Let $\mathcal{A}$ be a real central arrangement of hyperplanes in $V = \mathbb{R}^\ell$ and $Ch(\mathcal{A})$ be the set of chambers. For each $H \in \mathcal{A}$, let $V \setminus H = H^+ \cup H^-$ be the decomposition into connected components. The Heaviside functions $\chi^+_H$ and $\chi^-_H$ are the characteristic functions of $H^+$ and $H^-$ respectively. Then the Heaviside functions induce a map from $Ch(\mathcal{A})$ to $\mathbb{F}_2 = \{0, 1\}$ and a map from $Ch(\mathcal{A})^m$ to $\mathbb{F}_2^m$ for each positive integer $m$. We ask which maps of $Ch(\mathcal{A})^m$ to $Ch(\mathcal{A})$ and maps $\mathbb{F}_2^m$ to $\mathbb{F}_2$ commute with the Heaviside maps. Our result can be regarded as a result in the social choice theory in microeconomics. In the case of braid arrangements, it is equivalent to Kenneth Arrow’s impossibility theorem. (Received September 27, 2006)