THE STORY OF Soviet genetics in the period 1937-1964 is, perhaps, the most bizarre chapter in the history of modern science. In a society devoted to the betterment of the lot of peasants and workers, an illiterate and fanatical charlatan was allowed absolute dictatorship and control over both research in biology and practical agriculture. This event not only stifled the development of science, but also had a farreaching and destructive influence on the national economy of the Soviet Union. To the outside world, it was completely incomprehensible that a country capable of developing a nuclear potential rivaling that of the United States, and of establishing itself in the forefront of space exploration, could have entrusted its fundamental agricultural resources to exploitation by an obvious quack. Geneticists and agriculturists of the West have long speculated about the machinery of the Lysenko take-over in biology and about the situation that made it possible. This book provides an answer.

As Zhores A. Medvedev states in his Preface, the three parts of the book represent the author's three points of view: as historian; as a witness to the events; and as an active participant in the last stages of Lysenkoism, which he helped to topple. The book is not only a history; it is also an indictment of a system of centralized control of science. We can all profit from its lesson.

Although I know only a few personal facts, I should like to recount the history of my connection with this book. In 1961 I received a copy of a book, in Russian, by Y. M. Olenov, for review in *Science*. It dealt with population genetics and evolution, and its main purpose seemed to be to present the developments in these areas to the Soviet scientific community which, under Lysenko's regime, knew nothing of them. It was a good book: Engels was mentioned in it only once, and the

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whole tenor was not one of demagogic style (described so vividly by Medvedev) but rather that of an objective and scientific spirit. My review was entitled "The blossoms of a hundred flowers of Soviet genetics," echoing the statement of Chairman Mao. In response to my review, a postcard came to me from the Laboratory of Radiobiology in Obninsk (some 110 kilometers from Moscow), informing me that I was talking through my hat-for every flower there are still a hundred weeds, it said. The writer of the card, Medvedev, turned out to be a young man of high intelligence, spirit, and courage, a Soviet patriot, and an active participant in the struggle against Lysenkoism described in this book. I later learned that he is forty-three years old and is in charge of the laboratory at the Institute of Medical Radiobiology, from which he wrote. He has an identical twin who is also a Soviet scholar, in the humanities. Their father suffered in the political purges of 1938 and perished in 1941 in a Polar Circle mining camp. He was rehabilitated posthumously in much the same way as were many of the persons whose stories are told in this book.

Medvedev has published nearly one hundred papers, mainly on molecular aspects of development and aging. He is currently interested in the genetic and molecular problems of gerontology and, as might be expected, in the social aspects of international scientific cooperation.

Medvedev and I struck up a correspondence and, at the Mendelian Centennial celebration in Czechoslovakia in 1965 (described in Chapter 10), managed to meet each other. He told me that he had been working since 1961 on a history of the whole sordid affair and showed me an outline of the book. I immediately volunteered to translate it when and if it was published in the U.S.S.R.

Subsequently Medvedev informed me that publication was to be delayed, because the powers that be had decreed that 1967, being the fiftieth anniversary of the Revolution, was not a suitable time to bring out books critical of the Soviet regime. Foreword vii

In the fall of 1967 I was instrumental in bringing to the United States a delegation of four Soviet geneticists (this was after Lysenko's fall), and at that time I discussed with them fully, frankly, and without reservations, the prospects for doing the translation. I afterwards learned that the discussion provoked some consternation among my colleagues. Later, Medvedev wrote suggesting that I request a copy of the manuscript from the publishing house of the Soviet Academy, with a view to translating it into English, and that I point out the obvious advantages of an authorized translation, with royalties accruing in dollars, and some guarantee of accuracy. After several months of silence, I received a letter from the publishing house which indicated that the manuscript was not publishable in the U.S.S.R. and therefore I could not have a copy of it.

Meanwhile, through unofficial channels, I came into possession of a microfilm of the typescript. The author had circulated many copies of preliminary versions throughout the Soviet Union for the purpose of checking the accuracy of his account of the events described. The final Russian text, which provided the basis for the present translation, resulted from numerous revisions by the author, and has been approved by him as representing his current views. For obvious reasons, he did not see the translated, abridged, and edited manuscript before publication. It is hoped that he may one day see a copy of this book.

After reading the microfilm and consulting with a number of colleagues in genetics and with persons informed of the current intellectual climate in the U.S.S.R., it became apparent to me that, if the book was to be banned in the Soviet Union, it is all the more important that it be published elsewhere. The decision to do so was not an easy one. Regardless of the route by which the manuscript reached me, the possibility of reprisals against its author exists. It appears, however, that Medvedev is willing, in the light of his circulation of the

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manuscript in the Soviet Union at the height of Lysenko's last surge of power (Chapter 9), to take whatever risks are involved in publishing the book here, for the good of his country. (At this stage there is the problem of transmitting his share of royalties, which Columbia University Press, without having to do so, has agreed to hold for him in escrow.) Full exposure of what happened in the course of Lysenko's rise and fall can do nothing but good for Soviet science and the Soviet economy. Indeed, as Medvedev attributes patriotic motives to Vavilov, Pryanishnikov, and others, so it is obvious that his own manuscript was written out of concern for the welfare of science and the national economy of his fatherland.

The book is written in an uneven style. In my task of translating and editing I wanted to preserve the tone of the original. The lapses into first person, and the personal reminiscences, although producing unexpected changes in key, reflect the author's approach. I have tried to preserve this tone at the risk of failure in uniformity of style. Unevenness in accuracy and incompleteness of bibliographical citations is also to be explained on these terms.

To me Chapter 6 is one of the highlights of the book. It presents the terrifying picture of the methods of the Lysenko take-over and the consequences of it. The courageous story of the struggle waged by Vavilov, Pryanishnikov, Tulaikov, Sabinin, and others in the earlier phases, and by Medvedev himself, Sukachev, and still others in the last stages, represents as glorious a chapter in defense of scientific freedom and human dignity as can be found in the annals of civilization. But the events of 1948–1952 are portrayed in so vivid a manner that the specter of Orwell's 1984 haunting our society becomes convincingly real.

Some apology is perhaps due for failing to meet the standards of the professional historian, and for possible inaccuracies in the specialized terminologies of agronomy and forestry. Miss Lawrence and I have tried to convert the original manu-

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script into a readable and understandable account of what can only be called a fantastic episode in the history of mankind. We consider that it has meaning, not only as a history, but also as a warning of what could happen in any country that relaxes or suspends its vigilance over concern for scientific freedom, for whatever reason.

Just as the author has dedicated his book to his courageous and patriotic predecessors, so we dedicate the work of translation, abridgment, and editing to Zhores Aleksandrovich Medvedev for his valiant fight in the cause of scientific principles and the welfare of his native land.

I. M. L.

Berkeley, California, 1968