

Taiwan's Malaria Eradication in a Global Context

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Malaria Eradication in Taiwan-Fortieth Anniversary Exhibition.
Taipei, 2005. Photographed by Wen-Hua Kuo

My research interest is how public health was addressed during the Cold War period. In my present project, I argue that malaria eradication in Taiwan, one of the countries that first introduced the planned spraying of DDT for malaria control and that adopted a vision of eradication, best suits my line of inquiry as a research subject.

In the summer of 2009, I spent three weeks at the Rockefeller Archive Center (RAC), one of the places that contains primary sources on this topic, with its generous support of a grant-in-aid. The time was right for a review of these materials. After Taiwan had been cut off for nearly two decades from almost all international organizations that require membership as countries, its past public health achievements were recognized in the 1990s as an essential part of claiming its pride as a politically sovereign land. Among these public health works, malaria eradication received the most attention. For example, Kaohsiung Medical University hosted a memorial symposium that included physicians and advisors involved in this task, and it published their accounts in the *Kaohsiung Journal of Medical Sciences*. This special issue was followed by *Malaria Eradication in Taiwan* by the Department of Health, first in English and then in Chinese, in 1993. In 2005, the Taiwanese government initiated an oral history project in order to restore this achievement; the special exhibition shown in the beginning of this report was one of its outcomes.

On the other hand, with the help and support of the RAC, new scholarship has looked at the global history of malaria and its control, such as the special issue in *Parasitologia* (2000) and the books *Mosquito* (2001), *To Cast out Disease* (2003), and *The Making of a Tropical Disease* (2007). Fortunately, I had the privilege to read in advance parts of the most recent publication on this topic, *Malaria in Modern East Asian History* (2009), including the essays written by its editor, Ka-Che Yip, and by Darwin Stapleton, the former executive director of the RAC. Their essays provided me the regional context necessary for this task.

I hoped to understand three issues from the sources at the RAC. First, concerning the cost-efficiency debate over how malaria should have been controlled, I expected to learn how the Rockefeller-sponsored anti-malaria project was financed before and after the Kuomintang (KMT) regime's retreat to Taiwan, and what the technical concerns were that could affect the results of malaria control. Second, concerning anti-malaria research and administration, I hoped to look at the transformation of anti-malaria knowledge from the German-Japanese style of parasite control to the control of vectors. Third, I wanted to know specifically how, in terms of epidemic control, the working process of Taiwan's malaria eradication affected its later public health tasks. In the rest of this report, I will summarize my findings accordingly.

As many scholars have shown, the International Health Division (IHD) of the Rockefeller Foundation (RF), despite its substantial interest in East Asia, started its malaria program in China in the late 1930s, and it could not last after the fall of Mainland China. Some preliminary studies of local vectors and anti-malarial procedures were conducted in the "Great Rear Area," including Chefang at the Burma - Yunnan border and Shapingpa in Szechuan. After the end of World War II, Chiangning was added to the anti-malaria work when the National Health Institute moved back to Nanking. Taiwan's Chauchou was included by IHD experts at around the same time as Chiangning, and according to primary materials (RG 1, Series 601 and RG5.3, Series 600), the same kind of mosquito survey and anti-malaria drug testing was carried out. Unfortunately, the IHD's official participation did not last long. In 1949, upon the discussions on the future of health work in China, the Far

East regional headquarters of the IHD moved to Bangalore and closed its project in Taiwan.

Even so, Rockefeller influences remained on Taiwan's postwar malaria control. The 1949 statement of J. Heng Liu, a KMT medical expert closely associated with the Rockefeller Foundation's work, explained this standpoint albeit political fiascos (RG 1, Series 601, Box 44), "we were morally and legally obliged to support the Taiwan Malaria Research Institute for five years and that deficits in their budget for the balance of the five year period since the formation of the Institute should be made up by a cash grant." The materials at the RAC show that although the Rockefeller Foundation did not officially advise Taiwan's eradication project (WHO did, starting in late 1951), this project basically resembled others in the region that were sponsored by the RF, such as the projects in Sri Lanka.

The most interesting aspect of the Rockefeller Foundation's anti-malaria influences on Taiwan is perhaps in the administrative framework it created. Not only did it leave equipment and a building to the Taiwan Provincial Malaria Research Institute (TPMRI), which became the headquarters for the all-island malaria eradication program, it set up for Taiwan a working scheme that functioned independently from the Mainland (RG2, Series 100, Box 360). In addition to the Malaria Research Institute, as seen in its director John Harland Paul's report to regional headquarters, it had field stations in Keelung and Nantou. Under Paul's supervision, the institute and its field stations conducted various field experiments that were not necessarily simple repetitions of those that had been done on the Mainland or elsewhere. This observation helps us to reinvestigate the experiments recorded in local

materials concerning the cost-efficiency of eradication in the 1950s. Indeed, Paul Russell's *Practical Malariology* (1952) notes that, although it took four New Taiwan Dollars (NTD) per person to control malaria, this project created a fifty-two NTD benefit for every resident of Taiwan by avoiding his/her economic loss due to this epidemic. This statement was backed by social studies, and they were designed to meet Taiwan's local conditions.

By discovering the "localness" of Taiwan in a global context, we move on to the inquiries regarding the continuity and discontinuity of anti-malaria knowledge and practice in postwar Taiwan. As Iijima Wataru (2005) points out, under its fifty-year rule Japan established for Taiwan an anti-malaria system whose focus was on the elimination of parasites among people rather than the eradication of its vectors in the field. Meanwhile, the Rockefeller anti-malaria work in India and China kept testing insecticides that could kill mosquitoes more efficiently. As the ruling power changed, was there any transition in Taiwan's anti-malaria work?

The materials at the RAC enabled me to capture this transition, though not in its entirety. This transition was far more complicated than a simple switch from German-Japanese style to the one dominated by the United States/Rockefeller Foundation. Two examples help to explore this complexity. The first example is S. C. Hsu, a senior member of the Rockefeller malaria staff (RG1, Series 601, Box44) who was heavily involved in the Rockefeller project on the Chinese Mainland, especially the Chefang experiment. During the conflicts between the KMT and the rising CCP, Hsu, as a staff member of the Joint Commission of Rural

Reconstruction (JCRR) was forced to move to Taiwan and leave his family on the Mainland. Although Hsu's superiors knew his situation and asked WHO to offer him a position outside of Taiwan, this arrangement never worked out. As a result, Hsu spent the rest of his health career in Taiwan as the JCRR's division director of rural health. Although, according to Paul Russell, "Dr. Hsu . . . had experience with DDT and with the new anti-malarial drugs," Hsu did not take part in Taiwan's malaria eradication project.

The second example is Kuang-Chi Liang. According to local documents, Liang graduated from Taihoku Imperial University, the most prestigious school in colonial Taiwan, and joined the TPMRI in 1947. As a young medical graduate, he worked with John Harland Paul and Robert Brigg Watson and remained in the TPMRI after the end of the Rockefeller involvement in the project. In my opinion, Liang is one of the key figures involved in the transition of anti-malaria knowledge and practice in Taiwan. For example, John Harland Paul's report showed that the RF team acknowledged the entomological work done by the Japanese, and Liang might be the person who brought these Japanese papers to their attention.

Ka-Che Yips' paper (2000) has indicated the importance of the abundance of qualified personnel with malaria eradication. However, Liang's training reflected the peculiar relationship between Taiwan and the Rockefeller Foundation after 1949. Not only did anti-malaria experts, such as Robert Briggs Watson and Paul Russell, correspond with Taiwanese staff and entomologists concerning their work in Taiwan, but the Rockefeller

Foundation also granted a fellowship to Liang to study malaria in the United States under its program for Japan, and kept in contact with him during Taiwan's all-island eradication program. Thus, there is no doubt that when Taiwan was expelled from WHO, Liang, then having been fully experienced with malaria eradication practices, was recommended to continue his service as a WHO expert.

How, in terms of its working processes, did Taiwan's malaria eradication affect later public health tasks? In my grant application, I used the term "cold war logic" to not only refer to how public health should be conducted in order to protect people's health, but to indicate two types of logic closely related to the Cold War. One concerns the political context that sets the priorities among the public health problems a government would like to tackle. The other is a cost-benefit consideration that shaped the ways a public health project was conducted and the goals it claimed to achieve. Although in my archival research I did not find evidence that directly linked Taiwan's anti-malaria project to such logic, I did see some hints that require more investigation.

For example, S. C. Hsu, the former Rockefeller malaria expert, devoted his late career to Taiwan's population control. Although my previous study has shown that some of Hsu's ideas on family planning resembled that of epidemic control, the RAC's materials on the Population Council provided more evidence in this regard. Another person that attracted my attention was L. P. Chou, a school senior of Kuang-Chi Liang at Taihoku Imperial University (but Chou graduated from its junior college). Like Hsu, Chou is well known for his

involvement in Taiwan's family planning program, but few know of Chou's early public health career as a member of the anti-malaria staff in Nantou under the IHD project. As a "pro-US" physician, Chou joined the JCRR after two years of general practice; with the sponsorship of the Population Council, Chou eventually earned his Ph.D. degree in public health at the Johns Hopkins University.

In summary, it was a brief yet productive, fruitful stay. I thank Dr. Kenneth Rose, Camilla Harris, the grant administrator, and all of the archivists for their kind assistance and hospitality during my stay. In particular, I am grateful for having Thomas Rosenbaum work with me. His wide knowledge of the Rockefeller Archives, including those concerning the International Health Division, population control, and Rockefeller's philanthropic interests in East Asia, offered advice and guidance that made my research much more efficient.

Although the materials at the RAC clarified my inquiries on Taiwan's malaria eradication program by putting it into a global context, this does not mark the end of my research concerning the logic of public health in postwar Taiwan or in East Asia. The National Archives in Washington, D.C., as indicated by Darwin Stapleton in a telephone consultation, will be the next stop of my research journey. In addition, as a sideline of my stay at the RAC, I found that the files on Taiwan's population control are severely under-studied (Population Council Collection Accession II, Foreign Correspondence Box 47-50). By way of conclusion, I would like to bring attention to these files; they are a key to understanding the full impact of Rockefeller philanthropic work in Taiwan.

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