

Since 1947, the persecution of so-called cosmopolitans began, the remarkable *Journal of Physics USSR* was no longer issued, and our Russian periodicals were not translated into English. I do not even mention the complete lack of freedom of speech under the totalitarian regime. But we worked, I repeat, with great enthusiasm to the amazement of some of our foreign colleagues. It seems to me that it was in 1956 that a large group of such highly qualified theoretical physicists, of whom Sakharov wrote, came to the USSR for the first time after many years. F Dyson was among them. After he returned home, in one of his papers he specially commented on what I have said about (the enthusiasm of Soviet colleagues) and explained it as follows: “They have nothing else” (I quote from memory). In other words, ‘everything has gone to science’, and in such a way they can forget about their hard life. This is a profound remark (here Efim is a vivid specimen) and for a long time I believed it to be quite correct³. But now I no longer consider such an explanation to be exhaustive.

Indeed, after the fall of the villainous bolshevik Lenin – Stalin regime in Russia we now have the freedom of speech and the freedom of migration. Research workers, as all citizens, can go abroad practically unlimitedly and meet their colleagues all over the world or correspond with them through either ordinary or electronic mail. Our main journals are translated into English. Of course, there are still many enthusiasts, who give all their strengths to science. But the tone, the general spirit is now quite different. A lot of young people leave science (say, for business), others go abroad or work reluctantly and do not attend seminars regularly. Elderly people often think that ‘everything was better’ in the days of their youth. But I am sure that it is not this effect that explains my diagnosis. In my opinion, the explanation is basically as follows: the social status of physicists in Russia has changed. In the USSR, physicists and representatives of some other professions were so-to-say the salt of the earth. To be a physicist was prestigious. And, in addition, the salary of research workers was nearly the largest in the country, except that of higher party and Soviet functionaries. Now the conditions of science in Russia are very hard in any respect. There is not enough money for equipment and literature, and the salary is very low not only according to the international standards, but also compared to all types of clerks and secretaries in banks and firms even in Russia. At the same time, many rich people have appeared, sometimes simply rogues, who earn incomparably more than any first-class physicist. I do not think that our post-graduate students and candidates of science (approximately the Ph D level) live worse financially than they did in the 1950s, to say nothing of the 1930s and 1940s. But they are beggars compared to the so-called ‘new Russians’, all sorts of swindlers. This cannot but have its effect. But I am still not inclined to exaggerate and hope that Russia and, in particular, physics in Russia will raise their heads in the near future. However, the former students and colleagues of Efim Fradkin do not hang their heads even today and, in many respects, have adopted his anxious attitude and devotion to science. I believe that the present conference is one of the proofs of this. I hope the conference will be successful, and I wish you this success.

³ It is this particular paper by F. Dyson that is mentioned in my paper [11] dedicated to the memory of D A Kirzhnits.

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E S Fradkin as a person

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I would like to say a few words about Fradkin as a person. His scientific merits and achievements need not be specially described, suffice it to cast a glance at the audience and see how many actively working contemporary theoreticians accepted the invitation to attend this memorial conference.

As a person, he was remarkable in many respects. I shall dwell on only two of his outstanding features. He was a brave and clever man.

He was a courageous soldier and officer at the front during all the years of the Great Patriotic War, and this is confirmed not only by the number of awards he got, but also by another minute detail. Among the orders he received was the Order of the Red Star — not the highest award, but the one that had special significance. It was given for courage shown in the field of battle, face to face with the enemy.

But the usual everyday life in our country often required genuine courage from a man who wanted to remain honest. Fradkin joined the Communist Party at the front. At that time many people joined the party without sharing all its ideals or approving of all of its actions. This was simply the expression of hatred to nazism. The question may arise of why he stayed in the party many years after the war.

This question can only be asked by those who did not live in our country at that time and who do not understand that to withdraw was impossible, for it was fraught with serious penalties. I am aware of only one such case, but they were of course numerous.

In the dark period of persecutions which A D Sakharov was subjected to (as is well known, he worked in our Theoretical Department), the party bosses of our institute and higher ranked ones, from the District and even Central CPSU Committee, pounced upon Fradkin and other Party members of the Theoretical Department because they, as well as all other research workers of the department, refused to participate in the badgering and condemnation of Sakharov. The pressure of the party body was mainly concentrated on Fradkin. He was threatened with various punishments, and

was not allowed to go to the Nobel scientific conference to which he had been invited as a speaker, but neither he, nor any of the Theoretical Department, including the other three party members, gave in. Fradkin, who was the head of the party group of the department, was thought of as being responsible for this.

In order to show how clever Fradkin was in ordinary life, I shall mention two episodes.

When Sakharov died, various rumors and politically colored versions concerning his death were spread. Fradkin realized that the situation had to be clarified. He went to the patriarch of Soviet autopsists Professor Rappoport, one of those physicians — ‘killers in white smocks’ who had been arrested several months before Stalin’s death, and convinced him to come and participate in the post mortem examination to prevent any falsification. Rappoport was not an official member of the medical board charged with this mission by the government. But all the physicians involved were Rappoport’s disciples and could not but allow him to take part in their work. And this put an end to all fantastic rumors.

The other example is not so gloomy.

When Fradkin was at the front, his commander once received an instruction: all soldiers who had a secondary education might hand in an application to enter the officer school. Almost all soldiers declared that they had a secondary education but had lost their documents in the chaos of the first war months. Fradkin’s commander asked him whether he could quickly find out the truth. Fradkin said that he could, and that he only needed a room with two doors for the purpose. A soldier had to come in through one door and leave the room after the exam through the other door without having any contact with those waiting for their turn. The exam was organized as follows. A soldier enters and Fradkin says to him: “Write: $\sin x$ ”. An illiterate soldier takes a pen and writes in Russian letters ‘sinus iks’. Everything concerning his education becomes immediately clear.

Fradkin was a very attractive person. When he became a post-graduate student at our Department, I was already a professor. But the democratic spirit that reigned in the Theoretical Department was such that we became friends very soon.

In the last decades we lived in the same neighborhood and would often go for evening walks discussing various problems. His judgements were always clever and interesting. Those were happy hours. He was an honest, pleasant, and friendly man.

Efim Samoïlovich Fradkin deserved fond memories of him.