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BOOK REVIEWS

Environmental Hydraulics of Open Channel Flows. By HUBERT CHANSON. Elsevier, 2004. 430 pp. ISBN 0 7506 6165 8. £44.99 or $76.95 (paperback).

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Over recent decades many civil engineering departments and organisations have added environmental to their title, so it is not surprising to find this change emulated in a book. The author has already published an introductory text on open channel flow (Chanson 2004), which covers some of the same topics. After the introductory material in part 1, the present book's orientation is shown by over one third of the book being taken up by part 2 on "Turbulent mixing and dispersion in rivers and estuaries". The dominance of this part seems appropriate given the demand on many waterways to absorb heat and other effluents. Many aspects of the topic are covered, including that of reactive contaminants.

Part 3 is a substantial introduction to unsteady flows in channels with less obvious environmental connections, appearing to cover only a little more than the author's introductory text. It does give the author a chance to discuss one of his favourite topics: tidal bores.

Interaction between flowing water and its surroundings is the topic of the final part 4. This includes a relatively brief discussion of sediment transport, a topic given more space in Chanson (2004), and a much fuller account of flow aeration. Given the author's many contributions in the latter area, and the importance of dissolved oxygen concentration to the health of any waterway, this emphasis is appropriate.

Throughout the book the author's enthusiasm for his subject shows. The preface stresses the value of field work and points the reader to the author's substantial web sites, among others. Many photographs are included, though their reproduction is with disappointingly low contrast. Brief historical notes and other remarks are set off from the main text, and plenty of diagrams help the reader. Many of the exercises refer to specific locations, using physical quantities that, I presume, are realistic. On the other hand, many topics are treated rather briefly, with some formulae simply quoted. This is balanced by extensive quoting of source references, leading to a 14 page list of references. There are some typographic errors, but the typography and style encourage reading.

Overall, the book lives up to its title. It forms a good introduction for an advanced undergraduate, or graduate student, and a guide to further information for practitioners.

REFERENCES

CHANSON, H. 2004 *The Hydraulics of Open Channel Flow: An Introduction*, 2nd Edn. Butterworth-Heinemann (Elsevier), 650pp.

D. H. PEREGRINE