

“‘Beneath any Criticism.’ What the ‘Fedorova Affair’ Reveals about Soviet Science during the Khrushchev Thaw”

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The damage done to Soviet science by Lysenko and his followers was not limited to genetics. One of the little-known aspects was the damage caused by Lysenko’s network to the teaching of biology and the history of science. At the center of this research is the curious figure of Vera Nikolayevna Fedorova (1908-?), who from 1956 to 1965 grew from the Kazan school teacher to the editor-in-chief of *Biology at School*. Her correspondence with the methodologists of the teaching of biology B. Vsesviatskii and B. Raikov has been analyzed. Based on this correspondence and her works, one can trace the evolution of her views. An attempt was made to determine the causes of her rapid career growth. Particular attention is paid to the relations with the well-known historian of science and the methodologist of the teaching of natural sciences Boris Raikov. Discussions of Fedorova and Raikova on the pre-revolutionary development of the methodology of natural science and its philosophical-materialist implications are also analyzed in the work. The “Fedorova Affair” — the secondary front in the struggle between the Lysenkists and their opponents — ended in a temporary victory for the former. The situation persisted until 1964.

Keywords: natural science teaching, Lysenkoism, Boris Raikov, Valerian Polovtsov, history of natural science education.

The damage done to Soviet science by Trofim D. Lysenko and his followers was not limited to genetics. In the early 1930s Lysenko and his close associate, Isai Izrailovich Prezent (Kolchinskii, 1999), inflicted a heavy blow to the emerging field of community ecology (Weiner, 1988). A story less known was the damage done by the Lysenko network to biology, science teaching, and to the history of science, although Nikolai Kremmentsov notes that capture of the educational system was a principal goal of Lysenko in August 1948 (Kremmentsov, 1997, p. 171). The principal “gendarmes” of these domains of scholarship were Boris Vsesviatskii (Weiner, 2006), who had assumed that role already in the early 1920s, Prezent — who had dabbled in the persecution of wayward science teachers in 1931, Mikhail Mel’nikov, researcher at the Academy of Pedagogical Sciences of the RSFSR, and the curious figure of Vera N. Fedorova (1908-?), who rose from Kazan schoolteacher to editor-in-chief of *Biologiya v shkole* (*Biology in the School*) from 1956 to 1965 as a protégé of the three men — all protected by Lysenko.

The ‘Fedorova Affair’ was actually a series of clashes and mobilizations that took place between 1957 and 1961 in the field of natural science teaching methodology. It was a defensive struggle waged by Fedorova and the Lysenko camp to roll back the ideological liberalization that had commenced after Stalin’s death, and by the anti-Lysenkoists not only to defend those gains but to discredit and dislodge the Lysenko group in the field of science-teaching method-

ology. As such, it paralleled other such struggles that commenced even before Stalin's death — such as that around the *Botanicheskii zhurnal* (Journal of Botany) and the *Biulleten' Moskovskogo obshchestva ispytatelei priorody* (Journal of the Moscow Society of Naturalists)¹, the “letter of the 300” to remove Lysenko as president of the Lenin All-Union Academy of Agricultural Sciences, supported by the country's leading physicists and mathematicians², and the multiple struggles at Leningrad State University to remove I.I. Prezent and to restore the teaching of genetics and evolutionary theory based on a critical acceptance of the Great Synthesis³. Yet, this affair touched on more than science content or even the institutional control of science. It involved key issues in the philosophy of science and education: could science once again be considered an “open system” — always subject to reexamination and revision — or would it continue to be the dogmatic collection of truths (or half-truths or untruths) certified by the Communist Party and its agents.

Provoked first by Fedorova's vehement attack in print on Boris E. Raikov's 1956 biography of his mentor, Valerian V. Polovtsov, the “affair” then shifted focus to Fedorova's attempt to defend her own dissertation in 1958, which became the object of equally vehement criticism from Raikov and many other scholars. Both components of the affair shed light on many aspects of Soviet scholarly and scientific life at the time: scientific networks and their mobilization; the nature of intellectual discourse, including rhetorical styles; ethics and motivations of individual scientists; the workings of Soviet academic institutions, and the nonlinear nature of “the Thaw” itself⁴.

Before proceeding immediately to an analysis of the above, some background to the “affair” is indispensable⁵. In 1945, Boris E. Raikov, one of the country's foremost methodologists for the natural science teaching in schools and a historian of science, had returned to Leningrad after fifteen years in the Gulag and in exile in Medvej'ya Gora and Arkhangel'sk. From 1906 to the year of his arrest in 1930, he had been a leading progressive middle-school educator, editor of *Estestvoznaniye v shkole* (Natural Science in the School) as well as editor of *Zhivaia priroda* (Living Nature) during the 1920s, director of a biology teaching station, and professor at the leading teacher-training institute. Now he was restored to his professorship in the A.I. Gertsen (Herzen) Pedagogical Institute's Department of the Methodology of Natural Science Teaching, awarded a doctorate, appointed a member of the Institute for the History of Natural Science, given back editorship of *Estestvoznaniye v shkole* and elected a full member of the Academy of Pedagogical Science with responsibility for heading the Biology Department

¹ Loren R. Graham (1987, p. 140), suggests that these journals were more outspoken because they emerged out of non-state, prerevolutionary voluntary societies. See also: Aleksandrov, 1992, pp. 155–160; Medvedev, 1971, pp. 135–136; and Lebedev, 1991, esp. pp. 278–281.

² See Aleksandrov, 1992, pp. 165–169. Aleksandrov, on 169, also describes a letter signed by the leading physicists and mathematicians of the USSR against Lysenko. The letters were delivered to the Presidium of the Communist Party of the Soviet Union in the autumn of 1955.

³ For this, see E.I. Kolchinskii's powerful biography of his mentor, Kirill Mikhailovich Zavadskii, (2013, esp. pp. 115–136).

⁴ For a similar analysis with respect to Moscow cultural institutions, see: Bittner, 2008. Bittner in particular emphasizes the ambiguous nature of the Thaw, with its warmer moments and re-freezes, and certainly with its strategic limits to liberalization.

⁵ This background is largely drawn from the memoirs and archive of Boris E. Raikov, who set out his account in his memoirs (2011). See his *Na zhiznennnom puti. Tom 2* [On the life's journey. Book 2], Chaps. 12 and 13, pp. 465–496. Edited by N.P. Kopaneva, with great assistance from Ksenia V. Manoilenko and Anna V. Samokish.

of its Leningrad branch, which Raikov was asked to help to organize⁶. Returning to Leningrad, Raikov managed to restore not only his authority, but again to gather around him experienced and active teachers and educators.

In the late autumn of 1946, a schoolteacher from Kazan' had approached Raikov, by then a leading authority on eighteenth- and nineteenth-century Russian biologists, for help with her analysis of the ideas of botanist and textbook author Vasilii F. Zuev (1754–1794). Vera N. Fedorova was a graduate of the Biology Faculty of Kazan Pedagogical Institute. In 1941 she had married the head of the History Department of the institute, who was a student at the Gertsen Pedagogical Institute (1928–31) at the time of Raikov's arrest and later served as an operations officer for the Special Department of the NKVD (Krasheninnikova, Sinitsyn, 2013). After the war she decided to upgrade her qualifications by writing a candidate of science thesis.

After her partial recovery in April 1947 from a long illness, Fedorova's long-distance intellectual apprenticeship with Raikov gained momentum. However, even in the first extant letter from Fedorova to Raikov correspondence the existence of a divergence in views could be faintly discerned⁷. She had sought to place her first work, on Zuev, in Raikov's *Estestvoznaniye v shkole*. Explaining that her work was too long and scholarly for publication there, Raikov offered to help place her work in the *Uchenye zapiski* (Scholarly Notes) of the Gertsen Institute⁸. That eventually happened, but only after Fedorova was made to correct her lapse in scholarly etiquette and to cite Raikov's work on Zuev, from which she had borrowed heavily (she blamed it on lack of experience)⁹. Raikov also helped Fedorova to be reinstated in the Department of the Methodology of Science Teaching at Gertsen after her long-distance affiliation was cancelled for exceeding the time limit for her candidate thesis defense.

Fedorova's thesis was successfully defended¹⁰, and the archive contains no correspondence with Raikov between July 1948 and April 1953. This, however, was an incredibly eventful period for both of these protagonists. From 31 July to 7 August 1948 the infamous session of the All-Union Lenin Academy of Sciences took place. The event immediately affected both Raikov and Fedorova. Raikov found himself fired from the Gertsen Institute and the Leningrad branch of the Academy of Pedagogical Sciences in the wake of a nationwide purge of geneticists and heterodox figures in biology. He was singled out by Lysenko's old ally I.I. Prezent. In a replay of 1930, Raikov again lost control of the journal he helped to found, *Estestvoznaniye v shkole*, whose control passed to his old enemies Vsesviatskii and Mikhail I. Mel'nikov, now clients of T.D. Lysenko (Raikov, 2011, p. 419).

In Kazan, Fedorova saw the August session as a major opportunity for career advancement, and on 1 September 1948 at a meeting of the Kazan Society of Naturalists took the floor to denounce N.A. Livanov, a professor of genetics at Kazan State University (Fedorova, 1948, p. 4)¹¹.

⁶ See Raikov, 2011, Chap. 2, esp. pp. 365–69.

⁷ ARAN St. Peterburgskii filial (Hereafter, ARAN SPb.) f. 893, op. 1, d. 390, l. 1 ob. Letter from Fedorova to Raikov, 30 April 1947. She wrote: "V otdel'nykh sluchaiaikh ia nemnogo inache, nezhe li Vy, podoshla k analizu mirovoznaniia Zueva" [In some cases, I came to an analysis of the world view of Zuev a little bit differently than you].

⁸ ARAN Spb., 893/1/390, l. 3 ob. Raikov to Fedorova, 29 May 1947.

⁹ ARAN Spb., 893/1/390, l. 4. Fedorova to Raikov, 13 June 1947.

¹⁰ In 1950 her abstract (*avtoreferat*) "*Uchebniki botaniki v srednei russkoi shkole*" [Botany textbooks in the secondary Russian school] for candidate of pedagogical sciences was published in Kazan.

¹¹ See also Ermolaev, 2004.

Fedorova's alliance with the Lysenkoists did not come out of the blue. As early as May 1943, she had written to Boris Vsesviatskii, introducing herself and asking for his support in graduate work. Teaching a course on methods in natural-science teaching at the Kazan State Pedagogical Institute, despite not having a higher degree, Fedorova set herself the goal of passing her preliminary exams for the candidate of science degree and then writing the dissertation¹². By the time of writing she had successfully completed exams in dialectical and historical materialism and in Darwinism and Darwinist methodology, and she sought a topic that dealt with the history of natural-science teaching methodology. With a provisional title — “Russian Pedagogical Greats on the Teaching of Natural Science in the Schools” — in hand, Fedorova only wondered about the timeliness and relevance of such a topic during a cataclysmic war. Fedorova was told by her colleague, Professor V. Golubnov, that such a topic would not be approved in Kazan' without the assent of someone like Vsesviatskii. Fedorova managed to actually meet with Vsesviatskii for a consultation the following year, on August 12, 1944, which was noted on the back of her letter. Perhaps at that meeting the official topic of the dissertation was changed to “Botanical Textbooks for Middle Schools.”¹³

While still working with Raikov on her candidate's dissertation, Fedorova again wrote to Vsesviatskii¹⁴. Now, she needed advice on how to treat the “biological approach or method” in natural science teaching, so ardently championed by Raikov and his mentor, Valerian Viktorovich Polovtsov. “Initially,” she admitted, “I was inclined to simply pass over it in silence. But now I see that this is impossible.”¹⁵ The reason was that so many textbooks were written along this approach that they cumulatively had an enormous influence on the teaching of botany. And because leading authors of this approach including Polovtsov and Gennadii N. Boch were “out-and-out anti-Darwinists”, this had a deleterious effect on middle school learning. With her coy narcissism, Fedorova then asked Vsesviatskii to decide whether she should go ahead with the project: “I, possibly, would be able to prove this — I have collected materials along these lines — but don't know — is it worth it? Tell me — your opinion will decide the question.”¹⁶

Fedorova further wrote that until 1947, she thought that the application of the investigative method in biology in schools was a mistake. However, she now admitted, Prof. Raikov in his book on methodology made a strong case for its relevance. Vsesviatskii had reviewed Raikov's book in *Uchitel'skaia gazeta* (Vsesviatskii, 1948, p.3), but hadn't specifically critiqued the method. Fedorova didn't feel that she had the independent authority to resolve this question, and so turned to Vsesviatskii for an answer.

Nine months after the August Session of Vaskhnil, Fedorova wrote to Vsesviatskii again, complaining that her situation was “hopeless”; only Vsesviatskii could weigh whether it was worth it for Fedorova to continue with her dissertation¹⁷. She had given him a portion of her text in January 1949, when she went to Moscow to see him, and she was particularly concerned about her treatment of botanical instruction in the late nineteenth century, where she had contested the assessments of Raikov, P. I. Borovitskii, and V. F. Shalaev, that is, everyone

¹² GA RF f. 542, op. 1, d. 112 Fedorova to Vsesviatskii, Kazan', 25 May 1943, l. 1

¹³ GA RF f. 542, op. 1, d. 112 Fedorova to Vsesviatskii, Kazan', 25 May 1943, ll. 1 ob. — 2 ob.

¹⁴ GA RF f. 542, op. 1, d. 112, ll. 6, 6 ob., 7. Unfortunately, the letter is undated. I place it sometime in late 1947 or early 1948.

¹⁵ GA RF f. 542, op. 1, d. 112, l. 6

¹⁶ GA RF f. 542, op. 1, d. 112, l. 6

¹⁷ GA RF f. 542, op. 1, d. 112, l. 6

who had written on the subject previously¹⁸. She believed that Raikov's portrayal of the period before Polovtsov as an intellectually sterile one was incorrect; the older textbooks of Teriaev, Ishkovskii, Grigor'ev and others actually appealed to her as "broadening the knowledge of students" and giving them a "more correct view of nature."¹⁹ Included in her packet was her newly published brochure for middle school biology teachers²⁰.

Yet another letter sent from Kazan by Fedorova to Vsesviatskii from January 1951 contained the consequential news that, on Vsesviatskii's advice, Fedorova had sent a letter to the Central Committee of the party. It had something to do with the Academy of Pedagogical Sciences, but its specifics cannot be known from Fedorova's letter. At any rate, it was testimony to her evident desire to quit the "provincial" slumber of Kazan' for the more vibrant life of Moscow. Fedorova also inquired about I. I. Prezent. She had heard rumors in Kazan' that his position had changed, and this was evidently a matter of concern to her. Continuing to teach, while having too little time to write, Fedorova complained to Vsesviatskii that the official teaching programs for natural science methodology were as badly put together as before; although "the obvious 'Raikovshchina' had been eliminated, the historical components still contained much 'Raikovshchina.'" And she wondered where she could send a disapproving critique, considering the journal *Sovetskaia pedagogika* as a possibility²¹.

In light of all of this protracted networking with the Lysenko network, especially Vsesviatskii but also possibly Prezent, it was not surprising that by 1953 she had relocated to Khimki, just outside of Moscow, and was working on her doctoral thesis. By then she had already published numerous pamphlets and articles denouncing genetics and extolling such charlatans and regime scientists as Ol'ga Borisovna Lepeshinskaia and Mikhail Fedorovich Ivanov, and had become a contributor to the revamped *Estestvoznaniie v shkole* by 1954²². Three years later she was appointed editor-in-chief of *Estestvoznaniie v shkole*, renamed *Biologiia v shkole*, and was also named director of the Pedagogical academy's model school in Gorki Leninskie. About all of this she kept Raikov completely in the dark.

Raikov gained an inkling of Fedorova's political evolution, if indeed it was that, in 1954, when she showed up at Raikov's Leningrad apartment to drop off one chapter of her doctoral dissertation, now in progress. Reinstated to his full membership in the Academy of Pedagogical Sciences after Stalin's death, Raikov was named a consultant on the dissertation by the Academy, where the dissertation would be defended²³.

Clearly disturbed by the tendentious, doctrinaire tone of the chapter, but still unaware of her ties to the Lysenko network, Raikov wrote to Fedorova with a powerful yet tactfully expressed critique: "...It should be very clear to you that time is marching on. Views are changing, and from the historical perspective it would be wrong to characterize contemporary figures solely on the bases of those opinions that they expressed twenty or thirty years ago." Raikov noted that even he had changed his views on issues in the history of science²⁴. In a subsequent letter of 28 August 1954 Raikov elaborated on his cautionary advice to Fedorova:

¹⁸ GA RF f. 542, op. 1, d. 112, ll. 3, 3 ob, 4. Fedorova to Vsesviatskii, Kazan' 24 May 1949

¹⁹ GA RF f. 542, op. 1, d. 112, l. 3.

²⁰ GA RF f. 542, op. 1, d. 112, ll. 3 ob.

²¹ GA RF f. 542, op. 1, d. 112, l. 5. Fedorova to Vsesviatskii, Kazan', 22 January 1951.

²² See, for example, Fedorova, 1949.

²³ ARAN SPb. 893/1/390, l. 208 ob. Letter of Raikov to E.G. Arentova, 20 May 1960.

²⁴ ARAN SPb. 893/1/390, l. 23–24. Raikov to Fedorova, 25 March 1954.

“...the most important thing is to provide a truthful depiction of that which actually took place in the past. It is important to avoid all preconceived theories and schemata (schemes), which cause us to cherry pick only facts that fit the theory and to silently overlook other facts... Further, it is very important to avoid exaggeration in the evaluation of the scientific attainments of the past. At one time in the history of natural science, such ... overblown assessments were in great demand. It turned out that almost every great discovery ... was made in Russia. Now this has elicited healthy criticism.”

Raikov graciously concluded by hoping that Fedorova was not offended by his constructive advice and offered his continued help²⁵.

Fedorova's response was a polite yet combative riposte. If Russian priorities were now being questioned, she slyly asked, then what was the value of and the role of the Institute for the History of Science — where Raikov now worked — whose publications, including those of Raikov, once touted all sorts of Russian “priorities?” “Whatever the case was,” she concluded, “I am all the same unshakeably convinced that Russian biology took its own original path,” as evidenced by such scientists as Sechenov, Timiriazev, Michurin and Pavlov²⁶.

Raikov received no more chapters and heard nothing from Fedorova until receiving a letter from her on April 5, 1957 and an offprint of her article on Zuev published in 1956²⁷. In a long letter in response, Raikov noted that this newer piece was much improved and reworked compared to the version written for the 1948 Gertsen Institute volume, although he pointedly corrected a number of mistakes that he found²⁸. He also took the occasion to inform Fedorova that the 1948 volume, which had been sequestered after the infamous meeting of VASKhNIL, and which contained her first published scholarly article, now had finally been released. This of course was a minor irony, as Fedorova's first article had fallen hostage to the machinations of her political patrons when the issue in which it was contained was banned because it had been dedicated to Boris Raikov.

True to his old-school yet generous manner, Raikov opened his letters, including this one, with encouraging words. Reading further, however, it was clear that he was viscerally distressed and shocked by Fedorova's April 5 letter. Reacting to Raikov's biography of his mentor, Valerian Viktorovich Polovtsov, which had just been published in 1956 and which Raikov had mailed to her, Fedorova had written that the work left her with “a very unpleasant impression”. Indeed, she opined that she had never received “a more unpleasant gift”²⁹.

Raikov wrote that he was “stunned by such an ultra-subjective assessment”. “As a historian and methodologist,” he continued, “it seems that you should have sincerely rejoiced that the black fog that had surrounded the name of <...> the best methodologist since A.Ia. Gerd has finally been dispersed”. Yet, he noted, Fedorova's reaction was diametrically contrary to that³⁰.

Trying to explain her violent reaction, Raikov speculated to Fedorova that she somehow came under the influence of “outdated positions”. Continuing to assume that Fedorova was prey to an honest, yet naïve, set of intellectual blinders, Raikov gently elucidated that each past event

²⁵ ARAN SPb. 893/1/390 l. 22. Raikov to Fedorova, 28 August 1954.

²⁶ ARAN SPb. 893/1/390, l. 25 ob. Fedorova to Raikov, 16 September 1954.

²⁷ In Vol. 44 of the *Uchenye zapiski Pedagogicheskogo instituta imeni V.I. Lenina*. Fedorova's letter is missing from this correspondence.

²⁸ ARAN SPb. 893/2/58, l. 46 (the letter is contained in ll. 46–49).

²⁹ ARAN SPb. 893/2/58, l. 47.

³⁰ ARAN SPb. 893/2/58, l. 47.

or personality had to be evaluated according to the context of the time, and that it was better to look for positive contributions than focus exclusively on mistakes³¹. He reminded Fedorova that in the 1930s, citing the 1936 edition of the *Great Soviet Encyclopedia* as an example, the great educational theorist Konstantin Ushinskii was derided as a dyed-in-the-wool reactionary, “an idealist and churchman”, whose positions “were alien to and harmful to Soviet education”. Yet, twenty years later, the 1956 edition called Ushinskii not only a “great Russian pedagogue” but a “founder of Russian pedagogical science”³².

Polovtsov, explained Raikov, was a similar case. Not only in the 1930s, but even in right after WWII, averred Raikov, when he published *Obshchaia metodika estestvoznaniia* (General Methods in Natural Science) and tried to include in that work a discussion of Polovtsov’s contributions, whole sections of the historical section of the book were tossed out by the censor — while in their place paragraphs were inserted that Raikov, the author, did not even write! In her letter, Fedorova had implied that Raikov in his earlier work had recognized that Polovtsov was ideologically tainted by idealist views close to those of Ernst Mach, but that in his 1956 biography Raikov muffled that inconvenient fact. In response, Raikov explained that the phrase linking Polovtsov’s views with those of Mach were not written by him, but by some editor in the publishing house, who thought that the book’s chances of being published would be improved with the insertion. “To protest against that in that era was useless”, added Raikov³³.

Strikingly, Raikov’s efforts to guide Fedorova to new perspectives pushed the limits of the Thaw. “Even had Polovtsov been a Machist”, he asked, “what of it?” He reminded her that the Marxist Lunacharskii had been a follower of Mach, “and what a vigorous one!” Yet that did not prevent him from becoming people’s commissar of education³⁴. Offering a final bit of advice as someone who had lost the taste to engage in polemics, Raikov once again urged Fedorova, “in a friendly way, ... to abandon ... the mistaken and biased position” that she seemed to hold³⁵.

Finally, Raikov revealed that he had deduced from Fedorova’s April 5 letter that she was the author of a damaging internal review of another of Raikov’s books being considered for publication: an edited volume of Polovtsov’s selected works, to be published by the Academy of Pedagogical Sciences. He cautioned that such behavior did not embellish her pedagogical credentials³⁶.

In his avuncular and forgiving manner, Raikov concluded the letter with an assurance that,

“despite your dalliance with polemics, I am always ready to help you in our common cause. Think *calmly* about everything, read my book with care and without a polemical axe to grind, and I am certain that as an intelligent and unquestionably capable woman, of whom there are few on the methodological front, you will ultimately reach the proper conclusions”³⁷.

Raikov’s faith in Fedorova’s open mind proved unfounded. In late 1957, Fedorova’s scathing review of Raikov’s biography of Polovtsov appeared in her journal (Fedorova, 1957)³⁸.

³¹ ARAN SPb. 893/2/58, l. 47.

³² ARAN SPb. 893/2/58, l. 48.

³³ Ibid.

³⁴ ARAN SPb. 893/2/58, l. 49.

³⁵ Ibid.

³⁶ ARAN SPb. 893/2/58, l. 49. The work appeared despite Fedorova’s attempts to quash its publication (Polovtsov, 1957).

³⁷ ARAN SPb. 893/2/58, l. 49.

³⁸ An abridged copy of the review was also mailed to Raikov by the Moscow Institute for the History of Science and Technology, which requested him to respond in print to it in the institute’s wall newspaper. See: 893/2/58, ll. 19–21. Wall newspaper article by A. A. Scherbakova, Moscow, no date (n. d.).

Among the most serious charges she levelled were that Raikov tried to falsely depict Polovtsov as a progressive and a true materialist while camouflaging his reactionary and anti-materialist views. True, Polovtsov recommended that evolution — as evidenced by the various adaptations of organisms to their environments — be taught in schools as a fact of natural history. But his insistence that the *mechanisms* of speciation and the origin of new life forms was still an open question, following Darwin's own agnosticism about this, led Polovtsov to suggest that this specific question was too speculative to teach in a classroom; "The teacher should not either come across as a Darwinist or a Lamarckian, etc., as otherwise he would risk giving the impression that far from proven ... questions were definitively resolved", Polovtsov wrote in 1907 (Polovtsov, 1907, p. 184). Like another Russian biologist, Vladimir Stanchinskii, Polovtsov accepted the idea that the mechanism of heredity was lodged in chromosomes and genes, and obeyed the laws of Mendelian segregation, while doubting that individual mutations could spread throughout a population sufficiently to account for the emergence of new species, let alone families, classes and orders (Polovtsov, 1915; Stanchinskii, 1927)³⁹. In 1907, and even in 1915, the Great Synthesis of genetics and evolutionary theory was still some decades away, and Polovtsov's questioning position about the mechanism of speciation was fully justified. Nevertheless, his agnosticism about the causes of variation led Fedorova to pronounce that "in actuality, Polovtsov never had been a Darwinist" (Fedorova, 1957, p. 89). Moreover, Polovtsov's acceptance of the validity of genetics immediately cast him as an anti-materialist and philosophical idealist in Fedorova's view (Fedorova, 1957, p. 90). Fedorova also called Polovtsov a reactionary, "acting in the interests of the capitalists", and denied that Polovtsov played any relevant role in the development of biology teaching methodology. Even worse, she accused Polovtsov of the fatal sin of being a philosophical follower of Ernst Mach. Like Dr. Manet in Charles Dickens's *A Tale of Two Cities*, whose earlier prison notes were used to convict his new son-in-law, so Raikov's earlier biographical writing on Polovtsov was used by Fedorova to both convict Polovtsov of Machism and to expose Raikov's current silence on that issue, for Raikov had written in 1947 that Polovtsov's views "were close to the then popular views of Mach, and were without question in error..." (Fedorova, 1957, p. 89)⁴⁰.

Finally, she attacked the Academy of Sciences Publishing House for allowing such a "harmful" book to see the light of day (Fedorova, 1957, p. 91).

Fedorova's vehement reaction to Raikov's biography of Polovtsov arguably reflected the defensiveness of Stalinists and Lysenkoists in science to the threat of both philosophical liberalization and institutional displacement in the aftermath of the Twentieth Congress of the Communist Party. Polovtsov's positions included the idea that science is an open system whose ideas and hypotheses are often supplanted by others and that it is hostile to dogma. He also averred that it is better to remain agnostic until a question is definitively resolved, and that scientific descriptions of the world are always to some extent projections of our imagination, based on the brain's processing of sense impressions; there is an external reality, he admitted, which we can never know completely, but which we can manipulate with the aid of the models we construct. Although these ideas were not far from those expressed by Friedrich Engels in *Anti-Dühring*, *Ludwig Feuerbach*, and *The Dialectics of Nature*,⁴¹ they were dangerous to Stalinists because they implied a working system of peer review in science, not *diktat*, and Lysenkoist researchers and pedagogues simply could not survive such honest review. They were also dangerous because

³⁹ Stanchinskii did not cite Polovtsov.

⁴⁰ She cites Raikov, 1947, p. 82.

⁴¹ See the fine discussion of Engels's views of science in Kołakowski, 1978, pp. 376–98.

they restored the human imagination to its rightful place in scientific theory, a place that Lenin had tried to eliminate with his theory of reflection (Lenin, 1972, pp. 56–63)⁴².

Yet, among opponents of Lysenko and his network, it seemed as though the wind was at their backs. In 1955 the Central Committee mandated the creation of a commission to study the situation in biology (Soyfer, 1994, pp. 236, 250–53). The Academy of Sciences' president A.N. Nesmeianov, M.A. Lavrent'ev and N.N. Semenov were all opponents of Lysenko, and it was not yet evident that the new reformist leader of the Party, Nikita Sergeevich Khrushchev, would continue to extend his vigorous protection to Lysenko. Additionally, there had already been successes in rolling back Lysenkoism, most notably at Leningrad State University, where I.I. Prezent had lost his chair of the department of Darwinism (Kolchinskii, 2013).

The publication of Fedorova's review first exposed fault lines in the Institute for the History of Science and Technology, where Raikov now worked⁴³. Quite soon after her review appeared, the more conservative Moscow headquarters of the institute published an abridged copy of it in their wall newspaper. The lack of commentary by the editors, senior scholars in the Sector of the History of Biology, was seen as an endorsement. However, even within the Moscow institute there was dissent. A powerful chastisement of the editors by an institute member found its way into the following issue. What was notable was that the author, Antonina Shcherbakova, called out the editors for their lack of professional judgement. She argued that they had no right to defend the publication of the review on grounds of "neutrality" — i. e., offering all points of view a fair hearing — given both the "ignorance of the reviewer" and the "slandorous" nature of the review⁴⁴.

If the ILET Moscow Sector of Biology was on the whole not eager to tangle with the Lysenkoists (or was even passively supportive), Fedorova's review met a completely different reaction in the Biology Sector of the Leningrad branch of the Institute. Reportage in its March 1958 wall newspaper reflected the outrage there. It was a central item for discussion at the February 27 meeting of the sector, and Fedorova was denounced for truncating quotes from Polovtsov, omitting context, and for her hamfisted attempt to label him an anti-Darwinist for stating that Darwin's theory was "still far from complete in its development". Article author N.N. Banina defended such a healthy skepticism, writing:

"One must ask: who among true Darwinists ever considered the theory of Darwin to be a dogma incapable of developing further? Who, if not Darwin himself, pointed out that in his day the ultimate causes of variation were actually unclear? For that reason Darwin created only theoretical propositions" (Banina, 1958, p. 18).

At the same time, Banina noted that T. Lysenko at the 1948 VASKhNIL meeting spoke about the value of combining Darwin's and Lamarck's ideas for the development of Michurinist biology — a combination that Fedorova derided as anti-Michurinist when proposed by

⁴² This edition is a reprint of the Moscow, Foreign Languages Publishing House editions of 1947 and 1970.

⁴³ Raikov began work at the institute back in 1945, immediately upon his return to Leningrad. During the persecution of 1948, this was the only place of work that he had not lost. From that moment he completely concentrated on the history of science.

⁴⁴ ARAN SPb. 893/2/58, l. 21. n. d. [February 1958?] Shcherbakova was the author of an article, "K otsenke roli P.F. Gorianinova v sozdanii kletochnoi teorii" [To an assessment of the role of P.F. Goryaninov in the creation of a cellular theory], (1957, pp. 98–112), that debunked the erroneous Stalin-era myth that Gorianinov was one of the early forerunners of cell theory before Schleiden and Schwann.

Polovtsov and Raikov (Banina, 1958, p. 18ob). Although such an appeal to the “classics” — if Lysenko could in any stretch of the imagination be called a “classic”! — exposed the lack of coherence in the statements of the Lysenkoist network, it was of course an intellectual and rhetorical move with a price tag: it reinforced the need to find quotes from credentialed authorities to validate scholarly positions.

Banina reported that the Sector unanimously adopted a resolution that accused Fedorova of having “a clear lack of good faith” and having engaged in “a vulgar distortion of historical facts and ... defective polemics” which also included “an impermissible attack directed at the Academy of Sciences”. The meeting asked the Scholarly Council of the Institute to “take measures that insured that this affair was presented in its true light” (Banina, 1958, p. 18ob).

Meanwhile, Raikov lost no time in mobilizing a defense of himself, his mentor, and his vision of honest scholarship. First, he turned to Sergei Gerd, son of his deceased friend Vladimir Gerd and a prominent hydrobiologist. Gerd had gotten his start in science under the tutelage of Raikov in the 1920s, when Gerd was involved in Raikov’s pedagogical biology station and also with the Young Naturalist group in Leningrad (Samokish, 2013, p. 64). Gerd had now been asked by Raikov to write a letter of protest, and, considering a collective letter more efficacious, in turn approached other methodologists of science education: Nikolai Verzilin, Pavel Borovitskii, and Sergei Pavlovich. “So,” wrote Gerd, “if you are comfortable with this, we can publish a collective response under all of our signatures. By the way, we might include some ‘warm’ words for the journal *Biologiya v shkole* as well. It has brought Soviet teachers much harm.” Gerd advised Raikov not to be “needlessly upset”. Taking the long view, he predicted that “all this will be forgotten while your books will remain and continue to be useful <...>”⁴⁵.

Not content with a collective letter, Raikov then asked Gerd to author a review of his biography of Polovtsov for the *Vestnik Akademii nauk*, the Academy’s journal; the Institute for the History of Science and Technology would help with the placement, Raikov assured.

“It would be”, emphasized Raikov, “important to point out that neither Polovtsov nor Raikov nor your father, nor other Leningrad methodologists ever deviated from the ideas developed by your grandfather, an accusation falsely asserted by Fedorova at the end of her review ... Such bearing witness by you — and you know what I say is completely true — could have great importance, as you are the grandson of A.Ia. [Gerd]”⁴⁶.

Although it was unclear, *concretely*, what the personal witness/book review of Gerd and the collective letter was supposed to achieve, under conditions of the Thaw we can assume that Raikov and academic opponents of Lysenko believed that claiming public space was a good thing in and of itself; the very appearance of open letters and reviews in resistance to Lysenkoist and Stalinist values would embolden others. Among those who shared that perspective were leaders of the Moscow Society of Naturalists (MOIP), Academician Vladimir Nikolaevich Sukachev and Vera Aleksandrovna Varsonof’eva. The latter sent off a postcard to Raikov on 12 April 1958, informing Raikov that Sukachev had heard about the review and was “extremely outraged by it”, and offered to publish a fitting response in the *Biulleten’ MOIP*.⁴⁷

Gerd’s review, co-authored with a slew of prominent methodologists of natural science teaching and biologists (Borovitskii, Verzilin, Pavlovich, Korsunskaja, Skazkin, Kazakova, Rykov) was written but ultimately rejected by the editor of *Sovetskaia pedagogika*, revealing

⁴⁵ ARAN SPb. 893/2/58 l. 43. Gerd to Raikov 10 January 1958. Leningrad.

⁴⁶ ARAN SPb. 893/2/58 l. 44. Raikov to Gerd. 17 February 1958. Leningrad.

⁴⁷ ARAN SPb. 893/2/58 l. 45. Varsonof’eva to Raikov. 12 April 1958. Moscow.

the deep and successful penetration of Lysenkoists and those who feared to anger them inside the academy and academic publishing⁴⁸. Eventually, in 1958, a long version of the review with a slightly different set of authors was published in *Trudy instituta istorii estestvoznaniia i tekhniki* (Bliakher, Gerd, Kanaev, Perfil'ev, Skazkin, 1958)⁴⁹. What was notable was the unusually strong language of the conclusion: "...we must agree with the conclusions of the Sector of Biology that the argumentation of the reviewer Fedorova ... bears a certain depraved (porochnyi) character and distorts the facts with the goal of discrediting one of the worthiest figures of our scientific and pedagogical past" (Bliakher, Gerd, Kanaev, Perfil'ev, Skazkin, 1958, pp. 338–339).

Aside from Raikov, there were still major figures of science who had known Polovtsov personally, and Raikov appealed to them to weigh in on the controversy. This resulted in "the letter of the three academicians", corresponding member of the Academy of Sciences Pavel Baranov and full members Evgenii Pavlovskii and Vladimir Sukachev, published after a delay in *Voprosy istorii estestvoznaniia i tekhniki* in 1960 (Sukachev, Pavlovskii, Baranov, 1960, pp. 197–198).

Another biologist approached by Raikov to review his book was geneticist Daniil Lebedev. His response to Raikov's request reveals how complex intellectual and political choices could be during the Thaw. In early June, after temporizing for months, Lebedev finally wrote to Raikov explaining truthfully why he could not review his biography of Polovtsov after having initially agreed to do so. The issue, it turned out, was an intellectual one. Lebedev felt so strongly about the need to rehabilitate genetics as the exclusive engine of evolutionary change that he could not remain silent about Polovtsov's (and Raikov's) half-acceptance of Lamarckian mechanisms in evolution:

"...I thoroughly read your book, and also a number of works by Polovtsov himself, and came to the conclusion that there are too many differences between us and that the publication of my review in these circumstances would sooner have a negative rather than a positive effect. For that reason I naturally decided not to write the review, as under no circumstances would I want to be even a minute helper to this gang [Lysenkoists]".

The bottom line for Lebedev was that, even in the struggle against the Lysenkoists, he was unwilling to engage in intellectual self-censorship⁵⁰.

While conceding the admirable nature of Raikov's desire to rehabilitate Polovtsov, Lebedev observed that Raikov had "somewhat modernized his image, and by doing so, had left [himself] open to attack". More importantly, Lebedev believed that Raikov had not been completely forthright with his readers.

This was particularly the case in the biography's silence about the evolution of Polovtsov's views on heredity, which Lebedev considered to be a "positive evolution". "There are also some very

⁴⁸ ARAN SPb. 893/2/58 ll. 51–55. This is a carbon of the review. At the bottom of l. 51 is a note by Raikov: "This was not published owing to the obstruction of deputy editor Kirillov". The note is not dated (it was sent to Editor Nikolai Kirillovich Goncharov, 22 April 1958, Raikov to Goncharov, l. 50), but was probably appended long after F. D. Skazkin wrote to Raikov on 17 July 1958 with news that Goncharov had told him that it would be published in one of the next issues of *Sovetskaia pedagogika* (Skazkin to Raikov, 17 July 1958, l. 67).

⁴⁹ L.Ia. Bliakher, S.V. Gerd, I.I. Kanaev, P.P. Perfil'ev, and F.D. Skazkin, "Ob otsenke nauchnykh deiatelei proshlogo", *Trudy instituta istorii estestvoznaniia i tekhniki*, vol. 24, vyp. 5, Istorii biologicheskikh nauk, ed. P.P. Perfil'ev and B.E. Raikov (1958), pp. 331–339.

⁵⁰ ARAN SPb. 893/2/58, l. 65. D.V. Lebedev to Raikov, 4 June 1958. The complete letter is contained in ll. 65–66.

weak spots (on eugenics)”, Lebedev added, “but how could you pass over in silence the very last exposition of general biological ideas of V.V. when you gave plenty of space for his early writings? I honestly cannot understand this”⁵¹. The problem, for Lebedev, was that in a review, he would have to touch on all of these issues in addition, of course, to giving praise. However, the lingering legacy of Stalinism in this case made intellectual honesty potentially an ally of Stalinist holdovers — an irony of the Thaw — and so Lebedev refused to write so as not to give aid and comfort to the Lysenkoist common enemy⁵².

Faced with the bristling reaction to Fedorova’s review among biologists and methodologists, four of the main editors of *Biologiia v shkole* — B. Vsesviatskii, M. Mel’nikov, I. Prezent and V. Shalaev — published a long and detailed defense of the charges made by Fedorova against Polovtsov and Raikov (Vsesviatskii, Mel’nikov, Prezent, Shalaev, 1958, pp. 13–17). Quoting Polovtsov’s *Osnovy obshchei metodiki estestvoznaniia* at length, the editors demonstrated the biologist’s agnosticism about the correspondence between the mental image we create of the world on the basis of our sensations and the *real* world outside of us. Hadn’t Polovtsov written that “we *objectify* our sensations and project them outside of ourselves, in that way creating phenomena of the outside world. Strictly speaking, within us a system of representations arises by way of our perception that corresponds to changes in phenomena in the outside world that we assume to exist?” (Vsesviatskii, Mel’nikov, Prezent, Shalaev, 1958, pp. 13)⁵³.

If the defamatory review by Fedorova and the article by the other editors of *Biologiia v shkole* were not enough, it was followed soon afterward by the publication of her lengthy monograph *Metodika prepodavaniia estestvoznaniia v dorevoliutsionnoi Rossii* (Methods of Natural Science Teaching in Prerevolutionary Russia) (Metodika..., 1958)⁵⁴. The entire book was conceived as tracing an alleged hundred fifty year struggle between “idealists” and “materialists” in science teaching, with whole chapters devoted to the unmasking of Polovtsov, Raikov, and their “biological method.” Worse yet, Fedorova intended to use this publication as an “established fact” to guarantee her successful doctoral defense, reversing the usual order of defense and publication.

Faced with this new outrage, Raikov and the network of anti-Lysenkoists directed their responses now toward refuting and rebuking Fedorova’s book in scholarly publications, on the one hand, while mounting a massive and nearly unprecedented effort to deny her a doctoral degree, on the other. Encouragement came from a recent case; Lysenkoist V.S. Dmitriev’s dissertation on the transformation of species was rejected by his doctoral committee in early 1954, causing a major public scandal and a rebuke in the press of Lysenko’s “Arakcheev regime” in science (Joravsky, 1970, p. 171–172, footnotes 98 and 99)⁵⁵.

Mobilizing against Fedorova’s doctoral defense was the first priority. Already on October 19, 1958, Raikov had written a statement to the Presidium of the Academy of Pedagogical Sciences, in whose Moscow-based Institute for Teaching Methods’ Natural Science Sector

⁵¹ ARAN SPb. 893/2/58, l. 65 ob.

⁵² Leonid Iakovlevich Bliakher was less insistent on purity, having signed one of the open letters. Only later, in his *Problema nasledovaniia priobretennykh priznakov. Istoriia apriornykh i empiricheskikh popytok ee resheniia* (Moscow: Nauka, 1971) published as L.I. Blacher, *The Problem of the Inheritance of Acquired Characters. A History of a priori and Empirical Methods Used to Find a Solution*, 1982, 109, would Bliakher write that Polovtsov presented Lamarck’s ideas conscientiously “but without critical discussion”.

⁵³ Quoting Polovtsov, 1907, pp. 8–9.

⁵⁴ *Metodika prepodavaniia estestvoznaniia v dorevoliutsionnoi Rossii* (Moscow: Gos. Uchebno-Pedagogicheskogo Izdatel’stvo, Ministerstva Prosveshcheniia RSFSR, 1958), 434 pp.

⁵⁵ David Joravsky, *The Lysenko Affair* (Cambridge, MA: Harvard University Press, 1970), 171–172 and footnotes 98 and 99, p. 403.

Fedorova was going to defend her thesis, in which he abjured any responsibility for or connection with her dissertation. After being able to examine only one chapter, Raikov only saw the completed dissertation as a book — and was shocked. “This work turned out to be beneath any criticism”, he wrote. “It is a string of biases and concocted patterns supported by cherry-picked and often unscrupulously distorted quotations” that “has subjected almost every pedagogue working in natural science over the course of 150 years to denunciation, with the exception of a few individuals, whom the author esteems without cause”⁵⁶. In a hand written note on the carbon copy, Raikov noted that the letter had never been delivered to the Presidium, having been shelved by the academy’s academic secretary, demonstrating the power of gatekeepers in Soviet institutions⁵⁷.

The day after writing to the Presidium, Raikov wrote to Gerd, inviting him to a meeting with colleagues from the Gertsen institute. “It is not very pleasant to get entangled in this affair”, Raikov confessed, “but it would be wrong to simply shrug our shoulders”⁵⁸.

After a note from his friend Andrei Parfenik, a biologist living in the North Caucasus, informing Raikov that the *Uchitel'skaia gazeta* had published the date for Fedorova’s scheduled defense — November, 28 — the pace picked up.⁵⁹ Parfenik shrewdly noted that Fedorova chose the Sector of Natural Science Teaching at the Moscow headquarters of the Academy of Pedagogical Sciences because they shared “the same nihilistic viewpoint” that she did, and cautioned that B.V. Vsesviatskii also had a seat on the Higher Credentialing Commission (VAK), the national body that confirmed the award of degrees. Consequently, preventing the award of a doctorate to Fedorova would be highly improbable. The Lysenko network, while not especially numerous, was extremely attentive to placing its members in key leadership positions and at academic choke-points; it needed to control securely at least some units in every relevant institution (the USSR Academy of Sciences, the RSFSR Academy of Pedagogical Sciences, universities, VAK) to insure the advancement of its members and the policing of its opponents. This became more, not less, crucial during the Thaw, when state intervention in academic and scientific affairs began to lessen.

Hastily organizing resistance to the defense, an expanded meeting of the Sector of Natural Science Teaching Methodology of the Leningrad branch of the Academy of Pedagogical Sciences was held on 17 November. Among those who spoke was Ekaterina Aleksandrova-Bartoshovich, mother of the rector of Leningrad State University, a teacher herself, and a student of Polovtsov’s. Recalling Polovtsov’s excursions with students to the Academy of Sciences’ Zoological Museum, which were inspired by a Darwinian evolutionary perspective, Aleksandrova declared that not only was Polovtsov a Darwinist and a materialist, but that “[t]here are still some of his students alive who are prepared to take a stand for the revered memory of their teacher”, and she informed the meeting that she and two other former students were writing to the APN “to portray his actual activity truthfully”.⁶⁰

In addition to Aleksandrova and Ol’ga Kazakova, Raikov’s student, a historian of science and leading methodologist, who tore Fedorova’s book apart chapter by chapter with fact-based critiques, a parade of speakers denounced the book as “a parody of history”, “politically harmful”, and even, as Vera Korsunskaiia had it, “reactionary”, turning the tables on the Stalinists!⁶¹ In the spirit of Parfenik’s letter, the participants began asking where specifically the nodes of

⁵⁶ ARAN SPb. 893/1/390, ll. 38–40. Raikov to the Presidium of the APN. October 19, 1958.

⁵⁷ ARAN SPb. 893/1/390, l. 38.

⁵⁸ ARAN SPb. 893/1/390, l. 41. Raikov to Gerd, 20 October 1958.

⁵⁹ ARAN SPb. 893/1/390, l. 42–43.

⁶⁰ ARAN SPb. 893/1/390, l. 60. From: *Protokol rasshirennogo zasedaniia Sektora metodov estestvoznaniia Nauchno-issledovatel'skogo instituta pedagogiki APN v Leningrade*, 17 noiabria 1958 g.

⁶¹ ARAN SPb. 893/1/390, ll. 44–66. These remarks permeate the meeting. Korsunskaiia’s are on l. 63.

Lysenkoist corruption or simply incompetence were in the overall academic system. As botanist Fatikh Bakhteev put it, “The question involuntarily arises: What kinds of pedagogical institutions reviewed this book? Who recommended it for publication?” Yet, there was still a faith that honest editors and functionaries would rectify mistakes and that the system’s reform wasn’t hopeless. Bakhteev concluded: “We must explain to Uchpedgiz [the publisher of Fedorova’s book, attached to the APN of the Ministry of Education of the RSFSR] what kind of a book they have put into print”⁶².

In a letter sent to the president of the pedagogical academy, Ivan Kairov, one week before the defense, Raikov alerted him that the transcript of the Leningrad meeting was being sent and appealed personally to intervene. The defense, warned Raikov, “can bring nothing but harm to the scholarly reputation of the APN”⁶³. Raikov sent a similar letter to vice-president Aleksei Markushovich, a mathematician, but neither he nor Kairov wished to get involved. Raikov noted in pen on the carbon that his letters were put aside because it was known that “Fedorova was under the protection of Lysenko and his side-kick, Prezent”⁶⁴. Although the fear of arrest for opposing state-sponsored “scientific” figures like Lysenko had dissipated after Stalin’s death, the fear or demotion or of damaging the institution under one’s stewardship was still present. For that reason, leaders of scientific institutions, although genuine scientists and even decent people, preferred a “live and let live” approach: academia was big enough for Lysenkoists and anti-Lysenkoists.

On 28 November 1958 Vera Fedorova finally got to defend her dissertation. Although the committee of official *opponenty* was stacked in her favor, other members of the RSFSR Academy of Pedagogical Sciences’ Institute of Teaching Methods and Sector of Natural Science Teaching were entitled to attend, and they were not all ready to celebrate. All of the sudden, it was not all smooth sailing for Fedorova. One questioner asked if there had been any published reviews. “There are none”, she had to admit. One official *opponent*, Mariia Fedorovna Shabaeva, took issue with Fedorova’s assessment of Polovtsov’s pedagogical approach and the progressive school movement. “The biological approach enlivened teaching”, she noted, and the “commercial high schools’ (*kommercheskie uchilishcha*) that promoted that approach — “baselessly labelled by [Fedorova] as reactionary” — did much good⁶⁵. On the other side of the coin, Shabaeva accused Fedorova not only of unfairly criticizing Polovtsov but of shielding Moscow-based pedagogues from criticism in her work⁶⁶.

Fedorova’s response to the last charge is noteworthy. “The statement about shielding Moscow methodologists is not objective”, she objected, noting that she had subjected anti-Raikov pedagogues Fedor Duchinskii and Boris Ignat’ev “to the greatest criticism”. However, she continued, the criticism “directed at the Leningraders was elicited by the fact that they permit serious errors. Lunacharskii defined them as a group that was principally in error. The Leningraders in 1929 acknowledged their errors”⁶⁷.

In this small exchange, we can see in a nutshell — however sincere — the defensive rhetorical tactics of Stalinists in academia. Fedorova’s attempt to show that she was unbiased by

⁶² ARAN SPb. 893/1/390, l. 64. In July, 1956 a critical review by G. K. Khrushchov of O.B. Lepeshinskaiia’s *Proiskhozhdenie kletok iz zhivogo veshchestva i rol’ zhivogo veshchestva v organizme*, originally published in 1950 evidently stopped the publication of a third edition of her work by the Publishing House of the USSR Academy of Sciences (Izdatel’stvo AN SSSR). See Gaisinovich, Muzrukova, 1991, p. 87.

⁶³ ARAN SPb. 893/1/390, l. 65.

⁶⁴ ARAN SPb. 893/1/390, l. 66.

⁶⁵ ARAN SPb. 893/1/390, ll. 87–88. The document, Protokol Uchenogo soveta Instituta metodov obucheniia APN RSFSR v Moskve, 28 noiabra 1958 g., is contained in ll. 67–116.

⁶⁶ ARAN SPb. 893/1/390, l. 89.

⁶⁷ ARAN SPb. 893/1/390, ll. 91–94.

criticizing Duchinskii and Ignat'ev was quite convenient. Although they were central allies of Vsesviatskii and harsh opponents of Raikov in the 1920s, they were honest scientists. Duchinskii apparently remained a partisan of Mendelian genetics and almost certainly got on the bad side of Lysenko after August 1948 owing to his close association with Boris Zavadvskii at the Timiriazev Biological Museum (Kasatkin, 2017, p. 22)⁶⁸. Furthermore, Ignat'ev was a dead letter, not having published anything after the mid-1930s; even Raikov, who kept records on everyone, ally or opponent, did not know their death dates! Consequently, criticism of Duchinskii and Ignat'ev was cost free, as they did not count among the postwar clients of Lysenko or Vsesviatskii. Additionally, her justification of her criticism of Raikov and the "Leningraders" was also convenient. True, they admitted their errors in 1929, but only after being threatened implicitly with removal from their jobs and imprisonment, fates that befell many of the "Leningraders" despite their confessions. Just as Fedorova tried to entrap Raikov with the discrepancy between what he had written about Polovtsov in the immediate postwar years and what he wrote in 1956, so she also treated the "confessions" of the "Leningraders" as if they were sincere and voluntary, and not a product of *terror*. Of course, Stalinists refused to admit that terror formed a central context for actions in Soviet society, but they also counted on the likelihood that their opponents and victims would be too afraid to bring it up. In that way, they were able to set very confining terms of debate.

Debate was also constrained by the continuing inability to *openly* endorse Mendelian genetics and the Great Synthesis. Longtime close collaborator and friend of Raikov Vladimir Natali, a geneticist and member of the Uchenyi Sovet, announced that he was casting a "no" vote against Fedorova and added: "<...> On Polovtsov, we have to take into account of the time in which he wrote. The theories of Mendel, De Vries, and Korzhinskii were widely circulating in science then. It is completely understandable that these theories were accorded attention"⁶⁹. Even someone as brave as Natali, who never confessed his errors and who published one of the best and clearest textbooks on genetics on the morrow of Lysenko's loss of power, was unable to give a full-throated defense of Polovtsov's interest in genetics at the time (Natali, 1967)⁷⁰. What Natali *did* feel emboldened to defend was the progressive pedagogical movement of the 1920s and, to that extent, the Fedorova affair constituted a resumption of the struggle of ideas about education that was abruptly ended in 1929–30 by state repression.

Another tactic used by Stalinists, and in evidence at the defense, was to claim that *they*, and not their opponents, were victims of persecution. V.F. Shalaev, one of several members of the editorial board of *Biologiia v shkole* subordinate to Fedorova and now anomalously supposed to judge *her*, complained that opponents at the defense were waging "a psychological attack" and "beating the drums", — "all without proof!"⁷¹

After providing a devastating litany of factual and interpretive errors in Fedorova's book, Ol'ga Kazakova was asked by another of Fedorova's editorial board members and backers, Mikhail Skatkin, whether there was anything at all in the book that Kazakova found new or valuable. Kazakova's reply was categorical: "New? Nothing. The only thing new was the name Utush-

⁶⁸ Chusova E.A. (ed.) *Sbornik nauchnykh trudov Gosudarstvennogo biologicheskogo muzeia im. K.A. Timiriazeva. V vypusk. K 95-letiiu muzeia* [Collection of scientific works of the State Biological Museum named after K.A. Timiryazev. V edition. To the 95th anniversary of the museum], Moscow: Akvarel', 2017. P. 22. Available at: <http://www.gbmt.ru/ru/science/publications/sbornik.pdf>.

⁶⁹ ARAN SPb. 893/1/390, l. 94.

⁷⁰ Based on his *Genetika: Uchebnik dlia vysshikh pedagogicheskikh uchebnykh zavademii* (1934).

⁷¹ ARAN SPb. 893/1/390, l. 99.

kin, because that person did not play any role whatsoever in the methodology of science teaching!⁷² In response, Skatkin strangely argued that the worth of Fedorova's book was in fact demonstrated by the vehemence of the objections it elicited: "The length of the discussion shows that the new is birthed in struggle, that the new always meets stubborn resistance on the part of the old. This work without doubt merits the award of the doctoral degree"⁷³. In effect, the logic of the Stalinists rejected any fact- or argument-based means of invalidating work that they had already approved of beforehand, again testifying that the "Fedorova Affair" at its core was a struggle between two different visions of how to pursue science and scholarship. At the end of the day, the power and cogency of the objections didn't matter; the vote of the Uchenyi Sovet was 20 in favor of awarding the degree, 3 against, and 3 abstentions⁷⁴. The Lysenko camp had shown the strategic importance of capturing select units in academic institutions.

Because this conflict was about more than a personal slight or even the career of V.N. Fedorova, committed anti-Lysenkoists, and first of all Raikov, sought to continue the campaign beyond the dissertation defense. Equally, Vladimir Nikolaevich Sukachev had lost none of his enthusiasm. At Raikov's behest, a zoologist from Kiev, B.N. Mazurmovich, sent Sukachev a review of Fedorova's book, and Sukachev wrote to Raikov that he intended to publish it in the next issue of the *Bulleten' MOIP*. Tellingly, his only objection to the review was that "the author. . . mistakenly supports the position of the book's author [Fedorova]". Mazurmovich had written that "Any embellishment, exaggeration, or, to the contrary, underrating or willful belittling of the role of figures of the past must be viewed as a rejection of the Marxist-Leninist demand for party spirit (*partiinosť*) in science" in an attempt to show that Fedorova, whose account was guilty of all the above charges, was the truly anti-Soviet, anti-Party position. Sukachev, who wanted to remove *any* ideological or political policing from science and scholarship, concluded that Mazurmovich's tactical stance simply replicated and reinforced unwanted *partiinosť*. "There is no question", he emphasized, "that any false depiction of the activities of figures of the past is impermissible in general — without *partiinosť* having anything to do with it"⁷⁵. Liberals and anti-Stalinists in science were trying during the Thaw to reverse the losses sustained in the 1920s and later.

Not all scholars and scientists, however, wanted to pursue the conflict to the bitter end. An attempt was made by a collective of scholars and professors from the Gertsen Institute to persuade Evgenii Pavlovskii, head of the Academy of Sciences' Zoological Institute, to get one of his colleagues to review the book. "The book is anti-historical, has a distinctly polemical nature, is full of crude factual errors", they wrote. "A review of this book by your institute, as well as a review of *Biologična v shkole*, could play the decisive role in this righteous cause of struggle for genuine science — science that doesn't permit distortions, falsification of facts, and the tendentious interpretation of evidence"⁷⁶. However, the appeal now fell on deaf ears. Pavlovskii, who had signed the letter of the three academics, now weighed the costs and benefits of further action, and demurred.

⁷² ARAN SPb. 893/1/390, l. 113.

⁷³ ARAN SPb. 893/1/390, l. 114.

⁷⁴ ARAN SPb. 893/1/390, l. 114. V.F. Natali and Aleksei Ivanovich Strazhev, who had taught history and social science at the Moskovskaia Opytnaia-Pokazatel'naia Shola-Kommuna (MOPShK) in the 1920s, announced their opposition during the discussion.

⁷⁵ ARAN SPb. 893/1/390, l. 193–194. The review was published in *Bulleten' MOIP*, no. 65 (1960), pp. 155–157. Raikov concurred. In a letter to Sukachev of 5 December 1958, (ARAN SPb. 893/2/58 l. 70), Raikov wrote: "The author of the review . . . gave the book a truthful assessment, although perhaps a little too gentle; he needed to have given the book a much stronger critique".

⁷⁶ ARAN SPb. 893/1/390, l. 198. Raikov wrote in pen at bottom: "E.N. Pavlovskii did not wish to be a part of this cause".

Even the editor-in-chief of *Voprosy istorii estestvoznaniia i tekhniki*, A.S. Fedorov, began to drag his heels. The letter of the three academicians was initially pulled from publication owing to a mix-up, while publication of the critical review of Fedorova's book by Ol'ga Kazakova was not supported by the members of the editorial board or by the book review section. In the archive, we have Raikov's angry response to A.S. Fedorov, reflecting his feelings that live-and-let-live academic bureaucrats were betraying true science by their passivity⁷⁷.

One individual who represented the antithesis of passivity was the plucky schoolteacher from Kazan Evdokiia Arentova. Arentova had once taught biology in the same school as Fedorova, where Fedorova had responsibility for the supervision of student-teachers. Although Fedorova had behaved "considerably" toward Arentova personally, and she was troubled by Fedorova's denunciation of genetic Livanov in 1948. This concern only grew with Arentova's familiarity with a number of "smaller works" published by Fedorova which shocked by their "irresponsibly shallow and quite unscrupulous approach"⁷⁸.

Fedorova's departure for Moscow in 1953 did not meet with one expression of regret from Kazan schoolteachers, according to Arentova, and Fedorova was largely forgotten until Arentova accidentally stumbled on Fedorova's book at the Kazan Pedagogical Institute. Fedorova had apparently sent it to a docent there with the request to him to review it. Appalled at the contents and the interpretation, Arentova concluded: "I had to act on my own". She then proceeded to write reviews of the book and commentaries on the state of education, which she sent to *Uchitel'skaia gazeta*, *Literaturnaia gazeta* and *Sovetskaia pedagogika*⁷⁹.

Interestingly, her letters dared these publications, which advertized themselves as crusading against abuses, to tackle actual present-day issues (such as Fedorova's book) rather than confine themselves to hypothetical cases. "The writer who describes hypocrites of our own times must show these types in their current form, and not hide behind images of hypocrites of the past, already vividly depicted", she challenged in a submission to *Literaturnaia gazeta*. "Teachers don't need 'hypothetical cases' — there are more than enough real ones". Having received a slew of rejections of her review, without any explanation, Arentova was exasperated. In a letter to *Sovetskaia pedagogika*, copied to A.I. Kairov and RSFSR Minister of Education Evgenii Afanasenko, in response to an article that A.I. Kairov had just published there that called for the creative collaboration of teachers and scholars, Arentova asked: "Does recommending that a completely overworked teacher read an unsound book (referring to Fedorova's), absolutely uninformed by the principles of Marxist dialectics. . . while at the same time barring a justifiably negative critique of it in the Press by an average teacher contribute to such collaboration?" And she pointed observed: "It is totally mysterious why the review I wrote of V.N. Fedorova's book [for] ... various ... pedagogical publications has not been published in view of the fact that not a single review of her book has been published in the pages of those journals..."⁸⁰

Eventually, on May and June 1960 Arentova received replies from RSFSR Deputy Minister of Education Kashin, who explained that the journals were overwhelmed with materials connected to Khrushchev's school reforms, and from the Vice President of the Academy of Pedagogical Sciences, Aleksei Leont'ev, who said that the decisions were made by editorial boards themselves (with the implication that there was no political pressure applied)⁸¹. As may be inferred from her letter to Raikov, Arentova was skeptical. Whereas initially, from her provincial perspective as a schoolteacher in Kazan, she faulted the leading Moscow and Leningrad

⁷⁷ ARAN SPb. 893/1/390, l. 200.

⁷⁸ ARAN SPb. 893/1/390, ll. 209–209 ob. Arentova to Raikov, Kazan', 8 June 1960.

⁷⁹ ARAN SPb. 893/1/390, ll. 209.

⁸⁰ ARAN SPb. 893/1/390, ll. 209.

⁸¹ ARAN SPb. 893/1/390, ll. 209.

methodologists for their silence on the book, ascribing to them either laziness or cowardice, she now understood the bigger picture. “My extreme perplexion ... has been cleared up”, she penned, and “has yielded to an inexpressible astonishment of a different kind”. On that basis, she speculated, there was no point in submitting her review to other pedagogical journals: “the result will be the same...”.⁸² As Iurii Vasil’evich Aksiutin, Stephen Bittner, and others have noted, the Thaw was a real-life experiment in negotiating and also discovering the limits of reform.

Where Raikov saw Arentova’s repeated attempts to place a critique of Fedorova’s book into the public sphere as civic heroism⁸³, Arentova described her actions simply as done out of a sense of duty to her profession and “out of a feeling of great empathy for the average teacher in the trenches... I don’t see any particular heroism in this”, she continued, “because I proceeded from the interests of the science of pedagogy and of those of the mass of teachers. In the last analysis”, she offered, “it’s the teacher who answers for the mistakes of pedagogical scholars and methodologists”.⁸⁴

The last opportunity to prevent the award of a doctorate to Fedorova was to convince the Vysshaia Attestatsionnaia Komissiiia (VAK), or Higher Credentialing Commission, to withhold certification of the degree. A detailed unfavorable evaluation signed by five academicians and professors was sent to VAK, to APN President Kairov, and to RSFSR Minister of Education Afanasenko, and letters were sent by Arentova and by “a number of recognized teachers in Leningrad” as well.⁸⁵

After the appearance of the letter of the three academicians, the editorial board of *Biologiya v shkole*, clearly stung, asked *Voprosy istorii estestvoznaniia i tekhniki* for the opportunity to respond⁸⁶. The Lysenkoists — V.I. Shubin, B.V. Vsesviatskii, I.I. Prezent, M.I. Mel’nikov, E.I. Turbina, V.F. Shalaev, E.N. Zhudro, and Kh.F. Kushner, but not editor-in-chief Fedorova — sought to invalidate the attack on Fedorova by alleging, correctly, that it was part of an organized campaign. The authors noted that the Sukachev, Pavlovskii and Baranov letter “repeats in abridged form” the content of the earlier piece by Bliakher, Gerd, Verzilin, Skazkin, Perfil’ev and Kanaev. The objection, of course, was hypocritical, as the Lysenko camp had been conducting organized campaigns for decades, but this was the first time that there since 1948 that there had been such broad-based resistance.

At the heart of their letter was a restatement of their collective article in *Biologiya v shkole* in which they insisted on the solidity of Fedorova’s conclusion that V.V. Polovtsov was a philosophical idealist. Again citing pre-Thaw publications of the anti-Lysenkoists themselves, including Raikov, the defenders of Fedorova tried to use writings published during years of Stalinist terror or pressure as weapons against the current positions of the anti-Lysenkoists. Finally, the Lysenkoists disingenuously asserted that “the accusation against V.N. Fedorova that she intentionally set herself the task of blackening and denigrating the activity of V.V. Polovtsov, which was advanced by the authors of the open letter, has no basis”⁸⁷.

At this point, the archival and memoiristic trail dribbles to the end. Boris Vsesviatskii had apparently convinced VAK to set aside the objections to the confirmation of Fedorova’s

⁸² ARAN SPb. 893/1/390, ll. 206–206 ob. Arentova to Raikov, Kazan’, 24 April 1960.

⁸³ ARAN SPb. 893/1/390, ll. 208 ob. Raikov to Arentova, Leningrad, 20 May 1960. He wrote: “...one can only marvel at your courage and persistence with which you attempted to expose falsehood”. (The entire letter is on ll. 208–208 ob.)

⁸⁴ ARAN SPb. 893/1/390, ll. 209.

⁸⁵ ARAN SPb. 893/1/390, ll. 204–5. O.S. Kazakova to Arentova, Leningrad, 13 April 1960.

⁸⁶ ARAN SPb. 893/2/58, l. 75 V.I. Shubin, B.V. Vsesviatskii, I.I. Prezent, M.I. Mel’nikov, E.I. Turbina, V.F. Shalaev, E.N. Zhudro, and Kh.F. Kushner to N.A. Figurovskii, editor of VIET, 21 November 1960.

⁸⁷ ARAN SPb. 893/2/58, ll. 86–87. V.I. Shubin, B.V. Vsesviatskii, I.I. Prezent, M.I. Mel’nikov, E.I. Turbina, V.F. Shalaev, E.N. Zhudro, and Kh.F. Kushner’s Reply to the Open Letter of Academician Sukachev et al.

doctorate, and Raikov, still occupied with the gigantic project of writing his memoirs, decided to let the matter rest. In a response to this, the editor of VIET wrote back to Raikov: "I am absolutely in agreement with you that to engage in further polemics on the pages of *Voprosy IET* with the editors of *Biologiya v shkole* is not advisable. N.A. Figurovskii holds the same opinion"⁸⁸. Raikov and his supporters and colleagues had begun to understand the limits of the possibilities of the Thaw.

The question of these limits to reform are important in helping *us* to understand broader aspects of the Soviet system as it evolved after Stalin. These limits were set by a number of factors. Certainly, the ultimate power of the Party-State is key to any understanding. It is inconceivable that the regime would explicitly renounce any portion of its sacred canon, for example, Lenin's *Materialism and Empirio-Criticism*. That meant that it was not possible to openly defend the proposition that science was in some measure "socially constructed". Further, Khrushchev's ultimate decision to continue to endorse Lysenko and his ideas made it difficult to mount an overt, frontal assault on "Michurinist biology" and to defend classical genetics. Unlike Polovtsov — or Lunacharskii or Engels — no one could now make the case that science was a dynamic, open system of provisional truths that were subject to revision, and no one could challenge a decision of the supreme leadership of the Party.

As Vladimir Aleksandrov observes, from Stalin's death through the mid-1950s "a rather strange situation" obtained in biology. On the one hand, scientific journals now found themselves free, if editors dared, to publish articles critical of the precepts and alleged findings of the Lysenkoists. However, such criticism was not permitted in broader political and cultural publications. This, it turned out, was the result of the personal support given the Lysenkoists by First Secretary Nikita Sergeevich Khrushchev, support that was secured by the favorable impression Khrushchev received during a 1954 visit to Lysenko's experimental farm at Gorki Leninskie. Until the major *Pravda* article by Lysenko of 8 December 1957 attacking Sukachev, the *Botanicheskii zhurnal* and *Biulleten' MOIP* (simultaneously published in *Izvestiia*) and the editorial in *Pravda* of 14 December 1958 "On agrobiological science and the false positions of the *Botanicheskii zhurnal*", opponents of Lysenko could still hold out hope that in the post-Stalin conditions of the Thaw, higher Party officials would withdraw support for Lysenko under pressure from the scientific community. By 15 December 1958 it was clear where Khrushchev stood; at the Plenum of the Central Committee of the Party he called for the removal of Sukachev and anti-Lysenkoists from the editorial board of the *Botanicheskii zhurnal*, which took place in the following days. While still allowed to keep his editorship at the *Biulleten' MOIP*, Sukachev could not publish any anti-Lysenkoist material (Aleksandrov, 1992, esp. pp. 184–194)⁸⁹. It was therefore miraculous that the "letter of the three academicians" made it into print at all in 1960 in the *Vestnik IET* and understandable why the editors of that journal wanted Raikov to lay down the sword and discontinue the struggle against Fedorova.

Faced with these impediments, biologists and methodologists and historians of science were reduced to a Gramscian "war of position". They tried to recover a certain degree of public space and tried to ease out Lysenkoist cadres in institutions. This was a very incomplete and slow process⁹⁰. It was a process that was also hampered by the Stalinization of public discourse, which persisted under Khrushchev. Successful attacks on opponents had to make the case that opponents were really anti-Soviet, which worked to reinscribe the officially approved terms of

⁸⁸ ARAN SPb. 893/2/58, l. 88.

⁸⁹ Aleksandrov V.Ia., *Trudnye gody sovetskoi biologii. Zapiski sovremennika* [The difficult years of Soviet biology. Notes of a contemporary], (Sankt-Peterburg: Nauka, 1992), esp. 184–194.

⁹⁰ David Joravsky, (1970, p. 162) notes that "For five years, 1959 to 1964, public debate was held at a minimum" and it seemed that the Lysenkoist monopoly of 1948 to 1951 had been revived.

debate. De-Stalinization was a self-limiting reform, which, like Stalinism itself, could not really accept science as an open system.

We might add that, ironically, Raikov never publicly endorsed the idea that chromosomal-based inheritance combined with mutation was the mechanism of speciation; nor in his published works is there any clear critique of Lamarck's idea that gradual change in the environment induces adaptive changes in organisms, cemented by use. His struggle with Lysenkoism was not about the restitution of genetics but about ending dictatorial conditions within science and opening up the classroom to more experimental and progressive methods that he, Polovtsov, Boch, A. Gerd, V. Gerd and others developed before 1917.

One inescapable question in all of this concerns Fedorova's motives and beliefs. Was she convinced of the veracity of the theories of Lysenko and later of crackpots like Lepeshinskaia, whom she extolled in print? Was her support for the Lysenko camp alternatively driven by a cynical opportunism? Or, was it more complicated than this binary (One could ask the same questions of Stalin himself)?

Some leads can be found in her early correspondence with Vsesviatskii, in her first brochure published after the August 1948 Session (Fedorova, 1949), and in her correspondence with Raikov. It shows her as someone who was ambitious, dissatisfied with remaining in "provincial" Kazan', and astute enough to network with a major power-broker (Vsesviatskii) in the field of biology teaching methods. She had arrived at a dislike of Polovtsov and Raikov's "research or biological method" (apparently) independently of Vsesviatskii, and in her first "Lysenkoist" brochure emphasized that only a "Michurinist" (Lysenkoist) approach allowed for the "refashioning of nature in accordance with the tasks of socialist construction." "This active science successfully changes the nature of living organisms," she wrote, "creates new productive varieties of plant and races of animals <...> and converts deserts and steppe into flowering gardens." (Fedorova, 1949, p. 4). Many scientists and non-scientists from the 1920s on sought scientific techniques and theories that would accelerate humans' abilities to transform the living world and increase its productivity in desired ways, and apparently Fedorova belonged to that category.

We do know that, despite presenting herself as naïve and as a provincial, Fedorova had a rather competent understanding of Mendelian segregation, including the idea of allelomorphic pairs and recessive and dominant traits (Fedorova, 1949, p. 36–38). And she had a very good knowledge of the Russian scientific literature that sought to detach "Mendelism" from evolutionary theory. Fedorova used V. Komarov, K. Timiriazev, and one of Iu. Filipchenko's classic books (Filipchenko, 1926) to attack William Bateson's early claims that Mendel's theories were the nucleus of a new theory of evolution. It is unclear whether Fedorova knew in 1949 about the Synthetic Theory of Evolution; however, she clearly must have known about research on mutation in genes. After all, she had denounced the research of N. Livanov at Kazan University and must have known about the research of Herman G. Mueller. That she ended her discussion with Bateson rather than with Chetverikov, Mayr, Shmal'gauzen or Dobzhansky could have been because she was not familiar with the latest literature or simply because it was more convenient not to have to refute the more complex Synthetic Theory. To all evidence, like I. I. Prezent but *unlike* Lysenko himself or Lepeshinskaia, Fedorova had the intelligence and background to comprehend the arguments of her opponents.

Clearly, she was a careerist; she took pains to cite articles by Lysenko and Prezent in her 1949 brochure (Fedorova, 1949, p.8)⁹¹. However, there *is* in her writings the trace of a belief system.

⁹¹ To cite the Lysenko article, "O polozhenii v biologicheskoi nauki" (1948) was de rigeur, of course. Of more interest is her reference to Prezent's *Teoriia Darvina v svete dialekticheskogo materializma* (Leningrad: Lenogiz and Lenmedizdat', 1932)

Fedorova saw science through the eyes of a Soviet and Russian patriot, which was certainly reinforced by her marriage to a high-ranking officer of the secret police. There *was* a separate, and superior, development of science in Russia in her eyes,⁹² and this was linked to the separate and superior political and social development in her country, marked by its bold and grandiose plans to reshape living nature. This superior course of development — “communism” — was linked to and guaranteed by a rigid, determinate “scientific” ideology, Leninism, and a rigid, ideologized science linked to that. Polovtsov and Raikov, who held more open views on science, threatened to crack the foundations of the system. They represented the historic forces of decadence, relativism, philosophical idealism, and cosmopolitanism that her academic heroes had battled both in the tsarist and the Soviet periods. They were the enemy cohort within her binary, xenophobic world. Her support for the research of Lepeshinskaia was almost certainly opportunistic and careerist, but her rejection of Raikov and Polovtsov was probably sincere.

The Fedorova Affair — a secondary front in the struggle between Lysenkoists and their opponents — ended with the temporary victory of the former. Only after the removal of Nikita Khrushchev in late 1964 did the new collective leadership of Brezhnev, Kosygin and Podgornyi reinstate modern (Mendelian-derived) genetics as the correct, state-supported theory of heredity, and the Synthetic Theory of Evolution as the best explanation of biotic change on our planet. With the parallel fall of Lysenko from power in biology Fedorova lost her position as editor-in-chief of *Biologiya v shkole* in 1965.

Through the 1960s and 1970s, however, she was still actively publishing, as were Vsesviatskii and Mel'nikov (Fedorova, 1975; Mel'nikov, 1976; Vsesviatskii, 1969)⁹³. By that time, of course, genetics had been reinstated in the curriculum of high schools and higher educational institutions, but it is food for thought to consider how much paper and ink (and readers' time and attention!) continued to be wasted in the numerous works authored by Lysenkoist holdovers aimed at teachers and students and published by houses like “Prosveshchenie,” beneficiaries of the Party's “live and let live” approach⁹⁴. Only the textbook edited by Yu.I. Polianskii, who gathered a group of authors — professional scientists and methodologists-biologists, radically changed the situation. Polyansky, which appeared in 1966 (Polianskii, 1966).

References:

- Aleksandrov V.Ia. (1992) *Trudnye gody sovetskoi biologii. Zapiski sovremennika* [The difficult years of Soviet biology. Notes of a contemporary], Saint-Petersburg: Nauka.
- Bittner St.V. (2008) *The Many Lives of Khrushchev's Thaw: Experience and Memory in Moscow's Arbat*, Ithaca: Cornell University Press.
- Ermolaev A.I. (2004) *Istoriia geneticheskikh issledovaniï v Kazanskom universitete* [The history of genetic research at Kazan University], Kazan: Izd. Kazanskogo universiteta.

⁹² See discussion of her letter to Raikov of 16 Sept. 1954 in the text on p. [8]. On the centrality of “patriotism” in the discourse of the Lysenkoists, see esp. Dmitri Stanchevici, *Stalinist Genetics: The Constitutional Rhetoric of T. D. Lysenko* (Amityville, NY: Bayville Publishing, 2012), pp. 149–153. This rhetoric, the evidence suggests, may not have been only instrumental, but sincere.

⁹³ Michurinist genetics continued to be defended in the press and even in dissertations after 1965. See Graham, 1987, p. 151.

⁹⁴ For the persistence of Lysenkoism proper in science even after his “fall” in 1965, see: Michael Gordin, “Lysenko Unemployed: Soviet Genetics after the Aftermath,” *Isis*, vol. 109, no. 1 (March 2018), pp. 56–78.

Fedorova V. (1948) “Na nepravil’nykh pozitsiakh. S zasedaniia Kazanskogo obshchestva estestvoispytatelei, [On the wrong positions. From the meeting of the Kazan Society of Naturalists]”, *Krasnaia Tataria*, 5 September 1948, p. 4.

Fedorova V.N. (1949) Bor’ba K.A. Timiriazeva s veismanizmom-mendelizmom [The fight of K.A. Timiriyazev with Weismannism-Mendelism], Kazan’: Tatgosizdat.

Fedorova V.N. (1957), “O knige B.E. Raikova, V.V. Polovtsov, ego zhizn’ i trudy” [About the book of B.E. Raikov, V.V. Polovtsov, his life and works], *Biologiya v shkole*, no. 6, pp. 89–91.

Graham L.R. (1987) *Science, Philosophy and Human Behavior in the Soviet Union*, New York: Columbia University Press.

Kolchinskii E.I. (1999) *V poiskakh sovetskogo ‘soiuza’ filosofii i biologii (diskusii i repressii v 20-kh — nachale 30-kh godov* [In search of a Soviet “union” of philosophy and biology (discussions and repressions in the 1920s and early 1930s)], Saint-Petersburg: Dmitrii Bulanin.

Kolchinskii E.I. (2013) *Kirill Mikhailovich Zavadskii, 1910–1977*, Saint-Petersburg: Nestor-Istoriia.

Krashenninnikova T., Sinitsyn O. (2013) “Put’ istorika (Evgenii Ivanovich Ustyuzhanin)” [The path of the historian (Evgenii Ivanovich Ustyuzhanin)], *Gasyrlar avazy / Ekho vekov (Kazan’)*, no. ¾. Retrieved from http://www.archive.gov.tatarstan.ru/magazine/go/anonymous/main/?path=mg:/numbers/2013_3_4/04/05/ [accessed on 8 Feb 2018].

Krementsov N. (1997) *Stalinist Science*, Princeton: Princeton University Press.

Lebedev D.V. (1991) “Iz vosponinanii antilysenkovtsa s dovoennym stazhem”, in: M.G. Iaroshevskii (ed.) *Repressirovannaia nauka* [Repressed science], Leningrad: Nauka, pp. 264–282.

Medvedev Zh.A. (1971) *The Rise and Fall of T.D. Lysenko*, translated by Michael I. Lerner, Garden City, NY: Doubleday, pp. 135–136.

Polianskii Yu.I. (1966) (Ed.) *Obschaia Biologiya* [General Biology], Moskva: Prosvescheniie.

Polovtsov V.V. (1957) *Izbrannye trudy* [Selected works], Moscow: Izdatel’stvo APN.

Raikov B.E. (2011) *Na zhiznennom puti, Tom 2* [On the life’s journey. Book 2], Saint-Petersburg: Kolo.

Samokish A.V. (2014) *Shkol’nie I instruktorskie biologicheskie stancii v Petrograde-Leningrade* [The School Extracurricula Biological Stations in Petrograd], *Istoriko-Biologicheskie Issledovaniia*, vol. 6, no. 1, pp. 48–71.

Weiner D.R. (1988) *Models of Nature: Ecology, Conservation, and Cultural Revolution in Soviet Russia*, Bloomington: Indiana University Press.

Weiner D.R. (2006) “The Struggle over the Soviet Future: Science Education versus Vocationalism during the 1920s”, *Russian Review*, vol. 65, no. 1 (Jan. 2006), pp. 72–97.

«Ниже всякой критики». Что может «Дело Фёдоровой» рассказать о советской науке периода хрущёвской оттепели

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Ущерб, нанесенный советской науке Лысенко и его последователями, не ограничивался генетикой. Одним из малоизвестных аспектов был ущерб, причиненный Лысенко и его сторонниками преподаванию биологии и истории науки. В центре этого исследования — фигура Веры Николаевны Федоровой (1908 — ?), которая с 1956 по 1965 год выросла от простой казанской

школьной учительницы до главного редактора журнала «Биология в школе». Проанализирована ее переписка с методистами преподавания биологии Б. В. Всесвятским и Б. Е. Райковым. Основываясь на этой переписке и ее работах, можно проследить эволюцию ее взглядов. Была сделана попытка определить причины быстрого роста ее карьеры. Особое внимание уделено отношениям с известным историком науки и методистом преподавания естественных наук Борисом Райковым. В работе также анализируются дискуссии Федоровой и Райковой о дореволюционном развитии методики преподавания естествознания и ее философско-материалистического подтекста. «Дело Федоровой» — вторичный фронт в борьбе между Лысенкоистами и их противниками — закончилось временной победой первых. Ситуация сохранялась до 1964 года.

Ключевые слова: преподавание естественных наук, Лысенкоизм, Борис Райков, Валериан Половцов, история естественнонаучного образования.