

concerned the elucidation of the genetic code, the regulation of protein synthesis, the conformation of protein and RNA molecules, the mechanism of the repair of radiation damage and its relation to recombination, the life cycle of the single-stranded phages, and the distribution and properties of plasmids, especially the medically important resistance transfer factors. These topics have all been treated extensively in the current edition.

Less dramatic advances have also been incorporated. Here, however, the element of personal selection has played a bigger part. Any specialist reading the sections on his own topic will almost certainly disagree in places with the emphasis placed on particular findings, and probably will feel some interpretations placed on these findings are far from justified. Such shortcomings must, however, be expected in a book of this scope written by a single person. And the advantages of a single voice commenting on the whole spectrum of the subject far outweigh the disadvantages of occasional omission or error.

There is no doubt that this second edition, like its forerunner, will prove an invaluable friend to all students and research workers studying microbial genetics.

NEVILLE SYMONDS

## BIRDS OF PREY

### Eagles, Hawks and Falcons of the World

By Leslie Brown and Dean Amadon. Vols. 1 and 2. Pp. 946 (181 pages of plates in colour and in monochrome). (Hamlyn: Feltham, Middlesex. Published for Country Life Books, February 1969.) 315s.

THIS is a fine work in several respects. It is very handsomely produced in two volumes of large format, together in a printed case; and these are abundantly provided with colour and other plates by a galaxy of distinguished bird artists. It is at the same time an authoritative source of information about a large and important order—the diurnal birds of prey or Falconiformes. Dean Amadon of the American Museum of Natural History is an ornithological systematist of high repute. Leslie Brown, of Scotland and Kenya, is a field worker of great experience with a special interest in this group. Their partnership, over a period of years, is now seen to have been indeed a fruitful one.

With close on three hundred species to consider separately, the systematic treatment naturally occupies the greater number of pages; but a great deal of interest is to be found in the twenty introductory chapters dealing generally with the group in its different aspects. In spite of an obvious similarity running through the members of the order, there is in fact an interesting degree of diversity among them—variations, so to speak, on an easily recognizable theme. The secretary-bird of Africa stands out as unique, constituting a monotypic family. The seven species of New World vultures, with related fossil forms, are set apart in a suborder of their own.

Size ranges from the giant condors weighing some 25 pounds to the tiny falconets weighing a tenth of a pound; the females in some species are twice as heavy as the males, but in others the difference is slight. The prey is usually much lighter than the predator—something that can be not only killed but carried away. Prey may be killed on the ground, in the air or in water; and of course some of the species are eaters of carrion. Some of the smaller predators live on insects and snails. One species, the palm-nut vulture, is primarily vegetarian.

Some of the larger birds spend long days soaring in the thermals on the look out for food. By contrast, the feeding activity of the African bat-hawk is necessarily limited to two crepuscular hours in the twenty-four. Young birds of prey, after they leave the nest, are dependent on their parents for food during periods of

varying length; eventually they learn to fend for themselves and then disperse. Many birds of prey are rather solitary, apart from their pair-bond and temporary family ties; others are highly gregarious, in breeding colonies or on migration. Members of the order are found almost everywhere in the world, and in a great variety of habitats. There is a richness in the pattern of their lives which this work brings out well.

LANDSBOROUGH THOMSON

## CHINA'S DOMESTIC ANIMALS



Bronze water buffalo from the Eastern Chou Dynasty (722–481 BC). One of many illustrations in *Domestic Animals of China* by H. Epstein (Commonwealth Agricultural Bureaux: Farnham, Bucks, April 1969, 80s), a description of the origin, distribution, characteristics and performance of Chinese breeds of cattle, yak, buffalo, sheep, goat, pig, horse, ass, camel, reindeer and dog. Many local varieties now almost extinct are recorded.

## FOSSIL MAMMALS

### Fundamentals of Palaeontology

Edited by V. I. Gromova. Vol. XIII, Mammals. Translated from the Russian. Pp. vi+585. (Israel Program for Scientific Translations. Distributed in the UK by H. A. Humphrey, London, March 1969.) 160s.

THE title of this volume is confusing. The book is not, as might be thought, a basic textbook for students; but it is more helpfully described by its subtitle as "A Manual for Palaeontologists and Geologists of the USSR". The scope of the volume is, however, wider than this would suggest. It most closely resembles in its treatment Zittel's *Text-book of Palaeontology* but it is obviously oriented towards those groups which are represented in the Soviet Union.

From this point of view the treatment is commendably thorough. Genera occurring in the Soviet Union or regions adjacent to it are concisely described. The sub-families and families to which the genera belong are also defined and described. All the orders of mammals are considered in the book, whether or not they are represented in the Soviet Union. The taxonomy of these orders which are not represented in the Soviet Union or adjacent regions is not, reasonably enough, taken further.

It is difficult to check the accuracy of a book much of whose value lies in the unfamiliar nature of the facts presented. The treatment of the Mesozoic orders of mammals, none of which, by the way, has ever been found in the Soviet Union, is perfectly reasonable. A little more might perhaps have been said about *Djadochtherium*.