Grave, Dmitry Aleksandrovich | Encyclopedia.com

(*b*. Kirillov, Novgorod province, Russia, 6 September 1863; *d*. Kiev, U.S.S.R., 19 December 1939)

mathematics.

In 1871, after the death of Grave's father, a petty official, the family moved to St. Petersburg. Grave entered the mathematics department of the Physics and Mathematics Faculty of St. Petersburg University in 1881 and studied under P. L. Chebyshev and his pupils A. N. Korkin, I. I. Zolotarev, and A. A. Markov. He began his research while still a student.

After graduating in 1885, Grave continued at St. Petersburg as a postgraduate, and in 1889 he defended his master's thesis. In the same year he started his teaching career at the university as a *Privatozent*. In 1896 he defended his doctoral dissertation, and in 1899 he became a professor at the University of Kharkov. In 1902 Grave moved to the University of Kiev, where the rest of his work was done.

Grave's mathematical researches were originally connected with Chebyshev's school and were especially influenced by Korkin. In his master's thesis he developed methods originated by C. G. J. Jacobi and Korkin and, taking up a subject proposed by Korkin, contributed to the three-body problem. His doctoral dissertation, the subject of which also was proposed by Korkin, touched upon map projection researches by Euler, Lagrange, and Chebyshev. In it Grave presented a comprehensive study of equal-area plane projections of a sphere, with meridians and parallels being represented on the plane by straight lines and circumferences respectively.

At the beginning of his Kiev period Grave took up algebra and number theory. A brilliant speaker and organizer, he created a school which later became prominent. Among his pupils were Otto J. Schmidt, N. G. Chebotaryov, B. N. Delone, and A. M. Ostrovsky. In 1908–1914 Grave published several original and comprehensive works in algebra and number theory.

He continued his research and teaching activities well after the October Revolution, being elected to the Ukrainian Academy of Sciences (1920) and the Soviet Academy of Sciences (corresponding member from 1924, honorary member from 1929). In this period Grave's interest shifted to mechanics and applied mathematics, then returned to algebra in his last years. His last work on algebraic calculus was conceived as a comprehensive study, of which he was able to publish only two volumes.

BIBLIOGRAPHY

I. Original Works. Grave published a total of about 180 works; a comprehensive bibliography is in Dobrovolsky (see below). His main works are *Ob integrirovanii chastnykh differentsialnykh uravneny pervogo poryadka* ("On the Integration of Partial Differential Equations of the First Order"; St. Petersburg, 1889), his master's thesis; *Ob osnovnykh zadachakh matematicheskoy teorii postroenia geographicheskikh*

kart ("On the Main Problems of the Mathematical Theory of Construction of Geographical Maps"; St. Petersburg, 1896), his doctoral dissertation; *Teoria konechnykh grupp* ("The Theory of Finite Groups"; Kiev, 1908); *Elementarny kurs teorii chisel* ("A Primer in Number Theory"; Kiev, 1909–1910; 2nd ed., 1913); *Arjfmeticheskaya teoria algebraicheskikh velichin* ("Arithmetical Theory of Algebraic Quantities"), 2 vols. (Kiev, 1910–1912); *Entsiklopedia matematiki. Ocherk eyo sovremennogo polozhenia* ("Encyclopedia of Mathematics. An Essay on Its Current State"; Kiev, 1912); *Elementy uysshey algebry* ("Elements of Higher Algebra"; Kiev, 1914); and *Traktat po algebraicheskomu analizu* ("Treatise on Algebraic Calculus"), 2 vols. (Kiev, 1938–1939).

II. Secondary Literature. Biographies are N. G. Chebotaryov, "Akademik Dmitry Aleskandrovich Grave," in *Sbornik posvyaschenny pamyati akademika D. A. Grave* ("Collected Articles in Memory of Academician D. A. Grave"; Moscow-Leningrad, 1940), pp. 3–14; and V. A. Dobrovolsky, *Dmitry Aleksandrovich Grave* (Moscow, 1968).

The works of Grave are described in a number of general sources on the history of mathematics, such as *Istoria otechestvennoy matematiki* ("History of National Mathematics") II (Kiev, 1967), 481–486; and A. P. Youschkevitch, *Istoria matematiki v Rossii do 1917 goda* ("History of Mathematics in Russia Until 1917"; Moscow, 1968), pp. 547–554.

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