The format of the book is generally attractive; it is easy to read with very few typographical errors. Line drawings are clear but some photographs are rather dark. Lists of references are given after each chapter leading to some duplication—references are up to June 1981 and the authors' ask to be notified of any omissions! Author, Subject, and Formula indices are included.

The book will be extremely useful to crystal chemists active in the earth sciences and I imagine many of them will purchase their own copies. However, the cost at little under 10 new pence per page may be prohibitive to other than the converted!

C. M. B. HENDERSON

M. O'Donoghue. *Identifying Man-Made Gems.* London (NAG Press Ltd.), 1983, 223 pp., 75 figs., 16 colour pls. Price £14.95.

This text, which aims to be a working tool for gemmologists, gem dealers, and students, uses the term 'man-made' to mean any artificial substance whether or not it has a natural counterpart, the term 'synthetic' being restricted to those gemstones which have no natural counterpart. The book is in two parts, Part I dealing with 'Methods of Growth', and also with colouration, testing, and with the problems of photographing inclusions in cut stones. Here the work benefits greatly from the reproduction of sixty-one colour photographs of gem inclusions taken by Dr E. Gübelin of Switzerland.

In Part II, 'Identification', there are chapters on individual gems: diamond, corundum, emerald, beryl, alexandrite, spinel, garnet, quartz, opal, lapis lazuli, turquoise, organic materials, and glass. The various 'simulants' (natural or man-made gemstone treated to look like other more desirable gemstones) are also described, including the composite stones better known as doublets and triplets. In a final chapter less common man-made stones are described including forsterite, greenockite, phenakite, scheelite, tourmaline, and zincite but mention is also made of several synthetic materials not in general ornamental use but which may later come into their own, such as silicon carbide (with twice the dispersion of diamond), green periclase (containing Cr and Fe), and barium sodium niobate (*n.* 2.31). There is an appendix of trade names; these are all objectionable on mineralogical grounds and their use is to be discouraged but it is nevertheless useful to have them listed here. A bibliography of relevant journals is also given, together with addresses of the publishers.

Obviously this book bears some comparision to *Man-made Gemstones* by Elwell [*MM* **43**, 1073] and Nassau's *Gems Made by Man* [MA 81-2309] but the present text is both more up to date and better oriented to the British market.

R. A. HOWIE

Craig, G. Y., ed. *Geology of Scotland* (2nd edn.). Edinburgh (Scottish Academic Press), 1983. xiv + 472 pp., 194 figs., 73 sketch-maps. Price £35 cased; £17.50 paper.

In this welcome second edition, the text of 1965 has been completely rewritten by a dozen specialists on various aspects of Scottish geology to provide in fifteen chapters an authoritative statement on present views on the geology of this geologically important and fascinating country. The plate-tectonic hypothesis, propounded since the first edition was published, has enabled Scottish rocks to be placed in a new structural and petrographical framework. The increased availability of radiometric dates, the added impetus of the discovery of oil in the North Sea, and the flow of results from widespread drilling, together with advances in igneous and metamorphic petrology have led to a rapid increase in the understanding of the geology of the area.

The growth and structure of Scotland are succinctly described by A. L. Harris, before the detailed description of the Lewisian (Janet Watson), the Torridonian, Moine, and Dalradian (M. R. W. Johnson), Lower Palaeozoic stratigraphy, structure, and palaeogeography (E. K. Walton), Caledonian and earlier magmatism (P. E. Brown), Old Red Sandstone (W. Mykura), Carboniferous and Carboniferous-Permian igneous rocks (J. P. B. Lovell), Jurassic, Cretaceous, and Tertiary sediments (A. Hallam), Tertiary igneous activity (C. H. Emeleus), Quaternary (J. B. Sissons), and finally a chapter on economic geology (P. McL. D. Duff).

The general format is the same as the previous edition; the book is clearly printed and copiously illustrated, with 84 photographs in addition to 110 diagrams and 73 mainly geological sketch-maps. This is an essential volume for all earth science libraries and the paperback edition should be cheap enough to allow all students of Scottish geology to have a copy on their own shelves.

R. A. HOWIE

Walton, E. K., Randall, B. A. O., Battey, M. H., and Tomkeieff, O., eds. *Dictionary of Petrology: S. I. Tomkeieff.* Chichester and New York (John Wiley and Sons Ltd.), 1983. xii + 680 pp. Price £49.50.

This work is a monument to the interests and the filing system of petrological terms started by the