

Ornithology.

CANADIAN BIRDS.

By Ernest E. T. Seton.

PAPER I.

In this, the first of a series of Ornithological papers for the benefit of the members of the Canadian Postal College, as well as for the general reader, it would be well to begin by definitely settling the question, "What is a bird?"

In the root idea of a word there will often be found its best definition, and "bird" (formerly "brid") means "the being which broods over its young." That is very near the mark, especially when we understand "brooding" as "sitting," not merely "nursing."

Yet there are some reptiles that hatch their own eggs, and some birds which do not. Thus several birds leave their eggs to be hatched by the sun, while the mound-making megapode of Australia hatches its eggs *artificially*, burying them in a mass of leaves, which, by decomposition, generate heat enough for incubation.

A fuller scientific definition would be—a bird is a back-boned, air-breathing, feather-covered, warm-blooded animal with wings, lungs and a complete double circulation; reproduced by shell-covered eggs, fertilized within and hatched without the body.

Besides these there are many other minor characteristics, but many even of these main ones are exhibited by animals of other classes. But a short and sure definition is, a bird is a *feathered* being; for all birds, and none but birds, have feathers.

Now let the reader consider a proposition: Supposing that two kinds of animals have been left on a desert island, do you believe that the kind best fitted to withstand the climate and

live on the food there found will be the one that will live and in time possess the whole island, while the weakly kind that cannot bear the climate or get sufficient suitable food will, in time, die out? I can hardly imagine any one saying "No" to this almost self-evident proposition. Then I reply: You believe in Darwinism entirely, for in this lies the whole Theory of Evolution.

Now that we understand each other I may proceed to state that birds are descended from a form of reptiles, and stand in their anatomy between reptiles and mammals. The largest living bird, the ostrich, is closely related to the extinct *archeopteryx*—a bird which had a long, lizard-like tail, with one pair of feathers at each joint, its wings armed with two free claws, and its bill set with teeth. This shews a near approach to the reptiles, and, in time, fresh geological discoveries may restore many connecting links.

On the other hand, we find in Australia a mammal, the *ornithorynchus* or water mole, whose young are hatched, the covering, corresponding to a shell, breaking at the time of exclusion. In its beak, its lack of teeth, its claws, spurs, monotrematous construction, and many points of internal anatomy, it resembles birds. Though it is a mammal its mammary udders are of the most rudimentary description, merely a number of glands of the skin which pour out a sort of milk. Then when we remember that young pigeons are partly fed by a milky secretion from the glands in the old one's crop, we begin to see that the line of demarcation between birds and beasts is not so very strong after all.

Now that we know what a bird is we will proceed to examine the different kinds, and to this end it seems inevitable that the ardent student first be wrapped in the wet blanket of