

Sigrid Schmalzer, *The People's Peking Man: Popular Science and Human Identity in Twentieth Century China*, Chicago, London: The University of Chicago Press, 2008, 346 pp.

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The People's Peking Man is a very welcome contribution to the still rather limited research on issues of science and technology in twentieth-century China. The book mainly deals with two topics: certain aspects of the development of paleoanthropological research, and the question of the popularisation of science (*kepu* 科普, short for *kexue puji* 科學普及) in modern China. In a wider sense it is concerned with the question of human identity and the influence of evolutionary science on perceptions of what it means to be human. Schmalzer especially highlights the importance of the slogan "labour created humanity" from Frederick Engels' article fragment "Anteil der Arbeit an der Menschwerdung des Affen."

Questions of paleoanthropological research and the problem of how research actually was carried out is not the main focus of the book. Still, the author makes a number of interesting observations in this regard. Mainly on the basis of the extensive literature on the discovery of Peking Man, she treats questions such as to what extent the discovery of the Peking Man fossils was made by Chinese, what role technicians and non-scientists played in the scientific enterprise, and to what extent modern Chinese paleoanthropology could draw on proto-scientific indigenous practices. Schmalzer especially highlights the fact that the hunt for "dragon bones" (*longgu* 龍骨) had a long tradition in China, since these "bones," which were used in traditional Chinese pharmacology, more often than not were actually fossils. The issue at stake here is the relationship between science and the nation or, to be more concrete, the question of the localization of science and the contribution of local resources to "universal science." Already in 1931, Ren Hongjun 任鴻雋 (1881-1961), one of the most important organizers of Chinese science during the Republican era (and at the same time a very influential populariser of science) had pointed out that, in China, sciences related to the natural environment, such as "geology,

zoology, botany, paleontology, and archaeology," had developed best.¹ Schmalzer's book thus touches on issues of the circulation and appropriation of scientific knowledge that have become an important focus of historical research and are intensively discussed within the framework of research on "science in the periphery"² and "colonial science." It is indeed tempting to relate Schmalzer's research to explorations into the question of colonial science, and employ ideas such as those developed by Prakash in order to ask in which respects paleoanthropological practice in China can be considered as a form of the "tropicalisation of science."³

More important to the author—and with very good reason—is the question of the popularization of science. Indeed, despite the ubiquity and obvious importance of the popularization of science in China, the topic has hardly been subjected to systematic research. Schmalzer describes the qualitative changes that can be observed in these efforts after the founding of the PR China in 1949, but also hints at a line of tradition, relating them to precedents in the Republican era. This of course is correct, and it is astounding to recall how consciously and systematically movements for the "scientification" (*kexuehua* 科學化) of the Chinese public were carried out in Republican China.⁴ Yet, major efforts for the popularisation of science can actually be traced back to an even earlier period, namely the very beginning of the 20th century. These efforts relied on books and popular magazines and already discussed questions related to human evolution, etc.⁵ Given the close relationship between the popularization of science and the idea to "Save China through Science" (*kexue jiuguo* 科學救國), which became particularly widespread during the Republican era, it would have been interesting to look into the question of to what extent paleoanthropological research was integrated into this discourse, or whether it even may have been the motivation for paleoanthropologists to deal with the topic in the first place, as was the case in other scientific

¹ Zen, H. C. (i.e., Ren Hongjun), "Science: Its Introduction and Development in China," in: Chen Zen Sophia H. (ed.), *Symposium on Chinese Culture*, Shanghai: China Institute of Pacific Relations, 1931, pp. 142-151.

² Papanelopoulou, Faidra Nieto-Galan, and Enrique Agustí Perdriguero (eds.), *Popularizing Science and Technology in the European Periphery, 1800-2000*, Farnham: Ashgate Publ., 2009.

³ Prakash, Gyan, *Another Reason: Science and the Imagination of Modern India*, Princeton: Princeton University Press, 1999.

⁴ See especially Duan Zhiwen 段治文, *Zhongguo xiandai kexue wenhua de xingqi 1919-1936 中國現代科學文化的興起 1919-1936* (The Rise of Modern Scientific Culture in China 1919-1936), Shanghai: Shanghai renmin chubanshe, 2001.

⁵ Shi Gexin 史革新, "Xinhai geming yu jindai kexue chuanbo" 辛亥革命與近代科學傳播 (The 1911 Chinese Revolution and the Spread of Modern Science), *Beijing shifan daxue xuebao (Renwen shehui kexue ban)*, 2001:6, pp. 25-35.

areas.⁶ In this regard it is important to keep in mind that not only science and evolution were popularized during the Republican era, but that there was also an influential streak of “anti-evolutionary” and “creationist” thought disseminated by Christian media throughout the Republican era.⁷ Such critiques provided a basis for creationist accounts of the origins of humans, including the highly interesting example recounted by Schmalzer that managed to get published in the PR China as late as 1951 (p. 78).

Schmalzer is right to stress that many publications related to the popularization of science were closely related to the goal of eradicating “superstition” or *mixin*, as the Japanese neologism was read in China. Campaigns against “superstition” actually began during the very late Qing dynasty and were massive—and destructive—in scope. From the start, being labelled as “superstitious” was highly dangerous and amounted to being considered an “enemy of science.” It is no accident that during the Republican era religious groups, Christians as well as Buddhists, expended much effort to categorize “superstitions” with the goal of escaping the label “superstitious” themselves.⁸ Evolution, according to Schmalzer, stood for progress and national salvation, in contrast to a past of “superstition” and weakness. The author argues that in China it was easier to replace religious interpretations of human origins with scientific ones, since “China had no indigenous belief system that suffered quite so devastating a challenge from evolutionism as Christianity did in the West, or that wielded such political influence.” (p. 5). While I agree with the first part of Schmalzer’s assertion with a view to the question of creation, I would suggest that it is necessary to keep in mind the concrete political and economic goals of the campaigns against “superstition” as well. One important aim was the extension of the power of the state (including its extractive powers) to the grassroots level. From the point of view of the modernizing state, different layers of popular religion as well as ubiquitous practices of divination and prognostication tended to obstruct this goal, so that we should rather speak

⁶ Wang Zuoyue, “Saving China through Science: The Science Society, Scientific Nationalism, and Civil Society in Republican China,” *Osiris* 17 (2002), pp. 291-322, see also Fan Hongye 樊洪業, Zhang Jiuchun 張久春 (eds.), *Kexue jiuguo zhi meng: Ren Hongjun wencun 科學救國之夢: 任鴻鵬文存* (The Dream of Saving China through Science. Writings of Ren Hongjun), Shanghai: Shanghai keji jiaoyu chubanshe, 2002.

⁷ Zhang Binglun and Wang Zhichun, “The Struggle between Evolutionary Theory and Creationism in China,” in: Fan Dainian and Robert S. Cohen (eds.), *Chinese Studies in the History and Philosophy of Science and Technology* (Boston Studies in the philosophy of science 179), Dordrecht: Kluwer, 1996, pp. 327-346.

⁸ See especially the massive Li Ganhen 李幹忱, *Pochu mixin quanshu 破除迷信全書* (Complete Collection on the Eradication of Superstition), Shanghai: Meiyimeihui quanguo shubaobu, 1924, that was compiled by protestant groups.

of influential belief *systems* in the case of China that were certainly less tightly organized than the Christian churches, but as a whole yielded considerable power to negatively influence the state's modernization agenda.⁹

Schmalzer shows that the term *mixin* acquired a high degree of flexibility, and that it was even used to criticise the cult of Mao Zedong in the 1970s (p. 179)—actually, the first article written on this issue by Li Honglin 李洪林 in 1978 contained a strong reminder of the incompatibility of science and superstition.¹⁰ Already during the Great Leap Forward, *mixin* had been employed to criticize those who believed that the masses were incapable of practicing science. Schmalzer sees this “reconfiguration” as something positive (p. 121) and a real step forward on the path toward “mass science.” To me, however, this twist in employing the notion of *mixin* rather indicates that *mixin* had early on become a tool of Party propaganda that targeted everything considered harmful by the Party. During the 1960s, Khrushchev was attacked because he called the veneration of Stalin “superstition.” This flexibility of the term, which extends to the contemporary propaganda against *Falungong*, makes its application as an “actor's category,” as Schmalzer explicitly attempts (p. xviii), rather problematic. To put it differently, a closer look into the changing semantic value of the notion that is so central to Schmalzer's work could help to gain an even deeper understanding of ideas related to science from this period.

Not all effects of the popularization of science are intended by the popularisers. Schmalzer provides some interesting examples. In the case of the evolution of humanity, there is a surprisingly widespread tendency to celebrate the “primitivism” not only of early humans, but also of the so called “minority people.” Popularization of science also has contributed to the interest in “mysteries” and fringe theories. Schmalzer's prime example is the Chinese search for the Yeti or “wild man,” a subject that fascinated the masses as much as parts of the scientific establishment. In spite of concentrated research activities, however, no representative of this species has been discovered. Schmalzer also mentions the case of the rocket scientist Qian Xuesen 錢學森 (1911-2009) and his propagation of research into “human body science” and so called *teyi gongneng* 特異功能 or

⁹ Cf., for example, Duara, Prasenjit, “Knowledge and Power in the Discourse of Modernity: The Campaigns Against Popular Religion in Early Twentieth-Century China,” *Journal of Asian Studies* 50:1 (1991), pp. 67-83.

¹⁰ Li Honglin 李洪林, “Kexue he mixin” 科學和迷信 (Science and Superstition), *Renmin ribao* 2.10.1978.

“exceptional abilities,” such as telekinesis and so on.¹¹ The popularization of such theories, as Schmalzer notes, contributed to the success of religious sects such as *Falungong*.¹² Such Janus-faced results of the popularization of science can already be observed in the emergence of “parapsychological” or “mesmerist” strains of thought in the early Republican era.¹³

In her book Schmalzer is rather critical of Barry Sautman’s article “Peking Man and the Politics of Paleoanthropological Nationalism in China.” While Schmalzer is aware of the nationalist implications and temptations paleoanthropological research may offer, she points out that, contrary to Sautman’s assumptions, the “Out-of-Africa Theory” that locates the origins of modern humans in Africa has a quite large number of followers in China, and found its way into popular publications as well. While she is certainly right in contesting Sautman’s rather unbalanced presentation of the state of palaeoanthropological research in China, she remains sceptical of “multiregionalism” herself. It is thus rather ironic that very recent developments (after publication of Schmalzer’s book) – such as the discovery of the Xuchang Man – tend to confirm that the proponents of the “multiregional” thesis – the main objects of Sautman’s criticism – may have a point after all. In view of such discussions, Schmalzer makes the important point that Chinese paeleoanthropological research may in fact allow for another kind of nationalism, namely for celebrating the contributions of Chinese fossils and the labours of Chinese scientists to the development of universal science (p. 269).

With regard to the development of nationalist ideas related to the popularization of paleoanthropological research, Schmalzer observes a discourse that attempts to integrate the different fossils found in China into a shared Chinese ancestry. Indeed, she highlights that the term “ancestor” (*zuxian* 祖先) is frequently used when dealing with the fossils of Peking Man, Yuanmou Man, and others. She notes, however, that praying to these ancestors, as people visiting the Yuanmou site quite often do, “smacks of superstition” (p. 281). But such practices can also be interpreted as part of a government-sponsored nationalism in line with the large-scale officially

¹¹ Cf. Karchmer, Eric, “Magic, Science, and *Qigong* in Contemporary China,” in: Blum, Susan D, and Lionel M. Jensen (eds.), *China off Center: Mapping the Margins of the Middle Kingdom*, Honolulu: University of Hawaii Press, 2002, pp. 311-322.

¹² See now Ownby, David, *Falun Gong and the Future of China*, Oxford, New York: Oxford University Press, 2008.

¹³ Huang Kewu 黄克武, “Minguo chunian Shanghai lingxue yanjiu: Yi ‘Shanghai lingxuehui’ wei li,” 民國初年上海的靈學研究：以「上海靈學會」為例 (Research into Spiritualism in Early Republican Shanghai: A Study of the Shanghai Spiritualism Society), *Zhongyang yanjiuyuan jindaishisuo yanjiu jikan* 55 (2007), pp. 99-136.

sponsored ceremonies conducted annually at the supposed tomb of the Yellow Emperor on *Qingming* Day.¹⁴

One of the main concerns of Schmalzer's book is related to the question of "mass science." The author identifies two periods during which mass science played the most important role, namely during the Great Leap Forward and the Cultural Revolution. These developments are treated in chapters four and five of the book. In respect to the Great Leap Forward, Schmalzer comes to the conclusion that the idea of mass science—the participation of the masses in scientific activities—was seriously compromised by the assumption of the superstitious nature of the population, which invalidated from the onset all attempts of mass participation in science. In contrast, Schmalzer is quite clearly of the opinion that "mass science" has to be viewed as a potentially fruitful approach, or, in other words, that the model has not only ideological but also theoretical validity. Yet, already during the Great Leap Forward, the demand for "mass science" and its propagandist use helped to undermine the authority of science. It was a tool with which to discipline scientists and force them to voice their support for the disastrous politics of the Great Leap. While Schmalzer dutifully acknowledges the terrible number of deaths resulting from the famine provoked by these policies, this aspect is treated merely in passing.¹⁵ But in some instances "false science" was directly responsible for bringing about famine, especially through the application of Lysenkoist ideas and unfounded "new" agricultural techniques, such as deep-ploughing, close-planting, etc. Moreover, the propaganda for mass science was combined with a strong current of fervour for ideological orthodoxy, the fallout from which extended to many scientific disciplines, including physics, chemistry and mathematics,¹⁶ not to mention the many human tragedies among Chinese scientists. Schmalzer explicitly acknowledges that she harbours somewhat idealistic views regarding the necessity of the participation of the "masses" in scientific enterprises (p. 300). For this reason she is unhappy that science is rarely discussed in accounts of the Cultural Revolution. She suggests to make up for this lack by taking "seriously the stated goals and methods of Cultural Revolution era 'mass

¹⁴ Billeter, T rence, *L'Empereur jaune: Une tradition politique chinoise*, Paris: Les Indes savants, 2007.

¹⁵ The most important case is the one of Qian Xuesen, who provided a "scientific proof" for increasing crop yields by a factor of twenty, cf. Chang, Iris, *Thread of the Silkworm*, New York: Basic Books, 1995, pp. 240-245. Similar articles were written by other scientists, among them He Zuoxiu 何祚庥.

¹⁶ Cf. Hu Huakai 胡化凱 and Gou Wenzeng 勾文增, "Ershi shiji wushi niandai houqi zhongguo duiyu ziran kexue de pipan," 二十世紀五十年代後期中國對於自然科學的批判 (*Critique of the Natural Sciences in China at the End of the 50s of the 20th Century*), *Kexue wenhua pinglun* 2004:5, pp. 12-29.

science’,” an approach that she describes as “in some way similar to accounts published during the late Cultural Revolution by Western visitors to China” (p. 137). Although Schmalzer eventually arrives at a critical evaluation of Cultural Revolution science, her narrative at times becomes strangely one-sided, more or less downplaying the disastrous effects of the Cultural Revolution on scientists and the vicious criticisms of scientific ideas. The examples given for the scientific achievements of the Cultural Revolution are but the standard fare, noted by apologists of the Cultural Revolution such as Mobo Gao et al.,¹⁷ and not put into the necessary critical perspective.¹⁸ Even the interesting examples taken from the journal *Fossils* are not entirely convincing, because this periodical held a rather privileged position owing to the fact that Mao Zedong himself had a special interest in the subject, ensuring that *Fossils* was one of the very few journals published during the Cultural Revolution in the first place. Given the focus of the book, it would certainly be too much to expect a comprehensive account of how science and scientists were treated during the Cultural Revolution, including, for instance, the activities of government sponsored critique groups, such as that led by Li Ke 李柯.¹⁹ But it would have been quite appropriate to remind readers of the havoc that ideology could and did cause for science, and offering a comparative perspective of how science and scientists fared under other totalitarian regimes.²⁰

Such criticisms notwithstanding, the book certainly is worth reading. It is very well researched, based on an impressive range of source materials – including information gained from interviews and fieldtrips – and lucidly written. Some editorial decisions are hard to stomach, however, at least for this reviewer. Why does the author at times mention important actors, without giving names, such as referring to “a German naturalist” on p. 35

¹⁷ Gao, Mobo et al, *The Battle for China’s Past: Mao and the Cultural Revolution*, London: Pluto Press, 2008.

¹⁸ It remains unclear, for example, whether the author really considers efforts of earthquake-prediction with the help of the masses as a success. On the question of earth-quake prediction, see: Chen Yong, Tsoi Kam-ling, Chen Feibi, Gao Zhenhuan, Zou Qijia, and Chen Zhangli, *The Great Tangshan Earthquake of 1976: An Anatomy of Disaster*, Oxford: Pergamon Press, 1988, pp. 129-144.

¹⁹ A very useful collection of relevant material was published in 2009, cf. Hu Huakai 胡化凱 (ed.), *20 shiji 50-70 niandai Zhongguo kexue pipan ziliao xuan* 20 世紀 50-70 年代中國科學批判資料選 (Selected Material on the Criticism of Science in China from the 1950s to the 1970s) (*Zhongguo jin xiandai kexue jishushi yanjiu congshu*), Jinan: Shandong jiaoyu chubanshe, 2009.

²⁰ See for example Walker, Mark (ed.), *Science and Ideology. A Comparative History*, London: Routledge, 2003, pp. 35-65.

(the person meant is of course K.A. Haberer)²¹ or an “influential anarchist” on p. 28 (from the footnote it becomes clear that she means Zhang Binglin)? Writing of Chinese “leading citizens” (p. 27) without providing names seems a rather idiosyncratic choice as well. Neither the explanation given for not providing Pinyin pronunciations in the main text nor for not providing characters in the bibliography is compelling. Both omissions constitute a major annoyance for readers who are stimulated by Schmalzer’s arguments to look into her sources.

²¹ Cf. Anderson, Johann Gunnar, *Children of the Yellow Earth*, London: Kegan Paul, 1934, p. 76.