THE CASE OF ACADEMICIAN NIKOLAI NIKOLAEVICH LUZIN

Sergei S. Demidov
Boris V. Lëvshin
Editors

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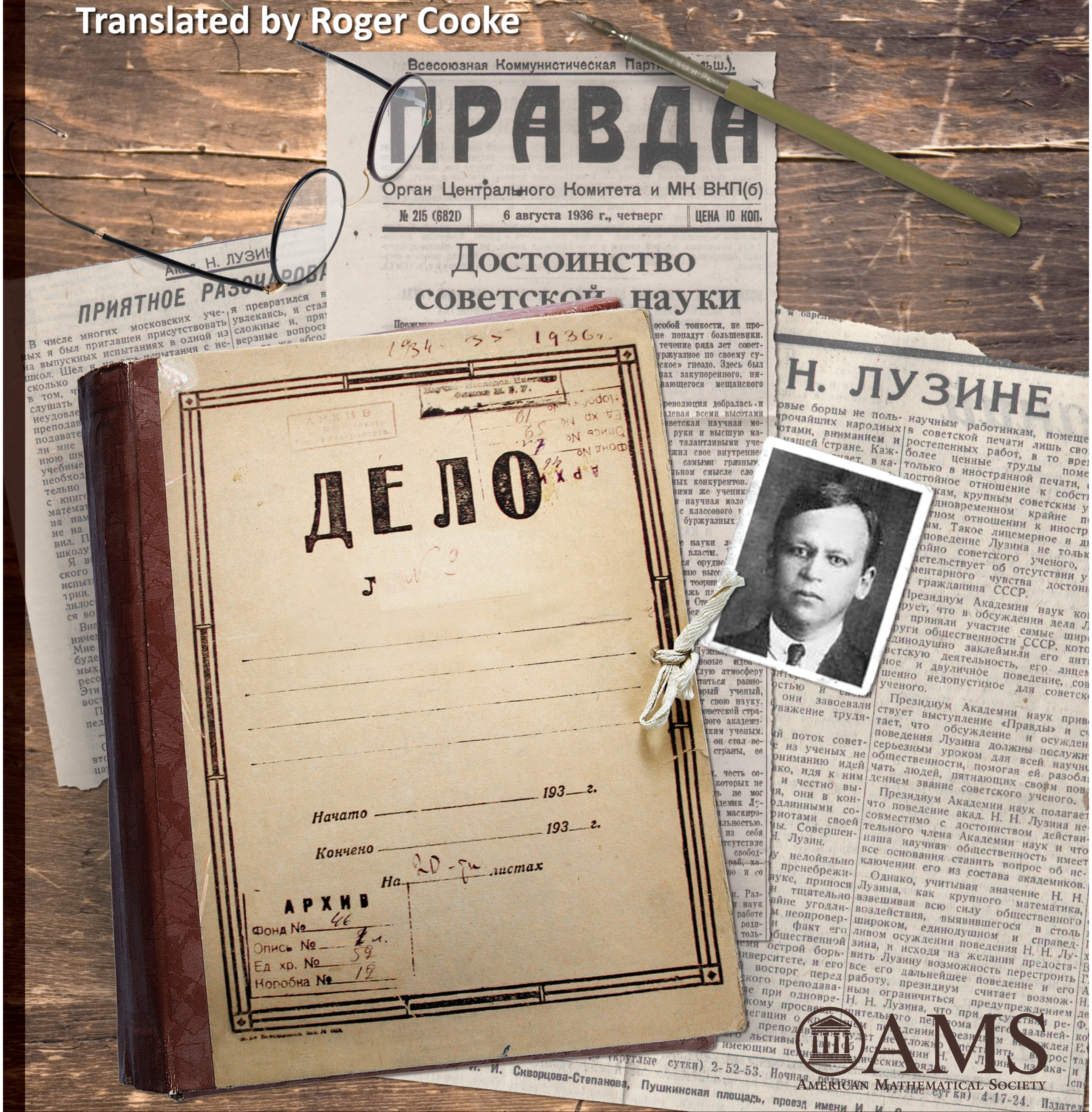

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Nikolai Nikolaevich Luzin

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Research and Commentary
N. S. Ermolaeva (Minutes)
A. I. Volodarskii and T. A. Tokareva (Appendices)

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Translator's Preface

It is a great pleasure to have the opportunity to acquaint English-speaking readers with the masterly study of the 1936 Luzin Affair by the Mathematics Section of the Institute for History of Science and Technology. As explained in the authors' preface, the main outlines of this history were discovered piecemeal in the period from 1985 to 2000, but the full text of the July 1936 hearings did not become generally known until the Russian original of this comprehensive work appeared in the book whose translation is now before the reader.

As one who owes many kindnesses to the personnel of the Mathematics Section, I considered it particularly appropriate to contribute my small bit to their effort by making its results more widely accessible. In order to make the translation more comprehensible, I have provided a glossary of the people and institutions involved in the events described in this book (included at the end after Appendix 25).[1] Apart from the extra layer of information a foreigner must have in order to read a translation with comprehension, there is the old difficulty that "to translate is to betray." Translators may disagree as to the best translation of a term or phrase, and in some cases there is no precise one-word translation. That is the frustration that faces any translator. As Mark Twain said, "The difference between the right word and the almost right word is the difference between lightning and a lightning bug." As an example of the latter, the 13 July session contains a reference to "rough-hewn" work (see p. 186). This is an image familiar to Russians, who know the difference between *topornaya rabota* (hatchet-work), which is done by a *plotnik* (carpenter), and *kleinaya rabota* (glue-work), which is done by a *stolyar*(cabinet maker). In this preface, I would like to touch on just three of these difficult points.

(1) *Vreditel'stvo* (Вредительство). The root of this Russian word is the noun вред (*vred*), which corresponds rather precisely to the English noun *harm*. Russian, however, uses this root to form four other words in ways that English cannot duplicate using the noun *harm*. There is the verb вредить (*vredit'*) meaning *to harm* or *to cause harm to*. So far so, good, but the longer the word gets, the farther it leaves the English language behind. A вредитель (*vreditel'*) is one who causes harm. We have no word *harmer* in English. True, the adjective вредительский and the adverb вредительски might be translated as *harmful* and *harmfully*, but when that is done, they lose some precision as translations, since they describe the effect of the action rather than the intent of the one who performs it. And when we come to the important abstract noun вредительство, we are forced to use the gerund *harming*, which, being a noun formed from

[1] I am grateful to Sergei Demidov, who read the glossary and caught several serious errors. The responsibility for any that may remain is of course entirely mine.

a transitive verb, requires a direct object. Without the direct object, it sounds incomplete.

The Russian term has a standard translation—at least, I have frequently seen this one—among Sovietologists as *wrecking*. The verb *wreck*, however, like the verb *harm*, is transitive; it requires a direct object, and again, *wrecking*, used as a gerund without a direct object, sounds barbarous in English. When told that someone is guilty of wrecking, the reader can't help asking: wrecking *what*? This word also suggests a picture of someone laying about with a sledge hammer, whereas the Russian term can apply to something as mild as non-compliance or minor vandalism and also to something as serious as major sabotage or physical attacks on government officials. And when we return to the agent of the *wrecking*, we are forced to call him a *wrecker*, which to Americans at least is the name of the truck used in clearing away the *wreckage* after an automobile accident. I believe there are simply too many drawbacks to this term. Therefore, with all due respect to Sovietologists, who are certainly better versed in the history of the Soviet Union than I am, I venture to suggest that *disruption* makes for a smoother, if slightly inaccurate, translation. (This term denotes the result of an activity while the Russian word denotes the activity itself.) When I hear that someone is guilty of disruption, I immediately understand that the miscreant is guilty of *causing* disruption. The parts of speech formed from the root *disrupt* track those formed from вред very well: disrupt, disrupter, disruptive, disruptively, disruption. I caution the reader to keep in mind that *disruption* denotes an offense that had serious consequences in the USSR during the 1930s. Nearly all of the discussions of "harm" in the text that follows arise in the context of this offense.

(2) *The suffix -shchina* (-щина). There is no construction in English that quite expresses the idea that is suggested to a Russian by this suffix. It is always attached to someone's last name and denotes a serious disturbance of the peace associated with the person named, just as Americans, for the past four decades, have applied the suffix -gate to turn the name of just about anything into the name of a political scandal associated with it. The Pugachëv revolt during the time of Catherine the Great is called the *Pugachëvshchina*. Mussorgsky's 1886 opera *Khovanshchina*, describing the Strel'tsy Rebellion of 1682 led by Prince Ivan Khovanskii, which nearly cost the young Peter I his life, is best known in the West by its Russian title. The only attempt I have seen to translate the title—*The Princes Khovansky*—fails to capture the meaning of the Russian. Some of the purges during the 1930s and 1940s came to bear this signifier in Russian, for example, the Ezhovshchina terror of 1936–1938 led by Nikolai Ezhov (who himself fell victim to the terror). One might think that the word *terror* would convey the idea of this suffix. That word would be ludicrously exaggerated in the case of the present work, where the reader will learn of an alleged *Egorovshchina* and a *Luzinshchina* in academic circles. The idea might be best conveyed to Americans by recalling the McCarthy hysteria of the early 1950s. Still, *hysteria* doesn't quite convey the same idea, and the only comparable words that have remained in English from

that period are the words *McCarthyite* and *McCarthyism*, both of which refer more to attitudes than to actions. With some dissatisfaction, I have come to accept *Luzinism* as the closest approximation. Here again, the Russian suffix denotes an activity and the English translation a policy or attitude, but, as far as I can see, one can't do any better than that. At one point, I simply transliterated the Russian word Егоровщина. When the word *Luzinism* appears, the reader should imagine a group of malefactors of dubious political reliability gathered around Luzin. It is impossible to put any particular person in this imagined group, however, since in fact there was no attempt by Luzin to disturb the peace and good order of the new Soviet system.

(3) *Kafedra* (Кафедра). This term is a Russian borrowing from the ancient Greek word *kathédra* ($\kappa\alpha\theta\acute{\varepsilon}\delta\rho\alpha$), which means both a seat and the sitting position. It is familiar to Western readers in the word *cathedral* and in the Latin phrase *ex cathedra* that signifies a doctrinal statement made by the Pope from the Chair of St. Peter. In Russian, it denotes an administrative subdivision of a University subordinate to a *fakul'tet*. Both of these overlap with several subdivisions found in American universities known variously as programs, departments, schools, (endowed) chairs, and divisions, but does not correspond exactly to any one of them. Consistency in the translation of this term is nearly impossible to achieve, and I beg the indulgence of any readers who find my terminology for Russian administrative divisions inaccurate. I have generally chosen to omit these terms entirely, especially as the exact niche in the Soviet university system is not usually relevant to the issue being discussed. In the notes to the session of 9 July, I have translated *kafedra* (in the Academy of Sciences) as *section*. The problem of translating social institutions from one language to another is fraught with difficulty in any case, and short of including organizational charts for a typical Soviet university and a typical Western university, one really can't convey to the Western reader the same picture that the Russian reader gets from the original text.

The same is true for government institutions. For example, the Soviet Union had an institution known informally as *NarKomInDel*, an abbreviation for *National Commissariat on Foreign Affairs*. (I find the common translation of народный as *people's* to be overworked and prefer to substitute *national*.) That full name is too long to be repeated constantly throughout a text; something shorter is needed. Should the translation be *State Department* or *Foreign Office*? Such a rendering would not only translate it, but, it seems to me, also transfer it to the United States or Great Britain. I have chosen to leave it as *NarKomInDel*, with an explanation of what it means. I apologize for the annoyance I know many readers will feel when they encounter this term repeatedly. Although *NarKom* might well be replaced by *ministry*, the context of this book is the Soviet Union; and Soviet nomenclature is not entirely unknown in the West, common examples being *Commissar*, *Politburo*, *Presidium*, and *KGB*.

Roger Cooke
August 2014

Preface to the English Translation

The present translation of *The Case of Academician Nikolai Nikolaevich Luzin* (henceforth referred to as *The Case...*) is being published more than 15 years after the publication of the Russian original. The main part of it consists of the transcripts of sessions of the commission of the USSR Academy of Sciences in the matter of Academician N. N. Luzin, which were held in July of 1936. The bottom carbon copy of the minutes, barely legible (but still legible!), was discovered completely by accident during the study of some old papers in the Presidium of the USSR Academy of Sciences. It had been believed that this transcript had been destroyed by someone with a personal interest in causing the disappearance of any information about the inquisition held over the founder (together with D. F. Egorov) of one of the most distinguished mathematical schools of the twentieth century, the Moscow School of the Theory of Functions. (One cannot resist quoting here the memorable words of Bulgakov in *The Master and Margarita*: "Manuscripts don't burn!") This inquisition was organized with the active participation of his students, who were among the greatest mathematicians of the century.

Fortunately, this discovery was made in the late 1980s, during the so-called Perestroika era, when the Soviet Union was entering on its final days and it had become possible to speak openly about the dark pages of Soviet history. During those same years, certain archives that had previously been closed to researchers began to open up. In these archives, especially in the Archive of the President of the Russian Federation, some success was achieved in locating documents that shed light on the circumstances of the case. A group of researchers from the Vavilov Institute of History of Natural Science and Technology of the Russian Academy of Sciences, under the leadership of one of the greatest historians of science of the twentieth century, Adol'f Pavlovich Yushkevich (1906–1993), began working on these materials. Unfortunately, Adol'f Pavlovich died when the work was barely begun, and the manuscript was prepared for 1998 publication by a group of specialists under the leadership of S. S. Demidov, consisting of A. I. Volodarskii, N. S. Ermolaeva, and T. A. Tokarëva. This group worked collectively, and it is now impossible to assign any part of the work exclusively to one or another of them. All of the texts were discussed jointly, and it is not possible to say to whom a given interpretation or a given portion of the commentaries is due. It is possible, however, to say that the majority of the work in reconstructing the text of the typewritten minutes and writing the commentary to it was done by Ermolaeva and the work of selecting and commenting the appendices by Volodarskii and Tokarëva. Materials from the Archive of the President of the Russian Federation and the necessary commentaries to them were furnished by the well-known Russian historian V. D. Esakov. It goes without saying that this work could not have been completed successfully without the active assistance of the staff of the Archive of the Russian Academy of Sciences and its director B. V. Lëvshin.

The book was received with extraordinary interest in scholarly circles (especially mathematical circles) in Russia, and evoked numerous responses abroad. How could it have been otherwise, given that it told of events that had resonated throughout the world and left behind a painful wound in the Soviet mathematical community? The history of this case cannot be accurately judged without taking account of its consequences for the structure of the Soviet community, the polarization of forces that arose in that community in connection with it, and finally, the prevailing atmosphere in the community.

Although the subject here appears to involve events that occurred within the Soviet scientific community—the conflict of interests of different groups of scholars in the community in the extremely ideologized atmosphere of a totalitarian government—this history, being the history of a generational conflict arising in the course of development of scientific schools, has not only nationwide interest, but also general interest for the history of science. (Of course, the history of any of the leading schools is indisputably important for the history of science.) A similar generational conflict arose in the late 1930s and early 1940s in France, the conflict of the legendary "Nicolas Bourbaki" with the "holdover" group of representatives of the legendary school of the theory of functions of a real variable who were still running things: Emile Borel, Henri Lebesgue, Arnaud Denjoy, and others.[2] Another example of such a conflict is the opposition of the mathematicians of Warsaw and L'viv to those of Krakow during the 1920s. On the one hand there was a new school headed by Wacław Sierpiński and Stefan Banach, working along new lines in the theory of functions, set theory, and functional analysis, while on the other hand the school of Stanisław Zaremba was developing the classical areas of analysis.[3] And it is no wonder that, from the moment they arose, these conflicts became the subject of partisan debate among the mathematicians of the USSR, France, and Poland. In the materials of *The Case...*, we become acquainted with the reaction to the circumstances of the Luzin case by both the French mathematicians (from A. Denjoy to A. Weil) and the Polish mathematician Sierpiński.

Thus the Luzin case should be regarded as one of the important events in the formation of both the Soviet and the worldwide mathematical community. The French and Polish mathematicians attempting to help a colleague in difficulty with the means they had available to them looked at it in exactly that way.

As we have already said, 15 years have passed since the publication of the Russian edition. Quite recently, a folder of materials on Luzin turned up, one that had been preserved by someone (presumably D. E. Men'shov). Along with some exceptionally interesting fragments of notes from Luzin's diary during the early years of his career, it contains some materials on the case: drafts of his letter to the Central Committee, newspaper clippings, and other things. A preliminary cursory examination leaves the impression that these materials contain nothing basically

[2]This "holdover" situation arose because a whole generation of young French mathematicians had perished on the battlefields of the First World War: Under the laws of the French Republic then in effect, young French scholars were not exempt from being drafted into the army.

[3]In a letter to Denjoy dated 30 September 1926—see "Letters of N.N. Luzin to A. Denjoy (a publication of P. Dugac, translated from French by F. A. Medvedev)." *Istoriko-matematicheskie Issledovaniya*, 1978, No. 23, 314–348 (Russian)—Luzin gives a remarkable description of this conflict as reported by Sierpiński.

new for understanding the essence of the case. A final judgment, however, must await careful study of these materials. Drafts have been discovered and published[4] of the well-known biography of Luzin written by Golubev and Bari for the edition of Luzin's classic dissertation *Integration and the Trigonometric Series* (Moscow, 1951), containing fragments that are not in the published text. The content of these fragments confirms the reconstruction of the main events of the case proposed in *The Case. . . .*

New information has come to light regarding the case of V. A. Kudryavtsev (1886–1953) mentioned in the materials. Luzin had been blamed for advancing Kudryavtsev's candidacy for the degree of Doctor of Mathematical Sciences honoris causæ, even though as a mathematician he was weak, in the opinion of the plaintiffs (Aleksandrov and Lyusternik). As it now appears,[5] their choice of a target was very accurate on ideological grounds. Kudryavtsev was the stepson of the eminent Russian historian and social activist, Moscow University Professor A. A. Kizivetter (1866–1933), who had emigrated to Czechoslovakia in 1921 together with Kudryavtsev's mother and become a professor at Prague University. Naturally, Luzin's support of such a person looked very compromising from the point of view of the authorities.[6]

The present edition contains a few minor changes: certain dates have been made more precise, information has been provided on certain people mentioned in *The Case. . .* that was not in the original, and the literature referred to in the material of the case has been updated. None of these small changes is noted in the text.

Over the time that has elapsed since *The Case. . .* was published, two of its authors have passed on to another world. Boris Venediktovich Lëvshin (1926–2012) is no longer with us; he was a well-known historian and archivist and director of the Archive of the Academy of Sciences during the preparation of the Russian edition. Without his active collaboration this book could not have existed. It is now two years since the passing of Aleksandr Il'ich Volodarskii (1938–2012), a well-known historian of mathematics specializing in the history of the mathematical culture of ancient and medieval India and more recently in the history of mathematics in Russia and the USSR.

More recently, the well-known historian Vladimir Dmitrievich Esakov (1932–2015), who discovered the priceless breakthrough for understanding the essence of the "case" archival documents, passed away.

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[4]See Tyulina, A. K. "On a manuscript by an unknown author (toward a biography of N. N. Luzin)" *Istoriko-matematicheskie Issledovania*, 2nd series, No. 11 (46), 2006, 267–306 (Russian).

[5]Petrova, S. S. "An episode from the history of mathematics at Moscow University in the first half of the twentieth century: Vsevolod Aleksandrovich Kudryavtsev." *Voprosy Istorii Estestvoznaniya i Tekhniki*, No. 1, 2014, 142–147 (Russian).

[6]And in this respect the authorities turned out to be perspicacious. Kudryavtsev and his wife set up an underground secondary school in their home, one attended by the children of their friends, who were afraid of the pernicious effect the ideology of a Soviet school might have on their children. Among the subjects taught from the pre-revolutionary curriculum at the school was Divine Law. One of the students at this school was the future Nobel laureate Andrei Sakharov, who was a friend of the Kudryavtsevs' son. It is worth noting in this connection that in 1949 Kudryavtsev published a *Course of Higher Mathematics* co-authored by B. P. Demidovich. This book became one of the best-known courses of mathematics for non-mathematics majors. It has now undergone 11 editions, the most recent in 2007.

The translator of this book, the well-known American historian of mathematics Roger Cooke, has carried out a large and extraordinarily complicated task. The translation of the minutes was particularly complicated, since the translator had to deal not with an edited book but with the notes made by stenographers from the speeches of those who spoke at the meetings. It is not merely that the spoken language is far from being grammatically correct; by no means always was it heard and understood correctly by the stenographer, leading to a special complication in translation. It must be said that Dr. Cooke has dealt admirably with this problem; he has succeeded not only in finding the necessary words and turns of phrase to convey adequately the speaker's intent, but also in conveying to the reader the atmosphere of the time and place in which the dramatic events of the case took place. He was able to do this through his outstanding knowledge of the language and the intricacies of Russian social life in the nineteenth and twentieth centuries. For many years, he has been making the western reader acquainted with the history of Russian mathematics. It suffices to mention the scientific biography of S. V. Kovalevskaya[7] written by him, which has enjoyed deservedly widespread notice. Bearing in mind that the typical western reader has little acquaintance with the intricacies of Soviet life during the 1930s, he has added a special glossary to this book to enable the reader to grasp the context and thereby adequately appreciate the materials of *The Case...* .

For understanding the intricacies of the case and the possible outcomes it might have had, the publications by the well-known Ukrainian scholars V. M. Urbanskii and M. I. Kratko of materials on the case of the prominent Ukrainian mathematician M. F. Kravchuk (1892–1942) are very important. These publications appeared in 2002[8] and 2011.[9] A talented mathematician, the author of first-rate results in algebra, mathematical analysis, probability theory, and mathematical statistics, this outstanding teacher and effective administrator in science and education, a full member of the Ukrainian SSR Academy of Sciences, fell victim to an intrigue that was essentially of internal origin. The main accusation against him was of course ideological: bourgeois nationalism. The entire course of the case begun in the Institute of Mathematics of the Academy of Sciences of the Ukrainian SSR was accusatory in nature and had a condemnatory conclusion. It was followed by his arrest by the NKVD, the "judicial" investigation customary in such cases within the walls of the NKVD, and sentencing: 20 years in prison. Kravchuk disappeared into the boundless expanses of the GULag. Even the date of his death (9 March 1942) shown on the official report, based on the testimony of the same organs of power, does not inspire confidence. To return to *The Case...* and compare it with the case of Kravchuk, the thought immediately suggests itself that if "higher authorities" had not intervened to halt the process, the outcome might have been the same: a condemnatory conclusion of the commission, expulsion from the Academy, arrest, and subsequent disappearance into the depths of the GULag. It will not do to take reassurance from the fact that in our case the events occurred in 1936 (and not the horrific 1938, as in the case of Kravchuk!), or that a much more

[7]Cooke, R. *The Mathematics of Sonya Kovalevskaya.* New York, Berlin, Heidelberg, Tokyo. Springer-Verlag, 1984.

[8]Urbanskii, V. M. *Mikhail Filippovich Kravchuk, 1892–1942?* Moscow: Nauka, 2007 (Russian).

[9]*The Golgotha of Academician Kravchuk. A collection of documents.* Edited by M. I. Kratko. Luts'k: Volins'kii Institute of Post-Secondary Pedagogical Education, 2011 (Ukrainian).

eminent mathematician was involved. Scientific eminence did not furnish protective credentials to the famous biologist Academician N. I. Vavilov (1887–1943). One could say then that Luzin was very lucky. And not only Luzin, but all of Moscow mathematics: the arrest of the head of a school could easily have produced a chain reaction of ideological investigations and arrests. The "Golden Years of Moscow Mathematics" might have ended as soon as they began.[10] Fortunately, that did not occur.

S. S. Demidov
August 2014

[10]Zdravkovska, S., Duren, P. I. (Eds.) *Golden Years of Moscow Mathematics.* American Mathematical Society, London Mathematical Society: History of Mathematics, Vol. 6. Providence, RI, 1991.

The Soviet Mathematical School

The book now before the reader is devoted to a dramatic episode in the history of mathematics in the USSR, an ideological campaign stirred up in 1936 against the prominent academician Nikolai Nikoalevich Luzin (1883–1950). It marked an important turning point in the history of the Soviet Mathematical School, one of the leading schools of the twentieth century. The school was formed during the 1930s from two earlier schools: the Leningrad School, which had originated in one of the most famous European schools of the last third of the nineteenth century, the brilliant Petersburg School of P. L. Chebyshev (1821–1894), and the Moscow School that grew up at Moscow University on the eve of the First World War.

The leaders of the Moscow School D. F. Egorov (1869–1931) and Luzin were able to plant in the Moscow soil a branch of mathematics that was a recent innovation, the theory of functions of a real variable. This area had been developed during the 1890s by the French mathematicians Emile Borel (1871–1956), René Baire (1874–1932), and Henri Lebesgue (1875–1941). The new school achieved solid recognition by the end of the 1910s. The results of Luzin himself and those of his students D. E. Men'shov (1892–1988), M. Ya. Suslin (1894–1919), A. Ya. Khinchin (1894–1959), and P. S. Aleksandrov (1896–1982) in the field of theory of functions and sets became well-known in Europe and advanced Moscow to the ranks of the most important mathematical centers of the time. The early years of the Moscow School coincided with a time of great turbulence for the Russian state: The First World War, the February and October Revolutions of 1917 that occurred during the war, and finally the Civil War that raged from 1917 to 1921. These events had an extremely negative impact on the educational and research institutions of the country. Despite all that, the development of the Moscow School of the Theory of Functions proceeded apace and with great success.

The research areas of the school soon broadened. New areas were adjoined to the traditional Moscow fields of applied mathematics, differential geometry, and others. One of them was the theory of functions of a complex variable. Luzin himself worked in this area, along with his students V. V. Golubev (1884–1954), I. I. Privalov (1891–1941), Men'shov, and Khinchin. It is in their work that one finds the the beginning of the research area distinguished by the results of M. A. Lavrent'ev (1900–1980) and M. V. Keldysh (1911–1978). Aleksandrov and P. S. Uryson (1898–1924) laid the foundations of the School of Topology, which soon produced A. N. Tikhonov (1906–1993) and L. S. Pontryagin (1908–1988). Khinchin and A. N. Kolmogorov (1903–1987) wrote their first papers in probability theory, which were later to be brilliantly extended both by the authors themselves and by their numerous students. Khinchin's seminar on number theory began to function during the 1925/26 academic year; it formed the foundation of a new number-theoretic school, among whose members were L. G. Shnirel'man (1905–1938) and A. O. Gel'fond

(1906–1968). A School of Functional Analysis began to form in the late 1920s and early 1930s, having as members L. A. Lyusternik (1899–1981), Shnirel'man, Kolmogorov, and A. I. Plesner (1900–1961), who had immigrated from Germany. One of the greatest mathematicians of the twentieth century, I. M. Gel'fand (1913–2009), was a distinguished graduate of this school. On the basis of all this work the range of research in the field of both ordinary and partial differential equations greatly expanded; among the researchers were V. V. Stepanov (1889–1950) and I. G. Petrovskii (1901–1973). Research began in the area of mathematical logic, with I. I. Zhegalkin (1869–1947), Kolmogorov, and later P. S. Novikov (1901–1975).

We have noted here only a few of the important areas that were developed with success in the Moscow of the 1920s and 1930s and whose foundations lay in the research of the Moscow School of the Theory of Functions. If we add to this list the first achievements of the Moscow mathematicians in modern algebra under the leadership of O. Yu. Shmidt (1891–1956), who had moved to Moscow from Kiev, and the traditional areas of Moscow mathematics already mentioned—the applied mathematics pursued by researchers such as S. A. Chaplygin (1869–1942) and differential geometry, studied by Egorov, S. P. Finikov (1883–1964), and V. F. Kagan (1869–1953), who arrived from Odessa and gave a flavor of tensor analysis to the topics studied, one can say that the range of research among the Moscow mathematicians had become extraordinarily broad and embraced at least a significant portion of the mathematics of the time, if not quite all of it.

Such a broadening of the range of research in Moscow, however, was not only evidence of the extraordinary creative potential accumulated in the bosom of the Moscow School, whose leader Luzin continued to be during the 1920s; it also turned out to be the source of a conflict between him and his students. Having grown accustomed to the role of an unquestioned authority among his students, he was very disturbed by their maturation as scholars, their deviation away from the paths he himself had marked out and onto their own way. The story of that conflict, which led to the "Luzin case" will be told below. Right now, we return to the question of the genesis of the Soviet Mathematical School and to the other component of it, the Leningrad School.

This school developed out of the research of the greatest Russian mathematician of the second half of the nineteenth century, Pafnutii L'vovich Chebyshev. This research—especially probability theory, polynomial approximation, differential equations, and mathematical physics—was primarily applied mathematics. The only exception for Chebyshev and his students was number theory, to which Chebyshev had been attracted by the need to edit the number-theoretic papers of Euler, a project that Academician V. Ya. Bunyakovskii (1804–1889) had brought to his attention when Chebyshev was young. The principal areas of research of this school were the number theory of Chebyshev, E. I. Zolotarëv (1847–1878), A. N. Korkin (1837–1908), and A. A. Markov (1856–1922); probability theory, which was studied by Chebyshev, Markov, and A. M. Lyapunov (1857–1918); polynomial approximation, studied by Chebyshev, A. A. Markov, and V. A. Markov (1871–1897); and differential equations and mathematical physics, studied by Chebyshev, Lyapunov, V. A. Steklov (1864–1926), and N. M. Gyunter (1871–1941). The outstanding results obtained by Chebyshev and his students in these fields were highly regarded throughout the mathematical world and established the reputation of Petersburg as a recognized mathematical center.

The applied nature of research at the Petersburg School combined with the positivist attitudes of its leaders, with their refusal to accept idealistic philosophy, to say nothing of religious philosophy, and with their militant atheism. Especially prominent in this respect was A. A. Markov, who became the leader of the school after the death of Chebyshev. This ideological bent of the Petersburg mathematicians contrasted with the attitudes that prevailed among the Moscow mathematicians, which were characterized by antipositivism, a profound interest in idealist philosophy—as a result of which the appellation "philosophico-mathematical" became a standard description of the Moscow School!—and in Orthodoxy. Thus the relations between the schools had a confrontational character, leading to clashes that frequently ended in heated debates at sessions of the Moscow Mathematical Society.

This opposition of the two mathematical centers, academic Petersburg—where the tone was set by the Imperial Academy of Sciences—and the old capital, in whose mathematical circles the University and the Moscow Mathematical Society were dominant, created a tension in the national mathematical community that was in the process of formation. (A significant portion of the professoriate in the provincial universities was made up of graduates of the universities in the two capitals.)

The Petrograd mathematical community suffered more than the Moscow community from the hardships that befell them during the difficult years of the 1917 revolutions and the subsequent Civil War. Nevertheless, by the late 1920s life had begun to settle down even in Leningrad, as Petrograd—which had previously been known as Saint Petersburg and had been renamed during a wave of anti-German sentiment stirred up in 1914 by the war with Germany—was called after 1924. (In 1992, a new wave of reform brought back the original name of Saint Petersburg.) Research of a high caliber was conducted in number theory by I. M. Vinogradov (1891–1983), in differential equations and mathematical physics by Gyunter, V. I. Smirnov (1887–1974), and S. L. Sobolev (1908–1989). The early 1930s saw the first research of L. V. Kantorovich (1912–1986), and S. N. Bernshtein (1880–1968) arrived from Khar'kov in 1933.

Thus by the early 1930s the two schools in Moscow and Leningrad that formed the foundation of the Soviet Mathematical School were both developing actively. The tension between them had relaxed somewhat, although it remained at a fairly high level. To understand what came next, one must bear in mind the socio-political context in which mathematical life was lived.

The first years of Soviet power were a time of complete confusion and uncertainty for science and education. This uncertainty was largely the result of the expectation on the part of the Bolsheviks who had acquired power that a worldwide revolution would begin very soon. In the reasoning of the new authorities, it made sense to undertake the construction of a system of Communist education and the institutions of a new proletarian science only after that revolution was accomplished. Education in the Gymnasium and the old system of higher education, along with the Imperial Academy of Sciences, appeared to the new ideologues to be a legacy of the old regime, and it was time to be done with such institutions. The mid-level schools (Progymnasium, Gymnasium, and Realschule) were to be replaced by a unified vocational school, in which instruction was to be carried out on the basis of new revolutionary principles. The formulation of these principles became the task of numerous revolutionary reformers, who completely ruined education in a very short period of time. The fact that education continued to take place despite everything is to the credit of the teachers of the old school, who taught in the only way they knew how or considered necessary, that is, the old-fashioned way. In the thinking of the revolution-oriented party functionaries, the place of the Academy of Sciences would be taken by a Socialist Academy that was founded in 1918, one of whose purposes was proclaimed to be the establishment of a new proletarian science built on the basis of the "one true teaching," Marxist–Leninist philosophy. The position of the Russian Academy of Sciences, which remained in Petrograd when the Soviet government headed by V. I. Lenin (1870–1924) moved to Moscow, remained undecided for a long time. The danger that it might be liquidated as a relic of the old monarchist regime remained. The leading role in the preservation of the Academy and its incorporation into the new Soviet institutions was played by its vice-president V. A. Steklov, a man of leftist convictions who made personal contact with Lenin and was able to convince the Soviet leadership of the importance and usefulness of the Academy in the cause of "building a socialist society."

After the first ardor of revolution had passed and hope for an imminent world-wide revolution had died, it became clear that the new governmental organization, the Union of Soviet Socialist Republics, which found itself surrounded by countries hostile to the Bolshevik state, would have to make do with only its own resources, which were badly depleted after all the wars and revolutions. Agriculture, industry, mid-level and higher education, science—all lay in ruins. The most perceptive people had already begun to see the gathering clouds of the next war. It was in this situation that I. V. Stalin (1879–1953), who came to power after the death of Lenin, and whose power came to be almost absolute in the 1930s, instituted the policy of collectivization and industrialization of the country. The center of new economy was to be a powerful military industry. Well-trained personnel were needed to fulfill such ambitious plans: skilled workers and engineers, whose numbers were very small. There was a need to build a new system of schools and organize new mid-level specialized schools and institutions of higher learning. Moreover, all this needed to be done in a very compressed period of time in a state of mobilization. For that reason, those at the highest level of authority made the only decision that was appropriate in such a situation: to reconstitute the old system of secondary education, adapting it to the new realities. (For example, the classical mathematical textbooks of A. P. Kiselëv, which essentially went all the way back to Euclid's *Elements*, were re-introduced into the secondary schools, only now adapted to the current conditions by competent mathematicians. Khinchin directed this project.)

As for the Russian Academy of Sciences, which had now become the USSR Academy of Sciences, in accordance with its 1927 Charter (on whose creation V. A. Steklov had done a considerable amount of work), it was proclaimed the head research institution of the country, whose main task was declared to be socialist construction. In accordance with the plan of Stalin, the "edifice" of Soviet science was to be constructed in the shape of a gigantic pyramid at whose apex the USSR Academy of Sciences—the "headquarters of Soviet science"—was to be located. Of course, the "headquarters" had to be located close to the "boss" of the Soviet state, near to hand for him. For that reason in 1934, the leadership of the Academy and several of its leading institutes, among them the Steklov Mathematical Institute, were moved to Moscow.

This relocation of the "Steklovka" (as the Steklov Institute is customarily called in mathematical circles) was fraught with consequences for the development of mathematics in the country. The leading mathematicians of the two capitals, who had been in a confrontational posture that had become a tradition, were forced to co-operate. As one of the participants in these events, B. N. Deloné (1890–1980), who made the journey from Leningrad to Moscow,[11] wrote

> ...between the Euler–Chebyshev School of Petersburg and the Luzin School of Moscow...there was always so much mutual antagonism that neither understood the other until the Academy was moved to Moscow. After that, we began a rapprochement, and the result of this reconciliation of the two schools was what we now call "Soviet mathematics."

What took place was the merger of two schools that, although they had common origins, were very different in their outlook. There was a synthesis of the tradition of the Petersburg School of Mathematical Physics of S. L. Sobolev and the Moscow tradition of research in the field of the geometric theory of partial differential equations that originated with K. M. Peterson and was being carried on by Petrovskii; of the Moscow group in functional analysis, represented by Kolmogorov, Lyusternik, and Plesner with the Leningrad group of Sobolev. The Chebyshev approach to probability theory, carried on by his heir S. N. Bernshtein, merged with the Moscow approach that grew up in the context of measure theory developed by Khinchin and Kolmogorov. Two lines of development of number theory merged, the Chebyshev approach followed by I. M. Vinogradov and the new Moscow approach of Khinchin, Gel'fond, and Shnirel'man. There were two lines of development in algebra that originated in the Kiev School of D. A. Gravé—the Moscow line represented by Shmidt and A. G. Kurosh and the Leningrad line represented by B. N. Deloné. From all this a powerful creative potential arose. Such was the genesis of the Soviet Mathematical School.

The events connected with the "Luzin case," which is the subject of the present book, took place two years after the Academy had moved to Moscow, in the summer of 1936. An *ad hoc* commission of the Academy specially constituted to investigate this "case" was to examine the accusations against Luzin and render a report on his activity. The commission was chaired by the Academy vice-president, the Old Bolshevik G. M. Krzhizhanovskii (1872–1959). (The reorganized Academy of Sciences had been obliged to include among its members some representatives of the new governing authorities). Should this activity be characterized as "hostile" (and it was in this vein that the events of the first few meetings of the commission took place) the question of his expulsion from the Academy might have been raised. The mere fact of having been expelled from the Academy for activities damaging to the Soviet state–that is, in the language of the time, for "disruptive" activity—automatically entailed handing the "case" over to the organs of the NKVD—the National Commissariat of Internal Affairs, heir to the OGPU (Combined State Political Administration) under the Council of State Commissars, which was the brainchild of F. E. Dzerzhinskii (1877–1926). The NKVD was the central state organ for combatting crime and maintaining order in society, as well as maintaining

[11]Boris Nikolaevich Deloné. Conversation of 14 December 1973, in: *Mathematicians Speak: The V. D. Dubakin Collection of Phono-documents.* Moscow, 2005, p. 129. (Russian)

state security. Policing on political grounds was also carried out by the organs of the NKVD, and they were empowered to impose sentences without a formal trial. A penal system was also part of the apparatus of the NKVD—the legendary GULag (State Labor Camp Administration). The practice of the NKVD at that time was such that when a "case" arose, the person accused of anti-soviet activity was, with 100-percent certainty, already in the grip of the GULag. The atmosphere in the country was one of intensified struggle with the enemies of Soviet power, and these enemies were sought out and found by the NKVD everywhere: from remote villages in Siberia to the leading party and governmental institutions. The underlying source of these trials was a struggle of various groups at the very highest levels of power. The trial of the "Trotskii–Zinov'ev Terrorist Center," which took place in August 1936, in one count of which, it appears, certain highly placed Soviet functionaries wished to include the "case of Academician Luzin," proceeded in accordance with what had become a standard template, a principal component of which was "condemnation by the whole people"—by the press, at meetings of workers, and so on. And although the time of greatest terror had not yet arrived, the gathering clouds of the massive repressions of 1937 could already be perceived. Luzin's position was extremely grave. The transcripts of the meetings published here, meetings at which Luzin's students openly persecuted him, leave a very dismal impression. The realization that these students were prominent mathematicians whose contributions to science are truly enormous, only strengthens that impression.

Fortunately for Luzin and for the whole Soviet mathematical school, the "case" ended on favorable terms: Stalin realized that a negative outcome would hinder rather than advance his policy of building the Academy, the General Headquarters of Soviet Science. If the investigation of this "case" had ended in the condemnation of Luzin as an "enemy of the Soviet state," an outcome that was entirely possible—as the materials published in the present book show, that is what some of the organizers of the case from the Moscow and Central Committees of the All-Union Communist Party of Bolsheviks were counting on—the result would have been not merely the tragedy of a great mathematician, but would have had dire consequences for the mathematicians of Moscow and the entire country. That is exactly what happened with Soviet biology when the prominent geneticist N. I. Vavilov (1887–1943) was arrested and the "people's" academician T. D. Lysenko (1898–1976) took the helm of Soviet biology. It is quite likely that the brilliant phenomenon of Soviet mathematics would never have happened, and that would have been a loss for all of world mathematics.

In the West, the "Luzin case" was perceived not simply as a dramatic episode affecting only Soviet or indeed only Moscow mathematicians, but as an event that affected the entire world community of mathematicians. Solidarity with Luzin was demonstrated by the mathematicians of France and Poland, who tried to find ways of bending the Soviet leadership in a direction favorable to the mathematical community. Subsequently, when a taboo was imposed in the Soviet Union on any mention of the affair, it was in the West, especially France, that the study of its history was begun by the late Pierre Dugac (1926–2000).

Personalities involved in the affair. A large number of mathematicians were involved in the investigation of the Luzin case, and further information about them will be found in the numerous remarks that accompany the documents published here. Here we confine ourselves to a list of the most prominent ones in the order of their birth, along with their fields of research and most important achievements.

Krylov, Aleksei Nikolaevich (1863–1945). Elected a full member of the Russian Academy of Sciences in 1916, he had become a corresponding member in 1914. His main results are in shipbuilding, mechanical engineering, theory of gyroscopes, mathematical physics, approximation theory, and history of mathematics. (In 1915/16 he published a Russian translation of Newton's *Mathematical Principles of Natural Philosophy.*)

Bernshtein, Sergei Natanovich (1880–1968). Elected a full member of the USSR Academy of Sciences in 1929, he had become a corresponding member in 1924. In 1955 he was elected a foreign member of the French Academy of Sciences, of which he had been a corresponding member since 1928. His main results are in the theory of partial differential equations (in 1904 he solved the nineteenth of Hilbert's famous twenty-three problems), probability theory (in 1917 he gave the first axiomatization of the theory) and its limit theorems and the theory of weakly dependent random variables, and the applications of probability theory in physics and biology,

Golubev, Vladimir Vasil'evich (1884–1954). Elected a corresponding member of the USSR Academy of Sciences in 1934. His main results are in aero-mechanics and theory of functions of a complex variable and the analytic theory of differential equations.

Vinogradov, Ivan Matveevich (1891–1983). Elected a full member of the USSR Academy of Sciences in 1929 a foreign member of the London Royal Society in 1942, the Danish Royal Society in 1947, the Academy of the German Democratic Republic in 1950, the Hungarian Academy of Sciences in 1950, the Accademia dei Lincei of Rome in 1958, the Serbian Academy of Sciences in 1959, and the German Leopoldina Academy of Scientists in 1962. He was one of the greatest number theorists in the world. He developed the method of trigonometric sums, which became fundamental to the theory. He also contributed important results on Waring's Problem and solved the ternary Goldbach Conjecture.

Shmidt, Otto Yul'evich (1891–1956). Elected a full member of the USSR Academy of Sciences in 1935, he had been a corresponding member since 1933. From 1939 to 1942 he served as its vice-president. His main area of research was finite group theory, and he was the founder of the Moscow School of Algebra. He undertook the development of mathematical methods of studying the Kursk magnetic anomaly and proposed a cosmogonic conjecture on the evolution of the planets in the solar system. He was an active Arctic explorer.

Men'shov, Dmitrii Evgen'evich (1892–1988). Elected a corresponding member of the USSR Academy of Sciences in 1953, he was the author of fundamental results in the theory of trigonometric series. He discovered null-series, which are series that converge almost everywhere to zero, yet have non-zero coefficients, in 1916 and is co-discoverer of the Men'shov–Rademacher theorem on convergence of orthogonal series (1922–23); he is also known for what is called Men'shov's theorem on an integrable periodic function (1941) and other results.

Khinchin, Aleksandr Yakovlevich (1894–1959). Elected a corresponding member of the USSR Academy of Sciences in 1939. His main results are in the theory of functions of a real variable (the asymptotic derivative and the Denjoy–Khinchin integral), number theory (the metric theory and the theory of Diophantine approximation). He was one of the founders of the modern theory of probability (stochastic processes, the iterated logarithm and others) and one of the founders (jointly with Kolmogorov) of the theory of random processes and of quality control and queueing theory. He was a leader in the reform of secondary mathematical education in the USSR from the mid-1930s to the 1940s.

Aleksandrov, Pavel Sergeevich (1896–1982) Elected a full member of the USSR Academy of Sciences in 1953, he had been a corresponding member since 1929. He was elected to the Göttingen Academy of Sciences in 1945, the National Academy of Sciences of the USA in 1947, and the German Leopoldina Academy of Scientists in 1959. From 1958 to 1962 he was vice-president of the International Mathematical Union. He was the founder (jointly with Uryson) of the Soviet School of Topology and one of the most prominent topologists of the twentieth century. He began his academic career in 1916 by proving the continuum conjecture for an uncountable Borel set (a result obtained simultaneously and independently by Felix Hausdorff). His main results are in topology: the Aleksandrov compactification, the Aleksandrov–Hausdorff theorem on the cardinality of A-sets, the Aleksandrov topology, Aleksandrov–Čech homology and cohomology, and more.

Lyusternik, Lazar' Aronovich (1899–1981). Elected a corresponding member of the USSR Academy of Sciences in 1946. His works encompass a very broad range of areas of mathematics: both ordinary and partial differential equations, topology, calculus of variations, functional analysis, geometry, mathematics of computation, special functions and much more. One of his most important achievements was the creation (jointly with Shnirel'man) of a new fundamental area of research: topological methods in analysis. Along those lines he solved the classical Poincaré three-geodesic problem, jointly with Shnirel'man.

Lavrent'ev, Mikhail Alekseevich (1900–1980). Elected a full member of the USSR Academy of Sciences in 1946, a foreign member of the Academy of Sciences of Czechoslovakia in 1963, the Bulgarian Academy of Sciences in 1966, the French Academy of Sciences in 1971. From 1957 to 1976 he was vice-president of the USSR Academy of Sciences. He was one of the organizers of the Siberian Division of the USSR Academy of Sciences and its President from 1957 to 1976. He was vice-president of the International Mathematical Union from 1966 to 1970. His research was in various areas of mathematics (primarily the theory of functions of a complex variable, calculus of variations, and mathematical physics) and mechanics (primarily solid state mechanics).

Bari, Nina Karlovna (1901–1961). Her main results are in real-variable theory, primarily the theory of trigonometric series.

Novikov, Pëtr Sergeevich (1901–1975). Elected a full member of the USSR Academy of Sciences in 1960, he had been a corresponding member since 1953. He was one of the founders of the Soviet School of Mathematical Logic. His main results are in the areas of set theory, mathematical logic and foundations of mathematics, theory of algorithms, and group theory. He obtained, jointly with his student S. I. Adyan, a negative solution of Burnside's periodic group problem.

Kolmogorov, Andrei Nikolaevich (1903–1987). One of the greatest mathematicians of the twentieth century, he was elected a full member of the USSR Academy of Sciences in 1939, an honorary member of the American Academy of Arts and Sciences in 1959, a member of the German Leopoldina Academy of Scientists in 1959, a foreign member of the Royal Netherlands Academy of Sciences in 1963, a member of the London Royal Society in 1964, an honorary member of the Romanian Academy of Sciences and the Hungarian Academy of Sciences in 1965, a foreign member of the National Academy of Sciences of the USA in 1967, the French Academy of Sciences in 1968, the Academy of Sciences of the German Democratic Republic in 1977, an honorary member of the International Academy of History of Science in 1977, and a foreign member of the Finnish Academy of Sciences in 1985. He was one of the founders of modern probability theory and established an axiomatization of it. He was the author of outstanding results in topology, geometry, mathematical logic, classical mechanics, theory of turbulence, complexity of algorithms, information theory, theory of functions, trigonometric series, measure theory, approximation theory, set theory, differential equations, dynamical systems, functional analysis, statistical mechanics, and fundamental work in the history of mathematics.

Shnirel'man, Lev Genrikhovich (1905–1938). Elected a corresponding member of the USSR Academy of Sciences in 1933. Following Khinchin, he began to develop metric methods in number theory and introduced the concept of the density of a sequence in the series of natural numbers. This concept enabled him to obtain important results in the additive theory of numbers. One of his most important achievements was the founding (jointly with Lyusternik) of a new fundamental area, the area of topological methods in analysis. Along those lines, he solved the classical Poincaré three-geodesic problem, jointly with Lyusternik.

Gel'fond, Aleksandr Osipovich (1906–1968). Elected a corresponding member of the USSR Academy of Sciences in 1939 and a corresponding member of the International Academy of History of Science in 1963. His main results are in number theory and theory of functions of a complex variable. In 1934 he solved Hilbert's Seventh Problem, proving the transcendence of numbers of the form α^β, where α is an algebraic number different from 0 and 1, and β is an irrational algebraic number. He also studied the problems of cryptography and history of mathematics.

Pontryagin, Lev Semënovich (1908–1988). Elected a full member of the USSR Academy of Sciences in 1958, he had been a corresponding member since 1939. Elected an honorary member of the Hungarian Academy of Sciences in 1972. From 1970 to 1974 he was vice-president of the International Mathematical Union. One of the greatest mathematicians of the twentieth century, his main results are in topology, algebra, theory of oscillations, calculus of variations, optimal control, and game theory. He founded the mathematical theory of optimal processes, which is based on the Pontryagin Maximal Principle.

Sobolev, Sergei L'vovich (1908–1989). Elected a full member of the USSR Academy of Sciences in 1939, he had been a corresponding member since 1933. Elected a foreign member of the Accademia dei Lincei in Rome in 1966, a member of the Academy of Sciences of the German Democratic Republic in 1967 and the French Academy of Sciences, of which he had been a corresponding member since 1967, in 1978. One of the greatest mathematicians of the twentieth century. His research was in partial differential equations, calculus of variations, integral equations, functional analysis, approximate and numerical methods, and mathematical analysis.

He pioneered the application of functional analysis to partial differential equations. He introduced the concept of generalized functions in 1935/36 and developed the theory of a number of problems involving linear partial differential equations in terms of generalized functions. He defined a class of function spaces (Sobolev spaces) and studied embedding relations for these spaces (the Sobolev Embedding Theorems). In the 1940s and 1950s he participated in work on the "atomic project." He was one of the pioneers in the USSR in the field of computational mathematics and application of computers. In the 1960s he developed the theory of cubature formulas.

It goes without saying that the descriptions given above are incomplete. The interested reader will find a great deal more in the present book and also in the extensive literature found, for example, in the bibliography to the book mentioned in Footnote 13 below. But even these scant data make it possible to appreciate the level of mathematicians involved in the "case," which became an important turning point in the history of the mathematics of the twentieth century. All of them were among the elite in the mathematics of the century. Among the prominent figures in the mathematical Moscow of the time not on this list we mention B. N. Deloné and N. E. Kochin, who had only recently come to Moscow and therefore had the formal right not to participate actively in the investigation, and also the Moscow mathematicians more or less connected with Luzin, but who also declined to join the ranks of the attackers, such as Keldysh, Petrovskii, Privalov, Stepanov, and Tikhonov. Nowhere in the materials of the affair do we encounter the name of one of the greatest mathematicians of the century Izrail Moiseevich Gel'fand (1913–2009), who providentially was in no way connected with Luzin or with the circumstances of the "case". He had arrived in Moscow only in 1930 and it was not until 1932 that he entered Moscow University, where in 1935 he defended his *kandidat* dissertation, a dissertation that became, as V. M. Tikhomirov[12] writes, a classic work in functional analysis.

The circumstances of the "case" left a deep wound on the body of the Soviet mathematical community, one that was not to heal for many years. These circumstances caused a rift among Luzin's immediate students, who were, as we have seen, prominent Soviet mathematicians, dividing those who participated in the persecution of their teacher from those who refused to join them. This estrangement also affected the next generation of students of Luzin's students. It is very important to emphasize that this "case" served as a serious lesson for the Soviet mathematical community, a lesson well learned by its leaders. They realized what danger might come to the community might from scientific ideologues such as E. Kol'man (1892–1979), one of the organizers of the "Luzin case," and they did everything possible to keep such people away from the leadership of the community. At the same time, the circumstances of the "case" and the whole experience of the 1920s and 1930s had shown the impossibility of living in isolation from ideology in the midst of a thoroughly ideologized society. One could not merely say, "We are studying pure science and ideological problems don't exist for us." They realized that the official ideology had to be accepted, at least externally (those were the rules of the game!) and what is more, actively. Only under such conditions would it be possible to study

[12]Tikhomirov, V. M., "Izrail Moiseevich Gel'fand," *Mathematical Education*, Third series, No. 8 (2004), pp. 8–12 (Russian).

science in peace. That is why they themselves elected as official ideologues people whom they did not regard as dangerous to themselves, with whom they could deal; such a person was S. A. Yanovskaya (1896–1966). Moreover, they themselves began to participate in the discussion of questions involving a world-view, furnishing rational foundations for this work and avoiding dangerous ideological extremes. An example of such an experiment was the 1956 publication of the three-volume *Mathematics, its Content, Methods, and Meaning* under the editorship of Aleksandrov, Kolmogorov, and Lavrent'ev, written by the leading mathematicians of the country. This established the necessary external conditions for the normal functioning of the mathematical community and the consequent flowering of the Soviet mathematical school in the 1960s and 1970s.[13]

[13] There is an extensive literature on the Soviet school. See, for example, S. Zdravkovska and P. L. Duren (eds.), *The Golden Years of Moscow Mathematics*, American Mathematical Society: History of Mathematics, Vol. 6, Providence, RI, 1991, and also numerous articles in the second series of *Istoriko-Matematicheskie Issledovaniya*, published by Yanus-K, Moscow. Nos. 1 (36)–15 (50), 1995–2014.

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The Soviet school, one of the glories of twentieth-century mathematics, faced a serious crisis in the summer of 1936. It was suffering from internal strains due to generational conflicts between the young talents and the old establishment. At the same time, Soviet leaders (including Stalin himself) were bent on "Sovietizing" all of science in the USSR by requiring scholars to publish their works in Russian in the Soviet Union, ending the nearly universal practice of publishing in the West. A campaign to "Sovietize" mathematics in the USSR was launched with an attack on Nikolai Nikolaevich Luzin, the leader of the Soviet school of mathematics, in Pravda. Luzin was fortunate in that only a few of the most ardent ideologues wanted to destroy him utterly. As a result, Luzin, though humiliated and frightened, was allowed to make a statement of public repentance and then let off with a relatively mild reprimand. A major factor in his narrow escape was the very abstractness of his research area (descriptive set theory), which was difficult to incorporate into a propaganda campaign aimed at the broader public.

The present book contains the transcripts of five meetings of the Academy of Sciences commission charged with investigating the accusations against Luzin, meetings held in July of 1936. Ancillary material from the Soviet press of the time is included to place these meetings in context.

It is wonderful to have this book available in English translation. "The Case of Academician Luzin" is a highly significant event in the history of Soviet mathematics; with its presentation of original sources, together with ample commentary, this book will now convey the full import of this event to a new readership.

—Christopher Hollings, Oxford University,
author of "Mathematics across the Iron Curtain"

The translation into English of "The Case of Academician Nikolai Nikolaevich Luzin" is an important contribution toward the understanding of the fate of a great mathematician in Stalin's time. We learn here the details of how he was judged in a political trial. I would like to immodestly suggest that reading this source together with Jean-Michel Kantor's and my recent book "Naming Infinity" will clarify an episode in both the history of mathematics and of the Soviet Union that has long mystified observers.

—Loren Graham, professor emeritus of the history of science, MIT and Harvard

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