

## BOOK REVIEW

# Applied Evolutionary Anthropology: Darwinian Approaches to Contemporary World Issues by Mhairi A. Gibson and David W. Lawson, eds.

Advances in the Evolutionary Analysis of Human Behaviour series. New York: Springer Science Business Media, 2014. 299 pp.

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I appreciate the value of both evolutionary behavioral science and applied social research, and I see no better foundation for the latter than the former. I admit to being a bit wary, however, that some current enthusiasm for applied research stems from cynicism about the value of basic research. The editors of *Applied Evolutionary Anthropology* note that funding agencies demand increasingly that anthropologists “prove their worth” by demonstrating applied value (p. 4). I hope this doesn’t imply that these agencies define “worth” as “immediate short-term value.” The uses of basic research are often unanticipated and may take decades to emerge. Just as Isaac Newton didn’t foresee taking us to the moon, evolutionary behavioral scientists couldn’t have predicted how their basic research would be used in works such as *Applied Evolutionary Anthropology*.

Having said all that, it certainly is important to demonstrate the applied value of evolutionary behavioral science, and *Applied Evolutionary Anthropology* succeeds impressively in this regard. Chapters focus on social issues as diverse as population sex ratios, warfare, collective agriculture, micro-finance, altruistic punishment, and public health (including maternal and infant health, nutrition, behavior change, and the effects of socioeconomic status on health). Below I’ll discuss a few chapters that left a particularly big impression and that are suggestive of the book’s overall tenor.

An evolutionary perspective can generate novel solutions to problems of public health, and this is exemplified most starkly in Gillian Pepper and Daniel Nettle’s chapter. They present a simple and powerful behavioral-ecological model to account for why people with lower socioeconomic statuses tend to engage in unhealthy behavior. Because these people’s lives tend to involve high “extrinsic mortality” risks (i.e., uncontrollable risks like violent crime), they have reduced incentives to avoid even those risks over which they

have some control (e.g., quitting smoking). This model is used to radically consolidate existing explanations for these health effects (from nine to two competing explanation classes), deepen these explanations, and generate novel interventions (e.g., a good way to encourage healthier lifestyle choices in these environments would be to reduce extrinsic mortality risks).

I particularly enjoyed Bram Tucker’s chapter on collective agriculture, as I’ve conducted research in this area myself. Collective agriculture is regarded here in terms of “group-level cultural adaptation” (p. 17), and many useful applications of evolutionary theory are made. I wondered, however, whether too much group-level focus would distract from the problem of individualistic free riding, which has been identified as a key barrier to successful collective action cross-culturally (Ostrom 2000; Price 2006).

Mhairi Gibson’s chapter demonstrates not just the benefits of taking an evolutionary approach but also the unanticipated dangers of not taking one. She reports on a development scheme that introduced water taps to Arsi Oromo agropastoralists in Ethiopia. This scheme succeeded in reducing women’s effort expended on water collection but had the unintended consequence of dramatically increasing their fertility, leading to an unsustainable strain on resources. Had life history theory been used to predict that these women would divert their conserved work effort energy toward reproductive effort (Gibson argues convincingly on pp. 69–71 that reduced workload was the key mediating variable here), the need for interventions (e.g., contraceptive provisioning) would have been easier to foresee.

Robert Layton’s chapter is one of the most ambitious in that he tackles the particularly big problem of war. He reaches the reasonable conclusion that human nature is neither peaceful nor warlike, and he seems to suggest that it is flexibly adapted for both, with behavioral output depending on environmental input (p. 196). I was confused, however, about why he portrays this view as being radically opposed to that of Steven Pinker, who he describes as holding a “genetic[ally] determinis[ti]c” view of humans as inflexibly

violent creatures (p. 195). On the contrary, Pinker's (2011) main message is not that violence is inevitable but that cultures have become vastly less violent over time, as the peaceful aspects of human nature have prevailed increasingly over the violent ones (hence his title, *The Better Angels of Our Nature*). As the views of Layton and Pinker seem compatible, it's not clear why a conflict is perceived here.

Academic debates shouldn't distract from the book's main function as a demonstration of evolutionary anthropology's added social value or from the fact that it represents a landmark achievement in this regard. It is a difficult challenge to bridge the gap between basic and applied research in evolutionary behavioral science. This book meets that challenge by demonstrating convincingly, in chapter after

chapter, how these applications are assisting anthropologists in their everyday efforts to improve people's lives.

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