

## Book Reviews

**PHANEROZOIC OPHIOLITES OF INDIA.** Edited by N. C. Ghose, Sumna Publishers and Distributors, Patna, 1989. pp. 315.

Indian ophiolites have now started getting their rightful share of geological attention. Apart from scores of papers in national and international journals, there are already a few collected works like the Memoir 119 of the Geological Survey of India on Nagaland ophiolite (1984), Records 115(2) of the Geological Survey of India on Indian Ophiolites (1985) and 'Ophiolite and Indian Plate Margin' edited by N. C. Ghose and S. Varadarajan (1986). The present volume is the outcome of the National Symposium on the Metallogeny of the Tethyan Ophiolites held at Patna on 24-25 April, 1987 as part of the national effort under the IGCP Project 197. The volume contains 16 papers covering the Ladakh and Nagaland-Manipur ophiolites, besides a lone paper on Andaman-Nicobar ophiolite.

The volume begins with Presidential Address by I. C. Pande on tectonics, magmatism and metallogeny, which emphasizes the cyclic pattern of sedimentation and tectonism related to the activation of mantle faults, in the polyphase evolutionary history of the Himalayas. The Keynote Address by C. Tripathi gives a comprehensive review of the Greater Himalayan Ophiolites, their role in the accretion of Gondwanic terranes and their mineral resources. U. Prasad in a general paper discusses the overall mineral potentialities of Indian ophiolites.

Petrology of the Ladakh ophiolites is described in two papers by R. Raiverman and T. K. N. Gopalaswamy and Bhagwan Singh *et al.* N. S. Virdi describes glaucophanitic metamorphism in the ophiolites of Indus-Tsangpo suture zone and compares the paired metamorphic belt in the region with the Pacific type of convergent plate interaction. Geochemistry of chromites from Ladakh ophiolite is described in three papers by R. Anand, N. R. Karmalkar *et al.* and S. Varadarajan and K. B. Powar.

In the Eastern Sector, the paper by R. K. Roy describes the accretionary prism of low-grade metasediments in the Naga Hills, which is an important evidence for the arc-trench model of Indo-Burma (Myanmar) collision zone. The general geological setting of the Naga Hills ophiolite by N. C. Ghose and O. P. Agarwal and of the Manipur ophiolite by K. T. Vidyadharan *et al.* provide useful background information. Mineral resources of the Nagaland ophiolites are discussed in three papers by P. Venkataramana and S. Bhattacharyya, R. N. Singh *et al.* and O. P. Agrawal and N. C. Ghose. Rodingites, which are metasomatized ophiolitic assemblages rich in calc silicates, are described from the Manipur ophiolite belt by R. Shukla. An exhaustive review of the Andaman-Nicobar ophiolite and its mineralization potential by C. P. Vohra *et al.* concludes this interesting volume.

The systematic organization of papers, appealing get up, attractive dust jacket, fairly good printing and proper reproduction of photographs are the commendable features of this book, if we ignore the minor printing errors. Many figures have, however, unreadable letters on the reduced scale and therefore, serve no useful purpose. Some odd-sized plates pasted on the text pages rob the volume of some of its elegance. While the papers in the volume are well-chosen and valuable, the presentation could have been improved in some cases, perhaps by more rigorous

scrutiny, editing and processing. In spite of these limitations, the editor deserves congratulations for bringing out this book in quick time. This volume is a valuable addition to ophiolite literature and is strongly recommended for procurement by all earth science libraries.

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**CONSTRUCTION AND DISPLAY OF GEOSCIENTIFIC MAPS DERIVED FROM DATABASES.** Compiled by R. Vinken, Reihe A, Geologisches Jahrbuch, Heft 104, (1988), pp. 1-474.

This volume published from West Germany contains the proceedings of the International Colloquium held at Dinkelsbuhl/FRG in December, 1986. The papers presented include contributions from the working groups of different disciplines (geology, geomorphology, soil sciences, ecology, computer sciences, communication engineering, remote sensing and cartography) under the project 'Digital Geoscientific Maps' as well as papers of invited speakers from several countries. 41 papers included in this volume deal mainly with geoscientific maps, cartography, environment, information systems and computer-aided modelling of geoobjects for generating various types of maps.

The objectives of the 'Digital Geoscientific Maps'—a research project of the Deutsche Forschungsgemeinschaft (German Research Foundation), as understood from the many papers published in this volume, is to build up a 'digital basic map' from which any specific map or thematic map can be derived and it is mentioned that the map itself functions as a documentation system. It is also possible to produce a 2-dimensional map and cross-section from a 3-dimensional geomodel. The application of artificial intelligence machines has no doubt marked rapid strides in the evaluation of databases to produce geoscientific base maps as parts of an information system. But Renier Vinken (an acknowledged leader of a team of scientists in FRG, working on concepts and methods of computer-aided construction of geoscientific maps), who has compiled this volume, strikes a note of caution by stating that the quality and efficiency of some of the systems become rather weak after a close examination and testing. He mentions that some of these systems originally started from digitized conventional maps or rasters of remote sensing pictures and not from 3-dimensional spatial models, which are in most cases, the geo-reality. However, the rapid advances in the development of CAD software for the geoobject modelling have resulted in making the complex or laborious work easier,—such as producing fence diagram, block diagram, panel box diagram and utilization of borehole data for making slice maps etc. Other interesting papers relate to the use of shaded volume models as a tool for the display of geological data to understand the geometric features of geological objects; use of 3-D raster and raster graphics for modelling complicated subsurface geological features; use of advanced raster techniques for preparation of geological maps and land-use planning maps; and, feasibility of an image processing strategy combined with digital cartography to produce 'Spectral Maps' having a wide variety of