

# Contents

Preface	v
Foreword by <i>Jim Doran</i>	vii
Acknowledgements	viii
Introduction	1
<b>PART 1 From structural pre-conditions to micro-level action</b>	
1 Precognitive bases of social interaction	18
2 From precognitive conditions to social action: adaptive cognition	30
<b>PART 2 Others as inputs to one agent's goals</b>	
3 Adoption of others' goals	44
4 Adoption of others' interests	57
<b>PART 3 Macro-social inputs to micro-level action: the case of norms</b>	
5 The normative coin	74
6 The route of norms in the mind	89
7 The normative influencing	107
<b>PART 4 Closing the micro–macro circle: macro-level effects as emergent inputs to micro-level action</b>	
8 Towards a unified theory of goals and finalities	120
9 Emergent social finalities among cognitive systems: the case of co-operation	142

## CONTENTS

10 Objective and normative foundations of collective agents	150
11 Computational applications: conclusions and perspectives	164
Appendix	185
Glossary	191
Notes	198
Bibliography	203
Index	213