Scientists' Bookshelf

The Man of the Crowd

Karl Sigmund

The Company of Strangers: A Natural History of Economic Life. Paul Seabright. xii + 304 pp. Princeton University Press, 2004. $29.95.

Humans are economic animals. Although textbooks often deal with a fictitious *Homo economicus* guided entirely by rational self-interest, all of us—even economists—know that passions, habits and emotions vie with reason in the daily decision making that keeps up the flow of services and goods. Yet every generation of economists has come to grips in different ways with what Adam Smith referred to as our "propensity to truck, barter, and exchange."

Attempts to integrate economic life into natural history are not new: Early in the 18th century, Bernard Mandeville published several editions of his *Fable of the Bees,* and in 1759, Adam Smith published his *Theory of Moral Sentiments,* well before inquiring into the "Wealth of Nations" in 1776. In the 19th century, both Karl Marx and Herbert Spencer tried to incorporate natural selection into their doctrines of social warfare. The transfer of ideas has not been one-sided: Charles Darwin and Alfred Russel Wallace were greatly influenced by Adam Smith and T. R. Malthus. In the 1960s and 1970s, sociobiologists such as E. O. Wilson and William D. Hamilton analyzed costs and benefits of behavioral traits in terms of reproductive success, and John Maynard Smith hijacked game theory, a tool from mathematical economy, to investigate the trial and error of mutation and selection in terms of evolutionarily stable strategies. In return, Maynard Smith's "game theory without rationality" greatly boosted experimental economics and in its newest form led to *neuroeconomics,* a field in which researchers use functional magnetic resonance imaging to identify zones in the human brain specializing in emotional or rational decision making.

Thus microeconomics, which focuses on the activities of individual people, households or firms, is a branch of psychology, which is a branch of zoology. But microeconomics is definitely not a branch of entomology! Social insects run their states along different lines. One of the major insights of the early sociobiologists was that Mandeville's *Fable of the Bees* is utterly misleading. The division of labor within a beehive or an anthill is based on close genetic ties: The organisms are a band of brothers (well, mostly sisters), resembling more a single organism than a city-state. Such close relatedness is not required for human cooperation within a firm, a village or a gang.

"Human nature," a dirty word some 50 years ago, has returned in strength and may be used again in civilized discourse on sociology and economics. Recently, some of the best books about it have been written by biologists—for instance, Jared Diamond (*The Third Chimpanzee*) and Matt Ridley (*The Origins of Virtue*). What makes *The Company of Strangers* so remarkable is that this "natural history of economic life" comes from the other side of the hill: Author Paul Seabright is an economist.

The major problem addressed by all these writers is that the human species has not changed much during the last

Karl Sigmund is a professor of mathematics at the University of Vienna and works part-time as a scientist at the International Institute for Applied Systems Theory in Laxenburg. Currently his main research interests are game dynamics (replicator dynamics, adaptive dynamics), game-theoretic models for the evolution of cooperation and other aspects of experimental economics. He is the author of Games of Life *(Oxford University Press, 1993).*

NANOVIEWS

Before reading David V. Herlihy's ***Bicycle: The History*** (Yale University Press, $35), it hadn't even occurred to me to wonder what led Wilbur and Orville Wright to drift from building bicycles to inventing aircraft. Now I think I know. Among the many things I learned from this lovingly written and beautifully illustrated volume was that the late 1890s marked the end of the cycling boom brought on by the arrival of the safety bicycle in the United States. Between 1896 and 1902, U.S. production fell from "1.2 million bicycles a year to about a quarter of that figure." The Wrights, I surmise, were in need of a new line of work. The crash that launched flight was just one of many boom-bust cycles that seem to have characterized bicycle popularity for most of two centuries. Herlihy carefully plots the course of these ups and downs and fits the technology that drove the roller coaster deftly into its cultural context. There's no need to be a cyclist to enjoy this ride.—*D.R.S.*

(from slave markets to eBay), on property rights, on water management, on the search for knowledge as division of labor across generations.

The style is impressionistic, covering a huge canvas with a light brush. The chapter on cities, for instance, describes deftly the flair, and the stink, of great cities but relegates their social history to endnotes and references. If the book has a weak point, it is the exceptional facility of Seabright's writing—sometimes his verve threatens to carry him away. But then, this may well be intentional: The book is obviously not meant as an exercise in planned economy, but as an excursion, without blinkers and without apprehension, through a tumultuous crowd of ideas.

"Just a Lonesome Traveler, the Great Historical Bum"

Douglas K. Charles

After the Ice: A Global Human History, 20,000–5000 B.C. Steven Mithen. xvi + 622 pp. Harvard University Press, 2004. $29.95.

After the Ice offers a fascinating whirlwind tour of an underappreciated segment of human history. Author Steven Mithen, professor of early prehistory and head of the School of Human and Environmental Sciences at the University of Reading, has created a complex, multilayered account of life from 20,000 to 5000 B.C., during the late Upper Paleolithic and Mesolithic periods.

The seeming highlights of the rise of *Homo sapiens* are well-known: the appearance of anatomically modern *Homo sapiens* in Africa sometime around 150,000 years ago, and our species' subsequent expansion out of Africa; replacement of the Neandertals in Europe by Cro-Magnons; the production of the spectacular cave art that followed in the same region; and the domestication of plants and animals in the Near East, leading to writing and the first appearances of urban life. But this is not the story that Mithen tells.

Before the end of the Upper Paleolithic, the world endured the last major ice advance, which peaked around 22,000 years ago at the Last Glacial Maximum. It is in those trying times that Mithen begins his history, documenting how our ancestors managed to survive—and even prosper—and setting the stage for the rapid cultural developments that followed the end of the Ice Age nearly 12,000 years ago. At that point, around the time of the transition from the Pleistocene to the Holocene, a rapid warming began the shift toward modern climatic conditions. Farming, towns and civilizations originated over the next 5,000 years. By 5000 B.C., Mithen tells us, "the foundations of the modern world had been laid and nothing that came after—classical Greece, the Industrial Revolution, the atomic age, the Internet—has ever matched the significance of those events."

Mithen develops his narrative by weaving together four threads. Guiding us across space and time is John Lubbock, a fictional modern time traveler Mithen has created, who is named for the 19th-century polymath who wrote the classic *Prehistoric Times*. Through the experiences of the 21st-century Lubbock, Mithen (re)constructs the appearance and actions of the people and the sights, sounds and smells of various locations—in sum, aspects of life that an ethnographer might record but archaeologists can only imagine. At 10,800 B.C., Lubbock visits the site of Pedra Pintada in the Amazon basin, which until recently was assumed to have been uninhabited for at least another 6,000 years after that time:

> In the cave's airy interior there are at least ten people standing in a

Douglas K. Charles is professor of anthropology and archaeology at Wesleyan University, where he is also director of collections for the archaeology program. He is coeditor with J. E. Buikstra of Recreating Hopewell *(forthcoming from University Press of Florida) and coeditor with R. M. Jeske of* Theory, Method, and Practice in Modern Archaeology *(Praeger, 2003).*