BOOK REVIEW


The first edition of the book by S.M. Sengupta became popular among the Indian student and teaching community because of the affordable price and concise and well-written descriptions for many facets of sedimentology. The book is aimed at teaching sedimentology at the undergraduate and postgraduate levels. It is nice to see publication of the second edition of the book after 13 years with addition of a new chapter on 'structures of chemical and biological origin' and a somewhat elaborate discussion on carbonate sedimentology. Chapter 1 to Chapter 3 provides brief introductions to sedimentology, sedimentary processes and sedimentary petrology. Chapter 4 on sedimentary texture is nicely written and supported by good illustrations, with a few welcome additions of sieve analysis results in the appendix. Chapter 5 describes 'hydraulics, sediment transportation and structures of mechanical origin'. The chapter is thoroughly revised and nicely presented and in my opinion it is one of the most balanced, up-to-date and comprehensive texts available on the subject. Chapter 6 describes 'structures of chemical and biological origin' and is a desirable addition to the new edition. Chapter 7 to Chapter 9 presents brief descriptions on sedimentary environments and facies, tectonics and sedimentation and stratigraphy and sedimentation. Chapter 10 presents a synthesis on basin analysis and is biased towards paleocurrent interpretations. In short, the book presents wealth of information covering all disciplines of sedimentology to a beginner.

However, there are several shortcomings in the new edition. While many editing mistakes of the first edition are corrected some remain uncorrected including the definition of quartz wacke in description of sandstones. δ13C is consistently written as δC in the 'diagnosis of carbonates' section. It is not understandable what prompted the author to report many bioturbation features from Indian Precambrian when these are always questionable and confusing. The graphic logs provided in the chapter on 'sedimentary environments and facies' are poor and they do not provide vertical variation in grain size across the stratigraphic section in many cases. For many important environments like delta, fluvial and shallow marine graphic logs are not provided. It would have been more useful for students to find some sketches showing cross-sections of different basins rather than the maps provided in the 'tectonics and sedimentation' chapter. The chapter on sequence stratigraphy is short, sketchy and a bit disappointing with poor illustrations and editing mistakes (such as systems tract is written as systems track and "retrogradation" is wrongly illustrated). Any text on sequence stratigraphy is practically useless without the discussion of some of the key concepts like accommodation space, relative sea level, normal regression and forced regression. Sequence stratigraphy is a fast evolving discipline and positions of LST, HST and FSST in the relative sea level curve have been revised in recent literature. References are put without any consistency and names of authors are very often written in full along with common abbreviations.

Overall, the book is well written and briefly covers all branches of sedimentology and can be considered as a valuable contribution to Indian geology. The book will be useful for both students and teachers at undergraduate and partly at post graduate levels. Considering the wealth of information and affordable price, the book is a must for all earth science students in India. It is, however, doubtful whether such a book providing brief description for most sedimentological topics may appeal to international audience.

Department of Earth Sciences
IIT Bombay
Email: santanu@iitb.ac.in

SANTANU BANERJEE