

From the Author.

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I. ON PARALLEL RELATIONS OF THE CLASSES OF VERTEBRATES, AND ON SOME CHARACTERISTICS OF THE REPTILIAN BIRDS.

II. THE CLASSIFICATION OF ANIMALS BASED ON THE PRINCIPLE OF CEPHALIZATION. No. I.

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I. *On certain parallel relations between the classes of Vertebrates, and on the bearing of these relations on the question of the distinctive features of the Reptilian Birds.*

AT the close of an article by Prof. Hitchcock, in this volume (p. 57), a portion of a letter of the writer is quoted, in which a parallelism is drawn between the Oötocoid or semi-oviparous Mammals (*Marsupials* and *Monotremes*), the Ichthyoid Reptiles (*Amphibians* of DeBlainville, *Batrachians* of many authors), and the Reptilian Birds. The general fact of this parallelism throws light on (1) the classification of Mammals, (2) the distinctive features of the Reptilian birds, and (3) the geological progress of life.

1. *Classification.*—The Amphibians are made by many zoologists an independent class of Vertebrates, on the ground of the fish-like characteristics of their young. The same systematists, however, leave the Marsupials in the class of Mammals, notwithstanding their divergencies from that type. The number of classes of Vertebrates, usually regarded as four, thus becomes *five*, namely, Mammals, Birds, Reptiles, Amphibians and Fishes. There are some indications that this number will soon be further increased by some zoologists, through the making of another class out of the *Reptilian Birds*.¹

¹ Professor Agassiz, in vol. i of his *Contributions to the Natural History of the United States*, page 187, subdivides Fishes into four classes, namely, 1, Myzonts; 2, Fishes proper, or Teliosts (Ctenoids and Cycloids); 3, Ganoids; 4, Selachians; which would make the total number of classes of Vertebrates *nine*.