

Regarding the abundance of shore birds after the storm of 1921, it seems a possible hypothesis that the fall migration of these species from the north drops relatively few individuals in Porto Rico when storms do not interfere with a flight to South America, and that Upland Plovers never stop here unless forced down by hurricanes.—F. A. Potts, *Fortuna, Porto Rico*.

On the Origin of Flight.—1. There exists dogmatism in science as well as in art or religion. Life is assumed to have originated at one epoch, and ontogeny is graphically represented as a tree. There is as much argument in favor of a theory of life having begun at various periods and having developed along parallel lines. Thus flight is dogmatically assumed to have been preceded by soaring.

2. Flight is not a necessary attribute of birds. The Ostrich, Apteryx, Penguin and some others do not fly. The power of flight is easily lost or repressed where not needed. There is no reason to assume that all flightless birds once flew unless paleontological records show that they did.

3. True flight is not confined to birds any more than are birds necessarily flyers. Bats are true flyers.

4. Today a soaring flight is paralleled in different types of life. Some species of squid, fish, lizard, marsupial and squirrel soar. There is no evidence that a flight structure is being developed in any of the above.

5. The various theories of the origin of flight all assume a soaring beginning. The Archaeopteryx and the evidence of four wings in the Pigeon are cited.

6. Some of our diving birds use their wings and not their feet while swimming under water.

7. Many sea birds beat the water with wings and feet before being able to rise. The Penguin uses its front appendages under water and when hurrying on the surface, beats it with these flippers.

8. It is submitted that flight may have started in some cases from a prototype similar to the Penguin, as well as from the two and four winged soarers. Thus a pre-flight bird that progressed similarly to the present Penguin by flopping along the surface of the water would develop pectoral muscles and be on the road to developing true flight. This might appear more obvious than a soarer developing flight structure or pectoral muscles, since none of our present soarers has developed any such structure. Dissection of a flying-fish is convincing proof that it does not flap its fins, having no muscles for such work.

9. An interesting homology may be pointed out in the case of man first mastering the art of flight before the art of soaring.—CHAPMAN GRANT, *Major, Infantry, U. S. A.*

The Copper Plates of the Folio Edition of Audubon's 'Birds of America.'—In my article published in 'The Auk' (Vol. XXV, p. 401, 1908) I included in the list of those which had been preserved, the Snow

Goose (CCCLXXXI) and the Great White Heron (CCLXXXI) then in possession of Miss M. R. Audubon of Salem, N. Y. These plates have now been presented to the American Museum of Natural History, New York City. My records now show 41 plates extant, 25 of which are in Museums, Universities and Public Libraries.—RUTHVEN DEANE, *Chicago, Ill.*