

DARWIN, C. The Descent of Man, and Selection in Relation to Sex. London : 1871. Sm. 8vo, 2 vols. pp. 423, 475.

Presuming that the reader is aware of the general drift of the author's argument, with which we have here nothing to do, the part of this work relating to Birds will be found in four chapters (xiii.—xvi.) of the second volume (pp. 38—238), wherein the subject of the Secondary Sexual Characters of the Class is treated

at considerable length, though concisely enough when we remember that in Birds more than in any other animals are these characters diversified and conspicuous, and that there is scarcely an ornithologist of repute but has had something new to say of them.

After briefly mentioning some sexual Differences in Structure which seem to depend on Differences in Habit, as the bills of *Grypus*, *Neomorpha*, and even *Carduelis*, Mr. Darwin (p. 40) notices such differences as are connected with the extreme Pugnacity of the Males, citing among many other instances those in *Machetes*\* (the only case among Birds of a structure serving as a shield), the polygamous *Gallinæ*, some of the *Anseres*, and especially *Palamedea*. Then are considered the Sounds made by Birds, whether Vocal (p. 51)—of which most of the *Passerines*, some species of *Tetrao*, *Cephalopterus*, *Cygnus*, and *Grus* furnish examples,—or Instrumental (p. 61), as illustrated by *Tetrao* again, *Upupa*, *Scolopax gallinago*, some *Trochilidæ*, and *Pipra deliciosa*. Love-Antics and Dances, as performed especially by *Chlamydera* and its allies, form the next branch of the subject (p. 68), to which naturally follows the question of Decoration (p. 71), whether permanent or seasonal, the last leading logically to remarks on Moulting (p. 80), and a separation of those birds which have a Double Molt into *five* groups—those wherein (i.) the sexes are generally alike all the year round, (ii.) the sexes resemble each other though undergoing a slight change according to season, (iii.) the seasonal change is very great, (iv.) the males resemble the females for most part of the year, but undergo a change during the rest, or (v.), the sexes being always unlike, the males undergo a greater change at each recurrent season. Proof of the Display of their plumage by Males (p. 86) concludes this chapter.

The next chapter begins with Choice as exercised by the Females (p. 99), and then shows (p. 100) that Courtship is often a prolonged affair, and leaves many Unpaired Birds (p. 103). Then the Mental Powers of Birds are considered (p. 108), and the attachment they feel for their comrades and owners; their faculties of observation, especially as regards colours and ornaments, all receive due illustration. Numerous facts bearing on the Preference of Females for Particular Males are next cited (p. 113); and then we come back (p. 124) to the old question of Variability and Inheritance as the foundation of Selection, whether Natural or Sexual; and this gives rise (p. 132) to one of the most remarkable and ingenious ideas of the many which pervade the whole work, that which suggests the origin and formation of

\* [Neither in this nor in his other works does Mr. Darwin seem to have noticed sufficiently the individual variability of the male of this bird, which in this respect is believed to stand alone among animals.—ED.]

“ocelli” on birds’ feathers. These are traced by successive steps from their beginning as simple spots, through many phases (as, for example, when they are confluent in the train of *Pavo*), till they culminate in the wonderful “ball-and-socket” aspect they take in *Argus*—the process being illustrated by Mr. Ford’s admirable woodcuts.

The following chapter (p. 154) treats of the questions why in some Birds the Female is Less Ornamented than the Male, while in others Both Sexes are Equally Ornamented; and thereto the point whether a character at first inherited by both sexes can be transmitted to one only is discussed. Mr. Wallace’s Theory (Zool. Rec. v. p. 64) is next considered (p. 166), and, notwithstanding certain obvious objections, its main principles are admitted. With the addition of a few words on the Changes of Plumage in Relation to Season (p. 180) the chapter ends.

The whole subject is concluded in the next chapter, beginning with the Transmission of Characters as Limited by Age (p. 183); and the frequency with which the young of some species differ from their parents but resemble the adults of nearly allied species is fully shown. Then, by way of superseding the “Laws of Plumage” laid down by Cuvier, and well known to require rectification, Six Classes of Cases under which the differences and resemblances between young and old of both sexes, or of one sex alone, can be grouped are stated (p. 187). These are:—(i.) when the old cock surpasses the hen in beauty the young resemble her; (ii.) when the old hen surpasses the cock the young resemble him; (iii.) when the parents are alike the young have a peculiar dress; (iv.) when parents and young are both alike; (v.) when the parents, whether the sexes are alike or not, have a distinct seasonal plumage the young (*a*) resemble them in their winter dress, or (*b*) much more rarely in their summer dress, (*c*) resemble the hen only, (*d*) have an intermediate character, or (*e*) may greatly differ from any plumage of the adult; and (vi.) when the young in their first plumage differ according to their sex, the cocks favouring their father, the hens taking after their mother. These cases, which seem to be exhaustive, are very fully considered in the following pages; and their Protective Colouring (p. 223) is treated,—the whole being brought to a close (p. 232) by an excellent Summary of the Argument, which is not here attempted, as being beyond the scope of this annual.