

*An Introduction to the Analysis of Ancient Turbidite Basins from an Outcrop Perspective*

by E. Mutti, R. Tinterri, E. Remacha, N. Mavilla, S. Angella, and L. Fava, 2000; AAPG Continuing Education Course Notes Series #39, American Association of Petroleum Geologists, P.O. Box 979, Tulsa, OK 74101-0979; softbound, 61 pages + 33 figures; \$35, \$29 for AAPG members; ISBN 0-89181-188-5.

In this book, Mutti and his colleagues have presented a view of turbidite sedimentation in ancient orogenic belts that is based on four decades of field work in the Eocene Pyrenean foreland. Much of this book is effectively self-reviewed by a pre-text note, in which the authors propose that turbidite sedimentation in ancient orogenic belts is closely related to that of marginal flood-dominated fluvio-deltaic systems. They propose that tectonism and high-frequency climatic variations are the primary control on both types of sedimentation. They refer to this as “fluvio-turbidite sedimentation” and indicate that the “final depositional zone” of “efficient flood-dominated river systems” is in the adjacent deepwater basins and is recorded in the rock record by turbidite successions. Explicit in the notes is the conviction that turbidite systems are, in the authors’ view, still poorly understood and this, in part, is reflected by the confusing nature and debate on conceptual and terminology matters in some of the turbidite literature in recent years.

The book is divided into 8 short, easily readable chapters. Following the summary and introduction is a short chapter on “The concept of turbidites: origin and development” where the authors provide a succinct review of some key papers, starting with the 1940’s and 50’s work of Migliorini and Kuenen. They then spend a few pages discussing “What is a turbidite” where they review some of the give and take in the literature over the past half century before focusing back onto a comment made by Kuenen that, “A turbidity current is a current flowing in consequence of the load of sediment it is carrying and which gives it excess density”. This is followed by chapters on (1) Turbidite Facies, which incorporates many key papers and stresses the importance of turbidites as bipartite flows and the role of flow efficiency in the development of facies assemblages, and (2) Fan Models, which again cites key papers and outlines the historical development of fan models. The preceding chapters set the stage for the last two, which deal with characteristics of turbidites in fold-and-thrust belts (chapter 7) and sedimentary cyclicity and sequence stratigraphy of turbidite systems (chapter 8). In these two chapters, the authors propose that much of the turbidite record in the systems they studied, is related to catastrophic flood events in linked fluvio-deltaic systems.

This soft-cover volume has 61 printed pages, includes 33 figures, grouped as a unit at the back, and is supported by 109 references. The book is a short read and easily digestible in one or two sittings.

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