The Australian Aborigines

MAY I refer briefly to the important article on the Australian aborigines published in *NATURE* of December 18, 1937.

When Europeans took charge of the continent in 1788, there were, it is estimated, about 300,000 aborigines who had adapted themselves to the hard conditions of the Australian bush and had developed totemism and elaborate tribal customs. There are now none in Tasmania, about fifty in Victoria and a few in New South Wales. But in tropical Australia there are about 60,000, many of whom are afflicted with diseases, introduced by various races, and there are about 22,000 half-castes, European, Chinese, Japanese, etc., who are rapidly increasing.

The opinion of anthropologists seems to be that the pure aborigines will not survive unless they are placed on areas into which non-aborigines may not enter except on duty and where they may continue to live as they have always done. It is sometimes said by way of criticism that they have never cultivated an Australian plant or domesticated an Australian animal. This is, I believe, correct; but, in fairness, people must be reminded that the European has never succeeded himself in doing either of these things. Indeed, Governor Philip with his first party in Sydney in 1788 would in

all probability have died of starvation where the aborigines thrived unless he had shipping resources at his disposal. Even then, he was hard put to it to save the settlement.

But biological historians remind me that the domesticated animals and cultivated plants, even in Europe, are prehistoric in origin though they have been developed out of recognition by skilled breeding.

The Australian aborigine missed the opportunity, if it ever existed, of domestication and cultivation. As it is, the life of a European lost in the bush is usually very short. The feeling in Australia with regard to the preservation of the aborigine is growing steadily but the task is not easy. Medical care there must be, and I am personally of opinion that it will succeed only when either the aborigines or the half-castes are trained in medicine to some extent. Many of them can be useful on pastoral properties. The half-castes are often capable, and will, and must, be absorbed into the general population. It is in this direction that the missions can render great service and I believe in at least one instance are taking useful action.

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Points from Foregoing Letters

DIALYSED extract of yeast, to which yeast adenylic acid is added, phosphorylates only glycogen and not glucose, according to H. Lehmann. As in the case of muscle extracts, this reaction, in which hexosemonophosphate is formed from glycogen and inorganic phosphate, reaches an equilibrium. The breakdown of glycogen to hexosemonophosphate is inhibited by glucose, a fact which may have a bearing on the regulation of carbohydrate metabolism in the living organism.

The magnesium content of hedgehog serum increases from an average of 3.20 mgm. per cent in the autumn, before the onset of hibernation, to an average of 5.43 mgm. per cent in January, during hibernation. This increase in the concentration of magnesium ions, unaccompanied by a corresponding increase in the concentration of calcium ions, produces, according to Dr. P. Suomalainen, an anaesthetic effect.

Prof. E. J. Conway states that the view that there is a constant rate of filtration of urine at the glomerulus and that variations in the urine volume excreted are almost entirely due to different volumes of water reabsorbed in the passage through the tubules, leads to a contradiction: on the one hand, the average 'clearance value' after administration of urea (so as to increase its concentration in the blood) remains the same, which shows that urea is reabsorbed in proportion to its 'lumen' concentration. On the other hand, increased rate of flow of urine through drinking more water also leaves the 'clearance value' unchanged, which indicates that the amount of urea reabsorbed is the same as before, hence unaffected by its lumen concentration.

Prof. A. M. Skellett points out that the number of meteors of the 8th magnitude or brighter, estimated on the basis of telescopic observations, entering the earth's atmosphere could account for the 'ionic clouds'

detected in the *E* region of the upper atmosphere from their effect upon radio waves. The ionic clouds produced by meteors would have high ionic density and short duration.

The presence of 'stars' and 'clusters' of tracks, apparently due to protons, upon photographic plates impregnated with samarium and exposed to the action of cosmic rays at a high altitude in Kashmir (equivalent height 8,000 ft. above sea-level) is described by Prof. H. J. Taylor, D. Fraser and V. D. Dabholkar. The clusters appear to be associated with the presence of silver and bromine. Control plates at Bombay did not show the phenomenon to any appreciable extent.

R. Hultgren and L. Tarnopol find that substitution of silver for gold in gold-copper alloys decreases the temperature of transformation from the 'ordered' state—in which a gold atom is surrounded by eight copper and four gold atoms—to the 'disordered' state—in which each gold atom has on the average six gold and six copper neighbours. The experiments were carried out to determine the 'energy of ordering' due to interactions between neighbouring atoms, as distinct from that due to geometrical strain and the results, the authors state, agree with the predictions.

Dr. R. J. Lythgoe, using Pulfrich's rotating pendulum, calculates the increase in 'latent period' of vision produced by a given decrease in retinal illumination. Contrary to expectation, 'glaring' sources of light decrease the latent period both at the time and afterwards. The phenomenon is probably due to nervous interaction in the retina.

Describing a new metallographical technique, B. Chalmers and W. E. Hoare show that microscopic differences of level in a metal surface can be accurately measured by examining the interference fringes formed between the surface and a partly silvered optical flat.