1102-05-114 **Brian K. Miceli*** (bmiceli@trinity.edu), One Trinity Place, Mathematics Deptartment, San Antonio, TX 78213, and **Jay Pantone**. *Shift Equivalence in Consecutive Pattern Avoidance.*

Let a word w be comprised of letters in $\mathbb{N} = \{1, 2, \ldots\}$, and define the $\mathbb{N}^* = \{w = w_1 \cdots w_n \mid n \geq 0 \text{ and } w_i \in \mathbb{N} \text{ for all } i\}$. Let $|w|$ denote the number of letters in w, $\Sigma w = \sum_{i=1}^{|w|} w_i$, and set the *weight of* w to be $\mathrm{wt}(w) = t^{|w|}x^{\Sigma w}$. We say that w *embeds* u, written as $u \leq w$, if there is a string, v, of $|u|$ consecutive letters in w such that for all $1 \leq i \leq |u|$, $u_i \leq v_i$, and we define the embedding set of a word u to be $\mathcal{E}(u) = \{w \in \mathbb{N}^* \mid u \leq w\}$. The words u and v are *Wilf equivalent* if $\mathcal{E}(u; t, x) = \mathcal{E}(v; t, x)$, where

$$\mathcal{E}(u; t, x) = \sum_{w \in \mathcal{E}(u)} \mathrm{wt}(w).$$

Many facts about Wilf equivalent words have been proved in this setting, yet one of the most fundamental questions remains, "Do two Wilf equivalent words need to be rearrangements of one another," which has come to be known as the Rearrangement Conjecture. We give two operations on words that equate to Wilf equivalence, and we show how these operations point to proofs of conjectures of Wilf equivalence class size in the case of permutations and also toward the Rearrangement Conjecture. (Received July 25, 2014)