

Title: A Taxonomy of Repeated Game Applications

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ABSTRACT

An elaboration of a basic taxonomy applicable to a class of very simple two player, repeated, non-cooperative, symmetric games--the best known of which is the 'prisoner's dilemma'. These games are conventionally employed as underlying models both in the realm of theoretical biology, notably population dynamics (*e.g.*, Maynard Smith, 1982), as well as economic and political theory, notably public goods provision (*e.g.*, Axelrod, 1984; Taylor, 1987).

The primary purpose is to explore some underlying conceptions inherent in the usual applications of formal mathematical properties of these games to biological and societal questions. In particular, a distinction is drawn between 'strategic' and 'evolutionary' games, and it is demonstrated that conventional stability and optimality outcome criteria can lead to different solutions, given a payoff structure, depending on the basic nature of the game.