CANADIAN ANIMALS NEAR EXTINCTION

Depletion of the larger game animals, even in the deepest Canadian wilds, is a diaster that hangs over the heads of the present generation, in the opinion of Dr. Rudolph Martin, chief of the division of biology of the Victoria Memorial Museum at Ottawa, expressed before the British Association for the Advancement of Science.

Not only have hunters and trappers nearly exterminated many fur-bearing species for the supply of the markets of fashion, but the breaking up of the prairies under the plow has deprived many hoofed and horned species, like the prong-horn antelope, the bison, and members of the deer family, of their pastures and is killing off the species by preventing natural increase. A last refuge of many animals, and one which Dr. Anderson believes should be theirs in perpetuity, is the Arctic.

"A large area of arctic and sub-arctic lands beyond the range of possible cultivation are still occupied by large numbers of wild caribou and a few remnants of musk-oxen", he said. "The Arctic can never be agricultural, but there is a probability of developing a domestic reindeer industry in certain districts and attractive possibilities in attempted domestication of the musk-ox. The economic advisability of replacing a valuable, healthy and thoroughly adjusted wild stock by more expensively reared domestic stock in remote districts is questioned.

"The proportion of the Canadian Arctic area which is actually suited for pasturage is largely problematical and needs investigation rather than speculation. Tundra is not prairie, but consists mostly of mossy swamps or comparatively barren upland. Many extensive areas are rocky or sterile and severe climaticconditions reduce materially the amount of vegetative growth on the limited fertile areas, so that a much greater acreage is required for the support of each animal than in more friendly regions. Population must necessarily be sparse outside of mining areas and enormous distances from markets will prevent profitable commercial exploitation under present methods of transportation."

Dr. Anderson's remarks concerning the Canadian arctic regions apply with equal force to American possessions in interior Alaska, and to vast tracts in northern Siberia, which can never be cultivated, but must remain as permanent grazing lands.

MECHANICS FAIL TO EXPLAIN MIND

Denying that the human being can be explained as a superior penny-in-the-slot machine, Professor William McDougall of Harvard University urged psychologists of the British Association for the Advancement of Science to recognize the striving aspect of human nature as a fundamental category of psychology.

The mechanistic confidence of the nineteenth century is fading away, as the complexity of the living organism is more fully realized, as its powers of compensation, self-regulation, reproduction and repair are more fully explored, he pointed out.

"Let the budding psychologist ponder some phase of human life that is dominated by some strong but thwarted desire," he said. "Let him consider the

strange yet familiar case of Romeo seekingthe Juliet who is forbidden to him. How this desire to see, to hear, to touch the loved one dominates his life, waking and sleeping! How it fevers his blood; wears him to a shadow; keeps him running to and from scheming, trying, hoping, desponding, exulting, despairing, and always desiring. The desire governs all his thinking and acting; the most rooted habits of mental associations are as nothing in the course of this torrent of purposive activity, all directed to Nature's most imperative goal.

"Can we accept any account, any description or explanation of human life, which leaves out of the picture this all-important aspect that we call impulse, desire, striving toward a goal?"

It may be, Prof. McDougall suggested, that eventually men of science will agree that there are in the universe two ultimately different kinds of processes, the mechanistic and the purposive, the strictly determined and the creative, the physical and the mental. Or it may be that, eventually, one of these may be shown to be merely an appearance of the other, an appearance due to the present limitations of our understanding.

He predicted, however, that if the two types of process are ever resolved into one, the purposive tupe that we regard as the expression of the Mind will be found to be more real than the other.

SEEK TO MAKE PLANTS TURN MORE SUNSHINE TO FOOD

Possibilities of increasing the food supply of the world through study of agricultural factors as yet little understood are enormous, Sir John Russell, F.R.S., said in his address as president of the agriculture section of the British Association for the Advancement of Science.

No attempt has been made in the field, Sir John said, to control two of the most important of these factors influencing the growth of plants, light and temperature, although both now are subjects of experiment. He spole of these possible fields of experimentation which hold out promises of increasing yield and quality manyfold:-

1. Increase of plants in efficiency as transformers of the sun's energy. At present plants transform only about one per cent. of this energy. The most efficient plant lags far behind the worst motor car. If some means of utilizaing two per cent. the amount of energy transformed by a steam engine 100 years ago, would be obtained it would make the average wheat crop in England 400 bushels per acre, instead of the 200 obtained now. Sir John said that increases in plant growth amounting to from 20 to 25 per cent. have been obtained in England by the influence of high tension electrical discharge which presumably acts by increasing in some way the efficiency of the plant as an energy transformer. The value of experiments along this line, he said, lies in the great increase in yield obtainable by a small increase in efficiency.

2. Adaptation of plants to both soil and climate. A soil moderately fertile under one set of climatic conditions may be absolutely unproductive in another. A clayish soil which in England is almost barren proves excellent grain and cotton land in the Sudan. Clay, under wet conditions becomes a serious drawback. It might be possible, Sir John said, to find some mathematical relationship between