

Abstract Submitted
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The Inequality Process as a Wealth Maximizing Process JOHN ANGLE, Inequality Process Inst., P.O. Box 429, Cabin John, MD 20818-0429 — The Inequality Process (IP) is a particle system scattering a positive quantity, wealth. The IP is abstracted from social theory which sets tests for it. It is a jump process in which wealth exchange is driven by a discrete 0,1 uniform random variable. The losing particle, i , gives up a fixed proportion of its wealth, ω_i . IP win/loss asymmetry is clearer than in more recent generalizations of the ideal gas model, some isomorphic to the IP up to its stochastic driver. The IP's asymmetry acts like Maxwell's Demon transferring wealth from particles with larger ω_i to smaller ω_i , those more productive of wealth. While the stationary distribution of the IP is not a gamma pdf, a gamma pdf approximation to it is found from the IP's solution. This gamma pdf model is tightly constrained, expressed in terms of IP parameters, and fits both the IP's stationary distribution and empirical distributions. Annualizing the IP's wealth allows it to model the distribution of wage income conditioned on education in the U.S. 1961-2001. Smaller ω_i fit the distribution of the more educated, as hypothesized. The IP is also confirmed by the dynamics of individual wage incomes and wealth distributions over techno-cultural evolution. The smaller the harmonic mean of the ω_i 's, the more active the IP's Demon, the less noise and the more ω_i signal there is in wealth, the "cooler" the process. The process models the emergence of skill as a society's primary form of wealth and the reduction in competition that accompanies it. To appear in *Physica A*.

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