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978-0-521-15269-3 - The Structural Evolution of Morality
J. McKenzie Alexander
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The Structural Evolution of Morality

It is certainly the case that morality governs the interactions that take place between individuals. But what if morality exists because of these interactions? This book argues for the claim that much of the behavior we view as "moral" exists because acting in that way benefits each of us to the greatest extent possible, given the socially structured nature of society. By drawing upon aspects of evolutionary game theory, the theory of bounded rationality, and computational models of social networks, this book shows both how moral behavior can emerge in socially structured environments, and how it can persist even when it is not typically viewed as "rational" from a traditional economic perspective. Since morality consists of much more than mere behavior, this book also provides a theory of how moral principles and the moral sentiments play an indispensable role in effective choice, acting as "fast and frugal heuristics" in social-decision contexts.

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Preface

The central claim of this book is that morality provides a set of heuristics that, when followed, serves to produce the best expected outcome, for each of us, over the course of our lives, given the constraints placed by other people. That's quite a mouthful, but the basic idea is straightforward. Each of us has goals we would like to attain and ends we wish to achieve. However, your ability to attain your goals and achieve your ends is constrained by the fact that you are a social being. You live in a society where *other* people are trying to attain *their* goals and achieve *their* ends and, on some occasions, their goals and ends are incompatible with yours. The heuristics embedded within moral theories prescribe ways of acting so that the majority of people wind up sufficiently satisfied with their lot in life the majority of the time.

That description, while accurate as it stands, still leaves out one key aspect of the account developed in this book: societies have *structure*. The structure of society is composed of social relations, friendship networks, kinship networks, professional networks, and so on. The structure of society constrains how people interact, how people learn, and what people do in order to attain their goals. Social structure proves to be a powerful influence and is, I shall argue, the main reason why our moral theories have the form that they have.

What does evolution have to do with all of this? Plenty, although I must admit that the kind of evolution I am primarily concerned with is *cultural* evolution rather than *biological* evolution. The few places I will talk about biological evolution are places where – curiously enough – models of cultural evolution and biological evolution have the same form.

By cultural evolution, I mean nothing more than change in belief over time. Sometimes the social structure of society is causally efficacious in how belief changes over time. For example, we learn new things all the time, but we learn new things more frequently from our friends and acquaintances than from a randomly selected individual from the society in which we live. Because

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our network of friends plays a causal role in determining (or, at the very least, influencing) what we learn, this is an example of what I call *structural evolution*.

All of these ideas, plus a few more, are covered at length in chapter 1. That chapter sets the stage for the rest of the book by introducing the core concepts of the book: bounded rationality, strategic choice, and evolutionary game theory. It also provides an argument for why one should adopt bounded rationality and evolutionary game theory as the core tools for studying the evolution of society.

Chapter 2 provides a detailed introduction of the evolutionary models covered in this book. I discuss several models of cultural evolution, arguing that an agent-based approach provides the most empirically satisfactory way to proceed. Although it is a bit abstract, this material provides the necessary foundation for making sense of the next four chapters.

The bulk of the book (chapters 3–6) considers the evolution of cooperation, trust, fairness, and retribution, using a number of well-known games. Since all of these games are elementary two-player games, chapter 7 considers what happens when we approach the question of the evolution of cooperation, trust, and fairness in an environment where groups matter. The moral of the story – in all of these chapters – is that social structure often favors the evolution of what we typically take to be the "right thing to do" in these games.

The final chapter broaches a number of philosophical questions concerning what, exactly, these evolutionary results imply for our understanding of morality. It would be hubristic to think that an actual solution has been provided. I do hope, though, to have achieved a bit more than an extended exercise in hand-waving. But only a bit.

A good friend who had the wherewithal to read through this manuscript suggested that I include a note identifying the target audience. The answer, I'm afraid, is that this book is aimed at anyone interested in the evolution of morality from both a philosophical and a social-scientific perspective, and who also possesses that ill-defined quality known as "mathematical sophistication" but no particular pre-requisites. Where possible, I have flagged slightly more mathematical passages that can be skipped at no loss with a vertical line in the left margin.

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Elephants have a gestation period of approximately twenty-two months. Although I do not know what it is like to be a bat, I now have some idea of what it is like to be an elephant. In the time I have been working on this book, a very determined elephant could have produced half a football team.

Given this, the number of people I have to thank for their help and support over these years is considerable. I owe the most to Brian Skyrms, whose initial encouragement to work on the ideas contained in this book saved the world from having a very bad philosopher of mathematics added to its ranks. I also would like to thank Jeff Barrett, Cristina Bicchieri, Ken Binmore, Luc Bovens, Richard Bradley, Helena Cronin, Joshua Epstein, Allan Gibbard, Patrick Grim, Stephan Hartmann, Jim Joyce, Christian List, Ned McClennen, Alex Rosenberg, William Rottschaefer, Peter Vanderschraaf, Alex Voorhoeve, and H. Peyton Young for a number of stimulating discussions that informed the present work. Portions of the manuscript were presented at meetings of the Choice Group at the London School of Economics, and the criticism received was very valuable in influencing the overall form of the argument. Alex Voorhoeve, Luc Bovens and two anonymous referees were also kind enough to provide comments on portions of the manuscript, for which I am most grateful.

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