Journal of the History of Biology **29:** 229–250, 1996.

A "Second Front" in Soviet Genetics: The International Dimension of the Lysenko Controversy, 1944–1947

NIKOLAI KREMENTSOV
Institute for the History of Science and Technology
Russian Academy of Sciences
St. Petersburg 199034, Russia

The history of Soviet genetics, and particularly of the so-called Lysenko controversy, has been the subject of numerous studies by both Western and Russian scholars.[1] Soviet and Western historians alike, however, have tended to ignore the international dimension of Soviet genetics' development and to describe it as the result exclusively of "domestic" factors – primarily Stalin's personality, the peculiarities of state ideology (Marxism), and permanent problems of Soviet agriculture. Yet in fact, international events and the international scientific community profoundly influenced the development of Soviet genetics. In this essay I will explore the international dimension of the long-lasting struggle between the "formal" geneticists and their opponents, the "agrobiologists," in the immediate postwar years.

During the 1940s, Soviet foreign policy evolved from wartime cooperation to Cold War confrontation with Western countries, and this evolution had a profound effect on both the international and the domestic aspects of Soviet science policy. During the war Soviet leaders used the international relations of Soviet science to improve the alliance with Western countries. With the war's victorious end, science was engaged in a fierce competition with the West, most of all in the field of atomic and other weaponry. During the short period from 1945 to mid-1947, cooperation and competition coexisted and even stimulated each other.

The Soviet scientific community, however, was not merely a passive instrument of the leadership. Various interest groups within the community actively exploited *every* turn of the state foreign policy for their own benefits, striv-

[1] For detailed accounts of the Lysenko controversy see Zhores Medvedev, *The Rise and Fall of T. D. Lysenko* (New York: Columbia University Press, 1969); David Joravsky, *The Lysenko Affair* (Cambridge, Mass.: Harvard University Press, 1970); Dominique Lecourt, *Proletarian Science? A Case of Lysenko* (London: NBL, 1977); Valerii Soifer, *Vlast' i Nauka* (Ann Arbor: Hermitage, 1988); Valery Soyfer, *Lysenko and the Tragedy of Soviet Science* (New Brunswick, N.J.: Rutgers University Press, 1994).

ing to fulfill their own research and institutional agendas through the party apparatus. During the heyday of scientific cooperation in 1945–46, Soviet geneticists skillfully employed their elaborate international contacts to organize a "second front" in the West in order to support a wide attack on Lysenko's institutional position and to improve Soviet genetics.

The Lysenko Controversy

In the first decade of Bolshevik power, genetics developed rapidly in Soviet Russia. During the 1920s numerous genetic research institutions were established throughout the country under the auspices of various governmental agencies such as the People's Commissariat of Public Health, the People's Commissariat of Enlightenment, and the People's Commissariat of Agriculture. Genetics was included in the curricula of all biological, agricultural, and medical educational institutions. A major reason for the rapid institutional development of Soviet genetics was the fact that geneticists enjoyed great authority in the governmental agencies.[2]

In the 1930s, however, Soviet genetics and geneticists encountered considerable difficulties. A group of "agrobiologists" headed by Trofim Lysenko started to take over genetics institutions.[3] The Lysenkoists came up with a doctrine, later termed "agrobiology," that contradicted the main principles of both Mendel's classic genetics and T. H. Morgan's chromosomal theory of heredity. They denied Mendel's laws and the concept of the gene as a material unit of heredity and supported the idea of the inheritance of acquired characteristics. In an attempt to defend their institutional positions, geneticists initiated two public discussions with the Lysenkoists on "issues in genetics" in 1936 and 1939; both discussions proved ineffective, and the geneticists appeared unable to stop the Lysenkoists' expansion.

One of the major factors causing the "defeat" of geneticists in the competition with Lysenko's agrobiologists for control over research institutions in the 1930s was the isolationist and nationalist policy adopted by the Soviet government at that time: unlike Soviet geneticists, who asserted their unity with Western colleagues, Lysenkoists played very well upon the "native roots"

[2] For a careful analysis of the early history of Soviet genetics see Mark B. Adams, "Science, Ideology, and Structure: The Kol'tsov Institute, 1900–1970," in *The Social Context of Soviet Science*, ed. Linda Lubrano and Susan Solomon (Boulder, Colo.: Westview Press, 1980), pp. 173–204; Mark B. Adams, "Eugenics in Russia," in *The Well-born Science: Eugenics in Germany, France, Brazil, and Russia*, ed. idem (New York: Oxford University Press, 1990), pp. 153–216.

[3] For an account of the institutional dimension of the controversy see Nikolai Krementsov, *Stalinist Science*.

and origin of their doctrine, denying the authority of Western genetics and geneticists. They even termed their doctrine "Michurinist biology" after Ivan Michurin, the Russian horticulturist acclaimed as a national hero in the 1930s, and they labeled classic genetics "Mendelism-Weismannism-Morganism" after its Western founders: Gregor Mendel, August Weismann, and T. H. Morgan.

During the late 1930s and early 1940s a number of genetics' most authoritative spokesmen – such as Isaak Agol, Solomon Levit, Nikolai Vavilov, Grigorii Levitskii, and Georgii Karpechenko – were arrested and executed under various charges, mainly "affiliation with an enemy of the people."[4] In 1940 Nikolai Kol'tsov, a founder of Russian genetics, died. By 1941 agrobiologists had seized almost all genetics research institutions, expelling geneticists from their primary strongholds in the Lenin All-Union Academy of Agricultural Sciences and the USSR Academy of Sciences. Geneticists nevertheless managed to preserve their positions in universities and a few laboratories in such academy institutes as the Institute of Evolutionary Morphology and the Institute of Cytology, Histology, and Embryology.

Soviet Genetics on the International Scene

Soviet geneticists established close relations with Western scientific communities, especially those of Germany[5] and the United States, in the early 1920s. In this period many Russian geneticists – including Nikolai Kol'tsov, Sergei Chetverikov, Anton Zhebrak, Isaak Agol, Solomon Levit, Georgii Karpechenko, and Mikhail Zavadovskii – visited and worked in various German and American laboratories. An especially important role in establishing long-term contacts with Western geneticists was played by Nikolai Vavilov, Theodosius Dobzhansky, and Nikolai Timofeev-Ressovsky.

Vavilov spent a year in R. S. Punnett's laboratory in Britain before the Bolshevik revolution. After the revolution, he visited genetics institutions all over the world, officially representing Soviet genetics at many international meetings and conferences. He participated in the First International Congress of History of Science in London in 1931, and was the only Soviet geneticist to attend the Sixth International Congress of Genetics in Ithaca, New York (1932), where he was elected president of the Seventh International Genetics Congress that was to be held in Moscow in 1937 (see below). Dobzhansky, a

[4] See, for instance, N. G. Levitskaia and T. K. Lassan, "Grigorii Andreevich Levitskii: Materialy k Biografii," *Tsitologiia, 34*: 8 (1992), 102–125.

[5] German-Soviet relations in genetics have been partly explored in Paul Weindling, "German-Soviet Cooperation and the Institute for Racial Research, 1927–c. 1935," *Germ. Hist., 10*: 2 (1992), 177–206.

pupil of Iu. Filipchenko, arrived in the United States in 1928 as a Rockefeller Fellow to work in the genetics Mecca – T. H. Morgan's laboratory. After Filipchenko's death in 1930, Dobzhansky decided not to return to Russia and remained in Morgan's laboratory.[6] Timofeev, a pupil of Kol'tsov, went to Berlin in 1925 to organize a genetics department in Oscar Vogt's Kaiser Wilhelm Institute for Brain Research and stayed there until the end of the Second World War.[7] Like Vavilov and Dobzhansky, Timofeev actively propagated the achievements of Russian genetics in the West.

Foreign geneticists, in turn, visited Soviet genetics institutions – Erwin Baur, Calvin Bridges, Leslie C. Dunn, Sidney Harland, Julian S. Huxley, Richard Goldschmidt, Doncho Kostov, Herman J. Muller, and many others. Bridges spent half a year (1931–32) and Muller spent about four years (1933–37) working in Vavilov's Institute of Genetics. This active exchange helped to establish close *personal* contacts between Soviet and Western geneticists.

In the 1930s Soviet genetics (like Soviet physics, astronomy, soil science, mathematics, physiology, and geology) enjoyed considerable acclaim on the international scientific scene. This was manifested in the decision to schedule the Seventh International Genetics Congress in Moscow in 1937. Soviet authorities initially granted the petition of geneticists to host the congress in Moscow; at the end of 1936, however, the Politburo of the Communist Party suspended its own decision and canceled the congress.[8] A few months later the geneticists persuaded the Politburo to reconsider, and the congress was rescheduled for 1938. This time, however, the Permanent International Organizing Committee of Genetics Congresses, presided over by the Norwegian geneticist Otto Mohr, decided to hold the congress in Edinburgh in 1939. Despite the failure of the Moscow project, Vavilov was again nominated the president and about fifty Soviet geneticists were invited to the Congress in Edinburgh. None, however, was permitted to attend. A few days before the Congress opened, Vavilov informed the organizing committee that he and his colleagues had withdrawn from the Congress. In August 1939, with the signing of the Hitler-Stalin pact, almost all contacts between the Soviet and Anglo-American genetics communities were broken off.[9]

[6] See Mark B. Adams, ed., *The Evolution of Theodosius Dobzhansky* (Princeton: Princeton University Press, 1995).

[7] See Diane B. Paul and Kostas B. Crimbas, "Nikolai V. Timofeeff-Ressovsky," *Sci. Amer., 266*: 2 (1992), 86–92.

[8] See "Abandonment of the Moscow Meeting of the International Congress of Genetics," *Science, 84* (1936), 553–554.

[9] In the personal archives of Western geneticists there is an obvious lapse in the correspondence with Russian colleagues from 1939 to 1944–45. See, for example, L. C. Dunn Papers or Th. Dobzhansky Papers, manuscript collections of the American Philosophical Society Library, Philadelphia, Pa (hereafter cited as APS).

Yet Western geneticists remained deeply interested in the achievements and fate of their Russian colleagues.[10] They generally assumed that the severing of contacts with Russian genetics was connected to the "Lysenko controversy."[11] Actually, the curtailment of the international contacts of Soviet science resulted from the state's general foreign policy and involved not only genetics, and not only science, but all aspects of Soviet-Western relationships.

The German attack on the USSR in 1941 drastically changed this situation. The German invasion created a new direction in Soviet foreign politics: the wartime antifascist alliance of the "Big Three" – the USSR, the United States, and Great Britain. Immediately, both the Western and Russian scientific communities publicly declared their friendship and cooperation and started to restore broken contacts.[12] This restoration of relations between the Western and Soviet scientific communities was one of the major consequences of World War II in Soviet science policy. In 1941 the war in Western Europe came to an end and the Germans deployed the majority of their troops at the Russian front. In this situation, the Soviet government badly needed the opening of the second front in Europe and used every means to hasten it. Science became one such means. The government employed the international contacts of Soviet scientists to arrange a wide pro-Soviet propaganda in the West.[13]

At the outbreak of the war, the All-Union Society for Cultural Relations with Foreign Countries (Vsesoiuznoe Obshchestvo Kul'turnykh Sviazei s Zagranitsei, or VOKS), which had practically ceased to exist in the late 1930s, was revived. The revival of VOKS is evident from the number of letters it sent and received before and during the war. For example, the "correspondence on scientific questions between Soviet and American scientists" that went through VOKS from June 4, 1936, to December 13, 1940, totaled only 130 pages;[14] in 1943 alone, it consisted of several thousand pages.[15] VOKS became one of the major channels of exchange and correspondence between

[10] For example, in 1940 Paul Mangelsdorf organized a special seminar on Russian genetics at Harvard University.

[11] See J. B. S. Haldane, "Lysenko and Genetics," *Sci. Soc., 4* (1940), 433–437; K. Mather, "Genetics and the Russian Controversy," *Nature, 149* (1942), 427–430.

[12] See the wartime issues of *Science, Nature*, and *Vestnik Akademii Nauk SSSR*.

[13] On the use of science as a tool for strengthening the Anti-Fascist Coalition see, for example, the recollections of the Soviet ambassador in Britain regarding his activities during the first months of the war: I. M. Maiskii, *Vospominaniia Sovetskogo Posla* (Moscow: Nauka, 1965), pp. 192–195.

[14] See Gosudarstvennyi Arkhiv Rossiiskoi Federatsii (State Archive of Russian Federation; hereafter cited as GARF), fond r5283, opis' 14, delo 7, 130 listov. Such archival references will subsequently be given in the following form: GARF, f. r5283, op. 14, d. 7, l. 130.

[15] See GARF, f. r5283, op. 14, dd. 175, 183, 193, 195, 199, 200, 201, 207, 208, 209, 210, 214, 216, 217, 219, 223.

Soviet and Western scientists. Furthermore, in 1942 the Central Committee of the Communist Party created a special Anti-Fascist Committee of Soviet Scientists. The main goal of the new committee (as well as of VOKS) was pro-Soviet propaganda among Western scientists: Soviet scientists appealed to their Western colleagues, asking them to exercise their influence on Western governments and to urge the governments to help the Soviet Union and open the second front in Europe.[16]

This gave Soviet scientists an opportunity to revive their contacts with Western colleagues. They began to do so immediately, using both VOKS and the Anti-Fascist Committee for their own purposes: the exchange of publications, materials, and even scientific delegations. During the war the Academy of Sciences' main periodical, the *Bulletin of the USSR Academy of Sciences*, established special columns entitled "On the Pages of Foreign Scientific Periodicals" and "The Western Press on Soviet Science." Summaries and reviews of the newest Western (mostly British and American) scientific works were regularly published in these columns. At the war's end, the international contacts of Soviet science were expanded. A special "International Publishing House" was established under the auspices of the USSR Academy of Sciences with instructions to publish a series of monographs on modern achievements by both Russian and Western scientists; it was also to publish and international scientific journal.[17]

Many Western scientists were equally eager to restore relationships with their Russian colleagues. The American scientific community was especially active in this enterprise. In 1943 a group of American medical scientists established the American-Soviet Medical Society to Exchange Medical Information, under the presidency of the eminent physiologist Walter Cannon.[18] The society immediately began to publish a special bulletin with translations and reviews of Soviet medical and biological work. In 1944 the National Council of American-Soviet Friendship instituted the American-Soviet Science Society under the presidency of the prominent geneticist leslie C. Dunn. This society also began to publish a bulletin. Both societies were established specifically to facilitate relations between American and Soviet

[16] For example, on November 6–8, 1943, the National Council of American-Soviet Friendship held a large congress in New York, and scientists played an important role in organizing and conducting the congress. See "3-Day Congress to Honor Soviet," *N.Y. Times*, November 6, 1943, p. 21; "Aid to World Seen in Pact of Moscow," *N.Y. Times*, November 7, 1943, p. 47.

[17] See Rossiiskii Tsentr Khraneniia i Izucheniia Dokumnetov Noveishei Istorii (Russian Center for the Storage and Study of the Documents of Recent History; hereafter cited as RTsKhIDNI), f. 17, op. 125, d. 449, ll. 188–199.

[18] One of the most active organizers of the society was its business manager Robert L. Leslie; see American-Soviet Medical Society Papers, MS C 470, History of Medicine Division, National Library of Medicine, Bethesda, Md.

scientists. The statutes of the American-Soviet Science Society, for example, stated that it had come into existence in response to "the need for an orderly channel through which American and Soviet scientists could resume and strengthen the scientific interchange of ideas through publication, conference and correspondence which had been impeded by years of isolation and war."[19]

The American detonation of the atomic bomb in August 1945 added a new dimension to Soviet-Western scientific relations: the nuclear race between the East and the West was born. The atomic bomb became a symbol of both the advances of Anglo-American scientists and the position of the United States as a superpower in the postwar world. Soviet officials obviously realized the need to improve science and to encourage international scientific contacts. As Minister of Foreign Affairs Viacheslav Molotov declared in his speech for the twenty-eighth anniversary of the October Revolution on November 6, 1945:

> We have to match the achievements of modern world technology in all fields of industry and the people's economy and to provide conditions for an extensive advancement of Soviet science and technology.... We will possess atomic energy and much more.[20]

Three months later, in a speech before a meeting of voters on February 6, 1946, Stalin included science in the main directions of the postwar development of the country:

> special attention will be paid to ... the building of various research institutes, which will enable science to develop its forces. I have no doubts, [that] if [we] give necessary help to our scientists, they will not only catch up with, but soon overtake the achievements of science abroad.[21]

The last part of the sentence – "to catch up with and overtake" (*dognat' i peregnat'*) Western science – became a famous slogan of Soviet science in the postwar years.

The process of reviving international contacts was particularly successful in genetics: not only was there a recent history of close personal relations, but, unlike physics or mathematics, at that time genetics was not involved in military research. Thus, the restoration of contacts between Russian and Western geneticists attracted less attention from both Soviet and Western security agencies.

[19] "American-Soviet Science Society," K. Stern Papers, APS.

[20] V. M. Molotov, "Doklad 6 Noiabria 1945," *Vestnik AN SSSR, 15* (October–November 1945), 15.

[21] See *Vestnik AN SSSR, 16* (February 1946), 11.

During and immediately after the war, Soviet genetics became a hot topic in the Western press and scientific periodicals. Western geneticists organized a broad campaign in support of Russian geneticists and against Lysenko. Within the framework of this campaign, an English translation of Lysenko's book *Heredity and Its Variability* was published and about fifty articles concerning Soviet genetics appeared in *Science*, the *Journal of Heredity, Nature, American Naturalist*, and elsewhere. Many members of the Western genetics community participated in the campaign. Why did the situation in Soviet genetics become so significant for Western and, particularly, American scientists? Why did Western geneticists "take very much to their hearts these things?"[22]

A Request for Help

During the war Western geneticists obtained information on Russian genetics through various channels: diplomatic, public, and private. Nevertheless, their knowledge was fragmented and incomplete. The situation changed drastically at the end of the war.

In 1944 Eric Ashby, a botanist, came to Moscow as a member of the Australian Legation. He spent a year in Russia, and due to his persistence he managed to visit numerous scientific institutions and to acquaint himself with many Russian biologists. He became personally acquainted with a number of Soviet geneticists, including Aleksandr Serebroskii, Nikolai Dubinin, and Anton Zhebrak. On his way back to Australia in the summer of 1945, he stopped for a few months in Britain and, through private letters and articles in scientific periodicals, acquainted his colleagues with what he had learned about Russian genetics. In a letter to Sewall Wright, he remarked: "Genetics here is very vigorous.... I have [also] been making some study of the so-called 'genetics' of Lysenko. The story is quite fantastic."[23] Ashby's book *Scientist in Russia* detailed his firsthand account of the current situation.[24] Ashby several times visited Lysenko's laboratory, saw his experiments, talked to his coworkers, and heard him lecture. He was particularly bewildered by Lysenko's experimental technique and concluded that "Lysenko's experiments ... have so far proved nothing" of his theoretical claims against Mendelian genetics.[25]

Another occasion to supplement the information on Russian genetics was the elaborate jubilee organized by the Soviet government in June 1945 to

[22] Th. Dobzhansky to L. C. Dunn, July 4, 1945, Dunn Papers, APS.
[23] E. Ashby to S. Wright, July 22, 1945, Wright Papers, APS.
[24] Eric Ashby, *Scientist in Russia* (New York: Penguin Books, 1947), pp. 105–117.
[25] Ibid., p. 114.

celebrate the 220th anniversary of the founding of the Russian Academy of Sciences. Stalin personally suggested inviting scientific delegations from allied countries, particularly the United States, the United Kingdom, France, and Canada.[26] In mid-June special airplanes sent by the Soviet government brought a large group of foreign scientists to Moscow: 122 delegates from eighteen countries, together with about one thousand Soviet scientists, took part in the celebration, which lasted from June 15 to June 30 in Moscow and Leningrad. The jubilee was organized with a "royal splendor": the government paid all expenses and provided the participants with a degree of luxury and comfort that was incredible in the postwar period.[27] The foreign delegations were invited to see the "Parade of Victory" at Red Square. On the last day of the celebration the Soviet government held a special banquet at the Kremlin for foreign scientists; all Soviet leaders, including Stalin himself, attended.[28] Here the minister of foreign affairs, the first deputy-head of the Soviet government, V. Molotov, proposed a toast "for the development of close collaboration between Soviet and world science."[29]

Like the declarations of many other top officials (not to mention those of scientists), these words signaled a fundamental change in state science policy: the concept of "a single world science" was revived. It replaced the concept of two opposing, separate sciences – Western and Soviet, "bourgeois and proletarian" – which had dominated science policy in the 1930s.[30] Scientific cooperation between Western and Soviet scientists now became an officially sanctioned policy.

Western and Soviet scientists used the celebration to discuss a number of important issues, including the situation in genetics. Although American geneticists did not form part of the U.S. delegation to the jubilee, they had asked several of its members "to obtain specific information about [Russian] geneticists."[31] One of the members of the British delegation was Julian Huxley, who had visited Russia before the war (in 1931) and was personally acquainted with many prominent Soviet biologists. During the celebration he visited all the genetics laboratories in Moscow and Leningrad and met

[26] See RTsKhIDNI, f. 17, op. 121, d. 331, l. 54.

[27] See impressions of American participants in the jubilee: "Impressions of Soviet Science," *Amer. Rev. Sov. Union, 7*: 1 (1945), 32–43.

[28] For a colorful description of the jubilee, and particularly the banquet, see chap. 6, "Science on Show," in Ashby, *Scientist in Russia* (above, n. 24), pp. 126–145.

[29] See *Vestnik AN SSSR, 16* (July–August 1946), 51.

[30] For a detailed account of the international dimension of Soviet science policy in the 1930s see A. P. Iushkevich, "Delo' Akademika N. N. Luzina," in *Repressirovannaia Nauka* (Leningrad: Nauka, 1991), pp. 377–394; Alex E. Levin, "Anatomy of a Public Campaign: 'Academician Luzin's Case' in Soviet Political History," *Slav. Rev., 49*: 1 (1990), 90–108.

[31] M. Demerec to P. S. Koller, August 1945, Demerec Papers, APS.

almost all the leading Soviet geneticists. Huxley and Ashby also attended a special lecture by Lysenko, which was organized during the celebration at their request.[32] After returning to Britain, Huxley published an enthusiastic account of Russian wartime research in evolutionary biology and genetics and shared his impressions about Russian genetics and geneticists in a number of confidential letters.[33]

Another important source of information on Russian genetics was Anton Zhebrak. In May 1945 Zhebrak came to San Francisco as a Belorussian representative to the conference to organize the United Nations. He used this opportunity to meet American geneticists and to confer with them on the situation in Soviet genetics. Ernest Babcock arranged for him to give a lecture in the Department of Genetics at the University of California in Berkeley. At Zhebrak's request, apparently, this event was organized in a very official way. Babcock asked the university's vice-president to write a letter of official invitation to the Soviet Consulate in San Francisco. He explained:

> At first this may not seem necessary to you, but if I may explain very briefly, the situation of genetics in the USSR at present is extremely critical. A faction has become powerful which is trying to discredit what might be termed orthodox genetics. Since Dr. Zhebrak is wholly loyal to scientific genetics and is trying to overcome the opposing faction mentioned above, it would mean a great deal to him to know that our invitation was officially endorsed by yourself.[34]

Babcock got his endorsement, and Zhebrak came to the lecture accompanied by Soviet correspondents from *Pravda* and *Izvestiia* and by some of his colleagues from the UN conference. He told the audience about the general situation in Soviet genetics and about his own current work on wheat polyploids. The Department of Genetics organized a special reception for Zhebrak and invited Soviet diplomats. The Soviet Consulate in San Francisco, in turn, held a reception on behalf of the university.

During his stay in San Francisco Zhebrak had several long discussions with members of the Berkeley genetics team – Ernest Babcock, Richard Goldschmidt, Michael Lerner, and Ledyard G. Stebbins. Almost every day he had private meetings with Lerner, who helped Zhebrak in various ways, translating his lecture at Berkely, scheduling his scientific meetings, and

[32] For his recollections of the visit see Julian Huxley, *Memories* (New York: Harper and Row, 1970), pp. 281–287.

[33] J. S. Huxley, "Science in the USSR: Evolutionary Biology and Related Subjects," *Nature, 156* (1945), 254–256.

[34] E. Babcock to M. Deutch, June 6, 1945, the Bancroft Library, University of California Archives, Berkeley.

conducting a large correspondence on his behalf.[35] Zhebrak had planned to spend a few weeks in the United States after the UN conference visiting various genetics laboratories. This plan, however, had to be aborted: he was suddenly called back to Moscow and left the United States a few days after the conference. Nevertheless, he succeeded in distributing information and establishing contacts with almost all the American geneticists. The essence of Zhebrak's message to his American colleagues is clear from Lerner's note to H. J. Muller: "It will not be too long before Lysenko has enough rope to hang himself. In the present situation, the support of American geneticists is tremendously important."[36]

Zhebrak's news, as well as the results of Huxley's and Ashby's meetings with their Russian colleagues, spread quickly among the members of the Western genetics community. American geneticists had an elaborate communications network: as soon as one of them received a letter with some valuable information, he immediately distributed copies of the letter to other members of the community. For example, when British geneticist Pius Koller wrote a letter to Milislav Demerec describing the situation in genetics in postwar Europe, Demerec made more than forty copies and sent them to his mailing list.[37] Every bit of news about Russian genetics was rapidly disseminated through the network.

One of the most exciting pieces of news was that "Lysenko's position is less secure than it has been, and Russian geneticists are hoping to get from under."[38] And for the first time, it seemed that American geneticists could make a difference, because "the Soviet Government at the moment is definitely disposed toward giving considerable weight to the opinion of the American scientists."[39] When Western geneticists learned that their Russian colleagues "personally and *confidentially* ask for support of those American colleagues who are known to be friendly to Russia,"[40] they enthusiastically responded to this request. They took a number of measures to help their Russian colleagues and organized a broad anti-Lysenko campaign. Four of the most eminent American geneticists – Dunn, Demerec, Dobzhansky, and Muller – orchestrated the American part of the campaign, while Huxley coordinated the British front.

[35] Michael Lerner was a Russian émigré and, of course, spoke Russian perfectly.
[36] M. Lerner to H. J. Muller, June 29, 1945, Lerner Papers, APS.
[37] See P. S. Koller to M. Demerec, July 27, 1945, Demerec Papers, APS.
[38] Th. Dobzhansky to L. C. Dunn, July 4, 1945, Dunn Papers, APS.
[39] M. Lerner to L. C. Dunn, June 27, 1945, Lerner Papers, APS.
[40] Th. Dobzhansky to L. C. Dunn, July 4, 1945, Dunn Papers, APS (emphasis in original).

A Second Front in Genetics

Western geneticists used all the available resources to support Russian genetics and geneticists. Two organizations under their control played key roles. As already noted, in 1944 the National Council of American-Soviet Friendship instituted the American-Soviet Science Society under Dunn's presidency; Demerec and Dobzhansky served as members of the executive committee. Then at the beginning of 1945 the American Genetics Society established its "Committee to Aid Geneticists Abroad," chaired by H. J. Muller with Ralph E. Cleland and Bentley H. Glass as members.[41] These two organizations arranged an extensive exchange of publications and materials. Geneticists also used the American-Soviet Medical Society to facilitate their contacts with Russian colleagues: Dunn was a member of the editorial board of the *American Review of Soviet Medicine* published by the society.[42] From 1943 the correspondence between Soviet and Western geneticists began to revive. The exchange of genetics literature and even of *Drosophila* stocks was organized through diplomatic and other channels. Large numbers of reprints, journals, and books were sent to Russian geneticists. In addition, between 1945 and 1948 some fifteen technical research papers of Soviet geneticists were published in Western periodicals, including the *Journal of Heredity* and *Genetics*. A number of American geneticists – including Babcock, Dobzhansky, Dunn, Lerner, Walter Landauer, Muller, Jack Schultz, and Stebbins – undertook to translate, edit, and review Russian manuscripts. They also orchestrated the publication of accounts of the situation in Soviet genetics in Western scientific journals; for example, they arrange for *Science* to publish Zhebrak's and Dubinin's survey articles.[43]

The most important deditions, however, were two small books that presented to the English-speaking audience the essence of Lysenko's views and work. One of these was a complete review of Lysenkoist work, written by two British scientists, P. S. Hudson and Richard H. Richens.[44] The second was an English translation of a 1943 book written by Lysenko, *Heredity and Its Variability*.[45] The history of the English edition of Lysenko's book is revealing.

[41] There was an attempt to organize a special committee to aid Russian geneticists, but this project failed; see M.Lerner to L. C. Dunn, July 23, 1945; M. Lerner to B. McClintock, June 27, 1945, Dunn Papers, APS.

[42] He left the editorial board in May 1946.

[43] A. R. Zhebrak, "Soviet Biology," *Science, 102* (1945), 357–358; N. P. Dubinin, "Works of Soviet Biologists: Theoretical Genetics," *Science, 105* (1947), 109–112.

[44] P. S. Hudson and R. H. Richens, *The New Genetics in the Soviet Union* (Cambridge: Heffer, 1946).

[45] T. D. Lysenko, *Heredity and Its Variability*, trans. Th. Dobzhansky (New York: King's Crown Press, 1946).

Early in the spring of 1945, the McGraw-Hill Publishing Company sent the Russian edition of Lysenko's book to Dunn with a view toward its possible publication. Dunn immediately engaged Dobzhansky to read and review the book. The essence of their considerations is clear from Dunn's letter to the company's representative:

> Notwithstanding the fact that most geneticists here believe that his [Lysenko's] views are erroneous, he is a person of such importance and the question at issue is so important that it would probably be of much service both to American and Russian science to have this book available in English, even though the views expressed prove to be wrong.[46]

As it happened, the company was not interested in publishing the book, but Dunn and Dobzhansky decided to publish a translation under their own auspices. As soon as he had read the book Dobzhansky started translating it, and by the middle of May he had already finished half of it. The news from Russia in the summer of 1945 encouraged their efforts. As Dunn wrote to Lerner:

> We believe the best way to deal with Lysenko's influence is to make known his ideas and evidence in the form in which he himself has published them. We have no doubt that the judgment of Americans will be adverse and that this will strengthen the hands of those in the Soviet Union who oppose him.[47]

In mid-August 1945 the translation was finished and Dunn sent the manuscript to the King's Crown Press, a publishing house loosely affiliated with Columbia University where both Dunn and Dobzhansky were professors. The manuscript was accepted and was edited and revised in autumn 1945. Dobzhansky tried to keep the "flavor" of the original in the translation, while Carl Epling[48] edited it "for style and sense" and Dunn "for English usage and clarity."[49]

Even before the book was printed, the manuscript was sent to various individuals to elicit and coordinate support for the campaign. One recipient was Henry A. Wallace, former vice-president of the United States and then serving as secretary of commerce, who read the manuscript and commented upon it, fully supporting the idea of its publication. He sent Dunn English versions (made for him by U.S. government translators at the Department

[46] L. C. Dunn to W. Bara, May 26, 1945, Dunn Papers, APS.
[47] L. C. Dunn to M. Lerner, June 29, 1945, Dunn Papers, APS.
[48] Professor of botany at the University of California, Los Angeles.
[49] L. C. Dunn to H. Silver, August 17, 1945, Dunn Papers, APS.

of Agriculture) of various Lysenkoist materials gathered during his visit to Russia in 1944,including issues of the journal *Under the Banner of Marxism* that contained stenographic reports from the 1939 discussion between geneticists and Lysenkoists. He recommended that this material be used by book reviewers. When the book was published, Dunn returned the material to Wallace together with a copy of the book.[50]

Dunn orchestrated a number of reviews of both Hudson and Richens's and Lysenko's book in American scientific periodicals, while Huxley undertook the same job in Britain. All major biological journals reviewed the books. Dunn himself and Karl Sax submitted reviews to *Science*, Dobzhansky to the *Journal of Heredity*, Kurt Stern to *American Naturalist*, Stebbins to *Chronica Botanika*, Goldschmidt to *Physiological Zoology*. Several other geneticists were urged by Dunn and Muller to write a review or a letter to the editors of other periodicals. British biologists also published a number of reviews in British periodicals: Ashby in *Nature*, Cyril Darlington in *Discovery*. As Muller informed his colleagues:

> Huxley had written me that he is trying to get a number of reviews of the [Lysenko's] book, and other articles on the situation, to appear in British periodicals and that we in this country ought to try to do the same thing at about the same time. He has authoritative information, gained by the Australian Scientific Attaché in Moscow, ... that adverse reviews of Lysenko's book by reputable scientists in western countries would be seriously considered in the USSR and have a beneficial effect for Genetics there, at the same time weakening Lysenko.[51]

American geneticists were very cautious in their critique, focusing almost exclusively on scientific matters. They strove to avoid any political comments that might provoke Soviet authorities, trying to express their opinion in politically neutral or even "socialism-praising" language.[52]

This, I think, was the reason a group of American geneticists approached J. B. S. Haldane – at that time a member of the Political Committee of the

[50] L. C. Dunn to H. Wallace, January 30, 1946, Dunn Papers, APS.

[51] H. J. Muller to K. Stern, February 11, 1946, Stern Papers, APS.

[52] In 1946–47 a number of articles about the Soviet science system were published in Western periodicals in relation to the discussion of the possible future organization of Western science after the war. The most important subject of this discussion was the so-called freedom of science – a system of interrelations between science and the state. Many disputants referred to the Lysenko controversy and the fate of executed Soviet geneticists as an example of the danger presented by state control over science. See, for instance, R. Simpson, "Science, Totalitarian Model," *Sat. Rev. Lit.* March 9, 1946, pp. 28–32. In their critique of Lysenko's doctrine, however, Western geneticists carefully avoided any political connotations.

British Communist party – with a request to write a review of Lysenko's book. They wrote:

> It is our feeling that the initiative to explain the danger represented by Lysenko's ideas to the authorities responsible for scientific research in the Soviet Union should come from somebody who, besides being respected as [a] scientific authority, could not easily be attacked by Lysenko as a political enemy of Soviet Russia, using his prestige for the purpose of either a personal attack on Lysenko or of a campaign to defame Soviet science. We think you are the person most likely to lead successfully such an action, which would render a great service to the Soviet Union and to world biology.[53]

The letter was drafted by Salvador Luria and signed by Luria, Muller, Stern, Dobzhansky, Dunn, and Demerec. Haldane, however, refused to participate in the campaign. In his response to Muller he stated: "I regret that I have not read Lysenko's book, and am therefore clearly not in a position to do anything about the matter."[54] He even returned the original letter of the American geneticists to Muller. This answer "shocked" American geneticists.[55] Muller was outraged, commenting that "he had expected something like this," and terminated all his correspondence with Haldane.[56] His colleagues did the same, resulting in a long lapse in communications.

Among the measures taken to support Russian geneticists was an attempt once again to schedule an International Genetics Congress in the Soviet Union. During his stay in the USSR, Ashby discussed this idea with three Russian geneticists – Dubinin, Serebrovskii, and Zhebrak – all of whom had enthusiastically approved it. He also discussed the matter with Leon Orbeli, a vice-president of the Academy of Sciences and head of its Biology Division, who "too was quite interested, but indirectly made it clear that, so long as Lysenko was in a strong position, he would not be willing to incur Lysenko's hostility by pushing the matter actively."[57] Ashby suggested to his Western colleagues that they coordinate the anti-Lysenko campaign in influential Western journals and make a "formal approach" to the Academy of Sciences authorities regarding the future congress. He supposed that publications indicating "the views of foreign biologists on the worthless[ness] of Lysenko's work" would carry "at least considerable weight" in some quar-

[53] K. Stern and others to J. B. S. Haldane, April 17, 1946, Stern Papers, APS.
[54] J. B. S. Haldane to H. J. Muller, May 15, 1946, Demerec Papers, APS.
[55] K. Stern to H. J. Muller, June 12, 1946, Stern Papers, APS.
[56] J. H. Muller to M. Demerec, June 5, 1946, Demerec Papers, APS.
[57] J. S. Huxley to M. Demerec, December 31, 1945, Demerec Papers, APS.

ters in the USSR and, therefore, would facilitate the organization of the congress there.[58]

Western geneticists enthusiastically supported this project. Demerec, the American representative to the Permanent International Organizing Committee of Genetics Congresses, wrote to the Norwegian representative on the committee, Otto Mohr: "It would be well if the next Congress could be held in Russia, and I sincerely hope that this can be arranged. It might tip the balance in favor of the real geneticists as against the Lysenko school."[59] The Permanent Committee used a genetics conference that was held in London in October 1945 to solicit the opinion of other geneticists on the subject. Although Russian invitees did not come to the conference, most of those attending approved the idea of holding the next international congress in Russia. As F. R. A. Crew, president of the Edinburgh Congress, informed his American colleagues, it was decided that "it would be a very gracious gesture, and [a] helpful one, if we took appropriate steps to make it possible for our Russian colleagues to invite the next Congress to meet in the USSR."[60] Crew discussed the "appropriate steps" with those members of the Permanent Committee who attended the conference, and he consulted with Ashby and Huxley.

The first step was to invite a Russian geneticist to join the committee.[61] Crew wrote a letter to the Soviet ambassador in Britain "telling him of the existence of this Permanent International Committee and of the desire of its members for the completion of its composition by the addition of a representative of the USSR, it being suggested that Zhebrak, well known to all of us, would be regarded as a very welcome reinforcement."[62] Crew asked the ambassador "to forward this request to the appropriate body in the USSR"; he stated that the Committee would have to decide before the end of March 1946 which of the invitations it received for the holding of the next Congress should be accepted, and that "therefore, ... the Russian nomination must be made immediately."[63] In February 1946 Crew once again informed the Soviet Embassy that the Committee was still awaiting a Russian answer: "We are so eager to have the help and support of our Russian colleagues and so reluctant to come to any decision about the next Congress without having heard their views that we are willing to wait until the end of March

[58] Ibid.
[59] M. Demerec to O. Mohr, November 28, 1945, Demerec Papers, APS.
[60] F. R. A. Crew to M. Demerec, January 15, 1946, Demerec Papers, APS.
[61] Before the war the Russian representative to the committee was N. Vavilov.
[62] F. R. A. Crew to M. Demerec, January 15, 1946, Demerec Papers, APS.
[63] Ibid.

before taking my final step."[64] The Embassy forwarded Crew's letters to the Academy of sciences, but the plan fell victim to Soviet bureaucratic delays. The correspondence over this project between the Academy of sciences and the Central Committee of the Communist Party dragged on until May 1946, far beyond the announced deadline.[65]

Western geneticists anticipated the possible failure of their project. Nevertheless, even if it proved impossible for Russian geneticists to host the next Congress, they were eager to make it possible for them to attend. They considered the International Congress "a very effective way to break down the isolation that now exists between us and the Russian geneticists."[66] As Demerec advised his colleagues on the Permanent Committee:

> It seems to me that it would be of the utmost importance, if the Congress could not be held in Russia, to hold it at a place where we could meet the greatest possible number of Russian geneticists. In that case, Sweden might be a much better location than the United States.[67]

He got his wish: the Congress was scheduled for Sweden, and Soviet geneticists were invited to participate.

"American Aid" on the Russian Front

In their debates with Lysenkoists in 1936 and 1939, Soviet geneticists often referred to the support of their Western colleagues. At that time, such references were probably counterproductive, for they contradicted the main direction of Soviet foreign policy. However, at the end of the war Soviet foreign policy supported international cooperation, and Soviet geneticists immediately capitalized on this shift in their attack on Lysenko's position. Geneticists were the first Soviet scientists to begin the "close collaboration" with Western colleagues that Molotov had proclaimed in his toast at the Kremlin, and their first collaborative project was a broad anti-Lysenko campaign.

Once again, they made many references to the authority of Western geneticists in order to weaken Lysenko's domination of the field. In every letter to the Central Committee of the Communist Party and the USSR Council

[64] F. R. A. Crew to the Soviet Ambassador, February 11, 1946, Arkhiv Rossiiskoi Akademii Nauk (Archive of the Russian Academy of Sciences; hereafter cited as ARAN), f. 2, op. 1-1945, d. 401, ll. 18–20. A copy of this letter is also in Demerec Papers, APS.

[65] See RTsKhIDNI, f. 17, op. 121, d. 537, l. 26 reverse.

[66] M. Demerec to J. S. Huxley, February 18, 1946, Demerec Papers, APS.

[67] M. Demerec to all members of the Permanent Committee, August 9, 1945, Demerec Papers, APS.

of Ministers, in every public statement, they declared that Soviet genetics contributed to the international prestige of Soviet science. At the end of 1944, for example, Zhebrak wrote a letter to Georgii Malenkov, a secretary of the Central Committee, stating: "The development of genetics in the Soviet Union occurred in the period of the Soviet power. During this short period, genetics in the USSR has achieved such a high level, that it has reached a leading position in the world, second only to that of the USA."[68] He claimed that Lysenko's campaign against genetics was damaging the international reputation of the Soviet Union. At that time, and in that political context, the argument carried considerable weight.

Moreover, Zhebrak's scientific activities in San Francisco were probably not undertaken merely on his personal initiative: there is some evidence that his efforts to reestablish close contacts with American geneticists and to inspire them to organize an anti-Lysenko campaign were endorsed by high officials in the state apparatus. In May 1945, a few weeks before leaving for the United States, Zhebrak had an audience with Molotov, and one of the subjects of their conversation was the situation in Soviet genetics.[69] It is possible that Zhebrak obtained Molotov's permission and support for his actions in the United States; this might explain his "confidential" declarations to American colleagues that "the Soviet Government at the moment is definitely disposed toward giving considerable weight to the opinion of the American scientists."[70]

Immediately after the end of the war, Soviet geneticists launched a broad attack on Lysenko's positions. Their attack began in the Academy of Sciences. In November 1945, Zhebrak sent a long letter to Molotov, accusing Lysenko of disorganizing genetics research and proposing that a new institute of experimental genetics and a new *Soviet Genetics Journal* be created.[71] Apparently as a result of Molotov's instruction, on March 12, 1946, the Bureau of the Biology Division of the Academy of Sciences held a special session on the structure of the division's institutions; the session "proposed" the organization of a new genetics institute.[72] Immediately thereafter Zhebrak sent a long letter to Malenkov urging him to support the project.[73] In both letters Zhebrak stressed the importance of the development of genetics for the international prestige of the USSR. In his letter to Molotov he quoted extensively from favorable accounts of Soviet genetics written by Western scientists such as

[68] A. Zhebrak to G. Malenkov, December 1944, RTsKhIDNI, f. 17, op. 125, d. 360, l. 9.

[69] A. Zhebrak to V. Molotov, November 3, 1945, ARAN, f. 2, op. 1-1945, d. 450, l. 4.

[70] M. Lerner to L. C. Dunn, June 27, 1945, Lerner Papers, APS.

[71] A. Zhebrak to V. Molotov, November 3, 1945, ARAN, f. 2, op. 1-1945, d. 450, ll. 1–6.

[72] Rossiiskii Gosudarstvennyi Arkhiv Ekonomiki (Russian State Archive of Economics), f. 8390, op. 1, d. 1997, ll. 18–19.

[73] A. Zhebrak to G. Malenkov, April 1, 1946, RTsKhIDNI, f. 17, op. 125, d. 449, ll. 108–111.

John Desmond Bernal and Leslie C. Dunn. In the letter to Malenkov, he referred to the possibility that genetics was being employed in U.S. atomic research.

Geneticists also strove to convince the Central Committee to create new positions for geneticists in the Academy of Sciences membership. Over Lysenko's objections, in December 1946 Nikolai Dubinin was elected a corresponding member of the academy and started actively to organize the anti-Lysenkoist "resistance." In May 1947, Anton Zhebrak was appointed president of the Belorussian Academy of Sciences and immediately organized a new genetics laboratory under the academy's auspices.

Also in the spring of 1947, Aleksander Serebrovskii managed to organize an All-Union Genetics Conference under the auspices of the biological faculty of Moscow University. This was the first such genetics conference held in the USSR since 1932.[74] Over the course of six days, about eighty speakers delivered reports on various subjects. Geneticists strove as much as possible to publicize the conference. The conference adopted a "Letter to Comrade Stalin," which was to be published in the press. The geneticists wrote in the letter:

> The conference demonstrated that activists of genetic science energetically work to fulfill your instruction, Comrade Stalin, for Soviet science not only to catch up with, but to overtake foreign bourgeois science. In certain cases this instruction has already been fulfilled.[75]

Predictably, the campaign that was under way in the West and its use by Soviet geneticists elicited fierce reactions from the Lysenkoists, who tried to defend their positions. In August 1946, the party cell of the main Lysenkoist stronghold, the Academy of Agricultural Sciences, sent a memorandum "on the controversy in genetics" to a secretary of the Central Committee, Andrei Zhdanov.[76] Included with the memorandum were Russian translations of fourteen Western publications on the subject, including reviews of both Lysenko's and Hudson and Richens's books, as well as Zhebrak's article in *Science*. They claimed (correctly) that the geneticists were trying to undermine Lysenko's authority, and they asked Zhdanov to take "appropriate measures."[77] Their letter was not answered. Two months later, the Party secretary of the academy again sent a letter to the Central Committee on the same subject.[78] This time he attached to his letter a manuscript on genetics prepared by Lysenko for

[74] And, as it later turned out, the last until 1965.
[75] GARF, f. 5446, op. 85, d. 12, l. 75.
[76] RTsKhIDNI, f. 17, op. 125, d. 451, ll. 1–2.
[77] Ibid., ll. 4–102.
[78] Ibid., l. 103.

an encyclopedia.[79] This letter also remained unanswered. In their appeal to Party officials, Lysenkoists once again, as they had in the 1930s, stressed the "foreign," "bourgeois," "Western" character of Mendelian genetics and the "native," "Soviet" character of their own doctrine. This time, however, the Party apparatus was not willing to hear their arguments.

The broad campaign in Western periodicals obviously achieved its goal and made a serious impression on the party-state apparatus in charge of science policy. Both the international praise for the work of Soviet geneticists and the international scientific denunciations of Lysenko's work were clearly having an effect. Even the Ministry of Agriculture, one of the main Lysenkoist strongholds, preferred the advice of Soviet geneticists rather than Lysenkoists when dealing with international matters; for example, in February 1946 the head of the ministry's foreign department asked a longtime opponent of Lysenko, Mikhail Zavadovskii, to write an article on his work for publication in the United States.[80]

At the end of 1946, the Anti-Fascist Committee of Soviet Scientists asked another Soviet geneticist, Nikolai Dubinin, to write an article on the achievements of Soviet genetics for publication in Western periodicals. The paper concerned the Russian impact on theoretical genetics and contained a broad account of Russian work in the field. Through the American-Soviet Medical Society, the manuscript was sent to Dobzhansky, who translated it into English and submitted it to *Science*. The paper was published in the spring of 1947 and assured its readers that Russian geneticists "are confident that they will achieve further great progress in genetics in the near future."[81] This paper clearly signified the strengthening of the position of genetics in the Soviet Union. As Dobzhansky noted in one of his letters: "It gives the first clear testimony of Lysenko's star declining. Not that Lysenko is mentioned – he is not. But things which Dubinin writes probably could not have been written two years ago – praise for Vavilov and Karpechenko, etc."[82]

Soviet geneticists, thus, skillfully employed the change of foreign policy "to tip the balance" in their favor. To gain the support of the party apparatus they effectively exploited the internationalist rhetorical slogans then in fashion: "the international prestige of the USSR," "to catch up with and overtake Western science," "to match the achievements of science abroad," and the like. From 1945 through early 1947, the "second front" proved very effective. Geneticists managed to improve their standing with the party-state

[79] Ibid., ll. 105–140.

[80] ARAN, f. 1657, op. 1, d. 154, ll. 36–37.

[81] Dubinin, "Works of Soviet Biologists" (above, n. 43), p. 112.

[82] Th. Dobzhansky to L. C. Dunn, [between November 25 and December 5], 1946, Dunn Papers, APS.

apparatus and to strengthen their institutional positions. What they could not anticipate, however, was the Cold War. When Soviet foreign policy shifted from collaboration to confrontation with its wartime allies, the elaborate Anglo-American links that had served Soviet geneticists so well suddenly became a dangerous liability.

Concluding Remarks

While the simple historical view has pictured the Lysenko controversy as an uninterrupted series of Lysenko's victories – beginning with the 1936 discussion, and culminating in the infamous August 1948 meeting of the Lenin All-Union Academy of Agricultural Sciences, when genetics was officially abolished in the Soviet Union – it was certainly more complex, as recognized by such serious historians as David Joravsky and Mark Adams. As we have seen, the roles the competitors assumed in 1945–47 were the reverse of those they assumed in the 1930s: the geneticists managed to gain the offensive, and Lysenko was forced to defend his position.

This episode suggests that the Communist Party leadership probably did not have a special bias against genetics, nor a particular preference toward Lysenko at that time. The actual decisions of the Party apparatus on particular science policies were based upon the current priorities of general foreign and domestic policies, rather than upon an "orthodox Party line" in esoteric scientific questions. It is clear and has been recognized by some historians that the Soviet scientific community was not a passive, monolithic object of the manipulation, control, and repression exercised by the Communist Party leadership; various groups within the Soviet scientific community actively exploited every opportunity provided by the Party's policies to achieve their own objectives.

The Lysenko controversy illustrates the profound impact of international events on Soviet science and suggests that its history cannot be understood as a result of exclusively domestic affairs, but should be explicated within a broader framework of interaction between Soviet domestic and international policies and between the Soviet and Western scientific communities. As we have seen, one of the major causes of the geneticists' success in the postwar struggle with Lysenkoists was the shift of Soviet foreign policies toward internationalism stimulated by the wartime alliance between the "Big Three." This suggests that the so-called "death" of genetics in the Soviet Union in August 1948 was also the result of another dramatic shift in the international situation: the climax of the Cold War confrontation between former allies in the summer of 1948, which marked the final division of postwar Europe and the world into two opposing camps, East and West.

Acknowledgments

A Resident Research Fellowship from the Andrew W. Mellon Foundation in 1992 made possible my work in the Library of the American Philosophical Society, and a Mellon Fellowship at the Science, Technology, and Society Program at Massachusetts Institute of Technology in 1993–94 gave me a chance to complete the manuscript for which I am very grateful. I wish to thank Mark B. Adams and Daniel P. Todes, who put a lot of time and effort into criticizing the earlier drafts and editing them "for English usage and clarity." I also thankfully acknowledge the critique and advice of Lily Kay, Evelyn Fox Keller, Diane B. Paul, and Susan G. Solomon. Special thanks go to the staff of numerous archives and libraries, who provided enormous help in my search for relevant documents and publications.