

Book Review

Family Values

A review of Lee Alan Dugatkin, *The Altruism Equation: Seven Scientists Search for the Origins of Goodness*. Princeton: Princeton University Press, 2006. 188 pp. US\$24.95 ISBN 0-691-12590-2 (hardback).

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It is common knowledge amongst evolutionary psychology enthusiasts that sociobiology began with William D. Hamilton's mathematical formalization of the idea of kin altruism in the early 1960s. Hamilton's eponymous rule, $rb > c$, states that altruistic behavior will evolve if the coefficient of relatedness (r) between benefactor and beneficiary organisms multiplied by the benefactor's fitness benefits (b) exceed the costs (c) to the benefactor. Simply put, since one's genes are shared with one's relatives, enhancing relatives' reproductive success is a way for genes to proliferate themselves. From this perspective, unselfish behavior can be the upshot of "selfish" genetic strategies (although depriving myself of food so that my children can eat looks selfless, on the genetic level it is quite self-serving). My genes don't give a damn *how* they get replicated; their only "concern" is *that* they get replicated.

In this slim volume, University of Louisville biologist Lee Dugatkin takes the reader on a romp through the history of evolutionary biologists' attempts to grapple with the "problem of altruism", from Darwin's first encounter with the explanatory challenge posed by the existence of sterile castes of social insects right up to the sophisticated quantitative models created by William Hamilton. Along the way, we are introduced to the life and work of some brilliant, colorful characters including Thomas Henry Huxley, the boy from the slums of Victorian London who grew up to become Darwin's bulldog, the anarchist-prince Petr Kropotkin, who traveled fifty-thousand miles back and forth across the frozen wastes of Siberia in an effort to prove that cooperation, not competition, is the engine of evolutionary change. We are told the story of Warder Clyde Alee, the gentle Quaker experimentalist who designed experiments to prove Kropotkin right, the frighteningly brilliant J.B.S. Haldane, a scientific giant whose only formal academic qualification was a BA in classical literature, and the great George Price, who tried to live a life of Christian altruism and ended up lying down on the floor of his squalid London flat and slitting his own throat. Approximately half of the book is devoted to Hamilton, charting his intellectual trajectory from his childhood fascination with the insects that inhabited the fields of his native Kent, to his death from malaria at the age of 64.

The Altruism Equation is very well written and extremely informative. Dugatkin's immense enthusiasm shines through every page, and I don't think that there is a single turgid sentence in the book. Because the scientific concepts are explained so clearly, concisely and engagingly, newcomers to sociobiology will find *The Altruism Equation* an enlightening read. At the same time, it will be of interest to *connoisseurs* of the literature who wish to gain a panoramic view of the altruism debate.

My only quibbles are minor ones. I found myself becoming irritated with Dugatkin's equation of altruism with 'goodness' in the first couple of chapters (and in the book's subtitle). 'Altruism', as it is used in this context, is a biological concept, whereas 'goodness' is a moral notion, and there is no reason to assume that a biologically altruistic behavior is, in virtue of this, morally good. Are sterile worker ants 'good' on account of the reproductive sacrifices that they make for their queen? Do moral categories even apply to nonhuman organisms? Closer to home, when the Nazis attempted to exterminate European Jewry they were moved by the altruistic desire to save the world from the Jewish pestilence. Was Auschwitz, then, a monument to goodness? When I began the book, I expected it to be about both kin and reciprocal altruism, but apart from a discussion of Hamilton's work with Robert Axelrod on evolutionary game theory, there is hardly any mention of the latter. The absence of any sustained discussion of Trivers' seminal work is a puzzling omission in a book charting the history of evolutionary theories of altruism. Finally, *The Altruism Equation* ends abruptly with Hamilton's death. I would have appreciated more discussion of post-Hamilton developments in inclusive fitness theory. Although worth mentioning, these shortcomings are small potatoes. *The Altruism Equation* is a splendid book, and I recommend it without reservation.