

1077-G1-2837      **Jacob Erb\*** ([jacob\\_erb@taylor.edu](mailto:jacob_erb@taylor.edu)), Morris Hall Room 315, Taylor University, 236 W Reade Ave, Upland, IN 46989. *A Connection Between Cross Country Scoring and Election Tallying*. Preliminary report.

The analysis of voting structures is a study which has been motivated by the appearance of discrepancies in the outcomes of various intuitive voting procedures when those outcomes are given the same set of candidate rankings. For instance, both the Condorcet Winner and the plurality winner are used as standard procedures to measure and select a populace's preference from a group of alternatives. Situations involving more than two candidates where the two are in disagreement are easy to find.

Cross country scoring has similar paradoxes. In the same three-way meet, team A could defeat team B, B could beat C, and C could beat A in head to head scoring.

Because of the many parallels between elections and other competitive ranking procedures, the analysis done in social choice theory has implications for a realm much broader than that of voters and politicians. More specifically, this project sought to apply this analysis to cross country race outcomes, asking the simple question "How do we turn runners into voters?" (Received September 22, 2011)