Hansun Hsiung, an assistant professor at the University of Durham, works on the global history of science from roughly 1750 to 1900. His forthcoming monograph, Learn Anything! Cheap Print and the Education of the Modern World, *examines the brokering of "Western knowledge" in the nineteenth century through the transformation of print networks between East Asia and Western Europe.*

Recent

Arunabh Ghosh. *Making It Count: Statistics and Statecraft in the Early People's Republic of China.* (Histories of Economic Life.) 360 pp., figs., bibl., index. Princeton, N.J.: Princeton University Press, 2020. $45 (cloth); ISBN 9780691179476. E-book available.

Is statistics a natural or a social science? This seemingly academic question can have far-reaching economic, political, national, and international implications, as Arunabh Ghosh demonstrates in *Making It Count*, a fascinating, informative, and insightful study of the shifting understandings and roles of statistics in policy making in the People's Republic of China (PRC) in the 1950s.

When the Chinese Communist Party took over mainland China in 1949, it faced a choice between two competing systems in making statistics serving nation-building. One was its inheritance of a weak but burgeoning national statistical infrastructure from the defeated Nationalist government. Led by Chinese social scientists who had received their training in the West, especially the United States, and Japan in the early twentieth century, the diverse statistical community in Republican China held lively methodological debates over various approaches, including the proper use of mathematical statistics, carried out social surveys, and helped establish a bureaucratic statistical system that employed about five thousand people by 1947.

The other model for PRC statistics was the regional system it had already established in northeastern China, which the Communist forces had occupied soon after the end of World War II. There, in 1950, with Soviet assistance and under the leadership of Wang Sihua, a Communist economist who had translated Karl Marx's *Das Kapital* into Chinese, a Northeast Statistical Bureau was created in Shenyang to aid economic planning. This statistical system was characterized by what Ghosh calls "the primacy of exhaustive enumeration"—units at various administrative levels would deliver periodic reports with complete counts of various categories to the top office for tabulation and analysis. In one of the most enlightening discussions in the book, Ghosh connects this faith in complete enumeration with the hardening of the Soviet belief in a "socialist statistics." Against the transnational discourse of statistics as a universal science, advocates of socialist statistics in the Soviet Union, and soon in China too, saw statistics as a social science, shaped by class interests, and tended to dismiss the use of the natural scientific disciplines of mathematical statistics and probability theory because they, contrary to Marxist-Leninist teachings, admitted the existence of chance.

Given the PRC's decision, as announced in 1949 by its Communist leader Mao Zedong, to "lean toward one side"—the Soviet side—in the Cold War and build a socialist nation-state based on the Soviet model of planned economy, it was not surprising that the national statistical system, as embodied in the establishment of the State Statistical Bureau (SSB) in August 1952, would follow the Northeast approach. The emphasis on exhaustive enumeration, however, proved to be highly problematic in practice. Even with a national staff approaching two hundred thousand in 1956, the SSB system was on the verge of buckling under the weight of its ambition, producing a vast quantity of data of questionable quality, causing unbearable burdens on reporting units, and leaving planners and policy makers dissatisfied.

In one of the most original chapters (Ch. 7), Ghosh explores a daring transnational experiment that Chinese leaders, especially Premier Zhou Enlai, pursued in solving the statistical impasse. During his visit to India in 1956, Zhou made a stop at the Indian Statistical Institute in Calcutta and invited its director, Prasanta Chandra Mahalanobis, to visit China and help train Chinese statisticians. Mahalanobis was a

world authority in statistics for his role in the development of the random sampling method, in which mathematical statistics and probability theory played a key role. The ensuing program of Sino–Indian exchanges in statistics was a revealing case of South–South scientific collaboration during the Cold War, but its role in improving Chinese statistics would be severely limited by China's domestic and international developments. The Anti-Rightist Campaign in 1957 served to enforce socialist purity, the launch of the Great Leap Forward in 1958 led to further denigration of professional expertise, and rising Sino–Indian tensions in 1959 curbed enthusiasm for mutual learning.

One of the convincing revisionist arguments Ghosh makes in the book is that the statistical system in China did not collapse or disappear during the disastrous Great Leap Forward campaign in the late 1950s, as many scholars have argued, but was radically transformed. Rejecting both the Soviet-style exhaustive method, as Sino–Soviet tensions developed, and the Indian-inspired random sampling, the Chinese statistical system followed the order to put "politics in command" and adopted "typical sampling," an ethnographical approach purportedly pioneered by Mao himself. As a result, as Ghosh aptly puts it, "accuracy remained an aspirational goal, but only the kind of accuracy that guaranteed the party's interests," with dire consequences for policy making and the lives of millions who would suffer in the famine attributed to the campaign (p. 274).

By mining rich archival materials in China, India, and the United States, and by balancing detailed descriptions of statistical work in the early PRC with lucid historiographical discussions on statistics, data science, and modern China, Ghosh has given us an exemplary case study of the social and political construction of sciences—natural or social—in the transnational context of the early Cold War. One hopes that future historical studies on statistics in modern China, by Ghosh and others, will be able to draw on even more diverse sources, such as Russian archives, and extend the coverage to the period after the 1950s. As China's influences in the world expand and its tense relations with the United States continue, this excellent book is a welcome addition to the historical studies of science and technology in modern China, a field whose value has been increasingly recognized by both the scholarly community and the public at large.

Zuoyue Wang

Zuoyue Wang is a professor of history at the California State Polytechnic University, Pomona, specializing in science, technology, and politics in the modern United States, China, and transnational contexts. He is writing a book on American-educated Chinese scientists and U.S.–China relations.

Erika Lorraine Milam. *Creatures of Cain: The Hunt for Human Nature in Cold War America*. xiii + 398 pp., illus., app., notes, index. Princeton, N.J./Oxford: Princeton University Press, 2018. $29.95 (cloth); ISBN 9780691181882.

Erika Lorraine Milam is Professor of History of Science at Princeton University and a well-known scholar and authority on the history of the modern life sciences, particularly evolutionary theory. Her research investigates the ways in which scientists have productively used animals as models for understanding human behavior. Her recent book, *Creatures of Cain: The Hunt for Human Nature in Cold War America*, is a tour de force, a historical study that offers a well-researched, meticulous examination of how a diverse community of scientists debated the meaning of human nature in the United States after World War II.

The book focuses on the rise and fall of the immensely popular killer ape theory. According to those who supported this evolutionary theory, the essential quality distinguishing the human animal from similar animal ancestors lay in humanity's unique capacity for murder. This highly pessimistic view of what was particular to humans enjoyed widespread popularity in the United States between 1965 and 1975. American readers of the time associated killer ape theory specifically with the works and careers of three writers who used their knowledge of animal behavior to expose—supposedly—the secrets of human nature: Robert