

and involuntary action in the *Nicomachean Ethics* (3.5) in which he disputes the suggestion that individuals can choose their own characters.

More attention perhaps could have been given to the implications of Aristotle's repeated insistence that education should be relevant to the constitution, that democrats should be educated democratically and oligarchs oligarchically. Curren claims (p. 101) that, because education to preserve any constitution must aim to moderate the constitution, education for both oligarchs and democrats will be essentially the same. Certainly, Aristotle believes that oligarchies and democracies will be more secure if they tend toward the moderate, "middle" constitution ('polity'). Nonetheless, if education were always to be the same, why does Aristotle stress the need for relativism (as well as insisting on the difference between the good person and the good citizen [*Politics* 3.5])? Interesting modern questions suggest themselves. For instance, how should public education differ in relation to the differing political cultures of different countries? What needs to be taught to "preserve the constitution"? Should the British be brought up to respect monarchy? Should Americans be educated to be suspicious of government? What of education in, say, South Africa or Russia?

Curren, however, is not to be deflected from his mission, which is to construct a persuasive argument for public education and common schooling in the United States. Whether he succeeds is open to question. Though Aristotle's theory of education provides an interesting challenge to modern assumptions, the gap between his culture and values and those of modern liberalism in large, pluralist nation-states is not so easily bridged. In effect, the modern argument has to begin again almost from scratch, with Aristotle providing no more than hints of promising directions which need to be thoroughly reworked to fit modern conditions. With only one concluding chapter devoted to it, the modern application would need much more elaboration to have any chance of persuading skeptical readers to such radical conclusions. In the meantime, Aristotelian scholars will be grateful to Curren for illuminating several aspects of Aristotle's theory of education, even if the whole is ultimately less than its parts.

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Danielson, Peter, ed. *Modeling Rationality, Morality and Evolution*.
New York: Oxford University Press, 1998. Pp. 463. \$65.00 (cloth); \$29.95 (paper).

This book is the seventh volume of the Vancouver Studies in Cognitive Science. Its core consists of papers delivered at the conference "Modeling Rational and Moral Agents" at Simon Fraser University in Vancouver in February 1994, although some of the articles included in the book are not related to that event. Several contributions of philosophers (Skyrms, Churchland, Schmidtz, Irvine) will be well known to many a reader since they appeared in print in a similar form before the publication of this book.

The papers are divided into four main sections: "Rationality," "Modeling Social Interaction," "Morality," and "Evolution." With the exception of the second part ("Modeling Social Interaction"), which is narrowly focused, other pa-

pers cover a very broad range of issues, and as a result even texts within one section are occasionally only loosely connected. A longer introduction would have been helpful to emphasize more strongly the existing common threads of argument, points of contact, and divergences of opinions.

There is not enough space here to say something, however briefly, about each particular essay. The selection was necessary, and inevitably it was at least in part determined by idiosyncrasies of my interests.

The first section on "Rationality" revolves around the question of rationality of cooperative strategies in the "prisoner's dilemma"-type situations. More specifically, the main issue is commitment to plans, and how (if at all) planning can overcome suboptimal outcomes of the choices that are dictated by the standard decision theory. In the paper "Rationality and Rules," Edward McClennen points to interesting structural similarities between intrapersonal and interpersonal choice. His idea is that, by using the analogy between these two different decision contexts, he can show that solving a more tractable problem of coordinating actions of the same person could help us demonstrate the rationality of cooperation between different persons as well. McClennen thinks that the conclusion reached about the former situation "carries over" to the latter one, but surely there still remains a lot of space for discussion here. The basic difficulties with McClennen's defense of "resolute" choice (commitment to long-term plans) are addressed again, albeit in different terms, in an interesting exchange between David Gauthier and Michael Bratman on whether selfish rational agents can actually resort to the strategy of conditional cooperation. Although their views on the matter are well known, the particular debate in these pages, focused largely on Kavka's "toxin puzzle," helps a lot to clarify the reasons for their opposed standpoints. Bratman makes a strong point by arguing that Gauthier's current position is "unstable" and inadequately motivated. Namely, Gauthier was notoriously forced to modify his original theory because of its counterintuitive consequences for the situations of failed threats. In Bratman's opinion, the revised view lacks a principled justification and is in danger of either sliding back into the abandoned theory or (contrary to the main thrust of Gauthier's whole thinking) into conceding that plans should be reevaluated later in the light of purely "outcome-related" reasons. Echoing Smart's criticism of rule utilitarianism, Bratman aptly calls Gauthier's insistence (shared by McClennen) that, once adopted, plans should not be open to later reconsideration, a kind of "plan worship." In the paper "How Braess' Paradox Solves Newcomb's Problem," Andrew Irvine shows remarkable and quite unexpected similarities between "paradoxes" from completely different domains: decision problems like Newcomb's problem and the prisoner's dilemma on the one hand, and Braess's "paradox" in classical mechanics on the other hand. (Incidentally, Irvine's paper was first presented at a philosophy of science conference in Dubrovnik in the spring of 1992, which was one of the rare international events that took place in that city under siege during its worst months of the war in Croatia.) Bryan Routledge's article "Economics of the Prisoner's Dilemma: A Background" is a concise but very useful overview of the recent research on the prisoner's dilemma in economics.

The second section, "Modeling Social Interaction," contains papers exploring the trajectories of models with different population structures and initial

conditions. Most authors try to refine and develop further the famous line of research that Robert Axelrod started in his computer-simulated work on the evolution of cooperation. It is safe to assume that for typical *Ethics* readers, this section of the book will be less interesting than others.

The third section ("Morality") starts with David Schmidtz's paper on "Moral Dualism," in which he argues that morality is best conceptualized as consisting of two strands, personal (reflectively rational) and interpersonal (collectively rational). Interconnections and interdependences between the two strands are carefully examined and delineated in an interesting way. Occasionally it may seem that the interpersonal level is assigned such a dominant role in the whole project that the label "dualism" becomes a bit dubious: in some important contexts the personal strand remains largely idle in constraining the content of morality as such. (For example, Schmidtz leaves open the possibility that even the goal of being a good mugger may be "reflectively rational," i.e., approved by the personal strand. It is only interpersonal considerations that condemn it as immoral.) In the paper "Categorically Rational Preferences and the Structure of Morality," Duncan MacIntosh undertakes an ambitious task of reducing morality to rationality. He deliberately makes that task even more difficult than the similar ones attempted by earlier authors (e.g., Gauthier). Rather than trying to get to morality from the position of individuals with given "selfish" values, MacIntosh moves further back and actually tries to demonstrate, contra Hume (and many others), that the choice of basic values is indeed unequivocally dictated by rationality considerations. In a nutshell, the idea is that since at the stage prior to the existence of any values the demands of rationality are value independent, they have categorical force and apply universally to all subjects. Then, it is argued that four very general constraints on having a preference (or value) operate at this stage, and that they are in fact so restrictive that they exclude most preference candidates and ultimately deliver a uniquely permissible set of values (morality). Despite many questions that such a claim obviously must raise, the forceful and original argument makes MacIntosh's contribution one of the most stimulating readings in the book.

In the last section ("Evolution"), Brian Skyrms argues that the standard economic game theory has to be modified when applied to evolutionary contexts, because of the strong presence of correlated (i.e., nonrandom) interactions between organisms in many populations. In the article "Mutual Aid: Darwin Meets *The Logic of Decision*" (which was published in a slightly different form in *Philosophy of Science* in 1994), he claims that the necessary modification for correlated interactions actually reduces to calculating the expected fitness according to Jeffrey's *The Logic of Decision* instead of Savage's *The Foundations of Statistics*. This argument was later incorporated into a much broader project and presented in Skyrms's much-discussed book *Evolution of the Social Contract* (New York: Cambridge University Press, 1996). In contrast, Elliott Sober's contribution to this volume does not overlap with the main claims of his and D. S. Wilson's book *Unto Others* (Cambridge, Mass.: Harvard University Press, 1998), which is obviously also highly relevant for discussions about morality, evolution, and the prisoner's dilemma. Rather, in the paper "Three Differences between Deliberation and Evolution," Sober warns about problems with the standard assumption of isomorphism of game theory in its applications to decision making and evo-

lutionary contexts. In his characteristic way, Sober manages to give a new twist to an old debate, arguing against the so-called heuristic of personification, that is, the belief that the fittest trait can always be recognized as the one that would be chosen by a rational agent who wanted to maximize fitness. Using simple but paradigmatic examples of the contrast between selfish and altruistic behavior, Sober tries to illustrate the fundamental difference between the process of natural selection and rational deliberation. Many issues are raised here that deserve further exploration. The volume editor, Peter A. Danielson, contributes the paper "Evolutionary Models of Co-operative Mechanisms: Artificial Morality and Genetic Programming." In contrast to his book *Artificial Morality* (London: Routledge, 1992), which used the Axelrodian "ecological" approach of taking a population of players with different behavioral strategies and simply following its development through time, Danielson tries here to go one level deeper. In a model that is supposed to reflect the complexity of real evolutionary processes better, he looks beneath players to the mechanisms from which they are constructed. The basic aim is to make tournament tests more robust and also to compare the effectiveness of the different ways in which players test each other before interacting.

Although the core of this book consists of contributions to a 1994 conference, and although the debate on rationality, morality, and evolution has advanced rapidly in recent years, the papers in this collection will remain essential reading for a number of research topics in different fields. Given the breadth of coverage, the absence of an index is an unfortunate omission.

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Dasgupta, Partha. *Human Well-Being and the Natural Environment*. Oxford: Oxford University Press, 2001. Pp. 305. \$35.00 (cloth).

Partha Dasgupta has been writing on population policy, poverty, and environmental issues for over thirty years. This book brings together and extends his work in these areas. He develops a practical measure of social well-being at a time, a criterion for social investment for the future, and a criterion for optimal population size. The book uses some mathematical formulae, but these are always explained intuitively, and there are no technical proofs, except in the appendix.

On the issue of individual well-being, Dasgupta assumes a pluralist conception (e.g., consisting of health, happiness, freedom, etc.). Without specifying carefully what the exact constituents of well-being are, he proceeds to develop a practical measure of well-being in terms of the resources available. More specifically, his measure of well-being is based on levels of private consumption, life expectancy, literacy, civil liberties, and political liberties. Philosophically, of course, it's difficult to assess the practical adequacy of the measure without knowing exactly what welfare is. Still, for practical purposes, some measure of these resources may well be a rough proxy for welfare. Moreover, given that Dasgupta's focus is on social well-being, these rough measures are more likely to be adequate than they would be as measures of individual well-being.

