



On sympathy and games[☆]

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Abstract

Standard game theory turns a blind eye toward social interaction between the players in a game. Hence, a given game offers the same set of equilibria regardless of the identities of the players and the specifics of the social context. The predictive value of game theory is severely limited as a result. This paper provides a formal treatment of games set in a context of social interaction. Based on the original insights of Adam Smith and other political economists and social psychologists, the innate human quality of sympathy is examined. The effect of sympathy in a game may be to transform the payoffs and lead to quite different choices in a setting of face-to-face play, play among friends, and play after finding interpersonal similarities. © 2001 Elsevier Science B.V. All rights reserved.

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1. Introduction

What happens when friends or acquaintances, rather than anonymous strangers, play a particular game? How quickly do strangers lose their anonymity? What happens if the players are in the same room, as opposed to different buildings, when they choose? What happens if the players share a group identity or a certain cultural background? Standard game theory, in which only interactions between the strategies are allowed, provides no explanation of

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changes in behavior caused by acquaintanceship and closeness. By contrast, Sally (1995) has shown that contact and discussion increase cooperation in prisoners' dilemma experiments. It is also likely that the process of game playing itself may create changes in the players' attitudes towards each other. This paper attempts to fill and span these lacunae by alloying the insights of earlier political economists, especially Adam Smith, with the more current conclusions of social psychologists and the formal techniques of game theorists such as Rabin and Rotemberg.

The base metal in the bridging blend is sympathy, one of Adam Smith's essential ideas. Refined in *The Theory of Moral Sentiments*, which he wrote before *The Wealth of Nations* and returned to for major revisions shortly before he died, sympathy brackets the notions of the invisible hand, division of labor, and extent of the market. In fact, sympathy, or "fellow-feeling", is the cornerstone of Smith's understanding of individual behavior. Here, Smith's formulation of sympathy is discussed first and then formalized within the modern psychological evidence. I prove the existence of a sympathetic equilibrium for all finite two-person games. Next, I analyze non-Nash outcomes in the prisoners' dilemma and explore changes in its social setting, and subsequently consider various alternative two-person games. Finally, I compare the results due to sympathy to those arising from fairness.

2. Sympathy defined

2.1. *The words of Smith and Mead*

Adam Smith (Smith, 1790) perceived sympathy as an essential, ubiquitous presence in society. He defined it as "our fellow-feeling with any passion whatever" (p. 10), not just a mutual sense of loss or of tragedy or a paternalistic attempt to comfort. Sympathy "does not arise so much from the view of the passion as from that of the situation which excites it" (p. 12). If we share someone's anger, it is due to our understanding of the factors and the context that caused the person to get mad in the first place. We can reach a thorough comprehension of that context only if we imaginatively transport ourselves into the other person's situation — sympathy arises from "changing places in fancy with the sufferer" (p. 10).¹

Smith suggested a geometry of human relations: we perceive a space in which our self is the origin and other people are arrayed at recognizable positions and at a calculable distance from the origin. Our ability to change places in fancy with another declines as the other moves further away from the self; accordingly, sympathy is an inverse function of distance. Smith described how mutual sympathy declines within the extended family from the high level among brothers and sisters and parents and children to lesser levels among cousins, second cousins, etc. (pp. 219–220).

¹ There is a controversy extant especially within the psychoanalytic literature over the distinction between "sympathy" and "empathy". The former is equivalent to occupying the shoes of another, while the latter, to placing our shoes in the other's footprints. Wispé (1986) wrote, "To know what it would be like if *I* were the other person is empathy. To know what it would be like to *be* that other person is sympathy (p. 318)". These two phenomena cannot be cleanly separated, yet it is clear that an interpersonal judgment that is sensitive to the idiosyncrasies of the other, i.e. sympathy, is more powerful within strategic social interactions.

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