Gibbs, A. K. and Barron, C. N. *Geology of the Guiana Shield.* Oxford (Clarendon Press), 1993. 246 pp. Price £75.00. ISBN 0 19 507350 9.

This text serves as a geological memoir and summarizes a vast a mount of the available information on the Guiana Shield which crops out in six countries. Importantly, the text provides the way of getting at greater detail in each of the many topics covered. It comprises 16 chapters arranged into five parts; four describing the geoloy in stratigraphic order, and one on economic geology. There is an extensive reference list, together with an index and three appendices covering data sources—the addresses of agencies and geological institutions, available maps and remote sensing, and a tentative evolutionary model. Finally, there is a fold-out, coloured, geological sketch-map and cross-section which, because of its scale, is really only a sketch. It is clearly only intended as a guide to the broad picture, a researcher being referred to one of the available series of maps for more detail.

A brief introduction broadly summarizes the whole book (and also includes interesting facts about the local fauna). A summary of the geochronological framework is included which shows that this is an area where much more could be accomplished. Each section of the geology is considered both chronologically and also geographically to bring out some of the problems in the various correlations that have been made across the six countries. This takes a bit of getting used to, but none-the-less is successful.

Part 1, dealing with the Archaean and Lower Proterozoic, treats the geology on a petrological basis which is considered to be broadly stratigraphic. Thus the high-grade basement is considered first followed by the greenstone belts and finally belts of supracrustal rocks that are not greenstones. The debate as to how much of the Shield is Archaean is considered and the opinion presented that most is Proterozoic in origin. The two chapters in Part II deal with the Lower Proterozoic Trans-Amazon tectono-thermal event which occurred some time between 2.3 and 1.9 Ga. Chapter 5 deals with the basic and ultrabasic intrusives which become caught up in the event and is followed by Chapter 6 on the extensive syn- and post-kinematic granitoids.

Part III concerns the Middle Proterozoic cover rocks which have been variably deformed and generally only weakly metamorphosed. The problem of correlating large areas of thick, unfossiliferous continental sediments is addressed. Finally, chapters on post-kinematic basic and alkaline intrusives are included. In Part IV the Upper Proterozoic and Phanerozoic geology is considered. This covers development of Mesozoic graben structures and discusses the inter-relationships of several different fault systems. The final chapter in this section covers the geomorphology of the Shield and briefly the Phanerozoic geology of the periphery. One point in this section is that several of the geochemical diagrams have relatively little data on them and one wonders why they occupy so much space.

To many, Part V, on economic geology, will be the most useful section as it contains a comprehensive list of the minerals exploited, resource maps and, for certain examples, production figures. The importance of the first four parts is that they give the geological context. However, the chapter can only represent a summary, and it is the comprehensive reference list which allows detailed follow-up.

Throughout, the diagrams and maps are generally good, though a few of them have presumably been reduced, and contain an overwhelming amount of information. Photographs are used mostly to good effect, though one or two are perhaps of limited value. One slight quibble is with the rather poor quality of the tables which have presumably been produced in camera-ready format by a dot-matrix printer. Otherwise the general production is very good.

As the authors say in their Preface, the geology of the Guiana Shield has often been forgotten and their aims were several; to improve access to the available information, to publicize disproved ideas, to draw attention to some of the unsolved problems, to draw attention to the rich mineral resources of the region and finally, to encourage inclusion of the region in Precambrian studies. In these aims the authors certainly succeed and it is likely that the bulk of the book will remain up to date for some time to come. It should be a reference book in any University Library and probably in the collection of any researcher on South America and economic geology. This book is a very useful summary and at the price represents good value. C. R. L. FRIEND

Mitra, S. *Applied Mössbauer Spectroscopy — Theory and Practice for Geochemists and Archaeologists.* Oxford (Pergamon Press), 1992. Price £220.00. iv + 381 pp.

This book forms Parts III–VI of Volume 18 of Pergamon's Physics and Chemistry of the Earth series, but it is a stand-alone volume dealing with the various applications of Mössbauer spectro-