## BOOK REVIEWS

Sarah Johnson (ed.)

Bio-invaders (Themes in Environmental History)

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This edited collection of papers from the pages of the journals Environment and History and Environmental Values reminds us why the topic of bioinvasion is good to think with. Just as Hajer (1995) has described acid rain as an 'emblematic environmental issue', an issue that functions as a metaphor for the environmental problematique at particular times, this collection demonstrates that bioinvasion, nativism and associated biosecurity responses are emblematic issues for the twenty-first century. Across a wide variety of political concerns there are resonances with the problematisation of bioinvasion raised in its pages: the extension of security, selective territorialisations against ever-increasing mobility, questions of localism and cosmopolitanism, and concerns over managing uncertain futures. As such, the collection deserves to be read by those with wider interests in environmental values and philosophy. From stories of carp in Palestine, rhododendron in Britain and Ireland, tropical rainforest in Australia and mustelids in New Zealand, emerge issues of the contestable nature of science, of historically and geographically contingent natural values, of appropriate language and definition, of arbitrary nature/culture boundaries, and of natural and human agency, belonging and encounter. What we learn is that in this domain of investigation there is very little firm footing; holding onto the contested status of language and categories leads to an epidemic of apostrophes, as 'native', 'alien', exotic', 'indigenous', 'natural', 'national' and even 'nature' are all brought into question.

The edited collection draws together general essays with specific case studies published between 1998 and 2010, and this is its clear strength. The juxtaposition is vital, as too often debates in this domain become oversimplified by 'ideal case' arguments (with brown tree snakes in Hawaii most frequently exemplifying why we should be concerned about bioinvasion, and Nazi nativist values exemplifying why we should be concerned about people who are concerned about bioinvasion). The collection begins with a useful publisher's introduction by Sarah Johnson, but would also have benefitted from a discussant chapter to conclude. Much could have been done here in drawing the threads together, bringing some of the historical case studies up to the present (what happened next for the stoats, water hyacinth and carp?), as well as looking to the future for this area of scholarship and environmental management. This would particularly help as the case studies in environmental history rarely relate back to larger debates on bioinvasion, whereas the general ideas papers can gloss over the details of specific case studies in the presentation of idealised versions of values and events. As the collection in its entirety highlights, what is interesting

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and important in this domain of environmental concern is the messiness and complexity of the issues *in practice*.

Turning to some of the individual chapters, William Beinart and Karen Middleton's chapter on 'Plant Transfer in Historical Perspective' deserves to have launched an academic research field in 'plant geographies'. Taking enduring questions that remain from the seminal work of Crosby and Diamond as a starting point for marking out the coordinates of research needs in the area of global plant transfer, they examine the significance of human/plant agency, public/private practices and shifting environmental values, in the determination of global plant redistribution and acceptance.

Dehnen-Schmutz and Williamson's piece on *Rhododendron ponticum* in Britain and Ireland is interesting for the link it succinctly draws between social values and the invasive process itself. Fashions for particular garden plants generate demand and greater use of particular plants in gardens, and this higher propagule pressure increases the likelihood that a plant will naturalise and become invasive. The garden industry also forms an excellent network for distributing new plants simultaneously over wide areas. In predicting which new species may become invasive then, it is not just plant physiology and behaviour that needs to be considered, but future cultural values and preferences. This is the challenge that the risk assessors and horizon scanners must grapple with.

Elsewhere, Sanderson outlines in a fascinating discussion how the development of plate tectonic theory finally changed perceptions of the Australian rainforest as invasive, bringing new meaning to the oft repeated phrase 'in time, invaders become the natives'. This shift from alien and invasive to ancient and Australian leads Sanderson (p. 139) to describe species as 'mutable and historical entities'. What really emerges across the collection as a whole, however, is their own agency, as those valued species carefully geographically displaced turn and bite the hands that moved them. This exuberant behaviour then contributes to shifting environmental values towards native and alien species just as it alters ecosystems and landscapes themselves; with the radical effects of species' displacement, as Clark (2003) highlights elsewhere, nothing is left unchanged.

Neil Clayton's paper on 'Weeds, People and Contested Places' is rightfully reproduced, providing a tantalising attempt to trace the concept of 'weed' through the historical record utilising a range of literary sources and references, a project that deserves more scholarly attention. Clayton follows the concept from the old world into the new, reviewing changing explanations for the success of European weeds in New Zealand, and the cacophony of chemical, biological and mechanical measures for their control. Together with Beinart and Middleton, and other authors in the collection, Clayton highlights gaps in the research field on species transfer and bioinvasion. The attention to botanical gardens, bold plant hunting expeditions and acclimatisation societies has taken precedence over the domestic garden and private histories of plant and animal transfer; of

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European species from the old world overpowering new world ecologies, rather than the impact of species from the 'colonial periphery' in the 'metropolitan centre' (Clark 2002); and of Antipodean post-colonial contexts, over invasive species issues in Africa, Asia or Latin America.

Overall, a very useful collection; I would recommend reading it alongside a book on contemporary biosecurity practice such as 'Biosecurity Interventions' edited by Lakoff and Collier (2008), or 'Networked Disease' edited by Ali and Keil (2008).

## References

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