Some of these regions, they argue, were passive margins for much of the Paleozoic. Others became separate terranes. They delve into the important debate on the origin and timing of the Paleotethys Ocean, which is linked to the putative drift of the Hun superterrane from the northern Gondwanan margin (compare Stampfli and Borel 2002).

Cherns and Wheeler provide a provocative synthesis of climate change in the early to middle Paleozoic in which they examine the relationship between facies, faunas, and isotopic data from the peri-Gondwanan terranes of Europe. In contrast to previous syntheses, they interpret Late Ordovician carbonate deposits in high paleolatitudes to reflect cool carbonate deposition, indicating an interval of global cooling rather than warming. They view the Late Ordovician Hirnantian glaciation as the most pronounced expression of episodic cooling of any event between the Middle Cambrian and Late Silurian, and propose that it may have been orbitally controlled.

The editor is congratulated for putting together a very attractive collection of papers that provide up-to-date syntheses on the current state of knowledge, as well as the lack of knowledge, on the Paleozoic distribution of these important terranes. As a non-practitioner of paleontology, I initially was apprehensive about reviewing a publication that I anticipated might contain abundant systematic paleontology. Instead, this publication is clearly intended to reach a broader readership and I think it will be successful in attaining this goal. I would certainly recommend it to research students who are working on any aspect of Paleozoic paleogeography and the methodologies involved. For the more experienced researcher, it is certainly worthwhile having a copy of this volume on your library shelf. It will be on mine, and I anticipate that I will refer to it often.

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The Legacy of Mike Coward: The Deformation of the Continental Crust

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Mike Coward cast a long shadow in the world of geology in general, and it was not just the 'structural geology' community who mourned his premature death at 59 in 2003. This volume of papers contributed and edited by colleagues and former graduate and undergraduate students, is a fitting memorial. The scope of topics covered reflects the breadth of Mike Coward's own interests and influence – simply saying he was a 'structural geologist' does not do justice – he was equally at home analyzing outcrop-scale strain as attempting a traverse through a modern orogenic belt; indulging in theoretical aspects of natural strain as applying his knowledge and analytical skills to seismic reflection profiles. A 'details' man: he never lost sight of the big picture, so appositely placed in the title to this volume – 'the deformation of the continental crust.'

In an age when 'field work' is practically a term of abuse, and university bean-counters are employing every method they can to cut field school and excursion budgets (the latest ploy being concerns over liability issues and potential costs) Mike Coward's teaching and research emphasized the primacy of sound observation. All good geology begins in the field and any model that is not so firmly grounded, for all its numerical elegance or flood of colourful print-out, remains an exercise in wishful thinking.

Rob Butler and Rod Graham present two articles fondly recalling, Mike Coward's penchant for organizing spontaneous undergrad – grad field trips to classic areas. These *ad hoc* field schools achieved more educationally than more formal methods, and illustrate a tragedy of the modern university. Such a gifted and inspirational teacher eventually left the struggle against burgeoning bureaucratic sclerosis (UK universities are further down this highway to hell than those in Canada – but we're catching up fast!) and moved into consulting for industry.

Mike Coward was not just interested in theoretical or descriptive studies of continental deformation, he was also a foremost advocate of the practical application of this knowledge. His latter day career in academia, then as a freelance consultant, took up the challenge offered by the availability of superb seismic reflection profiles from the BIRPS consortium, then from companies exploring in the North Sea and NW Atlantic shelf. His earlier work on the Moine Thrust belt led naturally into interpretation of the MOIST profiles across the Scottish Highlands and Hebrides. This led into radical reinterpretation of the post-orogenic Orcadian Basin. Eventually he would bring this experience to the interpretation of profiles across the Archean of South Africa, especially the Witswatersrand Basin with its huge gold deposits.

The papers in this volume reflect the trajectory of Mike Coward's own career, while paying tribute to his inspirational role as teacher, advisor and research colleague. The first group of papers (Wheeler; Tatham and Casey; Cosgrove; Alsop and Holdesworth; Butler et al.; and Holdesworth et al.) revisits Mike Coward's first stamping ground: the Moine Thurst belt and Lewisian foreland of NW Scotland, addressing issues from the outcrop to the crustal scale. A second series of papers (Vitale et al.; Treloar et al.; Al-Wardi and Butler, Bard et al.; Daly; Robertson et al.; Nemčok et al.; Acosta et al.; and Cobbold et al.) deals with analysis on scales ranging from orogens to entire continents, both in areas with which Mike Coward was familiar (e.g. the Himalayas, Alps and Irumides), to areas where his influence proved fruitful (the Andes, Cyclades and Carpathians). A third group of papers is more eclectic, ranging from Davidson's and Stewart's contributions on salt tectonics, through Mattioni et al. on basin inversion, Sepehr and Cosgrove on the Zagros Fold Belt, Cooper's world-wide review of hydrocarbons in thurst belts, and Beach and Smith, and Jolley et al., on the Witswatersrand Basin. They all emphasize the practical application of these studies in exploration.

This volume will be of interest to many readers, whether strictly 'structural geologists' or those who are simply dealing with deformed rocks by happenstance. It should be compulsory reading for those who regard structural geology as an abstract, academic exercise with no practical significance; for those seduced by computer-aided geo-pornography and deny the need for field work; for those beavering away to remove 'expensive' scientific disciplines from universities (we can hope!); for anyone who still respects teaching as a vocation at the university level that can have results not reduced to cost-outcome analysis or 'teaching-learning outcomes' (the very language betrays the intellectual aridity); and for those who believe geophysics alone can pronounce the final word on crustal deformation and evolution and consider a high-resolution seismic reflection profile an end in itself rather than a fruitful beginning. In short, it is highly recommended.

Climate Change and Groundwater

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Climate Change and Groundwater is a compendium of thirteen papers by various authors selected from the special session on 'Impact of Climate on Groundwater Resources' organized by the International Association of Hydrologists working group during the XXXII International Geological Congress held in August, 2004 in Florence, Italy. These papers describe the groundwater situation in different areas of the world, climate change being the common link. Several papers consist of simplified versions of previously published scientific papers, and are therefore easy to read and accessible to diverse readers.

As underlined in the article by Seiler et al., few issues have raised as much scientific and political attention and controversial debate as the effect and consequences of greenhouse gases on global warming. Warming will continue to create environmental problems, among the most severe of which will likely be related to water resources. Although climate scientists agree that surface temperatures have increased, the extent and spatial distribution of modifications in precipitation and other components of the hydrological cycle over the globe are much less well understood (Rivard et al. 2009). As noted by Jyrkama and Sykes (2007), the relationship between climate and groundwater is indirect and complex, and thus, difficult to quantify. More-