1049-05-29 **Persi Diaconis*** (diaconis@math.stanford.edu), Department of Mathematics, 450 Serra Mall, Bldg. 380, Stanford, CA 940352125. *Random Walks and Hyperplane Arrangements.*

Bidigare, Hanlon, and Rockmore introduced natural random walks on the chambers of a real hyperplane arrangement. In joint work with Christos Athanasiadis, we study these walks projected onto sub-arrangements. In the special case of shuffling cards, this amounts to studying how many times to shuffle until the Ace of Spades, or the descent pattern is random. There is still an elegant theory as evidenced by a recent paper with Sami Assaf and Kannan Soundararajan: A Rule of Thumb for Riffle Shuffling. (Received January 27, 2009)