

Abstract

In this work we seek to investigate a model of a society in which agents learn from their social neighbours. Seeking inspiration in the neural network paradigm, we build an analogy between the model and moral judgement. Using data from online questionnaires obtained elsewhere, we present a statistical analysis of human data. Starting from these we study the model, finding a phase transition between an ordered and a disordered state, dependent on a parameter akin to the inverse temperature β that we denominate *peer pressure* and a control parameter δ associated to the agents' behavior. Comparing the histograms obtained with the model and histograms obtained from the data we observed a surprising similarity between the two. To determine the phase diagram of the model we use Monte Carlo methods and a mean-field approximation using maximum entropy methods. We also study the susceptibility of the system to perturbations in the environment and find an exponential decay in the distance between the perturbed and equilibrium states, with a minimum of the characteristic time of adaptation for a given value of δ .