

**Deep Continental Structure of India: A review.** T. M. Mahadevan, Geological Society of India, P.B. No. 1922, Bangalore 560 019. Memoir 28. 1994. 569 pp. Price: Rs 600/\$60.

The book under review is a monumental compilation of geophysical field research on deep continental structure of India. A short preface summarizes the scope and objectives and expresses the hope that this work will help to bridge a communication gap between geologists and geophysicists, for whom deep continental studies are common ground. The text begins with (1) 'General Considerations', which briefly defines the Indian continental crust and its geographical extent along with geological and geophysical characteristics, particularly of its lower crust, Moho and upper mantle. In Chapter 2, 'Technology and Methods - Present Status', a short description of the geophysical techniques for imaging the deep interior is highlighted, with emphasis on standards in technology. The contents of this chapter would make the reader feel that a comparative attempt has not been made of the synthesized data from different methods for the Indian lithosphere or any of its seven tectono-stratigraphic units specified in the next chapter. Chapter 3, 'The Indian Crust', deals with the results of various geophysical investigations of the seven major geological entities. Here the author has summarized the informations of velocity structures, heat flow, Himalayan isostasy, etc., without their critical evaluation. Chapter 4, 'Peninsular Shield - Precambrian Cratons and Mobile Regions', gives some broad features of geology and deep crust. A vital problem is emphasized as to whether the Indian plate has evolved by collision and fusion of a number of microplates or it was a single ancient continental crust that underwent intermittent rifting to form sedimentary basins which finally developed into foldbelts now seen bordering the cratons. In Chapter 5, 'Purana Basins', the author considers these basins as Proterozoic analogues of the Tertiary basins that occur in front of the Himalayan orogen, although the available geophysical information does not support, except for the Cuddapah basin. In 'Gondwana Basins', described in Chapter 6, the horst and graben structures are revealed in gravity and DSS

profiles. Despite the shallow basin bottoms, some basins like Godawari and Mahanadi are interpreted as zones of intra-continental passive rifts without establishing their Precambrian ancestry. Chapter 7, 'Mesozoic-Tertiary Volcanic Province', gives an account of all possible evolutionary models but the geophysical inputs have not been always used as evidence in support or against any of these models. The author has followed a simple theory where positive gravity field is attributed to rising Moho or to the presence of basic/alkaline rocks, while negative field is taken to indicate sediments. The Sonata belt is elaborately described but this reviewer feels that no definite conclusions can be drawn from the geophysical data alone for the evolution of this major tectonic divide of Sonata. In Chapter 8, 'Younger Sedimentary Basins', a significant feature is their horst and graben structures. The Cambay basin is classed as a failed arm with Kutch basin and Sonata belt as other two arms of a triple junction, akin to the Afar triangle from which three rift systems radiate. But this hypothesis would be misleading to earth scientists as the geological and geophysical methods have not yet been evaluated in this direction. The section on geomagnetic field and conductive structures on page 327 appears somewhat out of place in this chapter. In Chapter 9, 'Himalaya', the gravity and seismic data have been synthesized with surface geology, but different evolutionary models are simply stated. The reader is, however, left to himself to relate the geophysical data with the vertical tectonics or plate tectonics that have been responsible for the Himalayan orogeny. While not competent on Chapter 10, 'Continental Margins of India', I am confident that this will be welcomed as a reliable compilation. In Chapter 11, 'Emerging Scenarios of Deep Continental Structures - A Resume', an attempt is made to synthesize the various geophysical data on deep continental crust of India. Considering thickness as most useful parameter, the Moho depths and lithospheric thickness are summarized in tables. The review is a worthy attempt and quite elegantly examines models already presented without their critical evaluation. The last Chapter 12, 'Framework for Future Programme', contains useful recommendations, although with a long list. A multidisciplinary, integrated and careful planning is recommended for future

researches on deep continental structures of India. There is truly magnificent list of about 900 references.

The vast geophysical information contained in this volume will prove useful in establishing deep crustal interaction with surface geology. The text is clear and on the whole very readable, except when some of the arguments and statements appear to be out of context and when long sentences make severe demands upon the reader's power of concentration. The book is not without minor flaws. Some figures are nearly illegible or fuzzy because of extreme reduction, a few illustrations are incorrectly labelled and the text has a few typographical errors. However, the volume contains so much valuable material assembled in so useful a form that one can hope it will be widely disseminated and read. One must salute the courage and patience of the author who, being a geologist with vast experience, ventured for the first time in reviewing the massive geophysical work on a request from the Department of Science and Technology, New Delhi, which initiated modern research activities on Indian deep continental crust.

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Rice Tungro A. Anjaneyulu, M. K. Satapathy and V. D. Shukla. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi, Bombay, Calcutta, 1994, 228 pp.

Rice is a staple food for human beings. Rice tungro virus is considered as one of the major constraints in rice production in South East Asia. For many years plant virologists, plant pathologists and entomologists have done research on tungro virus disease. Prior to this publication comprehensive review was not available. This book fulfils the needs of the researchers and the students who wish to gain a fair degree of knowledge on tungro virus disease.

The text has been divided into 19 chapters. Chapter one presents an overview of tungro virus disease. The occurrence, distribution and area affected in different parts of the world have been clearly indicated in the map (chapter 2). Symptoms are important in any disease