

"Costly Signals: Rationality and Evolution"

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Abstract:

My talk will be based on joint work with Josef Hofbauer. We investigate equilibrium refinements from both a classical and an evolutionary point of view in five simple classes of discrete costly-signalling games. We study in particular: (I) games in which producing a costly signal is of different costs for different types---a discrete version of Spence's (1973) model of signalling in the job market, (II) games in which producing a costly signal is of the same cost for different types, but types differ in their ability to exploit the benefits in case that the signal has the desired effect on the receiver---a discrete version of Milgrom and Robert's (1986) model of advertising as a signal of product quality and Grafen's (1990) formalization of the handicap principle, (III) games in which producing a costly signal is of the same cost for different types and types have a different background payoff throughout, irrespective of the action taken by the receiver, (IV) games in which different signals are costly for different types, and (V) games in which different signals generate a positive payoff increment for different types, similarly as in a classical example by Cho and Kreps (1986) known as the "beer-quiche game."

Discrete models are empirically relevant and they are an important theoretical reference point for they allow us to discern in a clear-cut way under which conditions which kind of signalling equilibria can exist. In my talk, I will draw on our results to discuss three questions that are of central concern in applications of costly-signalling theory: Is costly signalling necessarily a waste of resources or can it improve social well-being? Is costly signal necessarily "honest" - or can there be "cheating"? What is meaning-making in a costly signalling game? Finally, I will illustrate our results in an application to linguistic pragmatics.