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Anna E Bargagliotti* (brggltti@memphis.edu), University of Memphis, Department of Mathematical Sciences, 365 Dunn Hall, Memphis, TN 38152, and **Donald G Saari**. *Symmetry of Nonparametric Statistical Tests on Three Samples*.

By identifying symmetry structures of data, properties of nonparametric procedures are identified, which explain why different methods can have different rankings over three samples when analyzing the same data. This paper extends voting theory results that explain why all voting paradoxes and differences in election outcomes occur to nonparametric statistics. Namely, we characterize why different nonparametric procedures have different outcomes, which data structures cause these differences, and how to construct examples illustrating unexpected behavior. (Received August 29, 2007)