BOOK REVIEW

LETURMY, P. & ROBIN, C. (eds) 2010. *Tectonic and Stratigraphic Evolution of the Zagros and Makran During the Mesozoic–Cenozoic*. Geological Society Special Publication 330. viii + 360pp. Geological Society of London. Price £95.00, US$190.00 (HB); GSL fellows £47.50, US$95.00; other qualifying societies £57.00, US$114.00. ISBN 978 1 86239 293 9.
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This is a thematic volume of 13 papers, nine of them by French first authors, many of whom were associated with a research consortium funded by oil companies in the period 2003–2006. The first decade of this millennium saw a step change in the understanding of Iran's geological and tectonic history, brought about by the steadily increasing accessibility of the country after two decades of post-revolution isolation and by the application of new technology and understanding developed elsewhere to throw light on some of Iran's classical geological problems. Few are more classical, or more important, than the development and structure of the Zagros Mountains, one of the world's most famous fold-and-thrust belts, one that was iconic in the early history of the petroleum industry and which still hosts a substantial amount of the region's hydrocarbon reserves. It is pleasing to see some excellent Iranian scientists involved in these contributions, some of whom have grown into figures of international stature during this period. Much of the credit for this development and international collaboration must go to the visionary attitude of the directors of Iranian institutions such the International Institute for Earthquake Engineering and Seismology, the National Cartographic Centre and particularly to the Geological Survey of Iran, which is prominently acknowledged in this work. Several of the contributions are summaries or syntheses of work published in professional journals, but no less useful for that. There is much that is valuable in this volume.

The range of topics is as follows: crustal and lithospheric structure of the fold belt (three papers), structure and palaeo-stress (two papers), folding modes and their relationships with faulting (three papers), stratigraphy and dynamics of the Arabian margin (two papers), diagenetic evolution (two papers), and a review of petroleum systems. All of them are well produced and illustrated in abundant colour. It is perhaps invidious to single out particular contributions, as that must reflect the personal interests of the reviewer, but I shall do so anyway to illustrate the points in the first paragraph. It is striking how transformative is the application of modern seismology, in the form of high-quality digital data and new techniques such as receiver function analysis, to understanding the first-order structure of the country, such as the variation in crustal thickness and its relation to the surface geology (Paul *et al*.). Similarly eye-opening was the use of GPS to determine velocity fields and constrain fault slip rates over the whole of the Zagros and its transition to the Makran (Hatzfeld *et al*., Regard *et al*.). These are the basic data on which any modern tectonic analysis depends, as is reflected in new structural interpretations that simply regard these constraints, together with information from earthquakes and geomorphology, as part of the modern structural toolkit (Leturmy *et al*., Burberry *et al*., Emami *et al*.). The final paper of the volume, and by far the longest (63 pages) is a hefty review of the petroleum systems in the Zagros and its contiguous offshore by Bordenave & Hegre, with a huge wealth of information gathered in one place; one that will surely be useful and welcome for some time to come.

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