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Anna E Bargagliotti* (abargag@yahoo.com), 709 Harbor Edge Circle #301, Memphis, TN 38103, and **Michael Orrison**. *Statistical Inconsistencies of Ranked Data*.

Several nonparametric tests exist to test for difference among alternatives when using ranked data. Testing for difference among alternatives amounts to testing for uniformity over the set of possible permutations of the alternatives. Well-known tests of uniformity such as the Friedman test or the Anderson test, are based on the impact of the usual limiting theorems (e.g., Central Limit Theorem) and the creation of different summary statistics (e.g., mean ranks, marginals, pairwise votes). As with voting theory election procedures, similar inconsistencies can occur using these statistical tests—different statistical tests may yield different outcomes when applied to the same data. Using parallel ideas developed in voting theory, in this talk we show how to use a natural decomposition of the underlying ranking space to explain why nonparametric test results can differ and how their differences are related. (Received September 17, 2009)