which speedily attract all others within earshot. But the author does not attempt to explain the eerie, demoniacal howling sometimes heard in the depths of the forest in the middle of the night. Is it inspired by sudden panic or is it to frighten off a potential predator? *Quien sabe?*

Attention is drawn to the dubious practice—in the interests of silviculture —of poisoning those species of wild fig trees which provide much of the chimpanzees' staple diet. Cannot this be stopped?

All animal lovers will certainly agree with the evocative indictment of the callous methods so often used when keeping in solitary confinement the greater and more intelligent primates. If these unfortunates must be kept in captivity, surely the plea for more humane conditions cannot go unheeded.

C. R. S. PITMAN.

Animals in Captivity, by **Philip Street.** Faber, 25s.

The wide choice of popular books about wild animals today includes almost nothing about the history of zoos and their development; here is a welcome attempt to fill the gap. Due prominence is given to the significance of Hagenbeck's pioneer experiments, and the author describes the advances made at the London Zoo under A. D. Bartlett and Sir Peter Chalmers Mitchell, culminating in the Whipsnade experiment. Separate chapters deal with fish, reptiles, birds and anthropoid apes, and some of the more important aspects of breeding, feeding and health in a zoo are discussed.

The knowledge accumulated at Regent's Park is certainly important, but it is a pity that the author has relied so much on one source of material. References to the major European and American collections are all too few. Whipsnade was designed to acclimatise exotic species and to enable herd animals to exhibit social behaviour, and therefore breed. This was important, but town zoos with limited space, such as Bristol and Basle, have also had remarkable breeding successes. The search for optimum conditions in captivity cannot always be equated, as the author suggests, with the attempt to reproduce natural behaviour. The security of life in a zoo must itself affect an animal's behaviour fundamentally.

There are some factual inaccuracies (orang utan does not mean 'wild man of the woods'), and I dislike the expression 'animals and birds'. The index is inadequate, but the photographs are excellent, and the importance of breeding rare species in zoos receives the emphasis which it deserves.

GEOFFREY SCHOMBERG.

Woodlands, by **J. D. Ovington**, English Universities Press, 21s.

Directed at the sixth former and those at an early stage at university, this book in the 'Modern Biology' series will certainly give a fresh and up-to-date description of the interest and value of our woodland. The text is well laid out and is excellently illustrated by 88 black and white photographs and 22 easily understood figures. Only in the chapter on "Woodland Processes," where the description seems unnecessarily burdened with quantitative data, is the readability spoilt. A chapter on "Woodland Management" states the many good reasons for having woodland and briefly describes the many kinds of management required if the modern ideas of multiple use of the crop are to be realised. It was a little disturbing to read of the notion that in order to direct vandalism at camp sites away from living trees, posts might be provided for name-carving—almost like a visitors' book!—a practical idea if a little negative.

Professor Ovington's approach is essentially that of a forester and the reader certainly benefits from his wide experience, though perhaps the book's emphasis is a little too strongly in this direction for it to claim to be a truly general treatment of the subject. Trees themselves are ably dealt with and many interesting facts revealed, though the detailed biology of the understorey, which is such an important part of the woodland eco-

system, seems a little neglected. The final chapter, "Retrospect," clearly states that comparatively little work has been done by the biologist in woodland and it is hoped that this book will stimulate interest in the subject.

D. BREMNER.

Fair Isle and its Birds, by **Kenneth Williamson.** Oliver & Boyd. 30s.

Birds of the Atlantic Islands, Vol. II, by **David A. Bannerman** and **W. Mary Bannerman.** Oliver & Boyd, 84s.

Ever since Ken Williamson ended his tour as the first Warden of Fair Isle Bird Observatory in 1956, we have been awaiting this book, which admirably summarises his fruitful period of study at this outstanding migration station. Thanks to its isolated position between Orkney and Shetland, Fair Isle has a remarkable record of rarities, but the many commoner birds that pass through it every year are of even greater interest to the student of bird migration. The greater part of the book discusses the resident and migratory birds of the island, but not the least interesting chapters are those which describe the human inhabitants and their lives and history. At the end Peter Davis, Ken Williamson's successor as Warden, contributes a complete list of the birds that have been proved to occur on Fair Isle to date.

The second volume of David Bannerman's latest enterprise deals with the birds of Madeira in his customary thorough fashion, with the aid, especially in the field work, of his wife, and some excellent paintings by D. M. Reid-Henry. The Desertas and Porto Santo Islands are also included. We are promised a third volume to deal with the Azores, and "a fourth volume on the Cape Verde Islands would be a logical conclusion." While this cannot be described as a handy volume to take out in the field, it will nevertheless be indispensable for all ornithologists visiting Madeira.

RICHARD FITTER.

World Without Sun, by **Jacques-Yves Cousteau.** Heinemann, 63s.

Jacques-Yves Cousteau is one of the major pioneers and explorers of this generation. His imagination, energy and determination have assured him a commanding place in the history of human endeavour.

This book is largely a photographic record of his undersea village in the Red Sea, but it is not just a picture book; the story in the text must be read as well. It tells of Conshelf Two from its prefabrication in Nice to the successful research unit which it finally became on Roman Reef 80 miles north of Port Sudan. For a month 5 oceanauts lived in Starfish House at a depth of 40 ft. Two men spent a week in a smaller Deep Cabin at 90 ft. All these people had free access with aqualungs to the sea around and below them. Captain Cousteau's long foreword is especially fascinating. The translation is well done, and the remarkable personality of this great Frenchman stands out.

The photographs are good, many of them beautiful. To a naturalist the most interesting part is likely to be the account of a deepsea dive to 975 ft. in the Diving Saucer. Here are really marvellous pictures of deepsea fishes (including a huge shark) and crustaceans in their natural habitat. Both pure and applied science were given the greatest possible attention in a most impressive way on the expedition.

With today's problems of overpopulation and undernourishment in so many parts of the world, the long term value of establishing undersea communities is obvious, apart from the commercial possibilities involving oil and gas. This book is an excellent record of one of the most remarkable expeditions of our time.

PHILIPPA SCOTT.