Castree, N., Demeritt, D., Liverman, D. and **Rhoads, B.**, editors 2009: A companion to environmental geography. Chichester: Wiley-Blackwell. Xv + 588 pp. £95.00 cloth. ISBN: 978 1 4051 5622 6

'*A Companion to Environmental Geography*', edited by Castree, Demeritt, Liverman and Rhoads, succeeds in its aim to demonstrate 'the size, breadth and multiplicity of geographical work at the people-environment interface' (p.2) by providing 'accessible introductions to a wide range of key ideas, methods and debates' (p.3) in the field of environmental geography. The editors have collated an interesting range of chapters that address key topics within the framework of environmental geography, and which are largely well considered, written and presented. The book is a timely addition to Wiley-Blackwell's 'companion' series, coming as it does when the future of geography as a discipline (or collection of sub-disciplines) is being questioned.

In their introductory chapter the editors argue that geography is more than just two halves with a vanishing centre (a situation that might be surmised from the need for a 'boundary crossings' section in *Transactions of the Institute of British Geographers*). Rather, they suggest that geography and geographers would be better placed to think about the heterogeneity of sub-disciplines within the broad human/physical geography split, and, most importantly, the relationships and linkages of those sub-disciplines. The increased scientific specialisation that has led some to question whether physical geography as a discipline even continues to exist (Demeritt, 2009), has also hindered the achievement of the traditional vision of 'symmetric' environmental geography in which a research project or question devotes equal attention to both humans and the environment. Given the paucity of truly symmetric research, the editors suggest an expanded definition of environmental geography – 'any form of geographical inquiry which considers formally some element of society or nature relative to each other' (p.6) – is usefully open-ended.

The heterogeneity of approaches to the study of human-environment interactions allowed by this definition is demonstrated by the subject matter addressed across the four sections of the book – Concepts, Approaches, Practices, and Topics. Each of the 32 chapters in

these sections address key ideas, methods and debates in environmental geography (largely in the 'asymmetrical' mode as research currently exists) and will be accessible to advanced undergraduates and beyond. Some chapters are rather benign introductions or reviews of the relevant subject matter, but many provide provoke thought where it may currently be lacking. For example, Brown argues that current consideration of uncertainty and risk in much geographical research is a facade on traditional deterministic approaches; Mansfield argues that physical geographers have largely been absent from explicit discussion of what is meant by 'sustainability', even though much of the work in which they are engaged is related to sustainability; and Matthew Turner argues that 'a major weakness [of political ecology] has been a relatively shallow engagement with the complexity of ecological relations' (p.189). Concepts explained and examined include 'nature' (Braun), 'scale' (Sayre) and 'commodification' (Prudham), and chapters exploring Approaches consider how human-environment interactions are viewed through the various lenses of earth systems science (Wainwright), environmental history (Endfield), ecological modernisation (Mol and Spaargaren), and Marxist political economy (Henderson), amongst others. Remote sensing and earth observation (Balzter), modelling and simulation (Perry), ethnography (Martin and Pavlovskaya), and deliberative and participatory approaches (Chilvers) are among those described and discussed in the Practices section, and specific environmental topics given further attention in their own chapters include ecosystem management (Francis), natural hazards (Mustafa), water (Bakker), energy (Jiusto), and food and agriculture (Le Heron).

The diversity of issues and specialisms addressed means it is unlikely every chapter will be of interest to all readers. But diversity and specialism are at the heart of the editors' broader message: environmental geography is a major area of research activity with a variety of tools and perspectives that can be used to investigate human-environment interactions. This positioning of geography as an important home for human-environment research accompanies the recent enthusiasm of funding-bodies for research programmes that adopt interdisciplinary approaches to address contemporary environmental issues – an enthusiasm that opens the door to a wide range of (new) disciplines other than geography (e.g., chapter by B.L. Turner). For example, the US

National Science Foundation currently funds many projects, to the tune of millions of US dollars, via its 'Dynamics of Coupled Natural and Human Systems' programme. Proponents of the science of Coupled Human And Natural Systems (CHANS) argue that it 'builds on but *moves beyond* previous work (e.g., human ecology, ecological anthropology, *environmental geography*)' by focusing on patterns and processes that link human and natural systems, emphasising reciprocal interactions and feedbacks, and developing understanding of both within- and cross-scale interactions between human and natural components (Liu et al., 2007, p. 639, emphasis added). The implication is that a systems approach can deliver symmetric human-environment research where other approaches have faltered. Whether this is a valid claim is open to debate, and just as physical geographers have questioned the merits of earth systems science as a research framework (e.g., chapter by Wainwright) so environmental geographers might level similar criticisms at the CHANS approach. For example, it would be both naïve and arrogant to assume that the inherently quantitative (if not numerical) approach of systems sciences can apply to all aspects of human activity studied by environmental geographers. Indeed, the editors argue that 'environmental geography's plurality can make it a player in such grand endeavours [as a 'science of sustainability' or the US Global Change Research Program] yet without sacrificing its capability to offer multiple insights and perspectives on human-environment relations' (p.12).

The strength of this plurality of approaches may be most evident when researchers from disparate geographic sub-disciplines come together to address environmental questions that explicitly consider human values, decisions and management options. However, if this plurality of insights and perspectives can be a benefit to environmental geography, it also has the potential to be a hindrance. As scientists that have endeavoured to undertake interdisciplinary research will attest, time and patience are needed to break down linguistic, conceptual and aspirational barriers between (sub-) disciplines. *A Companion* is not a recipe book for how to overcome these barriers or how to do interdisciplinary human-environment research – such a book is unlikely to exist given the multitude of approaches available to study any given issue. Individually, however, each chapter provides insight into the background of sub-disciplinary linkages, highlighting important

questions to be addressed and the methods and approaches that might be most fruitful to get the answers. Physical geographers will find specific chapters useful both to understand specific connections they may be able to make to conduct research 'across the divide', but also as teaching tools for the next generation of geographers who will increasingly be called upon to perform interdisciplinary research. Taken as a whole, *A Companion to Environmental Geography* does a useful service of demonstrating how geographers' diverse perspectives on human-environment interactions can contribute to contemporary environmental issues.

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