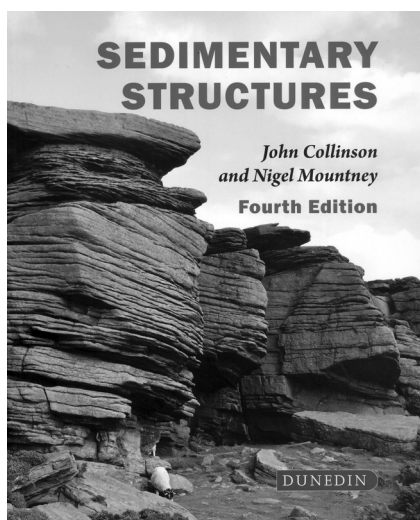


Book reviews

Sedimentary structures (4th ed.), by John Collinson & Nigel Mountney, 2019. Dunedin Academic Press Ltd, Edinburgh, Scotland. xii + 340 pages. Paperback: price €40.00, £35.00, \$35.00, ISBN 978-1-78046-062-8.



This is the fourth edition of a book that was first published in 1982, and that has become a classic in sedimentology. Aimed primarily at undergraduates, it has turned out to be a great help also for experienced sedimentologists, as well as for researchers in other earth-science disciplines. This fourth edition, though clearly based on its predecessors co-authored by the late David Thompson, is extended, partly re-written and has, for the first time, figures reproduced in full colour. No need to tell that this is a great improvement.

The book follows a systematic approach with chapter 1 being devoted to an introduction to the study of sedimentary structures, chapter 2 to the fundamentals of bedding, chapter 3 to the basic properties of fluids, flows and sediment, chapter 4 to erosional structures, chapter 5 to depositional structures in muds, mudstones and shales, chapter 6 to depositional structures in sands and sandstones, chapter 7 to depositional structures in gravels, conglomerates and breccias, chapter 8 to depositional structures of chemical and biological origin, chapter 9 to structures due to deformation and disturbance, and chapter 10 to assemblages of structures and environmental interpretation. These ten chap-

ters are followed by six appendices (1: directional data: collection, display, analysis and interpretation; 2: sampling and preserving unconsolidated sediments; 3: methods for studying present-day environments; 4: techniques for the study of trace fossils; 5: techniques for sedimentary logging; 6: key to common sedimentary lithologies and structures). These chapters and appendices are completed by a 14-page bibliography and a 20-page subject index; most useful!

As can be deduced from the above contents, the book pays equal attention to unconsolidated sediments and lithified rocks; these are also often mutually compared, which will certainly help understand the differences in preservation potential of the various types of structures. It is fortunate in this context that much attention is paid (25 pages) to soft-sediment deformation structures, a topic that receives ever for attention from sedimentologists. It is therefore remarkable that no attention is paid at all to the soft-sediment deformations caused by the passage of seismic waves. The resulting seismites are not even mentioned in the subject index. Considering the present-day focus on seismites and the deformations that they contain (also because the analysis of earthquake recurrence times on the basis of successive seismites in dated successions is of prime importance in the context of natural hazard analysis), this is a true shortcoming.

It is obvious that not all sedimentary structures can be dealt with in detail, but it is amazing that some processes are not dealt with at all, even though they can result in specific structures (e.g. cryoturbation) that are helpful in interpreting the depositional environment and/or the palaeoclimate. Other features are only partially mentioned (e.g. rip-up clasts, whereas rip-down clasts are absent). This is the more remarkable considering the systematic approach of processes and structures followed in this book. There are some more remarkable flaws; this concerns, for instance, terminology: the term 'rudites' for all – siliciclastic and calciclastic – sed-

iments coarser than sands (p. 151); the use of the terms 'orthoconglomerate' and 'paraconglomerate' (p. 157) is another example. Moreover, units are often written without a space joined with the symbol (e.g. 2mm), which is against the rules.

In spite of these shortcomings, the book should be welcomed: it helps particularly undergraduate students to gain an understanding in sedimenta-

ry processes and products. The numerous graphs and field photographs are, as a rule, illustrative and most helpful.

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