Book Reviews

SUSAN B. JOHNSON AND JANA E. MIYAHIRA, EDITORS

CULTURED PEARLS: THE FIRST HUNDRED YEARS

*By Andy Müller for Golay Buchel, 142 pp., illus., publ. by The Golay Buchel Group, Lausanne, Switzerland, 1997. US$60.00**

Mr. Müller states in the foreword that this book is targeted for a wide audience. His goal is to create a text that is readable and interesting to members of the gem trade, as well as to consumers who want to acquire general knowledge about cultured pearls.

The book is logically presented, with the first chapter dedicated to the history of the natural pearl before culturing began. Folklore and ancient beliefs about pearl formation are discussed, and a brief history of sources is also included.

Next, Mr. Müller describes the early efforts to create cultured pearls, beginning with the Akoya pearl in Japan. He then examines the effect of World War II on pearl production, focusing on how and why the cultured pearl eventually overtook the natural pearl in the jewelry industry. I found the history to be very interesting, especially the highs and lows of Japanese pearl culturing and the rise to prominence of other culturing locations such as Tahiti, Australia, the Philippines, and the Cook Islands.

The third chapter discusses the state of pearl culturing today, with sections on South Seas pearls, Akoya pearls, freshwater cultured pearls, mabé pearls, and keshi pearls. For each type, there is a brief discussion of culturing and value factors, as well as buying recommendations for the consumer.

The book concludes with the future potential of the cultured pearl industry, which is followed by a glossary of terms specifically for cultured pearls.

Individuals looking for very technical or scientific information on pearl culturing will be better served by other sources; in keeping with his goal of writing a text for the lay reader, Mr. Müller has kept technical information to a minimum. On the other hand, he has avoided the trap of "romancing the stone" too much. His book is not "flowery," but it does include enough legend and folklore to reflect his personal reverence for pearls. The book is lavishly illustrated throughout, with photographs showing each type of pearl discussed, sites where pearls are cultured, and some truly magnificent pearl jewelry. Mr. Müller has succeeded in his goal of creating a well-balanced and informative overview of the cultured pearl.

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DANA'S NEW MINERALOGY, 8th edition

*Rewritten by Richard V. Gaines, H. Catherine Skinner, Eugene E. Foord, Brian Mason, and Abraham Rosenzweig, 1,874 pp., illus., publ. by John Wiley & Sons, New York, 1997. US$250.00**

Here at long last is an updated edition of *Dana's System of Mineralogy*. The seventh edition, published in two volumes in 1944 and 1951, covered all minerals known at the time, with the exception of the silicates. This new edition covers all minerals known through 1995, approximately 3,550 species. To accomplish this in a single volume, the authors had to greatly slim down the descriptions, eliminate much of the crystal morphology, and list only a few references to original work, in a highly abbreviated form. Printed on a good-quality, thin, alkaline paper, the book's 1,800 pages occupy only 2 inches of shelf space.

Previous editions of *Dana's System of Mineralogy* classified minerals on the basis of chemical composition and crystallography. The major contribution of this volume is its expanded, modernized version of this classification system, especially for the silicates. Each mineral has a four-part classification number referring to class (composition group, such as oxides), type, and two numbers to indicate species. This hierarchical numbering system allows the insertion of new species into a list that emphasizes close chemical and structural affiliations. The type classification of the silicates is based largely on crystal structure, and many drawings are provided to illustrate different atomic arrangements.

Each mineral entry includes a classification number, chemical formula, name derivation, relationships with similar minerals, crystallography (that is, crystal system, crystal class, important crystal forms, space group symmetry, and twinning, if any), physical properties (color, habit, streak, luster, cleavage, fracture, hardness, and density), optical properties,

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X-ray diffraction data, crystal structure, and occurrences. The properties and occurrences of common minerals, such as quartz and the feldspars, are discussed extensively. The rare minerals receive much less coverage, with only one or two occurrences mentioned.

Besides its expanded classification of known minerals, the book's strengths include its updated information on structure and X-ray diffraction data, and its list of important occurrences. There are also clear presentations of the interrelationships between the members of important groups, such as the 11 species of the tourmaline group.

Price will deter many from adding *Dana's New Mineralogy* to their libraries, even though the buyer is getting a classification and description of 3,550 minerals at only $0.07 per mineral species. While the book is a must for mineralogists and mineral collectors, I suspect that many *Gems & Gemology* readers will find the coverage of gem minerals insufficient to warrant the cost.

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MINERAL COLLECTOR'S HANDBOOK

*By Barry Krause, 192 pp., illus., publ. by Sterling Publishing Company, New York, 1996. US$24.95**

The emphasis of a handbook for mineral collectors should be on the specific concerns of a mineral collector, rather than on geology and mineral identification; *Mineral Collector's Handbook* lacks this focus. These specific concerns are not actually addressed until the third chapter, after almost 60 pages. The chapters of particular interest to mineral collectors are Handling and Housing a Collection, Field Collecting of Rocks and Minerals, and Mineral Collecting Specialties. Although of some importance to the collector, other chapters such as Origins of Rocks and Minerals, Rock Classification and Identification, Mineral Crystallography, Mineral Physical Properties and Tests, Mineral Optical Properties, and Mineral Classes deserve separate treatment, and there are several fine texts available. The book also overemphasizes gem minerals and jewelry at the expense of non-gem minerals, and non-mineral gems such as amber and ivory should not have been included at all.

Most of the information is basic but sound, with the exception of a few gemologically incorrect statements. For example, the author states that emeralds fade in sunlight over time (actually, emerald coloration is not affected by sunlight), and that diamond has the highest refractive index of any singly refractive mineral (actually, cuprite's is higher).

Perhaps the ideal handbook for a mineral collector could be assembled from segments of three books by Dr. John Sinkankas: *Mineralogy*, which not only contains detailed identification information but also provides advice on what species and localities are desirable to collect and what constitutes a fine specimen; *Field Collecting Gemstones and Minerals*, which tells how to find and properly collect gems and minerals without damaging them; and *Gemstone and Mineral Data Book*, which provides valuable information on cleaning and preserving specimens.

Although the focus of *Mineral Collector's Handbook* could be improved, the quality of the color photographs (courtesy of GIA and the Natural History Museum of Los Angeles County, among others), by such talents as Tino Hammid and Robert Weldon, gives the book an attractive look. I would recommend *Mineral Collector's Handbook* for beginners who are interested in starting a collection of minerals and/or gems.

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OTHER BOOKS RECEIVED

Gemme del Vicentino (Gems of Vicenza), *by Matteo Boscardin and Ottaviano Violati Tescari, 114 pp., illus., publ. by Zannato Civic Museum, Montecchio Maggiore, 1996, US$14.00 (in Italian, with English summary).* Although small in size (roughly 80 km by 50 km), the Vicenza region of northeastern Italy is of great gemological interest. The area is a source of beryl, corundum, feldspar, garnets, silica materials (agate, amethyst, chalcedony, and rose quartz), and a wide variety of other gem materials. *Gems of Vicenza* is intended as a popular, well-illustrated text for those interested in exploring the gemological possibilities of this particular area.

The authors begin with a concise introduction to the history of gems in Vicenza, dating back to the mid-18th century. The bulk of the text is devoted to a profile of more than 30 locally found gems and their characteristics, most accompanied by color photographs of specimens from the Zannato Municipal Museum. The text is clear and well written, and the photos are of excellent quality; the delicate flesh-pink color of xonotlite, for example, is clearly visible. Then, after a brief chapter on gem cutting, the book concludes with several detailed tables of gem characteristics. *Gems of Vicenza* succeeds in spotlighting the gemological significance of this region.

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