* Article 1: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3107625/>
  + In their paper, ”The evolution of payoff matrices: providing incentives to cooperate, “ Akçay and Roughgarden discuss how an evolutionary game of prisoner’s dilemma is affected by the process of natural selection. It is asserted that an evolutionary game can actually be split into two tiers—the behavioral game and the evolutionary game. The first tier, the behavioral game, is largely concerned with individual organisms and how they adapt their behavior during their lifespan. The second tier, the evolutionary game, focuses on how the frequencies of different genotypes in a population changes in the long-term based on the strategies of other players. The paper explores this idea, considering the effects that the evolutionary game has on the behavioral game. Specifically, it explores how natural selection may change the behavioral game’s payoff matrix, and as such, the equilibrium (referred to as evolutionarily stable) strategy for each player.
  + Our research question is (more-or-less) “How would the Nash Equilibrium strategy received from MCCFR in Gin-Rummy be affected by altering the payoff from certain bonuses (Gin and Undercut specifically), holding all else constant?” In our paper, we consider how the Nash Equilibrium strategy received from MCCFR in Gin-Rummy would be affected by altering the payoff from specific actions (knocking with gin and undercutting, specifically). We would expect that changing these bonuses would have a visible impact on the player’s payoff function, especially with respect to their knocking strategy. In their paper, Akçay and Roughgarden discuss the change in an organism’s equilibrium behavior when said organism’s payoff function is changed by way of natural selection, holding all else constant. Although there are some differences—the paper is on a normal-form, potentially-cooperative, evolutionary game, while our paper is on an extensive-form, non-cooperative, card game—I feel as if it contains some valuable insight into how a gin-rummy player’s equilibrium strategy would change if the game were to “evolve.”
* Article 2: <http://math1.math.huji.ac.il/~hart/papers/reinfr.pdf>
  + In their paper, “A Reinforcement Procedure Leading to Correlated Equilibrium, ” Hart and Mas-Colell offer more insight into the research they began in “A Simple Adaptive Procedure Leading to Correlated Equilibrium.” The paper argues that despite their previous procedure requiring the player to know information about opposing players actions, and their current payoff function, that it is possible to approximate a Nash Equilibrium knowing only the payoffs that they received in the past. They then discuss this algorithm, which uses reinforcement from past rewards.
  + Although our player uses MCCFR minimization to approximate a Nash Equilibrium rather than the algorithm presented in this paper, Hart and Mas-Colell discuss how reinforcement from high payoffs can have a strong influence on a player’s equilibrium strategy. Being that we are studying the effects of altering payoffs on a player’s equilibrium strategy, the ideas presented are worth discussing further.