

BOOK REVIEW

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Self-improvement from a Darwinian perspective

Kate L Hertweck

Book details

Mean genes: From sex to money to food: Taming our primal instincts, by Terry Burnham and Jay Phelan. New York: Basic, 2012. Pp. xvii + 297. S/b \$16.99.

Is evolutionary theory useful in the context of our everyday lives? The newly released second edition of *Mean Genes* by Terry Burnham and Jay Phelan is written as a Darwinian self-help book for what we all use everyday: our own minds and bodies. The authors begin with the general premise that evolutionary thought can inform all areas of scientific inquiry. In the four sections of the book that follow, they use this assumption to explain the annoying yet constant struggles that persist in our lives. The book draws rationale from evolutionary psychology and behavior to justify our attitudes toward debt, fat, drugs, risk, greed, gender, beauty, infidelity, family, and friends/foes. Each topic is framed as a problem we confront in day-to-day life, documented with evidence from published anthropological, behavioral, and psychological scientific literature as well as examples from popular culture and personal anecdotes. Though the title may be reminiscent of Richard Dawkins' *The Selfish Gene* (1976), Burnham and Phelan rely less on a strict interpretation of evolutionary theory and more on telling an entertaining narrative to describe and provide resolution for complex, multifaceted problems with which we are all intimately familiar.

The first edition of *Mean Genes* was released over a decade ago. The second edition is supplemented by commentary at the beginning of each section as well as general reflections in a preface and at the conclusion. These additions discuss the contemporary social and cultural context of the book. For example, the preface to "Thin Wallets and Fat Bodies" includes updated 2010 statistics for incidence of obesity in the United States to document the continued relevance of their arguments since the first edition (p. 15). The companion website at www.meangenes.org offers a "Notes and cited research section" with footnotes for the sometimes vague or oblique

references in the text. Citations, figures, and links to complete resources are arranged by section and page number in the book, although this resource hasn't been updated to reflect added material and altered page numbers for the second edition.

The main text of *Mean Genes* is an easy and entertaining read. Topics cover the breadth of human vices and are likely to maintain reader engagement. The conversational narrative will certainly deepen a reader's understanding of humans who, over evolutionary time, are subject to the pressures of natural selection. These historic selective pressures range from those common to all organisms (a need to consume calories) to those relegated to complex social systems (a need to develop cooperative systems). Less explicitly stated is that selection *still* acts on human populations, although this phenomenon is occasionally mentioned in passing.

As a classroom text, there are several useful topics in *Mean Genes* that would allow students a meta-level perspective on their own learning. Embedded throughout the text are insights into human behavior, including how we learn and process data. The chapter on Risk, for example, discusses the difficulty we have understanding probabilities (p. 109), which embeds more practical learning. Finding these useful applications is challenging, as the major conclusions emphasized in *Mean Genes* are related to general ways of thinking to improve our lives.

Additionally, assumptions about the social context of the arguments presented throughout the book can be alienating in some audiences. The current generation of high school or college student may find some popular culture references dated and unfamiliar. In the preface to the section on Romance and Reproduction, Burnham and Phelan ponder whether their analysis of gender differences remains valid (pp. 145–49). Moreover, the Gender chapter (pp. 151–171) conflates "girls against boys" with issues related to sexuality. Although connected, sex/gender and sexuality are distinct phenomena with differential interpretations in an evolutionary context. Given the controversy which continues to surround gender, it's unsurprising that this section is noticeably sparse

Correspondence: k8hertweck@gmail.com
National Evolutionary Synthesis Center (NESCent), 2024 West Main Street
Suite A200, 27705 Durham, NC, UK

on recommendations for accommodating disparity between males and females.

At times, the tongue-in-cheek prose of *Mean Genes* detracts from the main points the authors attempt to convey. While describing infidelity and breeding systems, the authors state “scientists with tiny scalpels and slightly crazed psyches can perform vasectomies on birds” (p. 195). Although the authors use personal anecdotes and self-deprecation in equal measure to comical depictions of scientists, repeated occurrences may trivialize the usefulness of basic science research. Moreover, a desire for appealing language sometimes overshadows the nuance of the prose. Despite drawing from primary literature, the main arguments in the book are largely untested hypotheses. It would be interesting to use *Mean Genes* to foster a discussion of how to relate and balance different types of scientific evidence and whether they support overarching hypotheses.

The most troubling effect of *Mean Gene’s* arguments, however, is the reduction of widely disparate types of research and examples to evolutionary “just-so” stories. This issue is commonly encountered by colloquial descriptions of evolution, but is especially prolific in attempts to justify human behavior with evolutionary reasoning. In fact, the roles of genetic determinism and adaptation are commonly confounded in analyses invoking evolutionary psychology (Confer et al. 2010). *Mean Genes* consistently confuses this issue by clearly attempting to ascribe human behavior to genetic predisposition, despite drawing from diverse types of empirical research which do not always assume genes are involved. This mixing of assumptions can perpetuate a number of misconceptions about the process of science.

Mean Genes is not a book from which to learn evolutionary theory. Instructors of biology classes can find more appropriate texts for engaging student interest in human psychology, behavior, and evolution. Regardless, the book includes interesting hypotheses that may serve as thought experiments for application of evolutionary thinking, so instructors of psychology or humanities courses may find the book applicable. The expertise of the authors fuses different perspectives: Phelan is a biologist, Burnham an economist. Rather than strictly reporting on primary research and outcomes, the book’s writing and analysis provide an example of using science as a world view and mode of thought.

After reading the book, take another look at the preface (pp. ix–xvii). The authors are well aware of the controversial nature of their claims, as well as their opponents’ arguments. The main attraction of *Mean Genes* is as “the first Darwinian self-improvement book” (p. xiv). Consideration of the advice in this book depends on an acceptance of evolution’s effects on humans, an appreciation for basic science, as well as a desire to think about the broader

context of our behavior. In learning to view our own habits and day-to-day behaviors in a different light, perhaps we may better manage conflict between the human evolutionary history and the trials of modern society.

Competing interests

The author declares no competing interests.

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