Joshua Harrington and Lenny Jones* (lkjone@ship.edu), Department of Mathematics, Shippensburg University, Shippensburg, PA 17257, and Alicia Lamarche. The Average Order of an Element of the Symmetric Group. Preliminary report.

Let $\mu_n$ denote the average order of an element of the symmetric group on $n$ letters. In 1968, Erdős and Turán conjectured that

$$\log (\mu_n) = O \left( \sqrt{n / \log(n)} \right).$$

Schmutz proved this conjecture in 1989. His proof, which is nontrivial and relies on very technical results from partition theory, can be used to determine the smallest positive constant $C$ such that

$$\mu_n \leq n!^C \text{ for all } n \geq 1.$$ 

We determine $C$ using a technique that requires only elementary methods. (Received September 10, 2014)