Book review

Introduction to Precious Metals

**Metallurgy for Jewellers and Silversmiths
by Mark Grimwade**

For many people at the craft end of the jewellery industry – goldsmiths, silversmiths, designer-makers and the like – with little scientific background, the manufacture of jewellery in the precious metals is not easy, especially when problems arise such as cracking, porosity and other defects. For many, Mark Grimwade's classic text, "Introduction to Precious Metals", published over 20 years ago in 1985 was groundbreaking in making the metallurgy of the precious metals easy to understand and accessible for the non-scientific and is still highly valued in the jewellery industry. Unfortunately, it has long been out of print and second-hand copies are much sought after, although much of its core content has been available in his series of technical articles under the banner title 'Basic metallurgy for goldsmiths' published originally in *Aurum* magazine and later reproduced in *Gold Technology* and in his lectures at the Santa Fe Symposia on jewelry manufacturing technology.

At last, Mark has written a new edition of his book, much expanded, refined and including the new jewellery metal, palladium as well as gold silver and platinum. This was one book that I opened and simply read to the end, absorbed and fascinated. Mark has a gift of being an excellent communicator and educator. He presents the complex metallurgy of the

precious metals in a way that goldsmiths can easily comprehend and find easy to apply in the practical situation. As Eddie Bell, goldsmith and co-founder of the Santa Fe Symposium remarks in his preface to the book, "If you're like me, you'll turn to it for the answer to a specific problem and soon find yourself reading further than you intended." I endorse that comment wholeheartedly!

The book is 240 pages long and comprises 17 chapters. The first 3 take us through the basic properties of the precious metals – physical, mechanical and chemical, whilst the 4th summarises their occurrence, extraction and refining. The author then launches into a basic understanding of alloying behaviour, followed by chapters on the principles of solidification and working & annealing. Then follow chapters on silver, gold and the platinum group metals and their alloys, which are full of useful information. Practical chapters on melting, alloying and casting, working & annealing practice, joining techniques, electroplating and allied processes follow and the book finishes with chapters on the use of powder metallurgy in jewellery manufacture, surface decoration techniques and, finally, one on assaying and hallmarking. All are eminently readable and informative.

For readers of *Gold Bulletin*, this slim book might also be considered as a good general introduction to 'metallurgy for the non-metallurgist', with the obvious focus on the precious metals. As readers of this review may note from the title, the book is presented in American English spelling, but that should not distract some of us from the strength of this excellent 2nd edition. I would commend it to all. At \$35, it is affordable for individuals and will be well used, I'm certain. It is also a useful training aid for students, technicians and others in the jewellery business, including retailers.

Christopher Corti

(The Editor)

"Introduction to Precious Metals" by Mark Grimwade is published by Brynmorgen Press, 318 Bath Road, Brunswick, Maine, USA (Tel: +1 207 761 8217; www.brynmorgen.com). At 10" X 7.5" (25.4 x 19.0 cm), with hard cover and dust jacket, it is priced at \$35.00. ISBN 978-1-929565-30-6