

kind of expression. What the author really means is that a particular statistical technique will be more revealing than others given that the data have a particular content or format. Using the right tool for the job is part of a statistician's training, and, because the statistician is equipped with theoretical criteria for the choice, it would be preferable to consult a statistician than to propose an empirical approach. The author gives a comprehensive account of the available small area data and after getting a little bogged down in a philosophical discussion of indices emerges more lucidly into multivariate analysis and classification methods.

The case study of Sunderland to which this methodology is applied is very well done. A short history of the growth and functional development of Sunderland is an excellent piece of description (irritatingly called "simple ecological structure"), and the cartography is of a high standard. The next step is to examine the interrelationship of the variables involved in classifying areas, for example, between rating value and social class. Thirty variables for the populations of 159 areas were subjected to regression analysis and principal component analysis. The exposition of all this work is extremely well done.

The ultimate classification which inevitably mirrors the development of housing estates, private and municipal, is then tested as a basis of differentiation of areas for a field survey of parental attitudes to education. It is of interest that most workers in the field of urban typology have referred to its value as a frame for the design of field surveys. This particular example is an effective demonstration of this use-value. In the end in all research work it is use-value that counts; or, more directly, it is the objective that is important.

Though there is much use of sociological language, the interpretation of findings is largely a matter of population structure—of age distribution, numbers of children and employment characteristics. The new found interest of the geographers in demography is to be welcomed (as is all interdisciplinary collaboration in an age of undue specialization), but they must not imagine that it is a new discipline—it is perhaps older than geography; and demographers have been at the job of differentiating areas by their population characteristics for a long time, though they have recently acquired, thanks to the mathematical statisticians and the computer technologists, very much sharper tools; and doubtless they will have much to learn, to their benefit, from geographers.

This book will be of considerable educational value to all students of urban development and of much interest to town planners. It is excellently produced as a book and for its total content is reasonably priced. Stripped of some of the less relevant material (worthy though it may be), and in a paperback, it would have a wider appeal to the student pocket.

B. BENJAMIN

PLUMED BEAUTIES

Birds of Paradise and Bower Birds

By E. Thomas Gilliard. (The World Naturalist.) Pp. xxii+485+41 plates. (Weidenfeld and Nicolson: London, August 1969.) 126s.

THE birds of paradise and bower birds are two closely related families, evidently evolved in the Papuan sub-region of the great Australasian zoogeographical area. They are close relatives of the crows and probably developed in the first place from rather starling-like ancestors. They are of quite exceptional interest from several points of view, all connected with the fact that they are basically polygynous, and have developed the most fantastic displays known in the bird world. The plumes of the first of these families were traded by various routes to Europe in the sixteenth century; their beauty was so astounding that the birds were thought to be wanderers from paradise.

Since the native collectors adopted the custom of cutting off the feet, Linnaeus gaily named one species *Paradisaea apoda*! It was not until the work of Alfred Russel Wallace in 1857 that naturalists came to have some comprehension of these extraordinary creatures. So extraordinary are they that in 1898 when the "King of Saxony's Bird of Paradise" (*Pteridophora alberti*) was discovered in a Paris plume mart, Bowdler Sharpe, keeper of birds at the British Museum, at first refused to believe that it was not an artefact.

The bower birds in their way are hardly less remarkable. They are outstanding for their use of tools, their apparent artistic colour sense and their skill as architects. An early naturalist coming on a "dance-pavilion" built by a New Guinea species thought it a house constructed by man. Another was so astounded at his early discoveries that he declared that, just as mammals have been split into man and lower forms, birds should be considered in two categories: bower birds and all the others. It is now known, of course, that the bowers have a basically utilitarian function in that they are stages constructed by the males on which to perform intricate routines of sexual display and to mate with the females of their species. They still pose many mysteries, however, and I personally find that the fantastic development of the beautiful and complex patterning of the male birds of paradise, and the astounding behavioural complexities of the bower birds, very hard to account for as merely some of the isolation mechanisms which keep one species separate from another. They seem to have gone too far and developed too big a momentum of their own to be explicable on that basis. Indeed, Professor G. Evelyn Hutchinson of Yale University wrote not long ago that the behaviour of bower birds "in its complexity and refinement is unique in the non-human part of the animal kingdom". It is extremely difficult to avoid the conclusion that something like a true aesthetic sense must play its part in the life of these extraordinary creatures.

This book, by Dr Thomas Gilliard, is a fine monograph on the natural history, evolution and behavioural biology of these creatures. It is also a worthy memorial to the author, who was Associate Curator of Birds in the American Museum of Natural History until his untimely death four years ago, in his fifty-third year, just after his return from the last of his periods of study and biological exploration in New Guinea. But in conclusion I have one grumble. Need a book of such interest and wide appeal really cost as much as six guineas?

W. H. THORPE

WILDLIFE CONSERVATION

Nature Conservation in Britain

By Sir Dudley Stamp. (The New Naturalist.) Pp. xiv+273+23 plates. (Collins: London, June 1969.) 36s.

THIS book is the forty-ninth in that most distinguished series, the "New Naturalist", written, alas, by the first of the editorial board to debase. Fortunately, Stamp was able to complete the whole manuscript before he died, and only proofs had to be passed by another hand (which unhappily has overlooked a number of minor errors of fact). The survey covers a wide field, touching the historical aspect, what has happened since the war, the organizations in the field, the tasks that face them, and winding up with seven chapters on conservation in the regions. There are a number of useful factual appendices, including one prepared by James Fisher, which summarizes nature reserves and other conservation areas county by county.

The book is strongest where the author had personal experience, as one of Britain's leading geographers and as a member of the Nature Conservancy, whose England Committee he chaired at the time of his death. There are constant references to ecology, but to some extent