

# Preface

## From the Author

In a phantasmagoric sequence of happy and tragic events, joyful and depressingly grieving feelings which one calls life I have by no means faced only misfortunes but was also astonishingly lucky. Leaving aside even the fact that a nonchalant and soulless ‘red wheel’ for some reason did not come over me although passed nearby and heavily influenced lives of people close to me, I was lucky in two more most important situations that determined my life. One of them is of a too personal nature to make it appropriate to describe it here. Another one — a lucky ticket that I got in a lottery is a reason for writing this book.

The thing is that at a young unwise age I somehow got attracted to physics which at those times was of little interest to anybody beyond the school walls. After overcoming some difficulties characteristic of those times (and, strangely, to a certain extent due to them) I finally became a student of the physics faculty of Moscow university (at hard times both for the country as a whole and for a student who did not have “working experience”). Luckily from there I went directly to FIAN, the P.N. Lebedev Physical Institute of the Academy of Sciences. For the whole life to come I found myself in an atmosphere of high science, true intelligence, honesty and morality that was close to me. This atmosphere was determined by people from the generation of my teachers (as well as by some of my coevals). During decades that were tragic for our country and its great culture these people were able to withstand fear and temptation and preserve themselves as persons.

Of course at those times one met many such people: In other sciences, in arts, in literature, among bearers of our culture — ‘ordinary’ people who were not very noticeable and among the intelligentsia that withstood everything.

It is precisely due to such people that a broad flow of our culture which in the horrible atmosphere of the epoch did at times narrow and become more shallow did not disappear completely under the pressure of ignorant and cruel rulers and imposed 'ideology' befuddling millions. It is precisely thanks to this hunted intelligentsia despised both by authorities and half-educated masses and thanks to an ever living talent of people feeding this culture it survived until nowadays (albeit with some mercilessly torn out sections) and again promises to become an ennobling and refreshing stream.

A poet, Nikolai Glazkov, wrote<sup>1</sup>:

I watch the world from beneath a table  
The twentieth century, the unusual  
The more it is of interest to historians  
The more grieving it is for contemporaries.

Thanks to the above-mentioned people I did not have to observe the terrible world 'from beneath a table.' Therefore I find it necessary to tell what I know about them, what I was a witness of.

I was close to some of these people, to some — very close. I observed others somewhat sideways for time long enough to understand their salutary influence and at the same time to keep an ability of an individual judgment (they taught me this themselves — of course not by edification and admonition but, without unnecessary words, at an example of their behavior). This does not mean that I did not notice their human weaknesses but all this was of secondary importance with respect to the main feature — their ability to preserve one's personality in a really too 'unusual century.'

Unfortunately totalitarianism was present not only in our country. Therefore it was important for me to compare what we lived through with what happened in Hitler's times. In such a way there appeared an essay on Heisenberg. Here a "memoir content" is naturally more scarce. Nevertheless I gathered this material persistently and for a long time. Therefore it is of more a research character and goes beyond a declared general topic. It describes reasons for Hitler's coming to power, a failure of the German "uranium project" and other questions. It turns out all of them are interrelated.

Almost all the essays and memoirs have already been published in some form. However, a new epoch gave a possibility of their significant enrichment with materials to which previously it had not even been possible to

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<sup>1</sup>Translated from Russian by A. Leonidov.

allude. In addition new, sometimes astonishing facts and documents were uncovered. Therefore much has been written anew or significantly rewritten.

I have to apologize to the readers for the fact that in some cases the material of one of the essays appears in another one. I tried to diminish a number of such cases but with only partial success. At the same time one should take into account that in the book of this sort the essays are not always read one after another, sometimes even not all of them, and are often chosen according to one's taste.

I allowed myself a little liberty and included into the chapter on A.L. Mintz memoirs of my wife V.D. Konen describing the features of this person that were not touched by myself.

Unfortunately I have not been capable (so far?) to write on all equally remarkable people which one has to write about and on whom I can tell a lot, on L.I. Mandelstam, G.S. Landsberg, A.A. Andronov and others. Let it however at least be what it is now.

E.L. Feinberg, 1999

## **Foreword to the Second Edition**

The second edition differs from the first one in two main points. Firstly, in adding two new essays on Leonid Isaakovich Mandelstam (which was completely absent in the first edition) and the new short one on S.I. Vavilov that adds to what was already written before. Secondly, the essay on Heisenberg has been significantly expanded. In recent years there arose a new boom in a vast literature on him (in which one meets radically different opinions on his behavior during Nazi times for which he was subjected to ostracism by Western physicists) due to an appearance of new previously unreachable sources. The author's point of view differs from these opinions expressed by people who did not have a misfortune to live under an inhuman dictatorship. In the second edition this point of view of the author has been further sharpened.

Besides that I looked through the whole text, corrected the found misprints and stylistic errors and amended the text by small comments reflecting those sent to me by the readers. Using this opportunity I express my gratitude to all of them. Unfortunately I was again not able to write about many one has to write about.

E.L. Feinberg, 2002

## Editor's Preface

The history of the twentieth century must yet be written. One of the most important elements in it is the tremendous influence of science compared with previous epochs. In particular, its development in Russia played a crucial role in the transformation of the country from agricultural to a highly industrial one, from the defeat in the First World War to the victory in the Second World War, to the production of the atomic bomb immediately following the US, and then making the first transportable hydrogen bomb, the launching of the first Sputnik (artificial satellite) and launching the first man into space.

How could all this happen and which people did it?

This book is written by a physicist who lived during these times and personally knew many scientists. It answers the above questions by describing the characters and fates of many leading Soviet scientists with wide analysis of that epoch and country rulers.

Among them, most prominent in the Western world is Andrei Sakharov, the father of the Russian hydrogen bomb, exiled to Gorky by the Soviet leaders for his quest for human rights and afforded in 1975 the Nobel Peace Prize.

His tutor, the Nobel laureate in physics (1958) Igor Tamm played an important role in the organization of the hydrogen bomb project and, together with Sakharov, was co-author of a means of producing a controlled thermonuclear reaction. Nowadays it is one of the main efforts in attempts to solve the energy problem of humanity.

Another well known person, especially among physicists, is Lev Landau, the 1962 Nobel laureate in physics, the author of the most popular series of books on theoretical physics.

The portraits of these and some other leading Russian scientists are vividly presented in the book within the background of political and intellectual life in Russia, the role of the revolution of 1917 and subsequent regimes, the immense growth of science and its applications in the twentieth century.

Their close relations with world scientists are described in interesting essays on Niels Bohr and Werner Heisenberg, especially in connection with their attitudes toward the atomic bomb project.

The special intellectual atmosphere in Russia, intermixed with personal tragedies is clearly seen in all essays. Many terms and expressions particular to Russian life have been used. The translation of the book posed severe

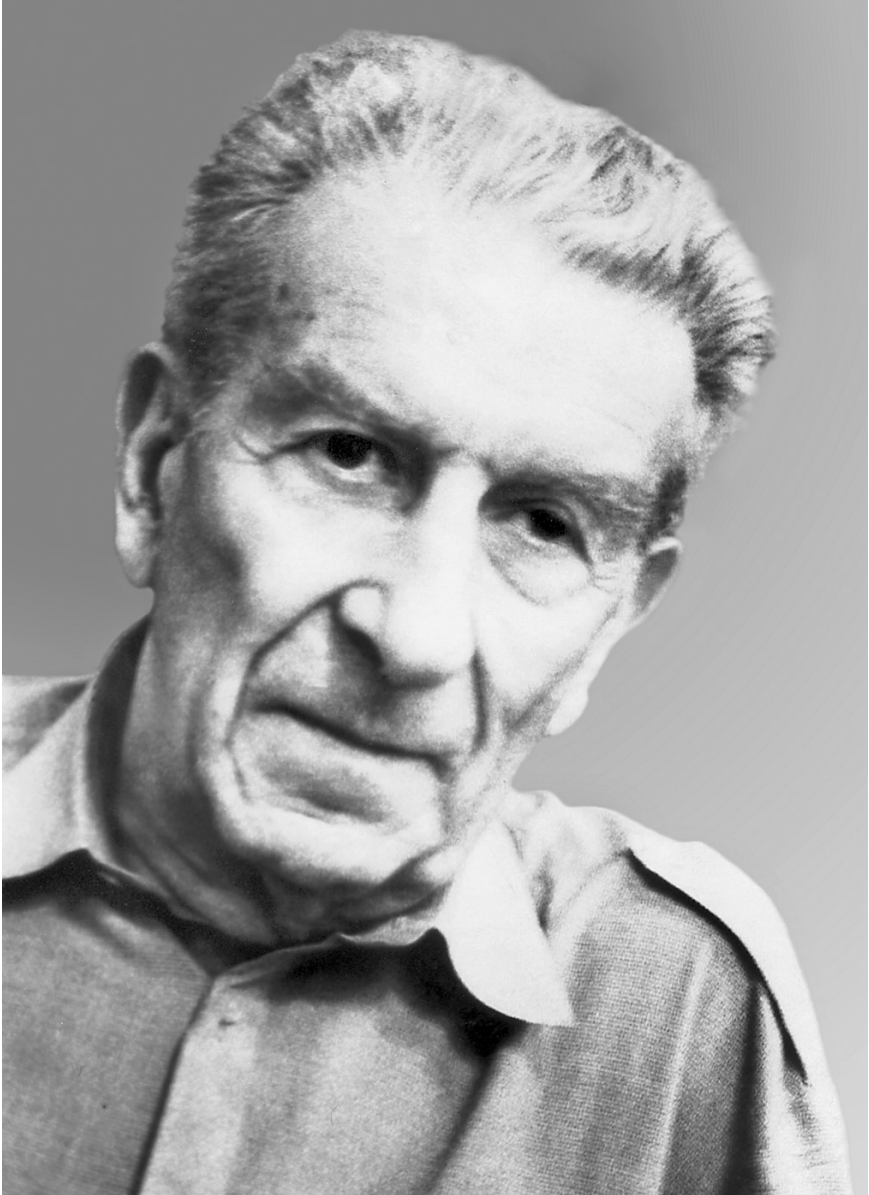
problems and took a long time because E.L. Feinberg's style of presentation is quite specific to him. He used rather lengthy sentences with additional branches of thoughts, quite uncommon in English. Nevertheless, we tried to preserve his personal style because for us it sounded as we heard it from him. We hope that many Western scientists who were well acquainted with him understand our wish and have a similar impression. It took great efforts and much time of Andrey Leonidov to translate the text in the form which kept its flavor and satisfied us.

This intellectual analysis of life and the role of science in the twentieth century is aimed not only at scientists but at the wide spectrum of people interested in history and personal fates strongly influenced by the ruling regimes of that period of time.

We are sure that every reader will find in this book facts which are unknown to him/her but which are extremely interesting.

We are grateful to Elena Nash and Igor Konstantinov for their help on carrying through this translation.

I.M. Dremin



E. L. Feinberg