

An important aspect of the opposition to low fertility is *relative* population decline, a discussion of which would have fitted well into this book. If fertility in every country in the world developed in a synchronized fashion, there would be absolute population decline but no change in a country's relative standing in the global context. The fact that only some countries experience ultra-low fertility while neighbouring nations and regions continue to have high fertility and growing populations—and the many perceived implications of relative rather than absolute shrinkage—should have been mentioned.

The book is a unique and very useful synthesis of low fertility levels in Asia. However, it would have benefited from the addition of material that would have given it a broader and more original compass.

References

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Secular Cycles. 2009. By PETER TURCHIN and SERGEY A. NEFEDOV. Princeton, NJ: Princeton University Press. Pp. ix+349. £24.95. ISBN: 978-0-691-13696-7.

This book is intended to persuade you that history repeats itself, or, rather, that history until recent times repeated itself, and that it did so as a result of interactive variables that can be identified, measured, and assembled in a model with predictive value. The predictions only apply to past events, when large agrarian states and empires were dominant, which is not what most readers will think of as prediction, but the authors believe their analysis of historical cycles establishes the foundations for a 'scientific history', in which historians use 'the same methods physicists and biologists used to study natural systems' (p. 312).

Social scientists and historians have long been intrigued by historical cycles and a great deal has been written about them, especially the long swings of population and prices that have given shape to Western history since at least the high middle ages.

These cycles are a staple of the neo-Malthusian interpretation of pre-industrial society, as recently restated in Gregory Clark's *A Farewell to Alms* (2007). The interactions of demographic with economic variables were modelled in great detail in Wrigley and Schofield's pioneering *Population History of England* (1981), and the broad social importance of these cycles was a recurring theme of the influential French Annales School historians, for whom it was an article of faith that mankind lived (before the French Revolution) more than waist deep in something like a natural system. A compatible, but analytically distinct, literature is based on long-term price history. From the work of Wilhelm Abel and François Simiand in the 1930s to David Hackett Fischer's *The Great Wave* (1996), historians and economists have tried to make sense of the great swings of pre-industrial prices just as they remain intrigued by the Kondratief and other business cycles of modern economies.

So, what do Turchin and Nefedov have to offer to this large, well-established literature? With backgrounds in evolutionary biology and mathematics (Turchin) and archaeology (Nefedov) they approach their topic a bit differently than do demographers, economists, or conventional historians. They begin by constructing a relatively formal, although still chiefly descriptive, model of the secular cycle (Chapter 1), proceed to test their model against the historical evidence in eight distinct historical cycles in four societies (Chapters 2–9), and conclude by assessing the robustness of their model (Chapter 10).

Their model seeks to link together in a single synthetic theory demographic change, changes in social structure, the strength of state institutions, and the incidence of socio-political instability. Their secular cycle is a multi-century oscillation that leads societies inexorably through successive stages of expansion and integration, followed by a high-level stagnation, crisis, and conflict-ridden depression. The beginning point of their analysis is the familiar Malthusian insight that population growth tends to overshoot the carrying capacity of the available land, thereby setting the stage for a collapse or crisis. They add to this the claim that elites (landowners) benefit (via higher rents) from the overpopulation characteristic of the late expansion phase and become both relatively richer and more numerous. This elite overreach, a recurring phenomenon that is always shifted in phase relative to population growth, provokes socio-political instability. This, in turn, places the solvency and general strength of state institutions in jeopardy, leading to crisis and a

prolonged period of civil disorder as the elites battle over the remaining resources. Once population is again in balance with resources, the elites have been pruned, and the state has liquidated its inherited liabilities, the stage is set to repeat the cycle with a new round of expansion. This ‘dance to the music of time’ owes something to Jack Goldstone’s demographic theory of revolution in *Revolution and Rebellion* (1991), although Turchin and Nefedov are more specific and systematic in identifying the intermediate links that stand between demographic change and state breakdown.

The authors apply their model to two successive cycles in each of four societies. They begin with England and France, both of which experienced contemporaneous medieval and early modern cycles. These are much-studied societies, and one can doubt that they constitute independent case studies. They both experienced what clearly was a broader European—if not even more extensive—demographic and economic pattern. Turchin and Nefedov go on to apply their model to Ancient Rome (in Republican and Imperial times) and Russia (under Muscovy and again under the Romanovs). Here the authors enter what for most readers will be unfamiliar terrain, and their assembly of relevant historical data is often ingenious and always informative.

The authors are convinced that the historical record reveals regularities that can sustain durable generalizations with predictive value. But they are careful to signal the limitations of their model: the Malthusian propositions are subject to modification by technical change; the length of secular cycles can be prolonged by frontier conditions; exogenous political events can modify profoundly the relative strength of the state in the face of the inevitable build up of socio-political instability. A cynic might conclude that the predictive value of their model is akin to the predictive value of seismology: it offers a credible prediction that *something* will happen, but just when, where, and with what effect remains profoundly unpredictable. This weakness in prediction notwithstanding, seismology—and, for that matter, evolutionary biology—remains a science in good standing. The author’s case to include history among these domains of scientific inquiry is not altogether implausible.

Yet, I would be more comfortable with their synthetic theory or secular cycles if it incorporated non-agrarian economic life. Turchin and Nefedov are content to interpret urbanization, the rise of industrial production, and the growth of long-distance trade as nothing more than a by-product of elite overreach. These phenomena are simply the

socially objectionable epiphenomena of a specific phase of the secular cycle. This is not a wholly unreasonable position, as far as it goes, but it does not go far enough. Over successive secular cycles, urbanization, trade and industry eventually transform the interaction of population with resources and of elites with commoners. A model that does not consider this is like a seismology that is unconcerned with the Big One.

In their defence, Turchin and Nefedov can claim that building a satisfying scientific history will take time, and that their aim in this book is to take a first step, intended only to show others that it can be done. In a crowded field of Malthus-inspired historical analysis, their book stands out for its careful specifications and candid discussions of the limitations of the findings. I can recommend it to demographers with an interest in big-picture societal evolution.

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Death before Birth. Fetal Health and Mortality in Historical Perspective. 2009. By ROBERT WOODS. Oxford: Oxford University Press. Pp. xvii+294. £60.00 cloth. ISBN: 978-0-19-954275-8.

During the last decade, the study of the health and mortality of children before and directly after birth has received an enormous stimulus. In health policy, data on the loss of a pregnancy through miscarriage, stillbirth, or the birth of a non-viable child are more and more used as an indicator of the quality of maternal and neonatal care. The increasing importance of IVF pregnancies, with their higher perinatal mortality, and the maturing of the new research field of the foetal origins of adult diseases