A Farewell to Alms: A Brief Economic History of the World. By Gregory Clark. Princeton: Princeton University Press, 2007. xiii + 420pp. $29.95.

There is plenty to argue about in Gregory Clark's ambitious book. Clark first asserts that the one overwhelmingly significant event in economic history (and perhaps all of history) is what is usually called the Industrial Revolution: the beginnings of a thus-far continuing increase in the per capita incomes of various societies, beginning in England circa 1800 (1-16). He then claims that the timing and location of that transition is best explained by the accumulation of "bourgeois" traits in certain populations via natural selection. Non-academic reviewers, including *The New York Times*, have focused on this quasi-Darwinian explanation of the distribution of global riches, which is the most politically provocative point in the book: but it is also the least convincing. (They seem to take Clark's first point for granted, though most historians will see that it is also controversial.) It takes several steps to see how Clark gets from current debates about the origins of modern economies to suggesting that these breakthroughs occur when and where people become "*biologically* better adapted to the modern economic world (187, emphasis in original).".

A key problem in understanding modern economic growth is that whatever explains most of it is invisible to the conventional growth accounting of economics. Increases in *per capita* incomes clearly cannot be explained by increases in population; increases in how much the average person works do matter, but can only explain a small portion of the soaring incomes in modern economies. Capital accumulation – as measured by increases in the market value of capital stock per person in wealthy societies – explains

only a quarter of their per capita growth; increases in land values explain only a trivial amount. So unless one questions the assumption that market value accurately measures the contribution of each factor of production (economists insist that if, say, capital were under-valued, people would simply use more of it until the error was corrected), most of the growth of the last 200 years is left as an unexplained residual. This residual is usually labeled "efficiency" (since it represents the amount of increased output that doesn't seem to depend on increased inputs), and then explained by concepts like "innovation," "improved institutions," "technology," "the quality of labor," and other factors that also cannot be measured directly. (Formal education – once again measured by market returns, in the form of the increase in earnings it provides to the educated – explains perhaps a third of the residual, but no more (201-2).) Predictably, this logic leads to explanations that are not directly visible in documents in the way that longer hours, more equipment, or a more literate workforce are. Institutional explanations of changes in the residual – the impact of new laws, for instance – are hard to measure quantitatively, but they are at least visible in documents, and one can construct narratives about why they might have had a large influence. We can also subject those narratives to some basic tests of plausibility: for instance, do the institutional changes occur at the right times and places to explain the pattern of outcomes? Did people at the time say that they were influenced by these changes? But Clark prefers an explanation that is invisible to both economic and historical analysis.

Clark rejects all explanations of post-1800 growth which are based on institutional change over the preceding centuries. Instead he claims, based mostly on English evidence, that the basic institutions that economists believe promote growth – relatively

free markets, enough security of life and property to encourage investment, and enough social mobility so that wealth could be used to achieve other personal goals – were already in place by 1200. Thus, if institutions that rewarded economically productive activities were enough to induce sustained growth, it would have begun by then. What was missing, Clark says, was enough people who would respond properly to these incentives. But over the next few centuries that kind of person gradually became predominant: first in England, then elsewhere in Europe, and later in East Asia. That person had essentially modern "bourgeois" characteristics, and pioneered an endless stream of productivity-enhancing innovations.

Here, Clark's argument overlaps with a number of scholars, from at least Max Weber onwards, who have seen a fundamental cultural break – or "disciplinary revolution" – in early modern times.[1] But while those scholars emphasize the efforts of people who sought to change the world around them – preachers, teachers, political reformers and so on – and so left a trail of documents, Clark's agents of change were focused solely on their own success and perhaps that of their offspring. So while his work may seem to resonate with a long line of cultural analysis, it is actually radically different, and requires that we take much more on faith.

The new "bourgeois" personality became dominant, Clark says, because rich people enjoyed greater reproductive success than the poor, at least in England. Consequently, the traits that made them rich got passed on, and became ever more common as the

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[1] Max Weber, *The Protestant Ethic and the Spirit of Capitalism* (Los Angeles: Roxbury Publishing 1998) was, famously, meant to explain the unique success of Northwestern Europe. Other work, however, has tried to make the same kinds of arguments for different parts of the world: e.g. Yu Yingshi, Rujia *lunli yu shangren jingshen* (Guilin: Guangxi shifan daxue chubanshe, 2004); Robert Bellah, *Tokugawa Religion: The Values of Pre-Industrial japan* (Glencoe, IL: Free Press, 1957). The term "disciplinary revolution" is from Philip Gorski, The *Disciplinary Revolution: Calvinism and State Formation in Early Modern Europe, 1550-1750* (Chicago: University of Chicago Press, 2003).

descendants of the rich made up an ever-larger share of a fiercely competitive society (8). Over time "Thrift, prudence, negotiation, and hard work were becoming values for communities that previously had been spendthrift, impulsive, violent, and leisure loving (166)." Clark hedges on whether these traits were passed on culturally or genetically (8, 167) – and as noted above, "cultural" transmission for him seems to mean propagation through the environmental influence of parents on their children. But he seems most inclined toward a genetic explanation, since he provides some of the information one would use to pursue that line of explanation (e.g. pointing to experiments with foxes showing that traits can evolve in surprisingly few generations if selective pressures are strong enough (167)), while never discussing how one would look for the influence of home environments. At any rate, it is Clark's focus on individuals traits transmitted within families that seems to have excited the most attention from non-academics.[2]

That is too bad, because explaining the rise of today's rich societies – and the still-growing gap between them and the world's have-nots (328-370) – as the result of reproductive selection in favor of economically fit individuals is politically potent but intellectually weak. In studies that try to measure the inheritance of personality traits, the correlation between parents and children on particular traits – which measures the effects of genes and home environment *combined* -- averages 0.13. This means that such effects virtually disappear in 2 generations: having a grandparent who scores high on a given trait raises the expected score of a grandchild by only 1.7% as much.[3] And while Clark

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[2] See, for instance the New York Times of August 7, 2007, at http://www.nytimes.com/2007/08/07/science/07indu.html?pagewanted=3&_r=1

[3] See John C. Loehlin, "Resemblance in Personality and Attitudes between parents and Their Children: Genetic and Environmental Factors,' in Samuel Bowles, Herbert Gintis, and Melissa Osborne Groves, eds., *Unequal Chances: Family Background and Economic Success* (New York: Russell Sage Foundation, 2005), 192-208, especially pp. 204-205. See also Samurel Bowles, , Herbert Gintis, and Melissa Osborne Groves, "introduction, in *Idem.,* 12-18, 20-21. I owe this reference to Samuel Bowles, whose excellent

suggests that the reason the Industrial Revolution happened first in England is that the reproductive advantage of the rich (and their positive traits) was greatest there (270-271), his only evidence for this is one study each of the Qing nobility and of Japanese samurai (238-241) – particularly unfortunate since English nobles (as opposed to wealthy commoners) also failed to conform to his model of exceptional reproductive success.[4]

Even the seemingly common-sensical statement that the rich routinely out-bred the poor requires important qualifications. Clark's English evidence comes mostly from 1585-1638 (113-124), when real wages for both skilled craftsmen and common laborers reached their lowest levels in the entire period from the Black Death to the present,[5] and unemployment was high as well. Since much of whatever demographic advantage the rich had came from marrying younger (which in the absence of contraception means more children), while the poor had to save before they could start a new family, data from this period is likely to overstate Clark's case significantly. Moreover, "the poor" were not an undifferentiated group with unchanging demographic patterns. In medieval and early modern times, a great many were live-in servants, who could not marry until their

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review of Clark ("Genetically Capitalist?" *Science* 318:394-5 (October19, 2007)) focuses more on these issues than I do here.

[4] For studies of Chinese commoners suggesting that the rich did indeed enjoy a large reproductive advantage see Stevan Harrell, "The Rich Get Children: Segmentation, Stratification, and Population in Three Chekiang Lineages," in Susan Hanley and Arthur Wolf, eds., *Family and Population in East Asian History* (Stanford: Stanford University Press, 1985), pp. 81-109; Linda Gail Arrigo, "Landownership Concentration in China: the Buck Survey Revisited," *Modern China* 12:3 (July, 1986) Table 3, p 273; Wang Feng, Cameron Campbell, and James Z. Lee, "Agency, Hierarchies, and Reproduction in Northeastern Chinese Populations, 1789-1840," chapter 9 in Wang Feng and Noriko Tsuya, eds., *Prudence and Pressure: Reproduction and Human Agency in Europe and Asia, 1700-1900* (Cambridge: MIT Press, forthcoming), especially tables 9.5 and 9.6 See also Table 3.2 in Wang Feng, Satomi Kurosu, Noriko O. Tusya and Michael Oris, "Household Organization, Socioeconomic Status and Reproduction" *idem.,* in which the effect of socio-economic status on fertility in the Chinese sample is stronger than that for any of the European samples (though the measures used for different samples are not really comparable).Unfortunately, none of these sources provide data that is directly comparable to Clark's data for England.

[5] Data from Robert Allen, "The Great Divergence in European Wages" www.econonoms.ox.ac.uk/members/robert.allen/WagesFiles/wagesnew2.pdf, pp. 49-50, accessed November 1, 2007.

terms were up. Many others were tenants, very small land-owners, or artisans; the sons of these people often could not marry until their fathers bestowed on them their lease, tools, or other means of production. But with time, an increasing percentage of the poor became proletarians – men and women who lived on wages, and could marry without waiting to inherit whatever scant means of production their parents might own. There is considerable, though not definitive, evidence that this kind of poor people married younger and reproduced faster than the national average.[6] So Clark's proposed mechanism for the dissemination of "bourgeois" traits was not only weak to begin with, but quite likely operating in reverse for a century or more immediately before England's escape from a Malthusian world.

Moreover, we know very little about the extent to which personality traits determine economic success in any particular society, past or present: it is a big leap to assume that Clark's favored characteristics consistently trumped connections (did the rich who could not provide economic capital to all their sons leave them equally without social capital?), luck, and other factors.[7]   One good feature of Clark's book is that he effectively attacks old myths of medieval Europe as socially stagnant, intellectually benighted, desperately impoverished, and completely dominated by specialists in violence. (See especially 145-166.) This may be not surprise academic historians, but it is apparently needed for some other audiences. But Clark replaces that stereotype with an equally unfounded and

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[6] The literature on this point is massive; a useful short summary is Charles Tilly, "Demographic Origins of the European Proletariat," in David Levine, ed., *Proletarianization and Family History* (New York: Academic Press, 1984), 39-44. See also David Levine, "Production, Reproduction, and the Proletarian Family in England, 1500-1851," *idem*., pp. 87-127.

[7] Christopher Jencks, *Who Gets Ahead?* (New York: Basic Books, 1979), suggests that in the modern United States, measured personality traits had only a tiny influence on income; no such studies exist for past times, of course.

monochromatic image of a medieval world considerably more open and meritocratic than today's (151, 157, 162, 163).

One reason for this lack of nuance is that Clark fits every society into either a "Malthusian" or a "modern" model, dominated by a few key contrasts. Related to this, he has little interest in tracing processes that unfold over the kinds of time spans historians typically deal with, or with gradual or partial changes. Until growing efficiency transformed the world, Clark argues, relatively little changed that mattered. He builds a Malthusian model to describe economies over the long haul from Neolithic times to 1800. Since *annual* population growth over that very long period was close to zero, his model assumes that per capita incomes always return to the point at which a society's birth and death rates (each treated as a function of income) balance out; it also assumes that the supply of land was fixed (since it is in the *very* long term), and so on. That none of this was true for Europe, East Asia or South Asia – home to most of the world's people – in the last few centuries before 1800 does not matter. Clark does produce a table (21) showing that many Western European populations grew only slowly from 1300-1800, most increasing 30-70% over those 500 years that long span. But given the number of scholars who think that profound changes began some time *after* the Black Death, surely it would make more sense to focus on the roughly 200% population growth in England ca. 1500-1800, or the 100%-plus growth in France – not to mention the almost 200% growth in 18th century China. Nor were land supplies fixed in most of the early modern world.

Clark likewise argues that the standard of living of most people – which he measures almost exclusively in terms of nutrition, often using heights as a proxy

(61,111)– was essentially unchanged from pre-Neolithic times to 1800 (40-70). It is true that material living standards changed very slowly over the long haul, and could go down as well as up over shorter periods. However making stasis the description for all of human history before the Industrial Revolution ignores the work of many scholars showing that people's material possessions were increasing (even if their diet was not improving) in various parts of the world from, say, 1500-1800:[8] a period that is certainly long enough to count as a "sustained" development from most points of view. Moreover, since some of this work argues that the apparent increase in hours worked per person in the early modern period (Clark's evidence that people were becoming less "leisure-loving") was either linked to a greater availability of consumer goods (Jan DeVries, Akira Hayami) or to the pressures of growing family sizes among the poor in a period of stagnant real wages (David Levine, Friedrich Mendels), it is troubling to have Clark pass over what seem to be medium term trends in precisely the variables he cares about. In short, the "early modern" period that the scholarship of the last several decades has carved out is largely erased here, and explanations of the origins of modernity based on trends in that period largely ignored. Perhaps Clark would argue that early modern trends can be ignored as an "aberration" in the long history of *homo sapiens*, which they are; but since they immediately precede the even more aberrant modern period he wants to explain, they need to be investigated, not drowned by constructing an undifferentiated sweep of millennia prior to a sudden "modernity." Given how much scholarly effort has

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[8] See e.g., Jan DeVries, "The Industrial Revolution and the Industrious Revolution" Journal of Economic History 54:2 (June) 249-270; Hayami Akira, "Kinsei Nihon no keizai hatten to Industrious Revolution," in Hayami Akira, Saito Osamu and Sugiyama Chuya, eds., Tokugawa shakai kara no tenbo: hatten, kozo, kokusai kankei (Tokyo: Dobunkan, 1989): 19-32; Susan Hanley, "A High Standard of Living in Tokugawa Japan: Fact or Fantasy," *Journal of Economic History* 43:1 (March, 1983), 183-192; Kenneth Pomeranz, *The Great Divergence: China,Europe, and the Making of the Modern World Economy* (Princeton: Princeton University Press, 2000), 114-165.

gone into undermining old ideas that nothing changed before the onset of modernity, it is sobering to see how much life those ideas still seems to have among other educated people. Almost all differences among different "stable agricultural societies" are also elided. While this reviewer is hardly one to complain about scholars looking at basic similarities between Europe and East Asia, rather than always focusing on differences, Clark's treatment takes that recent tendency too far.

To leap to very large time scales can, of course, be illuminating. Alfred Crosby's *Ecological Imperialism,* for instance, argues convincingly that certain key features of what would happen when Eurasians met native Americans and Australians were pre-determined by biological developments that accompanied the early domestications of animals and plants; thus he explains post-1500 events with relatively little reference to trends (except in navigation) of the immediately preceding few centuries.[9] But in that case, biology provides a basis for sharp either/or distinctions: a population has been previously exposed to smallpox or it hasn't, a species introduced to a new environment has natural predators there or it doesn't. Clark has less reason for arguing that societies either select for the right human qualities or they don't -- and indeed his own treatment of East Asia as a society evolving more slowly but in the same direction as Europe suggests the need to look at things by degree, and at path-dependent processes unfolding over medium-length time spans. And once we do that, many of the institutional and cultural changes, geographical quirks, political events and so on – also known as "history" -- that Clark banishes from the picture come right back in. Indeed, he ends by noting that economies often alternate between "relatively energetic phases and periods of

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[9] Crosby, *Ecological Imperialism: The Biological Expansion of Europe 900-1900.* 2nd ed. Cambridge: Cambridge University Press, 2004.

somnolence (371)" for no apparent reason; that seems like an invitation to turn back to precisely the kinds of factors he casts aside here.

One could list many more such problems --- and perhaps one should, given the likelihood that the book will be deployed in hot-button contemporary debates. Clark argues, for instance, that neither internal institutional reform nor development aid is likely to help poor countries much (328,352, 373). Nor do international institutions figure in his explanation for persistent poverty (329-336, 347-51), though he does advocate liberalizing immigration (373). The fundamental problem, as he sees it, is the "low quality of labor" in poor countries (14-5, 353-4, 359-65), which is more a matter of character traits than teachable skills; he says there is "no satisfactory theory (370)" explaining this, but given his argument that the traits allegedly missing in poorer countries were bred into richer populations through generations of Darwinian struggle (259), it is not hard to guess how his argument will be used.

But it would be unfair to overlook some aspects of the book which can be quite useful to scholars. Clark offers brief, compelling critiques of various explanations of the origins of modern growth, such as those based on "human capital" (225). The book is also full of interesting estimates of how much (or little) certain things changed over time: Clark's treatment of the speed at which information traveled (305-7) is one good example.

For historians in particular, it is salutary to follow the logic of somebody devoted to explaining a given phenomenon with the smallest possible number of factors, and eliminating any factors that cannot be shown to have an influence that is separable from the others. Most historians do not proceed this way, though many other social scientists

do. Since probably few historians today would claim that we are telling the story of the past exactly as it happened, it is worth reflecting on why we nonetheless generally prefer more complex stories, and what the reasons for that preference might tell us about how much complexity we want in any given case.

Perhaps the best part of the book is Chapter 12, where Clark tries to explain what appears to be a sudden break from the economic past circa 1800. First he uses an economist's technique many historians shun – the explicit counterfactual -- to question the idea that what defined the Industrial Revolution was a large increase in the amount of innovation in production processes. Clark points to technological changes that greatly increased the efficiency of certain industries prior to 1600 – e.g. the making of iron nails and the printing and binding of books. He notes that these appear to be of little economic weight because the products involved made up such a tiny percentage of the medieval economy, but notes that such a measure of *economic* significance is not necessarily a good way to assess how much successful innovative activity was going on. He then asks how much people's real incomes would have improved between the 1480s and 1800 if they had consumed a mix of goods typical of upper middle class Americans today (with high proportions of spending on travel, entertainment, etc), rather than spending most of their income on grain (254-5). This hypothetical yields much faster improvements in early modern living standards. That does not eliminate the acceleration of technical change and income growth in the 19th and especially 20th centuries (or the problems of explaining it), but it does re-frame the question, substantially reducing discontinuities.

A complicated problem, for Clark and others, is to understand how a gradual process – and change by natural selection (or its cultural analogue) must be gradual —can

account for the sudden acceleration of per-capita growth rates observed sometime after 1800. Having argued that the pick-up in rates of innovation began long before 1800, Clark suggests that a basically continuous process suddenly produced much higher growth rates because a larger portion of the English economy came to be affected by these processes of improvement. The key, he suggests was the combination of a rapid increase in England's population, a fixed supply of land at home, and a large increase in the availability of farmland in Britain's trading partners (particularly, but not exclusively, due to Westward expansion in North America). This combination of factors led Britain to concentrate more on industry and services while trading for farm goods; and it was much easier to raise productivity in industry than farming (256). (Among other things, productivity in industry remains constant if humans make no innovations; in farming it declines, since pests keep evolving.) As farming became less of the economy, even a constant rate of innovation would produce a faster rate of productivity growth; then, as income rose, food became a smaller portion of what people bought, spurring further productivity improvements in a virtuous circle. (247-9) The rise of British military power – furthered both by population growth and prosperity -- reinforced this further, by making sure maritime trade was secure (315-6); the turn to coal, which eliminated the need to get fuel from plant growth, pushed in the same direction (285). Thus, having earlier disparaged arguments about resource availability and political changes, Clark winds up quietly embracing them to help explain "why Britain? why then?" This is much less iconoclastic than the parts of his argument that have gotten the most attention; instead it speaks to how existing arguments about technology and about resources might complement rather than compete with each other.

In doing so, Clark's argument also becomes a more typically historical one, in which multiple changes occurring together in time shape a pattern of change that is explicable, but also unique. That kind of argument, which focuses on how trends interacted with each other rather than trying to isolate them, may even be truer to the Darwinism Clark invokes than is his approach elsewhere. After all, individuals and their environment (which for humans include available resources, institutions, and culture) both undergo changes. Since humans make so much of the settings of our lives, an argument that asks us to hold those settings constant for many, many generations and focus exclusively on the evolution of individuals' traits is asking so much that it would require overwhelming evidence to be convincing. And here, on the contrary, most available evidence cuts the other way.

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