
Reflections on a New Book

Lysenko Up Close but Afar, or Focus on Lysenkoism from the 21st Century

M. B. Konashev^{a,*,#}

^a St. Petersburg Branch of the Vavilov Institute for the History of Science and Technology, Russian Academy of Sciences,
St. Petersburg, Russia

*e-mail: mbkonashev@mail.ru

Received May 22, 2018; revised July 2, 2018; accepted July 2, 2018

Abstract—Two books recently published abroad by prominent historians of biology on Lysenkoism acknowledging the revival of interest in this phenomenon among the international scientific community are considered. The first book in two volumes, *The Lysenko Controversy As a Global Phenomenon*, edited by W. deJong-Lambert and N.L. Krementsov, combines modernized old and new approaches to the study and understanding of Lysenkoism. The author shows the merits of the two volumes, demonstrating the progress reached in recent years in works on this topic, and focuses on several drawbacks of the edition. The other book analyzed is L. Graham's, *Lysenko's Ghost: Epigenetics and Russia*. In this book T.D. Lysenko's activities and their consequences for scientific culture in general and for contemporary Russian science in particular as well as some problems of Lysenkoism in the country's current political context are considered. In the opinion of the reviewer, the polemical character of the book gives a serious reason for reflections on the fate of not only Russian science but also of the country.

Keywords: history of biology, Lysenkoism, expansion of Lysenkoism, rehabilitation of Lysenkoism, neo-Lysenkoism, epigenetics, epigenetic imprinting, Russian geneticists.

DOI: 10.1134/S1019331619030055

Lysenkoism as a phenomenon of the scientific, social, and political life of the Cold-War era, associated with the name of T.D. Lysenko (1898–1976), a Soviet agrobiologist and Academician of the USSR Academy of Sciences, continues to be scrutinized by domestic and foreign researchers and is still debated at international conferences. This pseudoscientific theory has long been considered a strictly Soviet phenomenon, limited to the Soviet union. Then, its area expanded, encompassing former socialist countries of Central and Eastern Europe. In the 21st century, it included several capitalist countries: Belgium, Britain, West Germany, Holland, Italy, France, Japan, and the United States. In addition, outside of the Soviet Union, Lysenkoism was considered only in individual articles [1–8] and in reports at international conferences dedicated to this topic. Thus, at the 7th International Conference of the European Society for the History of Science, held in September 2016 in Prague, the symposium “From Lysenko to Evolutionary Biology” took place and three reports on Lysenkoism in the Soviet Union and Czechoslovakia were presented

[9–11]. In 2017, *The Lysenko Controversy As a Global Phenomenon* in two volumes, edited by W. deJong-Lambert (Bronx Community College, Columbia University, New York) and N.L. Krementsov (University of Toronto, Canada), combined modernized old and new approaches to the study and understanding of the phenomenon [12].

The book appeared as a result of two events that happened in the United States and Europe. The first was associated with the organization of the International Workshop on Lysenkoism, organized by deJong-Lambert in December 2009 at the Graduate Center of New York University and at the Harriman Institute of Columbia University. Its organization was stimulated by an article of the two-volume's coeditor Krementsov, who had questioned the “Sovietization model” as the foundation for explaining the propagation of the pseudoscientific direction in Europe and the world during the Cold War and had formulated problems that needed further investigation [13, pp. 179–202]. About 30 historians from Canada, the Czech Republic, Denmark, Germany, Italy, Japan, Mexico, Norway, the United States, and Russia took part in the workshop. The reports and discussions showed major progress in the study and understanding of Lysenkoism, as well as the need for the additional study of this system of views. Some materials of the

[#] Mikhail Borisovich Konashev, Dr. Sci. (Filos.) and Cand. Sci. (Biol.), is Chief Researcher of the St. Petersburg Branch of the Vavilov Institute for the History of Science and Technology, RAS.

New York workshop were published in a special issue of an international journal on the history of biology [14], which strongly influenced the agenda for the next forum. Lysenkoism as a global phenomenon was discussed at a conference held in Vienna in 2012. The reports there became the basis for the preparation of the two volumes [15, pp. 18–21].

Lysenkoism appeared in the book as a special sociopolitical phenomenon not of a strictly Soviet but of a global nature. This opinion was justified in the introductory editorial article “‘Lysenkoism’ Redux: Introduction,” consisting of three parts [15]. The first part contains the most comprehensive published biographical essay of T.D. Lysenko. The second was an exhaustive consideration of the history of studies on the phenomenon, the main approaches to its study, the main results of these works, and some of their important features. The third part outlines problems that arose during the study of Lysenkoism and its historiography, as well as possible prospects for future research.

The first volume is mainly dedicated to a traditional topic such as the preconditions and characteristics of the emergence of Lysenkoism in his homeland, the Soviet Union, and the second volume, to the expansion of Lysenkoism beyond the Soviet Union. The modernization of the old approach lies in the fact that the preconditions and characteristics of the emergence of Lysenkoism in the Soviet Union and beyond are considered more broadly and deeply than before, i.e., in terms of the sociocultural context and not within the concept of totalitarianism. This modernization was vividly and fully expressed in the article by M.B. Tauger “Pavel Panteleimonovich Luk’yanenko and the Origins of the Soviet Green Revolution,” which described the achievements of the Soviet selectionist and plant breeder in raising high-yield semi-dwarf wheat. The author thinks that the fact that Luk’yanenko conducted research while Lysenko stood at the pinnacle of power in Soviet biology proves that the swing of the crusade against genetics was not as broad and overwhelming as was previously asserted in the historical scientific literature. One way or another, this point of view was present in the other works contained in the two volumes. The article by one of the two Russian authors O.Yu. Elina “Lysenko’s Predecessors: Demchinsky’s and the Bed Cultivation of Cereal Crops” included N.A. Demchinsky (1851–1914) and his son B.N. Demchinsky (1877–1942) among Lysenko’s forefathers, who developed a new method of grain production, similar to Lysenko’s later jarovization method. The author of the article asks why their method of liquidating constant food shortages in Russia was rejected, while the Lysenko method was accepted. The article showed the role of the scientific community in Lysenko’s career progression. The author came to the pessimistic conclusion that “in the early 1930s, Soviet Russia was doomed to the panacea of vernalization” [16, p. 59]. This approach was devel-

oped in L. Joos’s article “State Officials and Would-Be Scientists: How the Ukrainian Ministry of Agriculture Discovered for Lysenko That He Had Made a Scientific Discovery.” The author calls into question widely accepted point of view according to which just owing to the Soviet press T.D. Lysenko became known to the whole country and he made the swift upward move in his career. However, the press just repeated the assessments and statements of the officials of the Ukrainian Ministry of Agriculture, who had their own motives for approving, supporting, and pushing Lysenko forward. In the article “Lysenko’s ‘Michurinism’ and Art at the Moscow Darwin Museum 1935–1964,” P. Simpson noted Lysenko’s influence on the exhibition activities of Europe’s largest natural science museum. From the author’s point of view, Lysenko created opportunities for the museum’s preservation and development, as well as for receiving additional state support. Overall, the articles included in volume 1 detailed the initial stages of Lysenko’s rise, the causes of the emergence of the phenomenon of Lysenkoism, and its influence on science and the country. In particular, they serve as an additional broad factual basis to refute the still existing myth of N.I. Vavilov’s responsibility for raising Lysenko to the pinnacle of power in Soviet science.

Volume 2 considers the scientific and cultural influence of Lysenkoism outside the Soviet Union. G. Palló and M. Müller, in the article “Opportunism and Enforcement: Hungarian Reception of Michurinist Biology in the Cold War Period,” expounded the chronicle of Lysenko’s rise and fall in Hungary in 1948–1956. The authors showed how Lysenko had ultimately eroded his reputation among Hungarian biologists. F. Cassata, in the article “Lysenko in Bellagio: The Lysenko Controversy and the Struggle for Authority over Italian Genetics (1948–1956),” described the use of the situation with Lysenko by local geneticists to institute control over biological research in Italy after the 9th International Genetic Congress, held in Bellagio in 1953. From the article by C. Oghina-Pavie “The National Pattern of Lysenkoism in Romania,” the reader learns how the inclination of Romanian geneticists to French science and culture affected their interpretation of neo-Lamarckian theories of Lysenko. In the author’s opinion, it was partly due to this that Lysenkoism lasted longer in Romania than in other countries that were within the Soviet Union’s sphere of influence. The article by W. deJong-Lambert “H.J. Muller and J.B.S. Haldane: Eugenics and Lysenkoism” detailed in terms of the formation of the evolutionary synthesis of genetics and Darwinism and the creation of the “synthetic theory of evolution” relationships existing between eugenics and Lysenkoism in the United States and Great Britain. Muller was a convinced and active follower of eugenics, and Haldane was a skeptic who attempted to explain his colleague that his intention to convince I.V. Stalin of the positive significance of eugenics for

the construction of socialism in the Soviet Union would only help Lysenko's ascension. As is known, Muller later became one of the most active and well-known critics of Lysenko, while Haldane found himself, in the opinion of his contemporaries and historians of science, in the company of the most important and influential advocates of Lysenkoism in the West. The book analyzed the complex relations between Muller and Haldane in the context of problems that geneticists faced during the transition from WWII to the Cold War. H. Saito's article "Why Did Japanese Geneticists Take a Scientific Interest in Lysenko's Theories?" analyzed Japan's interest in studying Lysenko's views after WWII. Japanese biologists had many reasons for being interested in the development of Lysenko's theories and declarations.

Part 2 of volume 2 opens with the article by L. Campos "Dialectics Denied: Muller, Lysenkoism, and the Fate of Chromosomal Mutation," presenting the chronicle of the study of chromosomal mutations as events associated with Lysenkoism. Although before the Cold War began, both the United States and the Soviet Union studied chromosomal mutations, Lysenkoism, in the opinion of the author of the article, slowed progress in this sphere. The article by J. Marks "Lessons from Lysenko" stated that the recent rehabilitation of Lamarckism and the persistent desire to influence the course of evolution reflected the aspirations declared more than once by Lysenko. Part 2 ends with the article by the other Russian researcher, E.I. Kolchinsky, on attempts at exonerating Lysenkoism in the contemporary postcommunist Russia. In the author's opinion, such attempts are primarily associated with nationalistic sentiments, inherent not only in a part of Russian society but also in some representatives of the ruling elite. However, the main cause of the revival of Lysenkoism, in Kolchinsky's view, is the changing attitude to science in society, as well as in the ruling elite, which is preconditioned to no small degree by the growing influence of religious fundamentalism in the country. The author of the article also explained the revival of Lysenkoism by factors that are related to the specifics of the organization of biological science, as well as the traditions and controversies that remain in the Academy of Sciences, higher education institutions, and research institutes that deal with applied research in agrarian science. These entities are still in the power of Lysenko's pupils, followers, and advocates. Kolchinsky also holds this view in other articles published in Russian scientific periodicals.

On the whole, the two volumes reproduce adequately and in detail the picture of the development of Lysenkoism in the Soviet Union and beyond and demonstrate the significant progress made in the study of this phenomenon in recent years. At the same time, the authors of the articles were unable to overcome the old approaches, clichés, and even some prejudices concerning this system of views. Unfortunately, this

phenomenon is still explained as a fruit of the communist party's dictatorship; the authors associate its emergence exclusively with the totalitarian Soviet state or a similar communist one. The propagation of Lysenkoism in capitalist countries is not denied but is treated as a specific and "reduced" form of the Soviet phenomenon, which originated under the direct or indirect influence of the long-term dominance of the pseudoscientific trend in the Soviet Union. This approach traces often a latent and sometimes open desire to protect and exonerate one's own nations and countries. It is manifested especially vividly in the articles of the authors from the former socialist countries. Consequently, as in the "good old days" of the dominance of Sovietology in the study of Lysenkoism, important problems such as the role of national politicians and scientists who easily agreed to collaborate with Moscow and follow its instructions, showing their readiness to collaborate long before their countries entered the Soviet bloc, was not tackled and even remained unnoticed. This problem is all the more topical because neither France nor Japan witnessed Soviet "occupation" forces. Moreover, Japan is still hosting the "friendly" American forces. "The US dominance over every aspect of Japanese science, politics, and culture during that period made such avenues of inquiry impossible to pursue, thus snuffing out what may have been a thriving field of hereditary research" [15, p. 25].

The other scientific work on Lysenkoism, published abroad three years ago, which served as a serious pretext to reflect not only on the fate of domestic science but also on the country in general, was the book by L. Graham, a well-known American historian of science and Professor of the Massachusetts Institute of Technology, *Lysenko's Ghost: Epigenetics and Russia* [17].

Science has more than once witnessed that the ideas, hypotheses, and even theories, proposed by various researchers, were first not accepted by the scientific community and were at best considered as aberrations or products of their ambitions. However, it turned out later that the author's ideas were valid in principle, but they were not formulated correctly due to the then insufficiently mature empirical foundation, weak experimental equipment, the absence of adequate research methods, etc. In this sense, the American cytogeneticist B. McClintock, who discovered mobile genetic elements, or the British biologist C. Waddington, who anticipated epigenetics and suggested the term *epigenetics*, are usually pointed at in biology.

It is perhaps worth recalling that McClintock, studying the causes of the mosaic color patterns of maize seed and the unstable inheritance of this mosaicism, discovered a system of interacting dominant genes: dissociation (Ds) and activator (Ac), capable of moving along chromosomes. Her first publications

and reports on this topic were not immediately understood or accepted by many geneticists. Only after finding mobile genetic elements in bacteria (1960) and then in *Drosophila* flies (1977) “the essence and priority of McClintock’s discovery became ultimately clear to the community of geneticists and molecular biologists” [18, p. 188]. In turn, Waddington assumed at the end of the 1930s that regulatory gene products could influence the ways of embryonic development and exemplified it with the wings of the *Drosophila* fly: how systemic analysis of mutations can help study this process. Waddington suggested the term *epigenetics* as a conceptual model of how genes can interact with their environment—epigenetic landscape—when forming a phenotype [19]. His hypothesis that changes in the genotype acquired by an organism become inheritable through the process of their fixation, termed *genetic assimilation*, was first viewed by many evolutionary biologists, including E. Mayr and Th. Dobzhansky, as an attempt to justify Lamarckism and was denied.

The advent of epigenetics and its rapid development, among other things, led to changes in the consciousness of not only publicists but also several scientists, who started to assert that Lysenko’s ideas and theories were not pseudoscience but, on the contrary, scientific knowledge that had been far ahead of its time and had anticipated epigenetics. Moreover, some began to claim that Lysenko should be acknowledged as a forerunner of epigenetics based on the fact that organisms transfer “ecologically induced” gene modifications.

Is that so? Graham’s book is nothing but an attempt to answer this and other related questions. In addition, Russian colleagues with whom the historian of science consulted suggested that he take a different topic, but he particularly chose Lysenkoism and epigenetics.

The attempt of *Lysenko’s Ghost*’s author to understand whether Lysenko was right is noted by various reviewers.

Graham’s broad question, [one of them says], is whether epigenetics and genetic engineering herald a new era in our understanding of evolution. Was Jean-Baptiste Lamarck (and therefore Lysenko) correct after all in arguing that changes in an organism could be passed directly to the next and perhaps to subsequent generations? [20, p. 220].

In the light of achievements of epigenetics is “the question posed by Graham in view of this revival—Was Lysenko right after all?” [21, p. 224]. Research in this area, the third one notes, has “shown that environmental changes can affect the expression of genes (without altering the genetic code) and that, crucially, in some cases and through an as-yet-unknown mechanism, the resulting phenotype can be inherited. Graham asks whether this research vindicates Lysenko...” [22, p. 511].

Meanwhile, in Graham’s interpretation, the question sounds like this: “With the realization that the inheritance of acquired characteristics might happen

after all, was Lysenko right?” His immediate answer is “No, he was not” [17, p. 139]. Then the author asks himself and the readers another question: What do people link Lysenko to when they mention his name? To the concept of the inheritance of acquired characteristics or to a very poor scientist, who using state repression politically imposed his views on others? Again his unambiguous answer follows: “The latter interpretation is, in my opinion, the valid one. No, Lysenko was not right after all” [17, p. 144].

However, the main content of the book is dedicated not to the direct justification of the falsity of Lysenko’s assertions but to the description and analysis of certain historical conditions and circumstances that have led to the fact that his ideas, as well as he himself, dominated for a certain period in Soviet biology and turned out to be sought after in post-Soviet Russia. Graham begins by justifying the topicality of the inheritance of acquired characteristics and the history of this concept, tracing it briefly from Hippocrates to Lamarck and I.P. Pavlov in chapters 1 and 2, “The Friendly Siberian Foxes” and “The Inheritance of Acquired Characteristics,” and finishes the topic with P. Kammerer in chapter 3 “Paul Kammerer, *Enfant Terrible* of Biology,” which, in Graham’s opinion, shows vividly a relationship between the concept of the inheritance of acquired characteristics and politics. It described Kammerer’s unsuccessful attempt to prove the inheritance of acquired characteristics in experiments with midwife toads, which ended up in the zoologist’s suicide in 1926 after he had been accused of a scientific fraud, which the scientist allegedly needed to “prove” the inheritance of acquired characteristics. In the same chapter, Graham writes about the cooperation between A.V. Lunacharskii, the People’s Commissar for Education of the Russian Soviet Federative Socialist Republic (RSFSR), and a German movie company that shot a silent movie, *Salamandra*, whose script was written by Lunacharskii and G.E. Grebner, in which Kammerer is depicted as a victim of a dirty plot designed to discredit his research. In addition, Graham draws the reader’s attention to the fact that, at the end of the movie, it describes how Kammerer moves to the Soviet Union to continue to study the inheritance of acquired characteristics rather than Kammerer’s real suicide. Chapter 4 “The Great Debate about Human Heredity in 1920s Russia” presents various points of view that existed at that time in Soviet biology on that point. By the late 1920s, according to Graham, the party was suspicious of Mendelian genetics; Lamarckism was accepted but only in relation to plants and animals; and eugenics was rejected [17, pp. 66, 67]. In that situation, Lysenko, who closely followed the changes in political sentiments, set out to check his ideas on plants and animals, sharply attacking his opponents at the same time.

Then the author shifts his narration in chapter 5 “Lysenko Up Close” into the 1970s but limits himself to how he, after several unsuccessful attempts to inter-

view the “people’s Academician,” met him accidentally in 1971 in the Central House of Scientists’ dining room in Moscow. Graham’s story alternates with reflections on Lysenko, as well as the structure of Soviet science and the country in general, and ends with the confession that, because of the conversation, “I did not change my view about his personal responsibility for the tragedy of Soviet genetics, but somehow I better understood the motives behind his tyranny” [17, p. 78]. The narration is accompanied by a passage recalling numerous clichés from previous and current Western mass media [17, p. 79]:

We should recognize that we cannot be certain that these scientists were all arrested because of their views on genetics. People all over the Soviet Union were arrested in those years for a variety of alleged crimes, usually unjustly. However, many Russian geneticists believed they were arrested because they refused to accept Lysenko’s doctrines—and in many cases they were probably correct.

At the end of the chapter, Graham notes that to answer the question on whether Lysenko was right or wrong, “we must look in more depth at Lysenko’s scientific work” [17, p. 81].

This particular issue is dealt with in chapter 6 “Lysenko’s Biological Views,” in which Graham critically but judiciously and circumstantially considers and assesses Lysenko’s works and ideas based on the knowledge gleaned in biology in the 20th century. In addition, finishing the narration, he underlines, “Lysenko made many claims that modern genetics did not accept in his time and still do not accept today Today, even though our knowledge of genetics has greatly improved since Lysenko’s day, there seems no reason to accept his claims” [17, p. 99].

In chapter 7 “Epigenetics,” the author explains why Lysenko’s ideas and theories cannot be accepted as forerunners of epigenetics. According to Graham, for the past 20 years, the theory of the inheritance of acquired characteristics has been “accepted by many biologists as valid, at least in some instances and at certain times. However, some prefer not to use the term, speaking instead of ‘epigenetic transgenerational inheritance’” [17, p. 101]. The author concisely, in just three pages, gives the results of several experiments that prove epigenetic inheritance, and their perception, mostly critical, by the scientific community, but finishes the narration with an unexpected statement that the development of epigenetics served as the basis for Russian scientists to revise their attitude to Lysenko and his ideas [17, pp. 105–108]. This reflection is unexpected because he himself stated above that although the results obtained through the experiments were controversial, “hundreds of publications postulating such epigenetic transgenerational inheritance in humans and other mammals have appeared in established academic journals and in the popular press” [17,

p. 104]. In other words, the “victory over genes” (the headline of an article in the newspaper *Der Spiegel*) made, in fact, an exaggerated claim and was reported as a sensation in the Western media.

The closing three chapters (8, 9, 10)—“The Recent Rebirth of Lysenkoism in Russia,” “Surprising Effects of the New Lysenkoism,” and “Anti-Lysenko Russian Supporters of the Inheritance of Acquired Characteristics”—describe and explain the emergence of neo-Lysenkoism in contemporary Russia. These particular chapters, as well as chapter 5, which describes the author’s meeting with Lysenko, in the opinion of the reviewers, are the most interesting. One of the reviewers even confessed that the story of the chance meeting with Lysenko offers “an absorbing insight into the mind-set of Lysenko” [21, p. 224].

Probably, these pages are also of great interest for the Russian reader, as well as the conclusions that the author draws, formulating them in the following concise way: “Without full knowledge and excellence in molecular biology, which is based on principles very different from Lysenko’s biology, eminence in biomedicine will not be possible. Talented researchers in Russian biology understand this very well. Their administrators understand it also. And even Putin and his associates understand it” [17, pp. 142, 143]. Therefore, Graham concludes, “little danger exists that Lysenkoism will again take over academic genetics in Russia” [17, p. 143].

However, this does not mean that there is no danger whatsoever. On the contrary, there is danger, it is great, and the threat is that “Lysenko’s supporters will influence public perceptions and perhaps even secondary education” [17, p. 143]. In addition, “this neo-Lysenkoism is perpetrating damage of a different sort: it is warping our understanding of the past. Not only Russia’s past, but ours too” [17, p. 143]. The point is that many vindicate Lysenko referring to achievements of contemporary science, including epigenetics. Graham states [17, p. 143],

Unfortunately, many people, both in Russia and in the West, are willing to accept an interpretation of Lysenko that goes something like this: “Lysenko was a nasty man, but we should grant that he was right on the inheritance of acquired characteristics and therefore give him more credit than we have in the past.

Graham gives several examples of such interpretations in Western journals but immediately notes that “the new biological understanding that we now possess, including epigenetics, does not originate from anything that Lysenko did; they arose out of the classical genetics that he spurned” [17, p. 143].

This part of Graham’s work serves as the basis for certain reviewers’ conclusions on Lysenkoism. As one of them notes politically correctly, the main conclusion of the book is that “the recent effort to rehabilitate Trofim Lysenko may be understandable but represents

a deeply flawed approach to science" [20, p. 220]. Another reviewer states that the book's basic task is "to account for the recent rehabilitation of Lysenko and his scientific views within certain sections of Russian society, underpinned by advances in the science of epigenetics" [21, p. 224]. In the opinion of a third reviewer, the merit of the book is that it accurately describes the picture of contemporary Lysenkoism in Russia and the causes of its appearance [22, p. 512]. A similar explanation of the origin of neo-Lysenkoism is offered by a Russian historian of science [23, p. 227]. Finally, another reviewer stresses the deep sense and topicality of the Lysenkoism concept, which is global and not a specific Soviet phenomenon [24].

The author and his book received enthusiastic reviews in Western periodicals. They assess Graham's style as a combination of "genial storytelling and rigorous scholarship" and the book itself as "a unique resource for anyone who hopes to understand Russia's complex intellectual and scientific life" [20, p. 220]. In another comment [25], Graham is called "the most distinguished US historian of Soviet science." Another reviewer, noting the author's permanent interest in the topic, assesses his book as "concise and thought-provoking" [21, p. 224].

Several reviewers (only a few actually) nevertheless made critical comments. One of them is that Graham probably exaggerates the degree of rejection of the concept of the inheritance of acquired characteristics in the West, where scientists defended this and similar scientifically baseless concepts in small books for the general public [22, p. 511, 512].

Note that the book contains several errors, but they can be noticed only by Russian readers. For example, in chapter 5, which is a part of two other Graham's publications [26, pp. 120–127; 27, pp. 68–81], translated into Russian [28, pp. 42–51], the author writes: "Theodosius Dobzhansky fled to the United States to escape political controls and became a famous scientist there N.V. Timofeev-Resovskii, eminent geneticist, emigrated to Germany, was arrested in Berlin, and returned to Russia only many years later. All-in-all, several hundred geneticists were repressed" [17, p. 79; 28, p. 49].

What is wrong here? In reality, one of the greatest biologists of modernity, the geneticist and evolutionist F.G. Dobzhansky (1900–1975) did not flee to the United States but had to stay there after unsuccessful attempts to return to his homeland [29], and Graham knows this quite well. One of the founders of radiation genetics, biocenology, and molecular biology Timofeev-Resovskii (1900–1981) did not emigrate to Germany but left for Berlin in 1925 on an invitation of the German Kaiser Wilhelm Society for the Advancement of Science and at the insistence of N.A. Semashko, the RFSFR People's Commissar of Health, where he first worked as a research associate and then headed the Department of Genetics and Biophysics at the Kaiser

Wilhelm Institute for Brain Research in Buch, a suburb of Berlin. Although he was really arrested in Berlin on September 13, 1945, he was sent in a convoy to Moscow in the same year and not many years later. In 1946, he was sentenced to prison for ten years on charges of treason. However, in 1947, due to his work on the atomic bomb project, Timofeev-Resovskii, as a specialist in radiation genetics, was transferred from the camp to Object 0211, where he headed the biophysical department. In 1951, the scientist was freed from imprisonment, and in 1953 the record of his conviction was deleted. However, he was rehabilitated posthumously only in 1992 [30, pp. 24, 25]. In addition, in 1945 he returned from Germany not to Russia, as the English original states, but to the Soviet Union.

Finally, Graham writes about hundreds of repressed geneticists but does not reveal the source on which he based this statement. In reality, the number of repressed geneticists and specialists in related disciplines is as follows. Ultimately, eight people were arrested and executed by shooting in the first half of the 1930s: I.I. Agol, N.K. Belyaev, S.G. Levit, VASKhNIL Academician G.K. Meister, Academician G.A. Nadson, V.N. Slepko, G.G. Frizen, and V.P. Chekhov; L.V. Ferri committed suicide in exile [31, p. 107]. Lysenko had nothing to do with these eight repressed scientists. N.I. Vavilov was arrested in August 1940, and in early 1941, his closest associates and friends were arrested and killed: the geneticists G.D. Karpechenko; G.A. Levitskii, corresponding member of the USSR Academy of Sciences; and the plant breeders L.I. Govorov and K.A. Flyaksberger. F.S. Stepanenko, director of the Odessa Selection and Genetic Institute was arrested in 1936, and in the summer of 1937, VASKhNIL President A.I. Muralov was arrested and then shot. In the August of the same year, his fate was shared by the acting (for a brief period) VASKhNIL President Meister. Thus, another eight people were shot in the second half of the 1930s—early 1940s, and Lysenko was directly linked to these shootings [31, p. 108]. The list of all repressed geneticists was given in I.A. Zakharov's book [31, pp. 113–123]. After the war, no geneticists were arrested but those who opposed Lysenko lost their jobs. Thus, eight people, not hundreds, were repressed through his fault. We could speak of hundreds if the number of the repressed included all those who lost occupational jobs but the author obviously meant something different.

As a result, such trifles, at first glance, distort the history not only of domestic genetics but also of the entire Soviet period of the development of science and the country. Distortion is what Graham himself opposes. We write about this with regret because the author of the book is not only a professional historian of science, who became widely known primarily through his books on the problems of the development of science in the Soviet Union [26, 27] but also a real friend of Russia, who is trying to help.

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Translated by B. Alekseev