1014-06-1604 Eric I Gottlieb* (gottlieb@rhodes.edu), Department of Math. and Computer Science, 2000 N. Parkway, Memphis, TN 38112-1690, and Japheth Wood, Michael Ackerman and Sul Young Choi. A hyperplane arrangement arising from partially ordered voting preferences. Preliminary report.
Classical voting theory considers voter preferences in which the candidates are totally ordered. However, in settings such as the election of committees, partially ordered preferences may be more natural.

The chambers of the braid arrangement $B_{n}=\left\{x_{i}=x_{j} \mid i \neq j\right\}$ are known to be in bijection with the set of permutations (on $n$ candidates, in this case). Saari models totally ordered voter preferences by placing votes in the chambers of $B_{n}$. The chambers of the arrangement $B_{n}^{2}=\left\{(1+a) x_{i}=(2-a) x_{j} \mid i \neq j, a=0,1\right\}$ are in bijection with the set of semiorders on $n$ candidates. It is therefore natural to use $B_{n}^{2}$ to extend Saari's model to semiordered preferences.

We will discuss a common generalization of this arrangement and the braid arrangement and indicate what is known about its chambers. (Received September 28, 2005)

