The Minimax theorem

John Von-Neumann, 1928

$$\max_{\vec{p}} \min_{\vec{q}} \vec{p} M \vec{q}^T = \min_{\vec{q}} \max_{\vec{p}} \vec{p} M \vec{q}^T$$

- Unlike pure strategies, the order of choice of mixed strategies does not matter.
- Optimal mixed strateigies: the strategies that achieve the minimax.
- Value of the game: the value of the minimax.
- Finding the minimax strategies when the matrix is known = Linear Programming.