

Poretsky, Platon Sergeevich | Encyclopedia.com

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(*b.* Elisavet-grad [now Kirovograd], Russia, 15 October 1846; *d.* Joved, Grodno district, Chernigov guberniya, Russia, 22 August 1907) *mathematics, astronomy*.

The son of a military physician, Poretsky graduated from the Poltava Gymnasium and from the Physical-Mathematical Faculty of Kharkov University; in 1870 he was attached to the chair of astronomy to prepare for a professorship. For several years Poretsky worked as an astronomer-observer at the Kharkov observatory and, from 1876, at Kazan University, where he conducted observations of stars in the Kazan zone according to the program of the International Astronomical Society. In 1886 he defended a thesis for his master's degree, the theoretical portion of which dealt with reducing the number of unknowns and equations for certain systems of cyclic equations that occur in practical astronomy. For this work he was awarded a doctorate in astronomy. In the same year Poretsky became *Privatdozent* at Kazan University and in 1887–1888, for the first time in Russia, he lectured on mathematical logic, in which he had become interested soon after going to Kazan through the influence of A. V. Vasiliev.

From 1882 to 1888 Poretsky was secretary and treasurer of the Physical-Mathematical Section of the Kazan Society of Natural Science, supervising the publication of its *Proceedings*; for several years he edited a liberal newspaper, *Kazansky telegraf*, sometimes publishing in it his translations of Pierre Béranger's poems. At the beginning of 1889 poor health forced Poretsky to retire, but he continued his research in mathematical logic for the rest of his life.

Poretsky's main achievement was the elaboration of the [Boolean algebra](#) of logic; he considerably augmented and generalized the results obtained by Boole, Jevons, and E. Schröder. In papers published from 1880 to 1908, Poretsky systematically studied and solved many problems of the logic of classes and of propositions. He developed an original system of axioms of logical calculus and proposed a very convenient mode of determining all the conclusions that are deducible from a given logical premise, and of determining all possible logical hypotheses from which given conclusions may be deduced. He also applied the logical calculus to the theory of probability. Poretsky was the first eminent Russian scholar in mathematical logic. His research was continued by E. Bunitsky, Couturat, Archie Blake, and N. Styazhkin.

BIBLIOGRAPHY

A nearly complete list of Poretsky's writings is in the work by Styazhkin (see below), 291–292.

Secondary literature includes A. Blake, *Canonical Expressions in Boolean Algebra* (Chicago, 1938); L. Couturat, *L'algèbre de la logique* (Paris, 1905); D. Dubyago, "P. S. Poretsky," in *Izvestiya Fiziko-matematicheskogo obshchestva pri (Imperatorskom) kazanskom universitete*, 2nd ser., **16** (1908), 3–7; and N. I. Styazhkin, *Stanovlenie idei matematicheskoy logiki* (Moscow, 1964), ch. 6, sec. 2, trans. into English as *History of Mathematical Logic From Leibniz to Peano* (Cambridge, Mass., 1969).

A. P. Youschkevitch