

Preface

Game theory models are ubiquitous in economics, common in political science, and more and more used in psychology and sociology. In the natural sciences, game theory provides a theoretical foundation for evolutionary biology, offering compelling explanations of competition in nature.

By comparison, game theory has only sporadically been applied to the humanities, broadly conceived. Disciplines in the humanities represent a world we do not normally associate with mathematical calculations of strategic interaction and rational choice. Nonetheless, a key aspect of our humanity is our ability to think rationally about alternative choices, selecting the one that best satisfies our goals. Game theory provides a calculus for this selection when we face other players, often with conflicting goals, in strategic situations.

The applications of game theory I make in this book are to philosophy and political philosophy, religion (as illustrated by stories in the Hebrew Bible), theology, law, history, and literature—including short stories, plays, epic poems, and novels—to which game theory offers important, and sometimes startling, new insights. As for the other humanities, game theory has little to say about the visual arts, such as painting, or music, with the exception of the strategic insights it offers into the choices characters make in operas and musicals. Likewise, game theory has not contributed much to cultural studies by anthropologists and other scholars, although the misperceptions of players in two historical situations analyzed here (the 1962 Cuban missile crisis and the 1979–1981 Iranian hostage crisis) might be attributed in part to the cultural differences of the players.

Neither has game theory shed much light on the learning of languages, but there are important applications of game theory to linguistics.

Although some may not consider law a humanities subject, I devote a chapter to law-related situations that involve palpably human choices. In addition, I touch upon the corruption of law in my discussion of medieval witch trials as catch-22s and in my analysis of fair-division paradoxes, which raise questions about equity and jurisprudence.

By and large, I use game theory to interpret *texts*, whether they be historical documents, fictional accounts, or some mixture, such as the Bible. This strategic exegesis of texts helps one relate the goals of characters to their choices and their consequences.

While I use standard game theory in several cases to explicate the connection between a character's goals and the means he or she chooses to achieve them, much of the analysis is based on the theory of moves (TOM), a theory grounded in game theory that I develop gradually, and apply systematically, throughout the book. Coupled with standard game theory, TOM helps to unify and render coherent the diverse contents of this book.

TOM is especially useful in illuminating the *dynamics* of player choices, at least insofar as players think ahead when contemplating their moves. It also facilitates the analysis of misperceptions and deception by players, the exercise of different kinds of power, and the use of threats and related stratagems.

More than using TOM to elucidate player choices and explain game outcomes in specific historical and fictional situations, I derive propositions about "generic games," which subsume several specific games and are applicable to a broad class of situations. These games offer a strategic perspective of a larger playing field, providing conditions under which different outcomes may occur in *classes* of games.

This is the role, I believe, that a theory should play. Admittedly, it makes harder reading than the application of TOM to a specific story, but the reward is that the theory enables one to think beyond this story, describing what, in general, is likely to occur in similar, but not identical, situations. To help the reader, there is a glossary of more technical terms at the end of the book.

Applications of game theory and TOM are not without controversy. It is sometimes alleged, for example, that these theories are cold-blooded and lifeless, suitable only for cool, cerebral thinkers who calculate rather than feel. By contrast, characters in both history and fiction have intense

feelings and strong emotions, which some critics claim mathematical theories, austere and remote, are incapable of capturing.

I agree that emotions play a central role in the decisions humans make at all levels, from interpersonal to international. But how they arise is not so mysterious. Indeed, rather than covering up emotions, TOM enables one to identify the games in which feelings such as anger are likely to be expressed and, moreover, are rational responses to trying situations.

Pleasingly, TOM shows that anger and other negative emotions need not exacerbate conflict but may, in fact, ameliorate it. Indeed, as people struggle to attain acceptable, if not perfect, outcomes, knowledge of game theory and TOM may, in practical terms, help them achieve happier and more productive lives.