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Soviet scientists in Chinese institutes: A historical study of cooperation between the two academies of sciences in 1950s

Jiuchen Zhang^{a,*} and Feklova T. Yu^b

^aInstitute for the History of Natural Sciences, CAS, Beijing 100190, China

^bSaint Petersburg Branch of the Institute for the History of Science and Technology, Named After S. I. Vavilov, RAS, Russia

Abstract

In the 1950s, the Chinese Academy of Sciences (CAS) engaged in close cooperation with the Soviet Academy of Sciences. The CAS sent scientists to the Soviet Academy to work as interns, study for advanced degrees, or engage in academic cooperation, and a large number of Soviet scientists were invited by the various institutes of the CAS to come to China to give lectures, direct research, help make scientific plans, and collaborate. The comprehensive cooperation between the two academies was launched at a time when the CAS institutes were in their embryonic stage, which suggests that the better-established Soviet scientists had the opportunity to play a dominate role. But the reality is not so straightforward. The case studies in this paper suggest that besides the influence of compatible political movements in China and the Soviet Union and bilateral ties between these two nations' scientific institutes, disharmony in actual working relationships prevented Soviet scientists from playing the role they might have envisioned within the CAS institutes. The rapid development of the cooperative relationship in a short span of time, combined with lack of experience on both sides, made for a disharmonious collaboration.

Introduction

The 1950s witnessed rapid development of science and technology for the new People's Republic of China. The Chinese Academy of Sciences (CAS) had only fifteen research institutes and three preparatory offices for institutes at its inception in 1949. By the end of 1955, the number of research institutes had grown to forty-seven.

During the Great Leap Forward of 1958–1960,¹ that number increased rapidly, at one point reaching as high as 242.² The establishment of a large number of institutions, which required staffing and new research programs, highlighted the national shortage of scientific talent. Even those Chinese scientists with years of experience faced challenges adapting to the new social environment. Learning from the experience of the Soviet Union became an effective way to address these challenges in the short term.

In order to learn from the experience of the Soviet Academy of Sciences (SAS), CAS leaders decided to “study how to organize and lead scientific research efforts” by sending delegations, students, and scientists to the Soviet Union to build academic collaborations.³ At the same time, a large number of Soviet scientists were invited to China to provide vision and guidance to the new research institutes.

The precise number of Soviet scientists who worked in China in 1950s has puzzled historians. Soviet scientists worked in China in a wide variety of capacities, including as part of the “122 projects” for scientific and technological cooperation,⁴ in government employment, as part of partnerships between the SAS and the CAS, and on provisional invitations and temporary assignments. Even for scholars in CAS programs, visits to China often diverged from original plans due to the needs of actual work, making individual scientists difficult to track. Current estimates of the number of Soviet scientists in China vary according to the documentation used. Most documentary sources are vague on this

¹ The Great Leap Forward was an economic and social development campaign spanning from 1958 to 1960, which sought to industrialize China and collectivize its society based on socialist principles. The campaign developed so rapidly that had damaged the economy and academic research.

² Wang Yangzong and Cao Xiaoye, eds., *A Brief History of Subordinate Units of CAS*, vol. 1 (Beijing: Science Press, 2010), 1.

³ Guo Moruo, “Preface,” in *Learning Advanced Science from the Soviet Union: Compiled Reports of the CAS Delegation to the Soviet Union* (Beijing: CAS, 1954).

⁴ “122 projects” is short for the “Agreement on Joint Efforts and Soviet Aid for Major Scientific and Technological Research between the People's Republic of China and the Soviet Union,” officially signed on January 18, 1958.

*Corresponding author.

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Figure 1. The image of Soviets: In 1950s (left), the slogan is “Great friendship, selfless help” (source: http://blog.sina.com.cn/s/blog_4a9db36e01012fbs.html); in 1960s to 1970s (right), the slogan became “Overthrow Soviet revisionism and social imperialism” (source: <http://www.xinchepping.com/tribe/art/232117.html>).

point, or provide conflicting statistics.⁵ But this limitation need not represent an insurmountable difficulty for historians who wish to assess the impact of Soviet scientists, which lies in their results rather than in their number. Scientists invited by CAS institutes often took on influential roles, contributed to specific work projects the results of which are traceable in the historical record, and were invited to stay longer at their host institutes.

What kinds of roles did the Soviet scientists play? How did they work alongside their Chinese counterparts? What was their influence on the institutes’ scientific research in various disciplines? Little information has previously been available about what these scientists did during their interactions with the CAS. Soviet scientists were portrayed differently in different periods in China. In the 1950s, they were represented as heroes, in the 1960s as enemies (see [Figure 1](#)). In recent decades, the opening of various archives to the public has made more data available with which to answer these questions, but historians have yet to submit these materials to an in-depth, micro-level analysis.

This paper analyzes the development of the CAS institutes in 1950s and discuss the roles Soviet scientists played in academic cooperation between the SAS and the CAS, as well as in the development of the CAS institutes. It further compares the positive and negative roles of Soviet scientists in different research fields. Existing literature has examined Chinese–Soviet collaboration in terms how of these relationships supported national-level scientific and technical planning during the Cold War,⁶ or the roles of Soviet experts as senior advisors in different professions.⁷ Our analysis supplements these

accounts by exploring the details of the working relationships between Chinese and Soviet scientists as the former sought to learn from the latter, and showing how those relationships shaped the implementation of large scale, long term plans.

Origin and scale of institute-level cooperation

The Soviet Union sent scientists to work in China as early as the second half of 1949. The number of Soviet scientists in China was small, consisting mainly of military and engineering professionals. They primarily acted as senior advisors in ministries and commissions, and their stays in China were negotiated by the two governments. Circumstances changed in 1955 when the Soviet Union began to provide massive aid to China and, in May, handed over all of its properties in northeast China to the Chinese government. Common political commitments and ideologies further facilitated the comprehensive cooperation between the two countries. In the first half of 1955, the Soviet Union and China permitted their cultural authorities to initiate direct contact without routing communications through the Ministries of Foreign Affairs. In 1956, China’s State Council, the highest organ of state administration, decided to expand that partnership to all central government authorities.⁸ Subsequently, the CAS institutes were given more autonomy. Many of them invited Soviet scientists to visit China or to provide guidance from the Soviet Union.

Institute-level cooperation promoted by the SAS delegation’s visit to China

Before the summer of 1954, many Soviet scientists were already ensconced in Chinese universities and the ministry’s sectors. But no Soviet scientists were working full time in the Chinese Academy of Sciences.⁹ Institute-level cooperation between the Chinese and Soviet Academies of Sciences began in 1955. In April, a SAS delegation paid a two-month visit to China. From then until the late 1950s,

⁵ Sources indicate that from 1949 to 1960, the CAS invited more than 60 Soviet advisors and scientists to China to inform national science policy and over 820 scientists to visit the CAS, a total of 880 people, see Shen Xiaobin, “A History of Sino-Soviet Cooperation in Science and Technology and Its Impact on China’s Science and Technology Development,” in *Technology Transfer from the Soviet Union to the P. R. China*, ed. Zhang Baichun et al. (Jinan: Shandong Education Press, 2004), 326. The archives of the CAS record that the number was 780, see *A Collection of Historical Documents of the CAS*, 1961 (unpublished documents).

⁶ See, for example, Zhihua Shen, “An Historical Investigation of Soviet Experts in China: Circumstances and Policy Changes,” *Contemporary China History Studies* 9 no. 1 (2002): 24–37 and Qiang Hou, “Signing and Implementation of Sino-Soviet Science and Technology Cooperation Treaty in Early Stage of P. R. China,” *Siberian Studies* 40, no. 5 (2013): 48–53.

⁷ See, for example, Hongyan Wang, “A Comment upon the Russian Experts Invited by Chinese Higher Education Institutions in 1950s,” *Journal of Zhejiang Wanli University* 20, no. 3 (2007): 39–41, 58, and Li Zhang, “Soviet Experts in Chinese Academy of Sciences: Historical Review of Sino-Soviet Cooperation and Exchange between Two Academies of Sciences in 1950s,” *Science & Culture Review* 9, no. 2 (2012): 54–71.

⁸ Shen Zhihua, *Soviet Experts in China (1948–1960)* (Beijing: Xinhua Publishing House, 2009), 145.

⁹ The data come from the report of CAS in 1954 (“Summary of the Symposium on Learning the Advanced Soviet Scientific Experience in Chinese Academy of Sciences,” in *Compilation of Data of Chinese Academy of Sciences (1949–1954)*, ed. General Office of CAS (Beijing: CAS, 1955), 242–50. According to the report of SAS, three Soviet scientists worked in China before 1954, “Illustration on Academic Exchange between CAS and SAS, 1949–1955,” in *A Selected Collection of Documents on the Scientific Cooperation between China and Soviet Union*, ed and trans. Wu Yan et al. (Jinan: Shangdong Education Press, 2008), 14, 198. According to our analysis, three Soviet scientists’ main work was not in CAS.

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