

METAMORPHISM AND METAMORPHIC ROCKS OF INDIA. By S. Ray, Basu Publishing Company, Calcutta, 1976; 156 pages, 45 text figures, 12 tables; Metamorphic Map of India. Price: Rs. 12.25.

This book is based on twelve lectures delivered by the author to the senior post-graduate students of the Calcutta University. Professor Ray wrote this book with the object of providing a thorough basis to University students for understanding the main principles of metamorphism.

The book is divided into three chapters dealing broadly with principles of metamorphism, microscopic petrography, and metamorphic belts of India.

Chapter 1 deals with the pressure-temperature conditions of metamorphism. Kinds of facies series are described and exemplified; also, mineral reactions and parageneses in different kinds and grades of metamorphism. A section of this chapter which will be of great use to the student is that wherein details for mapping metamorphic belts are given, and the procedure to be followed for structural analysis and processing of data.

Chapter 2 deals with structures and textures met with in various types of metamorphic rocks—cataclastic, contact, and regional. The brief section on the petrofabric analysis of metamorphic rocks dealing with fabric diagrams is a good introduction to the beginner.

Chapter 3 gives an account of the metamorphic belts in India, the regions selected being from the Himalayas, Singhbhum and neighbouring areas, Gangpur, Bastar (Madhya Pradesh), Rajasthan, and Eastern Ghats. This chapter concludes with metamorphic map of India on the scale 1:4,500,000; in the inset, isograd maps are given of a few areas like Darjeeling and Sikkim hills, Singhbhum-Manbhum-West Bengal, Gangpur, Bastar and Simla.

A serious omission is the almost complete absence of any reference to work done in Karnataka.

Among the Tables, special mention may be made of Nos. 7 and 9. The former gives the changes in composition of metamorphic minerals as the grade of metamorphism increases; and the latter provides a broad classification of the facies, grade, zone, and minerals met with in regional metamorphism.

Two new terms have been proposed by the author – *isophase* instead of *isograd* (p. 15), and *Khondalite Type* (p. 53) to signify the kind of metamorphism in the granulite grade where only pressure shows marked variation at an almost constant temperature.

In a short compass of 140 pages, Professor Ray has been able to compress a vast amount of material relating to almost every aspect of metamorphism. The price is reasonable and I expect the book will be popular among post-graduate students of Geology in Universities.

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LATERITE AND LANDSCAPE. M. J. McFarlane, Academic Press, London, 1976, pp. 1-151. Price: £ 5.80, 21.75 dollars.

Ever since Laterite was first recognised by Buchanan in parts of the West Coast of India nearly 170 years ago, interest on this rock type has steadily grown. The contribution of Indian geologists to this problem, however, is unfortunately negligible compared to the extensive work carried out in other parts of the world. Most of the research carried out on laterite has centred round the possible processes leading