

Archival Materials Related to Chinese American Scientists and Modern China¹

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In 2010-2014, I received a grant from the National Science Foundation on a historical study of Chinese American scientists and engineers, with a special focus on what I would call the 1949-generation. These were the roughly 5,000 Chinese students and scholars who were in the United States in 1949 when the People's Republic was established in China. Eventually about 1,300 of them went back to China (the "returnees") in the 1950s despite many obstacles posed by worsening US-China relations during this early stage of the Cold War. But over 4,000 decided to stay in the US ("stayees") and pursue newly available professional opportunities for Chinese Americans.² My project has sought to examine the intertwined experiences of both the returnees and stayees as well as their roles in the development of science and technology in China and the US and US-China relations.³

Such interests have led me to explore archives in the US, expressly the National Archives (especially RG 85 Immigration and Naturalization Service and RG 319 Army Staff), presidential libraries (especially those of Dwight Eisenhower and Ronald Reagan), and university special collections, make requests for declassified files to the FBI and other agencies, and conduct oral history interviews. These sources have helped to illuminate the transnational characters of the scientific and technological enterprise in modern China, including the impact of evolving China-US relations, the training of Chinese scientists abroad, and the active roles of Chinese American scientists in Chinese science and education policy.

More broadly, as many China scholars are well aware, there are excellent archival collections in the United States that are crucial to the study of modern Chinese history, including the PRC period, especially on the critically important subject of China-US relations. These can be found in the records of the various federal agencies in the National Archives, especially those of the Department of State, some of which have been included in the official and cumulative *Foreign Relations of the United States (FRUS)* series. Two volumes on US-China relations are currently under preparation for the Reagan presidency, the most recent covered by *FRUS*.⁴ *FRUS* also draws documents from the various presidential libraries, which, like the National Archives, are part of the National Archives and Records Administration (NARA) system. Then there are the archival collections or records management systems in both public and private institutions, including state and local governments, universities, corporations (e.g. General Motors and Boeing), non-governmental organizations (e.g. the National Academy of Sciences and Green Peace), and foundations (e.g. Ford and Rockefeller) that have had operations in China or have been involved in US-China interactions. Not all of these archives

are open for research but they are an important source of information on modern China when accessible.

In regard to documenting Chinese American scientists, as members of the 1949-generation have reached retirement in recent years, archives related to them have become increasingly available at academic institutions. An excellent cluster of such collections has emerged, for example, in the San Francisco Bay Area. They range from the personal papers of linguist Yuen Ren Chao (赵元任), at UC Berkeley East Asian Library, and the architectural engineer T. Y. Lin (林同炎), at UCB Bancroft Library, to the biochemist Choh Hao Li (李卓敏), at UC San Francisco Special Collections, to the records of Aid Refugee Chinese Intellectuals, Inc (ARCI) at Stanford's Hoover Institution Archives. The personal papers stand out due to both the professional prominence of their creators and their quantity and quality, including extensive correspondence that illustrated their subjects' transnational lives and their active roles in shaping US-mainland China-Taiwan ties. For example, the correspondence between Chao—and his wife Bu Wei Yang (杨步伟)—and their second daughter Zhao Xinna (赵新那) who returned with her engineer husband Huang Peiyun (黄培云) to China from the US in 1949, are valuable for studying the experiences of both the stayee and the returnee American-educated Chinese scientists; they also offer insights in the beginning of the "reform and opening up" of China after the decade of the Cultural Revolution.⁵ T.Y. Lin helped make the case for the international development of Pudong in Shanghai, a critical step in economic reform under Deng Xiaoping (邓小平) in the 1980s and 1990s. The Lin Papers include letters he exchanged with prominent Chinese leaders such as Wang Daohan (汪道涵), Jiang Zemin (江泽民), and Zhu Rongji (朱镕基). Then almost unique among the 1949 generation, Choh Hao Li maintained close ties with individuals and institutions of the small communities of Chinese scientists in Taiwan and Hong Kong in the 1950s and 1960s. He helped to establish biotechnology in Taiwan by founding the Institute of Biochemistry at Academia Sinica and assisted in recruiting people for the fledgling Chinese University of Hong Kong (香港中文大学) which was first headed by his brother Choh Ming (李卓敏) in the 1960s and 1970s.⁶

The official papers of Chang Lin Tien (田长霖), the Chinese American engineer who became UC Berkeley's chancellor in the 1990s, form part of the University archives. His personal and professional papers are reportedly being planned to be processed and made available at the Chang Lin Tien Center for East Asian Studies at UC Berkeley. When this collection is completed and open to the public, it will shed light not only on Tien as a Chinese-American engineer,

educator, and activist, but also on the generation of Chinese-American scientists who were born in mainland China, moved to Taiwan during the civil war (1945-1949) and then came to pursue graduate education in the US since the 1950s. Like the 1949-generation, Tien and his cohort lived transnational lives with involvement in science, technology, education, and public policy in the US, mainland China, Taiwan, and Hong Kong.

The files of the Aid Refugee Chinese Intellectuals Inc. document the efforts of the organization in dealing with the coming and settling in the US in the 1950s of several thousand Chinese intellectuals and professionals who had fled the Chinese civil war to Hong Kong. Among these refugees were many scientists and engineers, and the ARCI group represented another major wave of Chinese international professional migration into the US following those 1949-generation stayees.⁷

In my research, I have also located (and examined some of) the following personal papers related to Chinese American scientists, engineers, and professionals:

Harvard Archives: Kwang-Chih Chang (张光直) (archeology), James C. Wang (王卓) (biochemistry); MIT Archives: Lan Jen Chu (朱兰成) (electrical engineering), Theodore Pian (卞学夔) (aeronautics); UC Berkeley Ethnic Studies Library: Him Mark Lai (麦礼谦) (engineering and Asian American studies); UC San Diego Special Collections: Shang-keng Ma (马上庚) (physics); UC San Diego Scripps Institution Archives: James Tsaihwa Chow (周载华) (oceanography); University of Illinois Urbana-Champaign Archives: K. C. Yeh (叶公节) (electrical and computer engineering), S. M. Yen (严希孟) (aerospace engineering); University of Pennsylvania Archives: Hui-lin Li (李惠林) (botany).

Records of American scientific organizations often contain materials related to Chinese American scientists. The American Physical Society's records at the American Institute of Physics, in College Park, MD, for example, contains files documenting the tenure of the Chinese American physicist C. S. Wu (吴健雄) as president of the APS in the 1970s, a period of exciting US-China scientific exchanges. The files of the now-defunct Committee on Scholarly Communication with the People's Republic of China, affiliated with the US National Academy of Sciences and pivotal in facilitating US-China exchanges in the 1970s and 1980s, often with active participation by Chinese American scientists, are deposited in part at the George Washington University Library in Washington DC (more at the Archives of the NAS).⁸

Not only Chinese American scientists lived transnational lives; so did some of their records. The papers of the prominent Chinese American physicist C. N. Yang (杨振宁), for example, are housed at the Chinese University of Hong Kong; those of UC Berkeley mathematician S. S. Chern (陈省身) are at Nankai University (南开大学) in Tianjin, China; and those of C. S. Wu and presumably her husband and fellow Chinese American physicist Luke Yuan (袁家骝) are at the Southeast University (东南大学) in Nanjing.

A growing body of resources on Chinese American scientists and engineers consists of oral history interviews, usually conducted by their academic institutions such as UC

Berkeley and Caltech, or by professional organizations such as the AIP.⁹ During my own project on Chinese-American scientists I have also conducted several dozen oral history interviews with members of the 1949-generation, including both stayees and returnees, as well as those who came to the US later. Such interviews not only help to complement traditional primary sources but also add an important new dimension to the study of international migration and transnational history: the actual voice, and visual/cultural/linguistic information that is preserved in these interviews in the forms of audio and video recordings.¹⁰

Another resource related to Chinese American scientists is the records of the Federal Bureau of Investigation (FBI). Following the US Freedom of Information Act (FOIA), one can request a deceased person's FBI files by sending an email to foiparequest@ic.fbi.gov. I have thus obtained the FBI records (with security and confidentiality deletions) on H. S. Tsien (钱学森), the Chinese aerodynamicist who had trained and rose to professional prominence in the US at MIT and Caltech before returning to China in 1955 and becoming a leader of the Chinese missile and space programs.¹¹ Perhaps the best known organization using FOIA requests to seek declassified US government documents for public and scholarly use is the National Security Archives whose website presents valuable information on US-China relations, especially in the areas of nuclear weapons, and on developments related to FOIA in general.¹²

Transnational history requires and builds on transnational primary sources. This brief survey of primary sources related to Chinese-American scientists and their roles in US-China relations has illustrated, I hope, the striking diversity in these records in terms of forms (written, audio, video), sources (academic and governmental archives), and geographical distribution matching the transnational network of Chinese American scientists themselves. The increasing availability and richness of these sources have not only enabled us to better document the history of Chinese American scientists, but also expanded the possibilities for historical thinking about the transnational nature of science, technology, and education in China (including Taiwan), the US, and much of the modern globalized world.

NOTES

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² Zuoyue Wang, "Transnational Science during the Cold War: The Case of Chinese/American Scientists," *Isis* 101, no. 2 (June 2010): 367-377.

³ On the roles of the returnee scientists in China, see Zuoyue Wang, "The Chinese Developmental State during the Cold War: The Making of the 1956 Twelve-Year Science and Technology Plan," *History and Technology* 31, no. 3 (2015): 180-205; and Wang, "The Cold War and the Reshaping of Transnational Science in China," in Naomi Oreskes and John Krige, eds., *Science and Technology in the Global Cold War* (Cambridge, MA: MIT Press, 2014): 343-370.

⁴ See <https://history.state.gov/historicaldocuments>, accessed in August 2016.

⁵ Reportedly a plan is under way to publish the Chao Papers in China (in 500 volumes!) See Ren Shiyun (任思蕴), "赵元任档案: 待开发的宝藏" (Yuen Ren Chao archives: A treasure trove waiting to be explored), *Wenhui Bao* (文汇报), June 17, 2016, available at <http://www.whb.cn/xueren/60328.htm>, accessed in August 2016.

⁶ On Choh Hao Li's early career at UC Berkeley, see Benjamin Zulueta, "Master of the Master Gland: Choh Hao Li, the University of California, and Science, Migration, and Race," *Historical Studies in the Natural Sciences*, 39 (2009): 129–170. On Choh-Ming Li, who studied the economic and statistical systems of the early PRC, see "Choh-Ming Li, 79, Dies; Educator in California," *New York Times*, April 25, 1991.

⁷ For a recent study using the ARCI archives, see Madeline Y. Hsu, *The Good Immigrants: How the Yellow Peril Became the Model Minority* (Princeton, NJ: Princeton University Press, 2015).

⁸ A CSCPRC finding aid is available at <https://library.gwu.edu/sites/default/files/grc/CSCPRC.pdf>, accessed December 2016.

⁹ See, e.g., oral history interviews with Yuen Ren Chao at UC Berkeley (http://digitalassets.lib.berkeley.edu/roho/ucb/text/chao_yuen_rao_w.pdf), with the Chinese American engineer Theodore Y. Wu (吴耀祖) at Caltech (http://oralhistories.library.caltech.edu/161/1/Wu_OHO.pdf), with Yu-che Chang (张玉哲), a leading Chinese astronomer, and with C. N. Yang at AIP (<https://www.aip.org/history-programs/niels-bohr-library/oral-histories/browse/a>), all accessed in December 2016. According to the above transcript, the Chao interview produced audio tapes and a thirty-minute video available at UC Berkeley's Bancroft Library. The Caltech and AIP oral history programs maintain audio records.

¹⁰ Some organizations have made available to researchers original audio file of oral history interviews. I have, e.g., obtained such files on the Chinese American geographer Yi-Fu Tuan (段义孚) and engineer Chu-Kia Wang (王足嘉) at the University of Wisconsin, Madison, from the UW Archives. See <https://www.library.wisc.edu/archives/archives/oral-history-program/using-the-collection/>, accessed in December 2016.

¹¹ The best biography of Tsien in English remains Iris Chang (张纯如), *Thread of the Silkworm* (New York: Basic Books, 1995). Her files for the book, useful on Chinese American scientists and Chinese science in general, are available at UC Santa Barbara Special Collections with the finding aid at http://pdf.oac.cdlib.org/pdf/ucsb/spcoll/chang_iris.pdf, accessed in February 2017. Her request to the FBI for Tsien's files having been denied, Chang relied on partial access to some of them from other sources. It should be noted that FOIA requests are often met with long delays and other frustrations. See, e.g., Matthew L. Wald, "Slow Responses Cloud a Window into Washington," *New York Times*, January 28, 2012.

¹² <http://nsarchive.gwu.edu/>, accessed in December 2016.