examples from field-based studies (albeit strongly biased to North America). With the growth of desktop processing of remote sensing data and DEM interpretive strategies this work provides an important reminder that basic fieldwork skills remain an essential part of the geomorphologist's/geologist's toolbox. As background reading this book will provide a valuable (library) resource for research geologists and upper-level undergraduate students who want to extend their geomorphic knowledge and learn field-based techniques for deciphering tectonically-driven mountain landscape change.

Andy Carter

Reference

BURBANK, D. W. & ANDERSON, R. S. 2000. *Tectonic Geomorphology*. Oxford: Blackwell Science, 274 pp.

BUREK, C. V. & HIGGS, B. (eds) 2007. *The Role of Women in the History of Geology*. Geological Society Special Publication no. 281. viii + 342 pp. London, Bath: Geological Society of London. Price £85.00, US $170.00; GSL members' price £42.50, US $85.00; AAPG/SEPM/GSA/RAS/EFG/PESGB members' price £51.00, US $102.00 (hard covers). ISBN 9781 86239 227 4.
doi:10.1017/S0016756809006116

This book is the 281st Special Publication of the Geological Society and has been produced to the usual high standard. The women discussed in this book are too numerous to mention but individual accounts are given for Florence Bascom (Clary & Wandersee), Marie Stopes (Falcon-Lang & Miller), Etheldred Benett (Laming & Laming), Grace Anne Milne (Lady Prestwich) (Mather & Campbell), Anne Phillips (Morgan), Clémentine Cuvier and Sophie Duvaucel (Cuvier's daughters; Orr), Muriel Arber (Robinson), Dorothea Bate (Shindler), Maria Matilda Ogilvie Gordon (Wachtler & Burek), Annie Greenly (Williams) and Nancy Kirk (Wyatt).

I settled down to read this book thinking it would be something of a revelation, introducing me to several female geologists I had not been previously aware of. But I have to say that the book proved to be rather a disappointment. The book is cram packed with 21 papers covering a variety of aspects of the history of women in geology, including their input into specific subject areas (papers by Fraser & Cleal; Hart; Creese; Burek & Malpas), specific roles (papers by Burek; Wyse Jackson & Spencer Jones; Higgs & Wyse Jackson; Kölbl-Ebert; Turner), travel (paper by Burek & Kölbl-Ebert) and the contributions of individual women. There is, however, no logical progression to the book overall, and repetition of some information on the careers of prominent individuals suggests that there is a lack of data available.

I found the quality of the papers very mixed, with some excellent examples (e.g. Wachtler & Burek; Falcon-Lang & Miller) providing a lot of detail on their subject and great insights into the lives of individuals. However, other papers lacked any real data at all, leaving me wondering why they had been included and what their relevance was. In at least one paper some of the women discussed are not geologists but zoologists and entomologists, and in others the role of the woman seems to have been a device for discussion of a male relative. This latter point may have arisen due to the lack of information on the women being available; if that is the case why were they included? The editing also leaves a little to be desired in places with figures included but not cited in the text, figures mislabelled and several spelling mistakes.

Although the title of the book suggests it is concerned with the history of women in geology, the introduction (Burek & Higgs) appears to put emphasis on women as role models, but most of the papers deal with women from the 1700s to early 1900s, very different times from those of today. If it was intended for this book to provide role models for young women then I feel it would have been useful to have provided at least one in-depth profile of a living/working female geologist to show the modern situation and how things continue to change.

With few other resources available, the book will provide a useful reference for teachers/lecturers of the history of geology, science and social history in general. However, the definitive book remains to be written.

Melise Harland

MCCABE, M. 2007. *Glacial Geology and Geomorphology. The Landscapes of Ireland*. xiv + 274 pp. Edinburgh: Dunedin Academic Press. Price £85.00 (hard covers). ISBN 9781 903765 87 6.
doi:10.1017/S001675680900613X

Marshall McCabe has dedicated many years to researching Quaternary geomorphology and, in particular, the Quaternary geomorphology of Ireland. *Glacial Geology and Geomorphology: The Landscapes of Ireland* brings this broad and deep expertise together into one comprehensive (and very well produced) volume, focusing, according to the publisher's note, on 'the dynamic interactions between ice, atmosphere and sea levels during the last major glacial cycle'. The author (p. 12) provides a more succinct, and probably accurate, summary, describing the book as '. . . an exercise in historical geology, focusing on description and explanation of glacigenic landscapes and deposits in Ireland'.

The book's ten chapters run to 274 pages and begin with Introduction and Themes which present cursory overviews of the main issues that run through the remainder of the book. The main body of the book follows, with detailed chapters on: Interglacials and Biostratigraphy (Ch. 3); The Last Major Glacial Cycle (Ch. 4); Glacial Bedforms (Ch. 5); The Irish Sea Glacier (Ch. 5); Terrestrial Deglaciation (Ch. 6); The Eskers of Ireland (Ch. 8); Ice Sheet Readvances around the North Irish Sea Basin (Ch. 9), and Late-glacial Sea Levels and Ice Sheet History (Ch. 10). Each chapter contains comprehensive site descriptions that borrow heavily from the author's own published (and unpublished) work. Each chapter is very well illustrated with numerous, good quality colour photographs and detailed stratigraphic logs. *Glacial Geology and Geomorphology* consequently contains a great deal of detailed, site-specific information.

As is evident from the chapter titles, the book is not classified solely by landform or area. It is not therefore designed as a field guide, which has already been adequately covered by the series published by the Quaternary Research Association (many of which McCabe has written or contributed to). However, neither is *Glacial Geology and Geomorphology* structured as one would expect a student text to be: classified by, for example, key glacial time periods or processes. Instead, the book is structured around important themes. While this does result in the text revisiting certain processes, places, landforms, and events, it also allows the author to present a full and detailed coverage of each chosen theme. Consequently, if one wished to obtain information on, for example, the Irish Sea Glacier (as I have myself as background to a field trip) *Glacial Geology and Geomorphology* provides all the necessary information in one chapter: the reader does not have to skip between

separate chapters dealing with different relevant field-sites, time periods or glacial processes. While this structure is a little unconventional, it works for the interested reader because the themes have been chosen carefully and the index is comprehensive, allowing references to field sites or landscape features to be found rapidly. That said, it is not the simplest format for a student or field-trip leader to navigate quickly.

Glacial Geology and Geomorphology: The Landscapes of Ireland is not a textbook considering glacial geology and geomorphology, and nor is it a field guide considering the landscapes of Ireland: it is an authoritative integration of the two. The book is produced to a very high standard, evidenced by good-quality paper and printing (including many, high-quality colour photographs and diagrams). The text is written to an expert standard, is richly illustrated, and always interesting. If one is seeking a comprehensive, research-level summary of the ways in which advancing and receding ice masses have contributed to the current surface geology of Ireland then this is now their essential text.

Bryn Hybbard

JOLLEY, S. J., BARR, D., WALSH, J. J. & KNIPE, R. J. (eds) 2007. *Structurally Complex Reservoirs*. Geological Society Special Publication no. 292. vii + 488 pp. London, Bath: Geological Society of London. Price £85.00, US $170.00; GSL members' price £42.50, US $85.00; AAPG/SEPM/GSA/RAS/EFG/PESGB members' price £51.00, US $102.00 (hard covers). ISBN 9781 86239 241 0.
doi:10.1017/S0016756809006141

The ultimate aim of modelling a hydrocarbon reservoir is to predict rates and volumes to maximize economic recovery. The basis of this must be a 3D representation of storage/transmissivity as governed by sedimentary architecture/facies and the baffles/conduits induced by faults/fractures which compartmentalize this volume. Where the reservoir is structurally complex the upscaling of reservoir properties to allow geologically realistic and computationally tractable simulations of flow behaviour is particularly difficult, even with current processing power. The business need to tackle this problem is driving major growth in research and was the rationale for a Burlington House conference in early 2006. This book, produced in commendably short time, is the result. It is aimed at the interface between structural geology and reservoir engineering, an objective which arguably might have been more explicit in the title, and manages to combine practical realities of industrial experience with cutting-edge academic research in a very well balanced fashion.

Content comprises 25 papers, the first of which doubles as a comprehensive editorial introduction. The mapping of complex structures *per se* is not treated, it being sensibly assumed that the basis of all realistic modelling should be a robust interpretation of 3D seismic to the limits of resolution. Hence the focus is on the modelling of what may or must plausibly exist below this resolution, and a paper on the challenges and opportunities of landslide reservoirs uses modern analogues to address this problem. Sub-seismic fracture prediction is approached from both geomechanical stress modelling and seismic anisotropy, the latter with discussion of the potential to invert damage parameters from seismic anisotropy and including a paper of major importance on the work flow for quantification of anisotropy in terms of that induced by fracturing and that inherent to the sediment fabric. The thorny topic of fracture prediction by the use of bed curvature receives an elegant critical testing.

Many papers tackle various aspects of fault seal evaluation, notable among which is a use of percolation theory in the analysis of connectivity in faulted turbidites and a fine case study from the West Sole gas fields. The computational problems of managing, and updating, complex volumes receive limited attention, but seven papers deal with flow simulation and production history matching. They include fascinating statistical demonstration of the correlation of far-field pressure responses to depletion/injection which suggests the stress state in some reservoirs to lie on the verge of failure – if so with important implications for directionality of flow in response to dynamically induced changes in poroperm. Also evident is renewed focus on the multi-phase flow properties of faults, a topic conceptually simple but computationally complex.

The book has a full index and makes generous use of colour illustrations. It can be strongly recommended to industry professionals for whom it is splendid value, particularly at the discounted prices. Moreover several papers including the editorial introduction, the treatment of faults in production simulation models and the modelling of fractured reservoirs will be valuable supplementary reading for course work in petroleum geology.

David James

PELLANT, C. & PELLANT, H. 2007. *Fossils. A Photographic Field Guide*. 144 pp. London, Cape Town, Sydney, Auckland: New Holland Publishers. Price £14.99 (hard covers). ISBN 9781 84537 336 8.
doi:10.1017/S0016756809006153

Including over 200 photographs that represent all of the major groups of macrofossils, *Fossils: A Photographic Field Guide* is an attractive little volume. Including sections on fossil plants, corals and sponges, echinoderms, brachiopods, arthopods and graptolites (included in the same section for some reason), molluscs, vertebrates, and trace fossils, the book looks at individual genera, depicting them in crisp, attractive photographs. Introductory sections discuss the general anatomy and mode of life of the groups, and simple diagrams depict the key anatomical components. Brief descriptions accompany the photos and provide information on size, occurrence and mode of life. Some of the pieces of text accompanying the vertebrates are rather long compared to those that exist on the other fossils.

Fossils: A Photographic Field Guide cannot really pretend to be as indispensable as a field guide as it is simply not comprehensive enough, but it would at least allow a novice to narrow down the identification of any given fossil to a major group. Designed for general readers, it will appeal to anyone interested in geological history or fossil collecting and could prove to be a useful introduction for undergraduate students or for anyone looking for a basic guide to the diversity and wonder of fossilized life.

Darren Naish

SPEAK, P. 2008. *Deb. Geographer, Scientist, Antarctic Explorer. A Biography of Frank Debenham*. xiv + 128 pp. Cambridge: Polar Publishing. Price £12.99 (paperback). ISBN 9780 9548003 1 4.
doi:10.1017/S0016756809006177

Frank Debenham was an Australian-born geologist and geographer, whose career ranged from participation in Scott's