1086-91-1849 **Brian Hopkins*** (bhopkins@saintpeters.edu). *Exploring and Expanding the Robinson Goforth System for 2 by 2 Games.*

Using certain transpositions of the symmetric group S_4, Robinson and Goforth have developed a system that connects 2 by 2 games having strict ordinal preferences. We will review and explore this structure from the perspectives of both game theory and graph theory.

Unlike previous *ad hoc* methods, Robinson and Goforth's structure connects games in a complete and consistent way. Necessarily, some adjacent games have different characteristics (e.g., the anomalous prisoner's dilemma has to have neighbors). We will consider "in-between games" to better understand such changes. These same in-between games allow the addition for some ties among the player's preferences.

Embedding their graph on a surface, the strict preference games correspond to faces; edges and vertices accommodate most games with ties. Considering the sequence of widening neighborhood sizes around a vertex partitions the graph into classes that suggest further refinements of the Robinson and Goforth structure. (Received September 24, 2012)