

EMINENT ASTRONOMERS - GRADUATES OF THE ODESSA UNIVERSITY

M.Yu. Volyanskaya

Astronomical Observatory, Odessa State University
T.G.Shevchenko Park, Odessa 270014 Ukraine

ABSTRACT. The brief description of scientific activity represented of the eminent Astronomers - graduates of the Odessa University named after I.I.Mechnikov (earlier named as Novorossiyski university).

Key words: History of Astronomy: Personalities.

In the Odessa University the Chair of an Astronomy was open almost simultaneously with creation of Observatory (1871). It was the only astronomy Chair in Odessa University unlike many other Universities where Chairs on astronomical disciplines were a few. For a period of about 30 years, beginning in 1881, Alexander Konstantinovich Kononovich (1850–1910) headed the Chair and the Observatory. A foremost authority in the field of astrophysics and stellar astronomy, a perfect teacher and educator of the young scientist. In 1871 he has graduated from "the Novorossiyski" University in Odessa, was transferred to the Observatory. Continued his education in Germany (1873–1876), studying astrophotometry under guiding of I.K.F.Zöllner. Then he taught mathematics and physics in the Richelieu Lyceum in Odessa, and from 1881 he has headed of the Observatory. In 1886 he was elected the ordinary Professor, was also Dean of physics-mathematical faculty.

His early works deal with binary stars' orbits calculations. One of the pioneers of astrophysical investigations in the country. Under the direction of Kononovich and at his direct participation, were carried out large series of photometric observations of Mars, Jupiter and Saturn with Zöllner photometer, the regular taking photos of the Sun's surface and measurements of solar spots positions, systematic observations of protuberances. As to more details about Kononovich see (Korpun, Tsessevich, 1956). Contemporaries characterized Kononovich as excellent leader who took care of the students' needs and the future of astronomy. There was no specialization on astronomy at that time but the course on astronomy fundamentals was obligatory for all the students of physics-mathematical faculty. Kononovich used to notice the most capable students, who took in interest in astronomy, and tried to have them at the Astronomy Chair after graduation for preparing them for scientific and teaching activities.

Many of his disciples became eminent scientists of their time though their contribution to the Universe investigation was not equal. Some of them as A.R.Orbinsky continued to work at the Odessa University; others as V.V.Stratonov, A.P.Gansky, A.S.Vasilyev leaved in metropolitan Observatories; still others as N.N.Donich, B.Zalesky, J.Witkovsky, V.Zhardecky worked abroad. But all the disciples of Kononovich distinguished with scientific erudition and love for observations.

One of the first of the advanced and capable students keep on University by Kononovich for research and teaching work was Vsevolod Victorovich Stratonov (1869–1938). He was born in Odessa in the family of Director of classical gymnasium. On finishing the gymnasium he was awarded a gold medal, and after graduating from the University - the Diploma of the first degree and a gold medal for the diploma work "A transit instrument and determination of geographical coordinates". In the same year he have invited to work at the Pulkovo Observatory by its Director F.A.Bredikhin who has visited Universities' observatories during the first year of his Directorate in search for capable young astronomers for their perfection in the Pulkovo.

Within 1891–1892 Stratonov worked at the Odessa Observatory, and then was sent on assignment to Pulkovo where two years laboured there under direct guiding of Bredikhin. He took a particular interest in astrophysics, and in 1898 Bredikhin has recommended him as in astrophysicist in Tashkent Observatory, where the new normal astrograph, like that in Pulkovo, had been mounted. The scientific activity of Stratonov was fruitful in Tashkent. He turned his attention to the stellar statistics and has achieved valuable results in this range of science. Virtually, he was one of the pioneers in this trend development. By using 400 photos of the sky obtained on the normal astrograph, including nearly 200 photos of open and globular stellar clusters, he carried out much of various stellar-astronomical investigations. In the stellar cluster Pleiades he has measured proper motions of stars, studied luminosity-spectrum ratio, structure of nebulae surrounding bright stars, discovered their filamentary

and at times tufty structure. He investigated in detail the open stellar cluster χ and h Persei as well as globular stellar clusters in Hercules and Scutum, ring nebula in Lyra, etc.

Based upon the statistic analysis made by him of 900.000 stars of Bonner Durchmusterung and Cape Photographic Durchmusterung, Stratonov studied distribution of Milky Way stars according to the galactic latitude and longitude. In 1900 he has published a large work, the crux of which implies that all the stars are scattered over the space not randomly, these are condensed considerably in some areas, the density in all the directions from them decreasing more or less regularly. Dimensions of these "stars' clouds" are different, however, their centres are, mainly, close to the mean plane of the Milky Way. So, Stratonov discovered a complex structure of the Galaxy. Simultaneously with the work on stellar statistics Stratonov continued to investigate the Sun, observed variable stars, the Leonids meteor shower in 1896–1897. In 1897 he has published big memoirs comprising 100 pages devoted to the Sun, and won a State prize. Stratonov was become Director of the Tashkent Observatory. However, in 1904 has become of eye-disease he had to abandon the work as an astronomer. He has served as an official, then he has opened a small bank. Two fine scientific-popular books "The Sun" and "Stars" were also issued by him. Particularly luxurious was the edition of the "Sun", it contained poetry including a translation of an old egyptian pray to the Goddess Sotys (Sirius). Each of the books was awarded a prize of the Russian Astronomical Society. His text-book "Cosmography" was issued in three editions. After the revolution in 1918 Stratonov moved to Moscow, has become Professor and Dean of the physics- mathematical faculty of the Moscow University. One of his students was B.A.Vorontsov-Velyaminov who proved to be a famous astronomer afterwards. He remembered that Stratonov had delivered his lectures well accompanying them with lantern-slides demonstration, which helped to follow what was being explained. Stratonov was also Chairman of Organizing Committee of the Main Russian Astrophysical observatory projected. However, soon he turned out to be among the group of Professors displeased with the new order at the University, and in 1922 amidst many writers and scientists he was exiled abroad, first to Germany and then to Prague. There he was busy with teaching and writing text-books.

V.V.Stratonov died in Prague in 1938. His reminiscences of interest on his last years of life in Russia have been recently published (Stratonov, 1992).

Artemiy Robertovich Orbinsky (1869–1928) was born in Odessa in the family of University Professor. He graduated from the University in 1892 being awarded Diploma of the first degree and a gold Medal for his composition "Transit instrument and its application for geographic coordinates determination". His

observations were as precise as the best ones of this kind. In the character given by Kononovich to Orbinsky to leave him as a Professor fellow a lot of various works on astronomy are enumerated which were carried out by him together with the Observatory astronomer N.D.Tsvetinovich and Professor Kononovich himself according to the plans of the Observatory works. Besides, the fellow had good command of several foreign languages and was able to discourse clearly and with great interest, too. Subsequently, he became not only a famous scientist but also a remarkable disseminator of astronomical knowledge. Orbinsky took an active part in Sun profile observations, taking photos of prominences and reducing the observations, taking photos of planet satellites, participated in mounting and studying astronomical instruments. His professional level grew higher after having practice in the Pulkovo Observatory where he used to measure spectrograms and precise positions of stars of cluster Canum Venaticorum, to observe on the vertical circle and transit instrument. Later on, Orbinsky became a researcher of the Pulkovo Observatory, took part in creating a South Affiliate of the Pulkovo in Odessa, was in charge of this Affiliate, a principal observer on the transit instrument. All in all he managed to observe right ascensions of 400 stars of the wide equatorial zone by the absolute method. Orbinsky had been assistant Professor of the Odessa University since 1897 and educated a few astronomers together with Kononovich. Simultaneously, he was an editor and translator of many books on astronomy. His versatile activity in Odessa is worth studying more thoroughly.

Alexey Pavlovich Gansky (1870–1908) was born in Odessa, graduated from the University in 1894 and was left at the University without fellowship. However, in 1895 Kononovich succeeded in the fellowship assignment, and in the very year Gansky took up his famous works on solar spots investigations and was a great success in the art of astronomical photography. In 1896 Gansky left for Pulkovo for the sake of perfection, and in the same year he took part in the expedition to Novaya Zemlya to observe the total solar eclipse. Afterwards, Gansky went to Paris where according to the educational plan he was to get familiar with the work of observatories and attended the Sorbonne courses in astronomy, mathematics and physics. At the Meudon Observatory near Paris, he worked under guiding of an outstanding astronomer P.Z.C.Jansen together with whom he would climb up the Mont Blanc to the Observatory to make observations. Later on, in 1897–1905, Gansky has made yet 8 climbing on Mont Blanc to made extraeclipsing observations of the solar corona, observations of the Venus planet. Then Gansky had been a researcher at the Pulkovo observatory since 1905. He took part in the expedition to Spitsbergen for degree measurement and gravity determinations. In the works of Gansky from 1896 though 1905

the periodicity was started of solar corona shape variations and the relation of these variations with other processes in the Sun. Taking photos of solar granules in 1903–1907 permitted to determine the velocity of their motion and their life-time. In 1904 for his contributions to the field of astrophysics Gansky was awarded a medal named after P.J.C.Jansen of the Paris Academy of Sciences. Being in active observer Gansky was elected Secretary of Russian affiliate of the International Solar Commission, Vice-President of the Russian Astronomical Society. He was one of the initiators of creating the Simeiz affiliate of the Pulkovo Observatory, first Director of the Simeiz Observatory. In 1908 A.P.Gansky perished tragically in Simeiz - drowned while bathing in the sea. The lunar crater is named after him as well as the minor planet.

Alexander Semenovich Vasilyev (1868–1947) a former fellow of A.K.Kononovich became a famous Pulkovo astrometrist. He graduated from the University, physics-mathematical faculty, in 1895 with Diploma of the first degree. While a student he was observing a lot. In the last but one course, the Naturalists' Society charged him with an important mission - to determine the level differences of Khadjibeysky and Kuyalnitsky coastal salt lakes as well as the sea. He managed to be a success with this laborious work. In the summer 1895 Vasilyev together with Gansky and Babichev (the disciple of Kononovich) participated in compiling a precise map of Andreevsky (Kuyalnitsky) coastal salt lake. Laying out the basis with wooden poles he measured a line as long as one kilometer with in error 3 mm. Soon Vasilyev was assigned to go to Pulkovo where he first worked on the meridian circle and then on the vertical circle. The work was completed by his publishing the work "Observations of stars' declinations with the Pulkovo vertical circle in 1896–1897 for the Catalogue of 1900". Later on, Vasilyev being charged with a mission by special Commission of the Academy of Sciences took degree measurements on the Spitsbergen island, during the winter stay there he carried out photographic observations of aurora spectra. In 1916 he submitted his Doctor thesis to the Novorossiysky (Odessa) University to defend it, but he didn't have to do it. In 1919 Vasilyev was conferred a Doctor degree "honoris causa". He became one of the leading astronomers in the Pulkovo observatory, took charge of Astrometry department.

Nikolay Nicolayevich Donich (1874–1956) finished the Richelieu Lyceum in Odessa and afterwards, in 1897, graduated from the University. In graduating from the University he submitted his work on the spectrum of the meteorite "Grossliebentahl" which was published on six pages in 'Astronomische Nachrichten' in 1898. Donich was mainly interested in investigating objects of the Solar system. He became a master in the field of studying such phenomena as solar and lunar eclipses. Being an inexhaustible traveler Donich himself

took part in observations of seven solar eclipses and a great number of lunar ones in different regions of the world. To observe the Sun Donich could afford to design and manufacture a spectroheliograph, the first in Russia, with the assistance of a famous Odessa mechanic J.A.Timchenko. This instrument enabled to obtain high-quality photos of Sun's surface and prominences. It was mounted together with the coelostat in the private Observatory of Donich built in the village of Stariye Dubossary in 1908 - the first astronomical observatory on the territory of today's Moldova. Besides the heliograph, the Observatory of Donich was equipped with a five-inch refractor- equatorial with numerous instruments for various observations. The instruments and devices (gears) were mainly manufactured by Donich himself in workshops equipped very well. Of the other instruments should be mentioned: "a comet triplet" - an instrument consisting of a guiding refractor (D=60mm, F=1000mm), a photographic camera (D=82mm, F=1000mm) and a spectrograph with an objective prism (D=61mm, F=273mm). Donich was lucky enough to observe rare astronomical phenomena. He observed the transit of Mercury on the disk of the Sun on November 14, 1907 and shewed the atmosphere absence in this planet; observed Halley's comet with the "comet triplet" in 1910, the bright Pons-Winnecke comet in 1927. In 1933, from September to December, he was carrying out observations of Saturn which permitted him to determine the rotational period of the planet - 10 hours 17 minutes (present value - 10 hours 14 minutes). Eight scientific papers on the zodiacal light investigation were published by Donich. Through the H.Shapley's recommendation he obtained in his observatory by means of the modernized "triplet" a number of stellar sky photos which he sent to the Harvard Observatory for H.Shapley. Donich published his observational results in the leading astronomical editions. Nicolay Nicolayevich Donich was a brilliant personality in the astronomical community of his time. He was a member of many scientific societies, including the Russian astronomical society, International Astronomical Union, International Commission on the Sun investigation, an honorary member of the Rumanian Academy of Sciences (1922–1944) and others. Thanks to his efforts Rumania was admitted to the International Astronomical Union. He represented it at the first six Congresses of IAU. Hard and sad times came to Donich during the last years of his life. At first he had to leave Bessarabia, then Rumania for Germany, France, where he found himself under trying financial situation. According to same finding the last days he spent in the old people's home and died in 1956 in Nice. By the 120th anniversary of his birthday a monument to N.N.Donich was erected in his native village of Stariye Dubossary in 1994.

Bogdan Zalesky (1887–1927) became a well-known astronomer in Poland. Graduated from the Univer-

sity in 1909. Was a disciple of Kononovich and Orbinsky. Specialized in Pulkovo under Bonsdorf, Vittram, Rentz. From 1913 through 1920 he worked in the Nikolaev Affiliate of Pulkovo, observing rather actively. He had lived in Poland since 1921. Was conferred the degree of Doctor of Philosophy in 1923 in Yagellonian University in Crakow for his work "Catalogue of declinations of 486 stars...". A specialist in the field of astrometry. One of organizers and first Director of the University Observatory in Poznan (Poland). See "J.Witkowski, 1928".

Zimmerman Nikolay Vladimirovich (1890–1942) graduated from the University in 1912 and was left there to prepare for the research activity. He had worked in the Pulkovo Observatory since 1915, for a number of years had taken charge of astronomical department, headed the Commission on astrometry. A specialist in fundamental astrometry. Took charge of the work and generalized observations of five observatories compiling "A catalogue of 2957 bright stars with declinations ranging from -10 to +90 degrees" for which he was awarded (posthumously) a prize named after F.A.Bredikhin in 1948. A coauthor of the observational plan Catalogue of Faint Stars. He died during the blockade in Leningrad. About disciples of A.K.Kononovich see "Stranitsy..., 1996".

Witkowsky Josef (1892–1976). Graduated from the University in 1914. His scientific line was in the range of astrometry, practical astronomy, comet astronomy and tidal phenomena studies, history of astronomy. Collaborating with T.Banakhevich he observing many eclipses of stars with planets, their satellites, the Moon. Organized and took part in longitude determinations in Poznan and Riga according to the International program for a series of stations along the Baltic sea coast. A member of the editorial board and editor (1954–1966) of the journal "Acta Astronomica". An excellent organizer, Professor, Director of the Astronomical Centre in Poznan (see Acta Astron., 1976).

Orlov Alexander Yakovlevich (1880–1954) - famous astrometrists and geophysicist took charge of the Odessa Observatory and the astronomy Chair within 1912–1934. Educated a lot of fine astronomers. Among them:

Stoiko Nicolay Michailovich (1894–1976) graduated from the University in 1916. His main scientific works deal with investigations on irregularities of the Earth's rotation, the Earth's poles motions and universal time determination. In 1936 for the first time he discovered seasonal variations in the Earth's rotational velocity. A member of many scientific societies. He was awarded prizes of Paris Academy of Sciences, of the French astronomical society, of the Royal Academy of Belgium. He worked at the Paris observatory, was Director of the International time service (see Stoiko, 1969).

Jardecky Viecheslaw (1896–1962) was born in Odessa, graduated from the University in 1917. The

Diploma work on the subject "Investigation of the spectra of variable star Eta Aquilae" was made by him in Pulkovo Observatory. Worked at the Odessa University, and from 1921 at the Applied Mathematics Chair of the Beograd University. Doctor Dissertation on the subject "About rotation of solid body on the curve" he defended in 1923. A specialist in the field of Mechanics of Fluids. After Second World War he left for USA. He died in 1962 as a Professor of geophysics of Columbia University (New York).

Aksentieva Zinaida Nikolayevna (1900–1969) was also a disciple of A.Ya.Orlov. She was born in Odessa, graduated from the Odessa University in 1924. Worked at the Odessa Observatory, and from 1926 at the Poltava gravimetric observatory. She had been Director of the Poltava observatory since 1951. A specialist in the field of studying tidal Earth's deformations. Took part in the gravimetric survey of the Ukraine territory. Studied tidal phenomena of the Baikal lake. Made an analysis of eleven years' observations of plummet line variations in Poltava. Corresponding member of the Academy of Sciences of the Ukraine (1951), see (Astronomers, 1986).

Several astronomers who graduated from Odessa University in postwar years are not any more among us. These are:

Divari Nicolay Borisovich (1921–1993), graduated from the University in 1945. He defended his Doctor theses on the subject "The investigation of a dust component in the interplanetary space by the optical method" in Astronomical Institute after Sternberg (Moscow) in 1968. A specialist in the field of zodiacal light, antiglows, interplanetary dust cloud, the Earth's upper atmosphere pollution investigations. Participant of 12 scientific expeditions. Worked in the Odessa University, Institute of Astronomy and Physics in the Academy of Sciences of Kazakhstan in Alma-Aty, Odessa Polytechnical Institute. The minor planet is named after him (see "Stranitsy..., 1996").

Grigorevsky Vitaliy Michailovich (1930–1981) graduated from the University in 1954. His Doctor Dissertation was on the subject "Photometric observations of Sputniks and their use", defended it in Odessa in 1973. A specialist in the field of photometry and dynamics of AES, variable stars, investigations of atmosphere based upon observations of AES. Worked in the Odessa University, Kishinev University, Technological Institute after M.V.Lomonosov (see "Stranitsy..., 1996").

Shestaka Ivan Sofronovich (1937–1994) graduated from the Odessa University in 1959. His Doctor thesis on the subject "The origin, evolution and genetic relations between minor bodies of the Solar system and their complexes" was defended by him in Kiev in 1993. A specialist in the field of investigation of meteor matter in the circumterrestrial cosmic and interplanetary space. Identified groups and pairs of short-periodic

comets as well as comet-meteor and asteroid-meteor complexes based upon the criterion of kinship in minor bodies of the Solar system. Worked in the Astronomical Observatory of the Odessa University. The minor planet is named after him (see "Stranitsy..., 1996").

All the safe and sound graduate-astronomers are now successfully working in many astronomical institutions. Here, we'll mention only those who have been conferred the degree of Doctor of Sciences.

Kramer Efim Naumovich graduated from the University in 1949. He defended his Doctor dissertation "Investigation of motion and structure in meteor bodies of cometary origin" in Odessa in 1973. A specialist in the field of meteor astronomy. Suggested a method of meteor flight moment determination by means of an obturator for a variable profile - "meteor patrol"; elaborated the idea of "instantaneous exposition" in taking photos; developed a patrol mechanism for bright meteor-bodies. Worked in the Observatory and at the Astronomy Chair of the Odessa University up to 1994. He is living in USA now.

Teplitskaya Raisa Benzionovna graduated from the Odessa University in 1949. Doctor dissertation on the subject "Investigation of the chromosphere of solar spots and active stars from lines of ionized calcium" was defended by her at the Institute of solar-terrestrial physics of Siberian affiliate of Russian Academy of Science (Irkutsk) in 1993. Worked in the Lvov, Odessa observatories, is working in Irkutsk now.

Petrov Grigory Matveevich graduated from the University in 1950. Doctor dissertation on the subject "The creation of a system of absolute right ascensions of stars from observations at high geographical latitudes during polar nights" was defended in Golosievo Observatory (Kiev) in 1987. A specialist in the field of fundamental astrometry. The head of Pulkovo expedition to the island of Spitsbergen. Is working at the Nikolayev observatory now.

Abalakin Victor Kuzmich graduated from the University in 1953. A specialist in the field of celestial mechanics and ephemeris astronomy. The author of the monograph "Fundamentals of ephemeris astronomy" (1979). A coauthor of a series of works on the creation of a common relativity theory of inner planets motion in the solar system (State prize in 1982). His works on the creation of a mathematical apparatus and development of basic principles of using laser light detection and ranging lunar observations to solve geo- and selenium dynamics problems. Corresponding member of Russian Academy of Science. Worked in the Odessa University and Observatory, Institute of Theoretical Astronomy of Academy of Science of the USSR (Leningrad), since 1983 - Director of Pulkovo Observatory.

Popov Gennadiy Michailovich graduated from the Odessa University in 1956. A specialist in the field of optical systems and theirs using in astronomy. The author of monographs "Concentric optical systems and

theirs application in instrument engineering" (1969), "Aspheric surfaces in the astronomical optics" (1980), "Modern astronomical optics" (1988). Worked at the Odessa Observatory, now - at the Crimean Astrophysical Observatory.

Vitrichenko Eduard Alexandrovich graduated from the Odessa University in 1959. A specialist in the field of stellar spectroscopy and astronomical optics - methods of its investigation. The author of the monograph "Methods of astronomical optics investigation" (1980). A coauthor of monographs "Methods of astronomical optics manufacture" (1980) and "Problems of optical control" (1990). Worked at the Crimean AO, Special Astrophysical Observatory (Zelenchukskaya), Institute of Investigations of Cosmos (Moscow).

Pustyl'nik Izold Bentsionovich graduated from the University in 1960. A specialist in the theory of close binary systems. The author of the monograph "Models of stars with extended atmospheres of G-K spectral types" (1969). Works at the Institute of atmospheric physics and astronomy of the Estonian Academy of Sciences.

Komarov Nikolay Sergeevich graduated from the Odessa University in 1960. The dissertation on the subject "The structure of cool giant stars atmosphere" was defended by him at the Special Astrophysical Observatory AS USSR in 1989. A specialist in the field of stellar spectroscopy. Works at the Odessa Observatory, the head of astrospectroscopy department.

Karetnikov Valentin Grigorievich graduated from the Odessa University in 1962. Defended his Doctor thesis on the subject "Properties of eclipsing binary stars being at the first stage of mass exchange" in the Moscow in 1989. A specialist in the field of photometry and spectroscopy of stars, history of astronomy. Director of the Odessa Astronomical Observatory.

Panchuk Vladimir Evgenievich graduated from the Odessa University in 1968. Defended his Doctor thesis on the subject "Methods and results of spectrophotometric investigations of stellar atmospheres chemical composition" at the Special astrophysical Observatory (Russia) in 1990. A specialist in the field of stellar atmospheres investigations. Works in Special AO.

Andronov Ivan Leonidovich graduated from the Odessa University in 1980. His Doctor dissertation on the subject "The structure and evolution of magnetic close binary systems" was defended by him in Golosievo (Kiev) in 1995. Professor. Works at the Astronomy Chair of Odessa University.

Professor Vladimir Platonovich Tsessevich (1907-1983) headed the Chair of Astronomy and the Observatory in Odessa since 1944 to 1983. He was an eminent specialist in the field of variable stars. All the graduates of 1950-1980 years may consider themselves as the disciples of V.P.Tsessevich to a certain degree.

It should be noted that a significant contribution was made out to the astronomy development by those

Odessa astronomers on whom scientific degrees and titles were not conferred (see issues "Stranitsy...", 1994, 1995, 1996).

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