

1035-01-421 **Todd Timmons*** (ttimmons@uafortsmith.edu), University of Arkansas-Fort Smith, 5210 Grand Ave., PO Box 3649, Fort Smith, AR 72908. *Euler (and DeMoivre) Meet Doc Holliday: The Mathematical Analysis of a Popular Game of Chance*. Preliminary report.

Pharoah (sometimes called Faro) was a card game popular in the American West. In fact, the most notorious dentist in American history, Doc Holliday, worked at various times as a Pharoah dealer. But the game itself had its roots in Europe, and by the eighteenth century its popularity had soared to the point that mathematicians such as Montmort, Bernoulli (Jacob and Nicolas), DeMoivre, and Euler published mathematical analyses of the game. This paper explores a few of these studies of "the banker's advantage," i.e., the house advantage, culminating in Euler's treatment of the problem in 1764. (Received September 06, 2007)