

47th IAA HISTORY OF ASTRONAUTICS SYMPOSIUM (E4)
Scientific and Technical Histories (2)Author: Ms. Shizuko HAMADA-PORET
FranceTHE JAPANESE ROCKOON PROGRAM FOR THE IGY: TECHNOLOGY AND JAPANESE
SOCIETY**Abstract**

Japanese scientists and engineers began the Japanese Rockoon observation program for the International Geophysical Year. This program was terminated after only five years, and eventually it could not contribute to the IGY. So we hear that "this program is almost buried in Japanese rocket history". However, in the program, there are several points that reflect the evolution of Japanese space transportation and Japanese society at the time.

Firstly, it was a substitutive program in case their sounding rockets did not achieve the performance level necessary to ensure observations for the IGY. Why did inexperienced Japan decide to start such an ambitious technological program? Because they were eager to contribute to the IGY by demonstrating Japan's power to recover after the defeat of WWII and to catch up in the field of science and technology.

Secondly, this program was driven by the strong initiative of scientists and engineers. Even academics and engineers in other fields participated in this program, for example Osamu Hirao, a specialist in automobile technology. At the time, national space policy had not yet matured. The Japanese space program did not receive a large budget from the government. This was a constant issue with the sounding rocket program. Even though the national recovery from the war had accomplished a somewhat level playing field, the program team could not be allocated adequate facilities and materials. To compensate this lack, scientists and engineers had to get by on their ingenuity.

The third point concerns the place where technologies are used. The American Rockoon program worked well. But Japan's wasn't so successful. Certainly there were differences in facilities, materials, budgets, experiences, etc. However, we must also consider the characteristics of the place where a technology or a technological system is used. There are differences in climate, meteorology, geophysics, and also culture and society. The Japanese Rockoon program suffered from natural winds at high altitudes and the selection of sites for sending up balloons. This question is universal for any importation of technological systems. For example the Soyuz launch systems at Baikonur and Kourou are not the same. In the same way, nuclear power plants in France and in Japan need different considerations.

This paper proposes to study, through the Japanese Rockoon program, the evolution of Japanese space transportation and Japanese society at that time and the factors critical for technology importation.