists a reaction similar to the reaction to Einstein's expulsion from Germany."

In other words, in a letter to Stalin, Kapitsa compared the USSR with Nazi Germany.

Fock was released. Two years later he became an academician.

On 28 April 1938, Kapitsa wrote:

> "Comrade Stalin, this morning the research worker of the Institute Lev Davidovich Landau was arrested.
>
> In spite of his twenty-nine years, he, together with Fock, is one of our leading theoretical physicists. I earnestly ask you, given Landau's exceptional talent, to give appropriate instructions so that his case is treated with the greatest attention."

Four days before his arrest, Landau and a colleague had composed an anti-Stalin leaflet that was to be distributed on 1 May. In 1938, Landau openly called the system established after October 1917 "fascist", and Stalin "the chief fascist".

Landau spent a year in Butyrka prison. During interrogations he was kept on his feet for days, not allowed to sit down. He recalled:

> "It was obvious that I could not hold out more than half a year. I was simply dying."

A year after his letter to Stalin, in April 1939, Kapitsa was summoned to the Lubyanka at one o'clock at night. In the office were two of Beria's deputies, Kobulov and Merkulov. They proposed that he read Landau's case file. Kapitsa said he would not, since he saw no motive for a crime. He was asked whether he was prepared to vouch for Landau. Kapitsa replied that he was, and wrote a short note to that effect to Beria.

On 28 April 1939, exactly one year after Landau's arrest, Kapitsa signed Order no. 34 of the Institute for Physical Problems:

> "To reinstate Comrade L. D. Landau in the staff list in his former post."

Lev Davidovich Landau would become three-time laureate of the Stalin Prize, later receive the Lenin Prize and three Orders of Lenin, and in 1962 the Nobel Prize. He did not change the political views he had held in 1938.

Two letters from Kapitsa to Stalin are known that were never sent. In them, Pyotr Leonidovich wrote:

> "Please let me go back to Cambridge. In the Union I feel constantly unhappy, and in such a state it is impossible to work seriously."

In 1966, the threat of Stalin's rehabilitation loomed with full clarity.

In March, a letter addressed to the Central Committee in Brezhnev's name was received at the party headquarters. The essence of the letter was:

> "To this day, not a single argument has become known that would allow us to think that the condemnation of the cult of Stalin's personality was wrong. On the contrary, a considerable part of the striking facts about Stalin's crimes has still not been made public.
>
> Neither a partial nor an indirect rehabilitation of Stalin is possible."

The letter was signed by:

Abram Alikhanov, academician.
Lev Artsimovich, academician.
Oleg Yefremov, director.
Pyotr Kapitsa, academician.
Valentin Kataev, writer.
Pavel Korin, painter.
Mikhail Leontovich, academician.
Ivan Maisky, academician.
Viktor Nekrasov, writer.
B. Asataurov, corresponding member.
Vladimir Dudintsev, writer.
Viktor Zhdanov, academician.
Boris Nemensky, painter.
Konstantin Paustovsky, writer.
Yuri Pimenov, painter.
P. Zdradovsky, academician.

Igor Ilyinsky, actor.
Ivan Knunyants, academician.
Vano Muradeli, composer.
I. Nikiforov, historian.
Maya Plisetskaya, ballerina.
Andrei Popov, actor.
Mikhail Romm, film director.
Semyon Rostovsky, writer.
Sergei Skazkin, academician.
Andrei Sakharov, academician.
Sergei Smirnov, writer.
Boris Slutsky, poet.
Innokenty Smoktunovsky, actor.
Igor Tamm, academician.
Vladimir Tendryakov, writer.
Georgy Tovstonogov, director.
Marlen Khutsiev, film director.
Semyon Chuikov, painter.
Korney Chukovsky, writer.
Grigory Chukhray, film director.
Ilya Ehrenburg, writer.