

SOME NOTES ABOUT THE DOG-SLEDGING EQUIPMENT USED DURING
THE FIRST WINTERING (Feb. 1957–Feb. 58), J.A.R.E.*

Toru KIKUCHI**

第一次越冬に使用した犬ぞり用具についての二三の私見*

菊池 徹**

1) A rattan sledge.—We had, for trial, a rattan sledge (but with hickory runners) of the size 402 cm×65 cm×23 cm for special lightness and to get more flexibility. The weight is 47kg. The result obtained proved that rattan, as material for a sledge, is very noteworthy.

2) Sledge sail.—We tried to make our sledge

run with a sail, which was made of duralumin pipe, nylon sheet and nylon rope, and had a main pole, not standing vertically for the sake of getting a wide range of vision in front. And we could have a successful result when the wind was in a good condition.

3) Others.—

* KIKUCHI, T. and KITAMURA, T. (1960): "Management of Sledge-Dogs and Journey with Them during the First Wintering (Feb. 1957–Feb. '58), the Japanese Antarctic Research Expedition" (Printed in Antarctic Record, No. 9, pp. 625–660).

** Geological Survey of Japan. Member of the Wintering Party, the Japanese Antarctic Research Expedition, 1956–58.

A HYPOTHETICAL FORMULA, ASSUMED "LAW OF LOADING"
FOR DRIVING A DOG-TEAM.*

Toru KIKUCHI**

犬ぞりに関する“荷重の法則”について*

菊池 徹**

A hypothetical formula analysing journey with dogs is presented as follows:

$$W_t = \frac{4 r t f g a W_d N}{V}$$

W_t—total weight (in kg) of what the dogs have to draw.

V—is velocity (in km/hour)

W_d—means value of dogs' weights

N—number of dogs constituting the team

r—function of soles of sledge-runners

t—function of temperature

f—function of vitality of dogs.

g—function relative to ground condition.

a—function covering other matters.

This formula is never perfect yet. I, however, believe that, even at its present stage, it will prove of some good practical value, as, for instance, when planning for a journey one can get "W_t" and easily determine a proper loading at the departure.

* Printed in Antarctic Record, No. 9, pp. 625–660, 1960.

** Geological Survey of Japan. Member of the Wintering Party, the Japanese Antarctic Research Expedition, 1956–58.