

Game theory, Poe's detective novels and the mystery of his final days
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ABSTRACT

There are many who apply game theory to literature. Brams (1994) draws up a list of great literary works that game theorists use to illustrate basic game-theoretic concepts, and he applies this theory to the Hebrew Bible (1980, 2003). On the other hand, game-theoretic tools are not used to shed light on the life of an author. From both these points of view, to analyze Edgar Allan Poe's works and life is attractive.

Poe is the unchallenged creator of the modern detective story. His three Dupin stories are the starting-point of Sherlock Holmes stories that Morgenstern (1928) and von Neumann and Morgenstern (1944) analyze in part. In Poe's detective works, distinctive games appear, on the one hand, in each novel, and, on the other hand, in the three detective novels as a whole. The game of Even and Odd is going on beneath the first novel, *The Murders in the Rue Morgue*, and the third novel, *The Purloined Letter*. Poe does not use the mixed-strategy equilibrium of this game. On the contrary, he supposes that a clever player faces a less clever opponent. On the other hand, Nash equilibrium of a Prisoners' Dilemma helps Dupin to find the clue of the riddle in the second novel, *The Mystery of Mary Rogêt*, which is based upon a real murder case. Similarly, a kind of Bank-run game progresses within the three Dupin stories as a whole. The final two-stage negotiation takes place in the third novel.

Poe's final days remain a mystery that teases and entices his readers. Distinctive games may help to find the key of this puzzle. At this end, a flashback is necessary. To explain his departure from home, in his youth, Poe uses a famous episode of England conquest by William the Conqueror, which game theorists frequently associate to the story of Ulysses and the Sirens. The fundamental game-theoretic result in these stories is that it may be in the interest of a player opposed to an adversary, who may be himself in another moment of his life, to voluntarily and irrevocably deprive himself of a possible action. His whole life long, Poe suffers from dipsomania. A Newcomb paradox is the main feature of this alcohol problem that opposes Poe to Southern convivial soul. In his final days, in order to surmount dipsomania, Poe uses the method he used in his youth to depart from home.