A Ferrers filling is a filling of a Ferrers diagram with 0s and 1s in which every column contains at least one 1. A permutation tableaux is a Ferrers filling in which every square with a 1 above it in the same column and a 1 to its left in the same row also contains a 1. Steingrimmson and Williams have given a map from Ferrers fillings to permutations, which restricts to a bijection between permutation tableaux and permutations, but which is many to one on Ferrers fillings. We give a natural “flipping” operation on Ferrers fillings which leaves the corresponding permutation invariant. For each permutation \( \pi \), we introduce the tableaux graph \( \Gamma(\pi) \), whose vertices are the Ferrers fillings which map to \( \pi \), and in which two fillings are connected by an edge whenever one can be obtained from the other via a single flip. We show that \( \Gamma(\pi) \) is connected for every \( \pi \), we show how natural operations on permutations correspond with operations on graphs via \( \Gamma \), and we give several conjectures concerning the structure of \( \Gamma(\pi) \) in general. (Received September 19, 2007)