

of development thriving or imploding in the face of external or internal challenges, it is not really an integral part of his framework.

This book and the larger enterprise of which it is a part are highly impressive contributions and well worth reading. By virtue of its ambitious collection and synthesis of published results to produce a time series of economic development for East and West from prehistory to the present, *The Measure of Civilization* raises the bar for future comparisons. My own belief is that Morris has the basic story right in terms of trends over time and East–West differences in social development. The explanations he offers for specific turning points in history are also entirely plausible. The primary limitation is in the reliance on social evolutionary theory and inattention to the role of social organization in his explanation of the differences between East and West that emerged in the nineteenth century and his extrapolation to the twenty-first century. It is time for sociologists, demographers, and political scientists to evaluate Morris's empirical claims and offer their own explanations.

Hong Kong University of Science  
and Technology

CAMERON CAMPBELL

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## VACLAV SMIL

### *Harvesting the Biosphere: What We Have Taken from Nature*

Cambridge, MA and London: The MIT Press, 2013. viii+ 307 p. \$29.00.

*Harvesting the Biosphere* is a thorough review of what we know—and, importantly, what we don't know—about how humans are using the world's biological resources. The spatial range of analysis is necessarily global; the temporal range starts with the end of the last ice age (the beginning of the Holocene epoch) when global vegetation,

and presumably life more generally, was at a minimum. The magnitudes of change, spatially and temporally, brought about by humans are astounding. In the first instance, these changes are in quantities as summarized in Table 12.1. The number of humans is estimated to have increased tenfold in the five millennia between 7,000 and 2,000 years ago and another tenfold in the next two millennia (to the mid-twentieth century). The stock of phytomass (plant-based biomass) exceeded 1,000 Gt C (gigatons carbon) 7,000 years ago, was reduced by only 100 Gt C in the next 5,000 years, by another 300 Gt C by 1900, and then stabilized. Life expectancy at birth remained almost unchanged at 20–30 years until the mid-eighteenth century. Economic product increased fivefold between 7,000 and 2,000 years ago and then another fivefold by the mid-twentieth century.

Accompanying these quantitative changes have been technological and social innovations—in public health, energy efficiency, crop productivity, and others—that made these gains in the economy and in life expectancy possible. Demographers are well aware of the contribution of public health measures to the rapid increase in life expectancy in the twentieth century. Energy use has been marked by changing sources as well as efficiency improvements: from wood and charcoal to coal, liquid petroleum products, natural gas, and most recently photovoltaic and wind sources. Economic product is on an inexorable march from being based primarily on physical goods to intangibles, such as services.

Smil's assessment of the human use of biomass is accompanied by a comprehensive discussion of data sources, estimation approaches, and ranges of estimates for all components of such use. As more quantitative information becomes available, this book will be an invaluable source for historical information. At the same time, the casual reader can get lost in these details. For example, in his discussion on the amount of land used for food production today, Smil walks us through the sources of information and the range of estimates in great detail over the course of three pages. He then offers an extended discussion of the history of land use. All of this and much more are contained in a chapter on changing land cover and land use, a chapter that follows three others on foraging, crops and animals, and biomass fuels. The reader should be prepared for the density of material and the occasional retreading of topics covered earlier. It is easy to lose the larger thread of the analysis.

Fortunately, Chapter 12 provides a summing up of the historical results; insights into and skepticism about "Anthropogenic Earth," a proposed name for the epoch in which human activities are unmistakable over the breadth of our planet; and thoughts about where we need to end up in terms of our species' use of the biosphere's productivity.

I offer some thoughts about who should read this book and how. I wouldn't encourage anyone to do what I did, which was to read from start to finish. Instead, the non-ecologist in a variety of disciplines might start with Chapter 12, "Long-Term Trends and Possible Worlds," and then delve selectively into earlier chapters for more detailed insights. I suspect an ecologist would be especially interested in Chapter 11, "Harvesting the Biosphere," where Smil scours the literature that Peter Vitousek began in 1986 on estimating how much net primary productivity is appropriated by humans. (An earlier version of this chapter appeared in *PDR* 37, no. 4.) For demographers, the choice of what to read is less clear. Population growth is clearly a central

part of human use of the biosphere, but the book is relatively light on demographic trends. It also provides little analysis of the interplay between economic forces and the exploitation of nature.

Two requests to the publisher. The book would have benefited from more graphical presentation of the results, which cry out for sophisticated visual presentation. Undertaking this effort for any future edition would be a valuable contribution. And an electronic version would make it easier for readers searching for key bits of information that they remember encountering somewhere in the book. For example, Smil calculates how the roles of humans and elephants as carbon stocks have changed over time. In 1900 the biomass of humans was 13 Mt C (megatons carbon) and elephants 3 Mt C. By 2000, human biomass had increased to 55 Mt C while that of elephants had dropped to 0.3 Mt C (Table 12.2). But if you have read the book and wanted to check your memory on the remarkable decline in elephant mass as that of humans increased, you would search in vain in the subject index.

These criticisms aside, I will keep this book close at hand as I look for the authoritative source on a fact about the many ways we use and misuse the biosphere.

*University of Illinois at Urbana-Champaign*

GERALD C. NELSON

**KEITH BRECKENRIDGE AND SIMON SZRETER (EDS.)**

*Registration and Recognition: Documenting the Person in World History*

Oxford: Oxford University Press for the British Academy, 2012. xx + 532 p. \$185.00.

The history of registration—of households and individuals—is at first sight hardly a subject to excite. There may be intriguing elements of administrative and statistical history to be recounted, but the scholarship called for would surely be a bit pedestrian. And throwing together such studies on diverse places and times would seem likely to yield somewhat of a farrago. Keith Breckenridge and Simon Szreter, however, do not agree, and in the present volume—and, in particular, in their introduction to it—they make a strong case both for the subject's importance and for its coherence. They see registration emerging as a significant domain of study, paralleling "the way that such other critical concepts as class, gender, the state and community command entire historiographies of historical research in the humanities and theoretical debate in the social sciences" (p. 31). "Registration," they write, "ultimately, is a conceptual tool for approaching the comparative study of recognition and representation of individual persons in relation to their wider communities and the protean constitution of these crucial relationships throughout human history" (*ibid.*).

The score of historical essays the editors have assembled are indeed hugely diverse in place and time. The nineteenth-century West and its colonial offshoots offer most of the material, but classical Greece and Rome, early modern Europe, imperial China, Tokugawa Japan, Mughal India, and post-independence Africa are all drawn into the narrative and argument. A loose four-part sectional structure of the contents slightly partitions the variance: registration and legal personhood; registration as negotiated recognition; empires and registration; and registration and human rights.