

Marsh and Cope must have reared as hugely in their minds as did the great sauropods they studied; certainly it continually drove them on to explore and collect in the American south-west.

These men, and many others, were responsible for the misinterpretations and the sudden insights, the collecting expeditions in tropical Africa or Arctic Spitzbergen and the laboratory work of removing the fossil bone from its encasing rock and describing it, or the museum task of superintending the mounting of a complete skeleton. These men, and these tasks, have all contributed to the gradual realization that there were once such things as dinosaurs, and to the subsequent development of our modern understanding of these great reptiles. It is about these men that Colbert has written. To begin with, it is possible to develop the story in simple historic terms, describing the personalities and contributions of workers, who, on both sides of the Atlantic, laid the foundations of our knowledge up to about 1880. From then on, the subject had become so diverse that Colbert finds it easier to keep the thread of coherence and relevance by a series of chapters devoted to the workers on the Triassic dinosaurs, to workers on the Jurassic dinosaurs of the United States, and to the extension of collecting activities to Canada, to Mongolia and to the Southern Hemisphere. This technique is very successful, so that the relationship between the individual worker or expedition and the broader picture is never lost.

Inevitably, a number of the tales have been told before, particularly those dealing with the nineteenth century workers and with the discoveries of the American Jurassic dinosaur fauna. Other subjects, such as the Sternbergs' work along the Red Deer River in Canada, or the establishment of the Dinosaur National Park (with which Colbert was closely connected), are less familiar. Still, like the Battle of Hastings and the Battle of Arnhem, both the oft-repeated and the more recent incidents of history form a necessary part of the full story. Taken all together, they make up an enjoyable book, telling a story which is full of interest.

BARRY COX

DESTRUCTIVE MAN

The Vanishing Wildlife of Britain

By Brian Vesey-FitzGerald. Pp. 159 (MacGibbon and Kee: London, May 1969.) 36s.

BRIAN VESEY-FITZGERALD is well known as an authority on sporting and country questions and as a scientific natural historian. As a former editor of *The Field* he has taken a leading part in trying to preserve the British countryside and in encouraging its multi-purpose use. When they see the title of this book, many will expect another account of how modern farming practice, including the use of agricultural chemicals, has harmed our wildlife, and in particular how it has affected those birds and mammals included in the category of "game". They will not be disappointed, but they will find very much more.

The first three-quarters of this book gives a picture of the changes which have taken place in Britain in the past 100,000 years, up to the period of the 1939-45 war. We read that before the last Ice Age, some 80,000 years ago, about 200 Neanderthal men lived here, with little effect on the wildlife. About 50,000 years ago, Palaeolithic man (the first true *Homo sapiens*) arrived as the ice retreated. He was a hunter, but his small numbers (perhaps 2,000 individuals in Britain) meant that he had little effect. At this same date, many of the large mammals died out in Africa, and some consider that man was responsible (the "Pleistocene overkill"). In Britain, climatic and vegetational changes were probably responsible for these faunal changes. As the land bridge with

continental Europe remained until about 5000 BC, extinction of a species did not produce a permanent impoverishment of the fauna, as occurred later.

The changes which occurred in the Neolithic period, the Iron Age, the Roman occupation and so on until the Middle Ages are all described. Man increased in numbers, the area farmed expanded. The larger and more ferocious animals were exterminated, the bear before 1066, the wolf continuing in Scotland until the eighteenth century. There were few important additions to our fauna except for the black and brown rats.

The agricultural revolution began in the eighteenth century and continued until 1939. In the few years before the Second World War, things seemed to be settling down, with a reasonable balance between interests, and with less risk to wildlife. But then Man discovered efficient synthetic insecticides, which he could produce in unlimited amounts. Changes in agriculture, including the widespread destruction of hedgerows and the growing, year after year, of huge acreages of cereals with no other rotation of crops, took place.

Mr Vesey-FitzGerald ends by stressing the drastic effects on our remaining wildlife of these changes, and he insists that only a positive conservation policy can save the situation. The speed of change is so great that our traditional *laissez faire* policy would have disastrous results.

K. MELLANBY

RED FOR DANGER

The Red Book

Wildlife in Danger. By James Fisher, Noel Simon and Jack Vincent. Pp. 368+32 colour plates. (Collins: London, May 1969.) 70s.

THIS is a popular and more readable version of the *Red Data Book* distributed by the Survival Service Commission (SSC) of the International Union for Conservation of Nature and Natural Resources (IUCN), and well known to biologists for its up to date records of endangered species of animals and plants. There are brief descriptions of all the threatened species of birds and mammals with notes on their geography and their history of decline, and then there are more general accounts of what little there is known about endangered fish, amphibians and reptiles. A final chapter discusses rare plants which unlike some animals can only be satisfactorily conserved in their native habitats. This can pose all sorts of problems, but efficient conservation of natural vegetation can be of mutual advantage to many interests. Unfortunately, this realization has come too late in many cases, but, thankfully, international agencies, governments and societies are becoming increasingly aware of the need to preserve habitats, and the chapter ends on a hopeful note.

Not surprisingly, however, it is the protection of warm blooded creatures that has so far won most public sympathy. The names of many of the endangered species listed in this book sound quaintly amusing, but the message is no joke. As James Fisher says in his introduction, since 1600, the date accepted by the SSC as the reckoning date for modern extinction, 36 (or 0.85 per cent) of mammals out of 4,226 living then have become extinct and at least 120 are in danger of extinction. Or to put the gloomy facts in another way, one out of every hundred species of our mammals and birds have become extinct since 1600, not to mention geographical races, and nearly one in forty are in danger of disappearing. In face of arguments that these animals would have died out anyway without man's intervention, the book points out that only a quarter of the extinct species seem to have died out through natural causes—humans, directly or indirectly, have probably been responsible for exterminating the rest through