

grazing. Man may, as with the Army Corps of Engineers, wantonly destroy the Everglades, but he may also, as I have seen for myself, create another Eden for wildfowl like the Kern Wildfowl Refuge, simply by using those same bulldozers beneficently to create a vast duck marsh in the middle of that same ghastly Californian desert.

For making this volume possible, we have to thank the Conservation Foundation, which brought together 45 ecologists, geographers, economists and allied specialists for a five-day meeting in Virginia in April, 1965. Their deliberations ranged over the vast canvas of the ecological, economic, cultural and regional aspects of the future land use of North America. Anybody who used this as a bedside book, and read one paper or summation a night for seven weeks, would emerge at the end a much more thoughtful man. I commend it to planners and ecologists – in or out of bed – on both sides of the Atlantic.

RICHARD FITTER

**The Elephant People, by Dennis Holman.** John Murray, 35s.

This brilliant account of Kenya's anti-poaching campaign of many years' duration, primarily concerned with elephants and conducted mainly in the eastern sector of the Tsavo National Park, inevitably will have only limited appeal – even for a large proportion of the immigrant local populace. The graphic description – no matter how vivid – of the thousands of square miles of featureless, waterless thorn bush and the blistering heat is meaningful only to those who have experienced the rigours of this terrible terrain. The story of the arduous campaign against the traditional elephant poachers of the region, the primitive Liangulu, who use a long bow of incredible dimensions and equipped with a deadly arrow, smeared with a vegetable poison for which there is no known antidote, is intriguing though apt to indulge in too much detail. Infuriating and humiliating is the account of the manifold frustrations in the rangers' endeavour to outwit the coastal Asian and Arab "millionaire" receivers who so skilfully bribed their way out of trouble. The Park was at last cleared of its expert and most destructive poaching fraternity, but at what cost? For now, lacking systematic wastage, it is overstocked with elephants which are disastrously destroying their own habitat.

"The most tragic part of the whole affair is that, in their dedicated efforts to save a wildlife species, the game men really succeeded in virtually destroying the Liangulu, an ethnic minority of very great interest and one on whom no anthropological work has ever been carried out."

C. R. S. PITMAN

**The Deer and the Tiger, by G. B. Schaller.** University of Chicago Press, 72s.

Hitherto most wildlife in India has been viewed by sportsmen over the sights of a rifle. Observers may have spent time in the jungles without shooting, but little in the way of critical study of animal behaviour has resulted. The literature is diffuse, anecdotal, and frequently downright misleading, based upon what the author thinks ought to happen rather than on what actually does.

Dr. Schaller has rectified this with an outstandingly competent study of several species of deer, the gaur, and the predators that affect them—tiger and leopard. He worked in the Kanha National Park, most of which is a park only in name, poached by villagers and over-grazed by domestic stock. The basic behaviour of chital, sambar, barasingha and hog deer and also blackbuck is outlined as never before, and compared and correlated with that of related species elsewhere—deer in America and Europe, and antelopes in Africa. Factors affecting population dynamics, survival and dominance are all fully discussed;

here is statistical evidence to prove that the stags with the largest antlers win the sexual battle most often; with the gaur sheer size and blackness seem to be the factors controlling dominance. The gaur is the one major herbivore that seems to be increasing in the park—because of religious prejudice against killing animals that resemble cows.

It is the study of the tiger that will interest most people. The behaviour of the tiger is clearly outlined, though the sample of animals viewed was small. The doings of one family were followed for more than a year until the cubs became independent, the male cub leaving first. Tigers are shown to be more sociable than might be expected, and their territories, marked with scent and by other means, are not inviolable; at first they are inefficient and clumsy killers, becoming more expert with practice.

Finally, the relationship between predator and prey is outlined, showing that the tiger, which is the main predator, will kill healthy animals in their prime as well as old and young. The selective nature of predation may be different in cats, which kill chiefly by stealth, from that in animals such as wolves, which kill by long pursuits, during which the health and speed of the prey is at a premium.

Dr. Schaller is almost mercilessly scientific in his approach. The text is heavily punctuated with references, which makes it difficult to read, and he is inclined to use scientific jargon. Occasional comments, which might have been stronger, stress the appalling state of wildlife conservation in India, in which parks and sanctuaries are still poached and overgrazed. It will be for the Forest Department, and those in India interested in wildlife, to see that this pioneer study is not also the last.

LESLIE BROWN

### **The World of the Polar Bear, by Richard Perry. Cassell, 30s.**

In the field, under a rising spring sun, polar bears with their massive, waddling bodies and long necks, appear lemon colour against the dazzling whiteness of their home – the coastal pack ice. Moving steadily to leeward of broken lines of ice, they snuff continually, sensitive noses twitching; constantly scanning the air for scent from seal dens. Seals are their main prey, and they hunt them all round the Arctic—off the Alaskan coast, among the Canadian Arctic islands, near Greenland, Svalbard, and the islands off the north coast of Russia. For such spectacular and widely known mammals, there are surprisingly few comprehensive studies. Thus it is good to see Richard Perry's contribution appearing when it is badly needed; and besides being a handy background reference for biologists and conservationists it will have wide popular appeal.

Mr. Perry brings to bear his considerable talent as a naturalist, literature researcher and author. His goal is to collect from many sources scientific papers, volumes on polar exploration, whaling and sealing – “all that is known about polar bears in the wild state up to the autumn of 1965”, and he comes close to achieving it. He covers the life of the polar bear from birth in the winter den to the final break-up of the family, with special chapters on distribution, behaviour in relation to man, and the past and future of the species. He has an easy, engaging style, and, although he evidently lacks field experience with polar bears, his deep sympathy and imagination occasionally enable him to create arctic scenes of intense reality.

Because the literature reviewed by the author is so diverse and varying in quality, and because few detailed scientific studies exist, his approach is largely anecdotal. Under the circumstances, perhaps a tighter organisation of the material under systematic headings would have been more welcome to the scientist. Nevertheless, continuity is good and he does try to present his material