

Project 2: The Monty Hall Paradox

On the game show, “Let’s Make a Deal,” the player is faced with three doors. Behind two of the doors are goats. Behind the third door is a car. Let us assume that the player would rather win the car. The player is asked to choose one of the doors (Say, for example, the player picks door #1). Monty, the host, will then open one of the other two doors. At this stage of the game, Monty will never open the door with the car behind it. Maybe in our example, Monty opens door #3. He then offers the player the opportunity to switch their choice of the two closed doors (i.e. “Is that your final answer?”).

1. Is it to the player’s advantage to switch? [Hint: The player is better off one way or the other. The probability of picking right at this point is not 0.5.] What is the probability of picking the car if the player switches? What if they don’t?
2. Why do some people find it hard to believe that the probability either way is not 0.5? How can you answer their concerns?