

and its gastric acid secretion inhibition potentials. The third chapter gives greater details of animal pharmacology and clinical studies pertaining to proton pump inhibitors. Overviews compare omeprazole and other proton pump inhibitors and discuss their pharmacology, including the mechanism of action, the effect on *Helicobacter pylori* infection and the consequences of profound inhibition of gastric acid secretion. The fourth chapter deals with physicochemical properties of omeprazole, lansoprazole, pantoprazole and rabeprazole; oral formulation principles, dosages; influence of food and antacids; parenteral dosage forms and pharmaceuticals delivery system for other routes of administration of proton pump inhibitors.

The clinical experience with proton pump inhibitors in acid-related diseases is reviewed in the fifth chapter with focus on gastro-esophageal reflux disease, peptic ulcer diseases including *Helicobacter pylori*, non-steroidal anti-inflammatory drugs associated ulcers and Zollinger-Ellison syndrome. Socio-economic impact including aspects that concern both the individual and society are dealt with in the last chapter. Here the authors provide some background of concepts like prevalence and incidence of acid-related disorders, emphasizing the important aspect of quality of life, direct and indirect cost (pharmacoeconomic) associated with acid-related disorders and its total socio-economic impact.

Overall this book gives information about the problem faced in launching a tailor-made drug for a specific target; the dramatic changes in the outcome of results in the treatment of peptic ulcer disease and its impact on pharmacoeconomics. It is written by eminently qualified scientists from industry, academics and clinicians. This volume is intended not only for those active in research into proton pump inhibitors but also for those with an interest in peptic ulcer disorders.

R. RAJAGOPALAN

*Dr Reddy's Research Foundation,
Bollaram Road, Miyapur,
Hyderabad 500 050, India*

Geology of Rajasthan: Status and Perspective. P. Kataria (ed.). Department of Geology, M. L. Sukhadia University, Udaipur, 1999. pp. 250. Price: Rs 400.

Rajasthan State constitutes the bulk of Aravalli Craton which preserves a fascinating geological record from 3500 million years ago to the present. Rajasthan is geologically well known for its Proterozoic rocks of the Aravalli mountains which throw light on the operation of plate tectonics in the distant past. It has a singular and complete example of acid magmatism in the Malani Igneous Suite. A wide array of Quaternary formations provide valuable evidence of neotectonics, and throw new light on the lost Vedic river Sarasvati. The Thar Desert presents a unique example for the study of desert geology. Rajasthan has major lead-zinc (and copper) deposits and a host of useful industrial minerals including the famous Makrana marbles and alluring gemstones. It is not surprising that such an attractive geological tapestry has spawned several new edited volumes on the geology of the region. For example, the Geological Society of India has published two Memoirs (No. 7, 1988 and No. 31, 1995), besides a textbook on *Rajasthan Geology* by S. Sinha-Roy and others in 1998. B. S. Paliwal edited a volume on the Indian Precambrian (1998), a large part of which is devoted to Rajasthan geology. The present volume which represents the proceedings of the seminar with the same title is brought out to felicitate the distinguished Professor A. B. Roy on his retirement from the University of Rajasthan (now called M. L. Sukhadia University). It contains nine thematic as well as review papers contributed by specialists in their respective fields.

The volume begins with a comprehensive update on the regional geology of Rajasthan by A. B. Roy and P. Kataria, which provides a balanced appraisal with emphasis on the stratigraphic classification proposed by A. B. Roy and his associates. B. Sreenivas and coworkers describe geochemical changes across one of the major hiatuses in earth history at the Archaean-Proterozoic boundary/transition about 2500 million years ago. They confirm the widely documented change in the earth's record, viz. decrease in the abundance of Cr, Ni, Sc in the Proterozoic rocks compared to the Archaean, from the Aravalli rocks of Rajasthan. S. Sinha-Roy deals with his favourite

subject of Precambrian plate tectonics as applied to Rajasthan, with emphasis on Rakhabdev and Phulad ophiolites marking two major sutures between tectonic blocks at 1500 and 1100 Ma respectively. S. K. Bhushan describes two major felsic magmatic events in Rajasthan, namely, the Erinpura and Abu granites (800–900 Ma) formed by anatexis during collision, and the Malani volcanic and plutonic suite (730–750 Ma) formed by rift tectonics related to 'hot spot' activity. D. S. Chauhan describes the evolution of the largest sedimentary basin (Marwar basin) formed in Neoproterozoic to Cambrian time. Anil Bhandari provides an excellent overview of the Phanerozoic stratigraphy of the major sedimentary basins of western Rajasthan, viz. Jaisalmer, Bikaner-Nagaur and Barmer. He makes a brief mention of possible hydrocarbon resources and lignite in these basins. Amal Kar traces the evolution of landforms carved by aeolian and fluvial processes in the Quaternary, with special emphasis on the development of Thar Desert with its dunes and saline depressions (ranns) like Mitha or saline lakes like Sambhar.

Mihir Deb gives a succinct account of classification and genesis of the metallic mineral resources of Rajasthan, prominent among them being the well-known deposits of zinc and lead at Agucha, Zawar and others. There are also other potential deposits of copper, gold, silver, tin, tungsten and uranium in Rajasthan. The book has the concluding paper on the industrial minerals and decorative stones of Rajasthan by M. K. Pandya and others. The important minerals in this category are phosphorite, soapstone, asbestos, gypsum, salt, ochre, limestone, graphite, wollastonite, fluorite, calcite, etc. The marbles of Rajasthan are famous the world over. Rajasthan is also well known for its precious stones like garnet.

This volume encompasses all aspects of Rajasthan geology leaving out groundwater resources and geoenvironmental problems. This book is printed and bound well, although the reproduction of figures could have been better. The volume is a very valuable addition to our knowledge of Rajasthan geology and is useful for teachers, students and professional geologists.

M. RAMAKRISHNAN

*Geological Society of India,
Basappa Layout, Gavipuram,
Bangalore 560 019, India*