



**Adolph Andrei Pavlovich Yushkevich**  
1906–1993

## IN MEMORIAM

### Adolph Andrei Pavlovich Yushkevich (1906–1993)

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Adolph Andrei Pavlovich Yushkevich, one of this century's outstanding historians of mathematics, died on July 17, 1993. He was born July 15, 1906 in Odessa into the family of the noted philosopher and man of letters, P. S. Yushkevich; the popular Russian playwright, S. S. Yushkevich, was his uncle. Adolph Pavlovich, as he was called, first attended a classical gymnasium in Petersburg, and later continued his schooling in Odessa. In 1929 he graduated from the Physics and Mathematics Faculty of Moscow University, where he studied mathematics under D. F. Egorov (1869–1931) and N. N. Luzin (1883–1951), among others. As a student, he became closely acquainted with A. O. Gelfond (1906–1968), the eminent number theorist, and they remained on friendly terms until Gelfond's death.

From 1930 to 1952, Adolph Pavlovich was affiliated with the Moscow Higher Technical School, where he was appointed to a professorship in 1940 and then named head of the mathematics section one year later. After 1945 he also held a position at the Institute for the History of Natural Sciences and Technology (IHNS) of the USSR/Russian Academy of Sciences. Forced to leave the Moscow Higher Technical School when the notorious campaign against cosmopolitanism went into full swing, he continued working at the IHNS for the remainder of his life.

Yushkevich's first work, "Lazare Carnot's Philosophy of Mathematics," appeared in 1929 (*Estestvoznaniye i marksizm* 3(1929): 83–99). Over the next 64 years, he published well over 300 historical works that left hardly any essential area in the history of pure or applied mathematics untouched (a list of his selected publications from 1933 to 1976 can be found in *Historia Mathematica* 3(1976), pp. 273–278; those from 1976 to 1986 in *Historia Mathematica* 13(1986), pp. 221–223; a supplement covering the period 1986–1993 appears below; for a complete list through 1986, see [3]). His bibliography includes 219 books and articles, 46 reviews, and 23 items involving translations, commentaries, and editions of mathematicians' work. He contributed, for example, no fewer than 21 articles to the *Dictionary of Scientific Biography*, and 17 articles to the two editions of the *Bolshaya Sovetskaya Enziklopedia*.

From the very beginning, Yushkevich's work focused on the historical develop-

ment of the principal concepts of mathematical analysis. His numerous articles on the history of the function concept from ancient times to the end of the 19th century are among his best-known works. Particularly noteworthy are his general study, "The Concept of Function up to the Middle of the 19th Century" (*Archive for History of Exact Sciences* 16(1976): 37–85); his commentaries on the works of Leibniz, Newton, L. Carnot, and L'Hôpital; the lengthy chapters he wrote for the *Istoriya matematiki s drevneishikh vremen do nachala XIX veka* (*History of Mathematics from the Most Ancient Times to the Beginning of the 19th Century*, Vols. 1–3, 1970–1972) which he also edited; and, finally, his 1986 paper on the notion of limit up to the time of Weierstrass (item 119 below).

Yushkevich's studies of the works of Euler, his main hero from the 1950s onward and the scholar whose portrait hung above his desk at the IHNST, represent a separate, although related cycle of researches. Aside from the numerous articles he wrote on Euler, he devoted many years to the preparation of Euler's works and letters for publication. These efforts—undertaken with other leading authorities including Smirnov, Grigoryan, Winter, and Taton—appeared in several volumes of Euler's *Opera omnia*, Ser. 4. They brought Yushkevich lasting fame as "the teacher of all those who study Euler," as Emil Fellmann, the renowned Swiss historian of mathematics, once put it.

For Adolph Pavlovich, his work on Euler served as a natural bridge connecting his more general research to his specific interests in the development of mathematics in Russia. Methodologically, this bridge proved rather difficult to cross, even for him. Nevertheless, he managed to do so by showing how Russian mathematics could be seen within the larger context of Western science, as well as by describing its characteristic Russian features. Yushkevich wrote his doctoral dissertation on Russian mathematics during the 18th century, expanding it into his fundamental *Istoriya matematiki v Rossii Do 1917 goda* (*History of Mathematics in Russia before 1917*). Crowning this longstanding interest, during his last years he worked on the history of the Moscow school of the theory of functions established by his teachers, Egorov and Luzin.

Medieval mathematics was another field of central importance for Yushkevich's research. His *Istoriya matematiki v srednie veka* (*History of Mathematics in the Middle Ages*) was translated into six languages and is now a standard reference work for every historian of medieval science. In this connection, mention should be made of Yushkevich's role in founding a Russian school of world-wide renown for the study of Arabic mathematics during the Middle Ages. Among its leading members are B. A. Rozenfeld, Galina Matvievskaya, and Miriam Rozhanskaya.

A. P. Yushkevich also directed and actively participated in the preparation of the *Khrestomatiya* (*Reader in the History of Mathematics*, 2 vols., 1976–77), which is now being used in schools and academic institutions all over Russia. Moreover, together with A. N. Kolmogorov (1903–1987), one of the giants of our century, he edited the still ongoing project *Matematika 19 - go veka* (*Mathematics of the 19th century*).

Yushkevich's work was characterized by an exceptional skill in analyzing historical

sources, irreproachable logic, carefully considered assessments and historical judgments, and a striking ability to illuminate specific problems by placing them in general historical settings. These qualities were universally admired, and during the course of his long life, Yushkevich received numerous honors in recognition of his achievements. He was elected to membership in the Académie internationale d'histoire des sciences (AIHS) (as an effective member in 1960, and a corresponding member since 1956), serving as its President from 1965 to 1968. He was a member of the Deutsche Akademie der Naturforscher Leopoldina (1958); a corresponding member of the Gottfried–Wilhelm–Leibniz–Gesellschaft (1966); a corresponding member of the Real Academia de Buenas Letras de Barcelona (1972); a foreign corresponding member of the Deutsche Gesellschaft für Geschichte der Medizin, Naturwissenschaft und Technik (since 1976, and named as an honorary member in 1989); an honorary member of the Society for the History of Science and Technology of Czechoslovakia (1979); and *Doctor honoris causa* of the Université Paris–Nord (1991). At home, he was an Honored Science Worker of Russia (1966). He was awarded the Koyré medal (conferred by the AIHS in 1971) and the Sarton medal (conferred by the History of Science Society of the USA in 1978), and he was the first recipient (along with D. J. Struik) of the May Prize awarded by the International Commission on the History of Mathematics (1989). He also was awarded prizes by the Akademie der Wissenschaft der DDR (1978 and 1983), and by the Académie des Sciences de France (1982).

For Russian historians of science, Yushkevich embodied their living connection with the mathematical culture from the beginnings of this century, the Russian Silver Age. He had known A. V. Vasiliev (1853–1929), an eminent mathematician and historian of mathematics who had been P. L. Chebyshev's (1821–1894) former student and an acquaintance of Sophia Kovalevskaya (1850–1891); he had attended Egorov's lectures and remained in touch with Luzin.

Yushkevich was a highly effective teacher. His students included Varvara Antropova, V. A. Dobrovolsky, Natalie Ermolaeva, F. A. Medvedev, I. A. Golovinsky, V. V. Gussov, V. I. Lysenko, A. B. Papluskas, N. I. Simonov, A. K. Volkov, and A. I. Volodarsky. Members of Yushkevich's school continue to work actively throughout the former USSR and even far beyond its borders. As the doyen of Russian historians of mathematics, Adolph Pavlovich stood at the cradle of almost every significant national development in the field.

One of the most significant of these was, and is, the series *Istoriko-matematicheskie issledovaniya (IMI)* which Yushkevich founded, together with G. F. Rybkin, in 1948. Since that time *IMI* has published the great majority of important contributions on the history of mathematics written in Russian, including commentaries and translations of classical works (e.g., the Chinese *Jiu zhang suan-shu*, and works of Omar Khayyam, N. Oresme, and others), as well as reminiscences of and about celebrated mathematicians, and various types of archival sources. The *IMI*, which had reached its 34th issue not long before Yushkevich's death, is viewed today with admiration both at home and abroad.

In 1944, Adolph Pavlovich, together with M. Ya. Vygodsky and Sophia

Yanoskaya, organized a seminar on the history of mathematics at Moscow University, the first such undertaking in Russia. Yushkevich served as its joint director (later with Isabella Bashmakova and K. A. Rybnikov) until the end of the 1970s. Later, in 1983, he and S. S. Demidov established a similar seminar at the IHNST. No one who participated in these gatherings will ever forget Yushkevich's unique style and manner in conducting them. His questions always addressed the very essence of the problems under discussion; his remarks were balanced and clearly formulated, his assessments invariably reasonable and just. Often he would explain the deeper meaning and importance of the work under consideration for the benefit of the audience and even the seminar's speaker.

A diligent worker, Yushkevich was unable to let a day go by without spending some time on the history of mathematics, and he worked long hours even on holidays. From early morning until night, with a possible break for a walk, a friendly chat, or to read an interesting book, he sat in his study at a large desk that had thick plateglass and was always covered with piles of paper. Under the glass were photographs of his relatives, and on it, austere framed in walnut, stood a portrait of his late wife, Elena Vladimirovna, who died in 1982.

His library contained a rich collection of diverse literature. Shelves rising up to the ceiling were crammed with books on the history of mathematics, mathematics itself, and works devoted to general history and philosophy, as well as works of fiction. Reproductions of paintings by French impressionists and views of Paris hung on the walls, accompanied by copies of old engravings showing views of Basel and St. Petersburg, two cities connected with the life and work of Euler. A wide window opened onto a courtyard covered with a thicket of poplars. Here, in this somewhat gloomy study in his old apartment on Novy Arbat or in the similar study he occupied while in his last home on Vavilov Street, he wrote almost all of his best work, including his last studies, many of them still unpublished.

Yushkevich was a man of considerable culture, a true representative of the Russian intelligentsia. He spoke many languages, including Latin, and was well acquainted with literature, particularly the works of Russian writers. He took pleasure in rereading Turgenev and Leskov, enjoyed poetry (his favorite poets were Goethe and Pushkin), and even composed verses himself. He was keenly interested in painting, and held the French impressionists and Chagall in especially high esteem. He liked Ukrainian songs and Russian love songs of the 19th century, and enjoyed singing them at parties. And he also adored France, especially Paris, which he visited nearly every year during the last three decades of his life.

Both by upbringing and by virtue of his own ideals and aspirations, Adolph Yushkevich was a democrat who believed in a future based on rationality and social justice. While regarding himself as a cosmopolitan, he never forgot his Jewish roots and took an avid interest in events that had a bearing on the life and/or culture of Jews. At the same time, having spent his entire life in Russia, he felt a strong patriotic allegiance to his native land and its history. He saw his work, first and foremost, within the context of Russian culture.

An outstanding scholar, Adolph Pavlovich never isolated himself from the people

surrounding him; he knew their troubles and concerns and was always prepared to help them, both by word and deed. A large span of Yushkevich's long life coincided with troubled times: World War I; the Russian Revolution of 1917 and subsequent Civil War; the Gulags that followed; then World War II, and the Gulags once again. His own painful life experiences were aggravated by the sufferings of his close friends, but he remained a man of integrity, loyal to science and its ideals. His works, even those written during the most horrible years, are genuine contributions to the history of mathematics. True, he was not always free to choose the topics of his research or to study those subjects which interested him most at the time; but what he undertook to do, he accomplished with honesty and true dedication.

Adolph Pavlovich was one of the first Russian scholars to establish significant ties with the international scientific community. By the late 1950s, he had begun to build new contacts in a cultural world that had been torn asunder by the previous tragic events of our century. He was quick to win international recognition, and was esteemed in France by A. Koyré and J. Dieudonné, in Germany by J. E. Hofmann and K. Vogel. It is impossible to exaggerate the importance of his activities during the 1960s, 1970s, and 1980s for the strengthening of scientific ties between the East and West. Working vigorously, he organized common scholarly projects and he disseminated Western research findings beyond the Iron Curtain. His authority, erudition, and remarkable good sense were all factors that helped to ensure the success of these ventures.

Overstrain was the main cause of the myocardial infarction that struck Adolph Pavlovich in March 1993 and which led to a series of ailments that ultimately brought about his death. Racing against time (he still hoped to visit his niece who lives in Israel), he succeeded in writing a lengthy article on the life and work of his father for the prestigious periodical *Voprosy filosofii*. He left behind a son, Alexandr, an eminent mathematician in his own right. Those of us who had occasion to live and work by his side shall remember him as a man of integrity; as a teacher, colleague, friend, and outstanding scholar whose contributions to the history of mathematics will surely remain important and stimulating for many years to come.

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<sup>1</sup> The items inserted below continue the enumeration that appears in *Historia Mathematica* **3** (1976), 273–278 and **13** (1986), 221–223.