

BIRTHDAY BOOK OF GEMS

By Harold and Erica Van Pelt, 128 pp., illus., publ. by Van Pelt Photographers, Los Angeles, CA, 1986. US\$18.95*

Previous editions of the *Birthday Book of Gems* have been enormously successful, and this one promises to be even more so. Like its predecessors, it is filled with color photographs that are typically superb Van Pelt productions, accompanied by instructive captions that make this appointment book even more valuable.

The historical pieces, such as Empress Marie Louise's diamond necklace, a pair of large diamond earrings once owned by the unfortunate Marie Antoinette, and the Hope diamond, are particularly intriguing. The necklace containing 52 faceted benitoites must surely rank as one of the rarest of ornamental objects. I especially liked the magnificent photograph of a pair of remarkable amethyst geodes, as well as the photos of carving work done by Idar-Oberstein artisans (and by the Van Pelts themselves) and the crystals and suites of cut tourmalines and beryls.

Another nice feature about this calendar book is that it is perpetual—if you hid it away and did not exhume it until the year 2000, it would still be as applicable as it is today.

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THE NEW WORLD OF GOLD

By Timothy Green, 290 pp., paperback, publ. by Walker and Co., New York, NY 1984 (rev.), US\$12.95 *

The title page of this book indicates that it is "The inside story of the mines, the markets, the politics, the investors"—a tall order for a book of only 290 pages. Fortunately, Mr. Green has a remarkable talent for giving the reader a good overall view of the intricate and mysterious world of gold—extending from the mines in South Africa, Russia, Brazil, the

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Jeffrey M. Burbank, Editor

United States, and Canada through the markets in London, New York, Zurich, Hong Kong, and Singapore to the buyers throughout the world. His journalistic approach to the subject makes the information interesting and easy to read, unlike the dry, monotonous data normally presented in economic journals. The book is richly annotated with footnotes, references, and a bibliography for further reading.

The first part of Green's book, "The Gold Rush Days," gives the reader a brief historical account of the hardship men will endure in search of the yellow metal. Part 2 deals with "The Miners" or, more specifically, the mines themselves, which supply the world's seemingly insatiable demand for gold. Green places a special emphasis on the manipulations of the producers to control the sources of gold. I was particularly interested in the author's views on the impact of Russian gold on the international market, and how Russia uses its gold to advantage. Part 3, "The Markets," is just that—except for a final section on gold smugglers that has all the intrigue and suspense of a first-rate spy novel. The reader also gets some insight into why London historically has been, and continues to be, the focal point of the international gold market, and why Zurich or Hong Kong might be the best place for the small investor to purchase gold.

This is not a book for someone looking for technical information on gold alloys, solders, wire sizes, and so forth. But if you're interested in the political motivations of the producers, dealers, and countries to manipulate the price of gold to their advantage, then you'll find this book

well worth reading. Mr. Green concludes with a summary of the dominant factors affecting the price of gold, the complexities of the market, and the interdependence of everyone in the chain, from the suppliers to the ultimate consumer. He also emphasizes the important part that politics plays in the world spot price of gold. This book is a must for anyone interested in investing in gold, and would be very useful to jewelers or goldsmiths who are required to make intelligent decisions regarding when and when not to buy this precious metal.

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DIAMOND, RUBY, EMERALD, AND SAPPHIRE FACETS

By Gary Grelick, 56 pp., illus., privately published, 1985. US\$5.00*

The stated purpose of this publication is to "give the layman a working knowledge of diamonds, rubies, emeralds, and sapphires." The author seeks to accomplish this by supplying information regarding optical and physical properties, nomenclature, formation, sources, and identification of the four gemstones. Mr. Grelick also includes an explanation of the four C's in reference to diamonds. The subject matter is presented in a simplified, easy-to-understand manner; however, there are quite a few inaccuracies and even more typos and grammatical errors. For example, the author states that "a Colombian emerald is light green in color. . . ." To most gemologists, a beryl with a light green color would not be considered emerald, so how could the source of the world's finest emerald owe its fame to light green material? Mr. Grelick also mentions that iron is not found as an impurity in any natural emerald, and that this fact can be used as a basis for separat-

*This book is available for purchase at the GIA Bookstore, 1660 Stewart Street, Santa Monica, CA 90404.

ing natural emerald from the non-fluorescent, iron-bearing Gilson synthetic. This is simply not true. Iron can be an impurity in natural emerald, which can therefore exhibit the same properties (e.g., absorption pattern) as the iron-doped Gilson.

In discussing the identification of natural sapphire, the author states that "the inexperienced gemologist will often find it particularly difficult to separate a natural green sapphire from a synthetic green zircon." It is doubtful that even an experienced gemologist has seen synthetic green zircon (or synthetic zircon of any color) since this is not a material synthesized on a commercial basis. This statement is confusing and inaccurate.

In addition to the bothersome number of typos and grammatical errors, the eight photographs of the aforementioned gemstones and their captions are very disconcerting. The photos themselves are surprisingly unimpressive, as the featured stones are not particularly attractive, nor are they displayed well. Also, the captions do not identify the pictured stones in their respective orders or numbers. Although the intent of this book is clearly an honorable one—to furnish the uneducated consumer with a quick and ready reference—it falls far short of its promise.

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ART NOUVEAU JEWELRY

*By Vivienne Becker, 240 pp., illus., publ. by E. P. Dutton, New York, NY, 1985. US\$50.00**

This book is simply excellent. Beautifully written and lavishly illustrated with superlative photographs, *Art Nouveau Jewelry* is an outstanding reference for anyone interested in jewels of this period.

In the preface, the author states her intention to present a "broad panorama" of Art Nouveau through its jewelry, as well as to explain the history of its roots and rapid growth at the turn of the last century. Becker

also sets out to interpret the "strange and unprecedented characteristics" that these jewels exhibit. The introduction provides an overview of the Art Nouveau style as it developed internationally, putting into perspective the artistic, social, and economic forces that gave birth to the Art Nouveau movement.

In the late 19th century, many artists felt dissatisfaction with the dehumanizing effect that factories and industry had on art—and on life in general. Their idea was to infuse everyday objects with art, thereby creating a source of contentment for the artist and user alike. This return to craft, which was incorporated into every aspect of turn-of-the-century life, found its ultimate expression in jewelry. The designs reflected a freedom of expression that was a reaction to the staid and restrictive Victorian period. The flowing Art Nouveau line expressed movement and youthful vitality, as shown in a woman's billowing hair, sensuous plants, and sinuous animals. Perhaps the greatest impact on design at this time was the opening of trade with Japan and the importation of Japanese art and artifacts into Europe. The simplicity and naturalism of Japanese design was adopted by the artists of Europe and was incorporated into every artistic medium, particularly jewelry. The artists borrowed not only the designs but also the ideas for techniques and use of materials. Becker lucidly puts forth these important factors and continues by addressing each country in subsequent chapters, outlining the contributions made by each to the Art Nouveau movement as a whole.

Logic governs the layout of the book, which flows smoothly from introduction to final credits with the help of Becker's descriptive style. The text is well annotated, and the photographs and illustrations are well captioned. Brief biographical sketches of the jewelers along with a guide to their makers' marks are helpful additions, and, other than the peculiar choice of a lurid reddish orange for the cover, I can find no fault

with this impeccable book. Altogether, it is as beautifully designed and executed as the jewelry it describes.

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REVIEWS IN MINERALOGY VOLUME 12: FLUID INCLUSIONS

*By Edwin Roedder, 644 pp., illus., publ. by the Mineralogical Society of America, Washington, DC, 1984. US\$15.00**

On the cover of his new book, Dr. Edwin Roedder states that "*Fluid Inclusions* is an introduction to studies of all types of inclusions—gas, liquid, or melt—trapped in materials from earth and space, and of their application to the understanding of geologic processes." Although this description is precise, in some ways it is an understatement. *Fluid Inclusions* is the 12th volume in the Mineralogical Society of America's *Reviews in Mineralogy* series. It is the only single-author volume in this important series, and at 644 pages it is also the longest. The book's 19 chapters are very well organized and take the reader (in chapter 1) through the early history of fluid-inclusion study with the writings of such noted researchers as Robert Boyle, Henry Clifton Sorby, and Ferdinand Zirkel to (in chapter 19) the possible future of inclusion studies. Interestingly, Roedder notes that the first mention ever in the English language of inclusions was made by Robert Boyle in a gemological text titled "Essay about the Origine and Virtues of Gems" (1672). This fact solidly cements the close relationship that exists between inclusions and gemology.

Between the historic past and the possible future, Dr. Roedder details the various trapping mechanisms by which inclusions are

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WHAT IS A SYNTHETIC?

Many modern gemologists define *synthetic* (noun) as a man-made substance which has the same physical properties and chemical composition as a naturally occurring mineral. This is incorrect.

The correct definition of the noun *synthetic* is something that is man-made rather than naturally occurring. The operative word in this definition is *man-made*. Consequently, that which is not man-made is, by definition, natural.

Acceptance of the faulty definition in the first paragraph leads to the statement made in the *Gem News* column (Summer 1985, p. 119) concerning Alexandrium and Laserblue: "They are not classified as synthetics because they do not duplicate minerals."

How then does one classify these substances? The report states that Alexandrium is a lithium aluminum silicate and Laserblue is a borosilicate. This statement is also incorrect. The terms *silicate* and *borosilicate*, by definition, incorporate the concept of a defined crystal structure. These new materials are amorphous. In simple language, these materials are glasses. Also, since

they are man-made, they are, by definition, "synthetics."

Gemologists should stop using the word *synthetic* as a noun—it serves no useful purpose. Rather, *synthetic* should *always* be used as an adjective in conjunction with the noun it modifies. Under these circumstances, there can never be any misunderstanding.

Although the definition expressed in the first paragraph is incorrect as a definition of the noun *synthetic*, it is correct as the definition of a "synthetic mineral." Consequently, we can apply it to the two glasses and rightly conclude that they are not synthetic minerals.

As to what they are, there are many answers. They may be called synthetic materials, synthetic glasses, or even simulated gems. In the gemological sense, these materials are "synthetics," but not synthetic gems or synthetic minerals. In the commercial sense, they are salable products; however, since they are merely glass, fancy names or pseudo-compositions cannot increase their intrinsic worth.

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formed, and describes the changes that inclusions undergo after they are sealed in their hosts. The preparation of samples for study and the destructive and nondestructive methods of inclusion analysis presently in common use are discussed. Ways of interpreting the data obtained from fluid inclusions are outlined, and each of the various geologic environments, from sedimentary to the upper mantle, is detailed in its own separate chapter. Even extraterrestrial environments are discussed in a chapter that highlights inclusions in both lunar rocks and meteorites. The book also contains comprehensive subject and locality

indexes and a bibliography of over 1,700 entries.

From the gemologist's viewpoint, the one drawback to this volume might be the fact that the microscope techniques as well as much of the testing methodology (particularly the destructive techniques) employed by Dr. Roedder and others in their investigation and documentation of fluid inclusions are not directly applicable to routine gemology. Even so, the chapters providing a glimpse at these techniques are fascinating. They not only enlighten the gemologist to the complexity of the inclusionist's problems, but they also introduce the sophisticated instrumentation often needed to genetically interpret

fluid inclusions. Any gemologist who has ever enjoyed looking through the microscope will appreciate Dr. Roedder's effort.

Considering the complex nature of today's synthetic and treated gemstones, it is wise for the gemologist to learn as much as possible about inclusions in gem materials. This excellent book provides a solid foundation for the study of fluid inclusions in all materials, and should be read by every serious gemologist. With over 400 black-and-white photographs and over 200 line drawings and charts, this large volume is a real bargain at \$15.00.

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