The Shi hyperplane arrangement was introduced by Shi to study the Kazhdan-Lusztig cellular structure of the affine symmetric group. More recently, the Ish hyperplane arrangement was introduced by Armstrong in the study of diagonal harmonics. Armstrong and Rhoades discovered a deep combinatorial similarity between the Shi and Ish arrangements. We solve a collection of problems posed by Armstrong and Armstrong-Rhoades by giving bijections between regions of Shi(n) and Ish(n) which preserve certain statistics. The key tools in our bijections are the introduction of an Ish analog of parking functions, which we call rook words, and a new instance of the cycle lemma. (Received August 09, 2015)