Mr. Science and Chairman Mao’s Cultural Revolution: Science and Technology in Modern China ed. by Chunjuan Nancy Wei and Darryl E. Brock (review)

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middle-class suburb. That “classless” community, centered around “nu
clear” families (in both senses of the word), she suggests, served as a model
for the mass-produced Levittowns and other suburbs of the postwar de
cades. In the Soviet Union, after first struggling with prisoner and Gulag
workers and near-prison camp conditions, Ozersk eventually reflected
some of the features of Richland.

Despite American preconceptions of the Soviet Union and of the Gulag
in particular as highly regulated, police-controlled societies, the author
demonstrates that the construction and operation of the facility at Ozersk
was disorganized, highly insecure, primitive in methods, and wasteful of
resources and manpower. The overloaded and ill-managed Soviet Gulag
was on the verge of collapse in the late 1940s and 1950s, retarding the con
struction of the reactor and processing facilities by years. In the American
case, the author attributes the failure of DuPont to meet construction
deadlines at Hanford during World War II to refusal to employ available
African-American and Mexican-American labor. While American work-
ers in Richland seemed content to allow corporate direction of the com-
munity, in the Khrushchev era, workers in Ozersk began to exercise a
measure of self-government to provide social services lost by the disap-
pearance of the extended family and its replacement by the nuclear family.

The work goes far beyond this reviewer’s own historical study, Supply-
ing the Nuclear Arsenal (1996), with its focus on nuclear special-interest
politics, and Michel Gerber’s On the Home Front (2007) with its concern
with environmental impact. While treating those issues, Plutopia richly in-
terweaves the issues of social engineering, race relations, tragic human suf-
fering from radiation exposure, and cold war politics through comparison
of the American and Soviet experiences, demonstrating numerous unex-
pected parallels.

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Mr. Science and Chairman Mao’s Cultural Revolution: Science
and Technology in Modern China.

Edited by Chunjuan Nancy Wei and Darryl E. Brock. Lanham, MD:

Was the Cultural Revolution (1966–76) an absolute calamity for Chinese
science and technology or was it actually beneficial at a certain level and in
some areas? While the former verdict has been widely accepted around the
world in the past three decades, some researchers have challenged this
total-failure narrative and begun to explore the Cultural Revolution’s true
impact on Chinese developments. Chunjuan Wei, a political scientist at the
University of Bridgeport, and Darryl Brock, a Ph.D. candidate in modern history at Fordham University, have joined these challengers and edited this volume to advance two propositions. The first is best summarized by Joseph Dauben in his foreword, namely “despite the difficulties and denunciations many suffered during the Cultural Revolution, there were important areas of science and technology that nevertheless continued to receive support and in fact achieved substantial results during the Cultural Revolution” (p. xvi). The second claims that there are “potential continuities” between the tradition of the May Fourth Movement and that of the Cultural Revolution, with “influences from the former to the latter” (p. 5).

The first thesis is significant and thought-provoking but, unfortunately, has not been effectively supported by the enclosed contributions. Among the eleven essays, five actually contradict this thesis and one concerning post-Mao population policy is irrelevant; only five papers are more or less supportive. Among the dissenters, Cong Cao examines the impact of the Cultural Revolution and concludes that its influence on “China’s scientific enterprise and scientists” was uniquely “long and devastating” (p. 119); Michael Mikita argues that “the ways in which the Cultural Revolution brought science and technology closer to the people,” depicted in the 1975 propaganda movie *Breaking with Old Ideas*, was merely “a utopian vision of an egalitarian future” (p. 161); Yibao Xu investigates how “ideology dramatically affected mathematicians during the Cultural Revolution” (p. 167) and demonstrates that “[the] dialectical approach to understanding the origins of calculus, in the end, proved unable to withstand scrutiny” (p. 186); Yinghong Cheng analyzes “the intense and enduring Maoist interest in and discussion on cosmology” and argues that the discussion was “essential” for justifying “the [Cultural] Revolution and similar political campaigns in scientific terms” (p. 197); and Rudi Volti assesses worker innovation—a Maoist approach to technological development—during the Cultural Revolution and concludes that instead of “elevating China’s technological prowess,” “the encouragement of shop-floor and grass-roots technological innovation” in fact “further debilitated” the country (p. 343).

Among the supporters of the first thesis, Darryl Brock theorizes and concludes that “in many ways, Chairman Mao’s science policy did have benefits to scientific innovation and that the mass line emerged better prepared to meet a technological future in the final decades of the twentieth century” (p. 110). However, Brock does not distinguish between the accomplishments during the Cultural Revolution and those due to it; he utilizes almost no primary sources, especially those in Chinese, except a few pieces from *Peking Review* and *Hongqi* (Red Flag), two of the main propagandist organs of the Chinese authorities at the time! He has too easily accepted the face value of the contemporary Chinese and Western reports, which hardly tell the whole truth. As a result, his arguments are far from convincing. Stacey Solomone explores the Cultural Revolution’s impacts
on China’s aerospace industry and attempts to “demonstrate that Mao quite successfully utilized the nascent industry for his military and political goals” (p. 234); this is based mostly on secondary materials and media reports and makes no reference to two very relevant and significant books by Li Chengzhi (Zhongguo hangtian jishu fazhan shigao [A Draft History of Space Technology in China], 2006) and Liu Jifeng (Liang dan yi xing gong-cheng yu da kexue [The Project of “Two Bombs, One Satellite”: A Model of the Big Science], 2004). Lack of reliable sources may help explain the appearance of some faulty evidence and oversimplified interpretations in Solomone’s essay.

Chunjuan Wei’s essay echoes the recent nostalgia for the rural cooperative medical-care system during the Cultural Revolution, arguing that “Mao’s barefoot-doctor campaign . . . proved effective in helping to solve China’s rural health dilemma” (p. 274). Although this system and barefoot doctors were indeed helpful, they actually were unable to meet diversified rural demands, according to a new and more careful Chinese investigation at Nankai University. Wei also fails to realize that the promotion and survival of such a rural health-care system depended on the unique political environment created by the Cultural Revolution. Based mostly on one county’s gazettes and his own interviews with rural residents in three provinces, Dongping Han claims that “there was tremendous scientific and technical development in the Chinese countryside during the Cultural Revolution years” (p. 281) and eventually concludes that “The Cultural Revolution years arguably witnessed one of the most equal and just societies in Chinese history” (p. 301). Han’s arguments are, however, biased and his evidence unconvincing. For example, his allegation that “Most Chinese educational elite disdained farmers, and did not perceive educational needs as necessary for farmers” (p. 285) was backed up only by “Interviews with farmers in Shandong Province” (p. 302). Sigrid Schmalzer’s essay, which first appeared in Isis in 2007 and helped inspire this volume, explores profitable ways to use “the mountains of sources produced in socialist China” and “many reports from foreigners who traveled to China during the Mao and early post-Mao eras” (p. 349). She calls for engaging both “the earlier, rosy account of science in socialist China” and “the later, negative one” in order to “think critically about the history in question” (p. 358), which is enlightening for future investigators.

The second thesis, regarding the continuity with the May Fourth Movement, seems much less convincing and is obviously controversial. The editors consider the May Fourth Movement and the Cultural Revolution “two great student movements” and state that “both are cultural revolutions” (p. 29). But these are not accurate characterizations of these two critical periods and most contributors in this volume do not even touch on this topic.
Overall, the editors fail to produce a well-integrated volume, and have left out some important representative developments such as molecular biology. Nevertheless, their collection represents a fresh and daring effort to explore the true impact of the Cultural Revolution on Chinese science, technology, and medicine. It brings out some new and inspiring papers and should stimulate more comprehensive and more profound investigations.

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Das Motorrad: Ein deutscher Sonderweg in die automobile Gesellschaft.


German motorization blossomed with the motorcycle. This finding is the starting point of Frank Steinbeck’s study, based on his doctoral dissertation. Between 1926 and 1960 more motorcycles than automobiles were driven in Germany. In no other European country did the motorcycle play such a dominant role in mass motorization. In the 1920s there was also a high incidence of motorcycle use in the United Kingdom and the Netherlands, and the British motorcycle industry was long considered a role model by German motorbike manufacturers. However, the British and Dutch started driving more automobiles in the 1930s. Only in Germany did the motorcycle keep its position as the dominant means of personal transportation until the end of the Second World War, and Steinbeck sets out to reveal the reasons for this special development. The three chapters of his study follow the political developments in the German Empire and the Weimar Republic to the Nazi period. In addition, a brief excursus summarizes postwar developments in West and East Germany.

Steinbeck argues that persistent low incomes in large sectors of the German population, high fees (e.g., taxation and fuel costs), and finally, from 1928, favorable legal regulations (partial abolition of taxes and compulsory driving licenses) contributed to the widespread use of motorcycles, particularly those with small, 200-ccm engines (p. 310). These three factors describe the general scene, but they do not satisfactorily answer the question of why Germans embraced the motorcycle as their primary means of mass motorization. Furthermore, Steinbeck’s study does not answer the question of why German car manufacturers did not develop cheaper car models in the 1920s, and why the automobile was perceived as an upper-class luxury until the 1930s. Here, a discussion of the German Sonderweg