This thesis studies the evolution of human helping behaviour. It looks at the evolution of specific features of human social preferences, and proposes formal models to provide ultimate explanations for these. The thesis contains four essays that deal with related, but separate topics. The first essay studies the evolution of cooperation and group formation in large groups of unrelated individuals. The second essay considers the evolution of discriminatory behaviour in cooperative interactions. The third essay deals with the evolution of cooperation in repeated games. Finally, the fourth essay examines the interplay between repeated interactions and population structure. A common ground for all the models proposed in this thesis is that agents use strategies that go beyond simple cooperation or defection, and that selection takes place at multiple levels (multilevel selection). Studying the richness of our behaviour provides insight into the origin of our social preferences.

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