1077-46-2207 **Kevin Rion*** (krion@bridgew.edu), Mathematics and Computer Science Department, Bridgewater State University, Bridgewater, MA 02325. *The Aluthge Sequence of a Shift Operator.*

For any bounded linear operator T on a Hilbert space, the Aluthge transform is defined by $\Delta(T) = |T|^{\frac{1}{2}} U |T|^{\frac{1}{2}}$, where $T = U|T|$ is the polar decomposition of T. Moreover, the nth Aluthge transform is defined for $n \geq 1$ by $\Delta^n(T) = \Delta(\Delta^{n-1}(T))$, with $\Delta^0(T) = T$. If T is a bilateral forward shift, the Aluthge transform is also a bilateral forward shift with weights easily described as a function of the weights of T. We modify this description so that the successive operators $T, \Delta(T), \Delta^2(T), ...$ are seen as resulting from an elementary looking averaging process. We then use a strong form of Stirling's formula and Chebyschev's inequality to draw some conclusions about the convergence or divergence of the sequence $T, \Delta(T), \Delta^2(T), ...$ (Received September 21, 2011)