OBITUARY

ALEKSANDR VASILYEVICH TROFIMOV

Aleksandr Vasilyevich Trofimov, senior scientific worker and one of the foremost members of the staff of the Vernadsky Institute of Geological and Analytical Chemistry of the USSR Academy of Sciences, died suddenly at Vilyuisk at 8 a. m. on June 19, 1955, while out on an expedition.

A. V. Trofimov was born in Moscow in 1899. In 1923, while still a student and before completion of his course at the Timiryazev Agricultural Academy, Trofimov began an investigation of the chemistry and physical chemistry of soils in the General Agriculture Department. During this period and the period following graduation (up to 1930), he worked as a chemist in the Timiryazev Agricultural Academy and published a series of papers on moisture relations and structure in soils; he studied the penetration of water into soils, the reaction of soils as a function of moisture, and acid exchange in solutions in contact with soils.

In 1930 Trofimov took up work at the State Oceanography Institute (reorganized later as a part of the All-Union Fishery and Oceanography Research Institute- VNIRO), where he studied the physical chemistry of the sea; chemical composition of sea water, submarine actinometry, and iodiferous seaweeds. These investigations are still extensively cited, not only here, but also abroad.

Later, Trofimov obtained some very valuable experience in precision instrument-making at the Moscow Experimental Station for the Construction of Control and Measuring Instruments and also, subsequently at the Air Force Research Institute. He showed himself to have the qualities of a first-class instrument maker, and he became well-versed in the intricacies of this complicated work.

After demobilization in 1944 from the Red Army, Trofimov took up a post as senior scientific worker at the Vernadsky Institute of Geological and Analytical Chemistry of the USSR Academy of Sciences. Since then Trofimov's scientific activities have been wholly associated with a new field of knowledge – the geochemistry of isotopes. His investigations took up three main directions: the geochemistry of stable isotopes of carbon, sulfur, oxygen, and argon; the determination of the absolute geological age of recent formations by the carbon method; and investigations on meteorites by the isotope method. In order to carry out these investigations, Trofimov designed unique apparatus (mass-spectrometers and counters for the determination of C-14). As a result of his investigations Trofimov made some important geochemical generalizations. On the basis of the identity in mean isotopic composition of the carbon of the primary igneous rocks of the earth and the carbon of meteorites, he confirmed experimentally the hypothesis of the genetic identity of the substance of the earth and that of meteorites. The same conclusion was confirmed by investigation of the isotopic composition of sulfur from meteorites and from the earth's crust. He provided experimental confirmation of V. I. Vernadsky's hypothesis of the preponderance of organic carbon over carbonate carbon in the earth's crust.

Trofimov's investigations on the isotope exchange of the oxygen of carbonate indicated the great stability of these deposits in geological time. This conclusion is very important for the paleothermometric method, which is now used in climatology and geology.

Trofimov worked on the determination of the absolute geological age of sedimentary formations with the aid of C-14; in particular, he worked on the sedimentary rocks of the Yakutsk Republic. He determined the geological ages of the soils of the Taimyr peninsular and the time of the existence of the Taimyr mammoth.

The premature death of A. V. Trofimov came at the very height of his creative work. He was a true Soviet scientist – his life devoted entirely to science. In his person there was a happy combination of the brilliant experimentalist and the creator of broad generalizations.

He was well versed in the most varied fields of science, and at the same time he had a very original turn of mind. He was a highly talented investigator. Trofimov was a very loyal colleague, who will never be forgotten by those who met him. He freely shared his knowledge with others and he made great demands

on himself. He shone out as an example of an indefatigable worker, a highly conscientious man, distinguished by a rare modesty.

The death of Aleksandr Vasilyevich Trofimov is a grievous loss to science, and it brings the deepest sorrow to all his colleagues and friends.

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