

1035-60-581      **Eduardo Espinola\*** (eespinola@miners.utep.edu), **Paige Shy** (pcshy@unca.edu) and **Megan Watson** (meg.watson@mail.utexas.edu). *Variations on the Ménage Problem I*. Preliminary report.

The classical Ménage Problem asks the probability of no woman having her husband next to her when seated on a round table that holds  $n$  couples and women and men alternate. We applied the ménage idea to different bipartite graphs like torii, hypercubes, and caterpillars. Among some variations we made to the torus, one of the most interesting was changing the husband's distance from 1 (which implies the husband is next to his wife) to any distance  $\alpha$ . In each case, the total variation distance formula between the exact distribution in question and an appropriate Poisson distribution was found. (Received September 11, 2007)