Early History of Spacecraft and Rocketry

HSUE-SHEN TSIEN (QIAN XUESEN)

Hsue-Shen Tsien, a former student of von Kármán and an early member of the GALCIT group, was considered to be “an undisputed genius whose work was providing enormous impetus to advances in high-speed aerodynamics and jet propulsion” (von Kármán 1967, 308). Tsien accompanied von Kármán on a trip to Europe in 1945 to assess the status of German aeronautical developments, and he contributed to the work of the Science Advisory Group of the U.S. Air Forces.

In July 1950, Tsien was accused of being an alien Communist and, consequently, a security risk. His security clearance was promptly revoked. Because Tsien actively worked in highly classified areas, he was permitted to leave the United States for Communist China only in 1955. As von Kármán noted (1967, 308), “the United States ... gave Red China one of our most brilliant rocket experts for no really good reasons.” In Tsien's words, “the great Chairman Mao saved [him, i.e., Tsien] from the difficult environment in a foreign country [United States] and personally led [him] to the road of revolution and liberated [him] from the bondage of old traditional views” (Tsien 1976).

Communist China put development of rocketry and nuclear weapons on the top of its priorities. These were prodigious tasks for an economically backward country. Tsien left the United States for his “great ancestral socialist motherland” in September 1955. Already in February 1956 he sent a proposal “Some Suggestions on Establishing the Defense Aeronautical Industry in China” to the Central Committee of the Chinese Communist Party. In April 1956 Tsien addressed the Central Military Commission, chaired by Premier Zhou Enlai, with the missile program proposal. On 8 October 1956, Tsien was appointed president of China's first missile research establishment, Research Academy No.5 of the Ministry of National Defense.

Communist China greatly expanded its rocketry and space programs, culminating in the launch of the first satellite on its own rocket in 1970. Tsien played the leading role in these developments. His writings and scientific prestige also provided important support for formulating and promoting the disastrous Great Leap Forward policy of Chairman Mao. Tsien became an integral part of the ruling Communist elite. He reportedly publicly supported the crackdown on Tiananmen Square in 1989. “I got where I am today,” wrote Tsien, “because of what Chairman Mao and the Communist party gave me” (Tsien 1976). He is revered today by many in China, where the scientists are exhorted to follow the example of Comrade Tsien and be loyal to the Communist Party and to the socialist motherland.

Blazing the Trail
The Early History of Spacecraft and Rocketry

Mike Gruntman

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ISBN 156347705X; 978-1563477058
505 pages with 340 figures
Index: 2750+ entries, including 650 individuals

This book presents the fascinating story of the events that paved the way to space. It introduces the reader to the history of early rocketry and the subsequent developments which led into the space age. People of various nations and from various lands contributed to the breakthrough to space, and the book takes the reader to far away places on five continents.

This world-encompassing view of the realization of the space age reflects the author’s truly unique personal experience, a life journey from a child growing on the Tyuratam launch base in the 1950s and early 1960s, to an accomplished space physicist and engineer to the founding director of a major U.S. nationally recognized program in space engineering in the heart of the American space industry.

Most publications on the topic either target narrow aspects of rocket and spacecraft history or are popular books that scratch the surface, with minimal and sometimes inaccurate technical details.

This book bridges the gap. It is a one-stop source of numerous technical details usually unavailable in popular publications. The details are not overbearing and anyone interested in rocketry and space exploration will navigate through the book without difficulty. The book also includes many quotes to give readers a flavor of how the participants viewed the developments. There are 340 figures and photographs, many appearing for the first time.

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Book details (including index and reviews) at: http://astronauticsnow.com/blazingthetrail/

About the author. Dr. Mike Gruntman is professor of astronautics at the University of Southern California. Accomplished physicist, Mike is actively involved in research and development programs in space science and space technology. He has authored and co-authored nearly 300 publications, including 4 books.