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REDAKSIONEEL — EDITORIAL

Like numerous other research bodies in the world, the Council for Scientific and Industrial Research (CSIR), Pretoria, is also connected with research on survival under unfavourable conditions. How do certain forms of life exist in the desert? What characteristics enable plants and animals under utterly dry conditions or under high pressure in the depths of the sea to stay alive? Why can seals and penguins live comfortably in the ice-bound polar regions, whilst for man it is a hardship and can only do so by means of well planned and expensive aids?

Replies to questions like these can perhaps assist man to evaluate and exploit his environment to greater advantage and to adapt himself better. The information that can be gathered in Antarctica, in the depths of South African mines, in desert research stations or under the sea is valuable in probing into the problems of space, where space travellers are subjected to conditions which in many respects resemble those on earth.

Intimate knowledge of such extremes may prove useful in dealing with the population explosion so that when the need has arrived, man can widen his boundaries to include those regions which at present are regarded as uninhabitable, not only in order to survive but to live comfortably and productively.

Scientists study the life patterns of certain insects, plants and animals in the Namib (desert) in an attempt to unravel the secrets of living under barren conditions. Oceanographers explore the secrets of the seas along our coast, and deep down our mines physiologists study the effects of heat, high humidity and other conditions on the mine worker. South African scientists use the icy wastes of Antarctica as their sphere of interest where research is conducted on expedition members in attempts to fathom human abilities and limitations at sub-zero temperatures and under long periods of isolation.

An initial and important line of approach is the study of forms of life which have existed in Antarctica for many centuries. What has enabled for instance the Weddell seal and the Emperor and Adélie penguins to feel at home at extremely low temperatures, whereas they had lived in an erstwhile tropical Antarctica? How and where do they find sustenance? How do they find navigational points in an area apparently without markers?

Scientists' apparently trivial experiments are not merely designed to satisfy their desire for knowledge but are the initial steps in possibly assisting man to survive and live on an overcrowded world of the future and to find practical means to reach other planets and adapt himself there to new conditions.

—Partially from "Scientia". C.S.I.R., Pretoria.

Adelie penguins, though human and as obstreperous, have adapted themselves ideally to Antarctic life.

