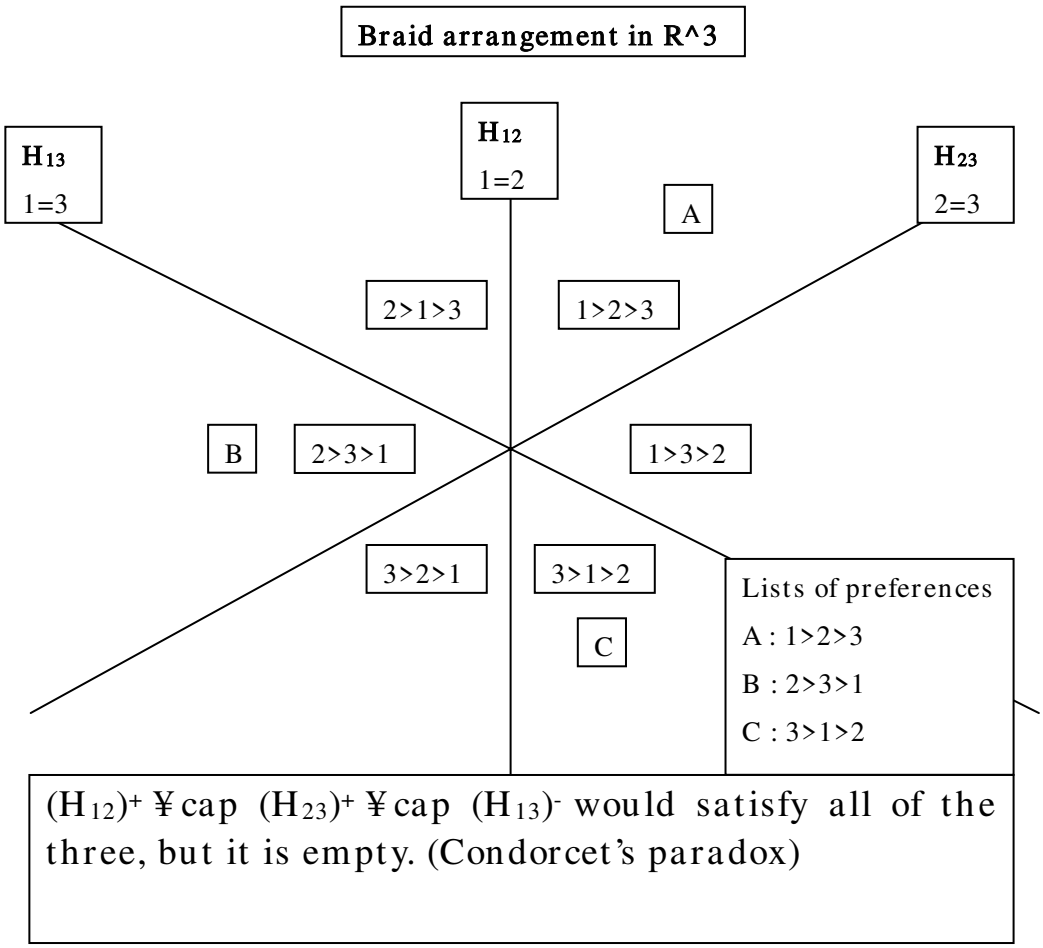

$(H_{12})^{+}$ ¥cap $(H_{23})^{+}$ ¥cap $(H_{13})^{-}$ would satisfy all of the three, but it is empty. (Condorcet's paradox)