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(*b*. Znamenka, Melitopol district, Tavricheskaya guberniya, Russia, 25 March 1859: *d*. Odessa, U.S.S.R., 27 March 1929)

mathematics.

Shatunovsky was the ninth child in the family of an impoverished artisan. In 1877 he graduated from a technological high school in Kherson and the following year completed a specialized supplementary course at Rostov. He then studied for a short tie at the Technological College and the College of Transport in St. Peterburg. Shutunovsky, however, was interested in mathematics rather than technology; instead of following the curriculum at the college, he attended the lecturer of Chebyshev and his disciples at St. Petersburg University. Unable to enroll at the University (he did not have the prerequisite diploma from a classical high school), Shatunocsky attempted to acquire a higher mathematical education in Switzerland. In 1887 lack of money forced him to return to Russia, where he was a private teacher in small towns in the south. One of his works that was sent to Odessa was well received by local mathematics, who invited him to move there. He was elected a member (1897) and secretary (1898) of the mathematical department of the Novorossysky (Odessa) Society of Natural Scientists and for some time taught school. In 1905 Shatunovsky passed the examination for the master's degree and became assistant professor at Novorossysky (Odessa) University, where he worked until his death, becoming professor in 1920. In 1906–1920 he also taught at the Women's school for Higher Education.

Shatunovsky's principal works concern the foundations of mathematics. Independently of Hilbert he elaborated an axiomatic theory of the measurement of areas of rectilinear figures and reported on the subject to the Society of Natural Scientists in Odessa (1897) and at the Tenth Congress of the All-Russian Society of Natural Scientists and Physicians (1898). Publication of Hilbert's *Die Grundlagen der Geometrie* (1899) probably kept Shatunovsky from Hilbert's, in print. From 1898 to 1902 Shatunovsky developed his theory for measuring the volumes of polyhedrons. In his theory of areas the principal concepts is that of the invariant of one triangle (the product of base times corresponding height), and in the invariant of the tetrahedron (the product of the area of some face times corresponding height). These studies led Shatunovsky to an axiomatic general theory os scaler quantities.

From 1906 Shatunovsky taught introduction to analysis: his lecturer contain an original description of the theory of sets and functions, particularly of the definition of irrational and real numbers. The generalization of the concept of limit suggested in them is close to that introduced by E. H. Moore in 1915 ("Definition of Limit in General Integral Analysis," in *Proceedings of the National Academy of Sciences* [1915], no. 12). For a long time Shatunovsky's *Vvedenie v analiz* could be obtained only as a lithograph (Odessa, 1906–1907), however, and was not printed until 1923.

In a report to the Society of Natural Scientists in Odessa (1901), shatunovsky critically approached the problem of applying the logical law of the excluded thrid to the elements of infinite sets. He discussed the subject in print in the introduction to his master's thesis, published in 1917. Pointing out the logical

inadmissibility of the purely formal use of the logical law o the excluded thrid, the applicability of which needs special verification every time, Shatunovsky did not reach conclusions as radical as those presented by L. E. J. Brouwer in his work on intuitionism. Shatunovsky's thesis contains a new construction of Galois's theory that does not presuppose the existence of the roots of algebraic equations, which is demonstrated only in the final part of this work.

Shatunovsky also wrote articles and books on elementary mathematics. In them, for example, he stated a general principle for solving trigonometrical problems and a classification of problems connected with this principle.

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