

GEMSTONES

By Michael O'Donoghue, 372 pp., illus., publ. by Chapman & Hall, Ltd., London, 1988. US\$50.00*

In his preface, O'Donoghue says that "Gemstones is the first attempt in English to bring together the geological, mineralogical, and gemmological developments that have taken place during the last 30 years." One wonders, however, if such efforts as Webster's monumental *Gems: Their Sources, Descriptions and Identification*, as updated by the late Basil Anderson in a fourth (1983) edition, would seem to limit that time frame.

In what ways, though, does O'Donoghue's *Gemstones* differ from earlier gemological texts? There are several examples. In his initial chapter, "Formation and Occurrence of Gemstones," there is a heavy emphasis on inclusions from the point of view of formation, followed by a recitation of the inclusions in the major gemstones plus a section on inclusion photography. In the next chapter, on the nature of gemstones, he gives slightly greater emphasis to valency and bonding than in most gemological books. Special attention is given to what he terms "recent developments in gem testing," in which category he includes thermal conductivity, reflectivity, and X-ray topography, as well as the scanning electron microscope and microprobe. Electron paramagnetic resonance, plus X-ray and ultraviolet spectroscopy, are also considered, but not infrared.

Most (more than 200 pages) of the remainder of the book is devoted to the description of inorganic, organic, synthetic, and imitation gem materials. There are also several identification tables. The descriptive sections are clearly aimed more for the collector and the hobbyist than for the jeweler, since many of the materials mentioned would have no possible use in a jewelry environment. For the collector, O'Donoghue does try to cover everything cuttable, including such rarities as linarite, ludlamite, millerite, meliphanite, mellite, mesolite, and serandite. It should be noted that under "millerite," the opaque nickel-sulphide with

BOOK REVIEWS

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a metallic luster, he states, "A cloudy yellowish green stone has been recorded in cut form from Rossing, Namibia." This is clearly a reference to milarite, not millerite.

In the specific gravity table, synthetic emerald is listed as 2.66–2.68. This range would not encompass all hydrothermal material. The pale green spodumene from Brazil is labeled "hiddenite" in a color plate. This would not fit the chrome-bearing spodumene originally described as hiddenite. Peridot is described under olivine, suggesting a mineralogic rather than a gemological orientation. Some of his descriptions of various gem materials, however, are exhaustive and would be useful to a student. For example, the corundum section discusses 17 sources, with individual essays on more than half of these.

Overall, this book has some good information and is a useful addition to any library. It leaves the impression, however, that it is a compilation written primarily for the collector of rare and unusual gems.

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CHANNEL SETTING DIAMONDS

By Robert R. Wooding, 136 pp., illus., publ. by Dry Ridge Co., Erlanger, KY, 1987. US\$29.95*

The setting of diamonds in a channel is very popular in today's jewelry market. Yet for this, as for most setting styles, there is little written on the specific steps involved in the manufacturing process. In this well-

illustrated book, Mr. Wooding provides a detailed description of the techniques he uses for channel setting diamonds. He clearly acknowledges that there are alternate techniques, but offers his for reference or for modification by the individual jeweler.

The contents are divided into two sections. Section one begins with inspection of the diamonds to be set (for size, quality, internal flaws, chips), and then goes into layout of the channel, cutting the channel, burring the seats, and securing the diamonds. The clean-up procedures are explained thoroughly also. The technique of cutting a channel into metal may seem outdated to some, as most channels are now prefabricated. Yet the technique is valid, and the author explains lucidly the requirements for accomplishing a properly cut channel. Readers will find themselves referring to this first section often.

Section two discusses the various types of channels: closed, open, curved, tapered, angular, and inlaid. The inlaid channel uses round diamonds as well as square-cut ones. This section is very helpful, and the illustrations are so good that I found myself following them alone and ignoring the text. Although the author tends to be overly elaborate in his explanations for a simple technique, the in-depth information provided on handling these different types of channels is easily worth the price of the entire book.

Immediately following section two is a discussion of problems and solutions that offers some troubleshooting techniques. I found this feature to be fun reading and would have liked to see it expanded. Finally, an appendix furnishes lists of diamond-setting schools as well as suggested readings, including two other books by Mr. Wooding.

I appreciate the fact that Mr. Wooding has shared some of his techniques (too few bench jewelers do), and use this book as a reference to complete my own projects.

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