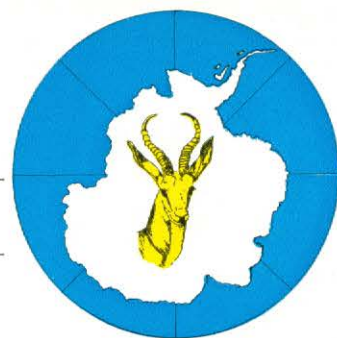




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REDAKSIONEEL — EDITORIAL

From time to time Antarctica has claimed human life and has been the cause of morbidity. Some of this could have been prevented if more had been known beforehand about the environment and possible methods of adaptation, whether by gradual natural or quick artificial means. However, the misfortunes and suffering of men in the past have not been in vain for they have served as a warning to those who followed them and have furthermore stimulated research on the prevention of recurrences.

According to our present day knowledge the best procedure to adopt in order to survive, when one gets lost in the cold and when no shelter or heating facilities are available, is to remain active. Activity, food or, in lieu thereof, endogenous fat supplies can maintain a man's life for a considerable period, but the danger

comes when fatigue sets in, in which case he may fall asleep and thus freeze to death. Whilst one is stationary, increased metabolism due to hormonal adjustment and shivering is not enough to combat the fatal effect of subzero environmental temperatures. When man, whilst sitting still and even while sleeping, is able to maintain body temperature in an Antarctic winter for a prolonged period without any external assistance, only then will he have mastered the art of survival.

Research workers concerned with this problem are fortunate in having as a subject of study an Antarctic creature which survives starvation and immobility under the worst possible Antarctic winter conditions without dangerous after effects. This is the *male* emperor penguin. Owing to its size and habits it is easily detectable, accessible and manageable. It is the only large form of life which stays right through the year near or on the Antarctic continent. It is long lived and breeds in accessible colonies which can be watched without disturbing it. These and other characteristics give hope that many problems of zoology, especially with regard to ecology, behaviour and physiology, can be solved by research on this ideally acclimatized test subject. The information thus required is an essential prerequisite in assisting man to find ways to overcome adverse conditions which may arise in spite of meticulous planning and modern techniques.

Many of the intricate problems of human dietary requirements at subzero temperatures need solving, and here again a study of the emperor penguin's feeding habits may prove rewarding. It is likely that this bird's hardiness can partly be ascribed to its selective diet, which consists chiefly of protein from sources which have an exceptionally high mineral content. It may not be a mere idiosyncrasy that the emperor penguin feeds chiefly on fish and cephalopods, and not on *Euphausia superba* as most other birds and forms of life in Antarctic waters do. Like most of its pelagic colleagues it gets its water from the succulence of its prey, as well as minerals in physiological concentrations. It could be that its diet and life habits enable it to adapt itself physically to a much greater degree to hardships than man is able to do.

From these facts and suppositions it is clear that Antarctica offers an unrivalled research field for both biologist and human physiologist in the matter of human survival under subzero conditions.

