drink of water, his cupped hands did as well as a cup that would have required calories to manufacture" (p. 29). This uncritical inference from White's energy theory is offered in the face of a photograph (p. 21) showing a Paiute woman surrounded by baskets one of which is especially noted as being made watertight with a coating of pitch. Shoshones and Paiutes drank from woven vessels pitched just to the right degree to allow very slow evaporation to keep the water cool and delicately pine-flavored. In the desert, this makes for *good* drinking.

The book is replete with large generalizations, dogmatically asserted. Bombast is often substituted for substance in an effort to carry a point.

There are, of course, different criteria for evaluating Farb's book. Service, in writing the introduction, praises it as the best general book about North American Indians he has ever read and states that it is a very good book in an absolute sense for two reasons: its "contribution to the theory and practice of cultural evolutionism," and because the author "writes like a breeze" (p. xix). But then, Service with innocent candor claims, "Many American readers are Boy Scout types like me, who refuse to grow up. . . . This is a great book for them (us)" (p. xx).

Per contra, for readers who have grown up and who prefer scholarly and scientific craftsmanship to the work of a breezy Boy Scout, Farb's book is not the one.

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Controlling Populations

The Problems of Birds as Pests. Proceedings of a symposium, London, 1967. R. K. MURTON and E. N. WRIGHT, Eds. Published for the Institute of Biology by Academic Press, New York, 1968. xvi + 256 pp., illus. $9.50. Symposia of the Institute of Biology, No. 17.

The theme that emerged from this conference is the necessity of understanding the behavior and ecology of a species before starting measures to control its numbers or evade its depredations. The conference considered two topics: birds as hazards to aircraft and birds as agricultural pests. There was one paper on urban birds, but nothing on birds as carriers of human disease.

Of the two most noteworthy papers, one, by G. W. Schaefer on the microwave reflectivity of birds, is only tenuously related to the main problem. The other, by R. K. Murton, is a masterly review, in simple language, of observational studies of the population dynamics of birds. In the cases studied, the population was limited ultimately by the amount of available food, and behavioral interactions determined which individuals from the annual surplus were eliminated. Attempts to control the species merely hastened this elimination and had negligible effects on the eventual population level. Although the ultimate goal of pest control is thus shown to be extremely difficult to achieve, the factors controlling these populations are now well understood: it is singular that the mathematical model-builders have paid no attention to this work during the last 10 years. Deductive models incorporating these factors can easily be built: any model that does not incorporate them is simply wrong.

This exemplifies the other point beautifully made in this book: the difficulty of making nonbiologists appreciate the implications of field studies. The difficulty, clearly illustrated in the lively discussions which follow the groups of papers, is reflected in the inability or unwillingness of most government agencies to recognize that taking account of natural principles, and planning in accordance with them, may be cheaper than attempting to defy them. Thus most airlines, federal agencies, and airport managers continue to seek technological solutions to bird-strike problems, or to ignore their costs and damage. Governments have not made use of knowledge of bird movements laboriously gathered at their expense. Agriculturists continue to support methods of destruction such as payment of bounties, despite proofs that these measures are useless.

This book should be required reading not only for administrators but for theoreticians and population biologists.

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Insects and Man

Entomological Parasitology. The Relations between Entomology and the Medical Sciences. MARCEL LECLERCQ. Translated by G. Lapage. Pergamon, New York, 1969. xviii + 160 pp., illus., + maps. $8. International Series of Monographs in Pure and Applied Biology: Modern Trends in Physiological Sciences, vol. 29.

This short book is a translation of a work by a medical man who has become an entomologist. It is largely an encyclopedic account of knowledge about arthropods of interest to medical practitioners. Its import is that of a bridge to entomological knowledge—it is not a compendium on insects. The format of the book suggests that it was compounded from a series of lectures.

The book is comprised of 13 chapters. The first, and longest, chapter deals with pathogens afflicting man that are, at times, in or on arthropods. Much of the detail is presented in tables listing the pathogens according to their taxonomic associations. Otherwise, short paragraphs are devoted to the distribution and vector complexes of many pathogens. Chapters 2 through 8 discuss human reactions to arthropods. Arrangement is according to mode of attack—(i) puncturing for blood, (ii) injection of venoms by bite or sting, (iii) induction of allergies by secretions, by inhaled allergens, or by fragmented bodies, and (iv) annoyance. The last 40 pages deal with miscellaneous topics such as insects as sources of therapeutic agents, as sources of food, and as factors in legal aspects of medicine, and aspects of control.

Possibly the best discussion, and one presenting information little known generally, is the chapter on entomology and legal medicine. The sequence of necrophagous insects invading a body may provide clues to time and causes of death. The discussion of insects as occupational hazards should be of interest to medical practitioners and entomologists.

The book is most valuable for the lists of references cited at the end of each chapter. References are numerous and include many important ones, particularly of European and Asian origin.

Sketchiness is the price paid for brevity in this account. The extensive bibliography compensates for this state where adequate libraries are available. Pages devoted to the control of arthropods might have been more helpfully