

Introduction, Archibald Bruce had the opportunity of making the acquaintance of many leading mineralogists during a five-year period of study and travel. Count de Bournon, Charles Francis Greville, Abbé René Just Haüy and Heinrich Struve were among those notable figures whom he was privileged to encounter. The first publication of the *Journal* in 1810 (January) includes a comprehensive list of 'Geological Inquiries' as proposed by the London Geological Society. The varied professional status of the contributors to the *Journal* certainly confirmed Bruce's intentions to enlist the services of 'the miner, the quarrier, the surveyor, the engineer, the collier, the iron master and even the traveller', to assist in the making of geological observations.

Much of the content of the *Journal* is devoted to the search for and study of minerals of economic importance – coal, iron, lead, copper. Number 3 of the *Journal* includes a lengthy extract by Dr. James Millar of Edinburgh, entitled *Of the Indications of Coal and Methods of Searching for It*. The reason given for this insertion is 'the rising price of fuel due to the interruption of our supplies of coal from Great Britain due to the present state of political affairs!' A similar reference to the importation of bar-iron from England to the United States, 1810, serves, with many other such examples, to illustrate the reversal of the economic interdependence of the two countries in the intervening century and a half.

Contributions under the heading 'Intelligence' comprise many news items which will be read, even today, with considerable interest. The eruption of Vesuvius in September 1810 is graphically reported. Meteoric falls in France and Russia, 1810 and 1811, are catalogued with accuracy and William Meade M.D. gives us such an enthusiastic account of his discoveries concerning 'Elastic Marble' that one's fingers itch to repeat the experiment.

This edition of the *Journal* is ably supported by Professor John C. Greene's biographical account of Archibald Bruce, whose premature death at the age of forty-one cannot but be lamented by anyone who reads of his valiant attempts to establish an *American Mineralogical Journal*.

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Optical crystallography. Fourth edition. By ERNEST E. WAHLSTROM. Pp. 489. London: Wiley, 1969. Price 132s.

This is the fourth edition of a book first published in 1943. It deals in a systematic and exhaustive way with all aspects of the behaviour of light when it passes through transparent materials.

Initial chapters (about 200 pages in all) are devoted to the elementary basic concepts of optical crystallography – crystal morphology, the nature of light, the optics of isotropic materials, measurement of refractive index, polarized light and interference and other phenomena concerned with the composition and resolution of light waves.

The treatment is for the most part descriptive and the mathematics is kept to a minimum. Since the diagrams are numerous and of a good standard the basic concepts are

put over quite well. However in his preface the author states that, quite deliberately, his material is a collection of theory and recipes and sometimes this reviewer felt that the theory was a little underplayed. For example, Miller indices are introduced without any reference to the underlying reasons for their existence and a reader fresh to the subject might well wonder at the good fortune that made them such small integers.

The next 160 pages give a very complete and highly satisfactory explanation of the optical properties of uniaxial and biaxial crystals and their behaviour under the orthoscope and conoscope. Once again the quantity and quality of the diagrams help greatly to clarify the subject matter.

Final chapters are devoted to optically active crystals, the study of crystals mounted on stage goniometers and, finally, a detailed procedure for the systematic microscopic examination of transparent materials.

This book is highly recommended to all crystallographers. Even the least 'optically aware' crystallographer would do well to have it handy as a work of reference.

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Liquid crystals. Proceedings of the International Conference on Liquid Crystals, Kent State University, August 16–20, 1965. Coordinated by GLENN H. BROWN, G. J. DIENES and M. M. LABES. Pp. viii + 486. New York: Gordon & Breach, 1967. Price £ 15.5.0d.

In the years following the publication of *Molecular Structure and the Properties of Liquid Crystals* (G. W. Gray, 1962, Academic Press), much important work has been done in this field. There has been a need for an up-to-date, coherent presentation of the properties of liquid crystals, and it was to be hoped that the book under review would do something to meet this need. Although this does indeed give a wealth of information, it does not give the coherent and evaluative presentation that is required. The book is a collection of 30 papers presented at a conference on liquid crystals in 1965, which were subsequently published as articles in the journal *Molecular Crystals*, mainly reporting on original research. Any individual or library subscribing to this journal would therefore have virtually the entire contents of this book already available. There is a lot of good material scattered throughout this book, but it is difficult to extract, as the articles vary considerably in level of detail, and often employ different terminologies. The arrangement of articles is apparently random, with no evident grouping according to topic, technique or viewpoint. Most of the articles are highly specialized and unrelated to the other articles. It is all the more necessary, therefore, to have a reliable index but there is, unfortunately, no index whatever. And since there is no editorial guidance either, it is difficult to understand why it was thought valuable to publish these articles in book form for, in their present form, they clearly remain more suitable as journal articles than as chapters in a book. Furthermore, editorial attention to some articles would have been welcome.