Advantage, as term of game. One says that a player has the advantage, when the odds are greater for his gain, than for his loss; that is to say, when his expectation surpasses his stake. In order to clarify this definition by a very simple example; I suppose that a player A wagers against another B, to bring two on the first throw with a die, & that the stake of each player is one ecu; it is evident that the player B, has a great advantage in this bet; for the die having six faces is able to produce six different numbers, of which there is only one which makes player A win. Thus the total stake being two ecus, the odds are five against one that the player B will win. Therefore the expectation of this player is equal to \( \frac{5}{6} \) of the total stake, that is to say, to \( \frac{10}{6} \) ecu, since the total stake is two ecus. Now, \( \frac{10}{6} \) ecu is worth an ecu & two-thirds ecu. Therefore since the stake of player B is one ecu, his advantage, that is to say, the excess of that which he expects to earn above the sum that he puts into the game, is \( \frac{2}{3} \) ecu. So that if player A, after having made the wager, wished to renounce the game, & dared not tempt fortune, it would be necessary that he render to player B his ecu, & beyond that 2 livres, that is to say, \( \frac{2}{3} \) of an ecu. See Pari, Jeu, Dez, Probabilité, & c. (M. d'Alembert)