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The surprisingly old origins of modern decision and game theory

The origins of modern game theory, with its emphasis on solution concepts that apply to arbitrary games, is typically associated with the works of von Neumann and Morgenstern in the 1930s and with the works of Nash in the 1950s. However, already in 1713, Part V of the second edition of Pierre Rémond de Montmort's Essay d'analyse sur les jeux de hazard contained correspondence on probability problems between Montmort and Nicolaus Bernoulli. It concludes with the first mixed-strategy solution of a game (called Le Her), which is attributed to their colleague Waldegrave. However, their work has been criticized and its significance downplayed by most historians. I challenge this view on the basis of an additional 44 unpublished letters between them (and Waldegrave) found in the archives in Basel. This correspondence addresses many confusing aspects of their earlier discussion of the concept of solution to strategic games. I will describe this body of correspondence as it relates to the discovery of the concept of mixed strategy equilibria and put it in its historical context. I will also argue that, far from falling short of the conceptual rigour found in modern analyses, their discussion anticipates refinements of Nash equilibria that only gained traction starting in the 1970s.