Evolution of Social Behavior

29 January, 2018

University of Groningen, Faculty of Philosophy, Room Omega

Programme:

10:00-10:30 Welcome/Coffee

10:30-11:30 **Charlotte Hemelrijk** (Groningen) "The self-organisation of social behaviour in fish, birds and primates"

11:30-11:45 Coffee break

11:45-12:45 **Jonathan Birch** (LSE), "Inclusive fitness as a criterion for improvement"

12:45-14:00 Lunch

14:00-15:00 **Joeri Witteveen** (Utrecht/Copenhagen), "Biological markets and their relevance for the evolution of morality"

15:00-15:15 Coffee break

15:15-16:15 **Cailin O'Connor** (UC Irvine), "The Dynamics of Inequity"

16:15-16:30 Coffee break

16:30-18:00 **Brian Skyrms** (UC Irvine), "From Democritus to Signaling Networks"

19:00 Dinner

To register, please send an email to h.m.rubin@rug.nl with the subject header 'ESB registration' by Thursday, 25 January. Registration is free, but there may be limited space available. Lunch will be provided so please indicate any dietary restrictions in your email.

Talk Abstracts:

Charlotte Hemelrijk (Groningen) "The self-organisation of social behaviour in fish, birds and primates"

Individual based models with a high potential for self-organisation have shown that complex collective patterns may emerge both from cognitively simple rules in individuals and from locomotory properties (e.g. swimming or flying). In this talk will illustrate this for complex social interaction patterns in primates and for complex patterns of swarming in birds and fish. These kinds of models help us to develop new hypotheses about the integration of different traits and the mechanisms underlying social behavior.

Jonathan Birch (LSE), "Inclusive fitness as a criterion for improvement"

I distinguish two roles for a fitness concept in the context of explaining cumulative adaptive evolution: fitness as a predictor of gene frequency change over the short term, and fitness as a criterion for phenotypic improvement over the medium term. Critics of inclusive fitness argue, correctly, that it is not an ideal fitness concept for the purpose of short-term prediction, since it relies on assumptions about the causal structure of social interaction that are unlikely to be exactly true in real populations, and that hold as approximations only given a specific type of weak selection. However, Hamilton took this type of weak selection, on independent grounds, to be responsible for cumulative assembly of complex adaptations. In this special context, I argue that inclusive fitness is distinctively valuable as a criterion for improvement and a standard for optimality.

Joeri Witteveen (Utrecht/Copenhagen), "Biological markets and their relevance for the evolution of morality"

Several researchers have recently argued that biological market mechanisms likely played an important (if not crucial) role in the evolution of the human capacity for morality (e.g. Tomasello 2016, Baumard 2016). They argue that our hominin ancestors evolved an intuitive sense of fairness under selective pressure for participating in cooperative endeavors with mutual fitness benefits. Evidence from a variety of scientific disciplines and approaches – including evolutionary modeling, experimental economics, ethnography, primatology, and developmental psychology – is marshalled in support of the view that ancestral hominin environments were structured as 'biological cooperation markets' in which fairness evolved as an equilibrium price. I argue that this market-based approach to the evolution of morality is problematic for methodological, conceptual and empirical reasons. In particular, I will argue that the models underlying the market-based approach rely on contentious assumptions and should lead us to believe that if biological markets have been an important factor in human evolution, they have not been important an important factor in the evolution of morality.

Cailin O'Connor (UC Irvine), "The Dynamics of Inequity"

It is no secret that some people get more and others get less. In most societies, seemingly irrelevant personal factors like gender and race importantly determine patterns of resource distribution. In this talk, I will use social models to explain the ubiquity of such patterns. As I will argue, in a bargaining population, the simple addition of a social category like gender or race completely changes the expected cultural evolutionary outcomes by breaking symmetry between actors in the group. I will explore the conditions under which members of one category are expected to end up disadvantaged in these models, focusing on power imbalances.

Brian Skyrms (UC Irvine), "From Democritus to Signaling Networks"

This is about emergence of information transmission by signals. It starts with ancient discussions, proceeds through signaling games, and ends up with recent work with Jeff Barrett on self-assembling signaling networks. Two dominant themes will be robustness and modularity.