

## Foreword

The programs of the Japanese Antarctic Research Expedition (JARE) widely cover various disciplines of polar sciences. When the research activities of JARE re-started in 1965, one of its major programs was directed towards a multidisciplinary survey of the Antarctic Continent along a new traverse route between the re-opened Syowa Station and the South Pole. It was a three-year program. All kinds of preparatory studies for this program had to be carried out in the first year. For example, various characteristics of the newly constructed snow vehicles of large size must be examined in detail under the real Antarctic winter condition.

A reconnaissance traverse to a certain inland point between Syowa Station and the South Pole was necessary for the second year program. The second year reconnaissance traverse party had another task, that is, to deposit emergency supplies for the coming South Pole Traverse party. The first year task was completed by JARE 1966-67 wintering party led by Dr. A. MUTO. The second year programs were accomplished by JARE 1967-68 wintering party led by Dr. T. TORII. Based on the experimental experiences obtained by the first and second year parties, necessary equipments, devices and tools were modified and improved in many points.

Thus in the third year, everything was ready for the round trip between Syowa Station and the South Pole by JARE 1968-69 wintering party led by Mr. M. MURAYAMA. The South Pole Traverse party headed by MURAYAMA himself achieved a great success in the season of 1968-69, not only in opening a virgin traverse route to the South Pole from Syowa Station located on the Antarctic coast at 39°E in longitude, but also in obtaining a large number of scientific data of various scientific disciplines, some of which had never been studied in the Antarctic inland. This report deals with the general outline and logistic records of this traverse as well as full data of the scientific observations. It gives the general outline of the round trip of the South Pole Traverse and the reports on the logistic problems such as transportation mechanics, telecommunication and equipments, and contains the results of scientific observations en route of ten different disciplines with an introductory remark and a medical report on the traverse members. Here, the scientific disciplines cover glaciology, ice physics, ice chemistry, meteorology, gravimetry, geomagnetism and radio science. For glaciological survey, both seismic and radio echo soundings were employed as techniques for measuring ice thickness.

As a member of JARE Headquarters, I cannot help feeling proud of these results, because we can see in them a beautiful balance between wisdom and courage of mankind to attack a virgin land with the best possible technical preparation and genuine scientific researches. I am certain that this report is extremely interesting and valuable for polar explorers and polar scientists.

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