

RECENZII - BOOK REVIEWS

Bogdan P. Onac, *Principii de cristalografie*, Presa Universitara Clujeana. Cluj-Napoca, 2001, 340 p.

The book "Principles of crystallography" is written in Romanian and includes some major chapters of crystallography, but it is not, however, exhaustive. The presentation of data is attractive, especially for the students. Dr. Onac contributes thus to the continuity of teaching high level crystallography at the Cluj University showing the richest tradition in the field.

The book is divided in eight chapters, i.e. crystal chemistry (2) structural defects and crystallogenesis (3), geometric crystallography (4), structural crystallography (5), X-ray investigation of crystals (6) elements of crystal optics (7) and physical properties of crystals (8). The originality of the book consists also in a non-classical succession of presenting data. However speaking on twins before the geometric crystallography might induce difficulties for students to understand them. However, Dr. Onac's teaching experience is a better "ruler".

It is not a very easy job to make such an abstract matter understandable to the students. Dr. Onac succeeded it in many points. Some data are however lacking. The vitreous state of matter should be included as intermediate between crystalline and amorphous state. Other types of matter state, e.g. nematic, etc have little relevance for the mineral world.

A long time discrepancy in writing mineral names between the Cluj University and all other mineralogical institutions in Romania still exists in the book, in fact

making a transition to unify the nomenclature. The same minerals have here different names, e.g. "blende" and sfalerite, fluorine and fluorite etc. The name "covellite" is wrong (covelite) as it derives from the name of the Italian mineralogist Covelli.

In chapter 2 there are some erroneous data: the author write that galena and alabandite do not show solid solutions. Nevertheless, the solubility in the systems PbS-PbSe or PbS-PbTe and MnS-FeS (partial) or MnS-MgS is long time known. Mention should be also given the discontinuities within de plagioclase series, which enabled mineral names to be still maintained as opposite to some classical series, e.g. olivines, Mn-Fe carbonates, where the 50% rule eliminate the names of the intermediate members such as knebelite, oligonite, respectively.

In a Romanian book on crystallography the Verespatak twin law of beta quartz should have been reminded ("type locality" Verespatak, now Rosia Montana). The rutile cyclic twin is a little bit strange. Little is said about the crystal systems; at least their discoverer should have been given. The symmetry classes have been mathematically derived as early as 1830.

The chapter 6 should have included some worlds on the reciprocal lattice, the basis for understanding the X-ray diffraction.

The references at the end of each chapter are not justified, as half of them are presented 8 times. In addition, several references do not have a high level of originality. At the same time some fundamental books (e.g. Ramdohr & Strunz; and in Romanian language – "Cristalografia" of Petreus (1987)) are missing.

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In spite of the above-mentioned observations, the book represents an important step to a modern crystallography for teaching purposes. Together with the booklet "Geometric crystallography" of the same author (1999) this book can help a lot

the students to understand what crystallography means and why it is still worth of teaching and learning.

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B. P. Onac, *Cristalografie geometrica (Caiet de lucrari practice)*, Univ. Babeş-Bolyai, Catedra de Mineralogie - Petro-metalogenie. Cluj-Napoca 1999, 130p.

The book "Geometric crystallography", written in Romanian, is meant to become a practical guide for students. The books on crystallography are quite different as concerns the contents and the presentation. In some cases mathematics is in excess and other temptations lead to complicate once more the understanding of the matter, at least (or especially) to the students.

Dr. Onac's booklet avoided any temptation and seems to be even friendly to the people entering for the first time the world of crystallography. It is the case of authors / professors thinking first at the students and understanding that the difference between professor and students should be reduced by an adequate language. Dr. Onac succeeded it.

The terms are gradually introduced, starting with crystals, crystal systems, symmetry classes, the "aenigma" of their

notation / abbreviation, the crystallography laws, the identification of crystal faces by using goniometer and projections, crystal intergrowths and twins.

The References include both English and Romanian books and papers, enabling the students a more extended documentation, challenging them also to compare different approaches.

An additional help is the "dialogue" following each chapter, a kind of internal check to understanding the matter.

Combining the classical and the modern approaches the booklet contribute much to show the importance of classical crystallography for understanding other parts of crystallography (theoretical, structural etc).

I recommend the book to everyone trying to enter the wonder-world of crystals; it is advisable to start with it before the "Principles of Crystallography" by the same author will be read.

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