The Empirical Scope of the Inequality Process:
The Statistical Signature of the Inequality Process on Income and Wealth

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The Inequality Process (Angle, 1983-2012) is a mathematical model of personal wealth and income dynamics at both the micro level (the person) and the macro level (distributions and other statistics of a population). The Inequality Process (IP) is a stochastic interacting particle system, a class of mathematical model that is canonical in statistical physics, e.g., the particle system model of the Kinetic Theory of Gases (KTG). The IP was not the product of tinkering with the KTG; the relationship to the KTG's particle system was not established until seven years after the first IP was published (Angle, 1990). The IP was abstracted from the Surplus Theory of Social Stratification, as speculatively extended to societies over the continuum of techno-cultural evolution by Gerhard Lenski (1966). The Surplus Theory provides a simple explanation for how egalitarian hunter/gatherer society became the highly inegalitarian chiefdom: competition, already pervaded all human groups, and concentrated wealth in the form of a store of food as soon as the advent of agriculture created a surplus of storeable food. Lenski's speculative extension of the Surplus Theory addresses the question of why did the concentration of wealth of the chiefdom, an extremely inegalitarian society, decrease later as the advance of technology enabled the production of much greater wealth than that of the chiefdom. Lenski offered a number of speculative explanations. The one incorporated into the Inequality Process is that the creation of more wealth requires skilled workers, who control their human capital and can bargain for a larger share of the wealth they create, leaving themselves less exposed in the competition for wealth than their less skilled counterparts. The IP provides a parsimonious model of a wide and growing scope of stable, statistical patterns in well measured income and wealth data from the U.S., quantitatively tested and confirmed, and a number of historical statistical patterns, more loosely and qualitatively confirmed. The IP also passes tests of consistency with its verbal meta-theory. The present paper reviews the most readily explained ten empirical patterns out of fifteen empirical patterns in the IP's published explanandum.