

UC Merced

Frontiers of Biogeography

Title

book review: Biogeography by geographers

Permalink

<https://escholarship.org/uc/item/1457c5vj>

Journal

Frontiers of Biogeography, 4(2)

Author

Algar, Adam C

Publication Date

2012

DOI

10.21425/F5FBG12500

Copyright Information

Copyright 2012 by the author(s). This work is made available under the terms of a Creative Commons Attribution License, available at

<https://creativecommons.org/licenses/by/4.0/>

book review

Biogeography by geographers

The SAGE Handbook of Biogeography, edited by Andrew Millington, Mark Blumler & Udo Schickhoff, 2011, SAGE Publications Ltd., 598 pp. £95.00 (Paperback) / \$140.00 (Hardcover) ISBN: 978-1-4129-1951-7; <http://www.sagepub.com>

First, a confession. Although my current coordinates place me in a UK geography department, both of my degrees and my post-doc were spent within North American biology departments. Why is this relevant to *The SAGE Handbook of Biogeography*? Because before I read its opening chapters, I had no idea that this located me firmly within the 'American Biology School' of biogeography which in turn made it almost inevitable I would value deduction over induction and hold MacArthur and Wilson (1967) in high regard. I suspect that such bouts of academic self-realisation will be common amongst readers of *The Handbook's* opening chapters. If nothing else (though there is much), *The Handbook* challenges the reader to examine their own membership within a biogeographical school of thought and consider how geography has influenced their own biogeographical perspective.

The Handbook opens with a chapter by editors Millington, Blumler and Schickhoff on 'Situating Contemporary Biogeography' that tracks the intellectual development of the field in different geographical regions (a theme expanded upon in the book's subsequent chapter). The editors clearly set out the types of biogeography that the book will and will not consider, a difficult (and likely thankless) task. Not surprisingly, I found this to be one of the book's most challenging features. The editors recognise that biogeography spans traditional departmental boundaries, most notably geography, biology, and geology. However, they have chosen to focus on "contemporary biogeographical trends within geography" (page 1) and ignore biogeographical research arising from biology and geology (with a few exceptions). This decision, given the book's position as one of SAGE's many handbooks of geographical subjects, is defensible. However, it seems unfortunate (to me at least) to define a discipline based on where its researchers happen to have their offices rather

than the questions they ask. Fortunately there is substantial overlap amongst the alternative traditions. Nonetheless, I think the choice limited the book's ability to capture 'contemporary' biogeography, a point highlighted by a quick look at two recent issues of *Global Ecology & Biogeography* (May 2012) and the *Journal of Biogeography* (April 2012), which show that contributors from biology (or ecology & evolution) departments vastly outnumber those from geography. Obviously, given my own biological background, I have my own biases, but even so, I think there was an opportunity lost to present a more integrative purview of current biogeography. To their credit, the editors are obviously not naive of these limitations and are refreshingly transparent with respect to the boundaries they impose.

The above criticism does not imply that the book's chapters are sub-standard or of limited value, regardless of whether the reader's tagline reads geography, ecology, or geology. What *The Handbook* does, it mostly does well. It covers the major biogeographical research themes (within geography), from traditional topics like biomes and diversity gradients to remote sensing and the ecology-human interface. It is divided into five sections with 5-7 chapters each: 1) History and Theory, including landscape ecology, diversity, classification, phylogeography and refugia; 2) Distributions, Gradients and Disturbance, focusing on species' ranges, biodiversity gradients, climate change, and fire; 3) Biomes and Ecosystems, both 'natural' and human-constructed; 4) Mapping and Modelling, including GIS and remote sensing; and 5) Biogeography and Society, focusing mostly on conservation but also, surprisingly, ethnobotany and bioindicators. Each section is preceded by an overview/abstract by the editors which I found both insightful and useful.

There are a few surprising omissions and inclusions. Most notably, marine environments

are given short shrift, with only the briefest of mentions in the biome section and elsewhere; the same applies to islands and archipelagos. Explicitly historical approaches are the focus of only two chapters, one pertaining to conservation and the other to refugia; both are limited to Quaternary dynamics. Alternatively, chapters on bioindication and ethnobotany are less classically geographical but interesting nonetheless. As is usual for me, I found the chapters that tackle topics I know little about the most engrossing (especially those on agricultural and built environments). Almost all of the individual chapters were engagingly written and should be accessible to undergraduates, but still detailed enough to satisfy graduate students and more established academics. Though one would probably not turn to it for a key insight within one's direct area of expertise, I can envision pulling the book from my shelf to supply additional background, or highlight possibilities, when my reading, teaching or hypotheses take me outside my usual comfort zone. Surely this is, or should be, one of the main goals of such reference works.

The Handbook, unfortunately, includes little of an evolutionary nature within its pages. Outside of Brett Riddle's single-chapter overview of phylogeography, there are no chapters devoted to evolutionary themes, neither classical nor emerging biogeographical topics such as lineage diversification, adaptive radiation, areas of origin, or niche evolution (or lack thereof). Except for Riddle's chapter, there is not even a single phylogenetic tree to be found. This omission is all the more surprising given that the history of biogeographical thought, presented in the chapter by Blumler *et al.*, reads like a who's who of early evolutionary biology, with Darwin and Wallace front and centre. However, this may be less a criticism of *The Handbook* itself, but rather a commentary on biogeography within geography. Have we really drifted so far from the discipline's roots? Can biogeographers within geography departments afford to marginalise evolutionary insights if we are to remain relevant? When faced with Dobzhansky's (1964) overworked quotation, 'nothing makes sense in biology except in the light

of evolution', it seems that our unsatisfactory and unfortunate reply may be "so what, we're geographers." Hopefully, the editors' decision to highlight phylogeography as a critical area of biogeographical theory will remind biogeographers of the possibilities afforded by integrating geography and evolution and through collaboration with biologists with the expertise and infrastructure to delve into the molecular realm.

So where does this leave *The SAGE Handbook of Biogeography*? Despite its limitations, I think it is a valuable contribution in both a research and teaching context. How it is used will probably depend on the lineage of biogeography from which you have emerged. If you are biologically trained, then it provides an extensive look into the geographical tradition of biogeography, covering some topics that may be less familiar to those with an evolution/ecology background. Alternatively, if you are a geography student, researcher, or lecturer, it will provide a useful reference and will be invaluable to the non-biogeographer geographer who suddenly has the teaching of an introductory biogeography course thrust upon them. Lastly, what of the North American biologist within a UK geography department? In addition to immersing me in an alternative biogeographical tradition of which I am now a part, it will also feature prominently in next year's tutorials when I present my students with a chapter and ask them to critique it from the American Biology School and the Continental School perspectives.

Adam C. Algar

School of Geography, University of Nottingham, UK.

adam.algar@nottingham.ac.uk;

<http://www.nottingham.ac.uk/~lgzaa/index.html>

References

- Dobzhansky, T. (1964) Biology, molecular and organismic. *American Zoologist*, 4, 443–452.
- MacArthur, R.H. & Wilson, E.O. (1967) *The theory of island biogeography*. Princeton University Press, Princeton.

Edited by Markus Eichhorn