

**BOOK REVIEW:
OBSSHCHAYA MINERALOGIYA
(GENERAL MINERALOGY)**

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Sankt-Petersburg University Publishing House, Sankt-Petersburg 1999, in Russian, 356 pp., paperback.

This is the second issue of the mineralogical text-book, which the first time appeared in 1989 as „Mineralogy with principles of crystallography”, and was extensively used both by students and by mineralogists. However, the new edition is greatly reworked and in certain parts extended.

The book consists of a foreword, 23 chapters, list of the recommended literature, three appendices and the alphabetical index of minerals. The first chapter presents the subject of mineralogy and history of the mineralogical knowledge development. Next the author introduces the basic information on the crystal structure and chemical composition of the minerals, symmetry and crystal forms. Subsequently the student may learn about natural crystals and their mode of formation and occurrence in nature, their habits, surface features, fluid inclusions, pseudomorphs and crystal aggregates found in mineral associations. Further chapters discuss the physical properties of minerals: anisotropy, change of features of the isomorphic crystals, light absorption in minerals and their colours, luminescence, lustre, mechanic, electric and magnetic properties. An extensive part of the book comprised the problems of the mineral origin in various environments: magmatic, pegmatitic, metasomatic and autometasomatic, hydrothermal veins, metamorphic, vadose, cryogenic, weathering, clastic accumulation, chemogenic, biogenic, diagenetic, hydrothermal-sedimentary. This part ends with the definition and examples of the mineral forming stages, typomorphism and growth rates of the minerals.

Following chapters show the basis and presently used system of the mineral classification and principles of the mineral names formation. Further, there occurs the systematic description of the mineral types: native elements, sulphides and their analogues, oxides, hydroxides, silicates and their analogues with the conventional distinguishing of the silicate structural groups, then carbonates, sulphates, phosphates, arsenates *etc.*, and finally halides and other compounds. Each chapter presents a general characteristic of the mineral

systematics unit, a list of the most important mineral species, selected typical mineral structures and habits, and main commercial uses.

The next part of the book describes the minerals in the Space (planets, moons, meteorites and individual geospheres) and minerals forming microparticles, both authigenic and clastic; separate parts characterize intergranular space in mineral aggregates, topochemical reactions and domain structures of minerals.

Finally, the author shows examples of applied mineralogy: its importance for mineral raw material prospecting, in mineral technology and material science, gemmology, medicine, and the scheme of the mineralogical investigation. The appendices bear information on mineral associations and elements in minerals. Each chapter is finished by few questions that help a student to realize, if the part of the mineralogical knowledge has been learned properly.

The book has a number of advantages, and the simple, easy to understand and precise language is one of the most important. The presented problems are arranged in a sequence that helps to learn even relatively sophisticated questions. It covers very good the knowledge necessary as the basis for systematic mineralogy, ore mineralogy, mineral optics and petrography. For more advanced students and for mineralogists its is useful as the handy book to check the informations which are essentially but not in details remembered. The presented informations are concise but not superficial; *e. g.* the reader may even find the V. I. Lebedev's model of the spinel structure, being internally consistent though the used ionic radii of oxygen (0.045–0.050 nm) and consequently of other ions are different than the classic ones (oxygen 0.133 nm). For me the book is interesting for one more reason: the illustrations were selected by the author mainly from the original Russian mineralogical publications, thus they are not copied from the widely known English, American *etc.* text-books. This concerns especially the types of the mineral deposits, modes of occurrences of the minerals, examples of the mineral aggregates and some mineral habits. Certain discomfort I felt because of not very high quality of the photographic images printed in the book. Moreover I would expect the list of the quoted publications, not only of those recommended as the further readings.

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