

■ TO THE MEMORY OF VICTOR I. STEPANOV

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Time flies inexorably. More than quarter of a century has already elapsed since Victor Ivanovich Stepanov passed away, but the pearls of his contagious laughter and the sound of his firm steps in the corridor are still vivid in my memory. He has been called a Guru, the Teacher, the Apostle, and a genius since then. Geniuses live in a parallel space of life, in a different system of coordinates from the rest of us. Victor Ivanovich devoted his whole life to his vocation. His internal strength was his essence and it allowed him to swim against the current. He did not refrain from conflicts with the administration of the Institute of Mineralogy, Geochemistry and Crystallography of Rare Elements (IMGRE) when things were in opposition to his philosophy. He objected to writing reports on his work when in his opinion that they were of no use other than feeding mice. His workplace was in a basement that was periodically flooded, which caused him a lot of stresses and struggles.

There are many naturally talented people, but any talent needs upgrading and Victor Ivanovich succeeded at this. His work was focused in a number of areas: field work, sample preparation and cleaning, purchasing of storage boxes and the developing of methods to accurately express the diagnostics of minerals based on spectral and X-ray analysis by checking using optical methods.

Victor Ivanovich started every morning with resolving diffractionograms and finished his day at midnight with sample preparation. He arranged some 150 of 250 samples that came to the collection every year in the late 1970s. He invented a special template to measure diffraction patterns thus reducing the error from the angle of view during visual line localization. Six copies of this template were produced at a military factory and Victor Ivanovich handed them to the scientists who studied minerals with him. He created a library of standard diffraction patterns obtained with a 57.3 mm diameter RKD camera for 600 new and rare mineral species, which became the basis for accurate mineral identification. Victor Ivanovich was an expert in X-ray diffraction and optical immersion methods of mineral identification. His notebook, which survived, shows

drawings and notes on mineral identification in immersion slides.

Many colleagues of the IMGRE helped Victor Ivanovich to develop the collection. They gave him new samples with diffraction patterns, copies of the papers about them and thin sections if the minerals were found in small amounts. In this manner Stepanov gathered a collection of thin sections. Some researchers of the institute dumped their samples upon finishing their projects. Victor Ivanovich worked days and nights to save the material in such cases.

He worked very carefully with “Geology,” the abstract collection journal. He read the journal and made notes in it wherever he was: in public transport, in a café, and in every place he went. He used to get other two issues of the journal to cut out abstracts for his bibliographic catalog. He prepared 350 cards for the catalog just during 1977. This work continued through the years and a thorough bibliographic card collection was assembled filling 48 catalog card boxes as a result.

Stepanov had active correspondence and shared samples with colleagues from other countries, which was not easy to do in the USSR in that time. I remember two case in 1977 when a parcel was received from the Smithsonian Natural History Museum in Washington, D.C., with seven new minerals and a package was sent with mineralogical specimens to New York.

Along with diffraction patterns, thin sections and bibliographic libraries he created a library of publication copies numbered in the several thousands of articles on rare minerals. The literature was ordered by mineral classification and was linked to Stepanov’s mineral collection. Everything mentioned above cannot be separated from the collection as it represents one scientific knowledge unity. Stepanov’s archive continues the life of the true Scientist. The source materials are to be kept as long as possible, especially handwritten Stepanov’s specimen labels, which have unique explanatory text.

Victor Ivanovich was well informed in the world of minerals and took to it like a duck to water. He easily visually recognized about fifteen hundred minerals. It is worth mentioning that Victor Ivanovich divided all the world of minerals,



1. Walking along the bridge over the Tyutyu-Su river: V.I. Stepanov (*leading the way*) and O.V. Kononov accompanied by his daughter Nastya.

2. Field camp near the Tyutyu-Su river: V.I. Stepanov and O.V. Kononov's daughter Sonya.

3. V.I. Stepanov (*on the right*) and O.V. Kononov in the field camp checking the collection of bismuth telluride samples found in an exploratory adit within the Northern part of the Tyrnyauz ore field.

4. V.I. Stepanov (*on the right*) with O.V. Kononov and E. Shtchurova. Camp of the Baksan geological field party of the MSU Geological department.

All of these pictures belong to Oleg V. Kononov's archive. They have been taken by Alexander A. Evseev during the field works in Tyrnyauz (Northern Caucasus) in the summer of 1978.

See also photos and articles about Victor I. Stepanov on the Almanac's pages:

Boris Z. Kantor (2014) Remembering the Teacher... // Mineral Observer. Mineralogical Almanac, vol. 19 issue 1, 55-57.

Arcady G. Zhabin (2008) The Mineralogist by Divine Mercy // Mineral Observer. Mineralogical Almanac, vol. 13b, 72-73.

which encountered around 3000 species in the late 1980s, into four groups by their rarity:

- 1) Widely distributed – around 100 mineral species;
- 2) Relatively rare – about 200 minerals;
- 3) Very rare, but can be found (400–500 mineral species);
- 4) Minerals that are very rare and the probability of seeing them is very small (all the rest).

Victor Ivanovich was generous in sharing his knowledge and samples with museums, schools and stone lovers. Every specimen that he donated had splendid commentaries and comprehensive information.

The collection that Stepanov donated to the Fersman Mineralogical Museum was without a doubt the largest private collection in the USSR. It has not been completely examined, but I can tell that an approximate total number of specimens in it comes close to 20 thousand.

The scientific displays “Caves,” “The Moscow Region” and “Shapes of Minerals in Nature” were created in the Mineralogical Museum with the assistance of Victor Ivanovich and can be regarded as standards. They are an open book and an ABC-book for amateurs learning about minerals.