Séminaire du CAMS

Systèmes complexes en sciences sociales
Henri Berestycki et Jean-Pierre Nadal

vendredi 22 janvier à 15h
à l’EHESS, 105 bd Raspail, 75006 Paris, salle 1

Double séance

15h : Alan Kirman
EHESS, GreQam, Marseille

Counter intuitive learning: an exploratory experiment
Joint work with Nobuyuki Hanaki and Paul Pezanis-Christou.

Most of the emphasis in the learning literature is on reinforcing actions which produce positive results. But, in some cases, the success of an endeavor depends on shifting from a currently successful action to others. Think of crop rotating for example. Thus, a question remains as to how people learn to discover whether there is an inter-temporal dependency in the successful choices. We report results of a very simple experiment where subjects repeatedly choose one of four options among three of which a hidden deterministic cycle existed in the way payoffs are generated. We investigate how quickly subjects, who are not informed of such a deterministic payoff generating mechanism, discover the hidden mechanism correctly. Some of our subjects were surprisingly fast to find it and behaved accordingly. Observing the choices, the resulting payoffs, or both made by another subject after each choice in addition to the outcome of own choice significantly facilitated the discovery of the correct pattern only when the other had already discovered the pattern, but not when the other had not. We develop a simple model to show how subjects could switch their exploring behaviour as they learn. Such a switch is often referred to in the psychology and neuroscience literature as an “aha” moment.

16h15 : Stefano Demichelis
Full Professor, Università di Pavia, Dipartimento di mathematica, Pavia

Political strategy in candidating for the Presidency in Italy - The role of symmetry and symmetry breaking in communication games

It is intuitive and obvious to the layman that communication in games where players get better payoffs by coordinating should improve efficiency with respect to games in which agent make their choices in isolation and have to guess what the other partner will do. However, giving a convincing proof of this elementary fact has turned out to be non-trivial. In fact usual techniques from the so-called rationalistic theory, in which agents are assumed to have infinite ability to calculate and remember, are unable to prove the result. I’ll explain why. On the other side, assuming that agents are only rational to a certain point but able to evolve tends to give more realistic predictions, in several cases. Many author have applied similar techniques to the case above but, to avoid technical difficulties, have introduced ad hoc assumptions of asymmetry between players. Essentially, it is assumed that there is a group of player that can only send messages and another group that can only receive them. This is a strong an unrealistic assumption. I will illustrate some of the problems with it using a concrete example. Namely the strategies used by two Italian politicians (Andreotti and Forlani) who candidated for the italian presidency in 1992. The episode is well known in Italy and has been the subject of a famous movie ("Il divo Giulio"). I will then show how a less superficial analysis, apart from leading to the correct result, gives interesting insights in the origins of conversational and behavioural maxims.

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