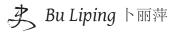
ANTI-MALARIA CAMPAIGNS AND THE SOCIALIST RECONSTRUCTION OF CHINA, 1950–80



Fighting malaria is a constant battle for humanity that has resulted in impressive successes in parts of the world but depressing failures in many others. Currently, three to five million people suffer from malaria worldwide, and over one million die from the disease each year, mostly in Africa.¹ To increase awareness and the resources to combat this terrible but preventable and treatable disease, 25 April has been declared World Malaria Day. 'When malaria is defeated, everyone wins.'²

Malaria is a parasitic disease transmitted by mosquitoes. The desire of the global community to eradicate it has been demonstrated by many national and international projects. The World Health Organization (WHO) launched an ambitious program in 1955 to eradicate malaria worldwide with methods including DDT residual spraying, drug treatment and surveillance, based on the four-step progression of preparation, attack, consolidation, and maintenance.³ Nations with temperate climates and seasonal malaria transmission were more successful than countries such as India and Sri Lanka where sharp reductions in malaria cases were achieved only to return to substantial levels after efforts waned.⁴ Some countries such as China launched their anti-malaria campaigns independent of the WHO program during the Cold War in the 1950s.

Distinct from the aims of the WHO program that just targeted malaria, China's anti-malaria campaigns were integrated into an overall national health movement against all major endemic and epidemic diseases known as the Patriotic Health Movement (Aiguo weisheng yundong 爱国卫生运动) from the 1950s to the 1980s. 5 China achieved basic control of malaria by the 1990s. In 1998, when China's population was 1.3 billion, there were only 31 thousand malaria cases reported, with a morbidity of 0.25 per 10,000 — a drop of 99 per cent compared to 1954.6 More importantly, the proportion of malaria among the total number of cases of acute infectious disease was reduced from 61.8 per cent in 1954 to

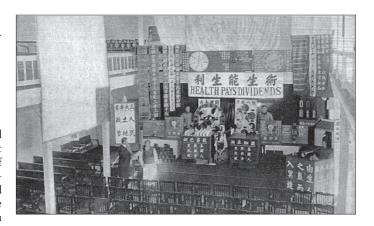
An early version of this paper was presented at the 2010 Association for Asian Studies Conference. The author would like to thank the comments from the panel. Thanks also to Elizabeth Fee and Paul Theerman at the National Library of Medicine in Bethesda, Maryland for the opportunity to work with the Chinese public health collection. Special thanks to Zhang Xuebing 张学兵, Bao Wenjie 包文杰,Li Quanchang 李全昌, Tao Zige 陶紫阁, Qi Xiaoming 齐晓敏, and Min Hong 闵红 for making the interviews possible. Lastly, the anonymous reviewers for East Asian History provided wonderfully helpful advice and detailed comments, for which I am very grateful.

- 1 Centers for Disease Control and Prevention, Department of Health and Human Services, USA, http://www.cdc.gov/Malaria, viewed 15/8/2012.
- 2 'Special Report on Combating Malaria,' *Financial Times*, 23/4/2010.
- 3 Centers for Disease Control and Prevention, http://www.cdc.gov/Malaria, viewed 15/8/2012.
- 4 Drug and insecticide resistance, massive population movements, lack of sustained funding, and inadequate community participation were all cited as difficulties in maintaining the long-term effort of eradication. The WHO eradication campaign was abandoned in 1968. Center for Disease Control and Prevention, Department of Health and Human Services, http://www.cdc.gov/Malaria, viewed 15/8/2012.

Figure 1

'Dr. Peter and the "Strange Properties" of His Health Lecture in China.' From French Strother, 'An American Physician-Diplomat in China,' The World's Work 35 (1918): 545–55, p.546.

- 5 The Patriotic Health Movement developed from the anti-germ warfare movement during the Korean War. For discussion of the movement, see Yang Nianqun, 'Disease Prevention, Social Mobilization and Spatial Politics: The Anti-Germ Warfare Incident of 1952 and the 'Patriotic Health Campaign,' The Chinese Historical Review 11.2 (2004): 155–82; and Ruth Rogaski, Hygienic Modernity: Meanings of Health and Disease in Treaty-Port China (Berkeley: University of California Press, 2004), ch.10.
- 6 Tang Linhua, 'Progress in Malaria Control in China,' Chinese Medical Journal 113.1 (2000): 89–92; and Qian Huilin and Tang Linhua, 'Prevention and Control of Malaria in China in the last 50 Years,' Chinese Journal of Epidemiology 21.3 (2000): 225–27.
- 7 Tang Linhua, 'Progress in Malaria Control in China,' p.92.
- 8 Tang Linhua, Qian Huilin and Xu Shuhui, 'Malaria and Its Control in the People's Republic of China,' Southeast Asia Journal of Tropical Medicine and Public Health 22.4 (December 1991): 467–76. On malaria drug development, Chinese anti-malarial drugs such as Chloroquine 氣奎, Pyrimethamine 乙胺嘧啶, and Primaquine Kui 伯氨奎 were developed in the 1950s but not manufactured in large quantities until the early 1960s. In the early 1970s, Chinese medical scientists successfully extracted artemisinin (qinghaosu 青蒿素), which was effective in treating malaria. See Elisabeth Hsu, 'Reflections on the "Discovery" of the Antimalarial Qinghao,' British Journal of Clinical Pharmacology 61.6 (2006): 666-70.
- 9 The famous Chinese writer Lao She 老舍 (1899–1966) vividly depicted the enthusiasm of public health campaigns to transform society in his story Dragon Beard Ditch (Longxu gou 龙须沟), see Lao She, Longxu gou (Beijing: Foreign Languages Press, 1956).
- 10 Daniel Lai et al., 'Hygiene and Public Health:
 A Malaria Survey in Kao-Chiao, Shanghai,'
 Chinese Medical Journal 49.5 (1935): 462–69;
 Stephen M. K. Hu, 'Notes on the Relative
 Adult Density of Anopheles Hyrcanus Var.
 Sinensis Wiedemann During 1933 with Reference to Malaria Incidence in Kaochiao,
 Shanghai Area,' Chinese Medical Journal 49.5
 (1935): 469–74; and Lan-Chou Feng, 'Malaria
 and Its Transmission in Kwangsi China,' Chinese Medical Journal 50.12 (1936): 1799–1814.
- 11 Randall M. Packard, The Making of a Tropical Disease: A Short History of Malaria (Baltimore:



1.3 per cent in 1998.⁷ China's success in malaria control was attributed to an integrated program that emphasised community participation, inter-regional and governmental co-operation and collaboration, a multi-tiered primary health care network, the use of bed nets, and the rural paramedics called barefoot doctors, in addition to the discovery and distribution of effective drugs.⁸ However, malaria has re-emerged in 21st-century China, particularly in those parts of Yunnan bordering Vietnam, Laos, and Myanmar, due to lax control, human migration, and drug resistance.

This article examines China's anti-malaria campaigns as part of the overall national health movement and program of national reconstruction. The study demonstrates that in the effort to transform Chinese society according to socialist ideology, the government of the People's Republic of China regarded public health not only as an obligation of the state to the citizens, but also as a vital requirement to economic development and national defense. In rural China, health campaigns were combined with land reclamation, irrigation, and the improvement of sanitary conditions for both humans and livestock. This article further argues that the anti-malaria campaigns, defined as an integral part of the Patriot Health Movement, not only promoted the political discourse of socialist revolution but also injected national pride and political significance into the fight against the disease. In popularising scientific knowledge of malaria, public health education helped change people's traditional attitudes and health behaviour while forging a socialist mentality among the public.

National Health Policy and Local Action: The Health Front of Socialist China

Malaria was historically a major epidemic disease in China. Modern efforts to tackle the disease began in the 1930s, when medical scientists started investigating the malaria situation in heavily infected south and central China. The League of Nations Health Organization (LNHO) and the Rockefeller Foundation's International Health Division each tried to bring medical science and public health regimens to China to study infectious diseases. The LNHO sent malaria specialists to China, and the Rockefeller fellowships trained Chinese medical scientists to work on the malaria problem. With limited resources, the medical scientists conducted field surveys and compiled data from the few anti-malaria stations set up by the Nationalist government. They used Paris Green (the highly toxic copper (II) acetate triarsenite) and bred larvae-eating fish as control measures,

and sometimes administered quinine to patients to study its effectiveness. The strategy was 'essentially biomedical with limited vector control'. Moreover, the Nationalist government did not have 'national planning and co-ordination', nor 'long-term strategy, funds, trained personnel and sufficient scientific data'. With the war against Japan, by 1937 these early experiments had ceased. Efforts to investigate and treat malaria at a few local health centres resumed in the 1940s, but the disease remained a major health challenge for the country. More than 30 million Chinese people were reported suffering from malaria and one per cent of them died in 1950. 13

The government of the PRC launched nationwide health campaigns in the early 1950s with co-ordinated efforts among different regions, simultaneously targetting major infectious diseases such as typhus, typhoid fever, cholera, smallpox, tuberculosis, schistosomiasis, hookworm, black fever, meningitis, and malaria. Hence, the battle against malaria was never a single-disease attack but combined with overall disease-fighting regimens in a mass movement of public health that aimed to improve health for the socialist reconstruction of modern China. The national health policy formulated by the government in 1950 emphasised three key principles to guide health work:

- 1. the needs of workers, peasants and soldiers (mianxiang gongnongbing 面向工农兵)
- 2. prevention as the first priority (yufang weizhu 预防为主)
- 3. to unite Chinese and Western medicines (tuanjie Zhongxiyi 团结中西医).

The fourth principle, to combine health work with mass movements (weisheng gongzuo yu qunzhong yundong xiangjiehe 卫生工作与群众运动相结合), was added at the instruction of premior Zhou Enlai 周恩素 (1808, 1076) in 1052 at the second notion

mier Zhou Enlai 周恩来 (1898–1976) in 1952 at the second national health conference during the Korean War. 16

The Korean War led to China's direct confrontation with the superpower of the United States, which the Chinese accused of conducting germ warfare against them. In 1952, the government mobilised the whole nation with a patriotic call to clean up communities and homes and to eliminate flies and mosquitoes in a mass movement of public health against American germ warfare. The Great Patriotic Health Movement was born, and in the following decades, the Chinese people mobilised to fight endemic and epidemic diseases to fulfill their duty as citizens.

The emphatic focus on 'prevention' in the public health movement arose from the particular situation in China. In the early 1950s, the country was destitute after decades of war and it lacked the technical and material recourses for health care. The government faced many challenges on domestic and international fronts, including the need to rebuild a collapsed economic and financial system, to reduce general poverty and disease, and to clean up widespread opium addiction and prostitution. Severe shortages of medicines and health professionals affected the common people most. It was not uncommon that only one doctor was available for several adjacent villages. When the Patriotic Health Movement began, it largely relied on

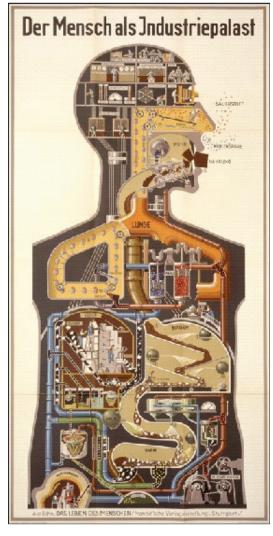


Figure 2

Man as a Palace of Industry. From Uta von Debschitz and Thilo von Debschitz, Fritz Kahn: Man Machine Maschine Mensch (Wien: Springer, 2009).

Johns Hopkins University Press, 2007), 134–35; and Iris Borowy, 'Thinking Big—League of Nations Efforts towards a Reformed National Health System in China,' in Iris Borowy, ed., Uneasy Encounters: The Politics of Medicine and Health in China 1900–1937 (Frankfurt: Peter Lang, 2009), pp.205–28.

- 12 Ka-che Yip, Disease, Colonialism, and the State: Malaria in Modern East Asian History (Hong Kong: Hong Kong University Press, 2009), p.90.
- 13 Zhongguo nueji de fangzhi yu yanjiu bian-weihui 中国疟疾的防治与研究编委会, Zhongguo nueji de fangzhi yu yanjiu 中国疟疾的防治与研究 (Beijing: Remin weisheng chubanshe, 1991), p.1. Statistics on malaria in China were sporadic and limited until after 1950. For statistics on malaria from 1950 to 2008, see Zhongguo weisheng tongji nianqian 中国卫生统计年鉴 (Beijing: Zhongguo xiehe yike daxue chubanshe, 2009).

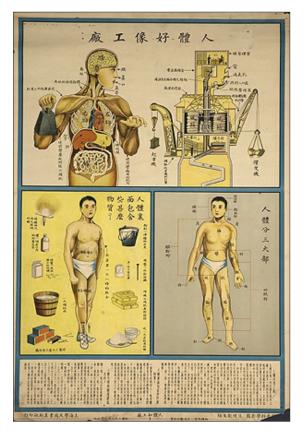


Figure 3

'Human Body is like a Factory.' Courtesy of the Chinese Public Health Collection, National Library of Medicine, National Institutes of Health, Bethesda, MD, USA. Online exhibit at http://www.nlm.nih.gov/hmd/chineseposters/understanding.html>.

- 14 Chen Haifeng 陈海峰, Zhongguo weisheng baojian shi 中国卫生保健史 (Shanghai: Shanghai kexue jishu chubanshe, 1992), pp.107-27. The collection of Chinese health posters at the National Library of Medicine at Bethesda, Maryland contains over three thousand posters that illustrate the fight against these major infectious diseases.
- 15 There is an increased interest in the study of disease control and social change. See Ka-che Yip, Disease, Colonialism, and the State; Yu Xinzhong 余新中, ed., Qing yilai de jibing, yiliao he weisheng 清以来的疾病, 医疗 和卫生 (Beijing: Sanlian chubanshe, 2009); Ann Jannetta, The Vaccinators: Smallpox, Medical Knowledge, and the 'Opening' of Japan (Stanford: Stanford University Press, 2007); Liping Bu, Darwin Stapleton and Ka-che Yip, eds., Science, Public Health and the State in Modern Asia (Abingdon: Routledge, 2012); Liping Bu and Ka-che Yip, eds., Public Health and National Reconstruction in Post-War Asia: International Influences, Local Transformations (Abingdon: Routledge, 2014).

local support to combat endemics and epidemics professionally and financially. 17 This scenario naturally led to varying results with both successes and failures, depending on local circumstances. Government leaders, with their Yan'an experience, and those health professionals who remained from the Nationalist administration envisioned the reconstruction of a health system for the people using the limited means available. In Xuyi 盱眙 county in northern Jiangsu province, for instance, a staff of six at the epidemic prevention station was responsible for the entire county's population of three hundred thousand people. Xuyi was located on the banks of Hongze Lake 洪澤湖, and diseases such as typhoid, cholera, measles, schistosomiasis, filariasis, and malaria were prevalent. The six staff members were divided into medical teams to go to villages to give vaccinations and conduct investigations of schistosomiasis, filariasis and malaria — diseases for which no vaccines were available at the time. Health workers Bao Wenjie 包文杰 and Li Quanchang 李全昌 recalled that the whole station had only one microscope, and each member of staff had a protective suit and an insecticide sprayer. But they were gung-ho about their work and fearless of hardship, walking tens of miles to villages with their bedding on their back. They stayed with peasants for days for the equivalent of 30 fen per day, and captured mosquitoes under the beds of the villagers at night for medical research. After analysing

the different types of mosquitoes, they would select the right insecticide to spray to achieve the best effect. In 1957, they were excited to obtain a bicycle (made in Hungary) but it was reserved for a senior colleague and for carrying the microscope.¹⁸

The situation improved over the next decade, when the economy grew and the number of health professionals increased. The station had more staff as the country trained more health workers, and new drugs became available through development and production. More importantly, a co-operative health care system was established in rural areas to provide services.

Good health was promoted as a significant part of the socialist transformation of the old China. Government mobilised the people to participate in the health movement and encouraged them to become masters of change, reconstructing society and changing their traditional values to socialist beliefs. The slogan was to 'transform social traditions and re-create the world' (yifeng yisu, gaizao shijie 移风易俗, 改造世界). When the Ministry of Health called for a national anti-malaria campaign in 1952 to reduce the cases of malaria and the death rate, other government ministries, such as education, culture, propaganda, labour, and agriculture, helped to co-ordinate the campaign at every level of the administrative system. Professional and social organisations such as the Red Cross, the National Federation of Women, and the Labor Union also participated in the campaign. Urban communities, work units (danwei 单位) and rural villages (later communes) were mobilised to participate in the mass movement against epidemic and endemic diseases. The campaign attempted to turn the masses from passive recipients of medicine and health care into active fighters against diseases and masters of their own health. This approach to combatting diseases was dubbed 'the mass mobilization model' in the study of malaria.¹⁹

Were the people ready and equipped to do the job? If they were to fight diseases effectively, they had to first understand the diseases, preventive methods, and thecurative medicines. The reality was that China had a population of 563 million in 1950 and the illiteracy rate was over 80 per cent. The overwhelming majority of the population (about 88 per cent) lived in rural villages, where the illiteracy rate was even higher and traditional views of life and illnesses stronger. The anti-disease campaigners were intent on disseminating scientific knowledge among the masses to change their health behaviour and worldview, which was considered crucial to accepting new ideas and ways of doing things in the general reconstruction of a socialist China. How did Chinese public health workers, local officials, and campaign activists manage to teach a largely illiterate population about the modern science of epidemic and endemic diseases and methods of prevention?

A national illiteracy elimination movement (saomang yundong

扫盲运动) had been started in 1950 to help the workers, peasants, and soldiers. Party officials and political activists mobilised people in work units and in rural communities to attend illiteracy elimination classes (saomang ban 扫盲班) where elementary pupils sometimes took up the role of teachers because of the shortage of literate adults.²⁰ In the countryside, millions attended illiteracy elimination classes, learning about agricultural production, government laws and policies, and epidemic diseases. The movement emphasised the needs of the masses — workers, peasants, and soldiers — by increasing their knowledge of science (mianxiang gongnongbing dazhong, tigao gongnongbing kexue zhishi 面向工农兵大众,提高 工农兵科学知识). Moreover, mass meetings were regularly held for political struggles as well as for reading newspapers and learning about agriculture and industrial production. Above all, these study meetings aimed to encour- 17 Minutes of the Beijing Municipal governage people to rid themselves of old ideas and values, and selfishness and individualism and to learn about socialist values and the goal of the collective good. The illiteracy elimination movement continued from the 1950s to the 1970s, increasing the literacy of hundreds of millions, despite setbacks during those decades. The illiteracy elimination classes taught people not merely reading, writing and arithmetic, but more importantly for the government and Communist Party, raised their political consciousness with socialist propaganda and education.²¹ The illiteracy elimination movement even made gaining knowledge and literacy a fashion in China, where men loved to clip a pen in their upper left jacket pocket - a sign of pride and social recognition no less significant than an expensive car for an American in those years. A woman, learning to read and write herself, would not be interested a man of lesser learning. Certain brands of pen became popular, and the industry manufacturing them flourished as a result. On a more serious level, the illiteracy elimination classes empowered the masses with knowledge and socialist values that ensured the effectiveness of public health campaigns in supporting China's socialist reconstruction.

Disseminating Scientific Knowledge and Modernising Mentalities

As stated above, the health campaigns emphasised the dissemination of scientific knowledge of diseases in an effort to change people from holding traditional values to respecting modern science. In fact, this derived from



Figure 4

Aspirin Advertisement, courtesy of the Chinese Public Health Collection, National Library of Medicine, National Institutes of Health, Bethesda, MD, USA. Online exhibit at http://www.nlm.nih.gov/hmd/ chineseposters/pharmaceutical.html>.

- 16 Chen Haifeng, Zhongguo weisheng baojian shi, pp.80-82.
- ment health section, 1949-1953, Beijing Municipal Archives, 135-1-16.
- 18 Author interviews, July 2009, with retired physicians, Drs Bao Wenjie 包文杰, Li Quanchang 李全昌, Tao Zige 陶紫阁, and Zhang Xuebing 张学兵 at Nanjing Gulou Hospital who participated in the health campaigns in the 1950s-1970s.
- 19 Yip, ed., Disease, Colonialism, and the State: Malaria in Modern East Asia, p.8.
- 20 Liu Yingjie 刘英杰, Zhongguo jiaoyu dashiji 中国教育大事记 (Hangzhou: Zhejiang jiaoyu chubanshe, 1993); and Liao Qifa 廖其发, Dangdai Zhongguo saomang he nongcun chengren jiaoyu de huimo yu qianzhan 当代中国扫盲和农 村成人教育的回眸与前瞻 (Chongqing: Xinan shifan daxue chubanshe, 2002).
- 21 From 1949 to 1956, approximately 294 million people attended illiteracy elimination classes, with the majority of them being peasants, and 20.76 million became literate (Liu Yingjie, Zhongguo jiaoyu dashiji, p.1831). By 1964, the illiteracy rate in China dropped to 37 per cent compared to more than 80 per cent in 1949, see Yu Bo 余博 and Xie Guodong 谢国东, Zhongguo saomang jiaoyu 中国扫盲教育 (Harbin: Dongbei linye daxue chubanshe,



Figure 5 'Malaria is Terrible.' From Lu Zhensheng, Ke pa de nueji (Shanghai: Beijing shudian, 1952).

22 The Science Society of China was formed in 1914 by a group of Chinese students in the United States and became the most influential organisation after moving back to China in 1918. Its members included leading Chinese intellectuals in different academic disciplines such as the philosopher Hu Shi 胡适 (1891-1962), the geographer Zhu Kezhen (Coching Chu) 竺可桢 (1890–1974), and the linguist Zhao Yuanren (Yuen Ren Chao) 趙元任 (1892–1982), who played key roles in promoting a scientific mentality in China during the New Culture and the May Fourth movements. See Wang Zuoyue, 'Saving China through Science: The Science Society of China, Scientific Nationalism, and Civil Society in Republican China,' Osiris 17 (2002): 291-322; Jia Sheng, 'The Origins of the Science Society of China, 1914-1937,' PhD. diss., Cornell University, 1995; and David C. Reynolds, 'The Advancement of Knowledge and the Enrichment of Life, The Science Society of China and the Understanding of Science in the Early Republic, 1914-1930,' PhD diss., University of Wisconsin-Madison, 1986.

a long process of modernisation in twentieth-century China that emphasised science as the driving force for progress and modernity. The first significant initiative was the 1905 overhaul of the Chinese education system from the old examination system based on the classics to a school curriculum that included modern scientific subjects. The formation of the Science Society of China (Zhongguo kexue she 中国科学社) and the occurrence of the May Fourth Movement further helped shape a new culture of science at the expense of traditions, epitomised by attacks on Confucianism in the 1910s-20s.²² 'Mr. Science' and 'Mr. Democracy' became the embodiment of goals Chinese intellectuals embraced as the two pillars of social progress and modernisation. Baptised in the New Culture Movement (xinwenhua yundong 新文化运动) of 1915-19, science gained a unique place in Chinese modern thinking and shaped the worldview of Chinese modernisers, who promoted science as a fundamental tenet of China's revolutions in the twentieth century. Science became the symbol of progress antagonistic to tradition, which was considered an obstacle to the advancement of a society. In the drive to modernise people's mentality, the promotion of science went hand in hand with the attack on superstition, which targeted only Chinese religions, not Western ones.23 Chinese intellectuals regarded science as the secret engine powering Western advancement, and

they wanted to learn from the West and use science as means to save China from foreign dominance.²⁴ In short, science became the plausible solution to Chinese problems as well as the tool to make China strong and modern.

Competing social and political theories from the West — social Darwinism, republicanism, nationalism, capitalism, socialism, communism and Marxism - have all influenced the direction of Chinese modernisation. In the debate over these competing theories, science not only became the yardstick to measure but also the tool to legitimise the truthfulness of theories to guide China's progress. It had such a pervasive influence on Chinese intellectual culture that some scholars have argued that scientism characterised modern Chinese thought.²⁵ In the medical and health field, government support to scientific medicine gave rise to a fierce fight between Western medicine and Chinese medicine in the 1910s-40s.²⁶ Germ theory in medical science, which led to the emphasis on preventive medicine, further strengthened scientific medicine in China. Germ theory was introduced to Chinese urban residents in the 1910s through public health campaigns and school hygiene education, with the aid of visual materials such as posters, charts, and pictures.²⁷ The slogans depcited in Figure 1, from the public health campaigns of 1915-17 not only showed the Chinese audience that flies spread diseases but also popularised the economic argument of good health — 'health pays dividends'.

In the 1930s, Fritz Kahn's interpretation of man as palace of industry (Figure 2) was introduced in China.²⁸ It helped change the traditional Chinese understanding of the human body as a microcosm to the modern idea of chemical composition. Educational posters for biology classes (Figure 3)

popularised the 'man as factory' concept to young Chinese students, where the human body was interpreted as scientifically analysable and quantifiable in terms of chemical components.²⁹ Widespread medical advertisements, in addition to educational posters, also popularised modern concepts of the human body and Western medicine to the general public.³⁰ A comparison of Kahn's original image and the Chinese representation of his ideas, however, demonstrates significant modifications in the Chinese posters in the transfer of ideas from the West to China (see Figures 2 and 3).

The cultural adaptation of ideas from one country to another always encounters the issue of making alien concepts easy for locals to comprehend. Along with the arrival of scientific medical concepts came biomedical drugs, which were marketed to Chinese consumers in large cities such as Shanghai and Tianjin. The spirin advertisement shown in Figure 4 represented a flourishing commercial market for biomedicine in China in the 1930s. To tie health to national goals, merchants often advertised modern hygiene and biomedicine in the image of modernity and social progress.³¹

Visualising Science to Promote Public Health

Visual propaganda for promoting public health and popularizing 'scientific medicine' was put to wide use in the national campaigns against epidemic diseases in the 1950s. In the drive to make scientific knowledge accessible to the less literate populace, science had to transcend the realm of the professional elite so that it could be grasped by the masses in a simple and easy-to-understand fashion. Campaigners urged that writing on scientific subjects should be in popular and specific language. They encouraged a 'mass science', where once the masses learned scientific knowledge they would actively engage with the work of scientific observation and practice in daily life.³² In the Patriotic Health Movement, people were expected to become practitioners of preventive medicine to help reduce diseases in the nation. As literacy took time to acquire, visual materials were used extensively in the health education movement to achieve immediate impact among the illiterate and the literate alike. Picture books, magazines, health posters, and wall bulletins became the chosen forms for educational materials, as images can convey a lot of information in a limited space.³³ The resource-conscious Chinese authorities made good use of this in the health campaigns of this period.

Visual materials became an effective medium to explain abstract concepts of disease and complicated ideas of science in direct, concrete and vivid images, and encouraged people to put their new learning into daily practice. In the regions of so-called minority nationalities, health-related educational materials, including posters, were printed in vernacular languages, such as Korean in Jilin province, and Mongolian in Inner Mongolia.³⁴ The quality of visual materials varied, as they were created by both professional artists in



Figure 6

'Germs and Diseases.' This poster is of a series on rural health, ca. 1963. Courtesy of the Chinese Public Health Collection, National Library of Medicine, National Institutes of Health, Bethesda, MD, USA.

- 23 Prasenjit Duara, 'Knowledge and Power in the Discourse of Modernity: The Campaigns against Popular Religion in Early Twentieth-Century China,' *The Journal of Asian Studies* 50.1 (1991): 67–83.
- 24 Wang Zuoyue, 'Saving China through Science'.
- 25 D.W.Y. Kwok, Scientism in Chinese Thought (New Haven: Yale University Press, 1965). See also Wang Hui, 'The Fate of Mr. Science in China: The Concept of Science and its Application in Modern Chinese Thought,' Positions: East Asia Cultures Critique 3.1 (1995): 1–68.
- 26 Xu Xiaoqun, '"National Essence" vs. "Science": Chinese Native Physicians' Fight for Legitimacy,' Modern Asian Studies 31.4 (1997): 847–77; and Zhao Hongjun 赵洪钧, Jindai zhongxi yi lunzheng shi 近代中西医论争史 (Hefei: Anhui gexue jishu chubanshe, 1989)



Figure 7

'Malaria—Health Poster for the Autumn.' Produced by the Health Bureau of the People's Government of Pingyuan Province, c. 1950. Courtesy of the Chinese Health Poster Collection, National Library of Medicine, National Institutes of Health, Bethesda, MD, USA.

27 On early popular health education campaigns, see Liping Bu, 'Public Health and Modernization: The First Campaigns in China, 1915-1916,' Social History of Medicine 22.2 (2009): 305-19; 'Cultural Communication in Picturing Health: W.W. Peter and the Public Health Campaigns in China, 1912–1926,' in Imagining Illness: Public Health and Visual Culture, ed. David Serlin (Minneapolis: University of Minnesota Press, 2010), pp.24-39; and 'Social Darwinism, Public Health and Modernization in China, 1895-1925,' in Uneasy Encounters: The Politics of Medicine and Health in China 1900–1937, ed. Iris Borowy (Frankfurt am Main: Peter Lang, 2009), pp. 93-124.

28 On Fritz Kahn, see von Debschitz and von Debschitz. *Fritz Kahn*.

29 For images of the chemical and mechanical body, see the exhibit of Chinese public health posters under the heading 'Understanding Human Body' at the National Library of Medicine at http://www.nlm.nih.gov/hmd/chineseposters/understanding.html.

art institutions and amateur cultural workers at local government propaganda departments.

In the early 1950s, the Shanghai-based Beijing Bookstore (*Beijing shudian* 北京书店) published a multivolume pictorial series on agriculture, natural sciences, history and geography, and medicine and health.³⁵ 'Malaria is Terrible' (*kepa de nueji* 可怕的疟疾,Figure 5) was one of nineteen picture books in a series on medicine and health. It depicted in simple drawings the causes, symptoms, preventive methods and treatments of the disease.³⁶

The poster image in Figure 6 provides information about the proper management of night-soil, explaining the practice with reference to germs and parasites, with a microscope positioned at the top and the microbes seen through the microscope displayed around, each one labelled. The microscope is not just a tool but is also symbolic of science as such. If people understood that germs caused diseases, the theory went, they would use scientific methods to fight the common diseases that had plagued so many Chinese, such as dysentery, typhoid, cholera, and malaria. After explaining the role of germs in disease, the poster describes how they get into our bodies through different pathways. The poster instructs people in personal hygiene and sanitation encouraging the washing of hands, the wearing

of shoes, keeping drinking water clean and food safe from flies.

Malaria Prevention in Images

The 1950 health poster shown in Figure 7 has two fundamental components of Chinese anti-malaria education seen throughout the decades-long campaigns: (1) scientific information about the disease, and (2) actions to prevent the disease. The upper part of the poster shows how mosquitoes spread malaria from the sick to the healthy while the lower part shows the symptoms of the sick, including chills and fever, sweating, and a swollen belly. Two methods of prevention are shown: preventing the growth of mosquitoes in standing water by covering the water jar, filling up shallow ponds and ditches, pulling out waterweeds, and raising fish to feed on mosquito larvae; and protection from and killing of mosquitoes using bed nets, door and window screens, covering oneself up when in a cool place, burning mosquito-repellent (wenxiang 蚊香), spraying insecticides, and swatting. The health message of the poster is based on images that are easy to understand and imitate and there is no particular political ideology involved, unlike later posters (cf. Figures 8, 9, 11, 12). There is also no mention of anti-malaria drugs. Why are these absent? The poster was produced by the Health Bureau of Pingyuan 平原 province, which only existed between 1949 and 1952 before it was incorporated into Henan and Shandong provinces during the administrative restructuring of late 1952. In its early consolidation of power, the CCP led a broad-based coalition to rebuild the shattered society and to create a viable administrative system. Health work focused on fighting disease and anti-malaria drugs were scarce, along with most kinds of medicine and also health professionals. Rural areas had less access to medicine and health workers. If the public health posters promoted anti-malaria drugs that were not readily available, the campaign would only have disappointed its target

population and decreased their enthusiasm for health work. It could even have undermined the credibility of the government itself.

Health posters produced in the mid-1950s showed images that ordinary people could relate to in their daily life, as seen in Figure 8, indicating their role as active agents in fighting diseases and rebuilding their society. As before, the poster in Figure 8 offers a scientific explanation of the mosquito's lifecycle and its role as carrier of malaria parasites, but this is presented in smaller images, indicating a lessening of importance. The key message of the poster appears in the larger images showing

preventive actions, including spraying, cleaning, filling ditches, using bed nets, and getting blood samples. A new element in the poster was the encouragement of the malaria patient — now recognised as a source of disease — to have blood samples taken and to seek treatment for her own benefit and for others around her (lower right image).

A significant change is the emphasis on the health benefits for the larger community beyond the individual patient — a clear promotion of the collective good. Health posters like this not only popularised knowledge about disease but also prescribed preventive activities for the public to imitate and practice.

Old values, however, were hard to discard and people often found change difficult, especially when they saw a disruption of their traditional way of life with little immediate economic gain. People in rural China had carried on their lives guided by the 'wisdom' of popular or proverbial sayings for generations. Difficulties in changing traditional beliefs and behaviours were reported in newspapers. Some peasants did not co-operate with public health campaigns at village level. People in northern villages thought the health campaigns contradicted their traditional beliefs, for example, 'washing your bedding in May would lead to the death of husband and son; no flies in May, no harvest in autumn'.37 In northern Jiangsu, some peasants did not like the health workers taking blood and stool samples in the campaigns against malaria, schistosomiasis and filariasis.38 They saw the heath workers as only bringing inconvenience to their lives and disruption to their collection of night-soil as fertiliser. Besides, who would give away blood — the essence of life — for nothing? However, peasants did change once they saw the benefit. For example, they did not like to have their water chlorinated because of its unpleasant smell but once they were convinced that the purified water would prevent them from getting cholera, dysentery, and other diseases, they would purify water themselves.³⁹ Peasants did, however, welcome the eradication of mosquitoes with insecticide and the killing of flies in the toilets with lime powder. Educating the peasants about disease prevention was an important task for the health workers. They brought visual materials — posters, lantern slides, pictorial pamphlets, and films — to show villagers the diseases of typhoid, schistosomiasis, filariasis, cholera, malaria, and so on. Villagers were



Figure 8

'Eradicate Malaria within a Fixed Time Period'. Painted by Mo Gong 默公 and produced by the Tianjin Health Propaganda and Education Institute. Printed by the Tianjin People's Printing Factory, July 1956. Courtesy of the Chinese Health Poster Collection, National Library of Medicine, National Institutes of Health, Bethesda, MD, USA

- 30 Sherman Cochran argued that medical merchants played a significant role in spreading western ideas in China. See his chapter, 'Marketing Medicine and Advertising Dreams in China, 1900-1950,' in *Becoming Chinese: Passages to Modernity and Beyond*, ed. Wen-hsin Yeh (Berkeley: University of California Press, 2000), pp.62–97.
- 31 Cochran, 'Marketing Medicine and Advertising Dreams in China'.
- 32 Fa-ti Fan, 'Redrawing the Map: Science in Twentieth-Century China,' *Isis* 98 (2007): 524–38.
- 33 Although this article does not focus on iconographic analysis per se, some works in the field may be of interest to readers. See Udo Hebel and Christoph Wagner, eds., Pictorial Cultures and Political Iconographies: Approaches, Perspectives, Case Studies from Europe and America (Berlin and New York: De Gruyter, 2011); and Gunther Kress and Theo van Leeuwen, Reading Images (London and York: Routledge, 2006).
- 34 Chinese Public Health Collection, Prints and Photographs, National Library of Medicine, Bethesda, Maryland. See sample posters at http://www.nlm.nih.gov/hmd/chineseposters/index.html.



Figure 9

'Actively Prevent and Treat Malaria.' Text by Wang Liancheng 王连城. Painted by Zhao Shuqi 赵树繁 and Mo Gong 默公. Published by the Science Popularization Press. Printed by the People's Education Printing Factory, May 1963. Courtesy of the Chinese Health Poster Collection, National Library of Medicine, National Institutes of Health, Bethesda, MD, USA.

- 35 The series on agriculture had seventeen books on different topics; the series on the natural sciences had sixteen books; and the series on history and geography had six books.
- 36 Lu Zhensheng 陆振声, Ke pa de nueji 可怕的疟疾 (Shanghai: Beijing shudian, 1952.)
- 37 'Dongbei nongcun ji gongkuang aiguo weisheng yundong hencha' 东北农村及工矿爱国卫生运动很差,Neibu Cankao 内部参考,11/9/1952. Cited in Yang Nianqun, 2004, p.172, footnote 49. Interestingly, scientific studies prove that there is something to the popular saying about flies. Recently researchers in Japan have tried to breed flies for commercial use to take over pollination as the number of bees has dangerously decreased in recent decades.
- 38 Author's interviews with physicians Bao, Li, Tao, and Zhang, July 2009.
- 39 Author's interviews with health workers in Guannan county, northern Jiangsu, 2009– 2010. Local peasants used to purify their water with alum (mingfan 明矾) because the river water they used was muddy.
- 40 Author's interviews with physicians Bao, Li, Tao, and Zhang, July 2009.

curious to learn, intrigued that the official name of malaria was *nueji* 疟疾 while they called it *baizi* 摆子.⁴⁰ Gradually, the campaigns were effective in changing old attitudes as people began spraying insecticide to kill mosquitoes and flies, and using bed nets.

Images in anti-malaria posters in the early 1960s presented a peaceful society, where people engaged in a collective effort to eradicate malaria and improve their lives. The viewer of the poster 'Actively Prevent and Treat Malaria' (Jiji fangzhi nueji 积极防治疟疾, Figure 9) focuses on the lower central image, where the community works together to

eliminate the breeding grounds of mosquitoes by dredging rivers, filling up ditches and shallow ponds, and pulling out weeds. Raising fish and ducks also helps prevent the growth of mosquitoes as they feed on larvae. At the same time, these actions improve the environment and create new farmland to increase agricultural production. The poster portrays the peaceful and harmonious effort to build a prosperous and healthy society.

In addition to showing preventive methods, a new emphasis was put on medical information and treatment of the sick in this poster, as anti-malarial drugs were being manufactured in large quantities and were increasingly available in the 1960s. The upper left image of the poster calls on malaria patients to get timely treatment for their own good and for the people around them. Those who have suffered malaria in the previous two years are now registered and given medicine in an effort to root out the disease. In contrast to the early anti-malaria posters, drugs became an indispensable element in the visual presentation of anti-malaria campaigns from early 1960s onward. The shift to showing anti-malaria drugs in the posters indicated changes in the strategy for fighting the disease when medicine was available to the population. Despite the changes, the key task of anti-malaria posters remained the same: to show what malaria is and how to eradicate it.

Use of Tradition for Socialist Reconstruction

An outstanding feature of the poster in Figure 9 is its popular aesthetic appeal. The painters used folk art style: the individuals wear traditional attire, in distinctive Chinese New Year (nianhua 年画) colours and paper-cutting (jianzhi 剪纸) forms. ⁴¹ Both forms have long historical associations with peasant art and expressions of happiness. ⁴² Chinese families commonly hang auspicious New Year pictures in their homes to wish for happiness throughout the entire year. The nianhua style of a health poster enhances its aesthetic appeal (so it may be kept longer), but, more importantly, it makes health and happiness inseparable.

Traditional rhyme styles were also used in health instruction. The poster 'Prevent and Treat Malaria' (Fangzhi nueji 防治疟疾 Figure 10), presents an

image of the collective effort to clean up the environment to prevent the spread of mosquitoes. The image is accompanied by a health message written in the style of the Sanzi jing 三字经 or Three-character Classic — a popular literary form notable for its easy-to-remember rhymes. Any child in China can recite the ancient classic that starts with 'Humans are born kind' (Ren zhi chu, xing ben shan 人之 初,性本善). At the left of the poster is a poem, as if the poster is a tradi-



tional Chinese painting. 43 The health message speaks directly to agricultural production — a concern of the farmers, which indicates that the poster was made for rural use. The rhymed text makes the health message read like a song. The first section reads:

Malaria harms people, it comes from plasmodium, spread by mosquitoes; after their bites, you get the disease, you feel a chill, and then fever, headache and sweat; July and August, easy to get, once infected, four limbs weak, face yellow, spleen swollen, busy farming time, labour is lost.

Three-character-style instruction was popular in rural health campaigns that targeted different types of endemic and epidemic diseases and was often created by local health education staff to fit the local conditions of disease and customs.

Disease control was not separated from the overarching goals of transforming the countryside and building a better society, which were important parts of the central government plan on agricultural development. The National Program for Agricultural Development (Quanquo nongye fazhan gangyao 全国农业发展纲要) for 1956-67 stated that in the twelve years the country would achieve, in all possible places, the basic eradication of the most harmful diseases — schistosamiasis, smallpox, plague, malaria, black fever, hookworm, filariasis, tetanus, and venereal disease. In the poster 'Do a Good Job of Health Reconstruction in the Countryside' (Gaohao nongcun weisheng jianshe 搞好农村卫生建设, Figure 11), the images present a transformed rural China — the socialist people's commune (Shehui zhuyi renmin gongshe 搞好农 村卫生建设) in the spring, where people are healthy and happy, firm in their belief in the leadership of Chairman Mao (Mao pins are on their jackets) and the socialist road of people's communes ('people's communes are good' is written on the straw hat of a peasant). They have achieved the modernisation of rural China with electricity, rows of houses, rice fields set in an idyllic land of mountains and rivers, with peach trees in full blossom in the background. Here, the symbolic meaning of the peach — longevity in traditional Chinese culture — suggests long life and prosperity and alludes to the utopian trope of the 'Spring Peach Blossom'. A quotation from Chairman Mao, 'Mobilise the people, pay attention to hygiene, reduce diseases, and improve people's health' is at the top of the poster.

The integration of health measures in agricultural development is further illustrated in the five images at the bottom of the poster. Effective management of water and waste was crucial to the improvement of sanitation and people's health. The images (from left to right) at the bottom instruct people

Figure 10

'Prevent and Treat Malaria.' Produced by the Health and Epidemic Prevention Station of Jiangxi Province, n. d., ca. 1960. Courtesy of the Chinese Health Poster Collection, National Library of Medicine, National Institutes of Health, Bethesda, MD, USA.

- 41 There are regional distinctions in making *nianhua*, with different colours and styles come from different places.
- 42 James A. Flath, *The Cult of Happiness: Nianhua, Art, and History in Rural North China* (Vancouver and Toronto: University of British Columbia Press, 2004).
- 43 A traditional Chinese painting is not considered complete without a poem to accompany the picture.



Figure 11

'Do a Good Job of Health Reconstruction in the Countryside.' Produced by the Health and Epidemic Prevention Station of Jiujiang Prefecture. Printed by the Jiangxi Printing Company, ca. 1970. Courtesy of the Chinese Health Poster Collection, National Library of Medicine, National Institutes of Health, Bethesda, MD, USA.

standards and better ways of managing animal waste and converting it into fertiliser. It encourages people to change their small wood stoves into stoves with chimneys so that smoke will go out of the house, and to change small windows into large ones to let in more fresh air and light. To make sure that water is clean and convenient for use, the poster instructs villagers to build wells close to the village and far away from toilets and to change old latrines into modern toilets so as to improve the management of

where and how to build cow sheds

and pigsties with modern sanitary

human waste and turn it into fertiliser. In doing so, better sanitation and health are achieved and agricultural production is increased at the same time. The message next to the images is written in traditional rhymed couplets to make it memorable.

Traditional literary style was even used in the explicitly revolutionary anti-malaria poster shown in Figure 12. Its revolutionary spirit, red highlights, and Chairman Mao's quotation at the top, identify the poster as a product of the Cultural Revolution but its literary style seems contradictory to the revolutionary goals of destroying the 'four olds' (sijiu, $\square \square$) — customs, habits, culture, thought. However, its producers could defend themselves by quoting Chairman Mao: 'Employ the ancient for the present' (qu wei jin yong 古为今用). Like the standard anti-malaria posters, this one contains six images that show (clockwise from top right): (1) what is malaria? (2) what to do when you are sick (3) taking medicine to treat the disease, (4) barefoot doctors bringing medicine to the peasants in the fields, (5) patients from last season taking medicine to prevent relapses, and (6) eliminating mosquitoes and their breeding grounds. Charts of medical information are unobtrusively inserted into the poster to tell people the names of antimalarial medicines and how to take them, conveying medical information in a direct and clear manner. When posters like this were posted in rural clinics, barefoot doctors could easily refer to them.

The larger image is the focus of the poster. A young woman — the barefoot doctor — is front and centre, spraying insecticide to kill mosquitoes. On the far left, a woman is using the traditional method of burning dried herbs to kill and drive away mosquitoes. The red flags in the background signify revolutionary spirit, and its bright colours make the poster a visually stimulating presentation of health-related activities. This poster was produced in 1970, during the Cultural Revolution, when politics were in command, and art had to depict and serve revolutionary activities — hence, the revolutionary images of the anti-malaria movement. The colour red — traditionally the colour of happiness in Chinese culture — was dominant in this revolutionary context. As was common in this era, the producer of the poster was officially a collective— the Revolutionary Committee of the Hygiene and Epidemic Prevention Station (Weisheng fangyi zhan gewuihui 卫生防疫站革委会).

44 On barefoot doctors, see Fang Xiaoping, 'From Union Clinics to Barefoot Doctors: Healers, Medical Pluralism, and State Medicine in Chinese Villages, 1950–1970,' Journal of Modern Chinese History 2.2 (2008): 221–37, and Barefoot Doctors and Western Medicine in China (Rochester: University of Rochester Press, 2012); and Li Decheng 李德成, 'Hezuo yiliao yu chijiao yisheng yanjiu (1955–1983)' 合作医疗与赤脚医生研究 PhD diss., College of Humanities, Zhejiang University, 2007.

Barefoot doctors, the celebrated 'newborns' (xinsheng shiwu 新生事物), were prominently featured in the poster, either spraying or bringing medicine to patients, demonstrating their devotion to fighting diseases and caring for the people. The depiction of a woman as a public health professional characterised the posters of socialist China (see Figures 8, 9, 11, 12). A woman playing an active role in the new China helped create the ideal woman as healthy and productive - a sharp contrast to the past where women were represented as crippled by foot binding and social oppression. Now they were working side by side with men, allegedly with equal status. This public face of health professionals as female, particularly featuring in the image of barefoot doctors, served the official policy of promoting women's equality rather than presenting a realistic picture of their situation in China. According to recent studies, women constituted less than forty per cent of the barefoot doctors, due to lack of qualified literate young women in rural China.44 The tradition of focusing on the son's education continued to dominate in rural China, thus, rural girls lagged behind rural boys in education and other aspects of personal fulfillment.45 Fewer rural young women were able to meet the literacy requirement for the training of barefoot doctors and when urban youth - male and female - were sent down to the countryside during the Cultural Revolution, they

became the main source of barefoot doctors. However, simply presenting an image of female doctors, demonstrated the possibility of women being professionals and helped advance the status of women.

Conclusion: Health Campaigns and Social Change

The anti-malaria education campaigns offer us a window to see the interrelations of art, politics, and scientific knowledge in the construction of a socialist China. Different artistic forms — traditional and modern, folksy and revolutionary - were used to achieve effective campaigns. The use of popular art forms and traditional literary styles made images familiar and attractive and messages easy to remember. The content of the health promotion posters stressed a scientific understanding of disease and criticised the old way of thinking as superstition. Nonetheless, traditional methods of moxabustion and burning mosquito-repellent were presented alongside the modern techniques of spraying insecticide to control malaria.⁴⁶ The mixed use of Western and Chinese medicines was encouraged by state policy and pragmatically practiced by the public. Contrary to the assumption that all old traditions were done away with during the Cultural Revolution, the posters present us with visual evidence that traditional literary styles and art forms, as well as traditional Chinese medicine were all applied to the needs of health campaigns and the promotion of new social values. In the dissemination of scientific knowledge by visual means art served the vision of a socialist society, while ideology pushed the boundaries of creative and artistic expression.



Figure 12

'We Are Determined to Eradicate Malaria.' Produced by the Revolutionary Committee of the Health and Epidemic Prevention Station of Jinan City, May 1970. Courtesy of the Chinese Health Poster Collection, National Library of Medicine, National Institutes of Health, Bethesda, MD, USA.

- 45 On rural female literacy, see *Census of China 1982* (Chinese Academy of Social Sciences, 1986); William Lavely, Xiao Zhenyu, Li Bohua and Ronald Freedman, 'The Rise in Female Education in China: National and Regional Patterns,' *China Quarterly* 121 (March 1990): 61–93; and Ruth Hayhoe, ed. *Education and Modernization: The Chinese Experience* (Oxford: Pergamon Press, 1992).
- 46 For samples of Chinese anti-malaria posters, see the exhibit at the National Library of Medicine at <www.nlm.nih.gov/exhibition/chineseantimalaria/credits.html>.

47 Julia Andrews, Painters and Politics in the People's Republic of China, 1949–1979 (Berkeley: University of California Press, 1994); Melissa Chiu and Zheng Shengtian, Art and China's Revolution (New Haven: Yale University Press, 2008); Richard King, ed., Art in Turmoil: The Chinese Cultural Revolution, 1966–1976 (Vancouver: University of British Columbia, 2010); Ellen Johnston Laing, Selling Happiness: Calendar Posters and Visual Culture in Early-Twentieth-Century Shanghai (Honolulu: University of Hawai'i Press, 2004); and Stefan Landsberger, Chinese Propaganda Posters: From Revolution to Modernization (New York: M.E. Sharpe, 1995).

Bu Liping 卜丽萍

Professor of History Alma College, USA bulipi@alma.edu

More than simply promoting good health, the posters capture the changes in society and politics in China over time. For instance, Mao Zedong's writings on health became the hallmark of posters produced during the Cultural Revolution, whereas posters produced in the 1950s and early 1960s portrayed a peaceful and less politically driven picture of society. As studies have shown, visual media have played a crucial role in China's economic, social, cultural, and political activities throughout the twentieth century. 47 Socialist China continued the tradition and pushed it beyond the cities into rural society, encouraging mass participation in social and political movements. The health campaigns integrated anti-disease programs into the political transformation of people and society. The Party leadership assumed that when people were armed with scientific knowledge and motivated by political enthusiasm in the fight against disease, the country would gain on both the health front and in socialist construction. Health services and the educational impetus of the campaigns brought real changes and benefits to the lives of ordinary people, but they also helped spread the state ideology. The attempt to change old attitudes and hygienic practices was integral to the larger scheme of changing a traditional mentality into a scientific socialist worldview. Through education and propaganda, the Patriotic Health Movement helped to create a public culture infused with the distinct values of Chinese socialism and national pride.

EAST ASIAN HISTORY 39 (2014)