

## Foreword

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*Robert Aumann*

This book chronicles one of the outstanding success stories of the theory of games, a story in which the authors have played a major role: the theory and practice of matching markets. The theoretical part of the story begins in 1962, with the publication of the famous Gale–Shapley paper, “College Admissions and the Stability of Marriage.” Since then, a large theoretical literature has grown from this paper, which is thoroughly covered in this book. But the most dramatic development came in 1984, when Roth published his discovery that the Gale–Shapley algorithm had in fact been in practical use already since 1951 for the assignment of interns to hospitals in the United States; it had evolved by a trial-and-error process that spanned more than half a century. The book describes this story in detail, as well as many other fascinating developments, on both the theoretical and practical side, and on the interface between the theoretical and the practical.

It is sometimes asserted that game theory is not “descriptive” of the “real world,” that people don’t really behave according to game-theoretic prescriptions. To back up such assertions, some workers have conducted experiments using poorly motivated subjects, subjects who do not understand what they are about and are paid off by pittance; as if such experiments represented the real world. We see here that in the *real* real world – when the chips are down, the payoff is not five dollars but a successful career, and people have time to understand the situation – the predictions of game theory fare quite well.

The authors are to be warmly congratulated for this fine piece of work, which is quite unique in the game-theoretic literature.