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Nota di contenuto	Title Page; Copyright Page; Contents; Preface; Chapter 1 Introduction: Toward behavioral computational social science; 1.1 Research strategies in CSS; 1.2 Why behavioral CSS; 1.3 Organization of the book; PART I CONCEPTS AND METHODS; Chapter 2Explanation in computational social science; 2.1 Concepts; 2.1.1 Causality; 2.1.2 Data; 2.2 Methods; 2.2.1 ABMs; 2.2.2 Statistical mechanics, system dynamics, and cellular automata; 2.3 Tools; 2.4 Critical issues: Uncertainty, model communication; Chapter 3Observation and explanation in behavioral sciences; 3.1 Concepts; 3.2 Observation methods 3.2.1 Naturalistic observation and case studies3.2.2 Surveys; 3.2.3 Experiments and quasiexperiments; 3.3 Tools; 3.4 Critical issues: Induced responses, external validity, and replicability; Chapter 4Reasons for integration; 4.1 The perspective of agent-based modelers; 4.2 The perspective of behavioral social scientists; 4.3 The perspective of social sciences in general; PART II BEHAVIORAL COMPUTATIONAL SOCIAL SCIENCE IN PRACTICE; Chapter 5Behavioral agents; 5.1 Measurement scales of data; 5.2 Model calibration; 5.2.1 Single decision variable and simple decision function 5.2.2 Multiple decision variables and multilevel decision trees5.3 Model classification; 5.4 Critical issues: Validation, uncertainty modeling;

Chapter 6Sophisticated agents; 6.1 Common features of sophisticated agents; 6.2 Cognitive processes; 6.2.1 Reinforcement learning; 6.2.2 Other models of bounded rationality; 6.2.3 Nature-inspired algorithms; 6.3 Cognitive structures; 6.3.1 Middle-level structures; 6.3.2 Rich cognitive models; 6.4 Critical issues: Calibration, validation, robustness, social interface; Chapter 7Social networks and other interaction structures
7.1 Essential elements of SNA7.2 Models for the generation of social networks; 7.3 Other kinds of interaction structures; 7.4 Critical issues: Time and behavior; Chapter 8An example of application; 8.1 The social dilemma; 8.1.1 The theory; 8.1.2 Evidence; 8.1.3 Our research agenda; 8.2 The original experiment; 8.3 Behavioral agents; 8.3.1 Fixed effects model; 8.3.2 Random coefficients model; 8.3.3 First differences model; 8.3.4 Ordered probit model with individual dummies; 8.3.5 Multilevel decision trees; 8.3.6 Classified heuristics; 8.4 Learning agents; 8.5 Interaction structures
8.6 Results: Answers to a few research questions8.6.1 Are all models of agents capable of replicating the experiment?; 8.6.2 Was the experiment influenced by chance?; 8.6.3 Do economic incentives work?; 8.6.4 Why does increasing group size generate more cooperation?; 8.6.5 What happens with longer interaction?; 8.6.6 Does a realistic social network promote cooperation?; 8.7 Conclusions; Appendix Technical guide to the example model; A.1 The interface; A.2 The code; A.2.1 Variable declaration; A.2.2 Simulation setup; A.2.3 Running the simulation; A.2.4 Decision-making
A.2.5 Updating interaction structure and other variables

Sommario/riassunto

"This book is organized in two parts: the first part introduces the reader to all the concepts, tools and references that are required to start conducting research in behavioral computational social science. The methodological reasons for integrating the two approaches are also presented from the individual and separated viewpoints of the two approaches.The second part of the book, presents all the advanced methodological and technical aspects that are relevant for the proposed integration. Several contributions which effectively merge the computational and the behavioral approaches are presented and discussed throughout"--
"Provides a unified approach to social research, integrating both agent-based models and behavioral studies.Introduces the reader to all the concepts, tools and references that are required for conducting research in behavioral computational social science"--