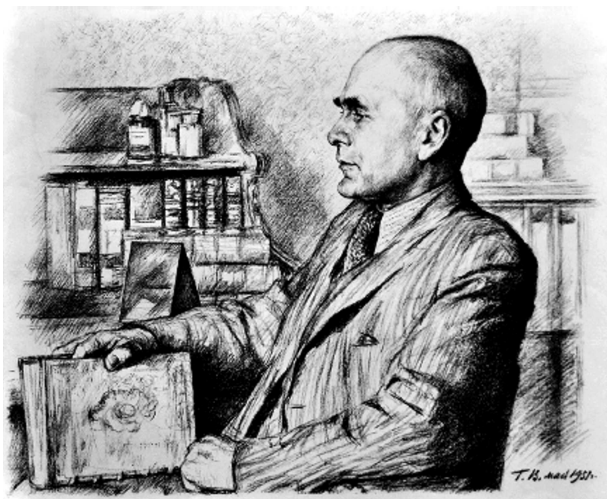


Academician Aleksandr Nikolayevich Terenin



G.S. Vereisky. Portrait of Academician A.N. Terenin.

Aleksandr Nikolayevich Terenin was born on the 6 of May, 1896 in a merchant's family in Kaluga. He was the youngest child out of six brothers and sisters. His parents took much care about education; children were taught reading and writing, and foreign languages from their very childhood. In school years, the boy was fascinated with music, reading, painting and natural sciences. In 1912, the 16-year-old young man wrote in his diary as an epigraph: „Science is my Religion!“

After graduation from school in 1914, Aleksandr Terenin moved to Saint Petersburg (Petrograd at the time), in order to enter Psychoneurological Institute, which later have become a part of the Petrograd University. During military service, he was sent to a laboratory of the military department, where he performed his first spectroscopic work, studying German luminescent paint used in German troops for painting gun foresights. During military service, A. Terenin attended lectures in the Petrograd University, and, after demobilization in 1918, he became a student of the faculty of physics.

In the beginning of 1919, professor D. Rozhdestvensky, the first director of newly established State Optical Institute, selected the best twenty students physicians to be employed in the institute laboratory. Together with A. Terenin the team included V. Fok, E. Gross, S. Frish and several other brilliant scientists of the future. Position of an assistant provided them with the conditions for fruitful unsupervised research work, with the first results demonstrated soon.

Shortly after, A. Terenin started systematic study of photoprocesses in rare vapors of salines and simple molecules. In particular, he found photodissociation of NaI molecules followed by emission of the sodium atoms. By using the mass-spectroscopy A. Terenin and B. Popov [1] were

the first ones who observed photodissociation of thallium halogenide with formation of ionic couples of cations of metals and anions of halogenides. In 1927, during his work travel to Germany and the Netherlands, A. Terenin together with P. Pringsheim studied the spectra of fluorescence of the mercury molecules. These studies were generalized in the monograph „Photochemistry of saline vapors“ [2]. Another his book „Introduction into spectroscopy“ [3], where the recent achievements of quantum mechanics were presented, became the best workbook both for students and for professionals for many years. In recognition of his scientific contribution, A. Terenin was elected in 1932 as Associate Member, and in 1939 — as Fellow Member of the Academy of Sciences of the USSR.

In 1936–1941, Aleksandr Terenin's interests extended to the luminescence of complex organic compounds in gaseous and condensed states. During the World War II, together with his employees he worked for the military defense, developed the methods of production of light-proof camouflage covers. These applied studies were accompanied by trials to generalize the experimental materials on photophysics and photochemistry of complex molecules, which eventually resulted in discovery of the triplet nature of metastable states of organic molecules, thus explaining their fluorescence [4]. One year later G.N. Lewis and M. Kasa independently made the same conclusion. His concept turned to a challenge, so many publications appeared soon, where relevant terms were used, and new results were obtained. Among them we should mention the studies of A. Terenin and V. Ermolaev, resulted in discovery of the phenomenon of triplet-triplet passage of energy of the electron excitation from one molecule to another via the mechanism of exchange resonance interaction [5].

The concepts developed at the period were presented soon in the monograph by A. Terenin „Photochemistry of pigments and relative organic compounds“ [6], which had become a handbook for professionals in the field of spectroscopy and photochemistry for many years. Another his book: „Photonics of the pigment molecules and organic compounds related therewith“ [7], the work on which he finalized being at a hospital; it was the final one in his brilliant scientific career and served as a framework for his many students and followers.

Scientific contributions of A. Terenin were recognized both in the USSR, and abroad. In 1945, he was awarded the Stalin Prize, in 1954 — S. Vavilov Golden Medal of the Academy of Sciences of the USSR, in 1959 — G. Ciamician Golden Medal of the Bologna University, in 1964 — Finzen Golden Medal. The Soviet Government awarded him many medals, as well as the title of Hero of Socialist Labor. In 1958, A.N. Terenin was elected Honorary Member of Physical-Chemical Society of France and of the London Chemical Society of Great Britain. Now, 50 year later, it

has become known [8] that he was nominated for Nobel Prize in Chemistry, he could win it in 1970, but in 1967 he passed away. Scientific heritage of A.N. Terenin is huge. Many of his works were included into a golden pool of the global science and continue living in the works of today's scientists, including his students carrying out photochemical studies. He gave lectures to pupils in order to induce their interest for scientific research; he organized special classes for them and they practiced in the Institute of Physics. His former students and aspirants headed scientific laboratories in different sites all over our country.

L.V. Levshin wrote a book devoted to life and legacy of A.N. Terenin [9]. On December 31, 2021, one of the organizers and active participants of the Symposium, the last aspirant of Academician A.N. Terenin, Valery Aleksandrovich Barachevsky, passed away. Find more about him and other representative of the Terenin's school on the journal website.

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