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REDAKSIONEEL—EDITORIAL

Dit was met skok dat die *Bulletin* verneem het van die skielike heengaan van Dr. André le Roux van der Merwe —ontvanger van die 1969 BP Antarktiese Medalje en skrywer van „Die Wit Horison". (Sien *Bulletins* No. 28, Junie tot September, 1969 en No. 26, Julie tot Desember, 1968).

Dr. van der Merwe was geneesheer met SANAE 1 en het ook as redakteur van die *Bulletin* opgetree.

Dr. van der Merwe se dood op 4 Desember, 1969 het saamgeval met die tiende herdenking van die vertrek van SANAE 1 uit Kaapstad.

Die *Bulletin* spreek sy innige meegevoel uit vir Dr. van der Merwe se vrou, familie en vriende. Sy heengaan los 'n leemte wat nie maklik gevul sal word nie.

Dit word ook berig dat Mnr. Gordon Mackie, lid van SANAE 10, in Antarktika as gevolg van 'n ongeluk gesterf het. Die *Bulletin* sal 'n verslag oor die ongeluk plaas sodra Departement Vervoer al die feite tot hul beskikking het.

FIRST COLLOQUIUM ON ANTARCTIC RESEARCH

On November 24th and 25th, the first colloquium on Antarctic research programmes was held at the Council for Scientific and Industrial Research (C.S.I.R.) in Pretoria. Members of SANAE 11, directors of research programmes and Antarctic research staff, members of the South African Committee for Antarctic Research (S.A.S.C.A.R.), representatives of various government departments closely associated with the running of the present South African base and the design of the new base and ex-expedition members with continued interest in Antarctic research were invited to attend.

The programme directors gave summaries of the various programmes' aims and objectives. This served the useful function of underlining the fact that the various Antarctic projects should be treated as a team effort and not as a number of separate little programmes.

The highlight of the colloquium was undoubtedly the talk by Mr. D. C. Neethling who used a set of very interesting slides to illustrate the sort of life and terrain that SANAE 11 would have to contend with during 1970.

After the colloquium the provisional design of the new base was discussed to see what improvements in facilities could be incorporated in the final design.

Mr. D. G. Kingwill, Director of the C.S.I.R.'s Science Co-operation Division, is to be congratulated on the success of the colloquium and it is hoped that this will become a regular feature of the familiarisation programme of future expeditions.

Photographed at lunch on Tuesday, 25th November, at the C.S.I.R.'s recreation site are, from left to right, Mr. D. Vaclavik, a Czechoslovakian, who is a geologist, and who, with three other expedition members, will spend most of his time at the newly established Borga Base (see following article); Mr. Marten du Preez, a former leader and chairman of the Antarctic Association who, in 1966, was awarded the Antarctic Medal (Antarktiese Bulletin, *No. 16, July, 1966); Mr. W. J. van Zyl from the communications section of the Department of Transport, a former expedition member and leader of SANAE 11; and Mr. Dirk Neethling, a member of a former expedition, an Antarctic Medal holder* (Antarktiese Bulletin, *No. 26, July to December, 1968*) *and director of the South African earth sciences programme in Antarctica.* (*Photo*—Council for Scientific and Industrial Research).

UNIQUE OPPORTUNITIES FOR PROBING THE EFFECTS OF COLD AND ISOLATION ON MAN AND ANIMAL LIFE

An Antarctic expedition provides a unique opportunity for carrying out research in medicine, physiology and psychology. The effects of cold on animals and man have been studied since ancient times. Observations were made by Aristotle and Hippocrates. Towards the end of the nineteenth century the atmospheric gases were liquified and the effects of very low temperatures on a wide variety of micro-organisms, cells and tissues of higher animals were studied. The experiences of frostbite in Antarctica led to intensive studies of the effects of temperatures in the range occurring in nature.

In addition to research associated with the Antarctic climate and environment, studies can be made of groups isolated from all other human contact for a prolonged period. Each group has a uniform diet, lives under regular physical conditions where there is relatively uniform climate indoors, and out-of-doors exposure to cold is intermittent. Important work can be carried out on such a group, free from all outside influences, especially in the physiological and psychological fields of medicine. The length of the period over which studies can be made, viz. a year, means that results are far more truly representative than those obtained from short-term experiments elsewhere. It was as a result of experiences of scientists in the Antarctic that led to the study in the laboratory of the effects of cold on many forms of life.

By 1940 it was established that minute organisms that survived dessication (drying out) under natural or experimental conditions, would also survive freezing at any temperature between 0°C and —269°C. At temperatures below —100°C, biochemical changes were either arrested or slowed to such an extent that storage for indefinitely long periods was possible, and certain viruses and pathogenic bacteria were indeed banked in this way.

Studies on higher animals, however, soon showed that cold-blooded animals, such as frogs and fish, would not stand freezing at temperatures below about —1°C, while warm-blooded animals, including birds and