

## Géographie physique et Quaternaire



**Knighton, A.D., 1998. *Fluvial Forms and Processes: A New Perspective*, Arnold, London., 383 p., ill., tabl, pl., 15,5 x 23,5 cm. ISBN 0 340 66313 8.**

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# Comptes rendus

that to attempt to update this book represents a huge undertaking and therefore the second edition is overdue and will be welcomed by many. It is clearly aimed at the same market as the first, namely reference for undergraduate and research students, along with a more general use for those requiring a geomorphological perspective on fluvial systems.

The book is largely structured along the same lines as the first edition. Chapter 1 deals mainly with the author's approach to the book and the book's context. Chapter 2 covers drainage networks, largely as an updated version of the 1st edition. The new chapter 3 attempts to separate catchment processes out of the networks chapter and the (later) processes chapter. This is welcomed, but I am left with the feeling that the book has only gone half way in covering the recent advances in drainage basin scale processes in the context of catchment management.

Chapter 4 covers in-channel fluvial processes. It reminds me of the importance of the basics which a respectable fluvial geomorphologist needs to understand, much of which is often avoided by students in the drive to applied management issues. Chapter 5 is again an excellent treatment of the classical ideas to do with channel form. However, I am uneasy that this material is presented in the same context and structure as in the first edition. The key recent advances in flow processes and morphology have largely been achieved (explicitly or implicitly) in the context of the *interaction* between form, flow and sediment transport (Leeder, 1983). These chapters therefore represent the main area where I would consider a "new perspective" to be essential to present and package the material. Chapter 6 widens the scale to provide a good coverage of the key ideas concerning channel change in the newer perspective of climate change.

So why should someone buy this book? It provides a sound update of the literature from the first edition (it is nearly double in length), a comprehensive assessment of the basics which underpin the subject, and in terms of the proliferation of texts with a more applied lean, this is welcome and complimentary. It is well illustrated with clear diagrams and the welcome addition of photographs.

I am not convinced, however, that the context and structure of the book provides a balanced perspective on the *modern* subject. For example, I would argue that networks and hydraulic geometry have taken a

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The first edition of this book, alongside Keith Richard's *Rivers*, were landmark texts of the early 1980s, representing a new generation of fluvial text with an emphasis which bridged the classic catchment and channel scales and the contemporary in-channel mechanics. The increasing interdisciplinarity of the subject, the splintering of its foci, and relentless proliferation of publication means

back seat to morphological dynamics, and this should be reflected in the book's structure. It misses the opportunity to exploit to the full the exciting new directions of the subject which, I suspect, are more effective at captivating today's students. All of the new material is in the book, but it has been forced into an old structure, and I do not think that it sits there comfortably. This book must be welcomed as it fills the huge gap in the market for core fluvial texts in English. However, the approach and content of Bravard and Petit (1997) (in French) seems to be a much more balanced assessment of the modern subject.

In conclusion, David Knighton has succeeded in bringing up to date a valuable text, but I doubt whether he has provided a "new perspective". The generation of undergraduate students which valued the first edition as a key reference text will, I think, be replaced by another who will buy the book and use it extensively, but be frustrated that they will have to refer to other sources to fill in the holes that the second edition does not cover.

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