

BOOK REVIEW

INTRODUCTION TO GEOMORPHOLOGY by Vishwas S. Kale and Avijit Gupta.

Orient Longman Ltd., 17, Chittaranjan Avenue, Kolkata - 700 072, 2001 247p., Rs.190/-

Physical Geology was the term traditionally used for the first subdiscipline taught in the Geology Departments and Physical Geography in the Geography Departments in our country, though the latter included Climatology and Oceanography as well. In the early days, the treatment of the subject was essentially descriptive, of landforms produced by the various natural geological agents – river, wind, glacier, sea etc. though the processes responsible for the origin and distribution of the features were briefly touched upon. It is only at the beginning of the twentieth century that more thought and effort were bestowed on the processes operating on and beneath the surface of the earth (exogenic and endogenic), giving rise to a variety of features, with their attendant modification with time.

There have been many books published particularly from USA, UK, Europe, South Africa and Australia on geomorphology, dealing in detail with the origin of landforms and regional geomorphology. Some were devoted to very specialized topics, such as – Arid landscape, Tropical Geomorphology, Glacial Landforms, Coastal Processes etc. During the past half a century, quite a few geomorphologists have initiated detailed field and laboratory studies and also theoretical formulations to understand and explain the natural phenomena at work in shaping the varied landscapes of our planet earth.

The volume under review is an extremely commendable effort on the part of the authors to put forth within 274 pages, not only the important geomorphic features but also the methodologies that have been adopted to study the different landforms and also the processes causing their origin and development.

The Introduction (Ch. 1) dealing with the historical development and methodologies is followed by (Ch.2) geological background, preparing the student to understand the succeeding chapters. The other chapters deal with all the conventional topics usually treated in any text book in geomorphology. Among them, those on Hydrology and Fluvial Morphology (Chs. 4, 6, 7 and 8) are dealt with in considerable detail to enable even a researcher to commence his work with the background provided. The others on Weathering and Soil Formation (Ch. 3), Slopes (Ch. 5), Semi-arid and Arid Environments (Chapter 9), Glacial Forms and Processes (Ch. 10), Coastal Forms and Processes (Ch. 11) and Karst Landforms and Processes (Ch. 12) are

adequately treated. The chapters on Sediment in Sections (Ch.13) and Natural Hazards and Environmental Management (Ch.14) are welcome additions in a book of this kind. Examples from India have been provided for a number of landforms and features.

The text is presented in a simple language, easily understandable even by an undergraduate student, profusely illustrated with excellent line-drawings to explain the processes operating in different environments, and also block diagrams tracing the variations in features with time. A number of tables present data obtained from different sources to substantiate the contents and explanations in the text. Since the book is essentially meant for students, each chapter contains a set of questions at the end for which answers can be found within the text itself by a diligent reader. For one who wishes to delve deeper into the topic, the references provide the necessary material for further reading.

It is true that earlier geomorphologists in this country remained 'old-fashioned' for a long time, dabbling in 'erosion surfaces' and 'denudation chronology'. But then, palaeosurfaces – or whatever else they may be called depending upon their disposition, age and origin – cannot be wished away from the Indian landscape. As a matter of fact there is a revival of interest in these surfaces in southern and eastern India in the recent years. Hence in a book on geomorphology meant for Indian students, some treatment on this subject from a modern point of view is highly desirable. A boost to geomorphological studies has also come about since the advent of aerial photographs and Landsat imagery and other remote sensing products. These have facilitated not only the recognition but also mapping of the landforms on different scales, not easily possible earlier. Hence a note on geomorphic mapping and its importance as a database in many applications in related fields is necessary. In a book with an exceedingly readable text, good illustrations, tables, references and a subject index, the photographs have unfortunately not come out well. This I am sure will be rectified in a future edition.

On the whole, I strongly recommend this book both to a teacher and student of geomorphology.

29/20 Maria Susai Nagar
Cuddalore - 607 001

R. VAIDYANADHAN