1132-05-331 **Arthur L Gershon*** (arthur.gershon@case.edu). *Reaching for the StArs: An Asymptotic Estimate for the Number of Strip Arrangements on Chessboards of Fixed Width.* Preliminary report.

We attempt to find a formula for the number $T(m,n)$ of strip arrangements on an $m \times n$ chessboard with at most one horizontal strip in each row and at most one vertical strip in each column; the author has previously called such objects *(1, 1)-restricted StArrs*. Previous work has used the transfer matrix method for fixed values of m, which shows that the corresponding generating functions must be rational and therefore the formula for $T(m,n)$ must be of the form $\sum \lambda(m)^n P_{\lambda(m)}(n)$, where the $\lambda(m)$ are complex numbers depending on m, and the associated factor $P_{\lambda(m)}$ is a *polynomial* in n. Determining a general exact formula, however, has proven elusive, as the transfer matrices grow exponentially with m, so we have resolved to a general asymptotic formula for $T(m,n)$ for fixed m as $n \to \infty$. In particular, we will give an expression for the dominant term in the sum, and therefore deduce that, as $n \to \infty$,

$$T(m,n) \sim \frac{1}{(m!)^2} \prod_{j=1}^{m} \left[1 + \binom{j}{2} + \binom{m+1-j}{2} \right] n^m \left(1 + \binom{m+1}{2} \right)^n$$

(Received July 25, 2017)