1107-05-443 **Miklos Bona** and **Rebecca Smith*** (rnsmith@brockport.edu). *An involution on involutions.* Preliminary report.

We consider the involution on involutions obtained by first applying the Robinson-Schensted-Knuth Algorithm to a given involution π to obtain the associated Standard Young Tableau $P(\pi)$, then taking the transpose of $P(\pi)$, and finally applying the inverse of the RSK Algorithm to $P(\pi)^T$. We will be very original in our naming of this bijection and call it f.

As we are dealing exclusively with involutions, we will classify each entry as a fixed point, a small entry, or a large entry. Fixed points will be defined as per usual. All other entries of a permutation will be in 2-cycles with the smaller entry of any given 2-cycle being a small entry and the larger entry being a large entry.

In the case when the the reverse of π is also an involution, Schensted showed that $f(\pi) = \pi^r$. We look to define this bijection in general without relying on the RSK algorithm. To this end, we look at some other special cases to learn more. (Received January 20, 2015)