

vices of humankind. On the other hand there are those who explain all non-human behavior on the basis of physiological mechanics and deny to other animals anything even remotely savoring of psychic attributes." To one who has studied birds as birds, he adds, neither of these approaches seems justifiable.

In discussing instinct and emotion he explains that if action is purely instinctive, and is frustrated, the animal tries again and again or stops and does something else, without becoming excited or irritated; but, if the action is the result of emotion, frustration leads to irritability, excitement and anger. A House Wren trying to force a long twig sideways into the hole of a bird box is an example of the former while many human examples are to be found of the latter; birds, however, seem to possess only instinctive emotions.

In comparing human and avian minds the author calls attention to the attitude of birds toward sickly young. Instead of showing more concern and attention in their time of need, as humans would do, they quickly become indifferent and later irritated and even hostile to the unresponsive young. The instinctive care of the young Cuckoo, still in the nest, by the foster parents and their indifference toward their own young which have been thrown out, although still in full view, is another example of this difference in mental attitude.

With such introductory discussion Dr. Friedmann goes on to consider Fear, Greed, Social Emotions, and Cruelty, which he groups together as Permanent Emotions; and Courtship Behavior, and Love, which he calls Cyclical Emotions. There is also full discussion of the Loss of Instinctive Emotions, especially with respect to Parasitism, a subject to which Dr. Friedmann has given a great deal of attention.

In his conclusions he states that "the great similarity between so many aspects of avian and human behavior suggests (as it might be expected) that human conduct when stripped of its civilizing morals, learning, and other cultural embellishments, etc., is basically not very different from that of birds." While we are unable in the space at our disposal to do justice to Dr. Friedmann's paper, which is so full of meat that it should be read in its entirety, we must mention one illustration that he cites of the errors that observers without training in interpreting animal behavior will fall into. This is the case of the so-called "broken-wing ruse" practiced by the Killdeer and other birds. This is popularly explained as a device to draw an intruder away from the nest or young, but Dr. Friedmann considers it as apparently the result of conflict between the emotion of fear occasioned by the approach of an apparent enemy, and the reproductive emotion which makes the bird loath to leave the nest. The conflict of emotions produces muscular inhibition or inability to fly, until the fear emotion gains control as the bird gets farther and farther from the nest; an illustration of how psychic factors may induce physical changes. The reviewer has had abundant experiences with the Killdeer which would seem to substantiate Dr. Friedmann's views, at least in part. We have found that birds with newly laid eggs rarely practice the broken-wing ruse while those with well incubated eggs do so, and that birds with full grown young have also been seen to practice the "ruse," an action which our author, in the case of another species, terms "a habit lingering beyond its usual duration."—W. S.

Richmond's 'Quest for Birds.'—So many bird students have felt it necessary to publish the results of their observations in a more or less popular way that when we picked up the present volume¹ we supposed, influenced perhaps by the title, that

¹ Quest for Birds | The Problems and Pleasures | of an English Bird-Watcher | By | W. K. Richmond | London | H. F. & G. Witherby | 326 High Holborn W. C. 1. Pp. 1-196, 1 plate. Price 7 shillings 6 pence net.

it was simply another of these accounts. However the preface, a part of a book which too few persons read, at once attracted our attention. Here the author states that bird books are of two sorts, "those intended to be informative and those which are calculated largely for pleasure" and that "the trouble with most of them is that the authoritative books are painfully uninteresting, and the entertaining ones so empty and superficial as to be quite valueless after a first reading." He adds that his book is very ambitious as it endeavors to serve both ends.

He later speaks of the various sides of ornithology. There is the lover of the outdoors to whom birds "are necessary to complete his rustic ensemble;" there is the man engaged in a systematic study of bird plumage; the artist who takes a keen delight in their form and color; and another who studies birds from a strictly scientific viewpoint. Therefore he defines ornithology as "a collection of smaller studies centered around an ill-defined core rather than a separate study in itself, and the only real core is the highly vague love for and pleasure in birds, which begins as an offshoot of aestheticism and ends as a branch of science." While "the scientific ornithologist may possess half the truth, the plain bird watcher certainly possesses the other half; but neither is entirely convincing."

Mr. Richmond admits that the scheme of his book requires that some of his chapters shall be highly contentious, and adds that "the study of birds will be a poor thing when people cease to argue about them."

The seriousness of the problems which he discusses may be realized from the titles of his chapters: The English Tradition in Ornithology; On Seeing New Birds; The Balance (?) of Birds; A Northumbrian Bird Sanctuary; Spring Song; The Territory Theory and its Fallacies; Nesting Birds; Merely a Sewage Farm; Instinct, Intelligence and Character among Birds; The Common; Past and Present; Problems of the Species; Seen on an Essex Estuary; and Frost.

It is impossible in the space at our disposal to follow Mr. Richmond's interesting comments on the varied subjects of which he treats but we cannot but quote his attitude toward gunning, a practice which seems today to be worse in England than in America, although most of what he says is equally applicable to our own country. "It is the gun," he claims, "as much as anything else, which has wrecked our natural bird-sanctuaries, and only where the gun is forbidden is there anything like a return to the older and more natural state. For the last four hundred years the gun has taken an ever increasing toll of our bird life. Wherever one goes throughout the land one hears the sound of a gun. Escape it you cannot, and of all these multitudinous shooters, experience shows that for every sportsman out after rabbits or partridge, there is a fool who is ready to shoot any bird that comes near him." This "fool" is the source of all the trouble and his elimination is a serious problem for both sportsman and bird lover.

In discussing song and territorialism he says, "It is essential to realize that the origin for song, the reason for its growth, the functions of song, and the particular reasons for song, are all distinct problems in themselves," and when one writer states that "song is not essentially an expression of emotion we must not read into it a contradiction of the belief that song originated in *joie de vivre*."

Our author is evidently well read on his subject and has had an abundant field experience which, combined with an ability to present his ideas and facts in an interesting way, has enabled him to realize in a marked degree his object as set forth in his preface. It is a book that all ornithologists in his broad conception of the word should read.—W. S.

Chisholm's 'Bird Wonders of Australia.'—Most of our readers are doubtless