

## **An Inductive Account of Rationality and Morality through a Contribution to Evolutionary Game Theory**

Evolutionary Game Theory is probably the most promising theoretical approach to tackle what Sidgwick considered 'the profoundest problem of Ethics', namely, the rational justification of moral constraints in terms of non-moral notions.

Taking on the empiricist and utilitarian traditions, this paper contributes a computer program whose use in simulations of evolutionary environments may complement, strengthen and extend some conclusions about the evolution of morality, established by R. Axelrod, P. Danielson and B. Skyrms. According to our research, it is possible to model the emergence and evolution of rationality and morality among populations of artificial agents initially lacking any particular normative disposition.

A Computer Program (*Bichos* ©)<sup>a</sup> has been designed to test the evolution of normative patterns of behaviour. The program is flexible so that different situations, and different initial statuses, can be tested. We will focus on a crucial experiment testing the evolution of co-operative behaviour in the "Ultimatum Game", starting with a population of randomly generated agents. Our results coincide in large part with an analogous experiment by B. Skyrms. However, our simulation can escape some shortcomings found in Skyrms'. Our approach permits much weaker premises as well as more solid conclusions, providing an argument that may be part of a full fledged justification of practical rationality.

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