Alperen Y Ozdemir*, University of Southern California, Kaprielian Hall 415, Los Angeles, CA 90007, and Umit Islak. Weakly Increasing Subsequences of Random Words.

Letting $X_1, X_2, \ldots, X_n$ be independent, uniformly distributed random variables over $\{1, 2, \ldots, m\}$, the length of the longest weakly increasing subsequence of $\mathbf{X} = (X_1, \ldots, X_n)$ is defined as the largest $k$ so that there exists $1 \leq i_1 < \ldots < i_k \leq n$ with $X_{i_1} \leq X_{i_2} \leq \cdots \leq X_{i_k}$. In this work, we study the asymptotics of the mean and the variance of the number of weakly increasing subsequences of a fixed length, and also prove that they satisfy a central limit theorem. Connections to increasing subsequences in random permutations and other related problems are also discussed. (Joint work with Ümit Islak.) (Received September 03, 2014)