

have such a chance to show immediate financial results as this. If the activity of the enemy could be reduced one per cent. it would increase revenue over \$10,000 per year.

It is therefore suggested that the activities of the killer whale be thoroughly investigated in its relation to the fur-seal herd. To do so, will require the services of a well-equipped vessel. It should be provided with a whale gun and a man to shoot it, because some of the animals would have to be killed.

The stomachs of the killers taken should of course be examined. It may be asked why the preliminary work can not be done by the shore whaling stations, but it so happens that almost every cetacean known is commercially valuable except the killer. From the diminutive porpoise to the huge sulphurbottom all are taken but the orca, and it is left entirely alone. Therefore, the fur-seal question can not be studied on shore, where whales are utilized commercially without special arrangements being made for the capture of the killers.

If the killer be found the great destroyer of fur seals which is suspected, then methods for its destruction should be devised. In lieu of submarines, it might be made the object of target practice of navy gunners. Or a bounty might be offered, so as to make them commercially profitable for whalers to handle. Or what is probably best of all such suggestions, fully equip whaling vessels to scour the seas, just as sheep men of the west keep coyote hunters constantly on duty.

G. DALLAS HANNA

THE CALIFORNIA ACADEMY OF SCIENCES

SCIENTIFIC EVENTS

LOSS FROM ANIMAL DISEASES

THE Advisory Committee, appointed by the British Development Commission in 1920, has issued its report on the facilities now available for the scientific study of the diseases of animals, and improvements recommended. Sir David Prain was chairman of the committee.

According to an abstract in the *London Times*, the present value of cattle, sheep, and pigs in the United Kingdom is estimated, the report states, at between four and five million pounds. The Scottish Animal Diseases Re-

search Association estimates the annual loss from disease in Scotland at close on £1,000,000, and the committee thinks that the loss in England and Wales must be four times the loss in Scotland. The facilities for research at the five veterinary colleges in the United Kingdom and Ireland "constitute a national disgrace." The sum allocated to veterinary research is "trifling in comparison with the sums set aside for medical, agricultural, and fishery research." There are certain existing facilities at universities, medical schools, the Brown Institution, and attached to the English and Irish Departments of Agriculture and to the Royal Army Veterinary Corps. In South Africa there is a model organization for the study of animal diseases, £123,447 having been spent during the year 1920-21 on veterinary education and research. In India immense opportunities are almost wholly neglected. Leaving out of account the work in South Africa, the state of research into animal diseases within the empire is at present lamentable.

The committee advocates (with reservations by Sir Walter Fletcher) increased salaries to workers of proved capacity at Camden Town, and a capital grant for new laboratories there. It suggests that facilities for research should be placed at the disposal of the Royal Army Veterinary Corps, and that a sum should be set aside annually by the commissioners for special researches into animal diseases.

With regard to the training of investigators, it anticipates that a large proportion will come from the veterinary profession. It is against the increase in the number of universities with veterinary faculties, but wishes more money to be given to the existing veterinary colleges. It proposes that the Development Commission should appoint a diseases of animals research committee, the majority of whom should be men of science. To this new body all applications for grants from the development fund for research into the diseases of animals should be referred.

THE CALIFORNIA STATE FISHERIES LABORATORY

THE State of California, through its Fish and Game Commission, has constructed a laboratory in East San Pedro, at Los Angeles