

## BOOK REVIEWS

Burt, R., Burnley, R., Gill, M. and Neill, A. *Mining in Cornwall and Devon*. 2014, University of Exeter Press, 272 pp. ISBN-13: 9780859898898. Price: £25.

The key to the content is given in the subtitle on the flyleaf, 'An economic history of the mines, mineral ownership and mine management in the South West of England'. The work is in two parts, a book of 251 pages and an interactive CD with datasets giving information about individual mines including dates of operation, commodities produced, details of management and locations.

The book includes sections on the *Mineral Statistics* from 1850 to 1920, on production data before 1850 and after 1920, on the Duchy of Cornwall and its role in southwest mining and on mining companies and their personnel from 1850 to 1920. After a short concluding section, there are four appendices, three dealing with aspects of copper mining and a fourth of biographical notes on some of the mine managers. These are followed by a bibliography, a section describing the contents of the CD and its operation, a list of the footnotes referred to in the main body of the text and an index of mine names.

Dealing first with the CD, this represents a very considerable compilation of mining history data, much of it available in this format for the first time. The interactive aspects are easy to operate and the structure is a model of clarity, particularly if reference is made to the appropriate explanatory text in the book. That said, there are some minor points such as the odd use of some of the element abbreviations: 'Tu' for tungsten and 'Ur' for uranium, for example, alongside the standard Sn for tin and Cu for copper.

The introductory section of the book provides an overview of its contents and is followed by an account of the *Mineral Statistics*. The opening section of this chapter ends (p. 3) with the statement that details of mine-by-mine production are not available, through the agency of the Cornish Chamber of Mines, for any period after 1920. This is certainly not true for the second half of the 20<sup>th</sup> Century, when such figures were published in the *Annual Report* of that institution.

There follow detailed accounts of the mining history of Cornwall and Devon separately and then an overview of both counties together. The account of the various minerals worked in the separate county sections seems to this reviewer to be repetitive and, in places, muddled. In the section on 'Wolfram and Uranium' for Devon, for example, it is not clear which commodity is being referred to at the outset. On p. 117 reference is made, under the heading of 'Barytes' to the current opening of the world-class tungsten and tin deposit at Hemerdon, now known as Drakelands Mine. In the following section, which speculates on the future of mining in Southwest England, the opening statement that the recent record suggests that mining probably does not have a future in the region seems contradictory! The following section on the Duchy of Cornwall mines is very detailed and clear and of considerable interest. It includes, rather oddly in my view, an account of the Duchy mines in the Somerset Coalfield.

In summary, and in spite of the reservations expressed above, this work is likely to prove valuable to those researching in mining and economic history, but the interest to mineralogists or geologists is very restricted.

R. C. SCRIVENER

Mason, John. *Introducing Mineralogy*. Dunedin Academic Press. Edinburgh and London. 118 pp. ISBN: 9781780460284. Price: £14.99.

In today's market there are a plethora of 'coffee-table style' mineralogy books, written with the mineral collector enthusiast in mind, copiously illustrated with glossy images but, with little detailed science behind them. Equally there are many larger, and more detailed, mineralogical textbooks written for students, but frequently presented in a very technical and overbearing way, and quite highly priced.

*Introducing Mineralogy*, describes itself as aimed at students embarking on courses in mineralogy and the amateur collector. This book will certainly appeal to the former audience, but it might not be so well received by enthusiasts who

simply want an illustrated guidebook. Unlike the majority of smaller glossy mineralogy books there are none of the long lists of identification guides with image after image. Instead, the author's flowing text takes you on a mineralogical educational tour starting with the basics of mineralogy (Chapter 1) and progressing through where minerals occur, both typical (rock forming) occurrences (Chapter 2) and atypical concentrations (mineral veins etc.) (Chapter 3). Aspects of mineral collecting as a science, or leisure activity, are covered in Chapter 4 and the reasons and methods for studying mineral occurrences are described in Chapter 5. Chapter 6 deals with the uses of minerals and introduces the important terms used to define the type of product such as ores, industrial minerals, chemical feedstock and the lesser known display minerals sector and gemstones. The final chapter (Chapter 7) covers the effect of minerals on the environment.

The writing style is very clever, presenting concise technical information pitched at a level where even somebody with very little knowledge of science can become absorbed and learn at ease. This is particularly the case in Chapter 1: The basics of mineralogy. This, the longest chapter in the book, is presented in a clear structured way with technical terms applied where necessary, but in a manner that will be understandable by all. The use of an extensive glossary is a very important feature of this book as it allows the technical terms to be introduced to the reader without the general flow of the text being broken with continual explanations. Equally there is plenty of content to benefit those with more experience. It is this broad approach which sets this book aside from other mineralogical offerings.

The use of copious photographs to demonstrate the distinctive properties and features of minerals is good idea, but the quality of many of the images falls well short of what one would expect, even for an introductory book. This is a common theme throughout the book and is my main

criticism. A number of the images barely demonstrate the points for which they are included, requiring, in some cases, a specialist to be able to see the point in question. For example in Chapter 1 the illustration of hackly fracture is represented by a photograph of copper, but the copper is not at all obvious to a beginner. Likewise the illustration of a tetragonal mineral uses a photograph of tabular microcrystals of wulfenite, but the crystals are too small for a reader with little experience to really discern their true form. Other photographs are out of focus, or appear to be very old, and some of the figured specimens are mounted on blue-tac which detracts from the sample.

Some of the other illustrations are equally of questionable use. The identification section in Chapter 4: Mineral collecting, features a table comparing the X-ray diffraction patterns of two polymorphs of lead sulphate carbonate hydroxide – leadhillite and susannite – to highlight how these two mineral species can be told apart. It is rather unfortunate that in this instance the diffraction patterns are so very similar rendering the example almost pointless. Nevertheless, the quality of the text throughout is excellent and a few illustrations aside this is an excellent work.

In summary, this book does exactly what the title says: *Introducing Mineralogy*. It is an excellent introductory book on mineralogy, well written and covers all of the basics very well, but it is let down by the quality of the illustrations. It is, however, good value for money and is suited to students from GCSE through to degree level. For the enthusiast this book is only really suited to those who are keen to learn more about the science rather than those who want a pictorial guide book. In essence it covers the middle ground between textbook and coffee-table guidebook presenting the detailed science which underpins mineralogy in an understandable and straightforward manner and at an affordable price.

TOM COTTERELL