

Book Reviews

Robert Boyd and Peter J. Richerson. *The Origin and Evolution of Cultures*. Oxford and New York, NY: Oxford University Press, 2005. Pp. 456, references, author and subject indices. AU\$46.75 (Pb.), ISBN 0-19-518145-X; AU\$105.27 (Hc.) ISBN 0-19-516524-1

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This book is a welcome collection of previously published and widely scattered articles that develop the themes summarised in the authors' novel and stimulating 1985 book *Culture and the Evolutionary Process* (Chicago University Press). The authors are an environmental biologist and an evolutionary anthropologist who are joined by co-authors for seven of the twenty papers. The book is divided into five sections (The Evolution of Social Learning; Ethnic Groups and Markers; Human Cooperation, Reciprocity and Group Selection; Archaeology and Culture History; and Links to Other Disciplines) with short original introductions to each section. The introduction to the volume includes an interesting brief historical overview of their work.

Boyd and Richerson's co-evolutionary research program is one of the most productive and authoritative in the evolutionary social sciences. They focus on the interaction between social learning, cultural transmission, and biological evolution. Genes and culture are presented as two distinct, but interacting, systems of information inheritance within human populations. There are two key ideas that distinguish Boyd and Richerson's work. Firstly, they define culture as acquired information that is subject to its own evolutionary processes that cause changes in the frequencies of cultural variants. These changes are intensively modelled using ideas and mathematics borrowed from population biology. Secondly, their theory is derived from the population-level effects created by the evolved components of human psychology and cognition that acquire, store and transmit information. This means that the evolutionary processes of culture are shaped by the architecture of our minds and bodies. Similarly, because cultural information influences behaviour, human genes evolve in a culturally constructed environment, which generates selection on genes. This co-evolution is unique to humans, they argue, because we can accumulate cultural adaptations that allow us to rapidly and radically adapt to different environments.

The strength of this collection is the section Human Cooperation, Reciprocity, and Group Selection because the authors model the evolution of political and social complexity that is typical of vast and enmeshed institutions that we exist in today. In this section, including some of their best-known and most original papers, they produce models and simulations to show how universal cooperation can appear and exist in a world of self-interest. They argue that cooperation in large groups is dependent on persistent retribution, which is possible because of two special psychological biases. These biases allow people to skip the costly process of individual learning and experimentation to find the most adaptive behaviours and are known as the conformist bias (where the most common behaviours are copied) and the success-based bias (where behaviours of the most successful individuals are copied). This section represents more than simply analogising biological evolution; Boyd and Richerson have produced a mathematical toolkit specifically for describing cultural evolutionary processes.

At the heart of this work on human cooperation is the much-debated topic of group selection, a mechanism that works by eliminating societies that have maladaptive practices or institutions. In support of the importance of group selection they present an empirical case study of New Guinea tribes (the only original empirical study in this collection).

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Unfortunately the study presents only equivocal evidence for the role of group selection in explaining rapid cultural change and many of the differences between related cultures.

This is probably the main weakness of the collection—too few illustrative and concrete case studies and too many abstract technical papers dense with mathematical modelling and programmatic epistemological statements. Empirical studies would strengthen their program significantly, and some genuinely testable predictions are offered. For example Chapters 6 and 7 on the evolution of ethnic markers make specific predictions that the emphasis on such markers should be stronger at the border between two cultural groups. A further weakness is that the modelling ignores ontogeny; selection of behaviours and information is presented as a statistical product but we cannot always assume that individuals have the prescience to survey available traits and the freedom to select.

But agent-based perspectives do not make the study of evolutionary process obsolete. Most evolutionary processes are just long-term patterns of behaviour by multiple agents. Since the book's publication, papers by Boyd and Richerson and others have appeared describing experiments with laboratory micro-societies and cross-cultural game-playing that are beginning to demonstrate the relationship of agency and process. The absence of more compelling applications of Boyd and Richerson's concepts and methods may simply be because the discipline has yet to see its golden age (perhaps due to the historical stigma attached to the suggestion that human behaviour can be explained in Darwinian evolutionary terms). A partial remedy to this is the excellent popular companion volume (free of maths) published by Boyd and Richerson in 2005, *Not by Genes Alone: How Culture Transformed Human Evolution* (Chicago University Press), where case studies by other authors are very successfully appropriated into their conceptual framework.

To sum up, this convenient and logical collection of Boyd and Richerson's work from 1985 to 2003 represents some of the most robust and enduring writing in evolutionary social science. Their work is a plea to take seriously the application of techniques and conceptual devices of evolutionary biology within a conventional social sciences framework, asking conventional social-science questions. The technical nature of many of these papers limits the book's accessibility to specialists, but their popular book makes the concepts accessible to all and is an easier introduction to Boyd and Richerson's work.

Zohl dé Ishtar. *Holding Yawulyu: White Culture and Black Women's Law.* Melbourne, Vic.: Spinifex Press, 2005. Pp.388, bibliog., index. AUD32.95 (Pb.), ISBN 1-876756-57-8.

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This book ranges over many topics and issues: it is part personal story, part historical account (based on documentary and oral sources), part critique, part polemic. It is probably most suitable for a general audience, readers who are interested in, but have little first hand knowledge of, Indigenous people and communities. Topics such as attitudes to violence, the use of vehicles, dogs, CDEP, the roles of missionaries and other outsiders in a remote community are well-described. The title suggests a focus on women's ritual and this is indeed one of the themes of the book; it details the establishment and decline of the Wirrimanu (Balgo) Kapululangu Women's Culture and Law Centre of which dé Ishtar was the inaugural Coordinator. The Centre, its triumphs and many setbacks experienced by its main actors, including the author, are covered in several early and final chapters. Between these are chapters dealing with the history of Wirrimanu and with various administrative arrangements, political and cultural projects, vicissitudes, problems and players. There are informative descriptions and explanations, and an account of the history of the Balgo Mission and what followed its demise.

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