

Meeting: 1003, Atlanta, Georgia, MAA CP B1, MAA Session on My Favorite Demo: Innovative Strategies for Mathematics Instructors, I

1003-B1-449 **Paul R Coe*** (coepaul@dom.edu), Dominican University, 7900 W. Division Street, River Forest, IL 60305. *Bayes' Rule and the Monte Hall Problem.*

One of my favorite demos is the Monte Hall Problem from the game show Let's Make a Deal. This problem received a lot a media attention several years ago after being posed in Marilyn Vos Savant's column in Parade Magazine. In class I play Monte Hall and cast the students as contestants. We play the game, which leads to an apparent paradox. The paradox can be viewed as two different perspectives on the value of a probability. In the context of the game, I make them each choose whose perspective they think is right, and then commit to a course of action. We then use Bayes' rule to analyze the problem mathematically.

Students really like this demonstration. They enjoy playing the game. They argue about the right way to play, and they leave with a much better appreciation for the value of Bayes' Rule.

In my presentation, I will play Monte Hall and cast the audience as contestants. We will play the game to reveal the apparent paradox. Then I will use Bayes' Rule to clarify the two perspectives on the paradox and talk about my experiences using this demonstration in my classes. (Received September 14, 2004)