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 Announcements

Уважаемые читатели!

В данном номере собраны статьи, затрагивающие такое явление в истории науки, которое получило (первоначально за рубежом) название «лысенкоизм». Этому явлению и соответствующему трагическому периоду в истории отечественной биологии посвящено немало работ как отечественных, так и зарубежных биологов, а также историков науки. Многие стороны и даже отдельные аспекты лысенкоизма подробно изучены, но тем не менее количество оставшихся проблем и вопросов, им поставленных, все еще достаточно велико. Кроме того, лысенкоизм вовсе не относится лишь к истории, он не только явление прошлого, но и настоящего. В целом ряде областей науки в конце XX — начале XXI века появились свои «новаторы», обещающие золотые горы, молочные реки и кисельные берега, и получающие, как ни странно, благосклонное внимание и поддержку в СМИ и от «сильных мира сего».

Прошедшие после развенчания «народного академика», Т.Д. Лысенко десятилетия подтвердили прозорливость одного из его критиков, Дж.С. Хаксли, предостережавшего в 1949 г. против заблуждения, что лысенкоизм — чисто советское явление, и настаивавшего на том, что он есть деформированное и гипертрофированное проявление проблемы, поставленной самим ходом развития науки в индустриальную эпоху. Обществу необходимо управление наукой, и сама наука нуждается в общественном признании, понимании и содействии. От того, какие формы приобретает взаимодействие науки и общества, зависят перспективы развития и самой науки, и, все в большей степени, развития общества. Свидетельством тому — исторический опыт как России, так и многих других стран, а также современное состояние науки, в том числе биологии. В частности, весьма характерной чертой последнего десятилетия стали участвовавшие попытки переписать заново историю лысенкоизма, «обелить» Т.Д. Лысенко и других лысенкоистов, очернить всех тех, кто мужественно боролся за научную истину и научную свободу, в первую очередь Н.И. Вавилова. Вот почему тема лысенкоизма является крайне актуальной, а от историков, в том числе и от историков науки, далеко не в последнюю очередь зависит то, каким будет ближайшее будущее.

Ждем ваших откликов на наш журнал, статей и рецензий. Напоминаем, что подписной индекс журнала 57386 в каталоге НТИ («Издания органов научно-технической информации») агентства «Роспечать». Также читатели могут приобретать журнал в магазине издательства «Дмитрий Булавин» по адресу: Санкт-Петербург, Петрозаводская ул., д. 9, литер А, телефон (812) 490-64-99, или заказать: postbook@dbulanin.ru.

Краткие сведения о журнале «Историко-биологические исследования» вы можете получить на его странице в Интернете, расположенной на сайте <http://www.ihst.nw.ru>.

ИССЛЕДОВАНИЯ

The “Soviet Creative Darwinism” (1930s–1950s): From the Selective Reading of Darwin's Works to the Transmutation of Species

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The paper focuses on the evolution of the relationship between the Michurinist biology, Darwinism, and Lamarckism in the 1930–50s. The argument is based on the analysis of citation practices in Lysenkoist periodicals and programmatic statements of Lysenko and his close associates. It is proposed to consider “Darwinism” primarily as a contested identity marker, not a certain more or less coherent set of beliefs.

Keywords: Trofim Lysenko, Isai Prezent, Lamarckism, identity, agrobiology.

Speaking of Lysenko, historians mostly pay attention to the political dimension of what is called the Lysenko Affair¹. His biological theories are considered at best outdated or utterly false and bizarre. In the history of evolutionary thought written by biologists and philosophers, he is conveniently placed under the label of neo-Lamarckism, which is justified by references to Lysenko's adherence to the doctrine of inheritance of acquired characters, while his claims to Darwinism (including the self-imposed labels of “Creative Darwinism” or “Michurinist Darwinism”) are usually disregarded².

¹ The literature on Lysenkoism is vast. For the standard point-of-departure texts see Zh. Medvedev (1969), D. Joravsky (1970), and V. Soyfer (1994) for more recent treatments see e. g. N. Krementsov's *Stalinist Science* (1996) and N. Roll-Hansen's *The Lysenko Effect* (2005), and bibliography therein.

² In the historical writings, Lysenkoist views can be labelled “Lamarckism” or “pseudo-Darwinism” (Gall, Kolchinskii, 1983, p. 72–73), “crude Lamarckism” (Alexandrov, Aronova, 2004, p. 17),

The qualification of Lysenkoist evolutionary doctrine as Lamarckist or Darwinist is of little interest, indeed. It is the ability of historians of science to deal with such issues that deserves more attention. In the present paper, I would like to approach the problem of relation of Lysenkoist evolutionary views to Darwinism and Lamarckism in a peculiar way. Rather than considering “Darwinism” to be a certain more or less coherent set of beliefs, I would primarily view it as a contested identity marker³.

The main questions I would like to address are: What did it take practically to be a Soviet Creative Darwinist? How were the boundaries of Soviet Creative Darwinism delineated (especially with respect to Lamarckism)? I would try answering these questions in a rather unsystematic manner, and this article will by no means settle them, but they should be kept in mind in the further discussion. I will focus on Lysenkoist's publications, only briefly mentioning the arguments they had with their opponents. This lack of symmetry is mostly due to the spatial limitations and the fact that the views of geneticists and evolutionary biologists are duly analysed elsewhere⁴. The paper is organised in three sections and a conclusion. The first section deals with the Darwinist connections of Lysenkoism, the second, with the attempts to delineate the boundary between Lamarckism and Michurinism, the third, with the attempts to revise Darwinism and the development of “Soviet Creative Darwinism”. The narrative in these three sections follows parallel routes, stretching from 1930s into 1950s, while an abridged timeline serving as a background to the whole story is given in the table 1.

“a bizarre mixture of propositions selected from all important anti-Darwinian evolutionary concepts ranging from mechano-Lamarckism to vitalism” (Kolchinskii, 2006, p. 422), “a distinct and strongly ideologically affected version of neo-Lamarckism” (Levit et al., 2008, p. 79), to give but a few examples. The problem of the evolution of Lysenkoist endonyms still awaits a proper treatment, probably until more digitalised sources will be available. A review of a limited collection of texts published in Lysenko's *Agrobiologiia* (1949), materials of the 1936 (*Spornye voprosy ...*, 1936), 1939 (*Soveschaniie...*, 1939), and 1948 (*O polozenii ...*, 1948) debates between geneticists and agrobiologists, and some programmatic papers in the journal *Agrobiologiia* (Lysenko, 1946; Prezent, 1947) yields the following results. The terms “Michurinist doctrine” (*michurinskoie ucheniie*) and “Darwinism” were in use since the mid-1930s. They were used interchangeably and sometimes their equivalence was stated explicitly. In 1940, the “Creative Darwinism” (and even “Revolutionary creative Darwinism”) appeared in a number of articles, again being equated to “Michurinist doctrine” or “Michurinist theory”. The label of the “Soviet Creative Darwinism” appeared for the first time in a belated publication of a verbatim transcript of a lecture Lysenko read at a Timiryazev Agricultural Academy on March 27, 1941 (Lysenko, 1946, p. 7), thus it is not possible to identify the precise date of the invention until more research is done. In 1947, the “Soviet Creative Darwinism” moved to headlines (Prezent, 1947) and was more or less widely used hereafter.

³ The construction and manipulation of identities and boundary work is a standard topic of cultural anthropology and constructivist studies in the history of science (see, e. g., Gieryn, 1983 as a seminal work and a review in Golinski, 1998).

⁴ For a general characteristics of the development of the evolutionary theory in the USSR see *Razvitie evoliutsionnoi teorii...* (1983). The scientific dimension of the Lysenko controversy was covered in the monographs by David Joravsky (1970) and, more recently, Nils Roll-Hansen (2005). More specifically, the problem of inheritance of acquired traits was treated by Leonid Bliakher (1971) and the history of research in struggle for existence, by Yakov Gall (1976). It should be noted, however, that none of these books treats specifically the issues central to the present paper.

Table 1. Lysenkoist controversy abridged timeline. Many important events, especially in the post- World War II history of the controversy are omitted deliberately

1898	On September 17 (29), Trofim Lysenko was born to a peasant family of Denis Lysenko in a small town in Poltava gubernment (now Eastern part of Ukraine).
1925	Lysenko graduated from the Kiev agricultural college (studied extramurally working at an agricultural station in Bila Tserkva near Kiev) and moved to an agricultural station in Ganja (now in Azerbaijan), where he invented the concept of <i>yarovizatsia</i> ⁵ and attracted attention of the press and of the Soviet authorities.
1928	Lysenko published his first (and last) long research paper on the action of temperature on the growth and development of plants.
1929	Lysenko moved to Odessa (South Ukraine) to continue his work on vernalisation project in the Institute for Plant Breeding and Genetics.
1932	On February 11, Lysenko and his main ideologist, Isai Prezent (1902–1969) met for the first time.
1935	Lysenko was applauded by Stalin (“Bravo, comrade Lysenko, Bravo”), and elected member of the Lenin Academy of Agricultural Sciences (VASKhNIL). On June 7, an autodidact plant-breeder Ivan Michurin (1855–1935), a soon to become founding father of the “Michurinist” biology, died. In August, the first issue of <i>Yarovisatsiia</i> (Vernalisation), the central Lysenkoist journal, was published.
1936	Public debates between “geneticists” and “Michurinist geneticists” at the session of VASKhNIL in December.
1938	Lysenko became President of VASKhNIL and moved to Moscow.
1939	Lysenko was elected member of the Academy of Sciences of USSR. Public debates between “geneticists” and “Michurinist geneticists” initiated by “geneticists” were carried out under the auspices of the central journal of the Communist party philosophers, <i>Pod znamenem marksizma</i> [Under the banner of Marxism].
1940	Nikolai Vavilov (1887–1943) was arrested. Lysenko replaced him as the director of the Institute of Genetics in Moscow. Lysenkoists take full control over the Vavilov’s Institute of Plant Breeding in Leningrad.
1941	<i>Yarovisatsiia</i> discontinued due to the War. Lysenko moved to Siberia where he continued his work in practical agriculture. The controversy fades until 1945.
1948	At the “August” session of VASKhNIL (July 31–August 7), the “Mendelian-Weismannist-Morganist” genetics was officially condemned. In the fall, many leading anti-Lysenkoists were fired from universities and research institutes. The formal teaching of and research in “Morganist” genetics ceased.
1963	The first after-1948 Russian university textbook in “Morganist” genetics published by Mikhail Lobashev in Leningrad.
1965	Lysenko lost his dominating positions and retreated to his personal Agricultural research station in Gorki Leninskiye near Moscow. <i>Agrobiologiia</i> [Agrobiology] (1946–1965), the post-War successor of <i>Yarovisatsiia</i> discontinued. Lysenko’s Institute of Genetics in Moscow reorganised.
1976	On November 20, Lysenko died.

⁵ *Yarovizatsia*, or vernalisation was the ability of plants on a certain stage of their development to respond to the action of low temperature, which response triggers the formation of flowers later in the season. Gradually Lysenko became convinced that the vernalisation (defined by him rather vaguely) not only provoked plants to flower but was capable to make other important things like bringing higher yields or transforming winter wheat into the spring wheat.

1. The uses of Darwin

First, it should be noted that neither Lysenko nor Lysenkoists called themselves Lamarckians. Moreover, until a certain point Lamarck was hardly ever (let alone favourably) mentioned in their writings (see section 2 below for details). A preliminary quantitative assessment based on a random sample of papers from the central Lysenkoist journal *Yarovizatsiia* [Vernalisation]⁶ from 1935 through 1941 shows that Lamarck was roughly 25 times less frequently cited than Darwin⁷. The postwar data on the *Yarovizatsiia*’s successor *Agrobiologiia* [Agricultural biology] are less complete, but the dominant position of Darwin is still clearly visible (cited roughly ten times more often than Lamarck).

This disproportion may be hardly a surprise given the relative abundance of the publication of Russian translations of Lamarck and Darwin. A recent bibliographical survey shows that there were six editions of collected works by Darwin and more than forty separate publications of his works, all different editions and translations included (Konashev et al., 2009). Lamarck’s Russian bibliography is far less impressive: a couple of separate editions of *Philosophie zoologique* and a two volume edition of collected works (one may compare this to up to nine volumes of Darwin’s collections)⁸.

The comparison of citation frequencies across journals was even more revealing. The excessive total number of periodicals — there were more than four hundred journals, bulletins, and more or less periodically published proceedings (*trudy*) of different institutions dealing with biology between 1917 and 1951⁹ — and lack of full-text databases renders the exhaustive comparison impossible. So we had to limit our searches to a few (and by no means all) central journals dealing specifically with experimental biology and agriculture. The comparison of Lysenko’s *Yarovisatsiia* to four other journals, *Uspekhi sovremennoi biologii* [Recent Advances in Biology], *Doklady VASKhNIL*¹⁰ [Proc. of the Lenin Acad. of Agric. Sci.], *Semenovodstvo*

⁶ *Yarovisatsiia* (with a subtitle “Journal in the developmental biology of plants”), named after one of the most noticeable Lysenko’s achievements, was a two-month periodical published from 1935 through 1941. Lysenko himself was editor-in-chief, and his one time right-hand man Isaak Prezent served as vice editor. After the WWII the journal was reopened under a more encompassing name *Agrobiologiia* (a new disciplinary identity marker symbolising the unity of agricultural science and biology). Lysenko remained editor-in-chief until the journal was discontinued in 1965. Vice editors Ivan Glushchenko (1907–1987, in office: 1946–1948) and Isai Varuntsian (1898–1988, in office: 1949–1965) and the editorial board (established in 1954) were recruited from among the Lysenkoists. The journal *Agrobiologiia* should not be confused with the collection of Lysenko’s papers published in six editions from 1943 through 1952 under the same name.

⁷ The following data on the citation frequencies for 1929–1941 are based on the calculations by me and Ms. Irene Fedorova, who defended her B. A. thesis under my supervision at the Higher School of Economics (St. Petersburg).

⁸ The data on the Russian translations of Lamarck’s writings published as separate volumes are taken from the catalogue of the National Library of Russia (St. Petersburg).

⁹ The calculation is based on the data presented in *Periodicheskaya pechat SSSR*, 1956.

¹⁰ VASKhNIL, or the Lenin Academy of the Agricultural Sciences of the USSR (founded in 1929), was a typical Soviet Academy built upon the model of the Academy of Sciences of the USSR. It was a federation of research institutes and agricultural stations with thousands of research associates. The body of the Academy consisted of Academicians (who usually were directors of the VASKhNIL institutes). VASKhNIL was governed by an elected Presidium and President. During the years of the Lysenko controversy, the Presidents of VASKhNIL were Nikolai Vavilov (1887–1943, in office: 1929–1935), Alexander Muralov (1886–1938, in office: 1935–1937), Georgii Meister (1873–1943, in office: 1937 as an acting

[Seed production], and *Zhurnal eksperimentalnoi biologii* [Journal of Experimental Biology] brings a remarkable result. *Yarovisatsiia* accounts for 90 % of all references to Darwin's works found in a random sample of articles from these journals between 1929 and 1941¹¹. Comparable data for the post-war period are not yet available but the preliminary counts permit to foretell a similar asymmetry.

The question arises naturally: how come that a journal specialising in the developmental biology of plants and practical agriculture could have such an enormous proportion of references to Darwin? The answer lies in the ways Darwin's works were used by the authors of the journal.

If we exclude anniversary articles published in 1939, then during the 1930s, the use of Darwin's name and works in *Yarovisatsiia* was mostly twofold. First, the epithet "darwinist" was increasingly used as a positive personal characteristic. It was most frequently applied to the two "classics" of Soviet Biology, a plant physiologist and populariser of Darwinism Kliment Timiryazev (1843–1920) and an autodidact plant breeder Ivan Michurin (1855–1935), as well as to an American comrade-in-arms, another autodidact plant-breeder Luther Burbank (1849–1926). Secondly, what is more important, two Darwin's treatises (*The variation of animals and plants under domestication* (1868) and *The effects of cross and self fertilisation in the vegetable kingdom* (1876)) were frequently cited as a reliable source of empirical data on two specific problems of plant breeding (and two of the many Lysenko's favoured theories respectively). First, the vegetative or graft hybridisation, based on the idea that the stock and the scion exchange with their "plastic stuffs" or "saps" thus blending their "natures" to produce a "vegetative hybrid" which is reproducible by seed. Second, the technique of forced cross fertilisation of the self-fertilising domestic plants. This technique was meant to improve the quality of cultivars by avoiding degeneration due to the inbreeding. Thus the most often quoted passages were those related to grafting experiments and to the inevitably dangerous consequences of inbreeding. This tradition extended well into 1950s. Nearly every paper dealing with crossbreeding or grafting published in *Agrobiologiia* contained ritual references to Darwin.

To facilitate the use of Darwin's works among the down-to-earth agricultural researchers, a number of materials was published in *Yarovisatsiia*: a historical paper by Isai Present with page-long quotations from Darwin and Timiryazev (Present, 1935b), a long reprint from Darwin (Darwin, 1938) and two special collections of excerpts (*Darwin on vegetative hybridisation* and *Darwin on the harmful consequences of self-pollination*) each followed by a series of half-dozen papers elaborating on the topics (Darwin, 1939a, 1939b).

The open opposition of geneticists to both forced intravarietal cross-breeding and vegetative hybridisation, which they considered useless, made them vulnerable to accusations of the revision of classical Darwinism in a neo-Darwinian, Weismannist way. Both themes were among the central topics of the 1936 debate at the 4th session of VASKhNIL (*Spornyye voprosy ...*, 1937). Another important rhetorical resource was the conflation of plant and animal breeding in general with evolution, so the practical work in breeding was considered Darwinist by definition. Selection by man was considered a most important tool of it, so anyone who doubted selection's unlimited power could be charged with anti-Darwinism. Geneticists became vulne-

President), Trofim Lysenko (in office: 1938–1956 and 1961–1962), Pavel Lobanov (1902–1984, in office: 1956–1961), and Mikhail Olshanskii (1908–1988, in office: 1962–1965). The public debates at the "sessions" of VASKhNIL marked important steps in the development of the controversy. *Doklady* was the central scholarly journal of the Academy.

¹¹ The interval is defined by the first issue of *Semenovodstvo* and the last issue of *Yarovizatsia*.

erable in this respect too, because they used Wilhelm Johannsen's principle of the inefficiency of selection within pure breeds as a basis for the planning of the rational plant breeding. This theme repeatedly surfaced in public debates, notably in the VASKhNIL "sessions" of 1936 and 1948¹². The opposition of geneticists and Michurinists was, in addition to a number of other frames, framed as an opposition of revisionists and champions of genuine Darwinism. The mid-1930s Lysenkoist position was eloquently summarised by a lifelong collaborator of Lysenko, a plant breeder Donat Dolgushin (1903–1995):

We believe, that as soon as one steps back a bit, returns to the Darwin's biological position, and forgets for a moment about Mendel, his adherents, Morgan, crossing-over, raphanobrassica, and other genetic subtleties, one sees clearly the way, which every plant breeder must follow, the way shown once by K.A. Timiryazev, the way which was triumphantly followed by the famous Luther Burbank, the greatest plant breeder I.V. Michurin, and which is now being followed by Acad. T.D. Lysenko, who holds high the banner of the agrobiological science (*Spornyye voprosy ...*, 1937, p. 264–265)¹³.

Geneticists admitted that Darwinism should remain the basis of biology and practical plant and animal breeding but they advocated a reasonable revision. In his concluding remarks at the 1936 discussion, Georgii Meister pointed out that while Darwinism remains the basic principle, Darwin's vague notions concerning heredity should be abandoned, and Darwin's words should not be quoted selectively and used against new breeding techniques, e. g. inbreeding (*Spornyye voprosy ...*, 1937, p. 406–408). Summarising the results of the session in his letter to the central Soviet newspaper *Pravda*, one of the leaders of geneticists, Nikolai Koltsov (1872–1940) warned:

It is not possible to replace genetics with Darwinism, just as differential calculus can not be replaced with algebra (and, of course, vice versa). Half a century in science is a long way, and the Soviet Union can not afford lagging 50 years behind [the rest of the world] even in a single branch of science...¹⁴

The Lysenkoist's claim to Darwinism in the 1930s was well substantiated with their selective and dogmatic use of Darwin's words. Lysenkoists used Darwin's works not only as a source of theoretical inspiration but as a source of reliable empirical facts as well. Moreover, the Lysenkoist's claim to Darwinism was recognised by their opponents. The geneticists tried to oppose a reasonable revision of classical Darwinism to its dogmatic use, however to little success. By the end of the 1930s, they were increasingly associated in the official discourse with anti-Darwinism, despite their own Darwinist rhetorics.

¹² E. g., at the "August" 1948 session of VASKhNIL, among the "classics" of genetics, Johannsen (23 entries) was outnumbered only by the trio of Morgan (608 entries total, including derivative epithets like "morganist"), Mendel (475), and Weismann (182). Others, like William Bateson, Hugo De Vries, and John Lotsy, were mentioned far less frequently than Jonannsen. The calculation is based on a digitalised copy of the published version of the verbatim report (*O polozhenii ...*, 1948).

¹³ All translations of the quotations from Russian sources in the present paper, except for the passages from Engels, are mine. — A. K.

¹⁴ Quoted after Babkov, 1993. The reaction of People's Commissar of Agriculture Yakov Yakovlev to Koltsov's letter appeared in *Pravda* under a symptomatic title *On Darwinism and some anti-Darwinists* on April 12, 1937 (Babkov, 1993).

2. Disentangling from Lamarckism

By the time Lysenko entered the scene of theoretical debates in mid-1930s, Soviet biologists seemingly reached a consensual operational distinction between neo-Lamarckism and neo-Darwinism. The former was associated with the idea of the inheritance of acquired traits, while the latter, with the integration of a rapidly developing chromosomal theory and natural selection. To make matters worse, different aspects of Lamarckism were condemned on philosophical grounds for their mechanism, idealism, and teleology¹⁵. No wonder that some (but not all) Lysenkoist's practices and concepts (notably, training of plants and vegetative hybridisation) fell under operational definition of neo-Lamarckism and were accordingly labelled in the public debate. No wonder that these accusations had to be dealt with.

Unlike Lysenko, whose confession of insufficient familiarity with Darwinism (let alone Lamarckism) might be, for all we know about his education, empirically true¹⁶, his main ideologist Isai Prezent was well-versed in the current biological and philosophical debates and participated in the development of the new materialist biology since the late 1920s¹⁷. He knew all too well that Lamarckism was generally considered to be an outdated evolutionary doctrine, inferior to Darwinism, whatever difference between them one may wish to see. In 1931, Prezent headed a newly established department for the Dialectics of Nature and General Theory of Biology at the Leningrad University. A reader in Evolutionary Doctrine compiled by a "brigade" from this department and edited by Prezent himself drew a clear distinction between Lamarckism and Darwinism, and reproduced the conventional interpretation of the divide¹⁸. Moreover, in his early writings, Prezent explicitly criticised the doctrine of the inheritance of acquired traits for its mechanistic character¹⁹.

However, to criticise the doctrine of the inheritance of acquired traits is one thing, and to explain why Michurinist biology is not Lamarckian is quite another. In the face of accusations of Lamarckism raised by geneticists, Prezent tried to disentangle Michurinism from Lamarckism and develop some rhetorical defensives. In his obituary to Ivan Michurin, Prezent praised the year 1900 as an important turning point in the development of Michurin's thought.

¹⁵ For a detailed account of the debates see e. g. Gaissinovich, 1980.

¹⁶ At a meeting of the front-rank workers ("peredoviki") of agriculture with the governmental representatives, Lysenko pronounced a phrase much quoted later: "I often read Darwin, Timiryaziev, Michurin. Our laboratory co-worker I.I. Prezent helped me with that. He has shown me that the origins of the work I carry out, its roots, they were given by Darwin. I, Comrades, must confess right here, in front of Joseph Vissarionovich Stalin, that, shame on me, I did not really study Darwin [before]." published in *Pravda*, January 2, 1936, cit. in Popovskii, 1991 and Reznik, 1983, p. 72).

¹⁷ A detailed account of the early years of Prezent's career can be found in a monograph by Kolchinskii (1999, see esp. Chapters 4.3 and 4.6, p. 178–188 and 203–208 respectively).

¹⁸ *Khrestomatiia* ... , 1934. Ironically, one of the members of the "brigade" was I. A. Rapoport (1912–1990), a future geneticist and militant anti-lysenkoist (Iosif Abramovich Rapoport ... , 2001, p. 310).

¹⁹ See his foreword to the posthumous publication of Iu. A. Filipchenko's *Experimental zoology* (Prezent, 1932a, p. I–XXVIII). Part of this introduction criticising "ectogenetic mechano-Lamarckists" was reprinted in the reader (*Khrestomatiia* ... , 1934, p. 503–505). Along with two other critical pieces and a resolution approved by the joint meeting of the Communist Academy and Natural Sciences division of the Institute of Red Professors condemning "mechanistic materialism", the Prezent's two pages and a half comprised the final eighth chapter *Criticism of the mechano-Lamarckism* of the section five on *Metaphysical theories of speciation* (*Khrestomatiia* ... , 1934, p. 495–509). Another chapter of the same section criticised specifically the doctrine of acquired traits (*Khrestomatiia* ... , 1934, p. 480–495).

It is exactly the year 1900, that is renowned in the official biological historiography as the year of the rediscovery of Mendel's laws, will also go down in the history of biology as the year marking a new phase in the work of a fighter for Darwinism, a creator of the new forms, I.V. Michurin. In 1900, I.V. Michurin broke with the ideas of acclimatizers led by Dr. Grell, who proceeded from an essentially Lamarckian assumption that a foreign plant being brought under new conditions will by itself adapt to the climate of the new locality, and decided to realise [voplotit' v zhizn'] his mature ideas (Prezent, 1935a, p. 16).

Prezent did not explain any further the details of the differences between Lamarckian and Michurinist basic assumptions. However, a considerable part of the obituary deals with the active role Michurin himself played in the process of plant adaptation. Prezent mentioned the famous Michurin's dictum "We cannot wait for favours from Nature. To take them from it — that is our task" and emphasised the planned selection of parents for crosses, "training" of hybrid seedlings, and "control of dominance" in hybrids (Prezent, 1935a, p. 17–21). By the latter, he meant that young plants can be treated in such a way as to secure the dominance of desired traits of their parents. Prezent credited Gregor Mendel with the discovery of the "fact of dominance" but it was Michurin who discovered the laws governing dominance and put them to the service of practical plant breeding (Prezent, 1935a, p. 18).

Prezent provided some further explanation next year. In his paper based on a talk at a session of VASKhNIL in Michurinsk (June 1936), he undertook a more sophisticated attempt to distance from Lamarckism emphasising the role of the organism's own structural requirements.

Anti-Michurinists are trying to portray Michurin as a Lamarckist and the method of mentor as a Lamarckist one. This must serve to further scare [people] away from Michurin and Michurinist methods. However, only those who understand little of both Michurinist doctrine and Lamarckism and know both of them only by hearsay can take the methods proposed by Michurin for Lamarckist ones. Indeed, the core of Lamarckism as a distinct school of thought lies with the proposition that an organism subjected to the conditions inappropriate for that organism's biology can reconstruct itself on its own according to these foreign conditions, that go far beyond the *limits* of the organism's requirements. If we put aside the psycho-Lamarckism, which ascribes such a reconstruction to the psychogenic [factors], and speak only of mechano-Lamarckism, the latter holds to the opinion that the organism's reconstruction adjusted to the new *kind* of external conditions by means of a simple diffusion of external into the internal. This mechanical theory, put forward in Feuerbach's classical dictum "man is what he eats", is wrong not only in relation to man, it is wrong in relation to animals and plants too. ... [A]n organism does not simply incorporate the external, it actually *assimilates* this external, reworks it according to *its own*, already established, structure, and it is for this reason that an organism can not incorporate *any* elements of environment, but only those, which *in this or that way* fall within the measure of its present adaptive requirements²⁰.

These two Prezent's statements added up to a dialectical and subtle distinction. Neither Michurin nor plants trained by him were passive observers waiting for Nature's favours, they actively participated in the adaptation process, Michurin, by training and reshuffling plants,

²⁰ Prezent, 1936, p. 52–54, italics in original. The psycho-Lamarckism was already condemned for its "idealism", so Prezent tossed it aside without any further discussion. The method of mentor originally proposed by Michurin was one of favorite Lysenkoist techniques of training a promising seedling by grafting on it a scion of an established old breed, the properties of which were believed to somehow influence the seedling.

plants, by assimilating selected elements of “the external” according to their structure. The distinction, though, was too subtle to be easily reproducible.

At the 4th session of VASKhNIL (December 19–27, 1936) the issue of Lamarckism was raised in an open debate. The first accusations of Lamarckism surfaced well before the session, and Lysenko reacted to them in his keynote address *For the Darwinism in the agricultural science* but he had to be less specific about the differences from Michurinism relying more on the intrinsic logics of Prezent’s anti-Lamarckian stance:

Nobody would dare to say that environment plays no role in the evolutionary process of the plant form. At the same time, geneticists deny the possibility of a directed change of the hereditary basis of plants by means of appropriate training in a series of generations. Without a slightest hesitation, geneticists at once classify any attempt to take control over this process as Lamarckism. They forget that, when one departs from the Lamarckian standpoint, there can be no positive result. ... It is hard to find a worse enemy of Lamarckism than Dr. Prezent, and, at the same time, comrade Prezent, as you know, not only supports the idea of transformation of the hereditary nature of plants by means of appropriate training, but he himself is among those few who undertake extensive experimentation in this direction²¹.

After the keynote address on animal genetics by Alexander Serebrovskii (1892–1948) (*Spornye voprosy ...*, 1937, p. 72–113), the theme became recurrent, even though not central to the debate (the forced intravarietal cross-breeding in self-pollinating agricultural plants, vegetative hybridisation, vernalisation, and the problem of the unity of theory and practice were more pressing). Boris Zavadvovskii (1895–1951) devoted a special section of his long statement to the problem of possible revival of Lamarckism in the works of Lysenko, which revival he identified as a “serious threat”. However, like Lysenko, he did not go much further than to refer to Prezent’s and to his own reputation of anti-Lamarckians (*Spornye voprosy ...*, 1937, p. 179). Boris Zavadvovskii conceded that certain Lamarckian tunes can be heard in the statements by Lysenko’s constant co-worker Donat Dolgushin or a philosophising biochemist Sergei Perov (1889–1967) but definitely not in those by Prezent and Lysenko (*Spornye voprosy ...*, 1937, p. 180). The similarity between Lysenko’s and Lamarckian views was denied by several other speakers²². The denial theme was taken up by geneticists, even though not without irony. A young geneticist Nikolai Dubinin (1907–1998) rejoiced to see Lysenkoists denying Lamarckism but doubted the degree to which this denial was conscious.

Trofim Denisovich [Lysenko. — A.K.] in every possible way denies the bugbear (*zhupel*) of Lamarckism, and I rejoice, and all geneticists rejoice too. (Acad. T.D. Lysenko: They affix it on me all the time) ... The interpretation of your experiments on the “retraining of plants” has an undoubtedly mechano-Lamarckian character, even though you do not realise it themselves (*Spornye voprosy ...*, 1937, p. 341).

²¹ Lysenko’s speech at the 4th session of VASKhNIL on December 23, 1936, cited after: Lysenko, 1949, p. 202–203. The title of the two published versions have different emphases. The version published in *Agrobiologiya* was titled *On the two schools in genetics*, the one published in the conference proceedings, *For the Darwinism in the agro-biological science* (*Spornye voprosy ...*, 1937, p. 39–71). The verbatim transcript gives a more colloquial wording but the structure of the argument remains basically the same (see Babkov, 1998 for excerpts).

²² See the statements by E. Ya. Borisenko, Sergei Perov, and Mikhail Olshanskii (*Spornye voprosy ...*, 1937, p. 249, 327, 346–347).

Mikhail Zavadvovskii (a more genetically inclined elder brother of Boris, 1891–1957) seconded Dubinin and even proposed Lysenkoists to join the efforts in combating Lamarckism, but he too insisted on the need of a “real” denial.

It is most pleasant to hear that Lamarckism is not the Acad. T.D. Lysenko’s school position. ... If we have already reached an agreement on this issue in our debates, reached a clear denial of Lamarckism in the sense of somatic induction, then it is excellent. (From the floor: We never took the stand of Lamarckism) Offering you our hand on this matter, we shall form a united front to fight Lamarckism, because this theory does not agree with the facts available. ... It should not only be dogmatically stated that you deny the Lamarckian standpoint (it is not enough), but, in the analysis of the material you work with, it ought to be shown that you really deny this position (*Spornye voprosy ...*, 1937, p. 401).

The 1936 debate revealed the problematic character of the Prezent’s hairsplitting effort to distinguish between Michurinism and Lamarckism, even though some observers saw the difference. A better and rather unsophisticated solution arrived soon. Instead of messing with the slippery philosophical distinctions drawn by Prezent, the vice was boldly turned into a virtue, and Lamarck was portrayed as a genuine precursor of Darwin at least in one important respect. In his lecture at the nation-wide meeting of the heads of the Departments of Marxism-Leninism on July 6, 1940, Lysenko favourably mentioned Lamarck praising the latter as a smart guy and claiming that the Michurinist principle of the unity of the organism and environment is not only Lamarckian but also truly Darwinian²³.

... [I]n vain Morganists scare the people this much with Lamarckism. Lamarck was a clever man. Although his teachings can not be equated with Darwinism in their importance. In the Lamarck’s teachings, there are serious mistakes. However, during his lifetime, there was no scientist more advanced than Lamarck. Lamarck should not be turned into a bugbear [*pugalo*. — A.K.]. ... Morganists do not understand and do not accept the Michurinist proposition that the changes in the race of an organism are connected to the conditions of existence of that organism. They are trying to affix the label of Lamarckism to this idea. Meanwhile, the said Michurinist proposition is part and parcel of Darwinism (Lysenko, 1940b, p. 23).

This rhetorical turn became a persistent theme in the cursory interpretations of Lamarck’s writings within the Lysenkoist tradition. It is enough to say that at the VASKhNIL session of August, 1948, nearly all speakers who mentioned Lamarckism paid their tribute to it²⁴. A rustic *pugalo* (literally: scarecrow) was used interchangeably with a more pathetic *zhupel* (literally:

²³ It should be noted that there were hints in this direction, see e. g. the speeches by Boris Zavadvovskii and Sergei Perov at the 1936 session of VASKhNIL (*Spornye voprosy ...*, 1937, p. 180, 327) or Ivan Polyakov’s statement at the conference on the problem of genetics, plant and animal breeding under the auspices of the journal *Under the banner of Marxism* (*Soveshchaniye ...*, 1939, p. 172).

²⁴ Among other important texts of the period, this sujet re-emerges in the programmatic paper by Prezent (1947), in which the Soviet Creative Darwinism propelled to a front-page headline (see section 3 below). Prezent identified six basic principles of Lamarckism, rejected three or them (the internal drive towards progress and the action of subtle fluids upon less and more organised plants and animals), and recognised the remaining three (progressive evolution by means of purposeful adaptation to the conditions of life and two principles regarding training and reduction due to inactivity) as a part and parcel of Darwinism (Prezent, 1947, p. 23–25).

“[fire and] brimstone” with obvious but faded Biblical connotations) but the structure of the argument remained the same²⁵.

Ironically, Lysenkoists now used what was considered the worst part of Lamarckism, the “autogenetic” idea of the internal drive pushing organisms up the Scale of Nature, to blame “mendelist-morganist” geneticists for building their research program upon a wrong part of the Lamarck’s heritage. The offensive was started by a cattle-breeder Vaginak Shaumian:

All judgements and propositions by Weismann, Morgan, Mendel, and the others on the sex cell, on its specifics and its immutability, on the mutations and autogenesis, etc., are essentially nothing but some absurd and anti-scientific propositions by Lamarck, that he tried to apply to the animal organisms. The “internal drive”, by which Lamarck tried to explain the creation of forms and development in the animal world, serves, essentially, as a basis for the theory of mutations, autogenesis, autonomy and specifics of the sex cell in its attempts to remain unchanged for ever. The difference between Lamarck and Morgano-Mendelists with respect to the problem discussed above consists only in the following. According to Lamarck, these “drives” caused variation in animals, while Morganists claim that this “drive” is present in the sex cells of both plants and animals, what guarantees their immutability and permanence. This is why we regard Lamarck as a beating stick in our hands, which stick has two ends. And we should beat formal geneticists with this stick using its appropriate ends in a reasonable and thorough way²⁶.

The beating stick was picked up by Fyodor Dvoriankin and Isai Prezent (the former only briefly stated that the ones who accuse Lysenkoists of Lamarckism are Lamarckians themselves, while the latter went into an intricate argument involving I.I. Schmalhausen’s inappropriate sympathies to American paleontologist Edward Cope who exemplified covert Lamarckism)²⁷.

However, despite this change of attitude towards Lamarckism, it was not until the late 1950s that Michurinists found time to read Lamarck closely. In 1955–1959, a two volume collection of translations from Lamarck’s writings was published under the auspices of Ilya Poliakov, an author of a university textbook of Darwinism who saw no Lamarckism in the Lysenko’s works in 1936 and had to repent on the last day of the August 1948 Session of VASKhNIL, and Nikolai Nuzhdin, one of the leading Lysenkoists (Lamarck, 1955–1959). Isai Prezent reacted with a brochure, in which he tried (at last) to “resort to the Lamarck’s own texts in order to substantiate this or that claim on the propositions of his doctrine”²⁸. After fifty pages of analysis, which, if one forgets

²⁵ See, e. g., the speeches by Lysenko himself (*O polozhenii ...*, 1948, p. 11, 14), I.G. Eikhfeld (ibid, p. 57–58), I.E. Glushchenko (ibid, p. 185), V.A. Shaumian (ibid, p. 220), M.B. Mitin (ibid, p. 230), F.A. Dvoriankin (ibid, p. 304). The theme of selective distancing from Lamarckism at the 1948 session was so prominent because of a new wave of charges with Lamarckism raised by non-Lysenkoist biologists in 1946 — spring of 1948.

²⁶ *O polozhenii ...*, 1948, p. 220. Ironically, it mirrors the 1936 Dubinin’s attempt to charge Prezent with “Weismannism” for the latter’s theories of mutual assimilation of gametes and of “marriage of love” [*brak po liubvi*] among plants, according to which the pollen corns stuck to the stigma of the pistil compete with each other for the right to pollinate the ovule (*Spornyye voprosy ...*, 1937, p. 339).

²⁷ *O polozhenii ...*, 1948, p. 304–305, 498. Academician Ivan Schmalhausen (1884–1963) whose interests embraced the whole field of evolutionary biology from comparative anatomy and paleontology to genetics, an author of university textbooks and monographs on the theory of evolution, and an active critic of Lysenko was one of the main targets of Lysenkoist criticism at the August 1948 session of VASKhNIL.

²⁸ Prezent, 1960, p. 6. It should be noted that the reader compiled in the 1930s by Prezent’s brigade included excerpts only from the then available translation of *Philosophie zoologique* and from several texts analysing Lamarck’s writings (*Khrestomatiia ...*, 1934, p. 87–117). The newly published collection offered a much wider

about the name of the author, might pass for an ordinary boring exercise in the history of ideas, Prezent came to an inevitable conclusion reiterating the ideologemes worked out years before.

Remarkable is the fate of the Lamarck’s doctrine. Unacknowledged during its author’s lifetime, it has found later many followers claiming the succession. Here they are, “psycho-Lamarckists”, crudely distorting the Lamarck’s doctrine in the spirit of idealism, “mechano-Lamarckists”, who proved to be unable to overcome the mechanist traits present in this doctrine. Ch. Darwin accepted the proclaimed by Lamarck proposition on the inheritance of features acquired under the influence of the conditions of life, without which [principle] the historicity of organic forms and the accumulating action of selection are impossible. K.A. Timiryazev and E. Haeckel elaborated on the problems of Darwinism, enriching the theory with Lamarck’s ideas on the factors of evolution. At the same time, our contemporary metaphysics of biological science, represented by Weismannist-Morganists, made Lamarck into a bugbear [*zhupel*], slandering every truly materialist proposition of his doctrine as anti-scientific. And, at last, the Michurinist doctrine, in its fight for materialism in biology, avoiding a scholastic approach both to the doctrine of Darwin and to the doctrine of Lamarck, played the role of the true heir of whatever was scientific in these doctrines²⁹.

Thus, the Lysenkoist’s attitudes towards Lamarck underwent some evolution, changing from overtly negative to partly positive. From mid 1930s until the very end of the Lysenko affair in mid-1960s, Lysenkoists consistently denied the charges with Lamarckism. At first, they tried to find sophisticated differences between “Michurinist” and “Lamarckist” approaches to the plant and animal breeding and organic evolution but their critics doubted the logical coherence and sincerity of the Lysenkoist argument. Since early 1940s Lysenkoists began to stress a selective approach to Lamarck’s heritage, favouring the principle of the inheritance of acquired traits as “truly Darwinian”, rejecting other “Lamarckian” ideas they found objectionable on philosophical grounds, and, sometimes, even accusing of Lamarckism their Weismannist-Morganist adversaries. It was only in the late 1950s that Lysenkoists got a chance to consult a wider range of original Lamarck’s works, however this wider acquaintance with Lamarck did not have any effect on the ideologemes worked out during the mid-1930s — early 1940s.

3. Revising Darwinism

The first signs of the coming revision appeared as early as in April 1932, shortly after Prezent and Lysenko met for the first time. On the occasion of the 50th anniversary of Darwin’s death, Prezent published a booklet *Darwin’s theory in the light of dialectical materialism* (Prezent, 1932b)³⁰. The booklet was subdivided into 29 numbered sections varying in length from three lines and a half to several pages.

range of Lamarck’s texts. The above-mentioned paper by Prezent (1947), in which he established six basic principles of the Lamarck’s evolution theory, lacks any references to Lamarck’s writings, even though, unlike many Lysenkoist papers, it was not completely devoid of citations (there are 35 footnotes). Moreover, two references (to Haeckel and Engels) were present even in the pages under discussion (Prezent, 1947, p. 23–25).

²⁹ Prezent, 1960, p. 58–59. It is worth a notice that, besides *zhupel*, Prezent used other nonconventional words, notably *vospriemnik* (godfather) instead of *preemnik* (successor or heir) and *podbor* (matching) instead of *otbor* (selection). The literal translation would render the passage incomprehensible.

³⁰ The first documented encounter happened on February 11, 1932. It is more likely that Lysenko had played no role in the preparation of this booklet, for his intense co-operation with Prezent began somewhat later, in the summer or fall of 1932 (Kolchinskii, 1999, p. 204–205).

Prezent began by stating that, building socialism, “we” should not throw aside the achievements of the world culture but assimilate them in an appropriate way. Darwinism surely was one of such achievements produced by the “ascending line of the capitalism’s development”. However, it should first be saved from menshevizing idealists and mechanists (Prezent, 1932b, p. 1). Prezent stressed that the origins of Darwin’s theory lied with the breeding of new breeds of domestic animals by means of selection of hereditary adaptations. This made Darwin a near-Marxist in the Prezent’s eyes: the practice of breeding was contrasted to a contemplative attitude and reminded of a Marxist dictum “Practice is the sole criterion of truth”. On the other hand, this bond to the contemporary agricultural practice put certain limitations on Darwin’s thought, for the contemporary practice was a bourgeois one (Prezent, 1932b, p. 5). Prezent’s Darwin vacillated between mechanism and autonomism, preferred gradualism to saltationism (Prezent used charming neologisms *postepenovshchina* and *skachkizm* respectively). This made Darwin a poor non-reflective dialectician, even though his theory was sometimes close to spontaneous or instinctive (*stikhiinyi*) dialectical materialism. A more serious drawback of the Darwin’s theory was that, although it provided an explanation to the problem of adaptation, which is achieved historically, by means of selection of those better fit to the environment, it failed to explain the “specific essence of life established by Engels, the essence that makes the selection of adaptations inevitable” (Prezent, 1932, p. 7). This essence was the dialectical unity of assimilating and dissimilating activities of an organism. It was because of these processes, that for the living, organised, bodies “not every [possible] environment is the ‘condition of existence’” (Prezent, 1932b, p. 8). The following passage, however obscure, is instrumental in our attempts to find the sources of the future ideologemes.

This is why the fitness, the adaptation of an organism to its milieu is necessarily included *into the measure* of life of an organism, this is why the natural selection of those organisms that are not adapted to the conditions of existence happens.

14. Instead of deriving the necessity of selection of adaptations from the very essence of the process of life, Darwin put forward Malthusianism, the Malthus’ doctrine on the progression of population growth, as the universal principle, which makes selection necessary.

15. However, Darwin himself, in the illustrations he provides, gives some material to establish the fact of heritable adaptive transformations *without any Malthusianism*.

16. “The struggle for existence”, identified by Darwin with *any* manifestation of life, must, indeed, be limited “to the struggles resulting from plant and animal over-population, which do in fact occur at certain stages of plant and lower animal life. But one must keep sharply distinct from it the conditions in which species alter, old ones die out and newly evolved ones take their place, without this over-population” (Engels)³¹.

On the following page, the Prezent’s Darwin (after paying the tribute to his class values by succumbing to Malthusianism) instinctively (*stikhiino*) but successfully resolved a dialectical problem of the intrinsic connection between the necessary and the accidental. He did so by applying the principle of selection among the many relatively adaptive or inadaptive variations, instead of Lamarckian “physiological” hypothesis of the “internal feeling” to the problem of adaptive character of the phylogenesis. Thus, even though Darwin did not go any farther than

³¹ Prezent, 1932b, p. 8, the original boldface is changed to italics; the quotation from Engels’ *Dialectic of Nature* is given in the translation from the German by Clemens Dutt, see: Engels, 1934 (1974), p. 295–311. Had Prezent extended his quotation a little further, the borrowings from Engels would become more evident, for the catch phrase “without any Malthusianism” lies a couple of lines below the quoted passage.

treating the accidental as a consequence of “the crossing of external series of development”, he managed to strike a fatal blow on teleology and theology and made his way to the materialists’ hall of fame (Prezent, 1932b, p. 9). A considerable part of the paper was reserved for the defense of Darwinism from anti-darwinists denying the creative power of natural selection or banning teaching of Darwinism at school on the one hand, and Social-Darwinists using the concepts of struggle for existence and improvement of race by means of natural selection to justify the inequality, wars, and racial hygiene, on the other (Prezent, 1932b, p. 10–16).

Finally, after dealing, among other enemies, with mechanists and menshevizing idealists, Prezent came to the good news about the fate of Darwinism in the contemporary USSR. The most important feature of the Darwinism in the USSR was the opportunity to make plants and animals evolve in huge quantities and in a planned manner. Michurin and Lysenko exemplified the front-line fighters for the planned plant breeding. Prezent emphasised the scale of the enterprise, mentioning 100,000 hectares of vernalisation experiments in the state farms (*sovkhozy*) alone, not counting the collective farms (*kolkhozy*) also involved in the project. He mentioned the plans to use of the world collection of wheat varieties (presumably the one gathered in the Nnikolai Vavilov’s Institute for Plant Breeding), and the vast network of research stations scattered all over the Soviet Union. Soviet people did even more. They not only participated in the evolution by means of extensive research in genetics, plant and animal breeding, hybridisation, metisation, and acclimatisation³². They initiated the change of the very “conditions of existence” by means of planned change of the climate. An unnamed physicist from Ashgabat was credited with the invention of the rain-bringing electrified smoke, while irrigation of deserts of Middle Asia and warming of Siberia were mentioned briefly as work-in-progress activities, remarkable but not deserving special attention (Prezent, 1932b, p. 17–19). The socialist planned economy provided a far better environment for the development of evolution theory than the bourgeoisie agricultural practices of Darwin’s contemporaries.

In this programmatic paper, one may see some of the themes which became recurrent in the thirty years to follow: the insufficiency of Darwin’s evolution theory; the “Malthusian mistake”; the role of assimilation and dissimilation in the natural selection; the narrow and slippery path of the “party line” dialectically creeping between the opposing camps of right-wing and left-wing *uklon* (deviation), menshevizing idealists and mechanical materialists; Burbank, Michurin, and Lysenko as true heirs of Darwin; the creative role of plant and animal breeders, etc.

Some of them were downplayed for a while. In the mid or late 1930s, neither Prezent, nor Lysenko stressed the differences of their theories from Darwin’s views staying on the safe ground of selective reading along the lines described above (see section 1)³³. It was only in the early 1940s that Lysenko dared to attempt a revision and draw some boundaries on this flank. By that time, Lysenko was already at the top of scientific hierarchy, which entitled him to speak more openly on the philosophical issues of biology.

In his 1940 paper on Engels and Darwinism, Lysenko (1940, p. 3–17) started playing with the idea that the natural selection is wrongly perceived by contemporary biologists.

The doctrine of natural and artificial selection is central to Darwinism. The essence of the natural selection is that the organisms that are adapted to life in a given environment survive;

³² For whatever reason Prezent included in his enumeration of current activities *gibridizatsiia* and *metizatsiia* as two different items (Prezent, 1932b, p. 19).

³³ During the 1936 session of VASKhNIL, Prezent made a passing remark on the “creative renewal” (*ivorcheskoie obnoveniie*) of Darwinism but he did not elaborate on this (*Spornyye voprosy ...*, 1937, p. 385).

those not adapted do not survive or leave no offspring. Darwin saw the cause of the natural selection mostly in the struggle for existence resulting from the over-population. Nobody would deny the fact that, in the plant and animal kingdoms, many more germs of the organisms come into existence usually than there is place available for their survival and development. This is why it is clear that the struggle for existence as a result of over-population does take place in nature. But the main driving forces of the development of the organic world should be sought elsewhere³⁴.

Just like Prezent in 1932, relying on some passages from Engels and stressing the importance of metabolism and assimilation, Lysenko maintained that the change of metabolism was the most important part of the natural selection, which could serve well enough without any struggle for existence.

In Anti-Dühring, one may read: "From the metabolism which takes place through nutrition and excretion, as the essential function of albumen, and from its peculiar plasticity proceed also all the other most simple factors of life..." ... *Succeed in changing the metabolism, and their breed, their inheritance will change at once, they will become plastic.* The Engels' doctrine that all the other simple factors of life can be derived from the metabolism, and, among others, of course, the variability of heredity, is confirmed only too well by the I.V. Michurin's doctrine of mentors, of vegetative hybrids³⁵.

A most dramatic further step was taken in Lysenko's lecture on the natural selection and the intraspecific competition read before the workers of the state plant breeding stations on November 5, 1945. To begin with, he drew a distinction between two perspectives on the natural and artificial (as Darwin's selection by man was called in Russia) selection. From the viewpoint of "our Soviet biologists", selection (both natural and artificial) was the creator of the new forms. From the viewpoint of biologists sharing the views of "formal geneticists", selection was considered as a mere sieve (Lysenko, 1949, p. 525–526). This distinction was not a novelty in itself (it had been used before in the Lysenkoist criticism of Johannsen's notion of the inefficiency of selection within pure breeds), however what followed from it was a revolution.

... [T]he notion of *the natural and artificial selection* is much wider and deeper. *Darwin understood the selection metaphorically, allegorically, [the selection] included three factors, acting all the time together: variability, heredity, and over-population* (Lysenko, 1949b, p. 528, italics in original).

Lysenko substantiated this claim with a quotation from Timiryazev, who stressed the metaphorical use of "selection" in Darwin's works, referring in his turn to numerous instances when Darwin himself insisted on its metaphorical meaning. After reminding that plant breeders should not reduce the selection to mere sorting, Lysenko went deeper into analysis of its constituent parts, focusing on the third component.

³⁴ Lysenko, 1940, p. 3. In the Russian discourse, Darwin's "selection by man" is rather uniformly translated as "artificial selection" (*iskusstvennyi otbor*).

³⁵ Lysenko, 1940, p. 6–8; the quotation from Engels is given according to the translation from German by E. Burns, see Engels, 1947.

Let us consider the last factor, *the over-population*. As an allegedly most intelligible factor, it usually serves as a point of departure for the exposition of Darwinism. I can not agree with a conventional treatment of it. I do not agree with the treatment of the factor of over-population because, in my view, as a rule, *there was no, there is no, and there can not be any over-population* in nature. This is why I interpret the natural selection as the three jointly acting factors: variability, heredity, and survival potential [*vyzhivaemost'*] (instead of over-population). I believe that such an interpretation agrees better with the reality, as well as with a general truly Darwinist theory of evolution, the creative Darwinism (Lysenko, 1949b, p. 529, italics in original).

Just as before, this innovation in the evolution theory was connected to one of Lysenko's favourite agricultural innovations: the method of cluster planting of some field crops and forest trees. Lysenko stated that plants of the same species growing in a dense cluster do not compete with each other. Instead they cooperate to combat other species, while the differential growth can be explained not by the depression of certain individuals but by their willingness to help other, more powerful conspecific specimens of the same cluster. It was in this paper that Lysenko wrote of hares who did not eat each other, thus exemplifying lack of intraspecific competition in Nature. This renovation of Darwinism provoked sharp criticisms from a wide range of biologists. Petr Zhukovskii (1888–1975), a botanist and plant geographer, responded to Lysenko's lecture with a paper under a symptomatic title *Darwinism in a distorting mirror* published in a central professional journal of plant breeders *Selektzia and semenovodstvo*. A number of meetings organised in 1947–1948 were devoted specifically to the criticism of Lysenko's denial of the struggle for existence. Lysenko and his adherents responded with a series of articles and interviews in the central newspapers (including *Pravda* and *Literaturnaia gazeta*) and journals fully or partly controlled by them. This wave of criticisms, notably the intervention of Yurii Zhdanov (1919–2006), then the head of the Science Section of the Central Committee of the Communist Party, was among the many factors that triggered eventually the August 1948 session of VASKhNIL³⁶.

In his programmatic paper of 1947 boldly titled *Soviet Creative Darwinism*, Isai Prezent elaborated on the Lysenko's vague hints at the reformulation of the notion of the natural selection. Again, Prezent came back to the miraculous 1900. Now, he did it to stress that Michurin took up the problem of the origin of the new forms at the very point where Darwin left it. Prezent claimed that Darwin, being limited with contemporary agricultural practice, opposed definite variations to the selection of indefinite variations, thus making a serious mistake. Moreover, among the three forms of selection discussed by Prezent's Darwin (natural selection and two forms of selection by man, unconscious and methodical) all were defective.

A higher, comparing to those named and explored by Darwin, form of selection embraces also certain activities aimed at the creation of the necessary source material, i. e. the creation of "definite variations", and certain systematically-training activities in the course of the creation of the [new] breeds. ... It is exactly this activity that elevates the selection at a higher level, taking

³⁶ By no means, I would like to argue that this theoretical dispute was the only or even the main cause of the August 1948 session. However, the public debate on the struggle for existence and problems of the evolution theory, involving central press and Yuri Zhdanov, was part and parcel of a complex dynamics that led to the dramatic culmination in August 1948. The controversy over the issue of struggle for existence is duly covered in all standard reference books on the Lysenko affair. A concise but detailed account of the decisive phase of the controversy from the fall of 1947 through the spring of 1948 was given by N. Kremontsov in connection with his interesting hypothesis on the Cold War context of the dynamics of the Lysenko affair (Kremontsov, 2003, p. 851–855).

it still further from the kingdom of necessity to the kingdom of the consciousness of necessity, the kingdom of freedom. Such an interpretation of selection is a *creative*, not dogmatic mastery of Darwinism³⁷.

Again, Prezent stressed the active role Michurin played in the upbringing of the parent plants for crossings, special conditions he created for the seedlings, and the method of mentor. This persistent activity brought guaranteed success, in contrast with the “old” plant breeding “theoretically enriched” with classical Darwinism (Prezent, 1947, p. 12). Again, this plant and animal breeding effort was multiplied by dozens of research institutes, by an army of “experimenters-Michurinists” in the collective and state farms led by the “people’s” Academician Lysenko (Prezent, 1947, p. 13)³⁸. Explaining the meaning of the recently invented catch phrase, Prezent wrote:

We should speak [here] of the Soviet Creative Darwinism, because exactly in the *Soviet* country Darwinism was: 1) critically *reviewed* from the angle of the highest method of cognition, the dialectical materialism; 2) *enriched* by inclusion of the results of new findings in the field of plant development, which took place exactly in the Soviet biological science; 3) theoretically renovated according to the new principles and methods of the plant and animal breeding, which were unknown in the time of the old classical Darwinism; 4) resting upon such a new form of selection that includes a planned upbringing of the material being selected, which makes the selection itself *incomparably higher with respect to its creative effect*. (Prezent, 1947, p. 12, emphasis in original)

The renovated and enriched theory of evolution deserved independence. In his keynote address at the August 1948 session of VASKhNIL, *On the situation in the biological science*, Lysenko explicitly confirmed that the doctrine to which he adheres is neither neo-Lamarckism, nor neo-Darwinism, nor even classical Darwinism any more, but a peculiar Soviet Creative Darwinism which managed to overcome the mistakes of all three.

[B]y no means, the Michurinist school can be called Neo-Lamarckian or Neo-Darwinian. It [the Michurinist school. — A.K.] is the Soviet Creative Darwinism repudiating the mistakes of both and free from the Darwin’s mistakes on the part of Darwin’s acceptance of the erroneous Malthusian scheme (Lysenko, 1948, p. 14).

Among these mistakes, there was not only the struggle for existence targeted already in 1941 and overcome by 1945 but also the Darwin’s gradualism and lack of appreciation of qualitative leaps required by the Dialectical materialism as well as Darwin’s skepticism towards the notion of species. Here again Engels came to the stage to help winning against Darwin. Lysenko stressed that Darwin was right stating the variability of species and genealogical relationships

³⁷ Prezent, 1947, p. 12. The distinction between definite and indefinite variations goes back to Darwin’s *Origin of Species*: “They may be considered as definite when all or nearly all the offspring of the individuals exposed to certain conditions during several generations are modified in the same manner” (Darwin, 1876, p. 6).

³⁸ One may easily notice here the familiar themes: the mass and planned character of plant and animal breeding in the USSR (see Prezent, 1932) and the praise of Michurin’s creative role in the plant breeding (Prezent, 1935).

between them. The wrong idea was Darwin’s rejection of the qualitative leap that divides species from varieties.

The need has come, the need is ripe to revise the problem of speciation from the angle of a drastic transition of the quantitative increase into the qualitative intraspecific differences. One should understand that the formation of a new species is a transition from the quantitative changes to qualitative ones in the course of historical process. Such a leap is prepared by the organic forms’ own vital functions as a result of the quantitative accumulation of the perception of particular conditions of life, and this is readily available for study and control. ... I think, that, from this perspective, we can rightfully suppose that what brings about the formation of a new specific form, the obtaining of a new species from an old one, is the accumulation of quantitative differences different from those by which one usually discriminates varieties within a species. The quantitative accumulation of changes leading to a spasmodic transformation of an old specific form into a new specific form is a change of a different order (*O polozhenii ...*, 1948, p. 38–39).

According to Lysenko, the species were distinct natural elements of living nature, the “unbreakable links in the great chain of being”.

Species are not abstract entities, they are really existing nodes (links) in the universal biological chain. The living nature is a biological chain, sort of broken into discrete links, species. This is why it would be wrong to say that species do not keep the constancy of their qualitatively-specific determinacy even for short periods. To say so means to perceive the development of the living nature as a flat evolution without leaps (*O polozhenii ...*, 1948, p. 39)³⁹.

All this maneuvering at the session did not pass unnoticed. Boris Zavodovskii (*O polozhenii ...*, 1948, p. 281–302) boldly criticised Lysenko’s departure from the orthodox Darwinism and selective reading of Engels (in his speech, Zavodovskii mentioned the presence of a copy of “Anti-Dühring” at hand and did not mind to use extensive quotations from Marx and Engels). He prepared a special diagram showing the relationships between traditional Darwinism, neo-Lamarckism, and neo-Darwinism, and several times explicitly alluded at the analogy between the Communist party line running between right-wing and left-wing deviations and the orthodox Darwinism of Timiryazev and Michurin. In his speech, Lysenko was portrayed as a renegade betraying the best part of Darwinism and sinking in the depths of a progressively accumulating pile of mistakes⁴⁰.

The saltationist views of Lysenko lacked theoretical background except “dialectical” rhetorics until he “deepened” the theoretical understanding of the sudden transmutation of species using the Olga Lepeshinskaya’s (1871–1963) theory on the spontaneous generation of cells from unstructured living matter. The way to this theoretical alliance was uneasy. Although Lysenko wrote a favourable half-page foreword to Lepeshinskaya’s 1945 monograph on the origin of cells from the unstructured living matter, he did not refer to her theories in print before 1950. In the fall of 1948, at the meeting of the Academy of Medical Sciences where the results of the August session of VASKhNIL were discussed (September 9–10, 1948), Lepeshinskaya suggested her

³⁹ In a more popular format, the species were compared to the chemical elements of the nonliving nature. The absence of transitional forms was explained by the “impossibility of semi-qualities” (Dmitriev, 1952, p. 8).

⁴⁰ The B. Zavodovskii’s attack was unexpected and most disturbing for the organisers of the session to the extent that it seemed to provoke an asymmetric response (see Kremensov, 2003, p. 869–871 for details).

theory as an analogue of Michurinist doctrine in medical science (Krementsov, 2003, p. 890). It took another year and a half for Lysenko to publicly recognise its implications for the theory of transmutation of species, first at the special session of the Academy of sciences in May 1950 and then in a paper on the new developments in the science of biological species originally published in the central Soviet newspaper *Pravda* on November 3, 1950 and reprinted several times in other places, including the Big Soviet Encyclopedia (see Lysenko 1957, p. 3–17)⁴¹.

Lysenkoists reported on numerous cases of transmutation of different species of wheat into each other (usually, *Triticum durum* into *Tr. vulgare*), wheat (*Triticum sp.*) into rye (*Secale cereale*), rye into rye brome (*Bromus secalinus*), oat (*Avena sativa*) into common wild oat (*Avena fatua*), spruce (*Picea abies*) into pine (*Pinus sylvestris*)⁴². There is some anecdotal evidence that Lysenko went as far as to claim that a leaf-warbler can transmute into a cuckoo being better fed or fed with “hairy” caterpillars⁴³. Not surprisingly, the whole theory of transmutation met another agricultural problem, that of explaining the failure to exterminate weeds even in the elite seed plantations. Just like the case of the amendment of the Darwinian principle of intraspecific competition, Lysenko opened himself to criticism. Moreover, in contrast to a rather sophisticated case of the struggle for existence, the sudden transmutation of species was ridiculed, not just criticised.

The Soviet Creative Darwinism of the 1950s was itself a product of a long evolution and differed from the earlier versions of the Michurinist doctrine in several respects. After the “philosophical” debates of 1939, Lysenko started using Engels to correct Darwin. The first step of the revision of the “classical” Darwinism (1940–1945) began with the notion of natural selection. The selection both natural and “artificial” became all-encompassing and all-explaining concept. The scope of selection was broadened to include variation (and metabolism as its source, and the work required to change metabolism too), heredity, and over-population. The latter member of the triad was at once dismissed and replaced by survival potential and mutual aid. The second step of the revision (1948–1950) included the redefinition of species as “unbreakable links” in the chain of life separated by qualitative leaps and the incorporation of the Olga Lepeshinskaia’s theory of the formation of cells from unstructured “living matter”. The latter theory was used to explain the origin of the cells of one species within the body of the other from the granules [*krupinki*] of the living matter. Like the dogmatic selective reading of Darwin’s works in the 1930s, both steps of the revision were connected with Lysenko’s agricultural innovations. The denial of the struggle for existence was used to justify the cluster planting, while the theory of the sudden transmutation of species was used as a theoretical basis of plant breeding and of the control of weeds. The revision of the principle of the struggle for existence was envisaged already in the 1932 pamphlet by Isai Present but it took years for it to find its way into the mainstream Lysenkoist discourse. The theory of the sudden transmutation of species was not a pure novelty. It was logically compatible with the primitive “dialectical” rhetoric and followed, not preceded the established Lysenkoist practice of “retraining” of the varieties and species of wheat and other crops into each other. Rather, it was a *post hoc* rationalisation of the Lysenkoist “experience”.

⁴¹ For more details on the case of Olga Lepeshinskaia see a paper by A.E. Gaissinovitch and E.B. Muzrukova (1991)

⁴² Useful reviews were published by Dmitriev (1952) and Lysenko (Lysenko, 1957, p. 18–63); for a detailed critical analysis of the cases of alleged transmutation (based mostly on inaccuracies and bare-faced falsifications, including grafting) see Soyfer (1994).

⁴³ See a story on an early 1950s conversation between cytologist Dmitrii Nasonov (1895–1957) and zoologist Valentin Dogiel (1882–1955) reported by T. Ginetsynskaia (1991).

Conclusions

An analysis of identity statements and passages explaining the differences between Michurinist visions of evolution, Lamarckism, and Darwinism, whether neo- or not, reveals a complex dynamics of rhetoric. From the early 1930s through late 1950s, Lysenkoist positioning in relation to these identity markers have undergone significant changes.

Early in his career, in the 1930s, Lysenko and his adherents presented themselves as most orthodox Darwinists using Darwin’s writings as a source of not only theoretical inspiration but also of empirical data. This allowed them to use the stigma of anti-Darwinism against their adversaries. After Lysenko strengthened his positions in the controversy against geneticists, he tried to develop a revised version of his evolutionary theory, relying on Engels to correct Darwin. Again, it took years to develop rhetorical tools, which allowed to distance the Soviet Creative Darwinism from its “classical” precursor. Revisionism made Lysenkoists vulnerable to criticism from the vantage point of Darwinist orthodoxy and geneticists managed to use this at their advantage, even though, at first, without major success. During the 1950s – early 1960s, the issues in evolution theory in which Lysenko departed from Darwin (the struggle for existence and, more importantly, the species problem) were the only legitimate excuse to openly attack Lysenkoists. It should be stressed also that throughout the whole history of the controversy Lysenkoists distanced from Lamarckism. At first, they rejected it outright. However, about the time Lysenko started his revision of Darwinism in 1940, Lamarck’s evolution theory was analysed into its constituent parts. The principle of the inheritance of acquired traits was segregated from other elements and proclaimed to be truly Darwinian while the internal drive, “direct” influence of the environment and the “psychogenic” factors were considered as erroneous.

The causes of the tempo and mode of Lysenko’s evolution are obscure. However, certain conclusions can be drawn. First, there is no evidence that Lysenko had been at all interested in the evolution or realised far-reaching theoretical implications of his views before he met Present. Given the Present’s involvement with the history of evolutionary thought it is more than plausible that he played the leading role in the development of the early ideologemes. Second, in all cases, the Lysenko’s evolutionist speculations were aimed to support his favoured ideas in practical agriculture (intravarietal cross-fertilisation of self-fertilising plants, “vegetative hybrids”, cluster planting, “good agricultural technique” [*khoroshaia agrotekhnik*] as a remedy against the transmutation of useful plants into weeds). So, some of the theoretical fluctuations can be to a considerable extent explained as rationalisations behind the agricultural innovations. On the other hand, the exact timing of some innovations can be tied to the political dynamics of the controversy. A strange five (or, at the very least, two) year lag in the reception of Olga Lepeshinskaia’s theory can be explained by the vagueness of Lepeshinskaia’s position within the Soviet scientific hierarchy. It was not until her teachings were officially approved as a theoretical basis for the Soviet cytology that Lysenko openly linked his ideas about the dialectical leaps from one species to another to the Lepeshinskaia’s theory of the ongoing origin of cells from the unstructured living matter.

Given the empirical data presented in this paper, the controversy between geneticists and Lysenkoists can be better understood not as a controversy between neo-Darwinists and neo-Lamarckians but as a rhetorical battle for the right to define, interpret, and revise Darwinism. In the 1920s – mid-1930s geneticists pretended to be the true heirs of Darwinism. They attacked Lysenkoists and blamed them with Lamarckism. Lysenkoists, in their turn, claimed to be most authentic Darwinists and denied the Lamarckist charges. In the 1940s–1950s Lysenkoists tried to monopolise the right to revise Darwinism, and started blaming geneticists with Lamarckism, while geneticists and the allied forces of a wider range of biologists now tried to

defend what they proclaimed to be the authentic Darwinism. After the closure of the controversy in the 1960s, the winning side affixed the label of Lamarckism of a kind to the Lysenkoist doctrine, thus saving Darwinism at last from an undesired revision.

Should Lysenko be considered a neo-Lamarckist then? A Darwinist? What does it mean, after all, to be a Darwinist? Is it enough to just call oneself a Darwinist? to share certain beliefs with Darwin? which share is enough? and, if different groups share with Darwin different subsets of beliefs, which subset is more important? Being put in such a way, the question of whether Lysenko and his followers were Lamarckists or Darwinists becomes a political issue, not an issue in the history of science. Which means, in the first place, that historians of science should refrain from picking up questions of this sort and, probably, even from making passing remarks labeling the parties of a controversy with nametags supplied by the winning side⁴⁴. Instead, they should start asking different questions. The focus on identities allows to distance from the conflicting parties by turning the distinctions drawn by the sides of the controversy into a subject of empirical research⁴⁵. A study of remarkably persistent debates of what was Darwinism and what was not, what was compatible with the original Darwin's writings and what was not, what revisions could fall within acceptable limits, etc., would reveal the ways in which Darwinism was both constructed and used as a powerful cultural resource. And I believe that the perspective of identity and boundary building is of more heuristic value in this enterprise than the old good essentialist notion of “schools of evolutionary thought”⁴⁶.

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⁴⁴ Presentist and partisan accounts of the history of science were criticised more than once on different grounds. See, e. g., D. Bloor's (1976) discussion of impartiality principle or a more recent discussion of “Whig historiography” by N. Jardine (2003); anthropologists studying the present-day scientific labs write in similar vein: “... we attempted to examine the operation of microprocesses without committing ourselves to either a realist or relativist position. The main reason for our not wanting to ally ourselves with one or the other side of these distinctions is that we found that these distinctions provided a resource for participants in the laboratory. It seems inappropriate to use such distinctions in order to understand laboratory activity when they were themselves found to be constituted through this activity.” (Latour, Woolgar, 1986, p. 187–188).

⁴⁵ This approach was inspired to a large extent by constructivist science studies and, in particular, by a seminal paper by Th.F. Gieryn (1983) where he introduced the concept of boundary work. While treating in his paper the symbolical boundaries scientists construct between science and non-science, Gieryn suggested that the same approach can be just as fruitful in considering symbolical boundaries constructed between different scientific subdisciplines. I believe, the perspective of “boundary work” provides a right framework for the analysis of the flexible positioning of “Michurinist doctrine” to Darwinism / Lamarckism as well.

⁴⁶ When this paper was already submitted I was pleased to receive a copy of a recent publication by N. Kremensov (2010) which explores the topic of the struggle for the right to interpret Darwinism and Marxism in Soviet Biology much in line with the principles I am trying to advocate here.

a database of journal articles and shared with me some unpublished results of their quantitative studies of the Soviet biological periodicals; to two anonymous reviewers and to Elena Aronova and Nikolai Kremensov for their criticisms and helpful suggestions, even though, at my own risk, I failed to follow some of them in the present paper.

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Советский «творческий дарвинизм» (1930–1950-е гг.): от избирательного прочтения трудов Дарвина до превращения видов

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Анализ программных заявлений Т.Д. Лысенко и его ближайших сторонников в 1930-е–1950-е гг. показывает, каким образом эволюционные представления «мичуринской биологии» соотносятся с «дарвинизмом» и «ламаркизмом». Анализ практики цитирования указывает на способы, которыми работы Дарвина использовались лысенковцами в 1930–1950-е гг. Обсуждаются преимущества рассмотрения «дарвинизма» в историко-научных исследованиях как идентификационного маркера, а не целостной системы представлений.

Ключевые слова: Трофим Денисович Лысенко, Исая Израилевич Презент, ламаркизм, идентичность, агробиология.

Botany and Lysenkoism in Poland

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The main reason for the emergence of Lysenkoism in Polish science was linked to Polish dependence on the Soviet Union. Not only was Lysenkoism implemented by virtue of administrative pressure, but it was also propagated at several conferences (i.e. Warsaw 1949, Kuźnice 1950/51, Dziwnów 1952, Kortowo 1953 and 1955). Nevertheless, only a few botanists published works on Lysenkoism, out of whom, few in number made significant scientific achievements prior to that period. Among the Lysenkoist publications, summaries of the papers delivered at successive conferences, as well as reprints of the Soviet works, constituted the majority. Additionally, the publications popularizing the principles of Lysenkoism and its achievements (grounded on the Soviet publications) formed a large group. There was a relatively insignificant number of works that reported the results of the studies conducted on the basis of the theory of Lysenko. Polish botanists adopted a different stance towards Lysenkoism, the vast majority of whom dealt with areas of research that did not require direct references to the “new biology”. In Polish botany, Lysenkoism was a thoroughly marginal phenomenon.

Keywords: Poland; Lysenkoism; botany; genetics; history; ideology; natural science; propaganda.

Lysenkoism (also referred to as: Michurinism—Lysenkoism, creative Soviet Darwinism, the new biology) embodies a highly intriguing phenomenon in the history of science. From the standpoint of today’s science, it was a pseudo—scientific theory. A Ukrainian agrobiologist and botanist Trofim Denisovich Lysenko (1898—1976) was its founder. Lysenkoism owed its origin to the ideas formulated by its author, or implemented from other biologists, such as vernalisation, the theory of stadiality of the development of organisms or the immediate transformation of one species into another under the influence of external conditions. Furthermore, Lysenko incorporated into his theory the Lamarckian ideas of the inheritance of acquired traits, and subsequently even abiogenesis. Lysenkoism in its complex form was to be a modern anti—Mendelian theory of evolution, raising the issue of the development of living matter (i.e. the ideas of Olga Lepeshinskaya 1871—1963), these laws governing its development, as well as regularities, which control the formation and transformation of species, with reference to agricultural and orchard practices (i.e. the ideas of Ivan Michurin 1855—1935), and the philosophy of dialectical materialism. Lysenkoism served to achieve the immediate results, namely the increase of yields, quick acquisition of varieties resistant to frost, parasites and pests, or the production of entirely new species which would be economically useful. An important feature of Lysenkoism was the brazen practicalism of reducing botany to an auxiliary science of agriculture and forestry.

During the session of the 31st of July — 7th of August 1948, the Lenin All—Union Academy of Agricultural Sciences (VASKhNIL) adopted Lysenkoism as the only lawful theory in the biological and agricultural sciences cultivated in the Union of Soviet Socialist Republics (Lysenko, 1948). The resolution terminated a period (lasting over a dozen years) of disputes between Lysenko and his supporters on the one hand, and their opponents on the other (i.e. the supporters of genetics and biology based on it to date). For a period of sixteen years, Lysenkoism became a component of Stalinist ideology and the official scientific mainstream in the USSR. From 1952 on, moderate criticism of certain Lysenkoist formulations started to be voiced in the

Soviet Union. Nevertheless, Lysenkoism almost irrefutably reigned in science for more than ten years. Only with the removal of Nikita S. Khrushchev (1894—1971) from the post of General Secretary in 1964 did it lose the support of the government of the USSR.

It was even before World War II that Lysenkoism crossed Soviet Union borders. In some countries it had already been known, e.g. in Japan, since the late 1930s (Saito, 2009, p. 186). After the VASKhNIL session in August, western biologists who were members of Communist parties in their own countries, were asked to pay respect to the theories of Lysenko as much as their Soviet colleagues. This led to frequent tensions, suspicions, arguments and splits between the party and the academics. In Britain it was John Haldane, in Belgium Jean Brachet and Paul Brien, and in France, amongst others, Marcel Prenant. One of Lysenko’s notable supporters in the West was the British Nobel Prize—winning playwright George Bernard Shaw (Paul, 1983; Schandewyl, 2000, p. 2). At the beginning of the 1950s Michurinist societies were established in France, England, Belgium, Argentina, and Japan. The *Association française des amis de Mitchourine* (1950—1963) was particularly active. The implementation of Lysenkoism followed in countries dependent on the Soviet Union in late 1948 or early 1949 (Krementsov, 2000, p. 183—184; Matalová, Sekerák, 2004).

The implementation of Lysenkoism and the collapse of its propaganda in Poland

A prominent role in propagating Lysenkoism in Poland was played by the Association of Marxist Naturalists [Koło Przyrodników—Marksistów, renamed in 1950 into: Zrzeszenie Przyrodników—Marksistów]. The Association was founded in the spring of 1948, and it was associated with the editorial board of *Nowe Drogi* [New Routes], an organ of the Central Committee of the Polish Workers’ Party, and from December 1948 — the Polish United Workers’ Party (PUWP)¹ (the Communist party holding power at the time). The Association aimed at, *inter alia*, combating “the penetration of reactionary ideas in natural science of capitalist countries with reference to the achievements of leading, progressive Soviet science” (Świątkowska, 1955). The Association organized seminars for its members with invited guests. The goal of these seminars was to clarify the concepts of natural science in the light of dialectical materialism and critical assessment of scientific research activities perceived from the Marxist perspective. Primarily, the theory of dialectical materialism was propagated. At the end of 1948, the Association embarked upon the propaganda of Lysenkoism as the embodiment of the theory of dialectical materialism in biology.

In the summer of 1948, a faction of Stalin’s ardent supporters from the Polish Workers’ Party co—governing Poland, came to power. Bolesław Bierut (1892—1956)², who led the group,

¹ The Polish United Workers’ Party (PUWP) was founded as a result of the merger between Polish Workers’ Party and Polish Socialist Party in December 1948.

² Bolesław Bierut (1892—1956), a KGB agent trained in Moscow, in August–December 1948 he was the First Secretary of the Central Committee of Polish Workers Party (after removing Władysław Gomułka from power), since December 1948 till his death he was the First Secretary of the Central Committee of Polish United Workers Party (PUWP), at the same time he was Polish President in 1947—1952, 1952—1954 — Prime Minister, in 1947—1954 he headed the Political Bureau Commission for Public Security of the PUWP, which supervised the Stalinist apparatus of repression in Poland. http://pl.wikipedia.org/wiki/Bolesław_Bierut [access 9 April 2009].

began to introduce totalitarian Stalinism whose ideological component was already Lysenkoism (Davies, 2008, p. 1030–1033).

The Polish Workers' Party being preoccupied with factional struggles, did not even notice the August session of VASKhNIL. It was not until the beginning of October 1948 that a series of articles by Włodzimierz Michajłow (1905–1994)³ on the session appeared in the *Głos Ludu* [Voice of the People], the official organ of the Polish Workers' Party Central Committee (Michajłow, 1948b). In autumn, Ivan E. Glushchenko (1907–1987), Lysenko's disciple and associate, came to Poland. He participated in the celebration of the 75th anniversary of the Polish Academy of Sciences and Letters in Kraków on 25th–27th October 1948, during which he delivered (in Russian) a lecture entitled “Michurin's doctrine against idealism in biology” (Köhler, 2002, p. 184)⁴. Afterwards, he gave lectures in Kraków, Wrocław and Warsaw, in which the basis for the Michurin–Lysenko theory and the results of his works on vegetative hybrids were discussed (Michajłow, 1949a, p. 124). On the 30th of October 1948, a conference of educational activists, members of the Polish Workers' Party, was held in Warsaw. The conference stated the need to overcome the indulgence of the erroneous and harmful reactionary ideology still existing in education, the need to deepen the understanding of the internationalist spirit of education, and to strengthen ties and cooperation with the USSR.

It was decided to revise curricula at all levels of education, aiming at the absolute removal of the influence of reactionary ideology, replace it with the ideology of historical materialism, as well as enrich it with the issues concerning the Soviet Union, with emphasis on its leading role in the struggle for peace and democracy (anonym, 1948).

Following these regulations the press began to publish articles on Soviet agrobiological achievements. Translations of Russian books and original popular Polish works devoted to the “new biology” started to be released. The Scientific Council at the Ministry for Agriculture and Agrarian Reforms organized two scientific–discussion meetings for the researchers, during one of which, Edmund Malinowski (1885–1979)⁵, a leading contemporary Polish plant geneticist, a student of Erich von Tschermak–Seysenegg (1871–1962), a biologist who rediscovered — together with two other biologists — Mendel's work on genetics in 1900, presented the results of his work on genetics in the light of the Michurin–Lysenko theory; whereas Jan Dembowski (1889–1963), director of the Institute of Experimental Biology and head of the Department of Experimental Biology of Łódź University⁶, discussed the theses of the paper he delivered on

³Włodzimierz Michajłow was a zoologist, a graduate of Warsaw University. In the Lysenkoist period he was a director of the Department of Higher Education and Research in the Ministry of Education, in 1950–1952 — a director of the Department of Research in the Ministry of Higher Education and Research, in 1952–1959 — a deputy of the Secretary for Research of the Department II of Biological Sciences of the Polish Academy of Sciences, in 1948–1952 — an editor of *Biologia w Szkole* magazine (Śródka, 1997). He was the first who propagated Lysenkoism in Poland.

⁴There is every likelihood that this paper was published, after having been delivered many times, for in 1950 a publication by I. E. Glushchenko under the similar title was released (Głuszczenko, 1950).

⁵Edmund Malinowski was a graduate of Geneva University. In 1920–1961 he was a professor of the Main School of Agriculture in Warsaw and a head of the first in Poland Department of Genetics and Plant Cultivation (in Skierniewice). He was an active member of PASL and a regular member of Polish Academy of Sciences (Śródka, Szczawiński, 1995).

⁶Jan Dembowski graduated from universities of St. Petersburg and Vienna. In 1934–1939 he was a professor of Stefan Batory University in Wilna, in 1940–1941 a lecturer of Marxism–Leninism University in Vilnius [Soviet Lithuania]. In 1944–1947 he was a scientific attaché of Polish Embassy in the USSR, as well as a researcher of the Institute for Experimental Biology in Moscow. In 1947–1952 —

the 30th of March 1949 (Michajłow, 1949a, p. 124–125). The 26th of January 1949 constitutes a meaningful date, as for the first time at the meeting of the Association of Marxist Naturalists it was suggested that the Michurin–Lysenko theory should also be taught in schools alongside genetics.

This “new biology” was propagated by media and scientific conferences. The former was primarily aimed at a popular audience, while the latter were intended to ensure conformity in the scientific community. The first conference was held on the 30th of March 1949 in Warsaw. It was (like the August session of VASKhNIL) a great debate of biologists organized by the Association of Marxist Naturalists. The conference was devoted to the official presentation of the Michurin–Lysenko theory. The paper entitled “On the new genetics”, previously discussed and approved by the Ministry of Agriculture and Agrarian Reforms, was put forward by Jan Dembowski (Dembowski, 1949). Włodzimierz Michajłow, representing the Polish government, stated that “the government would provide full support for the research on application and deepening of the new biological theory” (Dembowski, 1949, p. 166). In the following months Dembowski re-read his paper during lectures for scientists and intellectuals in Warsaw, Łódź and Wrocław (Michajłow, 1949a, p. 124–125; Michajłow, Petruszewicz 1954a, p. 716). In June 1949 the Association of Marxist Naturalists organized a biology course for teachers. The course contributed to the initiation of major changes in the teaching of biology in schools; namely, the Michurin–Lysenko theory was introduced into the school curricula in place of genetics (Sikorska, 1949). At the same time, in the academic year 1949/1950, lectures on genetics were suspended at universities. On the occasion of a national holiday, i. e. the 22nd of July 1949, Jan Dembowski received a State Prize of the 1st degree for “not only an outstanding contribution to spreading the Michurin–Lysenko theory, but also for a breakthrough leading to Marxist biology in Poland” (Petrusewicz, 1949). In 1949 a collection of papers and discussions of the VASKhNIL session held in August 1948 was soon translated into Polish (Lysenko, 1949). As of 1949, many translations of books and articles by Soviet theorists of the “new biology” were published, a substantial number of them in 1950. In the autumn of 1949 Soviet Marshal Konstantin K. Rokossovsky (1896–1968) was appointed as Minister of National Defence by order of Stalin, and became a member of the Polish government (since 1952 he was even Deputy Prime Minister). Together with Rokossovsky, more than 500 Soviet military advisers took over managerial functions in the Polish army.

In 1950 the Association of Marxist Naturalists set up its branches in all university centres (Świątkowska, 1955; Michajłow, Petruszewicz, 1954a, p. 708–709). Between the 7th of December 1950 and the 13th of January 1951, a conference of biologists, agrobiologists and physicians took place in Kuźnice. 119 scientists from Poland and a three-person delegation from the Academy of Sciences of the USSR attended. It was convoked by the Association of Marxist Naturalists, the Ministry of Higher Education and Science, the Ministry of Health and the Ministry of Agriculture. A number of papers broaching various biological problems in terms of Lysenkoism were proposed during the conference (anonym, 1951). The conference strived to encapsulate the first phase of the development of the “new biology” in Poland and blaze a trail for other researchers to follow.

a professor of Łódź University, in 1947–1961 a director of the Institute for Experimental Biology in Warsaw, in 1952–1960 a professor of Warsaw University. In 1952–1956 a president of the Polish Academy of Sciences. In 1952–1957 a chairman of Polish Parliament and at the same time a deputy of the chairman of the State Council (L. Kuźń., 1987).

⁷Prof. Jadwiga Wilkoń–Michalska's memories from the above meeting — see Köhler (2006, p. 53).

The assets of the existing academic institutions in Poland, i. e. the Polish Academy of Sciences and Letters (PASL) and the Warsaw Scientific Society (WSS), were nationalized, which made those institutions entirely dependent upon state subsidies. Soon it became apparent that neither the PASL, nor the WSS would fulfill the directives of the party. The outcome being the creation by the Communists of their own academy of sciences (Hübner, 1999). From the 29th of June to the 2nd of July 1951, the First Congress of Polish Science took place. It was a peculiar turning point in Polish science, ushering in the stage of its history — the development of science within the model rooted in the Soviet system. A new Polish Academy of Sciences, modelled on the Soviet Academy of Sciences, was created by the Act of the 30th of October 1951. Previous academic organizations: the PASL (the tradition going back to 1815) and the WSS had to cease their activities till the end of 1952. Biological sciences (including botany) were included within Division II of the new Polish Academy of Sciences. The propaganda of Lysenkoism was one of the tasks of the Division.

On the 2nd of March 1952, the Association of Marxist Naturalists merged with the Copernican Society of Polish Naturalists [Polskie Towarzystwo Przyrodników im. Kopernika]⁸ (Hurwic, 1952). Kazimierz Petruszewicz (1906–1982) became the head of the Society⁹. Since that time, the Copernican Society of Polish Naturalists was a major exponent of Lysenkoism among the public. On the 24th of May 1952, the first session of the Presidium of the new Polish Academy of Sciences took place. Jan Dembowski, the president of the Academy, gave an inaugural speech, in which Michurin, Lysenko and Lepeshinskaya's achievements in the conscious application of the method of dialectical materialism in science were proclaimed as remarkably successful. The method was to contribute to the expansion of this research effort, the quickening pace of work done by scientists and the acceleration of the pace of scientific development (anonym, 1953c, p. 35). From the 7th of July to the 7th of August 1952, a subsequent course of this “new biology”, organized by the Ministry of Higher Education and the Commission of Evolutionism of the Polish Academy of Sciences, took place in Dziwnów (Petrusewicz, Michajłow, Skowron, 1952). The number of participants of the session amounted to 140–150, mostly young naturalists.

The official reasons for abandoning Lysenkoism in Poland were also political. On the 5th of March 1953, Joseph Stalin died. Initially, political transformations in the Soviet Union after his death were not felt in Poland. Cautious attempts to eliminate a totalitarian form of governance were embarked upon in the spring of 1954. The process of dismantling Stalinism in Poland was sharply accelerated as a result of broadcasting a cycle of programmes (September 1954) by Radio Free Europe, in which the former vice-director of the 10th Department of the Ministry of Public Security (who fled to the West in 1953) denounced the work of the security services in Poland¹⁰. The outcome being that the Central Committee of the PUWP appointed a commission to investigate irregularities in the security services. On the 7th of December 1954, the State Council¹¹ issued a decree abolishing the hated Ministry of Public Security. A large group of officers and innocent civilians incarcerated, were released (including Władysław Gomułka (1905–

⁸ The Copernican Society of Polish Naturalists was established in Lwów / Lemberg in 1875.

⁹ Kazimierz Petruszewicz was a graduate of Warsaw University. In 1949–1952 he was the head of the Department of Research and Higher Education of the Central Committee of the PUWP, in the period of Lysenkoism, in 1952–1957 he was a secretary of research of the Department II of Biological Sciences of the Polish Academy of Sciences and the head of the Commission of Evolutionism of the Polish Academy of Sciences (Michajłow, 1987).

¹⁰ Józef Światło, vice-director of 10th Department of Ministry of Public Security, in September 1954 applied for political asylum in the USA. http://www.ipn.gov.pl/porta1/pl/203/1587/Jozef_Swiatlo.html [access 6 January 2010].

¹¹ In 1952–1989 the State Council played the role of the collective head of state in Poland.

1982), Bierut's opponent, who had been imprisoned since 1951), whereas several persons from the high ranks of the former Ministry of Public Security were arrested. In January 1955, the 3rd Plenum of the Central Committee of the PUWP took place, during which trenchant public criticism was centred on the controversial methods of the former Ministry of Public Security. The Plenum was perceived by many biologists as the admittance by the PUWP that errors made in science resulted from the fact that the party engineered the scientific life of the country.

Political events occurring in Poland after Stalin's death and the discussion of the works of Boshyan and Lysenko in the USSR caused great concern and confusion among Polish supporters of Lysenkoism. The example being that the “new biology” started to be refuted. The passive attitude of the people in charge of the biological sciences in Poland against criticism of Lysenko, in some cases attempts to defend false principles¹², the continuous usage of platitudes and slogans, the concealment of sensitive issues made the crisis of the “new biology” as a scientific system inevitable by some, not only young, people (anonym, 1957, p. 9–10). In such an atmosphere, a follow-up Lysenkoist conference of young biologists was convened from the 18th of August to the 28th of August 1953 in Kortowo. The Commission of the Evolutionism of the Polish Academy of Sciences and the Copernican Society of Polish Naturalists were the organisers, and the conference brought together about 240 people. Discussions held in the USSR and Poland were expressed in delivered lectures: in some of them Lysenko was even slightly criticised (Michajłow, Petruszewicz, 1954b, p. 96).

The dismantling of the Stalinist system in Poland made it possible to talk more openly about the mistakes that had been made. On the 9th of May 1955, the Commission of Evolutionism of the Polish Academy of Sciences at its plenary meeting admitted to the failure of propagating Lysenkoism. Notwithstanding this fact, a resolution declaring a fight for the introduction of the “new biology” to Polish science was passed. The upshot of the resolution was the creation of the special four-person commissions that aimed at the supervision of the scientific works on Lysenkoism on the following topics: 1 — the inheritance of acquired traits, 2 — the stadiality of the development of organisms, 3—the process of speciation (anonym, 1955c; 1955d; 1955f, p. 177–179). The second conference in Kortowo, which brought together 246 participants, took place between the 17th — 25th of August 1955 (anonym, 1955a). During the conference Kazimierz Petruszewicz and Włodzimierz Michajłow, in their self-critical paper, confirmed the failure of Lysenkoism in Polish science. They pointed out the following reasons:

dogmatism, issuing orders and declarativeness, limited initiative and militancy of the organizers of science in the fight for this new biology. [...] Unable to persuade their opponents to accept this new Soviet biology, they used harsh commands, administrative pressure, they closed down papers levelling adverse criticism. [...] as a result, in the conference rooms and in the papers people talked about (and wrote) somewhat different issues than in private conversations. [...] we could not undertake to a sufficient degree, extensive research in Poland in the field of Michurinist biology. [...] criticism of Lysenko's views was adopted in Poland as a sign of the refutation of Michurinist biology in general, as the slogan which denoted the return to neo-Darwinism and formal genetics (Petrusewicz, Michajłow, 1955).

Discussions over Lysenkoism, political discussions and the increasingly apparent lack of empirical confirmation of the assumptions of the “new biology” denoted that the situation in

¹² An example being the activities of Kazimierz Petruszewicz, a chairman of the Copernican Society of Polish Naturalists, who on 30 May 1953 assigned a task of conducting an ideological offensive to the Society, consisting in e.g. spreading basic methodological assumptions of the “creative Darwinism” (Petrusewicz, 1953).

the biological sciences in Poland at the time resembled the “Emperor’s new clothes” story by H.Ch. Andersen: a few activists (i. e. Jan Dembowski, Kazimierz Petruszewicz, Włodzimierz Michajłow, Teodor Marchlewski (1899–1962)¹³, Stanisław Skowron (1900–1976)¹⁴, Szczepan Pieniś (1913–2008)¹⁵, and Aniela Makarewicz (1905–1990)¹⁶), and several institutions still officially declared their loyalty to orthodox Lysenkoism, while the majority of the naturalists “unofficially” against it, “officially” stayed silent. In mid–December 1955 an article “Darwinism and Lysenkoism” with the heading: “Let’s stop the conspiracy of silence” was published in *Po Prostu* magazine — the title, heading, and the content accurately reflected the situation in science at the time (Kuźnicki, 1955).

On the 14–26th of February 1956, the 20th Congress of the Communist Party of the Soviet Union officially condemned the cult of personality. This also influenced the situation in Poland. Bolesław Bierut, the First Secretary of the PUWP, the main protagonist of the Stalinist regime in Poland, participated in the 20th Congress and died in Moscow on 12 March 1956. The cautious steps taken in order to eliminate “perversions” (of what was supposedly the correct ideology), and in fact, to weaken the totalitarian form of government, turned out to be delayed and inconsistent. The country’s inflation rate was rising, the cracks in the monolithic unity of the PUWP started to be revealed. Since March 1956 simmering political disputes and polemics in the press were sparked off in Poland. Discontent reached a critical point in June, when the first mass demonstrations of workers against the Polish communist regime took place in Poznań. These events brought about changes at governmental level: Stalinist “hard-liners” ruling in Poland since 1948 were replaced by more pragmatic communists, and in October 1956 Władysław Gomułka became the First Secretary of the Central Committee of the PUWP. It was the culmination of the Polish “thaw”. Marshal Rokossovsky was dismissed from all the positions he held in Poland, and returned to the Soviet Union with more than 500 Soviet military advisers. The PUWP resigned from its ideological struggle so as to maintain political power (Davies, 2008, p. 1041–1044).

When the 20th Congress of the Soviet Communist Party took place in Moscow, a meeting of the Commission of Evolutionism of the Polish Academy of Sciences was held in Warsaw (anonym, 1956a). A conference on the inheritance of acquired traits was planned. As part of its preparatory work, it was decided to gather information about the research conducted in Poland on this issue: a poll was addressed both to those engaged in crop cultivation and to researchers, so as to acquire information on whether they had assembled relevant facts from their own practices, such as those concerning the inheritance of acquired traits, or carried out research involving this issue in any other way, published any paper about it, delivered a speech on the subject, or were interested in the above issue, and finally, whether they wanted to participate in the discussions on the afore-mentioned issue. The results were expected to be submitted by the 1st of July 1956 (Tele Źyński, 1956). (I have not come across a published response to the above questionnaire.)

¹³ Teodor Marchlewski was a zoologist, a graduate of the Jagiellonian University in Kraków, and in 1948–1956 its rector (Z.K., 1987).

¹⁴ Stanisław Skowron was a zoologist, a graduate of the Jagiellonian University in Kraków. In the Lysenkoist period of 1947–1949 — a dean of the Faculty of Medicine at the Jagiellonian University (M.J., 1987).

¹⁵ Szczepan Pieniś was a fruit–farmer / orchardist and botanist, a graduate of Warsaw University. He was a professor lecturing fruit–growing, and in 1951–1983 a director of the Institute of Fruit–Growing of the Main School of Agriculture in Warsaw (anonym, 1984, p. 743–744).

¹⁶ Aniela Makarewicz was a graduate of the Main School of Agriculture in Warsaw. She obtained the title of the *extraordinary* professor in the course of the extra-ordinary procedures in 1954. In 1951–1957 she was employed at the Main School of Agriculture in Warsaw, and then in the Unit of Genetics of Polish Academy of Sciences (Niemirówicz–Szczytt, 1996).

As a result of the ongoing discussions, lasting from March, on Lysenkoism, on the 17th of April 1956, a meeting of biologists was held in the editorial board of the *Po Prostu* magazine. During the meeting, a number of the propagators of Lysenkoism still pledged loyalty to the “new biology”, yet most of the participants voiced criticism of the past period. Wacław Gajewski (1911–1997)¹⁷ recalled the history and methods of the implementation of Lysenkoism in the USSR. He put forward an idea of forgetting about that “sad episode” instantly, recovering and resorting to normal science, grounded on experimentally verifiable facts (anonym, 1957, p. 100–107).

During the 6th Session of the General Assembly of the members of the Polish Academy of Sciences on the 11th and 12th of June 1956, the management of the Polish Academy of Sciences was severely criticized, as well as its activities, as manifested by the imposition of Lysenkoism; the “new biology” was referred to in terms of the past (anonym, 1956b, p. 5–6, 38–44, 52, 75). In response to this criticism, the entire presidium of the Polish Academy of Sciences along with Jan Dembowski, its president, resigned. In the school year 1957–1958 genetics returned to the curricula of schools and universities.

Botanists took an active part in propagating Lysenkoism as well. The most active of whom included Aniela Makarewicz,¹⁸ Szczepan Pieniś and Anatol Listowski (1904–1987).¹⁹ In addition to publishing their works and presenting lectures at numerous conferences, they also propagated the “new biology” on the air waves of Polish Radio. In 1948–1952 a series of programmes “A Natural Base for the View of the World” was beamed as a part of “Radio University”. Each of those botanists gave several lectures in the afore–mentioned series, which were subsequently published.

The review of the research and major publications of Lysenkoist botany in Poland

A. Research

Engineering of science by PUWP facilitated the introduction of Lysenkoism to the research programmes of scientific institutions. Below, I propose the main problems of the “new biology” that were within the scope of interest of a few Polish botanists²⁰.

¹⁷ Wacław Gajewski graduated from Warsaw University, where he worked in the Botanical Garden after 1937. He was barred from lecturing during the Lysenkoist period due to his open adherence to genetics. Gajewski later organized the Department of Genetics at Warsaw University, and the Department of General Genetics at the Polish Academy of Sciences. His publications were devoted to a wide range of issues, including floristics, experimental taxonomy, cytogenetics and molecular genetics (Rodkiewicz, Szwejkowski, 1987).

¹⁸ Aniela Makarewicz directly writes about her participation in propagating Lysenkoism (1956b). She admits that faults were committed during the fight for the primacy of Michurinist biology, science was commanded, and Western science was not properly evaluated. She warns, however, against rejecting Lysenkoism. In reply to this article Tadeusz Godziszewski from Dębina village (district of Otwock) wrote a letter, in which he suggests that the Lysenkoist animators should not correct the faults of the past period, but withdraw from teaching youth and start learning genetics [the Archive of the Polish Botanical Society in Warsaw].

¹⁹ Anatol Listowski was a graduate of the Jagiellonian University in Kraków. After *habilitation* in 1947 he was appointed *extraordinary* professor at the Jagiellonian University. Since 1951 he was employed at the Institute for Crops, Fertilization and Soil Science in Puławy and at the Main School of Agriculture in Warsaw, in 1954 he was appointed a *full* professor (Haman, 1988).

²⁰ More on research in Köhler 2010.

Among all the ideas of Lysenkoism it was the possibility of obtaining vegetative hybrids that attracted the greatest interest. Beginning in 1948, the Department of Genetics and Plant Cultivation of the Main School of Agriculture in Warsaw (located in Skierniewice), directed by Edmund Malinowski, researched vegetative hybrids of potatoes and tomatoes. The studies were supposed to lead to the generative reproduction of several varieties of potato propagating only vegetatively (Malinowski, 1950b, p. 202–203). Konstanty Moldenhawer (1889–1962)²¹ of the Department of Genetics and Cultivation of Plants at Poznań University performed experiments aimed at obtaining vegetative hybrids by grafting. The initial results were published (Moldenhawer, 1949a; 1949b), and after that he concentrated on vegetative hybrids within the families *Solanaceae* and *Compositae* (Moldenhawer, 1951). The State Scientific Institute of Agriculture (from 1951: Institute of Cultivation and Acclimatization of Plants [Instytut Hodowli i Aklimatyzacji Roślin]) carried out research on the vegetative hybrids of beets. In the spring of 1950, work on vegetative hybrids in beet was started. After two years the possibility of wider vegetative hybrids in beet was stated (Bejnar, 1952a, p. 252, 257). Some time prior to 1953 the Forest Research Institute [Instytut Badawczy Leśnictwa] in Warsaw started vegetative hybridization of aspen (anonym, 1953a, p. 78). It lacked exact details. A part of Michurin's original collection, brought from Michurinsk (USSR) by the Germans during World War II, was located in the Arboretum in Kórnik²², near Poznań²³. In Kórnik Stefan Białobok (1909–1992)²⁴ was to carry out field research on vegetative hybrids in order to create forms more suitable for the Polish climate, and to obtain better fruit from apple, pear and cherry trees (Pienią ek, 1950, p. 396). Using the Michurinist methods, Białobok organized special courses to teach students the techniques of vegetative hybridization (Dominik, 1950, p. 203), and conducted work on cultivating new varieties of poplar (Białobok, 1953a). The titles of other studies undertaken in Kórnik — “variability of trees and shrubs with special consideration given to directional variability of plants,” “a method of cultivation based on the achievements of Michurin's biology” — also evinced the influence of Michurinism (Białobok, 1953b, p. 108).

The introduction and acclimatization of the new and useful plant species from other climatic regions was, for research as well as economic reasons, of paramount importance to the practitioners of the “new biology”. Following the theoretical assumptions of Lysenkoism (i. e. underlying that plant organisms have a natural, unlimited ability to adapt to different external conditions, and that characters acquired by organisms during their lifetime are inherited by their offspring), researchers endeavored to acclimatize species not normally found in Poland. These included **castor bean** (*Ricinus communis* L.), sweet sorghum (*Sorghum bicolor* (L.) Moench), Dalmatian pyrethrum (*Chrysanthemum cinerariaefolium* (Trev.) Vis.), and lavender (*Lavandula* sp.) (anonym, 1951, vol. 1, p. 317–325). Experiments with cotton (*Gossypium* sp.), sesame (*Sesamum indicum* L.) and common coffee (*Coffea arabica* L.) failed immediately (Bikont and Zagórski, 1998). Other experiments, such as the attempts to acclimatize rice (*Oryza sativa* L.), lasted for a few years. Yet, despite great effort and expense,

²¹ Konstanty Moldenhawer graduated from the University of Breslau [then: German Empire], and began working at the University of Poznań after World War I (K. St., 1987).

²² In 1952 the department was renamed the Department of Dendrology and Pomology of the Polish Academy of Sciences [Zakład Dendrologii i Pomologii Polskiej Akademii Nauk].

²³ Written information obtained from Władysław Chałupka (letter of 22 October 2007 from Kórnik).

²⁴ Stefan Białobok graduated from the Main School of Agriculture in Warsaw. From the end of the World War II until 1979 he supervised the Arboretum (from 1975: the Institute of Dendrology of the Polish Academy of Sciences) in Kórnik near Poznań. He was nominated *extraordinary* professor in 1954, and *full* professor in 1970 (Boratyński, Dolatowski, Oleksyn, 1993).

these were eventually discontinued as well (Łazarewicz, 2000, p. 9–10). The detailed process of cultivation and its related work belongs to the history of agriculture, therefore it needs to be placed outside the scope of this study.

Polish Lysenkoist botany took up issues on stadiality of the development of organisms. In the years 1952–1954, tests on beech (*Fagus silvatica* L.) and fir (*Abies alba* Mill.) seedlings were conducted at the Higher School of Agriculture [Wy sza Szkoła Rolnicza] in Kraków. These studies did not confirm the hypothesis of Yablokov about the existence of the vernalisation stage and light stage in the annual life cycle of trees (Bałut, 1954, p. 198). In the Department of Genetics of the Polish Academy of Sciences and Department of Genetics of the Main School of Agriculture in Skierniewice Edmund Malinowski, together with his team, continued to conduct experiments at least until 1954 or 1955, the task of which was — as he wrote — the study of the “heredity of [characters acquired during] ontogenesis,” and the “progress of stadiality and its connection with phenological phases” (Malinowski, 1954, p. 467). Notwithstanding, there is a lack of accurate information on the progress and results of these studies. In the Bydgoszcz-based State Scientific Institute of Agriculture over a two-year research conducted on beet seemed to confirm — according to the author's report — that the data of the Soviet scientists demonstrated that flowering was the result of these stages of development (Bejnar, 1952a, p. 252, 257).

As it may be conferred from the review of the studies herein, research conducted in Poland pursuant to the theory of Lysenko was scarce. Individual botanists or few teams endeavoured to carry out such research in the early 1950s. When no results assumed by the Lysenko theory were obtained, the studies were quickly terminated.

B. The most important publications

The publications of Polish Lysenkoist botany can be divided into two groups. The first one includes reports on the results of research carried out in line with the “new biology” (the reports are mentioned in the previous chapter), as well as theoretical works. The other one consists of publications (frequently acting as propaganda) about the founders of Lysenkoism and their achievements. The translations from Russian, which appeared in print, will not be discussed.

As early as 1948, a short work on Michurin and Lysenko was composed (Michajłow, 1948a). It constituted one of the first Polish Lysenkoist publications.

In 1949 other works on Michurin and Lysenko, their theories, a review article about the history of research on vegetative hybrids in plants, as well as work in this field carried out in the Soviet Union of the time, were published (e. g. Dembowski, 1949; Ku dowicz, Bejnar, 1949; Michajłow, 1949b, 1949c). A handbook of botany, in which Anatol Listowski added a comprehensive section containing information on new genetics, Lysenko and Michurin, etc. was also released and published (Listowski, 1949).

The publication in *Problemy* magazine in 1949–1950 of an interesting discussion between Tadeusz Dominik (1909–1980)²⁵, an opponent of Lysenkoism, the head of the Department of Phytopathology and Plant Protection at the University and Technical University of Wrocław, and Szczepan Pienią ek, a supporter of this theory, a professor in the Department of Pomology, the Main School of Agriculture in Warsaw, on the chromosomes, vegetative hybrids and

²⁵ Tadeusz Dominik was a graduate of Poznań University. After World War II he was employed at the State Research Institute of Agriculture in Puławy, in 1949–1954 — in Wrocław. Since 1956 — in Szczecin. He was appointed *extraordinary* professor in 1956, and *full* professor — in 1961 (Majewski, Majchrowicz, 1986).

inheritance of acquired characters, became an unusual event. Pienią ek claimed in accordance with the principles of Lysenkoism that

chromosomes do not possess exclusiveness in the transmission of hereditary characters, because biosomes play a similar role. We call all those extra-nucleus formations in plasma biosomes, which multiply themselves by division, such as chondriosomes. In addition, inherited characters may also be transferred by plastic substances, such as sugars, amino acids, organic acids and other chemicals that circulate in the plant (Pienią ek, 1949b).

Dominik responded to this article and noted (ironically) that the statement about the transmission of hereditary characters by chemical compounds such as amino acids and sugars may closely lead to the assumption that water and CO₂ circulating in a plant or animal can also transmit hereditary traits to a different plant or animal, with which they might accidentally have collided. He suggested a simple explanation of the “transmission of hereditary characters” by callus tissue and plasmodesmata (Dominik, 1949) (similar to the concepts of modern botany). Whereas Pienią ek, so as to support Lysenkoism, quoted arguments from Soviet literature, and also adduced to Polish experiments conducted by Edmund Malinowski (Pienią ek, 1949a). The above arguments, however, did not convince Dominik.

In 1950 further works popularizing and clarifying the principles of Lysenkoism were launched (e. g. Czartkowski, 1950; Pienią ek, 1950; Starmachowa, 1950). The ensuing review and articles reporting on further publications in Soviet journals confirming the validity of the “new biology” were published (e. g. Świętochowski, 1950). The book *Od Darwina do Miczurina* [From Darwin to Michurin] reported on “achievements” of Lysenkoism in Poland (Chomiński, 1950).

In 1951, the publications related to Lysenkoism were dominated by reports from the conference in Kuźnice (e. g. anonym, 1951; Jaczewski, 1951). Nonetheless, works popularizing the “new biology” did not cease to be published (e. g. Pienią ek, 1951; Rościszewska—Gąsiorowska, 1951).

In 1952, a brief report on the conference in Dziwnów was published (Michajłow, 1952). Further elements of Lysenkoism, including *inter alia* a paper of Olga Lepeshinskaya on cell-less forms, works on the founders of Lysenkoism, as well as the review articles about the achievements of Lysenkoism in the USSR were published (e. g. Bejnar, 1952b; Michajłow, Petrusewicz, 1952; Skowron, 1951).

The fifth anniversary of the VASKhNIL session introducing Lysenkoism took place in 1953, the occasion of which an anniversary article was submitted for publication (redakcja, 1953). Several more works on Lysenkoist botany, including an article about the precellular forms of life (Kunicki—Goldfinger, 1953), the cultivation of poplar (Białobok, 1953a), or the stadiality development of trees (Obmiński, 1953) were published. A review article on the discussion in the Soviet Union about the origins of the species, quoting critical comments of the two Soviet biologists referring to the theory of Lysenko was published (Michajłow, 1953). In November 1953, a university textbook of plant anatomy by Edmund Malinowski, which deserves assiduous attention, was published (Malinowski, 1953). It is the second, revised edition of the “Anatomy of Plants” of 1938. The changes consisted in, *inter alia*, the failure to publish information or its removal, relating to the subcellular structures, which should not occur in the cell in accordance with the theory of Lysenko, such as chromosomes (chromatin) in the resting nuclei. In the foreword, the author declared his support for Lysenkoism. In 1953, a textbook or a course book

on geobotany by Józef Motyka (1900–1984)²⁶ was published, in which the author reassures that the method of dialectical materialism in geobotany could at least double the growth of wood in forests, productivity of hay in meadows could increase ten times on average in relation to the *status quo*, in many cases even more, without great effort. He also tries to employ the method of dialectical materialism to explain the distribution of trees and forests in Poland, herbaceous plants and any plant associations created by them (Motyka, 1953a). Even if the author does not allude to Lysenko, both this and the subsequent publication (discussed below) can be reckoned among the “new biology”, bearing in mind the belief that Lysenkoism is the result of a deliberate application of the method of dialectical materialism in botany. The course books preceded another work by Motyka — a theoretical treatise on the application of methods of dialectical materialism in geobotany (Motyka, 1953b). The ideas included in the textbook were developed and extensively expanded, making this publication one of the leading theoretical achievements of the “new biology” in Poland. Both Motyka’s works follow the recommendations of Jan Dembowski, the president of the Polish Academy of Sciences, who attempted to ensure researchers during the meeting of the Presidium of the Polish Academy of Sciences (on the 24th of May, 1952) that the deliberate use of the method of dialectical materialism in science would help to expand the horizons of the research, quickening the pace of work carried out by scientists and accelerate the rate of scientific development, the example being the achievements of Michurin, Lysenko and Lepeshinskaya (anonym, 1953c).

In 1954, a theoretical article about employment of dialectical geobotany in pedology, being explication of the afore-mentioned work of Motyka, was published (Strzemski, 1954). The achievements of biology, including Lysenkoism in botany in the post-war decade in Poland, were also recapitulated (e. g. Michajłow, Petrusewicz, 1954a). The summaries of the discussions in the USSR over the process of speciation were published as well (e. g. Bła ejewicz, 1954).

In mid-1955 (probably) the first article in Polish botany on the experimental demonstration of the erroneousness of Lysenko’s theory was published (Kudowicz, 1955). The author concluded that:

mutual grafting of alkaloid plants producing tropine alkaloids and nonalkaloid plants to increase or decrease the content of these compounds, yields no results. It is also not possible to force a plant to produce compounds not proper to it.

For obvious reasons, Lysenko’s name was not mentioned. In 1955 the articles by the supporters of Lysenkoism (e. g. Kunicki—Goldfinger, 1955; Listowski, 1955), and a review work on the discussion in the Soviet Union on the species and speciation were published (Guttowa, Pojmański, 1955). Additionally, several articles on the occasion of the centenary birthday of Michurin were printed (e. g. anonym, 1955e; Herniczek, 1955).

In 1956 a number of articles written on the occasion of the centenary birthday of Michurin were published (e. g. Barbacki, 1956; Makarewicz, 1956a). Some authors continuously justified Lysenkoism, and presented different Soviet concepts (including those of Michurin and Lysenko) on the developmental stages of woody plants (Bałut, 1956). Others still supported Michurin, yet they also reported on criticism of certain of Lysenko’s views in the USSR (Pienią ek, 1956).

²⁶ Józef Motyka graduated from the Jagiellonian University in Kraków. After establishing the Maria Curie—Skłodowska University in Lublin (1945) he moved there and became professor and head of the Department of Systematics and Plant Geography (Bystrek, 1985).

In 1957 a further work criticizing Lysenkoism and reviewing the period of its promotion in Poland was brought out (Obmiński, 1957). Likewise, a work — this time — popularizing Soviet achievements into research on the development of plants was also published (Grzesiuk, 1957).

It was in 1958 that the last publications, which may be classified in terms of Lysenkoist botany, appeared in Poland. Nevertheless, they merely constituted summaries or translations of Soviet works (K.R., 1958), including those of I. Glushchenko (Głuszczenko, 1958). The study, revealing the results of further experiments disproving the theory of Lysenko (Wierszyłowski, 1958), and the review article explaining, on the basis of anatomy, the formation of hybrid strains (i. e. the vegetative ones according to the nomenclature of Lysenkoism), were printed (Wóycicki, 1958). A popular study on the history of evolutionism, refuting the theory of Lysenko, was also released and published (Halicz, 1958).

Attitudes of Polish botanists towards Lysenkoism

Polish botanists took various standpoints towards Lysenkoism. On the basis of the available bibliographies²⁷ one can estimate that the vast majority of the botanists (over 96%) undertook research projects not requiring direct references to genetics and the “new biology”, and therefore did not publish any work on Lysenkoism. They were also discouraged by the brazen practicalism of the “new biology”.

Several botanists from the very beginning openly presented a hard-line stance on Lysenkoism, including Władysław Szafer (1886–1970), Wacław Gajewski and Maria Skalińska (1890–1977). Such an approach did require courage, a consequence of which for a university professor could be the loss of his/her department and the prohibition on publishing. It was already at the conference in Kuźnice (1950/1951) that Szafer distanced himself from Lysenkoism. In the following years he showed a consistently uncompromising stance towards the “new biology” imposed on Polish science, the result being that he was treated as an “enemy of the system.” Due to the utmost respect he evoked in the country and abroad he did not fall victim to repression (Köhler, 2009). Similarly, Gajewski adopted an implacably hostile attitude towards Lysenkoism. Those who recall his speeches affirm that he publicly criticized both the “new biology” and its propagators²⁸. After several years, in his work “Lysenkoism in Poland” he expounded the history of Lysenkoism (Gajewski, 1990). Such an attitude resulted in the loss of his department at the university and a prohibition on publishing. A somewhat different approach towards Lysenkoism, yet a negative one, was favoured by Skalińska. She did not voice her criticism openly, she just ignored it. Skalińska continued to lecture on classical genetics at the Jagiellonian University in Kraków, though under an altered title “General Botany” (Jankun, 1991, p. 6). Those three names did not constitute the only opponents of Lysenkoism among botanists. They serve as an example of a negative attitude towards the “new biology”. Passive resistance of most botanists throughout Lysenkoism was so noticeable that it was presented in official reports (P., 1950; anonym, 1953b; 1955b). It is worth highlighting that amongst the botanists in Poland neither any *Society of Friends of Michurin* nor *Lysenko*, nor any section within the Polish Botanical Society was established, the activities of which would be Lysenkoist in character. The

²⁷ *Catalogue of Polish biological literature*, subsequent volumes of the years 1945–1959.

²⁸ Memories of the eye-witnesses, i. e. prof. Anna Medwecka–Kornaś and prof. Kazimierz Zarzycki on the 22nd of October 2009.

botanists working at the time assert that the topics related to Michurin–Lysenkoist biology were shunned. It is symptomatic that the *Acta Societatis Botanicorum Poloniae*, a scientific journal of the Polish Botanical Society, did not publish any Lysenkoist work (out of 359 articles edited in the years 1948–1958). Instead, a work showing the fallacy of Lysenko’s theory was printed (Ku dowicz, 1955).

Only 55 botanists published works on Lysenkoism, which amounted to about 3,3% of Polish botanists in those years²⁹. Only a few of them were botanists who previously had significant scientific achievements (S. Białobok, Władysław Kunicki–Goldfinger (1916–1995)³⁰, E. Malinowski, K. Moldenhawer, J. Motyka, S. Pienią ek). Most of the authors of the works on Lysenkoism were either novice researchers or people who later ceased to publish. Others published works, using the assumptions of Lysenkoism and vouching for the truthfulness of the “new biology” (A. Makarewicz, S. Pienią ek). For a scant number of its supporters almost each field of botany could serve for creative reference to Lysenkoism. Even in the issues as distant from current policy as plant geography, one could accommodate the desired ideological content of dialectical materialism. There were numerous reasons for such decisions, customarily extra-scientific (e. g. membership in the PUWP). A number of botanists, reluctant to be exposed to persecution, avoided a formal declaration or, where it was possible, “shielded themselves” with this Soviet science. This consisted in quoting the classics of Marxism and Lysenkoism both in oral presentations and publications, which was colloquially referred to as “quotation science [citatology]”. For those quoting, the references embodied a peculiar tribute paid either to put the vigilant censorship “to sleep”, or not to expose oneself to criticism which failed to be substantive.

Among the authors of the publications in the scope of the “new biology”, beside the sincere Lysenkoists, there were, in all probability, also opportunists, the example being Motyka or Kunicki–Goldfinger. Both botanists, publishing valuable works both before and after Lysenkoism, during the reign of the “new biology” in Poland were issuing (especially Motyka) works in accordance with the principles of Lysenkoism.

On the basis of the available bibliography³¹ one may state that the Lysenkoist publications amounted only to about 140 out of a total of 3410, i. e. just 4.1 %. The share of the Lysenkoist works among all the botany-related publications edited each year was the most considerable in 1949 (11.5 %), and in subsequent years steadily decreased. The occurrence of Lysenkoism in various botanical publications was limited to ten years (the first ones were published at the end of 1948, and the last one — at the beginning of 1958). Given the long publishing period of up to two years, such an occurrence was even shorter — 8 years at the longest. Throughout the whole period, Lysenkoism was, let it be stressed, a completely marginal phenomenon. Among Lysenkoist publications, the majority were represented by the papers delivered at subsequent conferences, as well as reprints of Soviet works. The publications popularizing the principles of Lysenkoism and its achievements (on the basis of Soviet publications) comprise a relatively large group, whereas the number of works demonstrating the results of the studies conducted on the basis of the theory of Lysenko was disproportionate.

²⁹ See: *Catalogue of Polish biological literature...*

³⁰ Władysław Kunicki–Goldfinger graduated from the Jagiellonian University in Kraków. From 1951 on he became a professor at the Maria Curie–Skłodowska University in Lublin, then Wrocław University (where from 1955–1961 he headed the Institute of Botany), Warsaw University, and the Polish Academy of Sciences. His primary area of scientific interest was microbiology (Kuźnicki, 1996).

³¹ *Catalogue of Polish biological literature...*

Final remarks

Stalinism was characterized by, *inter alia*, the omnipotence of the apparatus of coercion (including the Security Service [Urząd Bezpieczeństwa]), the overwhelming atmosphere of intimidation and insecurity, preventive censorship, the top-down reduction of liberties, political show—trials, propaganda, or denunciation³². According to the words uttered by one of the members of the Polish Academy of Sciences recalling that period, “the terror of the Security Service and lawlessness ruled the state. The rector of the university disappeared from the university for several months and came back a ‘broken’ man” (anonym, 1956b, p. 79³³). Lysenkoism in Poland was not an autonomous phenomenon. Mechanisms and reasons for its occurrence in Polish science and its abandonment require a separate analysis. At this point, one should only enumerate the most significant of them: extra-scientific ones, as well as those contained within Polish science itself.

The political situation of the time played a decisive role among the extra-scientific reasons. The Stalinization of science was manifested in the engineered control by the PUWP (holding power at the time) (Chałasiński, 1957; Petrusiewicz, Michajłow, 1955, p. 737, 740)³⁴, which was entirely dependent on the Kremlin. Lysenkoism was a part of the then ideology of the PUPW. The main supporters of Lysenkoism were not only members of the PUPW, but they played a decisive role in Polish science. Kazimierz Petrusiewicz was the head of the Department of Research and Higher Education of the Central Committee of the PUWP in 1949–1952, in 1952–1957 — a secretary of research of the Department II of Biological Sciences of the Polish Academy of Sciences, the head of the Commission of Evolutionism of the Polish Academy of Sciences, and in 1952–1959 — a head of the Copernican Society of Polish Naturalists. Włodzimierz Michajłow (a member of PUWP) was a director of the Department of Higher Education and Science in the Ministry of Education in 1948–1950, in 1950–1952 — a director of the Department of Science in the Ministry of Higher Education and Science, and in 1952–1959 — a deputy of the Secretary for Research of the Department II of Biological Sciences of the Polish Academy of Sciences. Jan Dembowski (non-partisan) was a president of the Polish Academy of Sciences in 1952–1956, in 1952–1957 — a chairman of the Polish Parliament and at the same time a deputy of the chairman of the State Council. Both individual careers of scientists and the fortunes of whole scientific institutions depended on the PUWP.

At least several factors existing in science itself facilitated the emergence of Lysenkoism in Poland, among which were war losses, the post-war reorganization of science and its isolation. During World War II, many scholars died for various reasons. Accordingly, after the war, one may note the insufficient number of academics, and in turn, students of greater seniority were employed to teach students of younger years. As a result of hostilities and the conscious activity of the occupant, many academic libraries were destroyed, and as a consequence, after the war there was an acute shortage of textbooks and specialist literature³⁵.

³² Compare e. g. Dybiec (2001) and a discussion after the presentation of the paper — p. 20–33; Salmanowicz (2006) and a discussion after the presentation of the paper — p. 95–104. Gabriel Brzęk — a zoologist, recalls the atmosphere existing at universities in those years (1992, p. 377, 383–386).

³³ A statement by J. Chałasiński.

³⁴ Engineered control of science was discussed on the reunion of biologists which was organized by the editorial board of “*Po Prostu*” magazine on 17 April, 1956 (anonym, 1957).

³⁵ The state of Polish higher education after World War II is described by Putrament in her own experience (1990).

The second factor facilitating the introduction of Lysenkoism was the post-war reorganization of scientific structures. Polish borders were moved westward, resulting in the loss of two universities (Stefan Batory University in Wilno [now: Vilnius, Lithuania] and Jan Kazimierz University in Lwów [now: Lviv, Ukraine]). After the war, new universities were established i. e. in Lublin, Łódź, Toruń, and Wrocław. The effect of the reorganization of science was, *inter alia*, a total dependence of science and higher education on the state authorities, i. e. the PUWP, the creation of a new Polish Academy of Sciences, and control over the careers of scholars by awarding subsequent degrees to the loyal ones or refusals to grant them to the insubordinate (or politically troublesome) ones.

The third factor was the isolation of Polish science. Contacts with western science, disrupted by World War II, were hardly re-established after 1945³⁶. The latest scientific literature was not purchased in sufficient numbers. Scientists were rarely permitted to go abroad (Szafer, 1957, p. 61). The ones who could go were mainly those trusted by the authorities, often not the best in their field (anonym, 1957, p. 137–138)³⁷. At the same time Poland was flooded with translations of Soviet publications (not always critical or noteworthy, not infrequently at an embarrassingly low level)³⁸. This was accompanied by propaganda exaggerating every achievement of Soviet science, showing Lysenkoism as the theory proven in practice and generating enormous economic results.

One should not forget about the functioning of censorship. Conceivably, as a result of its activities, merely a few polemic works, or those proving the fallaciousness of Lysenkoist assumptions appeared in the early fifties. The editors and editorial staff also influenced the content of the publications: authors were forced to use ‘binding’ quotes of the classics of Marxism and Lysenkoism (Kuźnicki, 2002, p. 62–63).

Not only from verbal communication it is known that the period of Lysenkoism was a dreadful time. The botanists who did not accept it were pressurised in various ways. Even its own advocates in Poland — Aniela Makarewicz and Stanisław Skowron — point that out, saying that a major role in propagating the “new biology” was played by administrative measures, which, as usual were not too subtle. It is also known that a considerable influence was exerted by the fact that Michurinist genetics was “well seen” — those who wanted to benefit from subsidies, grants or “a good reputation” in general, could not insist on formal genetics (Makarewicz, Skowron, 1955, p. 749).

The university professors had to stop teaching genetics. Those few who taught it in spite of everything, risked denunciations, and moreover, censors could not let their works be printed. The “sole” thing they lost was their work place.

Despite the mobilization of the entire propaganda machine by the authorities and supporters of the “new biology” and the pressures of administrative support of the Polish Government, Lysenkoism in Polish botany proved to be a totally marginal phenomenon. The picture of Lysenkoism in Polish botany, depicted herein, is certainly not abundant. I cherish a hope that the future preliminary archival research will contribute to our knowledge of Lysenkoist botany in Poland.

³⁶ A good illustration of it is the number of foreign institutions with which the PASL maintained contacts before and after World War II (Köhler, 2002, p. 185–189).

³⁷ See e. g. A. Putrament’s speech during the meeting of biologists taking place at the seat of the editorial board of “*Po Prostu*” (anonym, 1957).

³⁸ The statement by T. Neuman during the meeting of biologists taking place at the seat of the editorial board of “*Po Prostu*” (anonym, 1957).

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Ботаника и лысенкоизм в Польше

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Возникновение лысенкоизма в Польше было главным образом связано с зависимостью Польши от Советского Союза. Лысенкоизм не только насаждался сверху административными мерами, но и пропагандировался на различных конференциях (Варшава, 1949 г.; Кузница, 1950–1951 гг.; Дивнов, 1952 г.; Кортowo, 1953 и 1955 гг.). Тем не менее, опубликовали работы по лысенкоизму лишь немногие ботаники из тех, кто уже раньше сделал значительную научную карьеру. Среди публикаций по лысенкоизму подавляющее большинство составляли тезисы докладов, сделанных на различных конференциях, равно как и перепечатки советских работ. Кроме того, было много работ, популяризовавших лысенкоизм и его достижения (основанных на советских источниках). И сравнительно немного было научных трудов, излагавших результаты исследований, проведенных на основании теории Лысенко. Польские ботаники заняли позицию, противоположную лысенкоизму, так как подавляющее большинство их проводили исследования в таких сферах, где не требовалось обращения к «новой биологии». В польской ботанике лысенкоизм был исключительно маргинальным явлением.

Ключевые слова: Польша, лысенкоизм, ботаника, генетика, история, идеология, естествознание, пропаганда.

Казанский университет в период лысенковщины

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С 1948 г. в Казанском государственном университете, как и в других вузах страны, становится привычным непомерное возвеличивание имен И.В. Мичурина и Т.Д. Лысенко. Одновременно прошли кампании шельмования и увольнения ряда сотрудников биологического факультета, чья научная деятельность так или иначе касалась вопросов наследственности. В первую очередь это Н.А. Ливанов, потерявший в 1948 г. место заведующего кафедрой зоологии беспозвоночных. Кроме того, в ответ на решения ВАСХНИЛ в КГУ была образована кафедра генетики и дарвинизма, через 4 года превратившаяся в генетический кабинет. Активная деятельность этого кабинета и перевод этой деятельности в новое русло стали возможными только после прекращения монополии лысенковского направления в биологии.

Ключевые слова: Казанский университет, кафедра генетики и дарвинизма КГУ, Н.А. Ливанов, З.И. Забусова, М.Г. Стеколыщиков, М.И. Волкова, лысенковщина.

Казанский государственный университет (КГУ) — один из старейших вузов страны, в 2004 году отметивший свое двухсотлетие (подробнее см.: История Казанского университета, 2004)¹. В первое послевоенное десятилетие XX века он играл ведущую роль в области подготовки специалистов высшей квалификации и в научных исследованиях не только в Татарстане. Его влияние выходило за рамки ТАССР (Татарской автономной советской социалистической республики) и распространялось на Приуралье и Средне-волжский регион. КГУ оставался единственным университетом в Среднем Поволжье вплоть до 1960–1970-х гг., когда университеты стали создаваться во всех крупных областях и автономных республиках.

Традиции научной биологической школы в КГУ были заложены еще в первой половине XIX века. В послевоенные годы продолжалось интенсивное развитие этих исследований. Биологический факультет тогда представлял следующее². Постоянный контингент приема на биофак в 1946 г. — 100 студентов (50 на специальность «зоология» и 50 на специальность «ботаника») и 7 аспирантов. На факультете действовали шесть кафедр: систематики растений (заведующий профессор В.И. Баранов), геоботаники (заведующий профессор М.В. Марков)³, физиологии растений (заведующий профессор

¹ В 2010 г. КГУ переименован в Казанский (Приволжский) федеральный университет.

² Архив КГУ. Дело без номера: «Соображения о развитии Казанского ГосУниверситета». 1946. 27 марта. На 168 листах.

³ Разделение единой кафедры ботаники на две произошло только что, в 1945 году, и это создавало большие трудности с лабораторным оборудованием (там же, л. 21, 21 об.): «Ввиду того, что при разделе кафедры ботаники на кафедру геоботаники и кафедру систематики растений почти все хозяйственное оборудование осталось в распоряжении последней, кафедре геоботаники приходится все заводить заново, что, естественно, в настоящее время почти невозможно». В документах этого дела



КГУ на рубеже 1940–1950-х гг. Из кн.: История Казанского университета, 2004.

А.М. Алексеев), зоологии беспозвоночных (заведующий профессор Н.А. Ливанов), зоологии позвоночных (заведующий профессор А.Я. Недошивин), физиологии человека и животных (заведующий профессор Н.П. Резвяков). Несколько позже появилась еще одна кафедра — в 1949 г. с геолого-почвенного факультета на биофак была переведена кафедра почвоведения и агрохимии, после чего факультет стал биолого-почвенным. Общая численность студентов на факультете выросла с 206 человек в 1946 г. до 350 человек в 1949-м, потом несколько снизилась и составляла в 1953 г. 278 человек (см.: История Казанского университета, 2004, с. 408). В 1960 г. на биофаке училось 328 студентов⁴.

Интересно посмотреть, как отразились на жизни КГУ решения августовской сессии ВАСХНИЛ 1948 года. Первая реакция биофака КГУ на решения сессии последовала незамедлительно, и уже в августе произошла ошутимая «перестройка». Вот что, например, сообщает декан факультета профессор Владимир Исакович Баранов (1889–1967) в своем отчете о работе кафедры систематики растений КГУ за 1948 г.:

«В августе, в порядке практического ознакомления с завоеваниями мичуринской биологии, была организована поездка в Мичуринск (проф. В.И. Баранов, доц. Н.П. Арискина, студенты Т. Мамлина и А. Марина). Во время поездки было сделано много фотоснимков и собран большой материал, характеризующий современную работу селекционно-генетической станции и лаборатории И.В. Мичурина, работающих в системе ВАСХНИЛ'а. Значительная часть этого материала была использована для монтажа двух витрин у входа в биологический факультет, наглядно показывающих достижения И.В. Мичурина и Т.Д. Лысенко. Одновременно кафедрой проведена большая работа по изучению основ мичуринской биологии. <...> На мичуринскую тематику была переключена и работа студенческих кружков, причем доклады студентов, побывавших в Мичуринске, были повторены в ряде школ и сопровождались красочными таблицами, приготовленными силами студентов» (Баранов, 1949).

постоянно ощущаются трудности послевоенного времени, но говорится о них на удивление мало, в основном — о планах развития лабораторий и дальнейших исследований.

⁴ Архив КГУ. Ф. 1337. Оп. 9. Д. 409. Л. 7.

Начиная с этого времени возникает традиция упоминать имя И.В. Мичурина к месту и не к месту. Например, в марте 1949 г. профессор В.И. Баранов прочел лекцию «Мичурин — основатель творческого дарвинизма» и был показан цветной фильм о Мичурине⁵, а осенью того же года профессор М.В. Марков в статье о планах биофака на 1950 г. говорит: «Надо активнее вводить мичуринскую биологию»⁶.

Нет никакого сомнения, что проницательные ученые и прекрасные ботаники В.И. Баранов и М.В. Марков вовсе не собирались рукоплескать по поводу лысенковских новаций. Они просто надеялись обойтись «малой кровью», рапортуя об уже проведенной перестройке учебного процесса. Но кое-кому этого показалось мало.

Вскоре началось шельмование ряда ученых факультета, приведшее к увольнению нескольких сотрудников.

Если в номере университетской газеты «Ленинец» от 10 сентября 1948 г. в статье «За передовую биологическую науку» ругали в основном Менделя и других основоположников генетики, то в следующем номере⁷ объект ругани стал более конкретен. Это профессора биофака Н.А. Ливанов и А.Я. Недошивин, доцент З.И. Забусова. Тема была продолжена и в следующем номере газеты. Одновременно в республиканской газете «Красная Татария» появилась статья ассистента педагогического института В. Федоровой с обвинениями в том, что Ливанов является главой казанских вейсманистов-менделистов-морганистов. По тем временам это было почти равносильно зловещему термину «враг народа».

16 сентября состоялось заседание Казанского общества естествоиспытателей, на котором, как сообщается в газете, критике были подвергнуты воззрения профессора КГУ Н.А. Ливанова и профессора Казанского государственного медицинского института (КГМИ) В.В. Изосимова⁸.

Как можно видеть, центром обвинений служила фигура заведующего кафедрой зоологии беспозвоночных профессора Николая Александровича Ливанова (1876–1974), главы казанской морфологической школы, автора теории о путях эволюции животного мира. В тот момент он был старейшим преподавателем биофака КГУ и имел огромный авторитет в научном мире (см.: Стекольников, Каримуллин, 1956; Голубев, Порфирьева, 2002; Ермолаев, 2004; 2006). Стоит упомянуть, что когда в 1918 году декрет Совета народных комиссаров отменил дореволюционные ученые степени и звания и все профессора для подтверждения своих званий обязаны были предъявить рекомендации известных ученых, то рекомендацию Н.А. Ливанову давал И.И. Шмальгаузен⁹. Когда в 1930 г. в КГУ было решено на базе Геолого-географического и Биологического отделений физико-математического факультета организовать геолого-биологический факультет, из которого впоследствии выделился биологический факультет, то именно Н.А. Ливанов стал его первым деканом и был им до 1936 г.¹⁰ В фундаментальном «Руководстве по зоологии» (М.;

⁵ См.: Ленинец. 1949. № 10. Эта университетская газета-многотиражка начала выходить еще в 1928 г. и издается до сих пор, хотя и была в 1991 г. переименована в «Казанский университет».

⁶ См.: Ленинец. 1949. № 41.

⁷ Ленинец. 1948. № 23 (16 сент.).

⁸ См.: Ленинец. 1948. № 24. Всеволод Владимирович Изосимов (1899–1974) был учеником профессора Ливанова. После окончания КГУ в 1924 г. он работал ассистентом в зоотомическом кабинете КГУ, а после открытия КГМИ стал первым заведующим кафедрой общей биологии мединститута (1931–1967 гг.).

⁹ Национальный архив Республики Татарстан (НАРТ). Ф. Р-1337. Оп. 2. Д. 1.

¹⁰ Архив КГУ. Опись 16. Св. 7. Д. 129. Л. 51, 52, 70, 74. Личное дело проф. Н.А. Ливанова.

Л.: Биомедгиз, 1937–1940) Ливановым написаны разделы: «Тип Немертины» (т. 1, с. 656–705), «Класс полихет» (т. 2, с. 10–136), «Класс эхиурид» (т. 2, с. 137–156), «Класс пиявок» (т. 2, с. 205–257).

В 1948 г. предметом пристального внимания критиков были, во-первых, высказывания Ливанова на лекциях по зоологии, а во-вторых — монография «Пути эволюции животного мира» (Ливанов, 1946). В ней есть ссылка на Августа Вейсмана — значит вейсманист! А всего-то было приведено наблюдение Вейсмана о том, что половые клетки в колониях гидроидных полипов мигрируют для питания в эпителий кишечника, где в сформированных ими медузидных особях происходит образование половых желез-гонад (см.: Голубев, Порфирьева, 2002, с. 17).

Вот какими выразительными словами описывает эти события профессор биофака КГУ, заведующий кафедрой физиологии человека и животных Ибрагим Гильманович Валидов в своей статье «За творческую мичуринскую биологическую науку»:



Н.А. Ливанов. Из кн.: Ермолаев, 2004.

«Советские биологи восприняли решения августовской сессии ВАСХНИЛ с глубоким удовлетворением. Во всех учебных заведениях и научно-исследовательских учреждениях проводится серьезная работа по коренной перестройке научно-исследовательской работы и учебно-воспитательной работы на основе решений ЦК ВКП(б) по идеологическим вопросам и в свете творческой мичуринской биологии. Значительная работа проведена в этом отношении и в КГУ, в частности, на его биологическом факультете. Здесь, в процессе глубокой критической проверки работы кафедр были обнаружены серьезные методологические ошибки как в педагогической, так и в научно-исследовательской работе, особенно на кафедре зоологии беспозвоночных. Бывший зав. кафедрой проф. Н.А. Ливанов и доцент этой же кафедры З.И. Забусова в своих лекциях игнорировали учение Мичурина и по существу поддерживали реакционное учение Вейсмана, Менделя, Моргана.

Профессор Н.А. Ливанов в своей книге «Пути эволюции животного мира», представляющей итог его многолетней работы, придерживается явно антимируинской идеалистической концепции. Он отрицает ведущую роль внешней среды и естественного отбора в эволюции животного мира, объясняя всю эволюцию лишь внутренними силами, «присущими каждому жизненному процессу». Эволюция совершается, по мнению проф. Ливанова, на основе самодвижения, попадая лишь под контроль естественного отбора.

По концепции проф. Ливанова, половые клетки бессмертны и наследственная передача единственно возможна только через них. В основу своей книги проф. Ливанов положил, как он пишет, идеи плеяды морфологов Неаполитанской школы 80-х годов прошлого века. Он работает перед иностранщиной и игнорирует достижения советской биологической науки» (Валидов, 1950).

Под председательством ректора КГУ доцента К.П. Ситникова¹¹ состоялось расширенное заседание Ученого совета биофака. Когда ректор призвал Николая Александровича покаяться в своих грехах, Ливанов ответил так: «Генетикой я никогда не занимался, я зоолог, а все высказывания против меня делались не специалистами, поэтому отвечать на них не буду, такое ведение дискуссии не научно, каяться мне не в чем» (цит. по: Голубев, Порфирьева, 2002, с. 17–18).

В результате приказом ректора КГУ от 2 октября 1948 г. Н.А. Ливанов был снят с должности заведующего кафедрой зоологии беспозвоночных (которой он руководил с 1918 года), так как «читал курсы по биологическим дисциплинам в духе буржуазного объективизма, излагал антинаучные взгляды вейсманистов без критики, игнорировал диалектико-материалистическое учение И.В. Мичурина, научную работу кафедры на протяжении многих лет проводил в полном отрыве от практики социалистического строительства, не обеспечил подготовку кадров через аспирантуру в духе творческой мичуринской биологии».

Этим же приказом была уволена из университета ближайший помощник Николая Александровича — доцент Зоя Ипполитовна Забусова¹². Сотрудников кафедры лишили возможности заниматься традиционной для них эволюционной морфологией беспозвоночных. Заведовать кафедрой была назначена Мария Ивановна Волкова (1897–?) — узкий специалист по кровососущим двукрылым насекомым.

Надо сказать, что противостояние Ливанова и Волковой к тому времени имело уже давнюю историю. В отчете КГУ за 1937/38 г.¹³ говорится о «грубой политической ошибке в курсе „Введение в биологию“ по вопросу о наследственности», допущенной профессором Ливановым и «своевременно обнаруженной доцентом Волковой и ассистентом Джалиловым, присутствовавшими на лекции». На расширенном заседании кафедры с участием нового тогда директора КГУ К.П. Ситникова против Ливанова тогда были выдвинуты жесткие обвинения. Во-первых, в лекции он использовал пример из книги профессора Т.И. Юдина (1925) о передаче по наследству негативных психических свойств, а эта книга была изъята из обращения¹⁴. Во-вторых, Ливанов не сделал политически нужную оговорку о том, что лица, при капитализме являющиеся ворами, проститутками и другими антиобщественными элементами, в условиях иного общественного строя могут проявить себя совершенно по-другому. В-третьих, Ливанов не разоблачал «ложные учения В.Н. Слепкова и Н.И. Вавилова». В-четвертых, подбирал аспирантов из «культурной среды». В итоге постулировалось, что возглавляемая им кафедра зоо-

¹¹ К.П. Ситников по своей специальности был физиком и никогда не занимался биологией. В КГУ он показал себя способным администратором. Трудно сказать, насколько Ситников внимал в сущность дискуссии по генетике или прочих кампаний, стоявших на стыке науки и политики; он всего лишь выполнял номенклатурные «правила игры».

¹² НАРТ. Ф. Р-1337. Оп. 31. Д. 174. З.И. Забусова (1901–1980) после увольнения из КГУ работала в Казанском сельскохозяйственном институте, сначала по совместительству, в 1960-е гг. была доцентом этого института.

¹³ НАРТ, ф. Р-1337. Оп. 32. Д. 137. Л. 4.

¹⁴ Надо упомянуть, что написанная бывшим заведующим кафедрой психиатрии КГУ Тихоном Ивановичем Юдиным (1879–1949) «Евгеника» (Юдин, 1925) резко отличалась от основной массы книг по евгенике, опубликованных в 1920-е гг. Скорее ее можно назвать вузовским учебником по медицинской генетике: в ней много формул и узкоспециальных подробностей. Автор сам пишет: «Настоящая книга стремится осветить основные тенденции и биологические основы евгеники; социально-экономические основы евгеники только мельком намечены здесь и должны служить предметом другой работы» (Юдин, 1925, с. 18).

логии является «рассадником врагов народа». В результате 5 ноября 1937 г. вышел приказ по университету: «профессора Ливанова Н.А. снять с работы в университете за извращение науки». Николай Александрович не смирился, а обратился с жалобами в Наркомпрос РСФСР, после чего в январе 1938 г. распоряжением по Управлению высшей школы был восстановлен в должности заведующего кафедрой¹⁵. Расцвет лысенковщины был еще впереди, и первая в Казани попытка добиться ее победы над «формальной генетикой» в 1937 г. окончилась провалом.

В 1948 г. все было иначе. Ливанов был снят не только с поста заведующего кафедрой, но и с постов председателя Общества естествоиспытателей и директора Биологического института Казанского филиала Академии наук СССР. Рассказывают, что Николай Александрович отреагировал на весь этот шабаш в науке очень достойно и, поддерживая коллег, говорил в те годы: «Ничего, товарищи, облысение биологии не может продолжаться долго!».

Впрочем, через некоторое время справедливость, хотя и не в полном объеме, была восстановлена. Уже в марте 1949 г. Ливанов снова был введен в состав Ученых советов университета и факультета, где и оставался одним из наиболее уважаемых членов на протяжении многих последующих лет. Несмотря на тяжелую обстановку на кафедре, он подготовил к печати второе, расширенное и дополненное издание своей книги «Пути эволюции животного мира», которое вышло в московском издательстве «Советская наука» в 1955 г. (Ливанов, 1955)¹⁶.

Правда, говорить, что «научная реабилитация» Ливанова в 1950-х гг. была полной, не приходится. Например, в октябре 1951 г. две с половиной тысячи работников российских вузов указами Президиума Верховного Совета СССР были награждены орденами и медалями за выслугу лет и безупречную работу. Среди них 48 преподавателей Казанского университета. Но в списке награжденных нет Н.А. Ливанова, хотя имеются фамилии его гонителей доцента М.И. Волковой и профессора И.Г. Валидова¹⁷.

Через три года 24 преподавателя КГУ (опять же за выслугу лет и безупречную работу) были награждены по указу Президиума Верховного Совета СССР от 9 июля

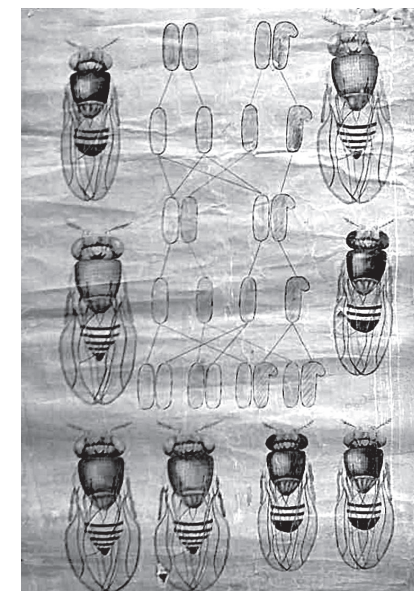


Таблица из учебно-методических материалов кафедры зоологии б/п с надписью «рис. М. Бунина, 1928 год». Схема сцепленного с полом наследования у дрозофилы. Таблица в настоящее время используется на аудиторных занятиях каф. генетики КГУ. Фотография А.И. Ермолаева.

¹⁵ НАРТ. Ф. Р-1337. Оп. 32. Д. 32.

¹⁶ Разработка вопросов эволюционной морфологии была продолжена Ливановым и в 1960-х гг. (Ливанов, 1960; 1970а; 1970б). Николай Александрович продолжал кипучую научную и преподавательскую деятельность вплоть до самой смерти, которая произошла 7 декабря 1974 г. Ему оставалось до столетия менее двух лет.

¹⁷ НАРТ. Ф. Р-1337. Оп. 8. Д. 36. Л. 98–101.

1954 г.¹⁸ И вновь Ливанов отсутствует в этом списке, хотя к этому времени он проработал в университете уже более полувека.

Борьба официальной идеологии с «формальной генетикой» в те годы нередко переплеталась с борьбой с «космополитизмом». В ряде случаев обвинения авторам в преклонении перед иностранными учеными принимали комические формы. Так, Н.А. Ливанов в начале 1960-х гг. вспоминал, как его обвиняли в низкопоклонстве¹⁹. На собрании в актовом зале университета выступал заведующий кафедрой марксизма-ленинизма С.Т. Аздуни и пытался доказать, что профессор Ливанов увлекается цитированием иностранных ученых. В качестве примера он привел ссылки на работы Э.А. Эверсмана и Э.А. Мейера в книге Н.А. Ливанова «Пути эволюции животного мира». На самом деле оба мнимых «иностранца» являлись профессорами Казанского университета²⁰, а профессор Эдуард Андреевич Мейер был учителем Ливанова.

Выдающийся химик, академик АН СССР Борис Александрович Арбузов, который в то время заведовал в КГУ кафедрой органической химии, вспоминал:

«Гонения коснулись и Казанского университета, особенно Н.А. Ливанова, который твердо держался своих взглядов на генетику и отказался от „покаянных“ выступлений, за что ректором университета К.П. Ситниковым был отстранен от заведования кафедрой зоологии беспозвоночных, и кафедра фактически была разогнана. На место заведующего кафедрой К.П. Ситниковым была назначена Волкова, сотрудница кафедры, совершенно в научном отношении неквалифицированная».

Помню, какая тяжелая атмосфера была тогда на биологическом факультете, особенно на кафедре беспозвоночных, где Н.А. Ливанов юридически находился под началом Волковой. <...> Мне неоднократно приходилось слышать выступления Н.А. Ливанова на Ученом совете университета и на других университетских собраниях. Н.А. Ливанов всегда твердо отстаивал свои научные убеждения» (Арбузов, 2000).

Последствия августовской сессии ВАСХНИЛ 1948 г. для Казанского университета заключались не только в увольнении Забусовой и снятии со своих постов Ливанова и не только в установившейся традиции постоянно упоминать имена Т.Д. Лысенко и И.В. Мичурина. Именно в ответ на решения этой сессии в КГУ была впервые образована кафедра генетики, вернее, кафедра дарвинизма и генетики (Ермолаев, 2004, с. 88–91). Она имела целью обучение студентов «генетике по-лысенковски».

Данная кафедра была создана приказом министра высшего образования СССР от 4 сентября 1948 г. Заметка об организации этой кафедры появилась в газете «Ленинец» уже 23 сентября 1948 г. (№ 24). Заведовать кафедрой пригласили по совместительству профессора сельхозинститута М.М. Тихонова²¹.

Осенью 1948 г. почти в каждом номере университетской газеты можно найти материалы, пропагандирующие среди студентства «генетику по-лысенковски». В статье

¹⁸ НАРТ. Ф. Р-1337. Оп. 8. Д. 65. Л. 25–28.

¹⁹ Личные воспоминания одного из авторов статьи.

²⁰ Эдуард Александрович Эверсманн (1794–1860) — зоолог, профессор Казанского университета в 1828–1860 гг., один из основателей Зоологического музея университета. Выпускник Петербургского университета Эдуард Андреевич Мейер (1859–1928) был профессором зоологии Казанского университета в 1902–1913 гг.

²¹ См.: Ленинец. 1948. № 33. В том же номере объявлено о готовящейся конференции по основам мичуринской биологии.

«Биологический факультет перестраивает свою работу» (№ 34) сообщается, что во все лекции и учебники вводится мичуринская теория и «извлекается» старое учение. В № 28 дан список новой литературы по биологическим наукам.

Профессор сельхозинститута М.М. Тихонов читал лекции в КГУ только один семестр, а дальше отказался, сославшись на болезнь. В 30-м номере «Ленинца» за 1949 г. помещена информация: «Кафедра дарвинизма без руководителя и чтение курса срывается».

Возникла нелепая ситуация: налицо кафедра без единого сотрудника. В сентябре 1949 г. на должность заведующего кафедрой дарвинизма и генетики факультет выдвинул сорокалетнего зоолога Михаила Григорьевича Стеколыщикова (1908–1983). Стеколыщиков в 1937 г. окончил биофак КГУ, позже был призван в Красную Армию, участник Великой Отечественной войны, был тяжело ранен, в 1947 г. защитил диссертацию на степень кандидата биологических наук «Органы дыхания полихет» под руководством Н.А. Ливанова (Барабанщиков, 1981).

Как вспоминал сам Стеколыщиков, его пригласили в партком, обязали в срочном порядке изучить дарвинизм и генетику и начать преподавать их в КГУ. Михаилу Григорьевичу это вовсе не казалось заманчивым предложением, но он был член партии, и выхода у него не было. После прохождения конкурса, на который других заявлений так и не поступило (ибо единственный человек в Казани, который мог бы профессионально преподавать генетику — Н.А. Ливанов — претендовать на это место никак не мог и, судя по всему, поддерживал кандидатуру своего ученика Стеколыщикова), следует приказ по КГУ от 13 января 1950 г.: «К.б.н. Стеколыщикова М.Г. зачислить на должность заведующего кафедрой генетики и дарвинизма с 1 января 1950 года»²².

Обязанности заведующего этой кафедрой (в названии кафедры наблюдался разноречивой, ее называли то кафедрой генетики и дарвинизма, то кафедрой дарвинизма и генетики) Стеколыщиков исполнял в 1950–1953 гг. Естественно, что он обязан был преподавать одну лишь «мичуринскую генетику».

Почти никаких данных о работе этой кафедры не сохранилось ни в архивах, ни в открытой печати. Разве что в номере газеты «Ленинец» от 15 марта 1952 г. можно прочитать заметку о работе мичуринского кружка при кафедре генетики.

Уже в сентябре 1953 г. кафедра была закрыта «как малочисленная по штату» (что было вполне естественно, ибо на кафедре так и остался всего один преподаватель) и превращена в «генетический кабинет». Возможно (хотя и недоказуемо), что это явилось следствием некоторого ослабления позиций лысенковского направления после смерти Сталина.

В лысенковские времена генетический кабинет оставался инородным образованием в теле университета. Он «путешествовал» по кафедрам факультета (см.: Ермолаев, 2004, с. 90–91). Например, 25 ноября 1954 г. выходит приказ по КГУ: «К.б.н. Стеколыщикова М.Г. утвердить в должности доцента каф. систематики растений, генетики и дарвинизма». В следующем году следует новый приказ (№ 87 от 13 мая 1955 г.): «Перевести доц. Стеколыщикова М.Г. с каф. систематики растений на каф. зоологии б/п. Помещение и все оборудование кабинета генетики и селекции передать кафедре зоологии б/п».

В начале 1960-х гг. генетический кабинет находился в 208-й аудитории главного здания Казанского университета. Эта комната входила тогда (да и сейчас входит) в состав помещений, занимаемых кафедрой зоологии беспозвоночных. Помимо заведующего (М.Г. Стеколыщикова) в штате кабинета состояла лаборантка С.Г. Галиуллина.

²² Архив КГУ. Оп. 19. Св. 47. Ед. хр. 1188. Личное дело М.Г. Стеколыщикова.



Оборотная сторона таблицы
(фрагмент).
Фотография А.И. Ермолаева.

Таблица из учебно-методических
материалов кафедры генетики
и дарвинизма. Архив каф. генетики
КГУ. Фотография А.И. Ермолаева.

В 1964 г. проведение практических занятий по гистологии и дарвинизму было поручено ассистенту Т.М. Умылиной, также выпускнице кафедры зоологии беспозвоночных²³. Таким образом можно видеть, что параллельно с окончанием периода лысенковщины происходит оживление работы генетического кабинета.

В 1963 г. Казанский университет направил четверых подающих надежды студентов на учебу в Москву для специализации по предметам, связанным с молекулярной биологией. На кафедру микробиологии МГУ были направлены студенты IV курса Руслан Ивановский и Марк Уманский, студент III курса Виктор Самуилов²⁴. На кафедру генетики МГУ поехал учиться студент IV курса Борис Барабанщиков.

Б.И. Барабанщиков вернулся в Казань после окончания МГУ и аспирантуры в 1968 г. За время его учебы в биологии произошла кардинальная перестройка, окончательно ушла в прошлое мрачная фигура Т.Д. Лысенко и советская генетика наконец-то получила возможность продолжить свое развитие. Стеколыщиков радостно встретил своего бывшего ученика и передал ему курс генетики, оставив себе дарвинизм и гистологию. Впоследствии именно Б.И. Барабанщиков возглавил кафедру генетики Казанского университета, которая была создана в 1976 г. (подробнее см.: Ермолаев, 2004, с. 101–120).

²³ В 1972–1975 гг. Тамара Михайловна Умылина написала и защитила диссертацию по карие-систематике планарий озера Байкал. Ее научными руководителями были профессор Н.А. Ливанов и доцент Н.А. Порфирьева.

²⁴ Ивановский и Самуилов позже стали профессорами МГУ.

Надо сказать, что интерес к молекулярно-биологическим исследованиям в Казани начал проявляться с середины 1950-х гг. Начало этим исследованиям положила профессор М.И. Беляева, которая первая в нашей стране приступила к систематическому изучению роли нуклеодеполимераз в опухолевом росте. В университете была организована проблемная лаборатория № 7, в которой собрался коллектив единомышленников. Создание этой лаборатории послужило одной из предпосылок открытия в Казанском университете кафедры генетики (см.: Ермолаев, 2004, с. 93–96).

Если рассматривать факультет в своем развитии с раннего послевоенного времени до начала 1960-х гг., то можно видеть, с одной стороны, количественный рост материальной базы, с другой — некоторое «измельчание» факультетской науки во время лысенковщины, заметное даже в строках официальных документов. В Архиве КГУ хранится машинописный черновик материалов научной конференции «Университет за 40 лет», посвященной 40-летию ТАССР²⁵. В своем докладе «Развитие биологической науки в Казанском университете за 40 лет» декан биолого-почвенного факультета Х.М. Курбангалеева сообщает о кафедре зоологии беспозвоночных следующее²⁶:

«К 20-м годам на кафедре зоологии беспозвоночных, возглавлявшейся Н.А. Ливановым, основным направлением в научной работе была эволюционная морфология. Начиная с 1933 г. Н.А. Ливанов в ряде работ выступил с теорией миоцеля — это новое понимание происхождения и эволюции вторичной полости тела — целома. Ливанов показал, что целом в эмбриональном развитии всегда связан с зачатками мускулатуры туловища и является опорой для мускулатуры стенок тела.

<...> нельзя не отметить, что в теоретических обобщениях Н.А. Ливанова известную роль сыграла его работа по изучению биоценозов моря. Она была начата еще в 1910 г. на Белом море. С сообщением о том, как понимать «биоценозов», Н.А. Ливанов выступил на съездах зоологов в 1922 и 1925 г. <...>

С 1948 г. при заведывании кафедрой зоологии беспозвоночных М.И. Волковой научная работа в значительной степени была связана с разработкой вопросов паразитологии. М.И. Волкова продолжала свои прежние исследования по кровососущим двукрылым, увязывая эти работы с создавшимся Куйбышевским водохранилищем. При этом кафедра приняла участие в комплексной экспедиции по изучению поймы Волги и Камы. В этот же период исследовались иксодовые клещи ТАССР. Наконец, проводились работы, связанные с испытанием новых инсектицидов».

Не менее отчетливо те же тенденции проявляются на примере кафедры физиологии животных²⁷:

«Кафедра физиологии человека и животных <...> возникла на базе физиологической лаборатории, организованной в 1876 г. В первый период после Октябрьской революции — до 1930 г. основными вопросами научной деятельности кафедры были вопросы о механизме передачи возбуждения с клетки на клетку и о природе центрального торможения. Исследованиями А.Ф. Самойлова было получено одно из существенных доказательств в пользу химической (медиаторной) теории передачи возбуждения с нерва на мышцу. <...>

²⁵ Архив КГУ. Ф. 1337. Оп. 9. Д. 409: «Университет за 40 лет». Материалы научной конференции, посвященной 40-летию ТАССР. 1960. Июнь. На 120 листах.

²⁶ Там же. Л. 100–102.

²⁷ Там же. Л. 105–107.

С 1930 г. по 1935 г. в период заведывания кафедрой Д.С. Воронцова <...> основным направлением научной деятельности оставалась разработка теоретических вопросов нервно-мышечной физиологии с широким применением электрофизиологической методики. <...>

С 1948 г. исследования вопросов, касающихся анализа утомления нервно-мышечного препарата и посттетического усиления сокращения мышцы проводились кафедрой, уже возглавляемой И.Г. Валидовым, после смерти Н.П. Резвякова».

Те же тенденции можно наблюдать на примерах кафедр зоологии позвоночных²⁸, физиологии растений и микробиологии²⁹, агрохимии³⁰. Несколько лучше выглядит на этом фоне история кафедры ботаники за этот период³¹:

«Ботанические исследования в 1917 г. проводились в ботаническом кабинете, возглавляемом А.Я. Гордягиным, являющимся видным геоботаником. Своими работами он во многом способствовал оформлению Казанской геоботанической школы. <...> с 1925 по 1931 г. учениками А.Я. Гордягина было проведено значительное количество маршрутных исследований. Они дали ясное представление о флоре и растительности Татарской, Чувашской республик, Марийской и Вятской областей, преобразованных в Марийскую и Удмуртскую республики. <...>

В 1945 г. кафедра ботаники разделилась на две: кафедру геоботаники и кафедру систематики растений. Геоботанические исследования кафедры геоботаники, возглавляемой М.В. Марковым, были направлены на изучение флоры и растительности пойм Волги и Камы в пределах ТАССР. <...>

Кафедра систематики растений под руководством В.И. Баранова развернула свою работу главным образом в палеоботаническом направлении, сосредоточив внимание на изучении ископаемой третичной флоры. Развитию этих исследований способствовало широко развернутое в стране гидростроительство, в результате которого на кафедру поступали материалы геологической разведки для обработки. Эта работа проводилась по хозяйственным и договорам сотрудничества с Енисейстроем, Гидропроектом Камстроя и управлениями строительства Куйбышевской и Сталинградской гидроэлектростанций».

В целом же история Казанского университета в годы лысенковщины является вполне закономерной иллюстрацией данного этапа в истории советской науки и образования.

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²⁸ Архив КГУ. Ф. 1337. Оп. 9. Д. 409. Л. 103–104.

²⁹ Там же. Л. 94–96.

³⁰ Там же. Л. 98–100.

³¹ Там же. Л. 90–93.

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Kazan University during Lysenkoism Period

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Since 1948, the exorbitant exaltation of I.V. Mitchurin and T.D. Lysenko became a customary event in Kazan State University (KSU) as well as in other universities of our country. Simultaneously, there were the campaigns of defamation and ejection of a range of the researchers from the Biological Faculty whose scientific activities were anyway linked with the issues of heredity. Primarily, a famous zoologist Prof. N.A. Livanov was affected. He was laid off the positions of a Head of the Invertebrate Zoology Department of KSU and a Director of the Institute of Biology, Kazan Branch of the Academy of Sciences of the USSR. As a response to the decision of the August session of VASKhNIL of 1948, a Department of Genetics and Darwinism was formed in KSU. It was practically understaffed, and was transformed to Genetic Cabinet 4 years later. The active practice of this Cabinet and its realignment to a new direction became possible only after stopping the Lysenko's monopoly in biology. Department of Genetics of KSU was organized in 1976, and the training of geneticists was started since that time.

Key words: Kazan University, Department of Genetics and Darwinism of KSU, N.A. Livanov, Z.I. Zabusova, M.G. Stekol'schikov, M.I. Volkova, Lysenkoism.

Vavilov, a Soviet Darwinist in Mexico

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Nikolai I. Vavilov came to Mexico in 1930 and in 1932. In 1925 his working team visited the country in advance, where they contacted Alfonso L. Herrera and began work with Maximino Martínez, who was appointed by the Biological Studies Direction to accompany the Soviet Scientific Commission. Vavilov's research program on the origin of cultivated plants of the world continued de Candolle's project that was revised by Darwin and promoted in the 1960s and 70s by Jack R. Harlan and other researchers. Vavilov couldn't conclude his program due to obstacles presented by Lysenko. However, Vavilovian ideas are once again influential in Mexico. Currently, Vavilovian concepts are important in the discussions about the importance of a national food policy and the Biocultural heritage expressed in native corn and other vegetable resources in South/Central Mexico and Central America. This region, also known as the Mesoamerican Centre of Origin, has become endangered by the diverse environmental and food threats brought on by the introduction of genetically modified corn.

Keywords: Vavilov, Mexico, Martínez, Centres of origin, Cultivated plants, Genetics, Ethnobotany.

Darwin's theory of evolution has profoundly increased the scope of modern scientific thought. It has heavily influenced both the natural and social sciences, motivating the formation of groups and research programs with diverse orientations. An example of such a research program is that of Thomas F. Glick, who studies the impact of crucial ideas in science, analyzing their reception, introduction, tension, and rupture or adoption as related to evolutionism, relativity, and psychoanalysis (Glick, 1978, Glick & Henderson, 1999).

The further investigation of these theories and related personalities, institutions, and processes in diverse contexts that cross epistemological, national, and cultural boundaries has enabled the recompilation of an important corpus of knowledge on specific cases, regions, and processes. It has also made possible the elaboration of interpretative frameworks and analytical categories that are applicable to the research of diverse processes in Latin America, such as the reception and introduction of Darwinism in Mexico and Bolivia during the period of 1870–1920 (Argueta, 2009). In the case of the latter, we found a group of important variables that promoted and hindered this introduction: individuals, social/academic networks, and institutions such as the school system and the Church. Furthermore, we found that in Mexico, as in many Latin American countries, the introduction of Darwinism was interpreted as the combination of Lamarckism and Darwinism. Ruiz has shown that it was an “incomplete” reception and introduction (Ruiz, 1987). Because of this, in later studies we have questioned who elucidated the concept of Darwinism or of the synthetic theory, specifically during the first half of the twentieth century. What we encountered in these studies were factors that established the framework for the reception and interpretation of Lysenkoism in Mexico during this same period. (Argueta, Noguera & Ruiz, 2003).

In the aforementioned studies, the analysis of Lysenko led us to Nikolai I. Vavilov, an important figure in the fields of Darwinism and Mendelian genetics in the Soviet Union, protagonist of a worldwide ethno-botanical project, and tireless traveler. Despite the fact that his work is fundamental in ethnobotany, agronomy, and genetics, and that he has visited Mexico on two separate occasions, he has received little attention in Mexican scientific historiography.

Therefore, the purpose of this article is to analyze the following: the fundamental aspects of this figure, the worldwide influence of the Vavilovian project, and the impact of his two visits to Mexico in 1930 and 1932–1933.

Brief biographical review of Nikolai I. Vavilov

The name Nikolai I. Vavilov doesn't currently carry much weight amongst the younger generation of students of biology, genetics, or agronomy. Nevertheless, some of his research and proposals have become essential in contemporary debates in Mexico on biodiversity conservation policies, germplasm banks, and genetically modified corn.

Although his scientific proposals are still considered valid, it seems that they have been eclipsed for political reasons and he has been largely excluded from the historical record of science.

Vavilov was born in Moscow on November 25, 1887. After graduating from the Institute Petrovskaya of Agriculture (Imperial Institute), he continued his studies in Germany, France, and England, where he worked under the direction of William Bateson, focusing on vegetable immunity (Bateson, 2002)¹. In 1917, having returned to Russia, then under a revolutionary government, Vavilov became a professor of the Agronomical Faculty of Saratov University.

His research earned him many prizes: the Przhvalsky Medal of the Russian Geographical Society in 1926, the Lenin Prize the same year, and the gold medal of the International Conference of Agriculture in Rome in 1927. In 1929, he was elected member of the USSR Science Academy and president of the Lenin Academy of Agriculture. In 1930, he was elected director of the



Figure No. 1. Boukasoff, S. “Nota acerca de la expedición botánica rusa en América Latina” (1925).

¹ William Bateson (1861–1926), biologist and founder of modern genetics.

Institute of Genetics of the USSR Science Academy and in 1931, president of the Geographical Society of the USSR. Another notable accomplishment which should not be ignored in the scientific historiography was his participation as a Soviet delegate with Nikolai Bukharin in the Second International Congress of History of Science and Technology that took place in London in 1931.

Vavilov was Vice-president of the Sixth International Congress of Genetics celebrated in Ithaca, New York in 1932 and was elected president of the seventh congress that was scheduled to take place in Russia in 1937. However, this congress was postponed until 1939 and moved to Edinburgh, but the Soviet authorities did not allow him to attend. In 1942, he was elected member of the Royal Society of London.

Beginning in 1930 the Soviet government monitored his movements. On June 22, 1941, when Germany invaded the Soviet Union, Vavilov was accused of sabotaging Soviet agriculture and espionage for the British government. On July 9 he was sentenced to be shot; however, the sentence was commuted to 20 years of corrective work. He died January 26 of 1943, hospitalized in the prison of Saratov (in the Ukrainian bank of the Volga) due to malnutrition and pneumonia².

Scientific work

“Harvester of life”, “Father of applied phytogeography”, “Universal ethnobotanist”, “Russian encyclopedist”, “Martyr of genetics”, and “Galileo of the twentieth century” are a few of the names given to him by his friends and colleagues. These monikers demonstrate the rich and diverse vital activity displayed by Vavilov.

After learning about his project on the origin of cultivated plants, it is hard not to identify with the Russian scientist, to adopt his ideas as our own, and assign him a proper distinction. We’ve decided to call him: “the great seed explorer of the world”. Even though the historiography of science exalts the voyages of Cook, Laperousse, La Condamine, Humboldt, d’Orbigny, Wallace, Bates, and especially of Darwin in the Beagle, Vavilov’s trips should also be recognized: he explored more than 40 countries between 1916 and 1940 when the world wasn’t conformed by more than 190 countries as it is today³.

The aforementioned journey had three important purposes: (1) to collect useful plants of the world to compile the largest germplasm bank of the planet, (2) to determine the centres of origin of the cultivated plants of the world, and in accordance with his great dream, (3) to join the efforts of all scientists to end world hunger.

Without a doubt his most fascinating work was related to his ten monumental ethnobotanical voyages. It was during his eighth and ninth voyages when he visited Mexico and Latin America (see tabl. 1).

² See: *Pruna P.* El Caso Vavilov. Cuba: La Habana, 2010. 7 p. (Inédito).

³ We should remember that the League of Nations, precursor of the United Nations, included in its origin in 1920, 42 countries as members. And the UN was founded in 1945 with 51 signing countries. Therefore, the number of countries explored by Vavilov was highly significant for his time.

Table 1. Sites visited during his ten trips⁴

1916 May-August	Expedition to Iran (Hamadan and Khorasan) and Pamir (Shungan, Rushan and Khorog)
1921–1922 May-January	Trip to Canada (Ontario) and the U.S. (New York, Pennsylvania, Maryland, Virginia, North and South Carolina, Kentucky, Indiana, Illinois, Iowa, Wisconsin, Minnesota, North and South Dakota, Wyoming, Colorado, Arizona, California, Oregon and Maine)
1924 July-October	Expedition to Afghanistan (Herat, Afghan Turkestan, Gaimag, Bamian, Hindu Kush, Badakhshan, Kafiristan, Jalalabad, Kabul, Herat, Kandahar, Baquia, Helmand, Farakh and Sehistan), accompanied by D. D. Bukinich and V. N. Lebedev
1925	Expedition to Khorasm (Khiva, Novyi Urgench, Gurlen and Tashauz)
1926–1927	Expedition to countries north and south of the Mediterranean Sea: France, Syria, Palestine, Transjordan, Algeria, Morocco, Tunisia, Greece, Sicily, the island of Sardinia, Cyprus, Crete, Italy, Spain, Portugal and Egypt. Expedition to Abyssinia, today Ethiopia (Djibouti, Addis Ababa, the Nile banks, the Tsana Lake), Eritrea (Massaua) and Yemen (Hodeida, Jidda and Hedjas)
1927	Exploration of the mountain regions of Wuerttemberg, in Bavaria, Germany
1929	Expedition to China (Xinjiang — Kashgar, Uch-Turfan, Aksu, Kucha, Urumchi, Kulja, Yarkand and Hotan) with M. G. Popov, and later alone to Taiwan, Japan (Honshu, Kyushu and Hokkaido) and Korea
1930	Expedition to the south of the U.S. (Florida, Louisiana, Arizona, Texas and California), and later, for the first time to three Latin American countries: Mexico, Guatemala and Honduras
1932–1933	Expedition to Canada (Ontario, Manitoba, Saskatchewan, Alberta and British Columbia); the U.S. (Washington, Colorado, Montana, Kansas, Idaho, Louisiana, Arkansas, Arizona, California, Nebraska, Nevada, New Mexico, North and South Dakota, Oklahoma, Oregon, Texas and Utah). Another expedition to Latin America: Cuba, Mexico (only Yucatan), Ecuador (mountain ranges), Peru (Lake Titicaca, Puno and mountain ranges), Bolivia (mountain ranges), Chile, Brazil (Rio de Janeiro and the Amazon River), Argentina, Uruguay, Trinidad and Puerto Rico
1921–1940	Systematic explorations of Western Russia and all the regions of the Caucasus and the Near East

Institute of Plant Industry (IPI or VIR in Russian) and the Centres of Origin, or the continuation of a Darwinian project

As a consequence of the ten great voyages and the participation of many collaborators that travelled around the planet (similar to Linneaus’ apostles or Darwin’s correspondents), Vavilov achieved the first of his objectives: to collect and integrate the first and largest germplasm bank

⁴ www.vir.nw.ru/history/history.htm (visited in January, 2009)

in the world during his time including, according to the 1930 database, more than 300,000 samples of 1000 species of cultivated plants. In some of his letters he noted that although the US and Germany were also racing to collect and establish germplasm banks they were unable to keep up with the IPI.

Researchers that study the work of Vavilov have established a clear connection between the investigations of Alphonse de Candolle and those of Nikolai Vavilov (Smith, 1968). We consider that the fundamental link between these researchers was Darwin's work based on de Candolle's idea of centres of origin of cultivated plants (de Candolle, 1883). In this work Darwin reexamines Candolle's hypothesis and approaches his conceptions of ancestral forms, adaptive regions, and the history of most cultivated plants, that enabled him to conceive a single centre of origin for each species. These ideas were very useful to Darwin because they enabled him to explain domestication and specifically the concept of variation in a domestic state, a key issue in his theory of the origin of species by natural selection. The importance of these ideas was manifested in *The Origin of Species* (1876) and more extensively in *The Variation of Plants and Animals Under Domestication* (1875). In both texts de Candolle is one of the most frequently cited authors.

In Chapter XII of *The Origin of Species*, dedicated to biogeography, Darwin analyzed the idea of centres of origin, as is shown in the following:

"Hence, it seems to me, as it has to many other naturalists, that the view of each species having been produced in one area alone, and having subsequently migrated from that area as far as its powers of migration and subsistence under past and present conditions permitted, is the most probable" (Darwin, 1876, p. 321).

And referring to this idea, he emphasized the following:

"He who rejects it, rejects the *vera causa* of ordinary generation with subsequent migration, and calls in the agency of a miracle" (Darwin, 1876, p. 320).

Therefore, we can see that the theory of centres of origin in the context of phytogeography opposes the idea of a unique creation for all species or of successive creations proposed by catastrophists like Agassiz or d'Orbigny. Vavilov employed the proposals of de Candolle and Darwin, whom he read thoroughly (Vavilov, 1931; 1940), to elaborate the ambitious project dedicated to establish the centres of greater variability of cultivated vegetables. He studied these centres with great detail, collecting many samples, and this research gave way to texts of worldwide importance, such as *Studies on the Origin of Cultivated Plants* (1927) and other works published posthumously (1951, 1992, 1997).

Vavilov stated that an organism generates more diversity if it inhabits an area during a longer period of time and if in these areas the domestication of species is possible. He denominated these regions centres of origin and he considered subcentres to be areas with endemic forms that have high variability but no domestication.

Based on this concept he established the existence of eight centres of origin of cultivated plants around the world (see tabl. 2),⁵ one of which was Southern Mexico and Central America. This explains his interest in this region.

⁵Later Vavilov reduced the eight centres to seven. He joined the Centre of Central Asia to the Chinese Centre (Vavilov, 1932).

Table 2. Centres of Origin of Cultivated Plants (Vavilov, 1929; 1934)⁶

<p>Chinese Centre: Considered the largest and most ancient. It includes the mountain regions of the centre and west of China and the adjacent lower lands. 136 endemic plants were collected. Domestication of millet (<i>Panicum miliaceum</i>), soybean (<i>Glycine max</i>), yam (<i>Dioscorea batatas</i>), bean (<i>Phaseolus angularis</i>), sweet orange (<i>Citrus sinensis</i>), citrus lemon (<i>Citrus limon</i>), sorghum (<i>Andropogon sorghum</i>), pear (<i>Pyrus serotina</i>), apple (<i>Malus asiatica</i>), common apricot (<i>Prunus armeniaca</i>), cherry (<i>Prunus pseudocerasus</i>), nut (<i>Juglans sinensis</i>), litchi (<i>Litchi chinensis</i>) and ginseng (<i>Panax ginseng</i>), among other plants</p>
<p>Central Asia Centre: Includes Northeastern India (Punjab and Kashmir), Afghanistan, Tadzhikistan, Uzbekistan and Kirguizia. 43 endemic plants were registered. Common wheat (<i>Triticum compactum</i> and <i>T. sphaerococcum</i>), pea (<i>Pisum sativum</i>), lentil (<i>Lens sculenta</i>), herb cotton (<i>Gossypium herbaceum</i>), flax (<i>Linum usitatissimum</i>), pistachio (<i>Pistacia vera</i>), rye (<i>Secale cereale</i>), onion (<i>Allium cepa</i>) and grape (<i>Vitis vinifera</i>)</p>
<p>3. Indian Centre, with two subcentres: Principal centre: Includes India and Birmania but not Northwestern India, the Punjab but not provinces of the northwestern border. 117 endemic species were found here. Domestication of rice (<i>Oryza sativa</i>), chickpea (<i>Cicer arietinum</i>), sugar cane (<i>Saccharus officinarum</i>), eggplant (<i>Solanum melongena</i>), mung bean (<i>Phaseolus mungo</i>), coconut (<i>Cocos nucifera</i>), mango (<i>Mangifera indica</i>), tamarind (<i>Tamarindus indica</i>), cinnamon (<i>Cinnamomum zeylanicum</i>), indigo (<i>Indigofera tinctoria</i>), cotton (<i>Gossypium arboreum</i>), jute (<i>Corchorus capsularis</i>) and cucumber (<i>Cucumis sativus</i>), among other plants. Indo-Malayan Centre: Includes Indochina and the Malay Archipelago (Java, Borneo, Sumatra), Philipines and Vietnam. 55 endemic plants were found: banana (<i>Musa cavendishi</i>, <i>M. paradisiacal</i>, <i>M. sapientum</i>), breadfruit (<i>Artocarpus communis</i>), mangosteen (<i>Garcinia mangostana</i>), clove (<i>Caryophyllus aromaticus</i>), nutmeg (<i>Myristica fragans</i>), black pepper (<i>Piper nigrum</i>), among others</p>
<p>4. Near Eastern Centre: Includes the interior of Asia Minor, Transcaucasia, Iran and the highlands of Turkmenistan. 83 plants were registered. Domestication of wheat (<i>Triticum monococcum</i>, <i>T. durum</i>, <i>T. vulgare</i>, <i>T. orientale</i>, many varieties; the most important centre for wheat), barley (<i>Hordeum districhum</i>), oat (<i>Avena sativa</i>, <i>A. byzantina</i>), rye (<i>Secale cereale</i>), apple (<i>Malus sylvestris</i> var. <i>paradisiacal</i>), quince (<i>Cydonia oblonga</i>), pear (<i>Pyrus communis</i>), sour cherry (<i>Prunus cerasus</i>), common fig (<i>Ficus carica</i>), pomegranate (<i>Punica granatum</i>), alfalfa (<i>Medicago sativa</i>), clover (<i>Trifolium resupinatum</i>), and various vegetables</p>
<p>5. Mediterranean Centre: Includes the complete Mediterranean coast and Northern Africa. 84 plants. Domestication of vegetables (high diversity and the most important for vegetables): sugar beet (<i>Beta vulgaris</i>), lettuce (<i>Lactuca sativa</i>), kale (<i>Brassica oleracea</i>), common asparagus (<i>Asparagus officinalis</i>), olive (<i>Olea europea</i>) black mustard (<i>Brassica nigra</i>), some fodder crops (<i>Trifolium alexandrinum</i>), flax (<i>Linum flavum</i>), and oat (<i>Avena brevis</i>)</p>
<p>6. Abyssinian Centre: Includes Ethiopia, part of Somalia and Eritrea's hills. 38 species. Domestication of different types of wheat (<i>Triticum durum abyssinicum</i>), (<i>Triticum turgidum abyssinicum</i>), barley (<i>Hordeum sativum</i>), sorghum (<i>Andropogon sorghum</i>), linseed (<i>Linum usitatissimum</i>), coffee (<i>Coffea arabica</i>), sesamo (<i>Sesamun indicum</i>) and castor oil (<i>Ricinus communis</i>)</p>
<p>7. Centre of the south of Mexico and Central America: Includes the south of Mexico and Central America. It has 66 endemic species. Domestication of corn (<i>Zea mays</i>), bean (<i>Phaseolus coccineus</i>), squash (<i>Cucurbita ficifolia</i>), red pepper (<i>Capsicum annum</i>), tomato (<i>Lycopersicum cerasiforme</i>; 'jitomate' in Spanish), princes feather (<i>Amaranthus hipocondriacus</i>), christophine (<i>Sechium edule</i>), cotton (<i>Gossypium purpurascens</i>), sweet potato (<i>Ipomea batatas</i>), agave maguey (<i>Agave cantala</i>), cocoa (<i>Theobroma cacao</i>), various species of prickly pears (<i>Opuntia amyclaea</i>), papaya (<i>Carica papaya</i>), avocado (<i>Persea americana</i>), wild black cherry (<i>Prunus serotina</i>), sunflower (<i>Helianthus annuus</i>) and tobacco (<i>Nicotiana rustica</i>)</p>

⁶Taken from Hernández Xolocotzi, 1980, quoting Vavilov, 1951 with additional information from Bailey, 1949, and the Botanical Garden of Cordoba (Jardín Botánico de Córdoba) in Spain, 1992. Only some plants of each centre are indicated.

8. South American Centre, with three subcentres (62 plants were registered).

Peruvian, Ecuadorean and Bolivian Subcentre: Areas of high mountains, coasts and tropical and subtropical zones of the mentioned countries and of Colombia. Domestication of potato (*Solanum andigenum*), tomato (*Physalis peruviana*; 'tomate' in Spanish), quinoa (*Cinchona officinalis*) sieva bean (*Phaseolus lunatus*), guava (*Psidium guajava*), squash (*Cucurbita maxima*), amylaceous corn (*Zea mays amylacea*), tobacco (*Nicotiana tabacum*) and cotton (*Gossypium barbadense*).

Chiloe Subcentre: Island south of Chile. An important centre of varieties and domestication of common potato (*Solanum tuberosum*) and of woodland strawberry (*Fragaria chilensis*).

Brazilian-Paraguayan Subcentre. Area with great variation of yucca (*Manihot utilissima*), peanut (*Arachis hypogaea*), rubber (*Hevea brasiliensis*), pineapple (*Ananas comosus*), Brazil nut (*Bertholletia excelsa*), Passion fruit (*Passiflora edulis*)

Relations with Mexico (1925–1933)

Vavilov visited 13 Latin American countries; however, we have discussed this in another text (Argueta Villamar & Argueta Prado, 2010). In this article we will focus primarily on his relationship with Mexico.

Vavilov's trip to Mexico must be contextualized in a particular historical framework based on the scientific relations of Mexico and the Soviet Union that go back to Dr. Daniel Vergara Lope and Ivan Petrovich Pavlov's trips in 1897 (Izquierdo, 1968, p. 1102)⁷. The relationship between these countries became closer some years later, starting in 1924 when Mexico recognized the Soviet state and established diplomatic relations. Following this line of thought, Vavilov's connections with Mexico must be viewed in the context of historical Mexican/Soviet relations in such a way that allows us to effectively expound upon (1) the 1925 voyage of the Soviet Scientific Commission (SSC)⁸, and (2) Vavilov's research and presence in Mexico in 1930 and 1932–1933.

Soviet Scientific Commission in Mexico

The close relationship that occurred between Mexican and Soviet scientific communities should be understood as a consequence of their ideological proximity due to their respective revolutions: the Mexican in 1910 and the Soviet in 1917. However, it was a complicated proximity. During certain periods the relation was fractured. Nevertheless, the emergence of progressive revolutionary processes in both countries generated an affinity between the states and marked a new era in Mexican/Soviet relations in politics and science.

As has been indicated, the relationship between Mexico and the Soviet Union officially began in 1924 when Mexico recognized the Soviet state and diplomatic relations were established. This is significant because Mexico was the first country in the American continent that

⁷ Izquierdo states that Vergara's visit was made days after his attendance to the XIII International Congress of Medicine that took place in Saint Petersburg. We should indicate that Daniel Vergara Lope, at the time assistant professor of physiology of the National Institute of Medicine, published various articles written with Alfonso L. Herrera on the influence of height in the constitution and development of organisms (Herrera & Vergara Lope, 1895–1896; 1896; 1897–1898; 1899). That is why Alfonso L. Herrera received the commission in 1925.

⁸ Also named Soviet Explorer Commission, Russian Scientific Commission, Russian Botanical Commission, Russian Botanical Expedition.

formalized diplomatic relations with the USSR (Dik, 1996). However, in terms of our study it is even more significant that few months later the first Soviet Scientific Commission arrived in Mexico. This indicates, on one hand, the interest of the Soviet Union to strengthen relations with a western country and, on the other, that the ideological affinity between both states favored scientific links between the countries.

Professors S. Bukasov (or Boukasoff), S. Juzepshuk (or Yousepchuck), G. Bossé, and V. Zhiviago arrived in Mexico at the end of 1925 under the direction of Dr. Voronoff in order to study the uses and commercial potential of Latin American flora (Boukasoff, 1925). This trip represents the first important step of the Bureau of Applied Botany, afterwards known as the Institute of Plant Industry, IPI, or VIR, the great institution founded by Vavilov in 1921⁹.

When the Soviet scientists arrived in Mexico they relied on the aid of important figures of Mexican science such as Alfonso L. Herrera; Maximino Martínez, director of the Biological Studies Direction; and Miguel Angel de Quevedo, president of the Mexican Forest Society (La Redacción, 1925).

The aid of Mexican scientists was crucial for the Soviet expedition because it permitted the Soviet scientists to establish connections with the Mexican scientific community, to familiarize themselves with the most important sources of botanical information and applicable research institutions, and to move with ease around the country. This was made possible primarily by Maximino Martínez, who was assigned by Alfonso L. Herrera to accompany the members of the commission during the trip.

Between October 25 and November 26 professors Bukasov (expert in *Solanaceae*), Juzepshuk, and Bossé, accompanied by professor Martínez, traveled the states of Coahuila, Durango, Chihuahua, San Luis Potosi, Queretaro, and Jalisco. Maximino Martínez published a summary of the expedition in the magazine *Forest Mexico (México Forestal)* in which he highlighted the botanical richness in desert and semi-desert regions, and the diversity of herbaceous plants adapted to droughts with potential commercial uses (Martínez, 1926).

During the expedition, the commission assembled a collection of endemic samples and authored a manual of the uses of the encountered species, an interesting ethnobotany manual, as well as a brief analysis of the possible commercial uses of these species. Two articles derived

⁹ Most of them were from the Institute of Applied Botany and Botanical Garden in Leningrad, only Bossé worked in the Timiriachev Institute, in Moscow.



Figure No. 2. Bukasov, S. "A Study on a hybrid of Corn and *Euchlaena mexicana* (1926).

from the observations of professor Bukasov appeared in the magazine *Forest Mexico*. The first was a general outline of the purposes of the expedition that highlighted the importance of their findings in relation to the Soviet Union because, according to Bukasov, many of the natural resources employed in the USSR were imported at a high cost to Soviet economy. The second published article consisted of a study on a hybrid of corn and *Euchlaena mexicana* (Bukasov, 1926)¹⁰.

The work of the Soviet Scientific Commission was very important if we consider that, aside from studying the biotic resources of the country, it established various relations that eventually laid down the groundwork for future visits of Soviet scientists. It also allowed Mexican scientists access to Soviet germplasm research and Eastern European scientific enterprises in general. Therefore, the first Soviet Scientific Commission constructed a bridge that would later be used to transport other actors, samples, and ideas from one side of the Atlantic to the other.

Vavilov in Mexico

A second period of great importance for the scientific relations between Latin America and the Soviet Union was when Nikolai I. Vavilov traveled to Mexico in 1930 and 1932–1933¹¹.

Vavilov's first trip to Mexico and Central America took place in 1930 after a long stay in the southern region of the United States. Due in part to the connections that had been established by the Soviet Commission, he received a warm welcome in Mexico which made his work there considerably easier. Ambartsumov has shown that, apart from these connections, Vavilov exchanged letters with important figures of the Mexican academy such as Alfonso Pruneda¹², rector of the National Autonomous University of Mexico (UNAM); Isaac Ochoterena, director of the Institute of Biology of the UNAM (prior Direction of Biological Studies chaired by Alfonso L. Herrera); and "a high ranking official of the Agriculture Secretary, mister Maximiliano Martínez" (sic) (Ambartsumov, 2001, p. 9)¹³.

The international relevance of Vavilov's work in the Soviet Union and the attention he received in the Mexican media after the Soviet Scientific Commission's 1925 trip to Mexico made Vavilov an important figure amongst Mexican scientific circles; consequently, during his first stay in Mexico the Mexican Society of Agronomy named Vavilov an Honorary Member. In his thank-you speech he surely read some paragraphs from the article *Mexico and Central America, As the Principal Centre of Origin of the Cultivated Plants of the New World* (Vavilov, 1931). In this article Vavilov demonstrated the profound influence that the region and culture had exerted over him stating:

"In Southern Mexico and in Central America the investigator of cultivated plants feels himself, in the full meaning of the word, in the very furnace of creation" (Vavilov, 1931, p. 188).

¹⁰ These referred articles can be consulted at the end of the text.

¹¹ Sergei Eisenstein, famous soviet filmmaker was also in Mexico between 1930–1932 (Vega Alfaro, E.)

¹² Pruneda was rector of the UNAM from December 30 of 1924 to November 30 of 1928 and surely the communication began during preparations of the visit of Bukasov and Vavilov. However, when Vavilov first came to Mexico Pruneda was no longer rector.

¹³ A misnomer. In reality Maximino Martínez was a botanist and ethnobotanist who at the time worked in the Direction of Biological Studies (DBS) under the direction of Alfonso L. Herrera, who assigned him the duty of accompanying the Soviet Scientific Commission in their explorations of the centre and north of the country. After the DBS was closed in 1929 he worked in the Agriculture Secretary.

Vavilov asserted that this statement was not only due to the existence of the numerous new species of cultivated plants in the region that he and his collaborators found, nor to the enormous amount of races, subraces, and varieties, but because he observed something that greatly excited him: he "discovered" that farmers left wild trees, relatives of their domesticated counterparts, when clearing forest to make space for planting. This implies that the fruit trees remained connected to their wild relatives, a custom similar to what Bukasov had observed in Mexican corn farming practices in 1925¹⁴. He indicated the importance of his observation pointing out that:

"In distinction of some Asiatic and African centres of agriculture (for instance Abyssinia, Afghanistan), a very characteristic feature of Central America and Mexico is that for many of the cultivated plants the corresponding wild links are present. For one half, if not for the majority of endemic cultivated plants in Central America and Mexico, all phases of their introduction into cultivation may be traced. Thus, the fruit trees of Mexico and Central America are directly connected with their wild relatives. In clearing forests, the farmer leaves the wild Mexican plum, *Spondias mombin*, and *Psidium guajava*, the hawthorn, in the fields. These facts have been frequently observed by us in Guatemala and in Southern Mexico" (Vavilov, 1931, p. 188).

And as a footnote, Vavilov also wrote:

"The same may be observed in the Old World in regard to wild pear and apple trees, in the Caucasus and in Turkestan." (Vavilov, 1931, p. 188).

The above article is relevant because it elucidates a group of traditional agricultural practices and also one of the worldwide centres of domesticated vegetables. It is important to note that although Vavilov made reference to over two-dozen French, American, German, Russian, and other international authors, he only referenced one Mexican study, *Useful plants of the Mexican Republic* written by Maximino Martínez (Vavilov, 1931, p. 186), an author with whom the Soviet Scientific Commission had established connections and was surely in contact with Vavilov during his stay in Mexico.

Centres of origin today

Today centres of origin of cultivated plants are known as *Vavilov Centres*. They are still a point of scientific interest and new vegetable varieties, races, and subraces are being discovered because selection under domestication is still a common practice in farm communities around the world. Numerous new research groups have come from Europe and North America to intertropical regions, for example, in the 60's to investigate corn biodiversity and to produce hybrids during the Green Revolution, and currently to promote genetically modified organisms and cell lines.

In 1971 Jack Harlan analyzed what he called "Vavilov's theory". He stated:

"For nearly half a century the charisma of N. I. Vavilov and the elegant simplicity of his methodology have dominated theories and concepts about the origin of cultivated plants... <...> ...but Vavilovian theory has been virtually demolished by other sources of evidence" (Harlan, 1971, p. 468).

¹⁴ *Boukasoff S.* Los Recursos Forestales en las Regiones del Secano de México // México Forestal. 1925. Vol. 3. № 11–12. P. 171.

Harlan adds:

"The modern approach is more in the tradition of De Candolle than Vavilov, in that it attempts to integrate all sources of information" (Harlan, 1971, p. 468).

Research on sorghum suggested to Harlan that domestication of this species didn't take place in a focal point (that for Vavilov was Ethiopia), but in every African savanna. This assumption is based on the evidence that cultivated forms are more similar to wild ones of each region than to other cultivated forms of different areas. This pattern is present in many other crops, for example, beans in America and rice in Asia. He considered that it was a diffuse and acentric domestication and proposed the theory of the complex of three centres and non-centres in the world. Referring to it he concluded:

"...that agriculture originated independently in three different areas and in each case a system composed of a centre of origin and a non-centre emerged. The first system was, without a doubt, the centre of the Near East and its non-centre was Africa, the second system was Northern China and its non-centre was Southeast Asia and the Southern Pacific, and the third one was Mesoamerica and its non-centre South America" (Harlan, 1971, p. 473)¹⁵.

In our view, Harlan's proposal complements and refines Vavilov's theory of centres and subcentres.

Vavilov made two other important contributions: the law of emancipation of recessives¹⁶ and the law of homologous series. The second law was proposed in 1920 and states that in a given area similar patterns of variation in genetically related species and genera occur. Therefore, says Vavilov, if we know the variation of a species in a specific area we can predict a parallel variation in proximate species or genera. This is a consequence of parallel evolution from a common ancestor¹⁷.

Even though it seems that the law of homologous series didn't have much impact at the time, Kupzow wrote:

"Further support for Vavilov's Law of Homologous Series in Variation is provided by Harlan, de Wet and Price (1973). These authors present a better understanding of the genetic basis for homologous variation" (Kupzow, 1975, p. 372).

This law is referenced in *Economic Botany*:

"After a half century from its formulation this law is still actively discussed among geneticists and plant breeders. Today the parallelism in variation patterns in plants and animals is studied with modern biogenetical methods and described with precision exceeding that possible during

¹⁵ In 1997 a symposium in honor of Jack R. Harlan was held in Syria. It was named *The Origins of Agriculture and Crop Domestication*. The initial presentations were dedicated to discussing Vavilov and Harlan's legacy. See *The Origins of Agriculture and Crop Domestication*, 1998.

¹⁶ The first law states that the frequency of recessive homozygous increases as we move farther away from the centre of origin. This phenomenon is mainly a consequence of genetic drift, associated with migrations of groups of individual specimens of a species away from its centre of origin.

¹⁷ The name of this law recalls Darwin's "correlated variation of homologous parts" (see *Variation of animal and plants under domestication* of Darwin, 1875, p. 314) but refers to different aspects.

Vavilov's time. It turns out that plants and animals vary similar ways when subjected to similar selection pressures" (Editors of *Economic Botany*, 1975, p. 372)¹⁸.

Afterwards, at the Harlan symposium, J.G. Hawkes, one of the most experienced phyto-geneticists, affirms this in his inaugural presentation titled "Back to Vavilov: Why Were Plants Domesticated in Some Areas and not in Others?":

"Similar selection pressures even in unrelated crops produced similar types of adaptation, a process developed by Vavilov into his Law of Homologous Series (...) just one of the extraordinarily innovative ideas put forward by the great genius, N.I. Vavilov" (Hawkes, 1998).

Fighting hunger in the world

Vavilov's third objective was never accomplished. In 1933 just as he finished his ninth trip he was officially accosted by the Soviet state. Vavilov ignored this opposition to the best of his ability; however, in this moment his project began to be eclipsed by Trofim D. Lysenko, who appeared in the Soviet agronomic scene in 1927. When Stalin officially backed Lysenko in 1935, he launched a strong offensive against the other Soviet geneticists (Argueta, Noguera & Ruiz, 2003). As we have indicated, Vavilov had been monitored by Soviet government spies since 1930. Accused and sentenced in 1941, he died in 1943. Years later Theodosius Dobzhansky wrote an article in his honor that he named "N.I. Vavilov, a Martyr of Genetics" (Dobzhansky, 1974).

Although he didn't eliminate world hunger, it is important to note that no scientist after Vavilov has found a solution to this grave problem¹⁹.

In Mexico we continue to remember Vavilov as we oppose the release of genetically modified corn in national territory. We base this opposition on facts that Vavilov posited and Harlan confirmed: it is a region of endemisms, great variability, a centre of origin, and a centre of domestication.

At the beginning of 2009, an experimental dissemination of genetically modified corn began in Chihuahua, a Mexican state that shares a border with the United States. Supposedly there is no risk of contaminating native corn. Even though most races of corn are found in the centre and south of the country; the review *Races of Maize in Mexico, Their Origin, Characteristics and Distribution* of Wellhausen, Roberts, and Hernández (1951); or the more recent review of Ortega Paczka (2003); establishes that in Chihuahua at least three native races are cultivated: Reventador, Cónico and Tuxpe o.

In accordance with Vavilov's legacy, it is clear that we don't have to risk our valuable Biocultural patrimony (Boege, 2008; Toledo & Barrera-Bassols, 2008) by introducing corn of doubtful food quality that promises more productivity but implies higher costs in supplies (as occurred with grains in the green revolution). Furthermore, the use of geneti-

¹⁸ Richard E. Schultes was editor of *Economic Botany* in that year.

¹⁹ In 1970 the Nobel Peace Prize was given to Norman Borlaug for his innovations in the field of wheat genetics and for carrying out the Green Revolution. However, we cannot affirm that his innovations have eliminated hunger in India, Pakistan and Mexico, places where he worked and where his projects were implemented. Of the more than 6,000 million habitants of the world, approximately 1000 million subsist with low or very low levels of food intake. Furthermore, we find areas of permanent famine.

cally modified maize binds farmers to eight big commercial companies, obligating them to buy seeds and supplies from said companies, permanently jeopardizing the possibility of national food sovereignty. In Mexico, as in many other places of the world, local knowledge has made possible the autonomy, conservation *in situ*, and experimentation of farmers (Paczka, 2010; Díaz Tepepa & cols., 2010). It is important to recognize that social innovation resulting from a learning dialogue amongst self-sufficient farmers can give way to new and useful proposals.

Final reflections

We can learn much from the study of Vavilov's life and work: the great energy he displayed in his diverse field explorations, his visits to herbariums and museums, the libraries he consulted, the conferences he presented, the reception he received in the academic communities of the countries he visited, his promotion of Mendelian Darwinism that was already under attack in his own country by Lysenko, his determination to establish the largest collection of germplasm in the world in an attempt to combat world hunger, and his legacy that persists in its importance. During his lifetime this legacy was known as "Vavilov's ghost", a phenomenon that continues to emerge in his work, laws, collections, and research centres.

Vavilov was vindicated in the times of Nikita Jrushchov, Stalin's successor. In 1967 he received the first public tribute since his death: his published works were reedited and those that hadn't been published were edited and released. In 1987 a celebration honoring the one-hundredth anniversary of his birth was realized by the Academy of Science, where the Vavilov Medal was instituted and was awarded to Jack R. Harlan. The Institute of Plant Industry was reopened and has acquired international support in order to continue developing Vavilov's research. In 1997 the International Plant Genetic Resources Institute (IPGRI) in Rome, Italy, edited for the first time in English his primary work *Five Continents*, and established the Vavilov-Frankel Prize for researchers that study cultivated plants and genetics.

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Вавилов — советский дарвинист в Мексике

АРТУРО АРГУЕТА ВИЛЛАМАР, КЕТЦАЛЬ АРГУЕТА ПРАДО***

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Николай Иванович Вавилов приезжал в Мексику в 1930 и 1932 гг. В 1925 г. его команда посетила Мексику заранее, вступила в контакт с Альфонсо Л. Геррера и начала работать с Максимино Мартинесом, которого Дирекция биологических исследований назначила сопровождающим Советской научной комиссии. Исследовательская программа Вавилова о происхождении культурных растений мира продолжала проект Кандолле, который был пересмотрен Дарвином и пропагандировался в 1960-х и 1970-х гг. Джеком Р. Харланом и другими исследователями. Вавилов не смог довести свою программу до конца из-за препятствий, которые создавал Лысенко. Однако идеи Вавилова снова обрели популярность в Мексике. В настоящее время вавиловские концепции занимают важное место в дискуссиях о национальной пищевой политике и биокультурном наследии, которым является традиционная кукуруза и другие растительные ресурсы Южной/Центральной Мексики и Центральной Америки. Этот регион, также известный как Мезоамериканский гипоцентр подвергся опасности из-за экологической и пищевой угрозы, которую несет с собой внедрение генномодифицированной кукурузы.

Ключевые слова: Вавилов, Мексика, Мартинес, гипоцентр, культурные растения, генетика, этноботаника.

Stalin and Fighters Against Cellular Theory

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An illustrative example of the intervention of the Soviet totalitarian regime in science is the promotion of an old Bolshevik, Olga Lepeshinskaya, who declared that she proved the creation of new cells from non-cellular 'Living' matter and insisted that the well-established Cell Theory should be rejected as erroneous. Although many leading biologists criticized her statements, Stalin personally supported her views and people like T. Lysenko enthusiastically agreed with these faibles. At the special session of two Soviet Academies — the USSR Academy of Sciences and the USSR Academy of Medical Sciences — Lepeshinskaya's claims were supported by 27 Soviet biologists who condemned the "bourgeois" science and many frauds presented fabricated 'evidence' in support of the "new Cell Theory". In 1950, by the special decree of the Soviet Government the Stalin Prize was given to Lepeshinskaya for her "discovery of Live Matter". The different governmental agencies ordered to forbid all research in the field of Cell Theory in the USSR. As a result, Russian science, that was at the forefront of world science in many fields, lost its reputation and is still suffering.

Key words: Soviet regime, cell theory, "live matter", Stalin Prize, Olga Lepeshinskaya, J. Stalin, T. Lysenko, G. Boshyan.

Iosif Stalin Personally Supports Trofim Lysenko in His Struggle Against Geneticists

In 1935, Lysenko twice gave presentations in the Kremlin in front of Stalin during meetings of the Soviet Government with collective farm peasants, and from the first meeting Lysenko played his role perfectly. He addressed to Stalin exactly such words that the latter wanted to hear:

"Comrades, saboteurs and kulaks are to be found not only in your collective farm life. You know them very well in the collective farms. But they are no less harmful and no less a curse for science. Much blood has been spilt in various debates with these so-called "scientists" over the question of vernalization.

The situation was such... that instead of helping the collective farms, they engaged in wrecking. In both the scientific world and the world outside science, a class enemy is always an enemy, whether he is a scientist or not.

So, comrades, this is how we have dealt with things. The collective farm system has dealt with this. On the basis of a unique scientific methodology, and a unique scientific leadership, about which Comrade Stalin teaches us on a daily basis, this has been dealt with..." (Lysenko, 1935a)¹.

Stalin, filled with enthusiasm by the flowery speech of this "vernalizer," jumped up at the conclusion of Lysenko's speech and shouted to the hall: "Bravo, comrade Lysenko, bravo!" This outcry was published in all of the Soviet newspapers as a public declaration of Lysenko as the victor in scientific discussions.

But at the end of the 2nd World War Lysenko found himself under the strict criticism of many scientists and even some Soviet leaders. At this moment Stalin decided to support him.

¹ See also the brochure: Lysenko et al., 1935. P. 14–15.

In response to Lysenko's lamentations that critics were killing his efforts in building up the new Soviet biology, Stalin sent him a long letter encouraging Lysenko to work further as the leader of Soviet biology and mentioned specifically that Lysenko's declaration regarding erroneous nature of genetics was correct:

"TO ACADEMICIAN T.D. LYSENKO

Dear Trofim Denisovich!

I received your letter of 27 October, 1947. Many thanks for this letter...

What concerns the theoretical concepts in biology, I think that the Michurinist concepts are the only scientific ones. The Weissmanists and their followers who deny the inheritance of acquired characteristics do not deserve to have many words wasted on them. The future belongs to Michurin.

With respect,
I. Stalin
31/10/47"².

Stalin wrote this letter when he was on vacation in Caucasus at the Black Sea. When he returned to Moscow, he sent a letter to the members of the Politburo of Communist Party informing them about Lysenko's note.

"№ 1144

25 November, 1947

To members and candidate members of the Politburo of the Central Committee of the All-Union Communist Party (bolsheviks)

To Comrades Andreyev, Beria, Voznesensky, Voroshilov, Zhdanov, Kaganovich, Malenkov, Mikoyan, Molotov, Stalin, Khrushchev, Bulganin, Kosygin, and Shvernik.

To the Secretaries of the CC of the ACP(b), Comrades Kuznetsov, Popov, and Suslov, and to Comrades Benediktov, Skvortsov, and Tsitsin.

The letter by Academician Lysenko of 10.27.47 is being distributed to members and candidate members of the Politburo for their familiarization, because it raises issues that are timely and of exceptional importance. At the appropriate time the issues raised in this letter will be discussed in the Politburo.

I. Stalin"³.

In August 1948, the session of the Lenin All-Union Academy of Agricultural Sciences (VASHNIL) was held. The decision that the science of genetics was now completely forbidden in the USSR by Communists was publicized at this meeting. A month later, in September 1948, the session of another Soviet Academy, the USSR Academy of Medical Sciences was carried out. The crushing of biology that happened at the August 1948 session of VASKhNIL was repeated. Now the purging of the agricultural, biological, medical and biomedical scientific research and educational institutions took place.

² Cited from journal: Herald of History of Natural Sciences and Technology. 1988. № 2. P. 157–165. See the letter of Stalin on p. 164–165.

³ Ibid. P. 165.

Lysenko's Claim That Biological Species Can Be Transformed into Other Species

Lysenko termed Darwinian theory of the evolution of species as "flat evolution," and announced that he and his followers would fix the mistakes of Darwinism:

"As a result of the development of our Soviet agro-biological science of a Michurinist orientation, a number of issues of Darwinism can be seen in a different light. Due to that, Darwinism is not only cleansed of mistakes, and is not only raised to a higher level, but to a significant decree it is changed in many of its assumptions" (On the Situation in Biological Science, 1948, p. 38).

Lysenko's followers declared that they fully confirmed his "discovery" of transformation of species. In 1941, M.G. Tumanyan published an article in journal *Yarovisatsia* (Tumanyan, 1941, p. 13–18) about the transformation of hard wheat into soft wheat in Armenia. In 1944, V.K. Karapetyan who worked under the direct supervision of Lysenko at the Gorki Leninskiye Experimental Station in a suburb of Moscow observed similar transformations, his article has been published in *Agrobiologia* where Lysenko was an Editor-in-Chief (Karapetyan, 1948, p. 5–21). In 1949, M.G. Tumanyan reported that he had found a mixture of rye plants in wheat crops, and wild oats in rye crops! Not discouraged, V.K. Karapetyan, together with M.M. Yakubintzer and V.N. Gromashevsky, reported that they had found kernels of rye in wheat ears: they said that everything is clear now — kernels of a new species were born directly in the ears of an old species (Cited from the book by Lysenko, 1952, p. 669). A.A. Avakyan found the creation of *Triticum polonicum* wheat from the branched wheat, *Triticum turgidum*. N.D. Mukhin outdid his Armenian colleagues. He complimented their wheat transformation with one more discovery: from soft wheat he was able to achieve branched wheat (Mukhin, 1952). Then, L.V. Mikhailov got cabbage from rutabaga and rape. In the hands of the Lysenkoists barley turned into wheat, rye into barley, peas transformed into vetch, and vetch into lentils! K.Ya. Avotin-Pavlov added to the list of "birthings" by finding a spruce that supposedly gave birth to a pine tree (Avotin-Pavlov, 1951), while F.S. Pilipenko found that one species of eucalyptus gives rise to another species of eucalyptus. These reports were then expanded: "proof" was found for the creation of birch by alder, and of hornbeam by oak. One "craftsman" explained the appearance of the weeds specific for sunflowers by saying that the sunflowers had given birth to their own particular weed.

But the most "successful" of all was Lysenko himself. He soon reported at several conferences, assemblies and lectures that **warblers give birth to cuckoos!** Constantly mentioning Stalin's beloved "philosophic law" of the transfer of quantity to quality, the Lysenkoists explained that all of these new forms were the reflection of a single process: the arising of weed plants from agricultural plants and only sometimes of one type of agricultural plant, admittedly of a rung lower, from other agricultural plants, coming from the gradual accumulation of something unfavorable somewhere in its bowels.

To explain this fiasco in agricultural practice, Lysenko decided to shift the blame from himself to theoretical biology and foremost to Darwinism. He repeated many times in his presentations and articles that Soviet biologists must correct numerous mistakes in theoretical biology.

Why Transformation of Species Became Very Important for Lysenko?

Why did Lysenko need to speak about the “transformation of one species into another species”? Lysenko warned: incorrect agricultural techniques based on the canons of classical (bourgeois) genetics, not subordinated to the canons of Michurinist (Lysenkoist) biology, were leading to the degradation of Nature. His new idea had its origin, of course, not in the task of fruitfully developing Darwinism, but rather had a very practical goal. Although Lysenko himself never advertised it, several of his more zealous adepts harped on the idea that this new “theory” would help to explain the cause of the large-scale proliferation of weeds in agricultural crops.

The reason for urgency to reconsider the problem of weeds was that one of the consequences of the Lysenkoists’ dominance in agriculture was anarchy in seed processing. The scientific requirements for the reproducing of pure lines had been debunked. Instead Lysenko suggested that free cross-fertilization of crops led to improvement of seed material.

The basis for such a voluntarist approach was as follows:

“Darwin’s theory comes from the acknowledgement only of quantitative changes and only from the principle of increases or decreases, and does not take into consideration the necessity and regularity of transformations or transitions from one qualitative state to another. And at the same time, without transformation from one qualitative state of organic forms to another qualitative state there is no development and transformation of one species into another. There is only an increase or decrease in quantity. There is only the process that is usually called growth” (Lysenko T.D. Results of the Work of VASKhNIL and the Tasks of Agricultural Science. Report on the Anniversary Session of VASKhNIL, 1949. Cited in the book by Lysenko, 1952, p. 632).

This quotation is taken from an article by Lysenko published in 1949. In that same year, for the seventieth birthday of Stalin, he published the article “I.V. Stalin and Michurinist biology.” But although he formulated the new “Law of Biological Species,” according to which one species can simply turn into a different species without any intermediate stages, he was unable to provide real explanation for the process of transformation of species. Speculating on the beloved Stalin’s definition of the philosophical law of the transition of quantity to quality, Lysenko confidently declared that in nature there is supposedly continuously observed not gradual evolutionary development, but revolutionary jumps, in which one species turns into another. However, all biological data contradicted the very idea of such perturbation of cells. Moreover, several well-established rules, such as famous slogan of R. Virchow “Every cell from cell” became axiomatic and vetoed ideas similar to Lysenko’s innovations.

And suddenly one of the oldest members of the Communist party, Olga Borisovna Lepeshinskaya, declared that she discovered that in Nature exists specific “Living matter” that was not observed by biologists before her, and that she obtained evidences of transformation of this “Living matter” into normal live cells. Lysenko immediately understood that due to this discovery all obstacles in the way of acceptance of his “Law of Biological Species” could be avoided. If Lepeshinskaya is arguing that besides the cell, there is another kind of particular, non-cellular matter that is “as if alive,” then from this matter, as if in a fairytale, a living cell can emerge. So, perhaps, a species turns into another species through a stage of living matter?

As soon as Lysenko realized the enormous practical value for himself that came from Lepeshinskaya’s idea, he supported the new revolutionary of Soviet science.

Olga Lepeshinskaya Starts Her Struggle Against Cell Biology

a) Lepeshinskaya’s Claim that Animal/Human Cells Carry Thick Membranes and Rejection of This Claim by Leading Biologists

In the end of the 1930s, Lepeshinskaya began to publicize her idea regarding existence of complex membranes of animal and human cells playing a substantial role in the cells’ life. Scientists by this time had studied phospho-lipid membranes of animal cells and rejected the very idea that these cells have a special “coat”, much more rigid and complex than thin, relatively simple in their morphological structure cellular membranes. However Lepeshinskaya rejected these conclusions without any reliable and sophisticated experiments. Instead, she used very primitive methods of staining cellular preparations with simple stains.

“Analyzing this process of staining, I came to the conclusion that the purple color of erythrocytes takes place after staining because there is a mix of two colors – blue and red, which together should give a purple color. The fact that erythrocytes become red after tannin I attributed to the fact that tannin, obviously, removes something that was dark blue colored, and this could only be something lying on the surface, i.e. membranes. Tannin, obviously, ripped them away and freed the body of the erythrocyte which is colored red with eosin, and the narrow light-blue border... was nothing other than the remains of the [thick] membrane of the erythrocyte... On the next day I started my experiments, and straight away came upon a partial rupture of the membranes with an outflow of protoplasm, that is, a full confirmation of my suppositions (table 1, diagram 1)”⁴.

One reads such things and cannot but be amazed at how easy it is to become a scientist! In one blink of the eye the unproven supposition, presented in an arrogant tone, is declared to be the only possible scientific truth, and facts worked out by scientists are thrown out, without any basis at all, as mistaken.

But where is the proof? Even by the end of the 19th century it was known that tannin does not tear anything away⁵, but rather the opposite: it has a strengthening effect, hence the name (from the French *tanner*, to tan leather), and that tannin is a “mix of phenol compounds possessing the ability to form durable crosslinks with proteins and several other natural polymers (cellulose and pectin substances).” However Lepeshinskaya prepared a book describing her views. In short period of time, these views were strongly criticized by leading scientists and, first of all, by Nikolay Koltsov.

However, Lysenko supported her announcement regarding the existence of coats in animal cells. He suggested her candidacy for awarding with the Stalin Prize in science. Once discussion of her candidacy to receive this highest Soviet scientific award for her book began, there was a

⁴Lepeshinskaya O.B. Membranes of Animal Cells and their Biological Significance (Obolochki zhivotnykh kletok i ikh biologicheskoye znachenie), Moscow, State Publishing House for Medical Literature, 1946 (1947). I have given two dates — 1946 and 1947 — not because I am citing the date only approximately or from memory. This book, printed on good paper and with an appendix entitled “Atlas to the Book of O.B. Lepeshinskaya,” is lying in front of me. But it is impossible to discern the precise date of its publishing: on the cover it is printed “1946,” while on the title page a different date is indicated: 1947. From this printing information it becomes clear that the book was most likely published in 1947, but the author apparently wanted to “stake” her priority a year earlier. This is one more reflection of the style of the Lepeshinskayas, Lysenkos, and people of their ilk. The quotation is on p. 12–13.

⁵Short Encyclopedic Dictionary (Maly entsiklopedicheskii slovar). St. Petersburg, Brokhous-Efron, 1902. Vol. 3. P. 1443.

flood of argumentative objections from many specialists. The Committee voted against giving Lepeshinskaya the award. Only one member of the Stalin Prizes Committee was in favor of awarding her. This was T.D. Lysenko.

b) Iosif Stalin supports Lepeshinskaya's claims

In the middle of the 2nd World War Olga Lepeshinskaya was successful in another area. She was able somehow to "push" her manuscripts onto Stalin. The Kremlin leader looked them over and interfered in the arguments of scientists, as he had already done on more than one occasion.

Using the rumors that the Great Stalin supported her views, in 1945, Lepeshinskaya was able to publish a new book: "The Origin of Cells from Living Matter and the Role of Living Matter" (Lepeshinskaya, 1945). Lysenko agreed to write the forward (his text was jointly prepared by Lepeshinskaya and I.Ye. Glushchenko). She wrote:

"The attention of Comrade Stalin... filled me with inexhaustible energy and fearlessness in my struggle with idealists of all stripes, and with all of the difficulties and obstacles that they have put in the path of my scientific work" (Lepeshinskaya, 1952, p. 3)⁶.

Lysenko in his Preface to the book admitted:

"Olga Borisovna Lepeshinskaya's has made an enormous contribution to the theoretical bases of our Soviet biology during many years of her successful experimental work... And one can be sure that the scientific and practical significance of O.B. Lepeshinskaya's work will only grow with the years" (see: Lepeshinskaya, 1945, Forward by Lysenko, p. 5).

However, a group of the most respected specialists in the field of cell theory, centered around the leading scientific colleagues of the Leningrad academic institutes and Leningrad University, was able to get an appeal to scientists published in the All-Union newspaper *Meditsinskii Rabotnik* on July 7, 1948⁷. Among those who signed the letter were the Academician N. Khlopin, Corresponding Members of the USSR Academy of Sciences and Academy of Medical Sciences V. Dogel', D. Nasonov, and P. Svetlov, Professor V. Aleksandrov and others. The review of Lepeshinskaya's book was concluded with this devastating remark:

"... the author completely lacks familiarity with biology in general and with the details of the objects of her study in particular... Presenting entirely evasive, and therefore reactionary, from a scientific point of view, conclusions as innovative and revolutionary ones, Lepeshinskaya misleads

⁶This phrase was repeated in many other publications by Lepeshinskaya, see, for example her brochure: Path to Revolution, Reminiscences of old Bolshevik woman (Put' v revoliutsiyu. Vospominaniya staroi bol'shevichki). Perm': Permskoye Knizhnoe Izdatelstvo, 1963. P. 3.

⁷On One Unscientific Conception, letter to the editor of the Newspaper / P. Makarov and others // Medical Worker (Meditsinskii Rabotnik). 1948. July 7. P. 3. The text of the letter was prepared by A.G. Knorre, with help from V.P. Mikhailov. (Altogether there were thirteen signatures of leading Soviet scientists, including Academician V. Khlopin, Corresponding Members of the USSR Academy of Sciences V. Dogel and D. Nasonov, Corresponding Member of the USSR Academy of Medical Sciences P. Svetlov, Professor V. Aleksandrov, Sh. Galustyan, V. Katsnelson, Yu. Polyansky, Associate Professor A. Knorre and others).

the layman reader and disorients the young researchers... Lepeshinskaya's unscientific book is an annoying stain on scientific biological literature"⁸.

c) The Communist Party Orders that Scientists Must Reject the Cellular Theory and Agree With Lepeshinskaya's Claims on the Resurrection of Living Cells from Non-Cellular Matter

The sharp criticism of leading scientists did not discourage Olga Borisovna. She did not begin to repeat her experiments in order to try to convince colleagues with new and more solid data or to search for new arguments and evidence in her defense. Instead, she became angry and visited many times the apparatchicks at the headquarters of the Central Committee of the Communist Party, and began to seek out any politically motivated loophole to put pressure on those who disagreed with her. She decided that, using political accusations, hanging political labels on the scientists opposed to her, and simultaneously insisting on her unwavering loyalty to Marxist-Leninism, to the Party of the Bolsheviks and to the Great Stalin, she would get her way. She, for example repeated many times in her presentations and publications the following phrase:

"...such a formulation of the question is possible only in the Soviet Union. Nowhere in the capitalist world could such attempts, in principle, be carried out. They are simply the result of the specific ideological directedness and of specific approaches to the very problem of life" (Stenographic Report... 1950, p. 7–8).

The All-Union Conference on Living Matter and the Origin of Cells was carried out under the strict control of the Central Committee of the Communist Party in 1950.

Lepeshinskaya began her presentation with very ideological thesis:

"Bolshevik party spirit in science demands a militant attitude toward the study of scientific problems and demands to keep the struggle against idealism and metaphysics in science..." (Lepeshinskaya, 1950, p. 10).

Professor A.D. Speransky (1887–1960), a laureate of the Stalin Prize, much decorated, a Full Member of the USSR Academy of Sciences and the USSR Academy of Medical Sciences, a member of the Communist Party since 1943, and famous specialist in pathology and pathophysiology, whitewashed the long running and ugly conflict between Lepeshinskaya and scientists, and greeted her with the following phrases:

"One can say straight out that O.B. Lepeshinskaya for a long time bore the cross of vilification. She never lost her optimism, however... Only an Old Bolshevik, which Lepeshinskaya is, would have to overcome these derisions and obtain such proofs that can convince others. Personally, for me it would have been sad if, due to insufficiencies of methodology, the work of O.B. Lepeshinskaya, and through that all our Soviet science, would be discredited, and if our science will be subjected to ridicules from those people who are always ready to throw around such malicious insults" (Stenographic Report... 1950, p. 125–126).

Twenty seven speakers at this meeting publicly agreed with Lepeshinskaya's views and declared that in the future they would base their research entirely on her understanding of laws

⁸On One Unscientific Conception, letter to the editor of the Newspaper / P. Makarov and others. P. 3.

of cell biology. Among them were scientists with stable reputation in their fields and several people, previously unknown in biological circles. Nevertheless, these unknown people presented ambitious reports in which they informed listeners with absolutely fantastic fabrications. However, none of more than 100 attendants of this session argued with absurd statements and all of them even applauded every speaker.

M.M. Nevyadomsky, for example, alleged that lymphocyte-like cells had formed from the sarcoma virus. Foreseeing possible objections, he parried them ahead of time:

“My data presents nothing unexpected. Why? By means of an electron microscopy with magnification of 28–50 thousand times, it makes clearly visible that when increased, a virus becomes in very much extent to resemble a swollen cell” (ibid, p. 163).

Another sorcerer, K.A. Lavrov, told that he was able to clearly distinguished new cells that were formed inside of older cells. “Here is a lip tumor,” he said. “Inside of a cancer cell there is an another cell” (ibid, p. 120).

N.M. Sisakyan who declared that he had found biochemical evidences of the origin of cells from “living matter”, studied the biochemistry of this “matter” and declared straight out: “The task of the artificial creation of molecules of proteins... is alien to scientists from capitalist countries due to their ideological orientation” (ibid, p. 124–125).

After the Conference, the Chairman of the State Committee for Science and Technology, as well as the Ministers Public Health, Agriculture, Higher Education and Public Education issued decrees stating that all Institutes and laboratories in the USSR that carried cytological research must be re-oriented and stop any further work in classical cell biology. Only Lepeshinskaya's views were permitted in the country. As a result of these draconian policies, a vast number of laboratories and institutes stopped productive work, and thousands of researchers were required to admit publicly that they had promulgated wrong, idealistic, reactionary or bourgeois beliefs and that from this moment they are acceding completely their loyalty to Communist views.

The final resolution of the Conference was repeated in the orders of all the Ministers and contained the following phrases:

“By acknowledgement of the Conference of the Academy of Sciences, and through the work of the Cytological Laboratory of the USSR Academy of Medical Sciences, for the first time the idealistic concepts of Virchow in this sphere have been completely unmasked and, in spite of all difficulties and obstacles, the idealistic proposals of Virchow and his successors have been boldly discarded, which creates the possibility for the advancement of science” (Lepeshinskaya, 1952, p. 5).

In the same year, Stalin publicly expressed his special tribute toward Lepeshinskaya. He signed the decree of the Soviet Government awarding her with the Stalin Prize of the 1st degree for her discoveries. Every year these highest state awards were given to several dozen leading scientists of different disciplines on Stalin's birthday, and they never were presented to just one scientist. On this occasion, the prize was issued to only Olga Borisovna Lepeshinskaya. It was, in fact, an absolutely exceptional award!

The Widening Number of Charlatans Who Followed Lepeshinskaya

In the spring of 1952 Lepeshinskaya received permission from the Central Committee of the Communist Party to call a second All-Union Conference on Living Matter. On April 22, 1952 Lepeshinskaya opened this conference with a paper entitled “Cellular Theory at a New Stage of Development” (Lepeshinskaya, 1954, p. 7–16). In this address she presented herself as an absolute dictator in the cell theory and victor of ideological battles. Then new followers reported their fantastic achievements. Lepeshinskaya mentioned that: “I.I. Rimpan presented interesting data that show that nerve cells multiply in organisms the same way as all other cells” (ibid, p. 14). K.M. Zavadsky from Leningrad State University reported that he found that young dividing plant meristematic cells appeared from “living matter” (Zavadsky, 1954, p. 37–48)⁹. Professor L.S. Sutulov from Ryazan Medical Institute insisted that he observed how “living matter” was transformed into lymphatic cells, and how the connective tissue was formed from these cells later (Sutulov, 1954, p. 80–81). V.V. Averborg, a professor from Odessa, surely reported how tuberculosis bacilli enabled the transformation of non-pathogenic cells into pathogenic ones in the presence of “living matter” (Averborg, 1954, p. 100–107). The USSR Academy of Medical Sciences Corresponding Member N.I. Zazybin from Dnepropetrovsk Medical Institute went even further and pronounced obvious nonsense about the new formation of nerve fibers from living matter (Zazybin, 1954, p. 137–146).

A separate panel was devoted to the discussion of the very innovative idea of the transformation of living matter into cancerous cells (Lipchina, 1954, p. 191–106). N.N. Kuznetsov, an associate professor at the Kishenev Medical Institute reported truly sensational “discoveries” (New Data on the Problem... 1954, p. 151–157). He sewed pieces of tissues taken from the abdomen of large horned farm animals to the abdominal cavities of dogs and cats. Before the sewing took place, the future transplants were killed by treatment with formalin and 70 % alcohol with following sterilization in an autoclave and drying out at high temperature. But the author declared: the living matter is living, and cannot be killed by anything! The killed material after a short time was brought back to life: “...it preserves ...the full ability to live... New vessels arose in this tissue which through anastomosis are transformed into a submucous membrane” (ibid, p. 156). M.M. Nevyadomsky, repeated his early “discovery”: viruses (that is, non-cellular forms) are able, with the help of “living matter”, to be transformed into “lymphocyte-like” cells. Explaining what such a “cell” is like, the innovator said: “It is round, and there is no structure and no protoplasm within it”¹⁰.

The concluding declaration of the Conference emphasized two points that should be the most important for Soviet biologists:

“To enforce the future development of new principles of cell theory the struggle against the remains of the Weissmanist, Morganist, and Virchowist views ...must be considered as one of the most important tasks”¹¹.

⁹ In the abstracts of papers published before the opening of the conference (Abstracts of the Conference... Moscow, 1954), K.M. Zavadsky (see his abstract entitled “On the New Formation of Meristematic Cells within One Cell of the Epidermis of the Begonia Leaf,” p. 6–8), contended that in certain plant cells “in the first phases of development it is not possible to find a nucleus” (ibid, p. 7). His conclusion sounded as follows: “...a new plant is born... not though ‘differentiation’ of the cell... but through the formation of new meristematic cells within one cell of the epidermis of a begonia leaf” (ibid, p. 8).

¹⁰ Medical Worker. 1948. Sept. 15 (№ 39). P. 2.

¹¹ Bulletin of the USSR Academy of Sciences (Vestnik AN SSSR). № 9. P. 108.

"The work on living matter is progressing unsatisfactorily... The work on the reformation of cytology, histology, embryology, microbiology, pathology and biochemistry is acknowledged to be unsatisfactory"¹².

In her final remarks, Olga Lepeshinskaya, when she described her activity, again used political accusations against biologists. She said:

"Such a work could be completed only in the Soviet country, where leading revolutionary science is supported by the [Communist] Party and government and is directed by our leader, the dear, beloved by all, and the greatest scientist, Comrade Stalin.

In a multitude of letters received from the Countries of Peoples' Democracies and from the Peoples' Republic of China, it can be seen that the new theory is met with great interest. In all of these countries the book "The Origin of Cells from Living Matter" is being translated and published...

This is entirely not observed in capitalist countries. Fascist obscurantists from science, not only in the USA, but also in England, France, Belgium, Italy, and other countries, are intentionally silencing the issues of biological science brought forward by Soviet scientists. Nevertheless, through the iron curtains, artificially created in countries where the dollar rules over everything, news about the new discovery of Soviet science is seeping in" (Lepeshinskaya, 1952, p. 75).

Many academic journals published information about this Conference¹³. The President of The USSR Academy of Sciences, Sergei Vavilov (the brother of arrested and killed Nikolay Vavilov), signed a resolution addressed for fulfillment by all Soviet biologists. The resolution praised Lepeshinskaya's views and contained the following orders to Soviet biologists:

"...to re-examine the syllabi and textbooks on general biology, histology, cytology and other disciplines with the goal of removing idealistic conceptions in these fields of knowledge..."¹⁴

"...to propose to the Editorial Boards of the biological journals published by the USSR Academy of Sciences that they subject defenders of Virchowism to criticism"¹⁵.

¹² Bulletin of the USSR Academy of Sciences (Vestnik AN SSSR). P. 108.

¹³ See: Resolution of the Conference of the Academy of Medical Sciences and the Section for Biological Sciences of the Presidium of the USSR Academy of Sciences with the participation of Institutions of Higher Education // Bulletin of the USSR Academy of Sciences (Vestnik AN SSSR). № 9. P. 109–110. This resolution was published in the journal *Archive of Anatomy, Histology and Embryology*, 1952, № 9, p. 93–95 and in other journals. See also: *Khrushchov G.K.* On the Results of the Conference on the Problem of the Development of Cellular and Non-Cellular Forms of Living Matter // Bulletin of the USSR Academy of Sciences. 1952. № 9. P. 92–95. According to Khrushchov, the most important aspects of the conference were the presentations by A.A. Imshenetsky that showed that nuclei of bacteria arise anew from living matter; by Glushchenko Ya.Ye. Ellengorn and Afanasieva on the role of living matter in the formation of cells in plants; by associate professor K.M. Zavadsky, "which directly demonstrated (analogous to Glushchenko, Ellengorn and Afanasieva) the new formation of nuclei in nucleus-less cells"; by L.S. Sutulov about how "new cells of blood were formed from non-cellular structures in the lymphatic sacks of amphibians"; and by A.N. Studitsky that asserted "a regular change in cell and non-cell phases in the regeneration of the lung." According to the opinion of G.K. Khrushchov, Professor N.I. Zazybin made "an extremely important announcement: non-cellular matter is structurally closely connected with the nervous system." About himself, Khrushchov said that he was able to prove a "self-regeneration of loose-connective tissue, that took place through a stage of living matter" (p. 95).

¹⁴ Resolution of the Presidium of the USSR Academy of Sciences of June 7, 1950 // *Izvestiya AN SSSR. Biology Series*. 1950. № 5. Point 3.

¹⁵ Ibid. Point 7.

"Triumph" of Gevorg Boshyan

One among those "luminaries" of science who were abruptly promoted in those years was Gevorg Mnatsakanovich Boshyan. A veterinarian by training, he worked at the All-Union Institute for Experimental Veterinary Science under the USSR Ministry of Agriculture. In 1940, he published a short article in which he disputed widely accepted methods for diagnosing anemia in horses. The 2nd World War caused a break in Boshyan's scientific career, and his next publication (an article in a journal) came to light only in 1947. This article was written with apparent pretensions of being an innovation, although it led to no decisive turns in science.

Then, suddenly, in 1949 he published a book "On the Nature of Viruses and Microbes" (Boshyan, 1949, p. 5) that immediately drew attention to him. The author reported fantastical things, which contradicted to many of firmly accepted canons of world science.

Discovery ONE: "The concept... of microbiologists that the transition of viruses into microbes is impossible is fundamentally wrong and is a metaphysical one. The results of our work... disprove this statement" (ibid, p. 78). "A microbe cell is comprised of thousands of viral particles, each of which can give rise to a new microbial cell" (Ibid, p. 89). "Achieving the transformation of viruses into microorganisms is not at all easy, and for this a gradual "taming" of viruses to microbial cells the certain culture medium is necessary" (ibid).

Discovery TWO: "Our experiments demonstrate the erroneousness of the proposition that viruses can develop only in the presence of living cells... viruses develop with great success in blood plasma, in serum and in the fluids of tissues and organs" (ibid, p. 86). "Viruses can be developed in artificial culture mediums..." (ibid, p. 142).

Discovery THREE: "Until now there existed the concept that bacterial allergens... are non-living components of microbial cells. Working with an anemia allergen, we became convinced that... it is possible to isolate the original microbial culture from all anemia allergens of horses" (ibid, p. 112).

Discovery FOUR: "The declaration of D'Herelle on the bacteriophage as an independent ultra-microscopic parasite of bacteria turned out to be mistaken" (ibid, p. 121).

Discovery FIVE: "...the modern concept regarding the non-living nature of antibiotics is mistaken and scientifically unproved. Antibiotics are nothing other than a filtered forms of those microorganisms from which they were obtained" (ibid, p. 124–125).

Discovery SIX: "...the old concept on sterile immunity is mistaken. Any immunity against any infection is a non-sterile infectious immunity" (ibid, p. 135).

Discovery SEVEN: "Microbe cells have been isolated from malignant tumors... A uniform culture of small bacilli was isolated from... the blood serum of three patients with stomach carcinoma, from two patients with carcinoma of the mucous of the mouth and the urinary bladder, and also from the filtrate of a mammary gland tumor" (ibid, p. 74).

Discovery EIGHT: "The isolation of live microbes from what were earlier thought to be sterile compounds... disproves the results of the famous experiments of Louis Pasteur dealing with this question" (ibid, p. 146).

A Tapeworm, *Echinococcus*, is Being Transformed In Human Bones!

In the article published in the journal of the USSR Academy of Sciences, *Uspekhi sovremenoj biologii* ("Achievements of Modern Biology") Gaspar A. Melkonyan declared that the tapeworm *Echinococcus* (mammalian body parasite) might be transformed in human bones (Melkonyan, 1951, p. 309–311). The echinococci were extracted by him from a human shin bone and placed for several years in formalin (a mixture of formaldehyde and methyl alcohol) that is poisonous for all living cells. Formalin is used for preserving museum specimens and for preventing the growth of bacterial or fungal cells that seep in from the air. However, after many years of being in formalin, in full accordance with the law of the transformation of non-living matter into living matter discovered by Lepeshinskaya, living, growing bones appeared in the jar with the echinococcus cysts.

"Facts are a stubborn thing [Melkonyan is repeating a well-known phrase of Stalin's that was very popular in those years – V.S.], and they must be considered and cannot be ignored, otherwise there cannot be progress in science... We almost gave in to this temptation of negativity and ignoring facts... when, observing the fact of the formation of bone tissue in the jar instead of the preserved sample, we thought at first it was mischief by one of the patients, who had replaced the specimen with bones... Only upon more sober discussion... we were prevented from throwing the jar with the bones away and searching for the 'mischief maker' ...Soon in that very same jar and in the same fluid [in formalin! – V.S.] after the bones were removed, more and more new bones again began to form, which gives us the right to come to believe in the authenticity of the observed fact" (ibid, p. 309).

Professor Melkonyan lost his calm. He began to run from one professor of the Yerevan Medical Institute to another, begging them for help. His colleagues — Professors and Heads of different Departments of that Institute — Aleskanyan, Babreilyan, Bunatyan, Chakhmakhchyan cordially offered him their friendly help: they confirmed "the formation of bones again in the jar", conducted chemical analyses, looked for "collagen fibers in polarized light", "discovered a dual light Nicol refraction, which is characteristic for the presence of collagen fibers". "The interference of beams of light also gave a positive result" (ibid). Melkonyan delivered a paper at the Third Conference of Surgeons of the Transcaucasus Countries on September 30, 1947, and then his article was published in Moscow in the journal of the USSR Academy of Sciences.

No less a soul-shaking discovery was made by Faina N. Kucherova, a researcher from the Rostov-Don University. She ground up — what would you think? — MOTHER OF PEARL buttons. She then injected the powder into the body of animals and observed the following: LIVING MATTER AROSE FROM THE POWDER (Kucherova, 1950, p. 145–160). She stated that these changes were inheritable. "And what of it?" Kucherova explained. "Mother of pearl is made from shells, and shells used to be living! Thus, they have preserved the characteristic of a living thing." Kucherova defended her PhD dissertation on the basis of this observation, and the Higher Certifying Commission awarded her the desired degree! All the more so as the deputy chairman of the biological and medical council of the Commission was a devout Lysenkoist N.N. Zhukov-Verezhnikov.

After that she became the head of the Department of Histology. Apparently, Kucherova was considered in the university to be a promising teacher, because when the Department of Histology was closed, she was transferred as an associate professor... to the Physics Department, and in the 1970s she defended her dissertation of Doctor of Sciences, and not just anywhere, but at Moscow State University.

* * *

Intervention of Soviet totalitarian leaders in science has led to tragic consequences both for science and for the societal morale. Charlatans and demagogues occupied leading positions in the scientific and educational institutions, whereas gifted scientists and productive professors lost their jobs. Russian science that was at the forefront of world science lost its reputation and is still suffering due to this politically motivated ignorance of Communist leaders.

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Сталин и борцы с клеточной теорией

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Вторжение советского тоталитарного режима в науку привело к трагическим последствиям. Многие должности в науке и образовании были заняты шарлатанами и демагогами, тогда как талантливые ученые и педагоги потеряли работу. Примером тому служит выдвижение старого большевика Ольги Борисовны Лепешинской, которая заявила в 1930 г., что она разработала теорию о создании клеток из внеклеточной «живой» материи. Большинство ученых выступало против этой «теории», но к ней с энтузиазмом отнеслись И.В. Сталин и Т.Д. Лысенко. По приказу Сталина было создано особое совещание двух советских академий — Академии наук СССР и Академии медицинских наук, — на котором заявления Лепешинской были поддержаны 27 советскими биологами, заклеившими буржуазную клеточную теорию. В 1939 г. к юбилею Сталина были учреждены Сталинские премии. Номинантов выбирали сам Сталин и специальная комиссия. В 1950 г. эта премия была выдана в обход всех процедур и в неподобающее время всего лишь одному номинанту — О.Б. Лепешинской за открытие «живой материи». В конечном итоге советская биология, бывшая до того на передовой мировой науки во многих областях, потеряла свою репутацию.

Ключевые слова: советский режим, клеточная теория, «живая материя», Сталинская премия, О.Б. Лепешинская.

The Uses of the Dead in the Science of Life: A Thanatology of Lysenkoism¹

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This article applies U.S. anthropologist Katherine Verdery's analysis of the animation of the dead in East European politics, to a historical study of Lysenkoism. Verdery convincingly described the use of those who have passed away to influence current events, and the interpretation of history, in Eastern Europe. Verdery focused on the practices of commemoration and reburial. While these are important topics within the Lysenko controversy, biology — as the study of life — also invites us to consider Verdery's framework in scientific terms as well. I describe three instances in the history of Lysenkoism, where the dead were enlisted for political use. I use the term "politics," as Verdery does, to refer to behavior intended to make policy, justify action, claim authority, and manipulate meaning and context. My first example — the tragic suicide of Viennese Zoologist Paul Kammerer — may be interpreted as a precursor to the Lysenko controversy. The second — an essay published by Polish architect Szymon Syrkus in a 1948 issue of *Architektura* (Architecture) — is an example of when the dead were used in support of Lysenko. The third — the entry on Lamarck by University of Pennsylvania botanist Conway Zirkle, in the 1961 *Encyclopedia Britannica* — shows an instance where a deceased individual was used against him. I am interested not only in how those no longer around to speak for themselves were used to achieve a goal, vis-à-vis Lysenko, but the motivations of those involved. I also explore how notions of life, death and rebirth — so deeply embedded in the Lysenko controversy — may be re-imagined accordingly, and inform our understanding of what the word "Lysenkoism" means.

Key words: Lysenkoism, Michurinist biology, Katherine Verdery, science of life, the dead scientists.

In *The Political Lives of Dead Bodies: Reburial and Postsocialist Change*, anthropologist Katherine Verdery described the use of those who have passed away to influence current events, and the interpretation of history, in Eastern Europe. As Verdery noted, this phenomenon is not exclusive to the history of the Cold War. The "political life of dead bodies" stretches back to the classical period, and continues through the importance attached to the reburial of significant figures in the history of the Enlightenment, such as Thomas Paine and Napoleon Bonaparte. The most obvious example of the symbolic power wielded by the dead in the history of communism is probably the removal of Stalin from Lenin's tomb, and his reburial in a corner of the Kremlin wall, in 1953. The body count goes much higher once you consider the Cold War as a global event, and includes personalities ranging from Che Guevara — whose body was claimed for reburial by three different countries — and Pol Pot — whose corpse was nearly put on trial in the hopes of providing his victims with catharsis (Verdery, 1998, p. 1–3).

The "Lysenko affair" is a topic which begs interpretation within Verdery's framework, because not only was the question of "life" (i. e. how organisms evolve) at the center of it, but what the dead thought, said, or believed, was fundamental as well. This is most clearly true in

¹ Editors' note: The editorial board considers the paper as a work in progress, and not as a completed piece of research. It poses more questions than provides answers. However we believe the author's approach to be very interesting and promising, and therefore we are delighted to publish his paper in our journal.

terms of the struggle between Lysenko and his opponents over the interpretation of Darwin's theories, and their respective claims to his legacy. Lamarck would also likely have been shocked to realize the important role played by his ideas — albeit often caricaturized and distorted — over a century after his death. The fact that Lysenko's children were denied their wish to have him buried alongside Nikita Khrushchev, Ilya Ehrenburg, Vladimir Mayakovsky, and Aleksandr Oparin, in the prestigious Novodevichi cemetery, makes this avenue of investigation even more intriguing.

In the article which follows I will describe three instances in which the dead were put to political use in the history of the Lysenko affair. In doing so I am interpreting the term “politics” in the same sense as Verdery; behavior intended to make policy, justify action, claim authority, and manipulate meaning and context (Verdery, 1998, p. 23). I have chosen three examples which illustrate the role of death in the Lysenko controversy. One may be interpreted as a precursor; the second as an example when the dead were used in support of Lysenko; and the third an instance in which a deceased individual was used against him. The first case covers the tragic suicide of Viennese Zoologist Paul Kammerer, and his rehabilitation by Soviet Commissar of Education, Anatol Lunacharsky. Next is an essay published by Polish architect Szymon Syrkus in a 1948 issue of *Architektura* (Architecture), at a time when Lysenkoism, along with other features of Stalinization such as Socialist Realism, were being introduced in Poland. The last covers the entry on Lamarck, as revised by University of Pennsylvania botanist, anti-communist, and historian of science, Conway Zirkle, in the 1961 *Encyclopedia Britannica*. With these examples I am interested not only in how those no longer around to speak for themselves were used to achieve a goal, vis-à-vis Lysenko, but the motivations of those involved. I also explore how notions of life, death and rebirth — so deeply embedded in the Lysenko controversy — may be re-imagined accordingly, and inform our understanding of what the word “Lysenkoism” means.

To accomplish the latter goal I use a classic attempt to deconstruct science, Bruno Latour's Black Box (Latour, 1987). Latour analyzes how a scientific theory becomes a “black box,” i. e. taken for granted as truth, and how this problem affects our understanding of what science is. Latour's idea is an influential feature of a culture in which “Lysenkoism” has become a synonym for pseudoscience. The important point is not whether Lysenko was or was not a “pseudoscientist,” it is how the notion of “Lysenkoism” undermines Latour's theory. Lysenkoism, as pseudoscience, shows that pseudoscience, like science, can also be black boxed. As I show, framing the Lysenko controversy in terms of death is helpful for deconstructing Latour's deconstruction, and resurrecting the problem of what counts as science. The Cold War was a struggle for survival between two competing world systems — a competition which affected all facets of human culture. Because heritage connects the past to the present, we must examine instances when the former is enlisted on behalf of the latter, and the dead are reanimated to influence the living.

These issues are also central to Lysenko's theories. In a Lamarckian interpretation of evolutionary history, every organism carries physical evidence of the past. Your ancestors were shaped by their environment, and this has been transmitted to you through biological inheritance. But Lysenko also claimed species could be transformed — literally remade into something that had never existed before — by being exposed to new conditions. This concept purges the burden of history, the ghosts of the past, the influence of the dead.

We can go further by exploring how Lysenko articulated his notion of life, as well as his portrayal of genetic research. As Theodosius Dobzhansky pointed out, geneticists tended to focus on lethal mutations. This was not because, as Dobzhansky put it, they had particularly “gruesome

tastes,” but because these were the easiest kind to study². Some might be better than others at spotting bent wings or white eyes, but anyone can tell if something is dead or alive. It takes little effort, however, to see how such methodology could be made to sound morbid. Since, as will be detailed further below, “Lysenkoism” was in many ways a game of associations, “Mendelists-Weismannists-Morganists” were easily portrayed as using science as a pretext for indulging a taste for murder. If that analysis sounds overblown, take into account the extent to which the fear of death composed the context of Stalinism. The fate of Nikolai Vavilov must have been very much on the mind of geneticists across the communist bloc after the summer of 1948.

The difference between life and death certainly influenced Lysenko. In two of his publications I read in Polish translation at the Library of Agriculture in Warsaw, he emphasized the role of the environment in evolution by pointing out that the difference between organisms which were dead, versus those that were alive, should be conceived of in terms of their relationship with their physical surroundings. The same elements — air, water, and warmth — upon which a living body depends, cause a dead body to decompose (Verdery, 1998, p. 3). Elsewhere he pointed out that survival is based upon the ability of live organisms to consume, and be replenished by, dead matter, which they use as energy for transformation (Lysenko, 1950a, p. 9, 72; 1950b, p. 14). Clearly the subject of death and Lysenko gives us much to think about.

Death Foretells

One would have thought the nadir in Jean Baptiste-Lamarck's legacy would have been reached once George Cuvier delivered a deliberately insulting eulogy at his funeral. Despite colleagues' attempts to persuade him to edit several lines, Cuvier proceeded to dismiss Lamarck's theories as “fanciful notions” wherein “vast edifices” constructed on “imaginary foundations... not unlike those enchanted palaces that, in our old novels, can be made to vanish by breaking the charm on which their existence depends” (Shank, 1982, p. 13). Though Darwin initially referred to Lamarck's theories as “nonsense,” by the final edition of *The Origin of Species* it is clear Darwin had traded in Natural Selection for a more Lamarckian interpretation of evolution. Nevertheless, much Lamarck-associated tragedy would follow in the Twentieth Century and, thanks in overwhelmingly large part to Lysenko, he would become a pariah after World War II.

The most famous casualty of Lamarckism (aside from Lamarck himself) was also possibly the only person whose suicide note has ever been published on the pages of a scientific journal: Viennese zoologist Paul Kammerer. Kammerer achieved international fame prior to the First World War for his experiments which seemed to prove Lamarckian inheritance. Kammerer claimed he could make salamanders change color, blind newts develop eyes, and turn land-loving midwife toads into water-dwellers. Midwife toads get their name from the fact that after mating the males carry the eggs. Since they mate on land, the male toads do not possess the dark pigmented thumb pads that other frogs and toads have for copulating underwater. Kammerer claimed he caused the midwife toads to mate underwater by heating their aquariums. They then acquired dark thumb pads and the next generation of toads had them as well.

In 1923 Kammerer embarked on lecture tours of Europe and the United States where he was a huge hit. The *The New York Times* hailed him as the next Darwin³. When asked what

² B: D65 Dobzhansky Theodosius. Reminiscences, Part I. The American Philosophical Society. P. 280.

³ Kammerer Gives Proof of Theories // New York Times. 1923. Dec. 20.

the inheritance of acquired characteristics implied for the future of the human race, Kammerer said our descendants will learn quickly what we already know well, accomplish easily what for us is great effort, and be able to withstand that which would kill us now. They will not repeat our mistakes, they will begin where we end. "Take a very pertinent case," he said, "the next generation of Americans will be born without any desire for liquor if the prohibition law is continued and strictly enforced"⁴.

Kammerer was also a socialist, and the extent to which theories of heredity were mapped out onto political ideologies in this period is evident in an excerpt from his work, *The Inheritance of Acquired Characteristics*. He wrote:

"...the theory of Natural Selection is not unsocialistic, for its war-cry, "let the best man win," eliminates the prerogatives of birth and money, of internal and external inheritance. Class struggle is a veritable struggle for existence: a race with mental weapons, without violence, a bloodless and a positive selection — the survival of the fittest. War is synonymous with negative selection, with the left over of the weak and halt; and alcohol ... very often allows the drink-permeated and alcohol-poisoned ones to survive. But are these corpulent, fatty-hearted, shrunken-kidneyed, generically-rotted examples a suitable basis for the betterment of the race? Such a "selection" may be considered suitable for a punishment of the nation and for a breeding of a race of lackeys that begets worthless gun-fodder, but hardly to build up a "chapter for race-refining" (Kammerer, 1924, p. 263–264).

Such views, as well as his global reputation, attracted the attention of Soviet authorities. Kammerer was offered a professorship at the Timiriazev Institute, and began organizing a laboratory. Kammerer repeatedly refused requests to have his claims verified. But as Kammerer's fame grew the pressure mounted. Finally, as he was packing his bags and shipping his scientific equipment to the Soviet Union, his specimens were examined. It turned out his midwife toads' dark thumb pads were no more than injections of India ink.

Kammerer wrote a letter to the Russian Academy of Sciences which was later published in *Nature*: "I see that I am not in a position to endure this wrecking of my life's work..." The next day he dressed in a dark suit, took a walk in the hills outside a small village, and shot himself in the head. In a note found in Kammerer's pocket he requested that his body be dissected so his colleagues might discover in his brain a trace of the qualities they found absent when he was alive⁵.

Kammerer's story does not end there. Two years after Kammerer's suicide, Anatol Lunacharsky, commissioned and wrote a script for a film, *Salamandra*, which could be read as a eulogy which vastly revised what had happened. In the movie a young scientist succeeds in inducing the inheritance of color, altered in response to the environment, in salamanders. A local priest learns of the discovery and, fearing it will undermine the power of the church and upper-classes, decides to sabotage the biologist's work. The priest meets with a young prince who shares his views of the dangers of scientist's innovation to the established order. The priest is then able to have the prince appointed as an assistant to the biologist. That night the priest and the prince sneak into the lab and inject the salamander specimen with ink. When the young scientist announces his discovery the next day the salamander is dipped into a jar of water. All

⁴ Scientist Tells of Success Where Darwin Met Failure // New York Times. 1923. June 3; Biologist to Tell How Species Alter // New York Times. 1923. Nov. 28.

⁵ Paul Kammerer Papers. B: K128. The American Philosophical Society. For a defense of Kammerer see Arthur Koestler, 1973, and for a recent reassessment of Kammerer's work see Sander Gilboff, 2006.

the color runs out and the biologist is accused of being a charlatan and kicked out of the university. However just as he is about to commit suicide, the biologist is informed that Lunacharsky has ordered that he be saved from persecution by the bourgeoisie. The biologist is invited to Moscow, and the last scene shows him on a train heading east with a banner reading: "To the land of liberty"⁶.

Lysenko's rise to authority in Soviet biology during the 1930s, as well as Stalin and CPSU's motives for endorsing his views in 1948, is obviously far more complex than the relationship between Lamarckism and socialism (Krementsov, 1997; Pollock, 2006, p. 41–71). However Lamarck's theories and legacy were central features of the Lysenko controversy. Lysenko was routinely accused by his opponents of being a Lamarckian, and his allies defended him in these terms. At the VASKhNIL conference I.I. Prezent referred to Lamarck in a way that implied that both his and Lysenko's theories were challenged because they threatened the existence of an antiquated, bourgeois political order.

"As is known, Lamarck's theory arose in connection with the ideas of the French encyclopaedists and the French materialists. It reflected the revolutionary epoch of that time. ... The reaction against the French Revolution also caused a strong reaction against the ideas of Lamarck..." (The Situation in Biological Science, 1949, p. 273).

Lamarck is dead: Long live Lysenko.

Death and Design

...where the Polish capital once stood, only ruins and cinders remain. Maybe, someday, a new town will emerge in this place, but it will not be Warsaw.

*Warsaw Calendar, 1946*⁷

Warsaw was literally a graveyard after World War II. The "architecture" consisted primarily of shattered buildings, destined for removal. Beneath the wreckage were thousands of bodies in various states of decomposition, and makeshift grave markers dotted the pathways that wound through the rubble. The aura of death was so profound that memorials recounting numerous random executions are still a prominent part of the cityscape. Warsaw was so badly damaged that the proposition of not rebuilding, and relocating the Polish capital elsewhere, was briefly considered. Despite the fact that the Poles did rebuild, many believed that "Warszawa"—as the above quote from the 1946 *Warsaw Calendar* reiterates — was gone for good.

The devastated cities of East and Central Europe proved particularly vulnerable targets for the architects of Socialist Realism. A lot of buildings had to be built, they had to be built quickly, and there was one — and only one — aesthetic style accompanying concurrent policies (industrialization, collectivization, Lysenkoism etc.) designed to create "little democracies." June 20–21, 1949, nearly three months after the March 30 meeting in Warsaw to inform Polish biologists that Lysenko's Michurinism had been officially endorsed by Polish Communist

⁶ This plot summary comes from Richard Goldsmith's account published in: Death of a Science in Russia. 1949. P. 19–20. See also Gershenson, 1990.

⁷ Kalendarz warszawski na rok 1946 (Warszawa, Kraków: Towarzystwo Gniazd Sierocych, 1946).

Party (PZPR)⁸, another meeting was held to inform architects that Socialist Realism was the only acceptable doctrine for design. The line separating Polish architecture before and after this conference is obvious on the pages of the country's primary architectural journal, *Architektura* (Architecture). The articles published in issues in the first years after the war are what you would expect: They cover immediate repair of infrastructure, the reconstruction of heritage sites like Old Town Warsaw, and reflect architectural trends begun in the interwar period. After the summer of 1949 socialist utopian concerns kick in and pictures of Stalin appear on the pages. At this point the magazines could be used as examples of the extent to which his presence haunted every aspect of professional life during the period.

Five months after the June meeting for architects in Warsaw, Building Minister, Marian Szychalski, was removed from his post, brutally interrogated and imprisoned (Tomasik, 1999, p. 84)⁹. The individual most responsible for promoting Socialist Realism in Poland was Edmund Goldzamt, who had spent the Second World War in the Soviet Union, where he was schooled in its theory and practice. This experience provided him with personal contacts and an attendant authority which could not be contradicted. Goldzamt's contempt for Socialist Realism's perceived aesthetic antithesis — modernist trends of the interwar period — are apparent in a 1949 article in *Architektura*, where he expressed his disdain for Corbusier's notion of the house as a "machine for living." According to Goldzamt, such notions reduced architecture to mere material and structure, empty of anything socially meaningful. Buildings became bodies, without souls (Goldzamt, 1949, p. 187).

Obviously, not everyone in Polish architecture shared Goldzamt's tastes. A notable attempt to insert modernist notions into Socialist Realist theory occurred in an essay, "*W sprawie rozwoju twórczości architektonicznej*" ("The Evolution of Architectural Creativity") published in another issue of *Architektura* that same year, by Szymon Syrkus (1949). Syrkus and his wife Helena were prominent members of the Polish avant-garde during the 1920s and 30s. From 1911–1920 Syrkus studied architecture in Vienna, Graz, Riga, Moscow and Warsaw. From 1920–1921 he studied sculpture and painting at the Academy of Fine Arts in Krakow, and from 1922–1924 he traveled through Weimar, Berlin and Paris, where he encountered Bauhaus and De Stijl. In 1925 he designed the building for the National Health Service, and in 1926 presented his work at the First International Exhibition of Modern Architecture in Warsaw. In 1926 he also formed the Constructivist group Praesens, which represented Poland at the 1928 *Congrès internationaux d'architecture modern* (International Congress of Modern Architecture, C.I.A.M.). That same year he married Helena Niemirska.

The Syrkus's went on to collaborate on important examples of East European Functionalism such as Rakowiec Siedlung in Warsaw, 1930–1936. They also played an important role in the C.I.A.M. congress in Paris in 1937, and in 1939 Walter Gropius invited them to Harvard University. They chose to remain in Poland, however, during the German occupation, where they directed an office for architecture and planning in the Polish underground, and projected designs for a postwar "socialist Warsaw." These activities were interrupted in 1942 when the Syrkus's, who were Jewish, were sent to Auschwitz (Ockman, 1993, p. 120).

The couple survived the war to witness Poland's resurrection and transformation into a Soviet ally. Whatever their ambitions might have been for a socialist reconstruction of Warsaw, it is clear that Szymon, at least, realized that postwar Socialist Realism meant little more

than a slavish imitation of the Soviet model^{10, 21}. According to the formula of Socialist Realism, architecture should be socialist in content, and nationalist in form. This meant, that although all socialist countries must make sure that the economic and political features of a "peoples' democracy" provided the content for design, the form of that design could reflect specific features of national heritage. The extent to which the latter portion of the doctrine could be sincerely followed, is evinced by the fact that the most prominent building in the Warsaw skyline, the Palace of Culture, is virtually identical to its counterparts in Moscow.

Nevertheless, Syrkus gave it a shot. To make it more likely that a Socialist Realist aesthetic would align with visions of leftist architects from the interwar period, he enlisted Lysenko's theory of heredity as a model for developing a specifically Polish Socialist Realist style. He wrote,

"**Socialist Realism** as the antithesis of **cosmopolitanism**. An analogue to the question of inheritance in architecture and urbanism can be found in the theory of **Michurin and Lysenko**. Not mechanistic, fatalistic inheritance—but rather fostering the features best-suited to further development, while eliminating whatever inhibits flourishing.

In terms of the past,
polish gothic,
polish renaissance,
polish neoclassicism,
in the art of my generation: the work of Jasieński, Czyżewski, Malewicz and Szanajca contain details which must be developed further, because they find in our epoch — like Michurin's ear of wheat — the right climate and soil for yields one-hundred times greater" (Syrkus, 1949).

Syrkus' idea is fascinating for two reasons: One, it is an example of the use of a scientific theory to inform a theory of aesthetics, where in both cases the issue of heredity is central; two, his references to the work of Bruno Jasieński, Tytus Czyżewski, Kazimierz Malewicz and Józef Szanajca belie his refutation of "cosmopolitanism." All four of these men, like Syrkus, had been active members of the Polish avant-garde. Jasieński was the co-founder of Polish Futurism, Czyżewski was among the original practitioners of Polish Expressionism, and also a follower of Futurism and Primitivism. Malewicz was influenced by Russian Postimpressionism, Fauvism, Expressionism, Cubism, and published a Suprematist manifesto. Szanajca was devoted to Functionalism, Constructivism and Bauhaus.

Clearly, Syrkus invoking their names in his essay in *Architektura* was an attempt to have the work of individuals he liked, be a major influence on the development Polish Socialist Realism. This move was dangerous. "Art for art's sake" was as derisive a term as "science for science's sake." Abstract art was no less abstract than using fruit flies to study humans. Every discipline must serve the people, or at least be able to explain how it does.

If his ideas were rejected, all four might be rounded up and arrested, or at the very least be barred from employment in their profession. Syrkus also could be accused of bourgeois fetishism, and suffer equally grim consequences. Fortunately, however, the only individual at risk was Syrkus, because the other four were all dead by the time the essay appeared. Jasieński had relocated to the Soviet Union in 1929 where, in 1937, he was arrested and shot. Czyżewski died in Kraków in 1945 at the end of the war. Malewicz had died in Leningrad in 1935, and Szanajca had been killed in Poland in the early days after the Nazi invasion, in September, 1939.

¹⁰ Helena Syrkus became a leading apologist for Stalinist cultural policy outside of Poland (Ockman, 1993, p. 120–122).

⁸ *Polska Zjednoczona Partia Robotnicza* (Polish United Workers Party).

⁹ Szychalski was rehabilitated and released in 1956 at which point he became Minister of National Defense, a post he held until the Gomułka regime was removed from power in 1970.

Syrkus' argument was not only clever, it was strategic. It is noteworthy that his friends were only useful to him because they were dead. Had they been alive he would almost certainly not have drawn attention to their work during the interwar period, given the radical shift to Socialist Realism, and the climate in which it was enforced, in the early years of the Cold War. Syrkus animated the dead for a collaborative project that only he was alive to witness: A design for life.

The Dead Are Not There to Defend Themselves

Among those who most frequently invoked Lamarck against Lysenko was Conway Zirkle. Zirkle was keenly aware of how the reputations of the dead — usually in gross distorted versions — could be used to slander the living. He called this practice “verbalism,” and discussed it in his 1949 book on Lysenko, aptly titled, *Death of a Science in Russia*.

“The term “verbalism” is used here to denote not only an excessive attention to words but also a usage in which words do not label ideas but are substituted for ideas. ... First, we find that all Communist doctrines, theories, and hypotheses are personalized. ... The second function of Russian verbalism is to obfuscate the issues at crucial points by means of playing a sort of word-game. The object is to separate the words from their meanings. ... In considering the third aspect of this verbalism, we must realize that the crucial words have a definite rank, they are actually in a hierarchy. ... “Dialectical materialism” of course is at the top. ... One final aspect of this subject should be noted. It is that, when words are meaningless, they sometimes become very shifty and alter their rank in the hierarchy with great speed. These changes may be either positive or negative. Terms once derogatory may achieve eminent respectability, or the reverse may happen. Thus “Lamarckism,” a damning label in 1940 ... had acquired ... prestige in 1948” (*Death of a Science in Russia*, 1949, p. 8–11).

The most obvious evidence that Zirkle and other Lysenko critics absorbed this lesson well, is the coinage of the term “Lysenkoism” — a term which has become such a standard part of the lexicon of “pseudoscience,” that it has even spawned the term “neo-Lysenkoism”¹¹. In the meanwhile, it is also clear that “Lamarckism” became tainted by association.

Zirkle's antipathy for Lamarck precedes the VASKhNIL conference. In 1946 he published an article, “The Early History of the Idea of the Inheritance of Acquired Characters and of Pangenesis” in the *Proceedings of the American Philosophical Society*, wherein his disdain for Lamarck's theories was clear (Zirkle, 1946). Before quoting the passage from *Philosophie zoologique* where Lamarck described how storks evolved long legs, Zirkle stated Lamarck was “simply asking for ridicule” (ibid, p. 92). After quoting Lamarck on the development of horns and tusks, Zirkle remarked, “the story of how the elephant's child got its trunk, however, is not Lamarck's but Kipling's” (ibid).

Equating Lamarck's theories with *Just So Stories* is obviously insulting, and indicative of the overall tone of Zirkle's account. Though trained as a botanist, Zirkle was a well-published, and well-respected, historian of science. In addition to the official journal of the oldest scientific society in the U.S., his articles appeared in the *American Journal of Botany*, *The Virginia Law Register*, *Botanical Gazette*, *Agricultural History*, *Journal of the History of Biology*, *Isis*, *Science*, and several others. It strikes the reader that it should have been possible to evenly discuss Lamarck's ideas, without sarcasm — despite their lack of currency. Zirkle's characterization seems at best, immature, and at worst, cruel.

¹¹ See: <http://en.wikipedia.org/wiki/Lysenkoism>.

Zirkle's views vis-à-vis Lamarck and Lysenko coincided in the 1961 entry on the former in the *Encyclopedia Britannica*. Most readers consulting the 1961 *Encyclopedia* to learn about Lamarckism probably did not notice the entry had been heavily revised from previous editions. That it would be updated is not surprising. Zirkle's name now appeared in the writer credits, next to T.H. Morgan, who had previously been listed as the sole author. Individual scientists are bound to interpret the history of their disciplines quite differently, and new collaborators often bring new ideas. What is striking in this instance however, is the nature of the edits, what is not discussed, and one detail many readers were probably unaware of.

Morgan's entry had focused exclusively on the persistence of belief in Lamarckism, as well as the scientific evidence against it. After reviewing popular examples (the blacksmith's son who inherits stronger arms thanks to his father's repeated use of heavy hammers; the musically-gifted child who has talent results from the hours their parent spent practicing), Morgan described Lamarck's influence upon Darwin, and later attempts to prove the inheritance of acquired characters by Kammerer, Dürken, Pavlov, and McDougall. Morgan concluded with a paragraph attributing the persistence of the doctrine to the fact that social evolution occurs thanks to the transmission of information from one generation to the next, and it is therefore natural that we would apply this to the inheritance of physical features¹².

In the 1961 edition a few new sentences appear amidst the discussion on Darwin, wherein the Soviet Union is mentioned for the first time. The text reads,

“In the Soviet Union, for example, where the inheritance of acquired characteristics is accepted and where it has an official standing, it is presented as a part of the Darwinian theory and is referred to generally as “creative Soviet Darwinism,” distinct from the “reactionary Darwinism” of capitalist countries”¹³.

This point is elaborated further on in text, inserted between what had been the penultimate and final paragraphs of the entry. The new section describes how a “prolonged and bitter scientific controversy raged in the Soviet Union from 1936 to 1948”, which resulted in Lamarckism being “revived rather violently by the Communist authorities”. According to the “authors,” Marx and Engels were “staunch Lamarckians” because they believed “this type of inheritance would guarantee the future improvement of the human race”, Soviet biologists supported it because it put them in a “strong tactical position in the socialist competition for status” and the outcome of the 1948 conference at the Lenin All-Union Academy of Sciences (VASKhNIL) where genetics was banned was a “boon to the communist theoreticians”¹⁴.

While most of Zirkle's analysis reflects his superficial views of the controversy, what is most interesting about the entry is something most readers would probably not have recognized: Morgan was dead when the entry appeared. Once again, there is not necessarily anything unusual about this. Very often authors' and editors' names remain attached to updated versions of works they no longer have a hand in writing or editing. In this case though two things are important. One, T.H. Morgan's name and reputation vastly exceeded Zirkle's, and gave the definition far greater authority than it would have were Morgan's name removed; Two, Morgan, had he been alive, would never have agreed to have his name attached to the version containing Zirkle's revisions.

It is obvious Zirkle must have been conscious of the first point. What did he need Morgan's name on the entry for anyway? He had published an article on the history of the inheritance of

¹² Lamarckism // *Encyclopedia Britannica*. Vol. 13 (1958). P. 607–610.

¹³ Lamarckism // *Encyclopedia Britannica*. Vol. 13 (1961). P. 607.

¹⁴ Ibid. P. 609.

acquired characteristics for *Isis*, among the leading journals in the field of history of science. It would have been no problem at all for him to entirely revise the entry and make it his own work. That, however, would give it less credibility among those for whom Morgan's name rang a bell.

As for the second point, as Morgan's biographer, Garland Allen, has described, Morgan loathed political activism. He believed scientists must remain apolitical, because involvement in social causes had no place in scientific practice. In fact, it is likely that among the contributing factors in Morgan's fractious relationship with one of his most famous students, Hermann J. Muller, was Muller's eagerness to engage the social and political controversies surrounding his work whenever possible. Morgan, we might say, would roll over in his grave had he known.

Life, Death and Lysenkoism

Thanatology is the study of death, and biology is the study of life. As I have described, the tension between these two opposites is an as yet unanalyzed feature of the controversy. This dichotomy provides another way of thinking about Lysenkoism within the broader context of Cold War science. As Nikolai Krementsov has noted, biology is an understudied topic in this framework, because most researchers are interested in weaponry and technology, the areas where most energy was focused towards defeating the "enemy." However Lysenko's anti-genetics campaign shows us how U.S.-Soviet rivalry placed pressure upon scientists of all disciplines and, because the issues under discussion — genetics, evolution — were not "top secret", the nature of the controversy was far more public than in other areas (See Krementsov, 2009). A thanatology of Lysenkoism also reiterates the extent to which the meaning, goal and role of scientific practice in human societies, had changed after the Second World War. The phenomenon whereby scientific and technological "progress" came to seem like ends pursued for their own sake, rather than benefitting humanity, gained serious momentum by the end of World War II. As historians of the arms race have documented, science became a source of fear, rather than hope. My analysis can be read as a contribution to research in this area as well.

As for what I wrote above about broadening our understanding of what "Lysenkoism" means: Science haunted people during the Cold War. The unqualifiedly positive notions of the late 19th century were buried in the trenches of the Somme and Verdun, and radiated landscape of Hiroshima and Nagasaki. Lysenko was a Frankenstein monster, animated by Stalinist-Marxist science, to wreak havoc¹⁵. Again, if that sounds like a stretch, think about the fact that Mary Shelly, the author of *Frankenstein; or the Modern Prometheus*, is considered a Romantic author, and Karl Marx, the co-author of the *Communist Manifesto*, is considered a Romantic philosopher. Shelly's novel is often read as a dystopian account of science run amuck, and Marx is often portrayed of the founder of a science-based philosophy, whose utopian ambitions went badly astray. Within this framework, Lysenko can be seen as the uncontrollable creature let loose among biologists in the USSR. Just as Victor Frankenstein's Frankenstein was a "fake" human pieced together from dead parts brought to life by electricity, Lysenko was a "pseudo" — scientist whose power to impose a theory as un-biological/un-scientific/improbable as the body of Frankenstein's creation, derived from Stalin; and he destroyed genetics.

This gets to the relationship between the dead and the living. Syrkus was a member of the inter-war avant-garde. This identity was premised upon a rejection of old ideas about what counted as art,

¹⁵ By "Stalinist-Marxist" I am referring to Pollock's analysis of Stalin's role in Soviet science (Pollock, 2006).

beauty etc. — and their replacement with new ones. At various points in the 1920s and 30s this was a free-wheeling environment, in which attitudes and behaviors such as receptiveness and open-mindedness were highly valued. At the point when Syrkus made his address invoking Lysenko, however, it was clear that revolutionary aesthetics had been hijacked by party planners, with their own ideas about what art was, and what purpose it should serve. Syrkus attempted to resurrect members of his generation to continue the mission their deaths, and a radically different milieu in East and Central Europe, had interrupted. He invoked the dead to serve a purpose in the present.

This notion of generations was also fundamental to Zirkle. In a 1959 letter to L.C. Dunn, a geneticist who played a notably active role, albeit with entirely different motives than Zirkle, in the Lysenko controversy, Zirkle wrote,

"Most historians of science are convinced that the periodic changes that occur in the orientation of scientists are not due to any conversion of any scientist, but to the replacement of one generation of scientists by another. What has fascinated me in this is that often the changes occur in the complete absence of argument. One generation succeeds the other apparently without having made any intellectual contact. I cannot go into the whole problem here, but can only say that I hoped to stimulate some of my contemporaries into giving me data that, historically, is very scanty.

I may have ultimately to ask forgiveness from a great many of my friends"¹⁶.

Zirkle was referring to "Marxist" scientists. He believed that many of his colleagues in the U.S. were essentially communists, who had been heavily influenced by Marxist philosophy. As a "cold warrior" Zirkle believed such individuals were an anathema to the profession, however he was not worried. Someday they would die off, and their ancestors would think differently than they did. According to Zirkle, the history of science — whether it be theory or ideology — proved the beliefs of the dead were replaced the living.

A final point is the relationship between "Lysenkoism" and "pseudoscience." As I mentioned, the former has become a synonym for the latter. It has been — to use Bruno Latour's phrase — "Black Boxed" — as that which science is not, as proved by the fact that Lamarck's ideas suffered from guilt by association. The irony is that though Latour's goal was deconstruct the appearance of objectivity, Lysenkoism shows he did the opposite: he reified it. Latour's strategy requires he presume there is such a thing as "normal" science which we must analyze. But what happens to this analysis when we prove "pseudoscience" can also be a Black Box? At this point the Black Box becomes a coffin in which we must again bury attempt to define science, once it has shown to be no different from what, supposedly, it is not.

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Использование мертвых в науках о жизни: танатология лысенкоизма

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Статья посвящена анализу лысенкоизма как явления научной, общественной и политической жизни эпохи холодной войны. Автор предлагает взглянуть на изучаемое явление под новым, достаточно необычным углом зрения. Опираясь на работы известного американского антрополога, специалиста по Центральной и Восточной Европе Кэтрин Вердери, автор ставит вопрос о том, какую роль играли имена и творческое наследие ушедших из жизни ученых и деятелей культуры в утверждении лысенкоизма в науке, а социалистического реализма — в искусстве конца 1940-х — начала 1950-х гг. в странах советского блока, а также в параллельном процессе превращения лысенкоизма в синоним лженауки на Западе в эти же годы. Как полагает автор, сами понятия жизни и смерти, разложения и возрождения, наследственной передачи не только биологических, но и социальных признаков, культурной традиции, проблема смены поколений в науке и политике играли ключевую роль в борьбе противников и сторонников Т. Лысенко. Поэтому углубленный анализ использования этих понятий может существенно продвинуть наше понимание лысенкоизма в целом. С этой целью автор анализирует три эпизода из истории противостояния лысенкоистов и антилысенкоистов.

Ключевые слова: лысенкоизм, Кэтрин Вердери, науки о жизни, покойные ученые.

ВОСПОМИНАНИЯ И ИНТЕРВЬЮ

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Кубанская земля

Наша семья встретила войну в Ростове-на-Дону. Мне было тогда 15 лет. Но уже через три месяца немецкая армия захватила Таганрог, в ста километрах от Ростова. Мы, бросив все, уехали в Тбилиси — город, где я родился. Когда пришла повестка из военкомата, предписывавшая явиться 1 февраля 1943 года с вещами и документами, я еще учился в десятом классе и мне лишь недавно исполнилось 17 лет. В войне уже произошел поворот. Советская армия, освобождая Северный Кавказ, приближалась к Краснодару. Армии срочно требовались пополнения и срок призыва был сдвинут на год вниз и два года вверх.

Молодых новобранцев отправили на обучение в Кутаиси. Здесь за городом была территория резервного полка, в котором шло ускоренное обучение военному делу: стрелять, бросать гранаты, ползать по-пластунски, колоть штыком, бить прикладом, орудовать саперной лопаткой. Я попал в первую маршевую роту нашего призыва, которую отправляли в действующую армию в конце апреля.

Военный эшелон двигался из Кутаиси до Краснодара через Баку и недавно освобожденный Северный Кавказ. На станциях местные жители приносили нам молоко и хлеб, иногда и сало. Из Краснодара на машинах мы доехали к станции Крымской

¹ В настоящем номере мы приводим первую часть воспоминаний Жореса Александровича Медведева, которые он начал писать в прошлом году. К настоящему моменту почти готовы еще три части этих воспоминаний. — Прим.ред.

на Таманском полуострове. Эту станицу освободили лишь неделю назад в боях по прорыву «Голубой линии» немецкой армии, защищавшей подступы к Новороссийску и Керчи. С моря, недалеко от Новороссийска, был высажен десант, потеснивший немцев и создавший плацдарм (знаменитая «Малая Земля»). По плану командования, который был нам объяснен после зачисления в 169-й стрелковый полк 1-й Особого назначения дивизии 56-й армии, наш полк был включен в группу прорыва второго рубежа «Голубой линии» и освобождения станицы Киевской. Для поддержки пехоты была стянута мощная техника, в основном артиллерия, не менее 200 стволов на километр фронта. Пехотным частям, прорвавшись через немецкую оборону, предстояло взять с ходу и следующий рубеж, «на плечах отступающего противника», как говорилось в зачитанном приказе. У немецкой армии на подступах к Новороссийску было много укрепленных узлов.

Военные операции на Таманском полуострове почти неизвестны в западной литературе по истории войны, хотя здесь была нивысшая концентрация войск, по сравнению с другими фронтами. На линии фронта немногим больше 100 км была дислоцирована 17-я немецкая армия, имевшая 16 пехотных дивизий, две танковые и четыре отдельных полка. Из Крыма немецкую армию прикрывали больше тысячи самолетов. Это почти столько же войск и техники, сколько было в армии фельдмаршала Паулюса под Сталинградом. С советской стороны на Таманском полуострове действовали три армии, состоявшие из 21 дивизии и пяти отдельных бригад. На линии прорыва в 30 км перед 56-й армией, которой командовал генерал Гречко, в глубокой обороне стояли 5 немецких дивизий.

Прорыв немецкой обороны после мощной артподготовки и ударов с воздуха был сравнительно быстрым. Проволочные заграждения были разметаны по сторонам. В немецких траншеях (они шли в несколько рядов) мы, держа винтовки с примкнутыми штыками наготове, пробегали в основном по трупам немецких солдат. Главной проблемой на подступах к траншеям являлись противопехотные мины. Они были везде, не менее тысячи на каждый километр фронта. Мы приближались к немецким окопам рядами, друг за другом. Тот, кто был впереди, нередко наступал на мину...

За немецкими позициями была уже степь, очень холмистая. Вдали зеленела садами станица Киевская. Но перед ней была заранее построена еще одна линия многослойной немецкой обороны, с колючей проволокой и минными полями. Взять ее с ходу «на плечах отступающего противника» наш полк уже не смог. Противник не отступал, а строчил из пулеметов. Мы залегли и стали окапываться. Мне посчастливилось — поблизости оказалась воронка от бомбы, которую я быстро превратил в глубокий окоп. Стало смеркаться. В темноте приехала и полевая ротная кухня на конной тяге, подвезли хлеб, махорку, сахар и бутылки с водкой. Во время боев каждому бойцу полагались знаменитые «наркомовские сто грамм». Горячей едой (пшенная каша с американской тушенкой) наполняли котелки. Но очередь к ротной кухне выстроилась небольшая. Днем раньше в лесочке перед началом прорыва в полностью укомплектованной роте, которой командовал капитан Петров, было 150 стрелков. К вечеру первого дня боев в строю остались 30 человек. После кухни подвезли боеприпасы. Я взял себе ящик патронов и шесть гранат. Другие бойцы тоже запасались надолго.

На следующий день немцы неожиданно предприняли контратаку. Их генералы знали, что против их линии стоят разреженные части в беспорядочных индивидуальных окопах. Управлять такой обороной трудно. Каждый солдат действует самостоятельно. Главный удар контратаки был направлен на соседний полк. Мы были выше, они внизу, метров 400–500 от наших позиций. Были видны ползущие вдали немецкие танки, около двадцати. Сразу за ними маленькие фигурки солдат. Из штаба полка при-

бежал связной, младший лейтенант, передал приказ — «поддержать соседей огнем». После этого он не вернулся в штабной блиндаж, а спрыгнул в мой окоп, у меня было достаточно места на двоих. Прицельный огонь по бегущим немецким солдатам на таком расстоянии был невозможен. Но я стрелял в направлении танков, быстро меняя обойму за обоймой. Патронов было много. Младший лейтенант вдруг попросил «дай пострелять». Я отдал ему винтовку и присел отдохнуть. Он высунулся, прицелился, но выстрелить не успел. Раздался какой-то булькающий звук и мой сосед стал сползать вниз. Он был мертв, пуля пробита ему шею. Прежде чем встать, я высунул на штыке наружу свою каску. Дзинь! — каска пробита навывлет. Советские каски были слишком тонкими. Они защищали лишь от осколков мин и гранат. Где-то недалеко наши позиции уже держал под прицелом немецкий снайпер.

Контратака противника была отбита. Индивидуальные окопы не дают возможности маневра, но из них в открытой степи никто не побежит. Нужно биться до конца. На поле боя остались три немецких танка. Ночью бойцов соседнего полка отвели в тыл, заменив резервным батальоном. Многих выносили на носилках.

Биология, медицина или агрономия?

В январе 1944 года я приехал из Ростова-на-Дону в Москву с намерением поступить на биологический факультет МГУ. Приема студентов зимой нет, но у меня не было другого выхода. В декабре 1943 года раздробленные пулей на Таманском фронте кости стопы срослись достаточно прочно, что позволило мне сменить костыли на палочку. После ранения я побывал в трех военных госпиталях, сначала в Краснодаре, затем в Баку и потом в Тбилиси, моем родном городе. С Таманского фронта летом 1943 года шел столь большой поток раненых, что все госпитали в Закавказье были переполнены. Оказаться вдруг в Тбилиси было большой удачей. Мама ничего не знала о моей судьбе почти три месяца. Брат Рой был на военной службе в тыловых частях. Как демобилизованный из армии по инвалидности я имел теперь право вернуться в Ростов, который был освобожден весной 1943 года. Действовали указы, которые гарантировали возвращавшимся в освобожденные города право на жилплощадь.

Ростов-на-Дону, который был дважды оккупирован, осенью 1941 и летом 1942-го, подвергался сильным бомбардировкам. Но пятиэтажный дом № 78 на Пушкинской улице, в котором находилась наша двухкомнатная квартира, стоял невредимым. Квартира эта принадлежала тете Наде с бабушкой. Мы переехали к ним после ареста в Москве нашего отца Александра Романовича, профессора военной академии. Он был осужден как «бухаринец» и умер в марте 1941 года в одном из лагерей Магаданской области. Отец был очень сильным мужчиной и физически закалял и нас с братом с раннего детства. Но работу на медных рудниках на Колыме не выдержал и он. В нашей ростовской квартире жили теперь сразу три семьи, переселенные из разрушенных домов.хлопотать о ее возвращении не имело смысла. Никаких принадлежавших нам вещей там уже не было. Пропала и большая библиотека отца, которой мы дорожили больше всего.

Моя двоюродная тетя, хорошо известный в Ростове зубной врач с собственным кабинетом на проспекте Буденного, не уехавшая из города, была расстреляна вместе с мужем при ликвидации немцами всех ростовских евреев. Вторичная оккупация Ростова произошла 24 июля 1942 г. Но уже 11–12 августа все оставшиеся в городе евреи, около 15 тысяч

человек, включая детей, были расстреляны в Змиевской балке за городом.) Мы убеждали тетю уехать, но она не хотела все бросать, надеясь на свою русскую фамилию «Сахарова» и на то, что хорошие зубные врачи нужны при любом режиме. Своих детей у нее не было. В ее замечательную квартиру вселился при оккупации офицер Гестапо. Теперь там тоже жили несколько семей.

В Ростове я прожил около недели. Мне дала приют мать школьного друга Кости Рагозина, который воевал где-то в Белоруссии. Его отец «пропал без вести» летом 1942 года на подступах к Сталинграду. Делать в городе мне было нечего, и я пошел на вокзал, чтобы ехать в Москву. В то время в каждом пассажирском поезде был вагон «для раненых», в который одетым в солдатскую шинель позволялось садиться без билетов. Ехали в большой тесноте. Четверть пассажиров вагона составляли тяжелые случаи, нередко без ног. Таких сопровождали санитары или медсестры. В дороге на станциях для возвращавшихся из госпиталей демобилизованных были особые столовые. Прямого сообщения между Ростовом и Москвой еще не наладили, и поезд проезжал через руины Сталинграда, а в Москве я оказался лишь через шесть дней.

Декан биофака принял меня приветливо и был готов зачислить кандидатом в студенты для начала учебы в октябре. Инвалидов войны принимали в то время в вузы вне конкурса и без вступительных экзаменов. Студентов-мужчин было очень мало. Но университет, только недавно вернувшийся из эвакуации в Казань, не имел еще общежития для студентов. Во Втором медицинском институте были те же проблемы с общежитием. Директора института явно удивила моя эрудиция в проблемах медицины (основанная на книгах Мечникова, Поля де Круи и Богомольца, прочитанных еще в Ростове). Он был готов принять меня в студенты сразу, но лишь на санитарный факультет: «Вы пропустили анатомию человека, без нее на лечебном факультете делать нечего. Нужно ждать до осени».

В Москве я жил уже пять дней, ночуя либо на Казанском, либо на Ленинградском вокзалах. При карточной системе на продукты питания купить какую-то еду можно было лишь на вокзалах в буфетах отдельных залов для военных и демобилизованных. Кое-где были и столовые для раненых. Сотни тысяч инвалидов войны, выписанных из госпиталей, путешествовали по стране, не имея возможности вернуться домой. Власти просто не знали, что с ними делать, и вокзалы стали для них общежитиями. Их родные города и деревни были сильно, а часто и полностью разрушены, либо не освобождены. В январе 1944 года Крым и Одесса были еще оккупированы немецкой армией, бои шли за Кривой Рог. Только в это время произошел разгром немецких армий, окружавших Ленинград, а всю Белоруссию, Прибалтику и Молдавию еще предстояло освободить.

В Петровско-Разумовское, где раскинулись на большой территории красивые учебные корпуса, общежития, опытные поля, пруды и лес Московской сельскохозяйственной академии им. К.А. Тимирязева (ТСХА), я приехал на пригородном поезде с Ленинградского вокзала. Декан агрономического факультета профессор Николай Александрович Майсуриан оказался моим земляком, он родился и окончил университет в Тбилиси. Я снова получил предложение стать кандидатом в студенты. Но здесь до начала нового учебного года мне предложили работу и общежитие. Работа была простая, но опасная — промывать концентрированной соляной кислотой белый кварцевый песок, чтобы освободить его от всех минеральных солей. Этот песок отмывали затем и от соляной кислоты простой и дистиллированной водой, и тоннами использовали для агрохимических и физиологических опытов с разными комбинациями удобрений. В подвале, где стояли промывные баки, приходилось надевать противогаз. Весной, как



Ж. Медведев в 1946 году

рабочему опытной станции, мне предложили две сотки уже распаханного поля учхоза «Отрадное» под огород, так что в октябре, когда я наконец стал студентом, под моей кроватью в общежитии лежали два больших мешка с картошкой.

Трофим Денисович Лысенко

Мои интересы в области проблемы старения сложились еще тогда, когда мне было 15–16 лет. Зимой 1942 года я часами просиживал в публичной библиотеке Тбилиси, конспектируя монографию А.В. Нагорного «Проблема старения и долголетия», изданную в Харькове в 1940 году тиражом всего в 400 экз. В Сельскохозяйственной академии тоже имелись кафедры зоологии, ботаники, химии и физико-химии, физиологии и биохимии. То, что тут это применялось к растениям и животным, а не к человеку, не имело большого значения.

Растения и животные тоже стареют, хотя и неодинаково. Для животных необходимость старения тела достаточно логично объясняла теория Вейсмана о смертности сомы и бессмертии зародышевой плазмы. Но у растений явно не было отдельного от сомы зародышевого пути, они способны к неограниченному вегетативному размножению. Из соматических клеток можно получить новое растение. Растения размножаются клубнями, черенками, корневыми отводками. Точка роста стебля, состоящая из быстро делящихся вегетативных клеток, которые образовывали листья, неожиданно — весной, летом или в теплых краях осенью, а иногда и через год, — вдруг начинала формировать цветок с полным набором мужских и женских репродуктивных органов. Первая теория, которая сформировалась у меня, пыталась объяснить именно эту загадку. Я предположил, что в точках роста растений среди в основном соматических клеток есть и потенциально зародышевые. Соматические клетки, замедляя свои деления из-за старения, постепенно замещаются зародышевыми, и именно поэтому точка роста начинает

формировать не листья, а цветок с половыми органами. Иногда это замедление делений соматических клеток может вызываться холодной температурой, как у озимых растений. Иногда сменой фотопериодов от весны к лету.

Моя теория в чем-то дополняла теорию стадийного развития растений, прославившую Трофима Лысенко еще в 1929 году, когда он впервые на практике смог довести озимую пшеницу до репродукции при весеннем посеве, продержав проросшее зерно две недели под талым снегом. Я изложил свою теорию на пяти страницах рукописи каллиграфическим почерком и послал в апреле 1945 года по почте один экземпляр академику Лысенко, президенту Всесоюзной Академии сельскохозяйственных наук им. В.И. Ленина (ВАСХНИЛ), а другой передал заведующему кафедрой ботаники нашей академии профессору Петру Михайловичу Жуковскому, яркие лекции которого для нас, студентов первого курса, были наиболее увлекательными. Недели через две я получил ответ в конверте ВАСХНИЛ. Письмо от Лысенко было коротким:

«Уважаемый Жорес Александрович! Ваши идеи кажутся мне интересными. Будете в Москве — заходите. Академик Т.Д. Лысенко».

Академия сельскохозяйственных наук в Большом Харитоньевском переулке в центре Москвы занимала здание старинного дворца князей Юсуповых. Табличка сбоку от входа извещала, что это памятник архитектуры XVII века, охраняемый государством. В обширной приемной перед дверью кабинета президента уже сидело около 30 человек, многие явно приехали издалека и из деревень. Приезжавших встречали секретарша и помощник, спрашивая о причинах визита. Я показал помощнику письмо. Лысенко начинал прием в 11.00. Нам объяснили, что академик принимает не по очереди, а всех сразу. Он будет беседовать сперва с агрономом, который приехал из Сибири. Но мы будем сидеть в кабинете и можем задавать вопросы и делать реплики. Нередко, как нам сказали, люди приходят к академику с одними и теми же проблемами. Нет никаких ограничений на записи. Интересные мысли часто приходят академику именно в ходе таких бесед.

Точно в 11.00 посетители стали входить в большой кабинет президента. Лысенко уже сидел за своим огромным столом, он вошел через отдельную дверь. Кабинеты крупных советских администраторов всегда состояли из двух комнат: одна большая, для приемов, вторая «личная», с диван-кроватью для отдыха, буфетом и санузлом. Стол Лысенко был завален сельхозпродукцией — несколько снопов пшеницы и ржи, крупные картофелины, початки кукурузы. Большие снопы пшеницы, привезенные из разных концов страны, стояли возле стен, недалеко от письменного стола. Стулья для посетителей располагались вдоль боковых стен. Книжных шкафов, которые всегда встречались вдоль стен кабинетов деканов, директоров и профессоров, не было видно.

«Садитесь, — обратился к нам Лысенко, неожиданно громким, но очень хриплым голосом, — я буду говорить с агрономом из Омской области (он назвал фамилию). У него вопрос по поводу посевов озимой пшеницы по стерне».

В 1943—1944 годах посевы озимой пшеницы по стерне в Сибири по методу Лысенко, то есть по необработанному, не вспаханному полю, были главной темой дискуссий в сельскохозяйственных кругах. В 1942 году наступление немецкой армии на Северный Кавказ и на Сталинград началось лишь в конце июля, когда уборка урожая озимой пшеницы была уже завершена. Большую часть зерна успели вывезти в Закавказье и за Волгу. Но посев озимой пшеницы для урожая 1943 года проводить было негде. В Сибири озимую пшеницу не сеяли, она вымерзала. Лысенко предложил сеять озимую пшеницу в Омской и Новосибирской областях по стерне от убранной яровой, то есть по невспаханым полям. По его теории, проверять которую не было времени, зимняя гибель

ростков происходит не от самих морозов, а от образования кристаллов льда и уплотнения и перемещений замерзающей рыхлой земли, разрывающих узел кушения злаков и корни, находящиеся под землей. В плотной не вспаханной земле таких разрывов не будет и ростки не погибнут. Если узел кушения цел, растения регенерируют весной боковые почки и все побеги. Стерневая щетина, остающаяся от скошенного урожая, лучше сохранит снег, защищая почву. В августе-сентябре 1942 года в Челябинской, Новосибирской и Омской областях были посеяны по стерне сотни тысяч гектаров. Результаты были противоречивыми. В одних колхозах был урожай, в других посевы вымерзли.

Агроном из Сибири был из тех, у кого урожай пострадал. Собрали сколько и посеяли. Начался спор. Сидевшие вдоль стен активно в нем участвовали. Около часа дня в кабинет вошли официантки с подносами, раздавая сидевшим посетителям крепкий чай в стаканах с серебряными подстаканниками и большие бутерброды с красной икрой и с семгой. Это было приятным сюрпризом. К трем часам дня прием закончился. Лысенко сказал, что его ждут на совещании в Кремле. До обсуждения моей теории дело не дошло. Но я возвращался в общежитие вполне удовлетворенным.

Петр Михайлович Жуковский

Профессор Жуковский был наиболее популярным и авторитетным ученым нашей академии. Он был академиком ВАСХНИЛ, лауреатом Сталинской премии и автором считавшегося лучшим учебника ботаники. В экспедициях в Малую Азию, Сирию, Месопотамию он собрал тысячи образцов культурных растений, написал книгу «Земледельческая Турция» и открыл в Закавказье новый вид ранее неизвестной пшеницы, уникальной по своему высокому иммунитету к грибным болезням. Этот вид пшеницы, названный Жуковским в честь своего учителя Тимофеева *Triticum timopheev Zhuk.*, использовался для скрещиваний селекционерами пшениц во многих странах для усиления иммунитета у выводимых ими сортов.

Жуковскому не требовалось отвечать на мое письмо. Ботаника была одним из главных предметов первого курса и каждую неделю наша учебная группа приходила на кафедру ботаники в учебный корпус №17 для практических занятий. Из двадцати членов группы я был единственным мужчиной, и Жуковский меня уже знал. После очередного семинара мне сказали, что Петр Михайлович ждет меня в своем кабинете. Жуковский встретил меня приветливо, даже сердечно. Лаборантка принесла нам чай и бутерброды с сыром. Жуковский похвалил мой почерк и стиль. «Ваша рукопись написана хорошим научным языком». Распросил немного биографию. «Мой сын Алешка сейчас тоже на фронте, уже в Германии, надеюсь, что он не погиб» (в это время, в конце апреля, шли бои уже за Берлин). «Давайте вместе проверять



П.М. Жуковский

вашу теорию. У нас на кафедре есть лаборатория эмбриологии и цитологии растений. Мы дадим вам хороший микроскоп. Но нужно еще многому научиться...» На следующий день я пришел в лабораторию. Ею руководила опытный цитолог Анаида Иосифовна Атабекова, доцент. Как оказалось, она была женой декана Майсурия и тоже родилась в Тбилиси.

Через две недели закончилась война. Сын Жуковского Алеша не погиб, и через год я с ним познакомился. А вот мой ростовский друг Костя Рагозин был убит в уличных боях в Берлине. Об этом я узнал от его матери при новом посещении Ростова-на-Дону в 1946 году.

Никитский ботанический сад

Я учился и работал очень интенсивно. Из Германии по репарациям в конце 1945 года в ТСХА привезли новейшее микроскопическое оборудование и лабораторную посуду. Я освоил работу на микротоме, научился окрашивать срезы с точек роста растений, делать микрофотографии. В Германии еще в 1939 году было опубликовано исследование, показавшее, что у водорослей мужские и женские клетки содержат разные наборы каротиноидных пигментов. Эти пигменты почти всегда присутствуют в пестиках и в рыльцах цветков растений. Жуковский поручил мне собрать по этому вопросу всю возможную литературу на английском. Он сам свободно владел немецким и французским, но не английским. Я сделал для него переводы с английского большого числа публикаций, и в начале 1948 года он подготовил под двумя нашими фамилиями обзор «Значение световой энергии и каротиноидов для развития бесполого и полового поколений в растительном мире», который был вскоре опубликован в журнале «Успехи современной биологии»².

Весной этого же года Жуковский предложил мне командировку в Государственный Никитский ботанический сад в Крыму для экспериментального изучения состава каротиноидных пигментов в мужских и женских органах растений. Мне нужно было досрочно сдать зачеты и экзамены за четвертый курс, чтобы выехать в Крым как можно раньше, ведь большинство растений цветут весной. По теории Жуковского некоторые продукты обмена каротиноидов могли играть роль растительных половых гормонов. У растений существует большее разнообразие форм половой репродукции, чем у животных, и гормональная регуляция этих процессов была мало изучена. Мне предстояло освоить методику разделения желтых пигментов растений распределительной и разделительной хроматографией и изучить состав этих пигментов в репродуктивных органах некоторых видов растений, имеющих крупные тычинки и пестики ярко-желтого цвета.

Лаборатория биохимии Никитского ботанического сада, расположенного недалеко от Ялты, имела отличное оборудование, привезенное из Германии по репарациям и обширный набор химических реактивов. Заведующий лабораторией профессор Василий Иванович Ниллов был другом Жуковского. Никитский ботанический сад, основанный как императорский в начале XIX века³, имел богатую коллекцию южных

² Жуковский П.М., Медведев Ж.А. Значение световой энергии и каротиноидов для развития бесполого и полового поколений в растительном мире // Успехи современной биологии. 1948. Т. 26. Вып. 4. С. 501–514.

³ Название сада происходило от села Никитского на склоне выше площадки, выбранной ботаниками.

и субтропических растений. Я приехал сюда в середине апреля и быстро приступил к работе. Главной проблемой для всего побережья Крыма была, однако, вода. В период оккупации Крыма немцами в 1941–1944 годах на склонах гор вырубали все леса, что было сделано как мера борьбы с партизанами. В лесах прятались остатки нескольких дивизий Красной армии, отрезанных быстрым немецким наступлением летом 1941 года и немалое число участников многомесячной обороны Севастополя. Боеприпасы и продовольствие им сбрасывали с самолетов.

При отсутствии лесов на склонах гор вода дождей не питала родники, дававшие в прошлом водопродную воду Ялте, а смывала почву склонов в море. После каждого дождя море становилось коричневым на 2–3 км. Сильно страдал и Никитский ботанический сад, многие редкие растения которого требовали полива. Питьевую воду для жителей Ялты и всего побережья привозили по морю танкерами. На одном из холмов возле Никитского сада был охраняемый лагерь немецких военнопленных, около 200 солдат. Они занимались работами по созданию на склонах плоских террас и водосборных сооружений, чтобы уменьшить смыв почвы в море и накапливать воду для поливов. Война все еще напоминала о себе. Недалеко от Никитского сада по приморской «пушкинской» тропинке в Гурзуф стоял небольшой монумент с надписью: «На этом месте 17–18 декабря 1942 года были расстреляны немецкими оккупантами более пяти тысяч советских граждан — жителей Ялты». Я понимал, что это были ялтинские евреи, мужчины, женщины и дети.

Моя работа была увлекательной. Каждый день утром я плавал в море. Жил в отдельной комнате дома приезжих ученых. Получал даже небольшую зарплату, в дополнение к студенческой стипендии и пенсии инвалида III группы, которую мне еще сохраняли, хотя я мог уже и бегать. Была директива правительства — выплачивать пенсии ветеранам-студентам, независимо от состояния их здоровья.

Эта идиллия была нарушена 1 августа, когда в «Правде» и во всех других центральных газетах был на нескольких страницах опубликован обширный доклад академика Т.Д. Лысенко «О положении в биологической науке», сделанный на сессии ВАСХНИЛ, открывшейся 31 июля.

Августовский переворот

Излагать здесь содержание доклада Лысенко нет необходимости. В истории СССР не было прецедентов, чтобы научные доклады ученых любого ранга публиковались в таком формате и одновременно во всех центральных газетах. Такое было возможно лишь для отчетных или директивных докладов на пленумах или съездах ВКП(б). Это означало, что доклад Лысенко был директивный, одобренный Политбюро и лично Сталиным и что рекомендации доклада будут незамедлительно внедряться всеми административными и политическими методами. Между тем основные положения доклада Лысенко были примитивнейшей псевдонаукой, которая возвращала биологию и все связанные с ней дисциплины на 150 лет назад к теориям Ламарка о наследовании приобретённых признаков. В СССР отменялись или запрещались как реакционные, буржуазные и идеалистические сразу несколько важнейших дисциплин, прежде всего генетика с ее хромосомной теорией наследственности, теории генов, мутаций и многое другое. Запрещалась как реакционная наука медицинская генетика. Австрийский

монах Мендель просто ошибался, формулируя «гороховые законы», Вейсман со своей теорией зародышевой плазмы был реакционным идеалистом, а хромосомная теория наследственности Моргана служила интересам американских расистов.

В прениях по докладу Лысенко Жуковский выступил с наиболее резкой критикой, защищая в основном хромосомную теорию наследственности и приводя яркие примеры (постоянство числа хромосом у каждого вида, редукционное деление хромосом при формировании гамет, связь мутаций с изменениями в хромосомах и другие). Но на заключительном заседании сессии 6 августа, после того как Лысенко информировал участников о том, что его доклад был одобрен Центральным Комитетом ВКП(б), Жуковский снова взял слово и объявил о том, что он понял свои ошибки и заблуждения и будет в дальнейшем работать для развития «мичуринской биологии». Двое других ученых, в прошлом критиковавших Лысенко, также публично «раскаились».

Для меня Августовская сессия ВАСХНИЛ напоминала февральско-мартовский Пленум ЦК ВКП(б) в 1937 году, решения которого стали началом террора 1937–1938 годов. Репрессии принесли СССР колоссальный политический, экономический и моральный ущерб и лишили страну наиболее способных людей, в том числе военачальников и ученых. Тот террор сделал Сталина абсолютным диктатором. Августовская сессия делала Лысенко диктатором в биологических и сельскохозяйственных науках. Для всей страны такой поворот был катастрофой. Он сильно ослаблял авторитет и позиции самого Сталина как мирового лидера. В руководстве страны явно шла какая-то политическая борьба, мишенью которой был Андрей Жданов, секретарь ЦК и главный идеолог страны, второй по партийному рангу после Сталина. Жданов по линии Политбюро поддерживал критику Лысенко. Юрий Жданов, сын Андрея Жданова и муж дочери Сталина Светланы, был в это время заведующим отделом науки ЦК ВКП(б). Юрий Жданов в марте 1948 года выступил с докладом на совещании пропагандистов, характеризовав идеи Лысенко как псевдонаучные. Теперь «Правда» напечатала письмо Юрия Жданова Сталину, в котором он признавал свои ошибки. Покаяния Жуковского и Юрия Жданова были частью сценария. Им «разрешили» покаяться, и это означало, что их не будут трогать в намечавшемся общем погроме. Я сознавал, что переворот в науке не мог осуществляться без каких-то корней в партийно-государственном руководстве. Было очевидно, что следует ожидать достаточно массовых репрессий не только среди биологов. Но понять всю картину ближайшего будущего я еще не мог.

Много лет спустя я узнал, что Андрей Жданов, бывший партийным лидером Ленинграда, не давал согласия на арест академика Николая Ивановича Вавилова, директора ВИРа, который готовился еще в 1937 году. Жданов относился к Вавилу с большим уважением. Арест Вавилова был поэтому произведен 6 августа 1940 года во время экспедиции Вавилова в Западную Украину. «Постановление на арест», найденное в архиве и подписанное старшим лейтенантом госбезопасности Рузиным, по стилю и содержанию было явно лишь проектом, готовым с конца 1937 года, оно датируется 5 августа. Его утвердил 6 августа 1940 года Лаврентий Берия. Санкция прокурора датирована 7 августа⁴. Вавилов был арестован в поле недалеко от Черновиц в Львовской области. Спецгруппа для ареста прибыла из Москвы. Самолет мог приземлиться только в Киеве.

⁴ Вавилов Ю. В Долгом Поиске: Книга о братьях Николае и Сергее Вавиловых. Сборник документов и воспоминаний. М.: Изд-во ФИАН, 2008. С. 122–128. (Это редкое издание, напечатанное на средства автора тиражом 500 экз.).

Совершенно очевидно, что арест Вавилова осуществлялся на основании устных приказов, отданных 3 или 4 августа, и все письменные документы подписывались после телефонных сообщений спецгруппы. В Ленинграде об аресте Вавилова узнали лишь через несколько дней от членов вернувшейся экспедиции. В начале блокады Ленинграда, в конце 1941 — начале 1942 года, Жданов принимал многие решения самостоятельно, не согласовывая их со Сталиным.

10 или 11 августа в Никитский ботанический сад неожиданно приехал Петр Михайлович Жуковский. Ему требовался отдых. Никитский сад имел статус института в системе ВАСХНИЛ. Жуковский, как единственный академик-ботаник, представлял в академии научные интересы сада и рецензировал его отчеты и планы. В том же доме приезжих ученых ему была выделена лучшая комната с верандой и видом на море. Мы встретились как старые друзья. Он меня обнял, на глазах у него были слезы. «Я заключил с Лысенко Брестский мир... Поганный мир... Я сделал это ради моих учеников».

Другая академия

Когда я вернулся в Москву в конце сентября, Тимирязевская академия была уже другой. Ректор академии, крупный экономист-аграрник, академик В.С. Немчинов был смещен. Новым ректором академии стал В.Н. Столетов, кандидат биологических наук, давний сотрудник Лысенко. Был снят заведующий кафедрой генетики и селекции растений академик А.Р. Жебрак, и эту кафедру возглавил сам Лысенко, которому предстояло теперь читать курс «мичуринской генетики» прежде всего студентам пятого курса, которые раньше учились «морганизму-менделизму». Были смещены два декана и много других преподавателей. На кафедре ботаники уволили доцента А.И. Атабекову. Жуковский сохранил свой пост, но на кафедру к нему назначили без его согласия «аспиранта», который был демобилизован из какого-то спецподразделения. Жуковский сразу понял, что это осведомитель из МГБ и менял тему разговора, если в лабораторию входил «аспирант».

Новый аспирант получил от Жуковского «мичуринскую» тему: ему предстояло изучить возможность переноса иммунитета к грибкам с помощью вегетативной гибридизации (он работал очень много, сделал сотни прививок, но успеха не добился). Новый ректор Столетов приказами менял темы исследований аспирантов. Мой друг Вася Земский, также инвалид войны с протезом руки, начавший при кафедре физиологии растений тему по гормонам роста, получил новую тему по физиологии «ветвистой пшеницы», полудикого вида с низким процентом белка, с помощью которого Лысенко обещал удвоить урожай. В особых условиях и при очень разреженных посевах колос у этой пшеницы ветвился и превращался в гроздь, производя впечатление на людей, незнакомых с ботаникой пшениц.

В новых условиях у меня было мало шансов остаться в аспирантуре для получения научной степени. Студенты, кончавшие академию, проходили так называемое «распределение» по спискам вакансий в колхозах и совхозах, которые вывешивались в деканате. Свободное трудоустройство дипломированных специалистов не практиковалось. Направление в аспирантуру требовало особых характеристик и рекомендаций. Работать по «мичуринским» темам я не мог. У меня возник другой план. Прежде всего, я решил продлить срок своего обучения на год и кончать не в 1949, а в 1950 году. Для

этого я осуществил перевод из агрономического факультета на факультет агрохимии и почвоведения. Декан Н.А. Майсурия, сохранивший свой пост ценой покаяния и обещания перейти на «мичуринские» позиции, помог мне и в этот раз. На новом факультете мне предстояло изучать несколько новых полезных для агрохимика дисциплин, и поэтому я оставался на том же четвертом курсе. У меня впереди были теперь два года учебы, а не один. За эти два года можно подготовить не только дипломную работу, но и написать диссертацию на соискание ученой степени кандидата биологических наук и сдать кандидатские экзамены. Я уже имел две публикации в научных журналах, и три статьи по каротиноидам растений находились «в печати» в «Докладах Академии наук СССР» (они были опубликованы в 1949 г.).

В новом корпусе общежития факультета агрохимии и почвоведения моими соседями по комнате были старые друзья Коля Панов и Борис Плешков, оба инвалиды войны. Панов был ранен в ногу в Сталинграде. Борис Плешков, поступивший в академию в 1945 году, был контужен при взрыве снаряда в Чехословакии. В соседней комнате жили четыре студентки. Одной из них была Рита Бузина, моя будущая жена.

Политическое положение в стране между тем мрачнело каждый месяц. Андрей Жданов умер от инфаркта в конце августа. Главным идеологом ВКП(б) стал Георгий Маленков, консерватор, антисемит и покровитель Лысенко. Начались гонения на Вячеслава Молотова, второго после Сталина человека в правительстве. В январе 1949 года была арестована жена Молотова Полина Жемчужина, обвиненная в сионизме (она была еврейкой). Теперь «наследником» Сталина становился Маленков, союз и дружба которого с Лаврентием Берией не сулили ничего хорошего. Николай Вознесенский, молодой член Политбюро, способный экономист и организатор, первый заместитель Сталина в правительстве, вдруг тайно «исчез» без всяких объяснений (1 мая 1949 г. его портрета не оказалось среди портретов членов Политбюро, которые вывешивались в центре Москвы). Как выяснилось позднее, он был арестован в начале 1949 года по «ленинградскому делу», о котором знали лишь в Ленинграде, и тайно расстрелян вместе со своим братом и ленинградскими партийными лидерами⁵. Смертная казнь была отменена в СССР в 1947 году в честь 30-летия Октябрьской революции. 12 января 1950 года производится восстановление смертной казни (по отношению к изменникам родины, шпионам и диверсантам).

Шли аресты и в Ленинградском университете, где в то время учился на философском факультете мой брат Рой. О событиях в Ленинграде я узнавал от него и очень беспокоился о его судьбе. В Ленинграде жила и сестра отца Тося, пережившая блокаду города. В Москве также арестовывали в связи с «Ленинградским делом» крупных чиновников в правительстве РСФСР. Суды были закрытыми, и приговор приводился в исполнение немедленно. Расстрелянных кремировали и тайно хоронили. Террор начался, но шел по секретному сценарию, без открытых судов и обвинений. Причина нового террора казалась мне очевидной, но я ни с кем не делился своими предположениями. Сталин на долгом торжественном юбилейном заседании в Большом театре по случаю своего 70-летия 21 декабря 1949 года выглядел больным, был неподвижен и не промолвил ни одного слова. Он не мог встать с кресла и подойти к микрофону. Но он готовил себе на смену людей, которые не станут заниматься разоблачениями преступлений Сталина и террора прошлых лет. Для этого руки возможных наследников обагрятся теперь свежей кровью.

⁵ Председатель Совета министров РСФСР М.И. Родионов, секретарь ЦК ВКП(б) А.А. Кузнецов, секретарь Ленинградского обкома П.С. Попков и другие. В Ленинграде были арестованы около двух тысяч человек.

Кандидат биологических наук

На летнюю практику в 1949 году я остался в Москве. Анализы можно было проводить на кафедре агрохимии и биохимии растений, которая также располагалась в 17-м корпусе, в его старой части. В подвале этого же здания я в 1944 году промывал соляной кислотой песок именно для сотрудников кафедры агрохимии, ставивших опыты в вегетационном домике за корпусом. В то время еще был жив академик Д.Н. Прянишников, ученик К.А. Тимирязева и учитель Н.И. Вавилова, самый в то время знаменитый ученый Академии и основатель советской агрохимии. Он имел звание Героя Социалистического Труда и много других наград. Его настойчивость в создании в СССР нескольких заводов по производству химических удобрений, особенно азотнокислого аммония и калийной селитры, была оценена во время войны (эти заводы быстро переоборудовали на производство пороха и взрывчатых веществ). Прянишников умер весной 1948 года в возрасте 83 лет. Профессоров кафедры агрохимии «оргмеры» 1948 года не коснулись, хотя Прянишников был известным противником Лысенко. Причины их «неприкасаемости» я вскоре понял. В одной из лабораторий кафедры агрохимии, имевший отдельный вход с улицы и считавшейся «секретной» (здесь изучалось действие на растения радиации), работала уже почти десять лет Нина Теймуразовна Берия, кандидат сельскохозяйственных наук и жена Лаврентия Павловича. Она была ученицей Прянишникова. Ее обычно привозила к подъезду лаборатории «Победа» с шофером. В штате сотрудников кафедры она числилась под своей девичьей фамилией Гегечкори. На семинары на кафедре и конференции на факультете она не приходила (я с нею случайно познакомился в 1952 году в кабинете заведующего кафедрой профессора А.Г. Шестакова).

В небольшом ботаническом саду кафедры ботаники я начал опыты по изучению биохимических различий мужских и женских экземпляров конопли *Cannabis sativa*. Это двудомное (раздельнополое) растение. Я старался биохимическими и физико-химическими методами определить, существует ли в этом случае какой-либо диморфизм пыльцы и можно ли установить, какие пыльцевые зерна являются «мужскими» и какие «женскими». У некоторых двудомных растений мужские и женские пыльцевые зерна различаются по величине. У конопли они имели одинаковый размер. Однако при некоторых видах окрашивания с изменением цвета, в зависимости от небольших сдвигов кислотности (pH), мне удалось обнаружить диморфизм пыльцы конопли⁶.

Осенью 1949 года я начал готовить свою диссертацию. Работал в основном в библиотеке академии. Нередко приходилось ездить для работы в Государственную публичную библиотеку СССР им. В.И. Ленина. В ней был более широкий выбор журналов по биохимии и физиологии растений.

К концу февраля 1950 года работа была закончена. Заглавие диссертации «Физиологическая природа формирования половых признаков у высших растений» давало простор для теоретических обобщений. Последняя глава диссертации, опыты 1949 года с коноплей, могла также служить и как дипломная работа. Диссертации в то время имели обычно 200–250 страниц, дипломные работы 40–50 страниц. Никто, даже Жуковский, не знал о моих планах. Случаев представления диссертаций студентами

⁶ Медведев Ж.А. Физико-химический диморфизм пыльцы двудомных растений // Доклады Академии наук СССР. 1949. Т. 68. Вып. 4. С. 777–780.

в истории академии не было. Может быть, их не было и во всей Москве. Я понимал, что новый ректор академии мог возражать. Жорес Медведев, как ученик Жуковского, имел репутацию противника Лысенко. Во всяком случае он явно не «мичуринец». Нужно было всех ставить перед свершившимся фактом. Работа сделана, представлена — теперь решайте. Это как в спорте, перепрыгнул неожиданно атлет более высокую планку хоть один раз, уже не отнимешь. В одну секунду появляется новый чемпион.

Я оплатил перепечатку диссертации на машинке на хорошей бумаге. Получилось 260 страниц. Одновременно готовился к сдаче экзаменов по предметам «кандидатского минимума»: марксизм-ленинизм, английский и физиология растений. Я уже решил, что представлю диссертацию для защиты не на ученый совет факультета, а в Институт физиологии растений АН СССР. Директор этого института академик Николай Александрович Максимов был также заведующим кафедрой физиологии растений в ТСХА и хорошо меня знал. Он являлся другом Жуковского, и именно он представлял в «Доклады АН СССР» наши статьи. У него был давний спор с Лысенко о приоритете в формулировании теории стадийного развития растений. Максимов опубликовал свою версию теории на два года раньше, в 1927 г., но в «Трудах Всесоюзного института растениеводства» (он в то время работал в ВИРе, вместе с Н.И. Вавиловым). Лысенко опубликовал свою версию теории в газете «Правда».

Демократическая процедура открытых публичных защит диссертаций на ученых советах факультетов и научных институтов была унаследована в Советском Союзе от традиций императорской России. В других странах присуждение научных степеней происходит иначе, в узком кругу нескольких экспертов и главную роль играет профессор, под руководством которого данная работа выполнялась. «Российский» вариант позволял Институту физиологии растений АН СССР самостоятельно назначать оппонентов по диссертациям и присуждать степени кандидата и доктора наук тайным голосованием 13 членов своего ученого совета. Мой руководитель мог присутствовать, но участия в голосовании не принимал. Результаты голосования были окончательным решением. По кандидатским диссертациям в 1950 году не требовалось утверждения решений институтов Министерством высшего образования. Туда, в Высшую аттестационную комиссию, поступали на экспертизу лишь докторские диссертации.

Я хорошо знал тогда противников школы П.М. Жуковского. Это были декан факультета агрохимии проф. В.В. Вильямс и В.Н. Столетов. Школа академика В.Р. Вильямса, умершего в 1939 г. (В.В. был его сыном), состояла в непримиримом конфликте со школой академика Прянишникова почти 30 лет. Это был принципиальный конфликт о путях развития советского сельского хозяйства. Прянишников считал, что нужно идти по европейскому пути и расширять производство и применение минеральных удобрений. В.Р. Вильямс был против минеральных удобрений, разрушающих якобы структуру почвы, и пропагандировал «травопольную систему» земледелия и преобразование природы степей путем создания лесозащитных полос. В 1948 году на волне побед «мичуринской биологии», травопольная система была признана единственно правильной. Был принят «Сталинский план» преобразования природы и создания государственных лесных полос по всему югу СССР.

В.Н. Столетов в начале 1950 года уже не был ректором ТСХА. Его назначили заместителем министра сельского хозяйства СССР, а вскоре министром высшего образования СССР. Он теперь переводил все образование в стране на «мичуринские» позиции.

В марте 1950 года я защитил дипломную работу, сдал государственные экзамены по марксизму и английскому. Решением Государственной экзаменационной комиссии

от 10 марта мне была присвоена квалификация «ученый агроном» по специальности «Агрохимия и почвоведение». Но реальные дипломы выдавались лишь после определения места работы. Списки вакансий были вывешены в деканате. В конце марта я принес первый экземпляр рукописи диссертации П.М. Жуковскому. Он удивился, но был обрадован. Моя будущая судьба беспокоила и его. Рукопись он прочитал в течение нескольких дней и ничего не изменил. Он подписал представление на защиту в институт физиологии, и я отвез три экземпляра ученому секретарю института, который был расположен на юге Москвы. Работу приняли и поставили «в очередь». Защиту обещали осенью. Очередь дошла до меня только 1 декабря 1950 года. В этот день состоялась публичная защита с тайным голосованием. Решение «достойно» было единогласным. На следующий день я получил выписку из Протокола: «Решением Совета Института физиологии растений им. К.А. Тимирязева от 1 декабря 1950 г. гражданину Медведеву Жоресу Александровичу присуждена ученая степень кандидата биологических наук».

Послесловие

В 1990 году, через 40 лет после этой защиты, «вновь я посетил тот уголок земли». Улица, на которой стоял корпус 17, старый и новый, была теперь улицей Прянишникова. В сквере перед корпусом стоял во весь рост бронзовый памятник Д.Н. Прянишникову. Возле нее — мемориальная доска в память о профессоре П.М. Жуковском, умершем в 1975 году в возрасте 87 лет. В сквере возле главного здания академии стоял бронзовый памятник В.Р. Вильямсу. На стене главного корпуса появилась еще одна мемориальная доска, самая большая — «Здесь в 1908–1911 годах учился великий советский ученый Николай Иванович Вавилов». Мой друг Борис Плешков, ставший профессором и деканом факультета агрохимии в 1965-м, умер несколькими годами позже. На посту декана в 1972 году его сменил Николай Панов, также профессор и академик ВАСХНИЛ. В 1990 году он был в добром здравии. Мы обнялись и начались воспоминания. Его секретарша вскоре принесла нам бутерброды с икрой и бутылку водки. Чтобы отметить такую встречу, чая было недостаточно...

A Dangerous Occupation

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Authobiographical essay which covers period 1938–1950. It presents some episodes of Stalin's terror of 1937–1938 and of Great Patriotic War (1941–1945). Author gives some pictures of student life in 1944–1950, his meeting with T.D. Lysenko and the consequences of the ill-famous "August Session" of the Lenin Academy of agricultural sciences in 1948, which started long period of domination of pseudo science in Soviet biology.

Key words: Great Patriotic War, T.D. Lysenko, "August session", biology.

РЕЦЕНЗИИ И АННОТАЦИИ

Попытки реабилитации лысенковщины

(о публикациях П.Ф. Кононкова, Н.В. Овчинникова, В.И. Пыженкова)

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Казалось бы, что в первом десятилетии XXI в. дискуссии между генетиками и приверженцами так называемого мичуринского учения, противостояние Н.И. Вавилова и Т.Д. Лысенко отошли в далекое прошлое, история выставила свои окончательные оценки. Но, нет... Появились и продолжают появляться книги, посвященные двум академикам. Одни из них — восхваляющие Т. Лысенко и заодно напоминающие, что генетики — это «мухолюбы-человеконенавистники». Другие, посвященные Н.И. Вавилу, можно охарактеризовать как соединение двух жанров — научной биографии и пасквиля.

Книга В.И. Пыженкова «Николай Иванович Вавилов — ботаник, академик, гражданин мира»¹ как бы составляет пару с другой — «Трофим Денисович Лысенко — советский агроном, биолог, селекционер»². Обе книги изданы журналом «Самообразование». Интересно, что в поисковых системах



Интернета современного журнала с таким названием найти не удастся, не отзывается и указанный в обеих книгах игривый электронный адрес www.luch.luchshe.net.

Оформление обеих книг однотипно; на обложках портреты, только на одной — портрет Т. Лысенко в обрамлении портретов И. Сталина, а на другой — фотографии Н.И. Вавилова, в большинстве сделанные во время экспедиций или заграничных поездок. Книги явно составляют одну серию, ее название, впрочем, указано только на второй — серия «Эпоха Сталина». От этих любопытных деталей оформления обратимся к содержанию книг.

«Трофим Денисович Лысенко» — сборник статей. Основной автор — Н.В. Овчинников. Им написаны две статьи — «Творческая биография академика Т.Д. Лысенко» и «Борьба сталинского руководства СССР против евгеники». В первой на 55 страницах излагаются теоретические взгляды Т. Лысенко — так, как они были сформулированы в 1930–1940-е гг. Представления «мичуринской биологии» о наследственности даны следующим образом: «основным положением мичуринской биологии в описании „механизма“ наследственности, отличавшей ее от вейсманизма, было утверждение, что наследственность обеспечивают не только заключенные в ядре хромосомы, но вся клетка, в которой в сжатом виде хранится воздействие внешней среды на организм и его отклики на это воздействие на протяжении множества поколений» (с. 21). Здесь же изложена история дискуссий по вопросам генетики и селекции в 1930–1940-е гг. Похвальное слово Т. Лысенко написал П.Ф. Кононков (в начале 1950-х гг. — аспирант Института генетики, тогда его директором был Т. Лысенко; ныне — доктор сельскохозяйственных наук, профессор ВНИИССОК РАСХН).

Особый интерес представляют приложения к статьям сборника. Здесь помещены несколько статей и выступлений Т. Лысенко (прил. 1). Перепечатан и фрагмент знаменитой статьи, так сказать, классики жанра, А.Н. Студитского «Мухолюбы-человеконенавистники» (1949). В ней, в частности, утверждается: «Менделевская генетика, евгеника, расизм и пропаганда империализма в настоящее время неотделимы. Вот почему разгром менделизма-морганизма на августовской сессии Всесоюзной академии сельскохозяйственных наук им. Ленина вызвал такую злобу реакционеров от политики и науки во всем мире».

В приложении 2 собраны документы. Публикуются те, которые бросают тень или порочат Н.И. Вавилова, других генетиков, а также заодно лауреатов премии А.И. Солженицына, из которых упоминается академик А.А. Зализняк, известный лингвист, лауреат Государственной премии России (который, разумеется, к истории Т. Лысенко никакого отношения не имеет). Приведен список лауреатов Сталинской премии за 1949 г. (среди них — Т.Д. Лысенко), список должен продемонстрировать, какие достойные люди получали Сталинские премии, в отличие от лауреата премии Солженицына А.А. Зализняка.

Среди других материалов, имеющих к Н.И. Вавилу малое отношение, раздел «Дело Тимофеева-Ресовского». Здесь, помимо редакционной статьи о Н.В. Тимофееве-Ресовском, приводится пространное письмо Н.П. Дубинина в редакцию журнала «Наш Современник» (1989), в котором с позиций нравственности осуждается поступок Н.В. Тимофеева-Ресовского, не вернувшегося в СССР и долгие годы работавшего в фашистской Германии. Рядом с письмом академика Н.П. Дубинина соседствует письмо рабочего Е.В. Копнова в редакцию «Литературной газеты»: «...это не зубр, а фашистская гиена, сволочь». Весь этот раздел предназначен разоблачить одного из видных генетиков и тем самым создать контраст с личностью их противника, советского агронома Т. Лысенко.

Остальные материалы приведены с целью так или иначе опорочить самого Н.И. Вавилова. Первый из них — письмо 9 академиков и 10 профессоров «Мы требуем беспощадной расправы с подлыми предателями нашей великой Родины» (газета

¹ Пыженков В.И. Николай Иванович Вавилов — ботаник, академик, гражданин мира: учебно-научное издание. М.: Самообразование, 2009. 131 с. Тираж 1000 экз. (Сер. Эпоха Сталина).

² Трофим Денисович Лысенко — советский агроном, биолог, селекционер: сб. статей. М.: Самообразование, 2008. 192 с. Тираж 1000 экз. (подзаголовок «научное издание»).

«Известия», 27.01.1937). «Мы требуем от нашего советского суда беспощадной расправы с подлыми предателями! Мы требуем уничтожения презренных выродков», — говорится в письме, в котором речь идет о троцкистах. Письмо подписали академики В.Л. Комаров, А.Н. Бах и другие, среди них — Н.И. Вавилов.

Вырванное из контекста эпохи, письмо, действительно, выглядит удручающе. Если же не забывать об обстановке 1937 г. (а тот, кто ее не знает, может познакомиться с ней по соответствующей литературе), то должно быть понятно: те, кто согласился подписать, имели все основания опасаться не только за свою жизнь, но и за свою семью, испытывать ответственность за судьбу руководимых ими научных коллективов. Все эти опасения были более чем обоснованными. При этом подписывающим было понятно, что беспощадная расправа неизбежна, а подобные продиктованные властью письма лишь создают видимость народной поддержки репрессий.

Далее приводятся некоторые документы следственного дела Н.И. Вавилова: справки НКВД, отрывки из протоколов допросов Н.И. Вавилова, протоколы очных ставок Вавилова с Л.И. Говоровым и с Г.Д. Карпеченко. Подборка этих материалов предназначена показать, что Н.И. Вавилов, его коллеги признали, что занимались вредительством, входили в антисоветскую вредительскую группу, что Н.И. Вавилов назвал Л.И. Говорова, Г.Д. Карпеченко (еще до их ареста) и других своими сообщниками.

В чем бы, согласно приводимым протоколам, ни признавались подследственные, считать эти протоколы достоверными документами невозможно. Допросы были изматывающими (даже если физическое воздействие к подследственным и не применялось), многочасовыми. Так, 6–7 сентября допрос Н.И. Вавилова длился 13 часов, закончился в 5 часов ночи. Протокол же изложен всего лишь на 115 строчках — это не стенограмма³. Точно ли отражают эти строчки ответы допрашиваемого? В каком физическом и психическом состоянии к концу допроса был подследственный? Мог ли он адекватно воспринять то, что подписывал?

Ответа на эти вопросы получить сейчас невозможно, но ясно, что делать какие-либо выводы, порочащие Н.И. Вавилова или других людей, подвергавшихся таким же допросам, на основании подобных «документов» нельзя.

В примечании к статье Н.В. Овчинникова утверждается: «...за свои научные взгляды не был репрессирован никто — вопреки широко распространенным в либеральной и антирусской пропаганде мифам» (с. 47). Те же генетики, которые были арестованы и погибли, были арестованы либо как троцкисты, либо как вредители (Н.И. Вавилов, Г.Д. Карпеченко). Лживое утверждение о том, что никто не пострадал за научные взгляды, легко опровергается.

В июле 1939 г. (т. е. после известного письма И. Презента В.М. Молотову) нарком внутренних дел Л. Берия направил просьбу тому же Молотову дать санкцию на арест академика Н.И. Вавилова. Одно из обоснований необходимости ареста «продвижение заведомо враждебных теорий и борьба против работ Лысенко, Цицина, Мичурина, имеющих решающее значение для сельского хозяйства СССР»⁴. В постановлении на арест Г.Д. Карпеченко говорится, что он под руководством Вавилова вел открытую борьбу против «передовых методов научно-исследовательской работы и ценнейших достижений академика Лысенко по получению высоких урожаев»⁵.

³ См.: Суд палача: Николай Вавилов в застенках НКВД: Биографический очерк. Документы. М.: Academia, 1999. С. 271–273.

⁴ Вавилов Ю.Н. В долгом поиске. М.: ФИАН, 2004. С. 98.

⁵ Соратники Николая Ивановича Вавилова. СПб.: ВИР, 1994. С. 223.

В связи с этим следует привести и ответ Л.И. Говорова (расстрелян 28 июля 1941 г.) на одной из очных ставок: «Я признаю себя виновным в том, что за последние годы умышленно во вражеских целях... целиком посвятил себя работе над „академическими“ проблемами из области эволюции сельскохозяйственных растений и генетики» (Трофим Денисович Лысенко... с. 168).

Обращусь теперь к книге В.И. Пыженкова «Николай Иванович Вавилов — ботаник, академик, гражданин мира». Некоторые из сведений об авторе, которые даны в книге: В.И. Пыженков родился в 1936 г., Ленинградский сельскохозяйственный институт окончил в 1963 г. В 1966–1969 гг. — аспирант ВИРа, в дальнейшем работал в отделе овощных культур ВИРа. Доктор сельскохозяйственных наук, профессор. С 1992 по 2006 г. заведовал кафедрой генетики, селекции и семеноводства Санкт-Петербургского аграрного университета.

Возможно, что автором первоначально двигало стремление разобраться в научном наследии академика Н.И. Вавилова, и он добросовестно собирал соответствующие литературные материалы, относящиеся к закону гомологических рядов и теории центров происхождения, а также к отношениям Н.И. Вавилова с заведующим Нью-Йоркским бюро Института прикладной ботаники Д.Н. Бородиным. Однако, согласившись на проведенную редакцией «адаптацию текстов для более широкой аудитории» (с. 7) и включение в книгу приложения, состоящего из тенденциозно подобранных документов, В.И. Пыженков превратил свою книгу в пасквиль. В приложении — все те же материалы дела Н.И. Вавилова, которые были приложены и к книге о Т. Лысенко (они были рассмотрены мною выше).

В этой ситуации вести серьезную дискуссию по научным вопросам с В.И. Пыженковым невозможно. Несколько замечаний, которые я, тем не менее, сделаю, адресованы не ему, а тем читателям, которые, быть может, недостаточно знакомы с обсуждаемыми проблемами.

В.И. Пыженков, приведя обширные и достаточно интересные материалы из трудов предшественников Н.И. Вавилова в разработке проблемы гомологии и теории центров происхождения культурных растений, приходит к выводу, что и та, и другая концепции, считающиеся главными в научном творчестве Н.И. Вавилова, не оригинальны. По мнению автора, гомологические ряды в наследственной изменчивости можно найти в трудах Ч. Дарвина, центры происхождения культурных растений были обоснованы А. Декандолем. Общий вывод — «Подлинно всемирную известность доставили ему [Н.И. Вавилову] не его научные открытия при жизни, а его трагическая смерть» (с. 9). Попытки принизить и даже отрицать вклад Н.И. Вавилова в науку, которые делаются В.И. Пыженковым, не могут поколебать мирового авторитета ученого.

В 1932 г., задолго до начала дискуссий Т. Лысенко с генетиками и, тем более, до их трагической развязки, Н.И. Вавилов был избран вице-президентом VI Международного генетического конгресса, проходившего в США, что, безусловно, свидетельствует о высоком научном авторитете при его жизни.

Наконец, об отношении к Н.И. Вавилову в настоящее время в зарубежной науке. Его труды под названием «Origin and Geography of Cultivated Plants» были переизданы

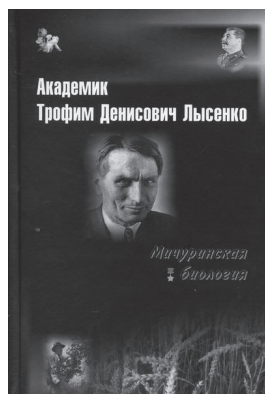


в 1992 г. в Великобритании (Cambridge University Press). В своей книге, изданной в 2007 г., английский биохимик растений В. Мерфи написал: «Если какой-либо ученый заслуживает посмертной Нобелевской премии, то это, конечно, Николай Иванович Вавилов»⁶.

Подобные примеры и свидетельства можно было бы продолжить. Тем не менее в России печатаются книги, порочащие как Н.И. Вавилова, так и всю генетику. Так, Ю. Мухин издал книгу «Продажная девка генетика: познание мира или кормушка?»⁷, название которой говорит само за себя. Мне казалось, и коллеги были со мной согласны, что вступать в полемику с маргиналами не следует. Возникает, однако, вопрос — кто финансирует подобные акции: «Продажная девка генетика» вышла в твердом переплете, тиражом 4000 экз. (для сравнения — академическое издательство «Наука» книгу автора этих строк «Генетика в XX веке. Очерки по истории» смогло издать в количестве лишь 400 экземпляров).

Кампания возвеличивания Т.Д. Лысенко продолжается. Уже в 2010 г. появились новые книги — Н.В. Овчинникова и П.Ф. Кононкова⁸. Появление статей в казалось бы респектабельной «Литературной газете» (2009, № 11, 23), возмущивших научную общественность, издание вышеназванных книг, посвященных Т.Д. Лысенко и Н.И. Вавилову, не позволяют молчать. Ясно, что делаются попытки переоценки истории. За судьбами Н.И. Вавилова и Т.Д. Лысенко явно стоит фигура Сталина. Поднятие на пьедестал Лысенко лишь эпизод в кампании, направленной на оправдание сталинизма. Я не политолог и не берусь судить, кем инспирирована и проводится эта кампания.

В «Предисловии редакции» к книге «Трофим Денисович Лысенко...» говорится: «...в своей научной и общественной деятельности Т.Д. Лысенко не только принес большую пользу нашему народу и государству, но и нанес... ущерб каким-то серьезным интересам врагов русского народа: помешал какому-то направлению их деятельности против нашей страны; где-то чувствительно задел болевой нерв „мировой демократии“. Высказывались предположения, что таковым было участие Т.Д. Лысенко в борьбе против евгенических проектов, активно продвигавшихся в 1920–30-х гг. ведущими генетиками СССР. Эти проекты, подразделявшие советских людей на „избранных“ и „второсортных“, были близки образу мышления как тогдашних троцкистов — аналогов немецких нацистов, их коллег-конкурентов — так и



многих нынешних либералов, их преемников и часто родичей» (с. 6). Идеологическая позиция издателей рассмотренных книг, журнала-призрака «Самообразование» после таких заявлений совершенно ясна. Подобное «большевистское» мышление оказывается близким и некоторой части научных работников — тем, кто был воспитан в СССР, получил образование в годы лысенковщины, а потом затаил обиды на «мировую демократию». Однако сейчас идеи Т. Лысенко не могут восприниматься всерьез и продолжение дискуссии между генетиками и лысенковцами в рамках науки невозможно.

Что же касается той драмы, которая разыгрывалась в советской биологии в 1930–1940-е гг., она и тогда имела не научные, а социально-политические корни. Над ее участниками суд истории уже состоялся. Ее приговор не подлежит пересмотру.

Критический анализ творчества И.В. Мичурина

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По словам автора, книга⁹ представляет собой переработанный и дополненный вариант более ранней публикации¹⁰. В предисловии указано, что при переработке был добавлен подраздел «Мичуринский дарвинизм», переработан раздел о личности Мичурина и внесены многочисленные правки по всему тексту (с. 7–8). Не берусь судить, достаточны ли были эти изменения, чтобы с титульного листа второго издания исчезли два из трех авторов первого.

Книга напоминает, скорее, журналистское расследование, чем историко-научный труд. В ней слишком хорошо просматривается позиция современного биолога с недоумением вглядывающегося в недавнее прошлое своей науки. Связывая чрезмерную популярность И. В. Мичурина с влиянием лысенковщины, автор бескомпромиссен в своих оценках. Однако для историков биологии книга тем и интересна: контраст между ожиданиями современного биолога, и тем, что может «предложить» Мичурин, позволяет увидеть тот путь, который прошли генетика, селекция и плодоводство за последнее столетие.



⁹ Соколова Т.И. Наследие И.В. Мичурина. Мифы и реальность. Луганск: ПЦ «Максим», 2010. 432 с.

¹⁰ Соколов И.Д., Сыч Е.И., Соколова Т.И. Наследие И.В. Мичурина. История преувеличений и недомолвок. Луганск: Элтон-2, 2001. 217 с.

⁶ Murphy D.J. People, Plants and Genes. Oxford University Press, 2007. P. 57.

⁷ Мухин Ю. Продажная девка генетика: познание мира или кормушка? М.: Быстров, 2006. 416 с.

⁸ Овчинников Н.В. Академик Трофим Денисович Лысенко / под ред. П. Кононкова. М.: Луч, 2010. 232 с. Тираж 1000 экз. Кононков П.Ф. Вклад Т.Д. Лысенко в победу в Великой Отечественной войне. М.: Самообразование, 2010. 16 с. Тираж 250 экз.

Анализируя тексты, написанные Мичуриным в разное время, автор показывает, что Мичуринское понимание селекционной и плодородческой практики глубоко отличается от современного нам. Он называл сортами отдельные деревья в своем саду, урожайностью — что придется (но никак не отношение массы урожая к площади, с которой он собран), не проводя ее количественной оценки (и часто элементарно путаясь в цифрах от одной версии описания сорта к другой). Имея своеобразные представления о задачах селекции, Мичурин, скорее, искал курьезов, которые могли позабавить любителя диких, но были мало пригодны для промышленного садоводства. Экспериментальный метод был глубоко чужд ему, и нарушение элементарных правил экспериментальной работы (полное отсутствие контроля, уникальность исследуемых образцов, недостаточная длительность испытаний) начисто лишало доказательной основы не только хвалебные описания сортов, но и все его положения в области теории селекционной работы (метод ментора, воспитание растений, разного рода предполагаемые эффекты отдаленной гибридизации). Мичурин справедливо рассматривал систему государственного сортоиспытания как препятствие для распространения своих сортов, и система победила — лишившись «административной» поддержки, сорта Мичурина, получившие широкое распространение в конце 1940-х — начале 1950-х гг., по большей части малоценные, уступили место другим, как только результатам сортоиспытания снова стали доверять больше, чем заверениям «мичуринцев». К настоящему времени в госреестрах районированных сортов России и Украины осталось не более пяти относительно малораспространенных сортов (из нескольких десятков, попавших в сады в годы расцвета лысенковщины). Автор констатирует полный провал селекционной программы, нарисованной воображением И.В. Мичурина (от отказа современных селекционеров от специфических «мичуринских» методов селекции до фиаско в существенном расширении сортимента и продвижении садоводства на Север).

Книга состоит из трех разделов и блока приложений. В первом разделе обсуждаются теоретические представления И.В. Мичурина в области селекции и методы его работы. Во втором — судьба сортов Мичурина и изменение сортимента плодовых садов с домичуринских времен до наших дней. Третий раздел посвящен личности И.В. Мичурина. Подробно разобраны вопросы о его возможном отъезде за границу, отношениях с коллегами-селекционерами и плодоводами. В приложениях опубликованы выдержки из реестра сортов, известная статья Студитского «Мухоморы-человеконенавистники» и одна из современных газетных публикаций, посвященных не критическому восхвалению Мичурина.

Книга не лишена недостатков, связанных, как мне кажется, со слабостью редакционной подготовки, вообще характерной для многих изданий последних двух десятилетий, причем это касается как технического, так и научно-литературного редактирования. В списке литературы отсутствуют многие из работ, упоминаемых в тексте. С композиционной точки зрения, неоправданно длинными кажутся разделы, посвященные изложению основ современных представлений в области генетики и селекции растений. Возможно, это объясняется тем, что, по замыслу автора, книга адресована не только историкам науки, генетикам и селекционерам, но и массовому читателю, в том числе преподавателям средних школ. Однако мизерный тираж в 300 экземпляров говорит, скорее, о том, что книга адресована узкому кругу специалистов, для которых такие пояснения излишни. Не обошлось и без некоторого количества опечаток (оговорок?), из которых «проламарксистские публикации последних лет» (с. 8), пожалуй, просятся в один ряд со ставшим уже классикой «ламарксизмом» 1930-х гг.

ХРОНИКА НАУЧНОЙ ЖИЗНИ

Военно-медицинский музей — участник празднования 200-летия со дня рождения Н.И. Пирогова

Ю.В. ИВАНОВСКИЙ

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В ноябре 2010 г. исполнилось 200 лет со дня рождения великого русского хирурга и анатома Николая Ивановича Пирогова. Медицинская общественность нашей страны широко отметила юбилейную дату.

В соответствии с Указом Президента РФ № 1850 от 25 декабря 2008 г. «О праздновании 200-летия со дня рождения Н.И. Пирогова» распоряжением Правительства РФ от 24 июня 2009 г. № 860-р был образован организационный комитет по подготовке и проведению праздничных мероприятий, председателем которого была утверждена министр здравоохранения и социального развития РФ Т.А. Голикова. В состав оргкомитета вошли видные ученые-медики и общественные деятели: президент РАМН М.И. Давыдов, президент Национального медико-хирургического центра им. Н.И. Пирогова Ю.Л. Шевченко, генеральный директор того же центра О.Э. Карпов, начальник Военно-медицинской академии им. С.М. Кирова (ВМА) А.Б. Белевитин, директор Центрального научно-исследовательского института травматологии и ортопедии им. Н.Н. Приорова С.П. Миронов, заведующий кафедрой Московской медицинской академии им. И.М. Сеченова главный ученый секретарь РАМН А.М. Сточик, начальник Военно-медицинского музея (ВММ) Министерства обороны РФ А.А. Будко. Организационный комитет разработал и утвердил план и сроки проведения основных мероприятий по подготовке к празднованию 200-летия со дня рождения Н.И. Пирогова.

Одним из главных мероприятий празднования стала международная научная конференция «Наследие Пирогова: прошлое, настоящее, будущее», состоявшаяся 25–27 ноября 2010 г. в Санкт-Петербурге на базе Военно-медицинской академии им. С.М. Кирова.

ВММ совместно с Санкт-Петербургским научным обществом историков медицины принял участие в праздновании юбилея Н.И. Пирогова по трём основным направлениям.

Первое направление — составление и издание иллюстрированного каталога¹, объединяющего пироговские реликвии, хранящиеся в различных музеях и организациях. Принять участие в создании каталога было предложено всем заинтересованным сторонам, но, к сожалению, откликнулись лишь кафедры и фундаментальная библиотека ВМА.

Каталог состоит из пяти частей. В первой части перечислены изобразительные источники: картины, рисунки, скульптуры, а также печатные произведения изобразительного искусства, показывающие Николая Ивановича Пирогова в разные периоды его жизни. Особую ценность представляют такие живописные полотна, как картина «Приезд Н.И. Пирогова в Москву на 50-летний юбилей» кисти знаменитого русского художника и скульптора И.Е. Репина (1887—1888), экспонирующаяся в Пироговском зале ВММ, и портрет Н.И. Пирогова работы Н.Д. Дмитриева-Оренбургского (1897), хранящийся на кафедре оперативной хирургии академии.

Скульптурные произведения представлены бронзовым изображением сидящего Н.И. Пирогова скульптора М.Я. Харламова (1913) в библиотеке академии, бюстом Николая Ивановича, выполненным с большой экспрессией скульптором В.И. Гордоном (1960), в конференц-зале музея и др.

В следующей части каталога представлены вещественные источники: знаки (кресты) ордена Святого Владимира II и IV степени и ордена Святой Анны II степени с императорской короной, кованные серебряные звёзды орденов Святого Владимира, Святой Анны и Святого Станислава с мечами, воинские медали, которыми был награждён Н.И. Пирогов. В этом же разделе перечислены нагрудные знаки, памятные и художественные медали, принадлежавшие Николаю Ивановичу, его личные вещи (академическая шапочка, парадная треуголка, курительная трубка, серебряная разливательная ложка с дарственной надписью от князя Воронцова), изготовленные им анатомические препараты. Особую ценность представляют наборы хирургических инструментов, которыми пользовался Н.И. Пирогов, а также 12 чудом сохранившихся литографских камней, с которых печатался знаменитый атлас распилов замороженного человеческого тела.

¹ Иллюстрированный каталог пироговских реликвий / А.А. Будко, Ю.В. Ивановский, И.П. Козырин, Б.И. Назарцев, Н.Р. Зотикова, Т.В. Крислатая, П.Е. Руденко, М.В. Твардовская, Н.Ф. Фомин. СПб.: ВМА, 2010. 80 с.

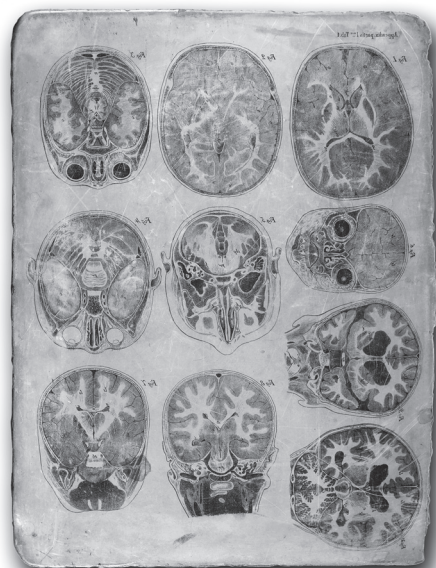


Рис. 3. Литографский камень с изображением разрезов головы человека (из фондов ВММ).



Личные вещи Н.И. Пирогова: курительная трубка, разливательная ложка и шкатулка для корпии (из фондов ВММ).

Третью, наиболее насыщенную часть каталога, составляют многочисленные письменные материалы, собранные в коллекциях академии и музея: письма и рукописи Н.И. Пирогова, документы, отражающие профессиональную и общественную деятельность Николая Ивановича, прижизненные издания его научных трудов, а также посмертные раритетные и малотиражные издания его произведений.

Наиболее ценными пироговскими автографами, хранящимися в ВММ, являются последняя записка, сделанная слабеющей рукой Н.И. Пирогова, с диагнозом своего заболевания и рукопись неоконченного автобиографического труда «Дневник старого врача». В фондах музея хранятся и оригиналы 45 знаменитых севастопольских писем, адресованных Н.И. Пироговым своей жене Александре Антоновне.

В рукописном фонде фундаментальной библиотеки ВМА собраны сотни официальных документов, касающихся деятельности Николая Ивановича в должности профессора Медико-хирургической академии: протоколы заседаний конференции (учёного совета) академии с участием Пирогова, его письма и докладные записки.

Следующий раздел каталога — фотоматериалы — содержит перечисление подлинных прижизненных фотографий Н.И. Пирогова и членов его семьи, а также фотокопии утраченных ранних портретов Николая Ивановича. Истинное представление о внешности Н.И. Пирогова в последние годы его жизни дают, например, портрет Николая Ивановича в сюртуке и круглой бархатной шапочке, выполненный фотографом В. Высоцким в Киеве в 1870-х гг., и фотография Н.И. Пирогова с А.Л. Обермиллером, сделанная фотографом А. Сумовским в Кишинёве в январе 1877 г.

Последний раздел каталога включает перечень мемориальных материалов, прежде всего — многочисленных телеграмм и писем с выражением соболезнования жене Александре Антоновне в связи со смертью Н.И. Пирогова.

Каталог завершается большим иллюстративным рядом, размещённым на 20 страницах, в котором представлены фотографии наиболее демонстрационно-интересных экспонатов из коллекций музея и академии.

К сожалению, другие музеи пока не приняли участия в создании единого каталога всех пироговских реликвий, хранящихся в российских музеях. В предисловии к каталогу профессора А.Б. Белевитин и А.А. Будко подчеркнули, что создание первого каталога, объединяющего музейные предметы, хранящиеся в ВМА и ВММ, является существенным шагом на пути к составлению единого российского каталога всех пироговских реликвий, который стал бы лучшим памятником гению отечественной медицины Николаю Ивановичу Пирогову.

Следующим направлением деятельности музея в связи с 200-летием со дня рождения Н.И. Пирогова стала широкая популяризация пироговского наследия, в том числе в научной литературе и средствах массовой информации. Были подготовлены и опубликованы две крупные обзорные статьи, рассказывающие о жизни и творчестве Николая Ивановича Пирогова: «Н.И. Пирогов: в начале пути» в «Военно-медицинском журнале»² и «Н.И. Пирогов: на вершине славы» в «Вестнике Российской Военно-медицинской академии»³. В день открытия конференции, 25 ноября 2010 г., последняя статья была перепечатана газетой «Военный врач»⁴, как наиболее полно отражающая, по мнению редакции, деятельность Н.И. Пирогова в академии.

Специалисты музея участвовали в подготовке материалов о Н.И. Пирогове для средств массовой информации (например, газеты «Аргументы и факты»), некоторых периодических изданий, консультировали съёмочные группы киностудий, снимающие фильмы о Н.И. Пирогове, давали интервью в печати, на радио и телевидении.

Сотрудники музея принимали участие практически во всех крупных конференциях, посвящённых 200-летию со дня рождения Н.И. Пирогова и проходивших как в Санкт-Петербурге (12–14 мая 2010 г. в Артиллерийском музее), так и за его пределами (в Севастополе 14–15 октября 2010 г.; в Москве — в Центральном военном клиническом госпитале им. П.В. Мандрыки и Главном военном клиническом госпитале им. Н.Н. Бурденко — 2–3 декабря 2010 г.).

Во время работы конференции «Наследие Пирогова: прошлое, настоящее, будущее» ВММ совместно с Санкт-Петербургским научным обществом историков медицины на своей базе подготовил и провёл заседание секции «Н.И. Пирогов в истории медицины», которое проходило 26 ноября в конференц-зале музея.

К началу заседания были подготовлены стенды с личными вещами Н.И. Пирогова, его наградами и наиболее ценными в музейном отношении прижизненными изданиями пироговских трудов по топографической анатомии и военно-полевой хирургии, хранящимися в фондах музея.

Перед началом работы секции присутствующие почтили минутой молчания память трагически погибшего в автокатастрофе видного отечественного историка медицины Марка Борисовича Мирского, с доклада которого должна была начинаться повестка дня секции.

² Белевитин А.Б. Николай Иванович Пирогов: в начале пути (К 200-летию со дня рождения великого хирурга и анатома) / А.Б. Белевитин, А.А. Будко, Ю.В. Ивановский // Воен.-мед. журн. 2010. № 10. С. 84–90.

³ Белевитин А.Б. Николай Иванович Пирогов: на вершине славы (к 200-летию со дня рождения) / А.Б. Белевитин, А.А. Будко, Ю.В. Ивановский // Вестн. Рос. Воен.-мед. акад. 2010. № 2. С. 226–234.

⁴ Белевитин А.Б. Николай Иванович Пирогов: на вершине славы (к 200-летию со дня рождения) / А.Б. Белевитин, А.А. Будко, Ю.В. Ивановский // Воен. врач. 2010. № 22–23 (1774–1775). С. 2–4.

Основные этапы жизненного пути Николая Ивановича Пирогова, его заслуги перед отечественной и мировой медициной представил в своём выступлении начальник Военно-медицинского музея профессор А.А. Будко. Заведующая курсом истории медицины медицинского факультета Российского университета дружбы народов (Москва) профессор Т.С. Сорокина подчеркнула, что Н.И. Пирогов уже при жизни снискал признание и глубокое уважение своих коллег не только в России, но и за её пределами.

Заведующая кафедрой гуманитарных дисциплин и биоэтики Санкт-Петербургской государственной педиатрической медицинской академии Г.Л. Микиртичан в своём докладе остановилась на этических взглядах Н.И. Пирогова, отметив, что своим открытым и честным подходом к признанию собственных ошибок он открыл новую страницу в профессиональной этике.

Много интересного об истории украинского имени Николая Ивановича рассказала заведующая отделом экспозиционных и реставрационных работ пироговского музея-усадьбы «Вишня» К.Ф. Антошук, особо подчеркнув заслуги сотрудников Военно-медицинского музея в формировании и организации работы музея-усадьбы, который вначале являлся филиалом ВММ. В коротких выступлениях других участников секции рассматривались более частные вопросы деятельности Н.И. Пирогова.

В перерыве между докладами представители фирмы «Кипучая жизнь», организатора известного фестиваля «Петербургский самовар», угощали собравшихся чаем, кофе, травяными настоями с сушками, баранками и крендельками, что создало неповторимую атмосферу дружеской непринуждённости всего мероприятия.

Третьим направлением в праздновании 200-летия со дня рождения Н.И. Пирогова стала непосредственно музейная работа по увековечению памяти великого русского хирурга и анатома. С этой целью в ВММ была существенно обновлена экспозиция пироговского зала, развёрнуты тематические выставки, посвящённые Н.И. Пирогову, разработаны новые музейные экскурсии, рассказывающие о деятельности Н.И. Пирогова в разные периоды его жизни. К знаменательной дате были изданы тематические буклеты и календари для посетителей музея.

Сотрудники музея обеспечили организацию и проведение выездных выставок на ежегодном московском фестивале «Интермузей–2010», в Кемерово, Белгороде и других городах, в материалах которых на примере Великой Отечественной войны показан вклад Н.И. Пирогова в развитие военно-полевой медицины.

В дни проведения конференции «Наследие Пирогова: прошлое, настоящее, будущее» для всех желающих участников конференции и всех посетителей в музее были организованы экскурсии на тему «Жизнь и деятельность Н.И. Пирогова: подлинники и раритеты» и показ фильмов о Н.И. Пирогове. Экскурсии проводились силами наиболее подготовленных работников музея, небольшими группами и в удобное



С докладом «Николай Иванович Пирогов: человек-эпоха» выступил начальник Военно-медицинского музея А.А. Будко

для посетителей время. Разумеется, по желанию экскурсанты могли ознакомиться с любыми другими экспозициями музея.

В заключение необходимо отметить, что с завершением празднования 200-летнего юбилея со дня рождения Н.И. Пирогова изучение жизни и творчества великого русского хирурга отнюдь не заканчивается. Необходимо ускорить работу по созданию единого каталога всех сохранившихся в стране пироговских реликвий, тщательно идентифицировать и документировать музейные предметы из фондов Н.И. Пирогова, продолжать исследования всего пироговского наследия. Год 2011 тоже по-своему юбилейный: в ноябре исполнится 130 лет со дня смерти Н.И. Пирогова, и эта дата также не должна остаться незамеченной.

Military-medical museum — the participant of celebrating the 200 anniversaries from the date of N.I. Pirogov's birth

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The military-medical museum has taken part in celebrating anniversary of N.I. Pirogov in three basic directions. The first direction — drawing up and the edition of the illustrated catalogue uniting Pirogov's relics, stored in museum and Military-medical Academy. A following direction is wide popularization of Pirogov's heritages in the scientific literature and mass media. The third direction — directly museum work on perpetuating memory of the great Russian surgeon and the anatomist.

Обзор работы секции «История биологии» на очередной годичной конференции по истории и философии науки и техники

А.В. ПОЛЕВОЙ, А.А. ФЕДОТОВА

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С 22 по 26 ноября 2010 г. в Санкт-Петербурге прошла очередная XXXI международная годичная конференция Санкт-Петербургского отделения Российского национального комитета по истории и философии науки и техники РАН. На этот раз конференция носила название «Научный Санкт-Петербург и Великая Отечественная война

(к 65-летию Победы)»⁵. Этой теме было полностью посвящено пленарное заседание, проведенное в Малом конференц-зале СПб НЦ РАН 23 ноября. На заседании секции «История биологии» 25 ноября традиционно рассматривались события в отечественной биологии, начиная с первой половины XIX в.

Доклад А.В. Бекасовой был посвящен тому, как формировались представления о ресурсах и ландшафтах в России первой половины XIX в. На примере анализов текстов путеводителей, путевых очерков путешественников, а также материалов российской научной, ведомственной и популярной публицистики было показано, как производство и популяризация естественно-научных и географических знаний были связаны с формированием национального государства.

А.А. Федотова в своем сообщении попыталась рассказать, как создание обществ естествоиспытателей при российских университетах способствовало объединению ботаников — профессионалов и любителей во второй половине XIX в., и какие результаты это дало в изучении флоры и растительности Европейской России.

Н.Е. Берегой в своем докладе осветила влияние экономических предпосылок, таких как повальные падежи скота по причине чумы рогатого скота, на развитие ветеринарной науки и государственного администрирования в ветеринарии. Было отмечено, что изучение этого заболевания началось в России еще в 1830-е гг., а к концу первой половины XIX в. эти исследования начали привлекать финансирование со стороны правительства. В 1879 г. был принят закон о забое всего больного чумой или подозрительного скота, что привело к искоренению очагов заболевания в Европейской части империи к рубежу веков. После революции 1917 г. была создана система противочумных станций (институтов) и к 1920 г. чума была полностью побеждена.

Сообщение А.В. Самокиш было посвящено деятельности педагогов-естественников в первые послереволюционные годы в Петрограде. В это время были созданы школьные биологические станции, руководимые естествоиспытателями и педагогами. При станциях были устроены музеи местной природы и живые уголки. Со школьниками работали: И.И. Полянский, Б.Е. Райков, К.М. Дерюгин, А.А. Еленкин, В.Н. Любименко, В.Л. Комаров и др. В 1921–1923 гг. издавались журналы «Экскурсионное дело», «Живая природа».

Из доклада А.В. Полевого следует, что в ответ на письмо заведующего кафедрой физиологии растений Петроградского университета академика С.П. Костычева и других крупных ученых Совет народных комиссаров в 1920 г. принял решение об организации Петергофского естественно-научного института Петроградского университета в усадьбе «Сергиевка», где С.П. Костычев создал лабораторию физиологии растений. В ней, а также в руководимой им лаборатории физиологии и биохимии растений АН СССР впервые началось систематическое изучение фотосинтеза растений в природных условиях Ленинградской области, Средней Азии, Черноморского побережья (Сухуми) и Мурманского побережья Ледовитого океана. Эти исследования явились важнейшим вкладом в отечественную и мировую экологическую физиологию растений.

В сообщении Н.В. Слепковой (ЗИН РАН), подробно разбиралось влияние музейного съезда, происходившего с 1 по 5 декабря 1930 г., на проводившуюся реорганизацию музеев Академии наук. Согласно постановлениям правительства 1928–1934 гг.,

⁵ Наука и техника: вопросы истории и теории. Тезисы XXXI международной годичной конференции Санкт-Петербургского отделения Российского национального комитета по истории и философии науки и техники РАН (22–26 ноября 2010 г.). Вып. XXVI. СПб., 2010. 436 с.

музеи должны были превратиться в политический инструмент, при помощи которого можно формировать мировоззрение людей. В 1933–1937 гг. был утвержден пятилетний план реорганизации музея Зоологического института с созданием шести отделов. Контроль за работой музея осуществляла комиссия Ленсовета, которая следила также и за воспитанием кадров в духе материализма.

Профессор Э.И. Колчинский описывал влияние идей Ж. Кювье и Ж.Б. Ламарка на российских ученых. Идея о неизменности видов и о катастрофических сменах ископаемых флор и фаун Кювье стали основой формирования отечественной палеонтологии в первые десятилетия XIX в. Труды Ламарка стали известны в России только в середине XIX в. благодаря К.Ф. Рулье. Но после издания «Происхождения видов» имя Ламарка стало знаменем конкурирующего с дарвинизмом направления. В период лысенковщины Ламарк был признан создателем первой теории эволюции и его идеи использовались для доказательства правоты представлений Т.Д. Лысенко, а идеи Кювье жестко критиковались.

Сообщение М.Б. Конашева было посвящено анализу переписки одного из архитекторов эволюционного синтеза Ф.Г. Добржанского и убежденного креациониста Ф.Л. Марша, инициированной последним в 1945 г.

Работа ученых-биологов в годы Второй Мировой войны была рассмотрена в докладе К.В. Манойленко. Президент АН СССР ботаник В.Л. Комаров и агрохимик Д.Н. Прянишников обратились в первые дни войны к ученым с призывом интенсивно работать, способствуя разгрому фашизма. Многие из ученых ботаников и физиологов растений ушли в народное ополчение, а оставшиеся обратились к прикладным вопросам. Ленинградские физиологи в условиях блокады анализировали содержание витаминов в овощных культурах, работали с лекарственными растениями, изучали возможности использования в пищу мхов и лишайников. Самоотверженный труд ботаников-физиологов растений был вкладом в общую победу нашего народа в Великой Отечественной войне.

Overview of the section “History of biology” at the annual conference on the history and philosophy of science and technology

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The “History of biology” section was devoted to the history of Russian biology in the 19th century, 1920–1930 and during the Great Patriotic War. The section involved more than 30 people. Papers were presented by 10 researchers. The presented results of the research is reflected in the XXVI issue of the annual collection of papers “Science and Technology: historical and theoretical aspects” (2010).

International Workshop on Lysenkoism

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December 4–5, 2009, the International Workshop on Lysenkoism was held at the Graduate Center of the City University of New York and the Harriman Institute at Columbia University. The meeting brought together thirty-three scholars from eleven countries who presented their research on the response and reaction to Lysenko’s anti-genetics campaign in the United States, the Soviet Union, China, Japan, East Germany, West Germany, Italy, Czechoslovakia, Poland, Hungary, Mexico and Holland. The workshop — the first ever devoted to this topic — was a tremendous success. The meeting demonstrated that the Lysenko affair is a topic of enduring interest to historians of science and the Cold War. A follow-up is currently being planned for the University of Vienna, in June, 2012.

The workshop opened with remarks by CUNY Vice Chancellor for Research, Gillian Small, and a panel, Lysenko and Agriculture, chaired by Deborah Coen of Barnard College. Jenny Leigh Smith of the Georgia Institute of Technology presented a paper, “Lysenko’s Legacy: Ignorance, Bliss, and the Persistence of Proletarian Science,” which compared Lysenkoism to another examples of “non-conformity” in the history of science. Stephn Brain of Mississippi State University presented, “Lysenko and the Transformation of Nature,” where he described Lysenko’s role in the 1949 Stalin Plan for the Transformation of Nature.

The next panel, The Reaction in the United States, was chaired by Chris Robinson, a professor of biology at the Bronx Community College, CUNY. In the first paper, “How Lysenkoism Became a Pseudoscience: Dobzhansky to Velikovsky,” Michael Gordin addressed the question of how “pseudoscience” is defined, by comparing the reaction to Lysenko’s theories with the response to the ideas of Immanuel Velikovsky. Rena Selya, an Independent Scholar, followed with a paper, “Defending Scientific Freedom and Democracy: The Genetics Society of America’s Response to Lysenko,” where she described the pressures within the Genetics Society of America over how to — or even whether to — issue an official statement on the controversy.

After a break for lunch in the Graduate Center café, the participants reconvened for a panel chaired by Frances Bernstein of Drew University, on The New Biology in Central Europe. The first paper, “Lysenkoism in Hungary,” was presented by Miklos Muller, professor emeritus at Rockefeller University, and provided a first-hand account of Lysenko’s 1960 visit to the Hungarian Academy of Sciences. The second paper, “Lysenkoism in Czechoslovakia,” was an account by Michael Simunek of Charles University, of the reception to Lysenko’s theories in Czechoslovakia. The third paper, “Lysenkoism in Poland,” was presented by the workshop organizer, William deJong-Lambert of Bronx Community College CUNY and the Harriman Institute of Columbia University. It focused on the response of one Polish geneticist, Stanisław Skowron, as way of addressing the relationship between Lysenkoism and Nazi eugenics.

The final panel of the first day, Lysenko, Stalinism and Lamarckism, was chaired by Daniel Kevles of Yale University. The first paper, “Lysenko and the Plot Against the Jewish Doctors,” was presented by Jonathan Brent of the YIVO Institute for Jewish Research, and covered Lysenko’s role in the notorious final purge of Jewish physicians, that was never carried out thanks to Stalin’s death. Next, Eduard Israelovich Kolchinsky, the Director of

the St. Petersburg Branch of the S.I. Vavilov Institute for the History of Science and Technology, Russian Academy of Sciences, presented “The Cultural Revolution in the USSR (1929–1932) and the Beginning of the Union of Present and Lysenko.” The paper chronicled Lysenko’s relationship with his most important sponsor, the communist party philosopher I.I. Prezent. The final presentation of the day by Nils Roll-Hansen, emeritus professor at the University of Oslo, “Lamarckism and Lysenkoism Revisited,” analyzed the difference between Lamarck’s and Lysenko’s ideas, further deconstructing conventional wisdom (i. e. Lysenko was a “Lamarckist”) on the topic. The day concluded with a banquet dinner at Bello Sguardo on the Upper West Side.

The second day of the conference began with a panel chaired by the Director of the Harriman Institute, Cathy Neponmyashchy, Lysenko and Genetics. The first presenter, Audra Jayne Wolfe of the University of Pennsylvania, described the influence of the Lysenko controversy upon planning for the Golden Jubilee of Genetics, in her paper, “Commemoration as Political Weapon, Or, Why We Think of Mendel as the Father of Genetics.” The next presenter, Luis Campos of Drew University, presented a paper, “Dialectics Denied: Muller, Lysenko, and the Fate of Chromosome Studies in Soviet Genetics,” wherein he described how the rise of Lysenkoism impacted research on the effects of chromosomal variation on speciation in plants.

The next panel, on Western Europe, was chaired by Bruno J. Strasser of Yale University. Francesco Cassata of the University of Turin gave the first paper, “The Price of Obedience: Italian Marxist Biologists Front of PCI’s Lysenkoism (1948–1953).” This presentation described how the Lysenko controversy caused ruptures within the Italian Marxist community for reasons ranging from Stalin’s demands for conformity within the Cominform, the refusal of the left-wing publishing house Einaudi to produce an Italian translation of the VASKhNIL conference. Leo Molenaar gave a paper, “Dutch Treat: The Reaction to Lysenkoism in Holland,” where he explained how and why Lysenkoism re-emerged as a controversial topic for Dutch Marxists in the 1980s.

After lunch at the Harriman Institute the participants reconvened for the two final panels covering East Germany, West Germany, Asia and Latin America. The first panel, Germany, was chaired by Philipp Rothmaler from the mathematics department at Bronx Community College, CUNY. The first presentation was by Alexander von Schwerin, Max Planck Institute for the History of Science in Berlin, on “Lysenkoism and the Reform of Postwar West German Genetics.” This paper focused on the motives and strategy of West German geneticist Hans Nachtsheim in speaking out against Lysenko. In the next paper, “Lysenkoism in East Germany,” Ekkehard Höxtermann of the Free University of Berlin described the response from the other side of the “iron curtain” in Germany.

The final panel, Asia and Latin America, was headed by Joe Dauben of Lehman College and the CUNY Graduate Center. The first paper, “Lysenkoism in China 1950–1957: Party Authority vs. the Autonomy of Science,” was by Laurence Schneider, emeritus professor at Washington University in St. Louis. The presentation chronicled the widely varying approaches to implementing the Lysenko doctrine in Chinese agriculture, amidst the turmoil of the Great Leap Forward and the Cultural Revolution. The next paper by Arturo Argueta Villamar of the Centro Regional de Investigaciones Multidisciplinarias, de la Universidad Nacional Autónoma de México, and Quetzal Argueta Prado from the Instituto de Investigaciones Históricas de la Universidad Michoacana de San Nicolás de Hidalgo, “Lysenko and Vavilov in Mexico and Latin America,” chronicled Nikolai Vavilov’s work in Mexico, in context with the Mexican response to Lysenkoism several decades later. The last paper,

“Geneticist Hitoshi Kihara and His Particular Role in the Period of Lysenkoism in Japan,” by Hirofumi Saito of the Tokyo Institute of Technology, focused on the response of one biologist to outline the reception to Lysenkoism in postwar Japan.

As the brief summaries above indicate, the workshop was an invaluable opportunity to consider the extraordinary range of reactions to Lysenko’s anti-genetics campaign worldwide. These case studies revealed the importance of geographic and historical context, as well as the role and impact of the individuals involved. The papers also allowed us to compare variations within specific case studies (e. g. the genetics community in the United States), and address larger questions, such as how the Lysenko affair can inform our understanding of the broader topic of “pseudoscience.” This last question was addressed directly in the final roundtable, which included Elena Levina, Institute for the History of Science and Technology, Russian Academy of Sciences, Moscow, Nikolai Krementsov, University of Toronto, Loren Graham, emeritus professor of the Massachusetts Institute of Technology, and Douglas Weiner, University of Arizona. Nikolai Krementsov suggested we move beyond the term “Lysenkoism,” and continue working towards a deeper understanding of what the controversy meant, and why it has been a topic of such enduring interest among historians of science.

Portions of the workshop were filmed by CUNY TV, and can be viewed online at the following addresses:

<http://www.youtube.com/watch?v=8oDQSmVtSzI>; <http://www.youtube.com/watch?v=37ck9UPiJc8>; http://www.youtube.com/watch?v=Ct3kA_0jgHs&feature=channel; <http://www.youtube.com/watch?v=WVovS-pNnEk&feature=channel>; <http://www.youtube.com/watch?v=3SPkuK3HMXI&feature=channel>; http://www.youtube.com/watch?v=c8pH_tF5hI&feature=related; http://www.youtube.com/watch?v=8ZGKoGzCe_o&feature=channel.

Международный семинар по лысенкоизму

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Международный семинар по лысенкоизму был проведен 4–5 декабря 2009 г. в Центре докторантуры Нью-Йоркского университета и в Институте Харримана Колумбийского университета. На семинар собралось тридцать три ученых из одиннадцати стран, которые представили свои исследования того, как на лысенковскую антигенетическую кампанию отреагировали в США, Советском Союзе, Китае, Японии, Восточной Германии, Западной Германии, Италии, Чехословакии, Польше, Венгрии, Мексике и Голландии. Это был первый из когда-либо проведенных семинаров на данную тему, и он имел грандиозный успех. Он стал ценнейшей возможностью рассмотреть самые разнообразные и невероятные варианты реакции на лысенковскую кампанию по всему миру. Эти исследования выявили важность географической и исторической составляющих вопроса, равно как и роль воздействия, оказываемого отдельными личностями.

Рабочее совещание историков науки в Таллине

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17 декабря 2010 г. на базе Таллинского технического университета (ТТУ) состоялся семинар историков науки из России, Эстонии и Финляндии. Мероприятие было организовано по следам 24-й Международной Балтийской конференции по истории науки, проходившей в Таллине 8–9 октября 2010 г.⁶ Организатором семинара, получившего название «Некоторые аспекты истории естественных наук в России, Финляндии и Эстонии», выступили Майт Тальтс (Mait Talts, ТТУ) и Анастасия Федотова (СПбФ ИИЕТ РАН).

Марина Викторовна Лоскутова (СПбФ ИИЕТ РАН) выступила с докладом «Съезды русских естествоиспытателей и врачей как путь к познанию научного сообщества в его становлении». Йоханна Лилья (Johanna Lilja, Финское общество истории науки и образования, Хельсинки) сделала сообщение «Обмен публикациями финских ученых обществ (1821–1939), с акцентом на связи Финляндии и России». Рената Соуканд и Райво Калле (Renata S ukand, Raivo Kalle, Литературный музей, Тарту) освещали вопрос формирования эстонских этноботанических коллекций. Молодой исследователь из Тартуского университета Тармо Киик (Tarmo Kiik) сделал сообщение на тему «Контакты Адама Иоганна фон Крузенштерна с моряками и учеными» на основе анализа писем, хранящихся в архивных фондах Эстонии. Хельдур Сандер (Heldur Sander, Эстонский университет наук о жизни, Тарту) рассказал о вкладе российских ботаников в развитие ботанического сада Тартуского университета в первой половине XIX в. Общий интерес вызвал доклад ботаника Мати Лаане (Mati Laane, Таллин) «Родственные связи известных балтийских исследователей природы и основателей парков». Анастасия Алексеевна Федотова (СПбФ ИИЕТ РАН) представила финским и эстонским коллегам журнал «Историко-биологические исследования» и рассказала о политике его редколлегии. В целом семинар послужил площадкой для плодотворного общения историков науки трех Балтийских стран и составления планов дальнейшего общения.

После семинара участникам была предоставлена возможность осмотреть новое здание университета и его библиотеку. Университетский городок ТТУ в Мустамяе, который начали строить в 1960-х гг., развивается и в последние годы. В 2009 г. открыли свои двери два новых здания: экономического и социологического факультетов и здание научной библиотеки ТТУ. Новое здание библиотеки ТТУ очень интересно по оформлению. Его стены покрыты погодоустойчивой полимерной композитной тканью, имитирующей структуру древесного угля. В нем пять наземных этажей и один подземный. На первом этаже находятся музей ТТУ, типография, автомат для возврата книг, технические помещения и кафе. В подземном этаже располагаются хранилища библиотеки и небольшая парковка.

⁶ Материал об этой конференции см. в предыдущем номере: *Talts M., Kulasal M.* 24th International Baltic Conference on the History of Science at Tallinn University of Technology, 8–9 October 2010 // Историко-биологические исследования. 2011. Т. 3. Вып. 1. С. 114–123.



Участники совещания справа налево: Майт Тальтс (Mait Talts), Анастасия Федотова, Йоханна Лилья (Johanna Lilja), Тармо Киик (Tarmo Kiik), Марина Лоскутова. Фото автора

Во внутреннем дворе ТТУ в 1986 г. была заложена Аллея академиков (автор скульптур Айме Куульбурш-Мельдер, архитектор Рейн Лууп). Здесь можно увидеть скульптурные изображения академиков Агу Аарна, Альбрехта Альтма, Арнольда Хумала, Пауля Когермана, Харри Кяар, Оттомара Мадисона, Юри Нуута, Бориса Тамма, Юхана Ваабеля, Аугуста Вельнера, Александра Вольдека и Ильмара Ёопика. Некоторые из них были ректорами университета. Аллею переформили в 2008 г. к 90-летию университета.

Workshop on the history of science in Tallinn

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On the 17th of December 2010 in Tallinn Technical University (TTU) the seminar "Some aspects of the history of science in Russia, Finland and Estonia" took place. About 10 scientists from Russia, Estonia and Finland participated. The event was organized in the wake of the 24th International Baltic Conference on the history of science, held in Tallinn, 8–9 October 2010 by Mait Talts from TTU and A.A. Fedotova from St-Petersburg branch of the Institute of the history of the science and technology.

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