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BOOK REVIEW

THE DIAMOND MAKERS. Robert M. Hazen. Cambridge University Press, 1999. Softbound, 244 p. $15.95 U.S.

The Diamond Makers by Robert Hazen is a fascinating and well-written history where the dreams of the alchemist actually came true. The reader should not expect a reference book on diamonds or a textbook on diamond synthesis. Rather, anyone with an interest in high-pressure research, material science, or good storytelling will find it a compelling tale of perseverance and drama. Technically complex concepts needed to tell the tale, such as certain elements of thermodynamics and crystallography, are explained in an accessible fashion. Thus, this book will appeal to the interested layperson.

Not only is the story of diamond synthesis told, so is the tale of the myriad of interesting characters involved. In fact, the book is as much about people as it is about a rare polymorph of carbon. During my experience in diamond research [see below], I heard many apocryphal stories and read many papers and chapters in books by the key players. It was immensely satisfying to be able to put their entire story in context and have it come alive through Hazen's book.

The book introduces the reader to the beauty, utility, and mystery of the diamond that have made it such an intense target of synthesis efforts. The book then relates the long history of failed attempts followed by the ultimate successes by GE, and, perhaps, by the Swedish power company ASEA (some aspects of the history remain mysterious). After examining the development of commercial diamond synthesis by GE, De Beers, and others, the book focuses on attempts by other players to compete in the diamond market. Finally, it tells the tale of other diamond products such as sintered compacts, explosively produced diamond, chemical vapor deposition diamond, and use of the diamond anvil cell in research.

Reading *The Diamond Makers* reminded me of just how ironic life can be and just how small the world really is. According to my father, Tracy Hall [a central figure in diamond synthesis] and I are distant relatives, although we have never met. Professor Hall completed his career at Brigham Young University, whereas I am beginning my career at that institution. I frequently drive past the Megadiamond facility, a firm started by Tracy Hall, but I have never visited it. Furthermore, I started my graduate career at UCLA working in Art Montana's lab. Through this introduction to high-pressure work, I obtained a part time position with High Pressure Technology [a firm started by George Kennedy], which was a subsidiary of RDA [a defense contracting firm]. We worked with the 1/2" piston-cylinder press which I can assure was not "rusting…in a Los Angeles warehouse" between 1988 and 1993 when we conducted hundreds of experiments and developed prototype procedures that produced some excellent saw-grade diamond coupled with design modifications that permitted hundreds of cycles with the tooling. In another twist of irony, however, we certainly were merely reinventing a wheel that GE had created decades before.

What is the relevance of these personal musings? Anyone who has engaged in serious research knows that progress is made by a singular combination of perseverance, imagination, insight, and good luck. But in addition to this, research is an effort into which much emotional capital is invested and memorable interpersonal relationships are forged. Perhaps this, as much as anything, will provide satisfaction to the reader as he/she recognizes some of his/her own experiences in the telling of this tale.

STEPHEN T. NELSON
Department of Geology
Brigham Young University
Provo, UT 84602