

general, the information is presented clearly but with a tendency to oversimplify or inadequately explain complex biological phenomena. This is particularly true of speciation and the geographical variation in seals; she is apparently surprised that, although there is mixing in the populations of the Pribilof fur seal, there are no specific or subsequent differences between them; surely it would be surprising to find such differences in this situation. Again the differences in the time of breeding of the California sea lion on the Galapagos Islands and in California is dismissed as being due to the fact that these areas are in different hemispheres; in fact the Galapagos are on the equator and there is clearly some other factor responsible for the difference of six months in the breeding season of these two groups. Among grey seals it is not true that the bulls take up the inland breeding territories first and that these offer the best sites. In fact the shore is occupied first and offers the best site for mating.

But most of these criticisms are minor and I recommend the book, which is extremely cheap for the amount of information it contains, as a "best buy".

J. C. COULSON

**The Seal Summer, by Nina Warner Hooke. Barker, 21s.**

The relentless mass slaughter of seals by man has gone on for generations, and we have no reason to expect a seal to show anything but antipathy towards human beings. Today most seals show a preference for wild, remote and isolated places. It is therefore remarkable in the extreme that during the summer of 1961 a wild grey seal should have frequented a Dorset beach and deliberately cultivated the company of holiday makers.

Nina Warner Hooke who lives near the beach in question, has collected as much information as possible about this extraordinary seal and presented it in a very readable form. She vividly and entertainingly describes its forthcoming behaviour in swimming with bathers, wrapping its flippers round their limbs and even trying to tug off their swimming suits! On the beach it associated itself with picnic parties and allowed itself to be fondled and caressed by people of all ages. Indeed, it was so like a confiding domestic pet that it has clearly been difficult, on occasion, to resist a subjective interpretation of its behaviour. The contrast between this almost embarrassingly friendly wild seal and my now cool, word-responsive tame seal Atlanta is strikingly presented. Photographs which show the seal intimately associating with its human companions convincingly support and confirm the record in the text. Attention is focused upon an individual animal in a way which will arouse the wide public interest which is an important factor in seal conservation.

H. G. HURRELL

**Shadows in the Sea, by Harold W. McCormick, Tom Allen and Captain William Young. Sidgwick & Jackson, 35s.**

The authors of this interesting book have collected an enormous amount of information, much of it new, which is refreshing because a great deal of nonsense has been written about sharks in the past. It is evidently based on the immense knowledge of the late Captain Young, a shark-hunter for over sixty years, and a man of immense experience in this field; Chapter 3 gives an account of his life.

The first part deals with well authenticated accounts of shark attacks in many parts of the world, and then proceeds to the means of combating sharks—a manual of anti-shark warfare—and to methods of shark fishing.

There is a particularly interesting section on the modern research on sharks which is being carried out in laboratories in the United States. The fourth part will be of particular interest to the naturalist, for it gives an excellent account of the shark group as a whole, including the related rays and skates. Finally there is even a section on Selechian cookery.

H. GWYNNE VEVERS

**Birds of Prey, by Philip Brown.** Deutsch, 22s. 6d.

Less than two years ago a chemical firm sent me copies of a glossy magazine, the not very subtle purpose of which was to publish a review of a certain Miss Rachael Carson's book. The eminent reviewer was scathing. I mention this public relations stunt because the caption to a photograph of a golden eagle stated that it is "no longer a vanishing species". Indeed?

Philip Brown, writing in 1964, takes a less sanguine view. "So far as birds of prey are concerned, there is now no certainty at all that we shall be able to continue to enjoy them." And the blame for this state of affairs he is not afraid to apportion: "We can blame the Government and the vested interests who manufacture death, often indiscriminately, on a scale almost beyond the liveliest imagination, but in the event it all comes down to what the individual is prepared to tolerate". The Government's technical advisers and the vested interests escape the indictment lightly; Philip Brown addresses himself to the "individual".

This is a popular account of the "hawks" and owls of Britain, the first volume in a series called "Survival Books", with the dodo as its emblem. We need not expect the authors, writing under the symbol for the dearest of the dead, to pull their punches. Philip Brown hits out with accuracy and angry purpose. If these Survival Books follow this splendid beginning and come in time to influence events—and not merely to chronicle extinction—they are to be warmly welcomed.

G. DES FORGES

**Predators and Anti-predator Behaviour of the Black-headed Gull, by Hans Kruuk.** E. J. Brill, Leiden, 36 guilders.

Dr. Kruuk's study of the black-headed gull colony at Ravenglass in Cumberland, where so much valuable work on behaviour has been done by Dr. N. Tinbergen and his co-workers, sprang partly from the only too obvious and disturbing predation by foxes upon the gulls—in 1962 the local foxes killed 825 adults (230 in one night) and 1,100 young gulls—and was extended to examine all predators concerned (other gulls, crows, birds of prey, stoats, hedgehogs, the black-headed gull itself) and some other prey species. His approach was primarily that of an ethologist, and the wealth of observation and experiment, especially the inferences from the scrutiny of tracks in this sandy area is characteristic of the keen and patient naturalist. Some of the results, with their recurring tables and statistical tests, will be rather hard going for the ordinary naturalist but this is the way in which ethologists work nowadays.

The main conclusions, based on a careful accumulation of data and on probing experiments, suggest that the black-headed gull's reactions to predators range from simple escape through social mobbing to direct attack, and that the part of this range used against any specific predator depends upon a number of variable factors, important among which are whether the predation is directed towards young or adults and whether the predator is in the air or on the ground. Dr. Kruuk concludes that the Ravenglass colony,