

The Development of Genetics in Leningrad in the Second Half of the 1960s.

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The second half of the 1960s was the time of a complex and contradictory process of overcoming the Lysenkoism in the U.S.S.R. The Leningrad University played an important role in the revival of genetic research. It is well known that the Chair of Genetics taught students classical genetics even in the period of Lysenkoism. The course of genetics has been taught there since 1957. The well-known Soviet textbook *Genetics* was published by Mikhail Lobashev, professor of the Leningrad University, in 1963. It must be emphasized that up to the second half of the 1960s the quality of teaching of biology in institutions of higher learning was not satisfactory. For example, in many universities the lectures on genetics were not up-to-date and lecturers were not specialized in other branches of biology. There were no modern textbooks on genetics. The material base and technical equipment were insufficient. The main problem for the Soviet higher education was that in many universities the heads and the faculty members at the departments of biology were Lysenkoists. The Chair of Genetics of the Leningrad University was in the forefront of the revival of genetics in the second half of the 1960s. The staff of the chair actively participated in the popularization of genetic research. Specifically, they gave lectures not only in Leningrad, but across the territory of the U.S.S.R. Among the achievements of research in these years, we should mention the creation of the valuable population of tetraploid rye, carried out under the lead of Vasily Fyodorov. In this context, the general level of genetic research in Leningrad is very interesting. According to the memories of geneticists, most Lysenkoists were concentrated in the institutes of the All-Union Academy of Agricultural Sciences named after Vladimir Lenin (VASKhNIL). For example, the Lysenkoists who had participated in the campaign against Nikolay Vavilov in the early 1930s still held important positions in Leningrad in the legendary All-Union Institute of Plant Industry in the 1960s. The period of Lysenkoism had a negative impact on the research of this institute. In 1965, President of VASKhNIL Pavel Lobanov said that the Laboratory of Genetics of this institute was no different from any office or even village in the U.S.S.R., and had nothing but a table, a pencil and some diagrams. Thus, the Chair of Genetics at the Leningrad University made a great contribution to the revival of human resources in the Soviet genetics. At the same time, many other biological departments and institutes were going through the reorganization of the Soviet biology with its many difficulties. It was due to Lysenko's associates, who could not teach genetics and carry out research on the up-to-date level, which made it difficult for genetics. Also, the lack of material supplies had a destructive influence. All these problems hindered the rebirth of genetics in the Soviet Union. The research project was supported by the Russian Foundation for Humanities, grant no. 12-33-01295.

Non-decimal Fractions in Papers by G. W. Leibniz

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The paper provides a comparative analysis between non-decimal fractions and decimal fractions. The study of papers, in which Gottfried Wilhelm Leibniz first explored binary and transcendental numbers. In 1701–1705, Leibniz calculated a circumference in his letters with Jakob Bernoulli. Leibniz first used binary fractions in *dyadica. Pars 2* on March 15 (25), 1679, where he used the divide algorithm. In later manuscripts, Leibniz's digits of binary fractions period using the method of fractions were also studied in the manuscript *Problema* of December 20, 1699, and applied to estimate the sum of the note *Tentata expressio circuli per progressionem* for converting fractional numbers into binary system. The notebook and letters demonstrates that he knew the numbers similar to the modern. In his notebook from 1684 with 12 decimal digits to binary system, using the algorithm calculated the result with 53 binary digits. In 1745, Euler discussed the possibility to use this algorithm, discussing the possibility to use transcendental numbers. Also, Euler successfully applied to calculate sums of series and infinite products. In his notebook, Leibniz calculated an approximate value of the sum of numbers known in modern mathematics as the Erdős-Borwein constant. The research project was supported by Russian Foundation for Basic Research (grants 01-01-00000 and 01-01-00000) and Academic Exchange Service (DAAD).

The Struggle That Destroyed Italy's Mathematics in the 17th Century

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It is not the first time that political or ideological decisions on the scientific community of a country. In the seventeenth century, the scientific community of Italy suddenly shifted from Italy to north of the Alps. In part that was due to a contributing factor was the destruction of Italian mathematics that lasted six decades. Normally, Jesuits were attacked by their opponents, or for their political misbehavior. But attacked by their opponents was a conflict that pitted Jesuit mathematicians against an opponent. In the second half of the millenium and a half, Archimedes's work on infinitesimals had been forgotten. In 1543, a new translation of his method of exhaustion was published. The research project was supported by Russian Foundation for Basic Research (grants 01-01-00000 and 01-01-00000) and Academic Exchange Service (DAAD).