

nevertheless informative and readable chapter on medicinal herbs.

In the chapter on "Mammals" the part that deals with the history, distribution and hunting of deer is adequate and competent. For the remaining mammals, except the squirrels, there is virtually nothing that relates them to the New Forest as distinct from Britain as a whole. The list of mammals is accurate.

The contribution on "Birds" is awkward in style, and there is an attempt to cram too much information into too short a space—especially when four pages of the thirteen are devoted to one species and the remaining nine pages to 150 species.

One begins to appreciate the atmosphere of the Forest in the chapter on "Perambulation Today", and Edlin's contribution on "Silviculture" is clear, authoritative and interesting.

Some of the remaining chapters and appendixes could have been omitted without loss. There is a strange collection of illustrations; a few of them are well chosen, many contribute little to an appreciation of the New Forest, and quite a number are poorly reproduced. There is no index to the book.

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## ADVENTURE, BEAUTY AND SCIENCE IN AFRICA

### Serengeti Shall Not Die

By Dr. Bernhard and Michael Grzimek. Pp. 344 (67 plates). (London: Hamish Hamilton, Ltd., 1960.) 30s. net.

THIS is the book of the film. Despite the many fine illustrations, the book cannot compete with the film in showing the space of the Serengeti National Park and the beauty of its animals in motion. But the book is complementary to the film in revealing the careful preparation, the hard work and the risks of the task undertaken by Dr. Grzimek and his son, and it gives a moving insight of their relationship.

It is a true adventure story. After the success of their first film "No Room for Wild Animals", the Grzimeks offered part of its revenues for purchase of land to increase the Serengeti National Park, but were persuaded instead to study the animal populations there; that study entailed learning to fly, and that entailed getting permission from their wives.

When these difficulties had been overcome, they made the trip to Tanganyika in their small slow aeroplane, contending with weather and officialdom, gaining sidelights on the countries through which they passed; readers who knew the Sudan before independence will find the account of the Christmas party at Juba very probable and very funny.

The book digresses from the Serengeti and contains much interesting material on the history of East Africa, and of Tanganyika in particular. Some of the opinions about Africa in general may not be shared by those who have worked there; for example, a man who lives in an isolated thatched hut may take a lively interest in world affairs; when visiting a small island on Lake Victoria in 1941, I was asked, "What will happen to France after the war?" Some

may doubt the claim of a chapter heading "Knowledge of Men Lessens Philanthropic Feelings, Understanding Animals Heightens Love". Does it always?

There is a sense of urgency about the book, of the futility of proclaiming Nature reserves without the staff to look after them. But there is no occasion for the fatalistic attitude "Africa is dying and will continue to die". The wild and domestic animals and the people recovered quickly from the awful suffering and death when rinderpest swept through Africa in the last century; that was one of a sequence of major catastrophes revealed by the layers of hard and soft soil in some steep river banks, evidence of alternating erosion and recovery.

Erosion in the Serengeti is not due only to the Masai cattle. In tropical countries, wherever continued trampling forms hard tracks, as on the migration routes of the wild animals, there is some erosion, though not so intense as that caused by large herds of cattle. It is stated, "A National Park must remain a piece of primordial wilderness to be effective. No men, not even native ones, should live inside the borders". But later, "During our flights Michael and I also noted the *bomas* of the Masai and counted their herds. We found only a fraction of the number usually given. Unless their numbers rise and their cattle multiply because of modern protective injections, the Masai might not make such bad neighbours of the Park after all".

That opinion is reassuring. The Grzimeks not only carefully counted the wild animals of the Serengeti and found that they amounted to less than 400,000 instead of the supposed million, they also traced their migrations; the animals which graze near Lake Victoria, both inside and outside the National Park, from July until November, are living in the Conservation Area, where the Masai have grazing rights during January–May.

The Grzimeks also studied the plants and found that much of the pasture most palatable to wild animals was growing where the Masai kept their stock. Samples of soil were taken for analysis to discover if its composition could be correlated with the distribution of the better grasses; and that also may be correlated with the intensity of grazing, for climax grasses are too tall to suit small antelopes. But just as it was necessary to make many flights to count the animals on parallel strips, so also the vegetation of the Serengeti could be accurately described only by recording the plants on a series of parallel transects across the National Park.

Such plant recording is one of the many urgent lines of research which might be done from the Michael Grzimek Memorial Laboratory at Seronera, the Park headquarters; for Michael Grzimek, twenty-four years old, was killed when a griffon vulture collided with his aeroplane. His tombstone on the edge of the Ngorogoro crater states "He gave all he possessed for the wild animals of Africa, including his life".

"Serengeti Shall Not Die" is an account of scientific work. Some of it is controversial; none of it is dull; it is enlivened by many beautiful plates in colour and in black and white. It should be widely read, and it is to be hoped that many of the readers will show their appreciation in a practical way, by sending to the Director, Tanganyika National Parks, Arusha, a contribution to the Memorial Laboratory and thus help preservation and improvement of the Serengeti National Park.

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