Human Capital, Economic Development, and Evolution

A Review and Critical Comparison of Lynn & Vanhanen (2006) and Clark (2007)

IQ and Global Inequality

By **Richard Lynn** and **Tatu Vanhanen**

Washington Summit Publishers, Augusta, GA, 2006, xx + 442 pp., ISBN 1593680252 [Pbk, $17.95]

A Farewell to Alms: A Brief Economic History of the World

By **Gregory Clark**

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In 1997, Jared Diamond published a fascinating and influential book, *Guns, Germs, and Steel: The Fates of Human Societies*, which offered an explicitly and exclusively environmentalist explanation for the origin of the differences between societies that have historically prospered and expanded and those that have not. This environmentalist explanation was both ecological and geographic. The principal ecological factor was the availability of domesticable plants and animals in some parts of the world and not in others; the principal geographical factor was the configuration of different land masses on east-west axes, which facilitated the exchange of agricultural and other economically productive technologies across similar climatic zones, as opposed to north-south axes, which did not. Within the past couple of years, however, there have been two works that have challenged this interpretation.

The first was a 2006 book by Richard Lynn and Tatu Vanhanen, *IQ and Global Inequality*, which argues that the main differences between More Developed Countries (MDCs) and Less Developed Countries (LDCs) on a variety of measures are instead attributable to evolved differences in the general mental abilities (IQs) of the resident populations. The central thesis of this book is that current national differences in wealth are partially attributable to systematic differences in IQ. Broad-mindedly, IQ is not proposed as the sole causal factor, but is included along with others, such as economic freedom and natural resources, as predictors of human wellbeing. Furthermore, it is acknowledged that environmental factors such as nutrition might also be important in the development of higher IQs. Nevertheless, the well-documented high heritability of IQ is appropriately emphasized, as well as its importance relative to other causal factors. Another commendable feature of this book is that all the raw data used are tabulated in the copious appendices, permitting critical readers to check all these analyses for themselves.

The second work was a 2007 book by Gregory Clark, *A Farewell to Alms: A Brief Economic History of the World*, which did not attribute these same socioeconomic differences to IQ, *per se*, but instead to evolved differences in the values and other behavioral dispositions of the resident populations. The main thesis of this book is that significant genetic evolution has taken place in what are now MDCs during the industrial revolution, selecting for phenotypes that were more economically productive and competitive under that

economic system. Clark presents copious comparative birth and death rate statistics, showing large discrepancies in both survival and reproduction favoring the upper socioeconomic strata over the lower. This selective pressure resulted in a general increase in what economists call *Human Capital* (e.g., Becker, 2008), which translated into greater per capita economic productivity. Human capital was originally defined by Adam Smith (1776) as the stock of "acquired and useful abilities of all the inhabitants or members of the society" embodied in the ability to perform labor so as to produce economic value. Clark also takes great pains to use worldwide productivity data to thoroughly demolish various alternative hypotheses proposed by economic theorists based on various exogenous and endogenous factors (for example, differential availability of capital and resources). Notable among these refuted alternatives is the *Institutional Hypothesis*, which attributes economic growth to altered social and political conditions in Europe during the early modern era.

The biggest similarity between both of these new theories is that they both attribute the *Great Divergence* (as Clark calls it) to evolved genetic factors rather than environmental ones. On the other hand, Lynn and Vanhanen (2006) do ultimately appeal to geography and ecology as ultimate causes of the observed IQ differences among regions of the world: They attribute a differential increase in IQ to the natural selective pressure exerted by lower mean annual temperatures at higher latitudes. In this view, the lower mean temperatures created harsher environments to which early humans needed to adapt as they migrated out of Africa, naturally selecting for higher IQs. The ultimate causes were therefore Darwin's "hostile forces of Nature".

The biggest difference between the theory proposed by Lynn and Vanhanen (2006) and the theory proposed by Clark (2007) is precisely that. Clark instead attributes the presumably causal behavioral genetic differences between MDCs and LDCs to *social*, rather than *natural*, selection (cf. Nesse, 2007). Clark documents how during the early modern era, European demographic records indicate that, due to differential fertility and mortality, individuals who achieved higher socioeconomic status consistently produced nearly twice the number of surviving offspring as people of lower socioeconomic status. Furthermore, achieving higher social status in European societies during this historical period did not necessarily involve higher IQ, but instead involved a suite of behavioral dispositions that Clark refers to as "middle class values", including thrift, prudence, nonviolence, negotiation, literacy, and hard work.

Among other sources of convergent evidence, Clark presents a detailed comparison of the interest rates during this period with the immediately preceding one to support this theory. According to Clark, interest rates are an indicator of a society's time preference: a high interest rate indicates an increased discounting of the future whereas a low interest rate indicates a willingness to delay gratification and assigning a higher valuation to future payoffs. Clark shows that interest rates were substantially higher during the entire medieval period than during the early modern era that gave rise to the industrial revolution.

With the exception of their common attribution of the *Great Divergence* to evolved genetic factors, these two theories otherwise appear quite discrepant. Nevertheless, I propose that there is a common explanation that might be able to account for both sets of correlations. This explanation is to be found in Life History *(LH)* theory, which is a mid-level theory from evolutionary biology that

explains the allocation of bioenergetic and material resources to different components of fitness.

Consider the appeal by Lynn and Vanhanen (2006) to a differential increase in IQ. Briefly, these authors show a significant correlation between national IQ data and a Quality of Human Conditions (QHC) index computed from five variables: (1) purchasing-power-parity Gross National Income (PPP-GNI) per capita; (2) adult literacy rate; (3) gross tertiary (post-high-school) enrollment ratio; (4) life expectancy at birth; and (5) level of democratization. These are all classifiable as measures of what Clark calls human capital. From the standpoint of LH theory, however, human capital can itself be seen as the product of increased *somatic effort.* Somatic effort is the total investments of an organism's resources in its own development, differentiation, and maintenance. Slow LH strategists invest more in somatic effort than in *reproductive effort*, and invest more of their reproductive effort in *parental effort* than *mating effort* (Figueredo et al., 2006). Increased parental effort received (which Clark calls "parental attention") should also serve to raise the human capital of offspring. High PPP-GNI per capita, adult literacy rate, and gross tertiary enrollment ratio are all direct measures of human capital. High life expectancy at birth is overtly a slow LH trait. Democratization of government has been associated with monogamous mating systems (and hence slower LH strategies), just as despotic forms of government have been associated with polygynous mating systems (cf., Betzig, 1986). Furthermore, a slower LH strategy should also bias a society's aggregate time preference (and hence its interest rates) in the observed direction, and is associated with nearly all the "bourgeois" values and behavioral predispositions described by Clark (cf. Figueredo et al., 2004; 2006).

It is therefore quite likely that what we are looking at here is a case of LH evolution and not selection for any one specific trait, such as IQ. IQ, however, should be a significant correlate within this cluster because higher somatic and parental effort should also increase the phenotypic quality of offspring. Although intelligence theorists such as Arthur Jensen (1998) have been widely mischaracterized as strict hereditarians, they instead support the *default hypothesis* in which differences in IQ are attributable to *both* genetics *and* environment. This is in fact the position that has been endorsed by Lynn and Vanhanen in all of their books on this general topic, including the one presently under review. Thus, the better parental care and organismic health associated with slower LH strategies (e.g., Figueredo et al., 2004; 2007) should exert a systematic effect in boosting the mean IQs of slow LH societies, whether or not there are genetic correlations between LH and IQ (cf. Rushton, 2004; but see Sefcek, 2007; Gladden, Figueredo, & Jacobs, 2008). It is therefore likely that the association between IQ and indices of human capital have a single common causal influence, which is slow LH (Rushton & Jensen, 2008), whether mediated genetically or environmentally.

Many molecular genetic studies are beginning to show an unmistakable pattern of acceleration of human adaptive evolution during the Holocene (e.g., Hawks et al., 2007), so these theories of recent human regional divergence should not be dismissed out of hand based on what has become the conventional wisdom in evolutionary psychology that genetic changes must have been negligible during the last 10,000 years. The evidence presented in these two books might instead serve as the basis for an enhanced understanding of recent human evolution and its effect upon contemporary human social and political economies.

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