LEHMANN, U. *The ammonites: their life and their world.* Cambridge University Press 1981
Translated from the German by Janine Lettau.
246 pp., 108 text-figs., appendices, index, hard cover, £9.95.

Ammonites in the restricted sense belong to the Mesozoic. If goniatites are to be included, the range can be extended back into the Upper Palaeozoic. The fact that none are living at the present day means that their biology must be gleaned from close living relatives and from the meagre fossil record. The book commences with a class review of the cephalopods and a review of nautiloid morphology. There is, in this introduction, a review also of the mode of fossilisation of cephalopods generally. The introduction occupies some 39 pages. The next 23 deal with fossil cephalopods of which 14 are devoted to ammonites (excluding goniatites). As the subtitle of the book might suggest the bulk of the book is concerned with zoological topics such as ontogeny (life history), sexual dimorphism, locomotion and a review of cephalopod jaws. This section comprises about half the text. The world of the ammonites (? their palaeoecology) is concerned with feeding, predation, pathology and a little about associated organisms. Except for the comment that ammonites lived in a marine environment, the details on associated organisms are rather sparse.

Almost too late (final chapter) the book includes a brief outline on ammonite evolution as a build up to the demise of the group. The usual speculations on this topic will be found neatly summarised. Perhaps the most important part of the book is the section dealing with the origin of aptychii, a favourite subject for the author but appearing for the first time in English. Most text-books consider these objects to be some kind of operculum, concerned with the hood of the animal. Lehmann supports the view with an excellent summary of the evidence, that they are part of the jaw aparatus of the ammonite.

I do not know if the book reads as well in German as it does in English, but the latter must in part at least be due to the fluency of the translator. This book must have a revival of sales now that it appears in English for the first time. Could the book be lengthened a bit for any revision, to include more on the evolution of ammonites and their distribution both in time and space? To anybody wanting to know a great deal about the biology of ammonites, the book must be a winner.

SMITH, A.G., HURLEY, A.M. & BRIDEN, J.C., *Phanerozoic paleocontinental world maps.* Cambridge University Press, Earth Science Series 1981, 102 pp., 88 maps. hard cover, £15.00; paper-back, £6.95

The earlier book of world maps compiled by SMITH, A.G. & BRIDEN, J.C., *Mesozoic and Cenozoic paleocontinental maps*, C.U.P., 1977 has now been superceded by the above title. The earlier work was reviewed in the Mercian Geologist in volume 6, no. 4, 1978, p.312.

The format of the new book is similar to the first, a series of maps mainly at 20 million year intervals from the present day back to the beginning of the Trias. In the new book, the interval then changes to 40 million years and the oldest map is for the early Cambrian, hence Phanerozoic.

The continental outlines as before are represented by the present coastline and by the 1000 m submarine contour. They are presented, however, on different projections from the first book; now they are cylindrical equidistant and Lambert equal area projections. The latter are drawn in North and South Pole views. Certainly one of the points of discussion on this book will be the advantages or otherwise of the use of the cylindrical equidistant projection compared with the Mercator projection chosen for the first book. The polar distortion of this projection is very obvious and renders comparison of amended lines between the two books difficult.

It was stated in the first book that the maps, data and plotting programmes being on computor files, could be updated and reprinted easily but the new projections will have made part of the job more difficult than it need have been. Has the incorporation of new palaeomagnetic data altered the outline of the continents all that much? In the Palaeozoic the land areas are not now represented as complete continents but as segments. The value of this book is the inclusion of these older maps. As for reliability of the results, the arguments for this are clearly put at the start of each section and outline the very great problems that exist for this type of study.

Has the earth remained its present size throughout its history? Has there been contraction or expansion? According to these authors there has not been much change for the last 560 million years; but what about the earlier 4000 million years? Clearly a start in this form of palaeogeography has been made but there is still a long way to go yet.

F.M. Taylor