

## NATÜRALISCHE UND SYNTHETISCHE RUBINE

By Karl Schmetzer, 131 pp., illus., publ. by E. Schweizerbart'sche Verlagsbuchhandlung, Stuttgart, West Germany, 1986. US\$22.50\*

Dr. Schmetzer, who is well known worldwide for his prolific gemological writings, has come up with a very interesting monograph on rubies. Written in German, the book provides information on how to separate natural rubies from synthetics.

The author begins with some basic but necessary crystallographic and mineralogic descriptions of corundum. Then he explains the five common methods of synthetic ruby crystal growth, providing good sketches and summary tables. The material used in the author's investigation (some 900 natural stones and 350 synthetics) is briefly introduced, as are the various testing methods: microscopy, UV-visible spectroscopy, UV fluorescence, goniometry, chemistry, and infrared spectroscopy. The distinctive features—inclusions or structures—used in separating natural and synthetic stones under the microscope are explained. The ultraviolet transparency test (the "Boss-hart test") is also discussed.

The main body of the book is dedicated to a detailed description of both natural and synthetic rubies from various sources. Those inclusions (such as rutile and boehmite) and structures (twinning and growth features) that reveal a natural origin are discussed and illustrated with a wealth of photographs and diagrams. Probably the most original part of this book is its description of the characteristic features for rubies from specific major localities and a few minor ones—totaling 15 in all. This is followed by a similarly organized section on the particularities of 11 different types of synthetic rubies.

In this otherwise excellent book, there are two minor drawbacks. First, while synthetic crystal growth is well described, the author gives no overview of the geologic formation of ruby in a natural environment. Second, in several instances the color photographs are somewhat dull or so

# BOOK REVIEWS

Jeffrey M. Burbank, Editor

out-of-focus that they do not show distinctly what is referred to in the caption. Of course, the fact that this book is in German will also be a problem for many readers.

Overall, Dr. Schmetzer's book is an outstanding "state-of-the-art" work, providing practical information as well as hints on how to separate, with basic equipment, natural rubies from synthetic rubies, and how to determine—when possible—the geographic origin of a particular natural stone.

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## THE MAGIC OF MINERALS

By Olaf Medenbach and Harry Wilk, transl. by John S. White, 239 pp., illus., publ. by Chilton Book Co., Radnor, PA, 1986. US\$35.00\*

*The Magic of Minerals* is one of the most beautiful "coffee table" books on minerals that has ever been produced. Since this book was first published in 1977 under the title *Zauberwelt der Mineralien*, it has only been available in German. Now, thanks to the translation work of John Sampson White of the Smithsonian Institution, an English version has been published.

This book is impressive in every respect. Its unusually large format and beautiful cover assure its prominence in any home or office. But, as with any good book, it is what is inside that truly sets it apart. The photography by Olaf Medenbach, a mineralogist by training, is stunning. As one scans the pages of the book, a mineral enthusiast will recognize many familiar old friends, for Dr. Medenbach's photographs have graced the covers of numerous magazines and books.

What non-German-speaking mineralogists have missed before the completion of this English translation is the excellent text by Dr. Harry Wilk. Dr. Wilk has included a surprisingly comprehensive introduction to mineralogy for a "coffee table" book. The major portion of the book is devoted to historical and mineralogical descriptions of 110 minerals. Each of these well-written descriptions is accompanied by one of Dr. Medenbach's superb photographs.

Interspersed among these descriptions are seven sections. The first section, "The Crystalline Nature of Matter," discusses the basics of mineralogy, along with a concise description of the formation of the earth. In the second section, "The Structure of Minerals," Dr. Wilk gives a historical perspective to the internal structure of minerals and, in doing so, introduces the reader to everything from unit cells to silicate structures in very brief terms. The logical continuation of this discussion is found in the third section, "Symmetry of the External Crystal Forms," an introduction to crystallography. As with the other topics that Dr. Wilk covers, this discussion of crystallography is concise and simple. The next section, "Physical Properties," provides a detailed description of the color of minerals and light phenomena, of particular interest to the gemologist. In his petrological approach to the "Occurrence and Origin of Minerals," Dr. Wilk describes pegmatites, pneumatolytic mineralization, and hydrothermal mineral formation. The final two sections include a brief but interesting discussion of the origins of the "Names of Minerals" and the "Systematic Classification of Minerals."

It is difficult to find fault with such a well-produced book, and the detractions that I found were minor. The interspersing of the mineral descriptions with the seven sections tends to be confusing. Also, although the minerals are presented in order according to Dana's system, it is not until the final section of the book that the classification of minerals is discussed. There are a few mineral

spellings that I found unfamiliar. These include adamine rather than adamite, indigolite rather than indicolite, and aktinolite rather than actinolite. The latter case is obviously a remnant of the German spelling and it is entirely possible that the others are as well. As I noted at the outset, given the overall excellent quality of this book, these criticisms must be considered trivial. *The Magic of Minerals* is a must for anyone with an interest in minerals who wants to bring converts to the mineral kingdom.

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## OTHER BOOKS RECEIVED IN 1986

**Descriptions of Gem Materials**, by Glenn and Martha Vargas, 190 pp., publ. by the authors, Thermal, CA, 1985, US\$10.00.\* This third edition of a valuable reference brings up to date the Vargas' pioneering work on facetable minerals. The book lists alphabetically some 320 natural minerals and 54 man-made gem materials, and supplies in a concise manner their gemological properties, alternate names, pronunciation (although sometimes the authors' notion of the "correct" pronunciation is arguable), and cabochon and faceting characteristics.

Although the book is intended to be used as reference for identifying the myriad faceted stones on the market, it is hampered by its lack of visuals, such as color plates, halftones, or line drawings. Nevertheless, it bears witness to the astonishing number of natural materials that can be converted into gems, and is an excellent catalogue *raisonnée* for lovers of novelty gemstones, as well as for students of mineralogy.

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

**Jewelry: How to Create Your Image**, by Jorge Miguel, 119 pp., illus., publ. by Taylor Publishing Company, Dallas, TX, US\$19.95. Mr. Miguel, a Brazilian-born jewelry designer and former professional soccer player, has written a book devoted to jewelry as fashion, or, more precisely, to fashion advice about jewelry. Yes, this is the sort of book that deals with topics such as "What jewelry complements different hair colors" and "How a woman's skin tone affects the way her jewelry looks" and "Which shapes and styles of jewelry flatter different body types." There is a built-in irony in Mr. Miguel's effort to avoid dating his subject by giving "sound advice on buying jewelry to outlast the trends of fashion," since the very concept of jewelry is predicated on "fashion." Perhaps more ironic are the photographs in the book that attempt to show how jewelry "flatters" a woman's appearance. These photographs are not very flattering at all. More to the point, this book's audience is the jewelry consumer, not the jewelry designer, though both may be wise to take the proffered advice with care. Of course, jewelry salespersons will find Mr. Miguel's advice of interest, since these very considerations—fashion, flattery, color coordination—are often what enhance or even make a sale.

**The New Jewelry: Trends & Traditions**, by Peter Dormer and Ralph Turner, 192 pp., illus., publ. by Thames and Hudson, New York, NY, US\$35.00.\* All jewelry artists should be aware of this popular volume (a staple of many bookstores), which chronicles both in written words—and, more emphatically, in photographs—the "dazzling burgeoning of many kinds of ornament." The book's three main divisions betray its emphasis on the art of jewelry, as opposed to its craft. These sections are: "Expression and De-

sign," "Jewelry as Image," and "Jewelry as Theatre." The authors thus promote their notion of jewelry as miniature sculpture, and illustrate this concept admirably, with photographs that dramatize the impact—and unwearability—of some of the more avant-garde pieces.

Although the book attempts to show the possibilities inherent in adornment when pushed to its limits, *The New Jewelry* is also a practical reference, with biographies of prominent jewelry designers and an appendix of museums with modern-jewelry collections. What is hard to gauge is this book's role as a lasting reference, since the jewelry it discusses is so much of the moment. Whether the design and theory illustrated here prove durable can only be tested by time.

**Opals: Rivers of Illusions**, by Alina Loneck, 64 pp., illus., publ. by Gemcraft Pty. Ltd., East Malvern, Victoria, Australia, 1986, US\$6.95.\* This slim book attempts to provide a comprehensive treatment of opal in what amounts to an essay-length volume. Ms. Loneck, an English jewelry designer currently residing in Australia, has managed to distill her subject down to a mere 64 pages and nevertheless cover such topics as "Historical Context," "Optical Properties," "Chemical Composition," "Opal-Bearing Areas," "Fashioning, Synthesis, and Classification," and "Prospecting." Although the book's very brevity cannot recommend it as an encyclopedic reference, it is a very good pocket volume for the opal novice, and contains a generous amount of information for its modest size.

**Treasures of the British Museum**, by Marjorie Caygill, 240 pp., illus., publ. by Harry N. Abrams, Inc., New York, NY, 1985, US\$29.95.\* This handsomely produced book,

full of many color and black-and-white photographs, is an excellent armchair introduction to the treasures found in the British Museum. It is of interest to gemologists because it includes a chapter on the famous Hull Grundy jewelry collection—a chapter that, although brief, features a stunning double-page spread illustrating some of the collection's most beautiful brooches.

Of interest to horologists is the "Clocks and Watches" chapter, which provides a sampling (although largely via black-and-white photos) of some of the treasures of the museum's Clock Room. Because so much of the museum's collection is of ancillary interest to gemologists, this book should prove fascinating reading. The chapter on the Royal Cemetery at Ur, for example, features some beautiful photographs of gold artifacts, and in almost every other chapter, an item of ancient jewelry is certain to crop up. Although not a primary reference, this is still an ideal volume for the bookshelf or coffee table.

**A Time to Watch**, by Jac Zagoory and Hilda Chan, 200 pp., illus., publ. by ChiuZac Ltd., New York, NY, 1985, US\$88.00.\* Although peppered with an occasional short essay on the evolution of the wrist watch, this sumptuous volume pretends to be nothing

less than a purely visual celebration of its subject matter. It is perhaps for this reason alone that the volume is so expensive, since its photographs are in no small measure the result of some attentive artistry. Many of the masterpieces of Rolex, Cartier, Tiffany, Patek Philippe, and others have been displayed across full pages, in photographic compositions that find the timepieces in fanciful, if not baroque, settings. Some may be splayed across an elaborate parquet table, others planked down on a block of ice, one perched atop the Chrysler building, another hovering in the firmament as if doing battle in "Star Wars." The net result, unfortunately, is to detract from the beauty of the timepieces themselves, and call attention to the busy ingenuity of the photographic compositions, which, given the subject matter of this book, probably could have been better used elsewhere.

**Struck by Lightning**, by Les Taylor, 183 pp., illus., publ. by Jon the Printer Pty. Ltd., Ashmore, Queensland, Australia, 1985, US\$10.00 (approx.).\* In gemological literature there is a body of work that has become a genre unto itself—the "miners' tales" that once were the province of the oral tradition but now make their mark, with considerable force, in

the literary realm as well. Les Taylor's book is undeniably of this ilk—reflections on Australian opal mining that, in the author's words, are "concerned with a general approach to the stone, portraying in simple, broad terms its types, its commercial position, and the people who live their lives in or close to the world of opal." In fact, the stated priority is reversed, since it is undeniably the human side of opal mining that has engaged Mr. Taylor here.

Taking the book on its own terms, the reader will discover that *Struck by Lightning* distinguishes itself from its many literary cousins by its engaging style, which is full of the flavor of the Australian idiom—in itself a feature to recommend reading. And while many similar tracts of gemological folklore are famously rife with typographical errors, bad prose, and misinformation, this book sets itself apart through its literacy and sincere tone. Some of Mr. Taylor's stories may verge on the apocryphal (though he avers all are true), but, whatever the case, he has succeeded in recounting a wealth of human lore, garnered over his 30 years in the opal business. As an indication of the book's allegiance to its folk roots, it should be noted that some 40 pages of *Struck by Lightning* are stories written in doggerel verse.

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### Coming in the Spring 1987 issue