

From Magazines, Etc.

A Strange Messenger.—While renovating an old exhibit of sea-birds in the Australian Museum (Sydney) recently, Mr. Henry Grant, taxidermist, came upon a clipping from the *Queenslander* (Brisbane) of October 15, 1887. The scrap of paper formed portion of the filling of some false rock-work on which the birds were standing and the story it told was as follows :—

The finding of a remarkable message from the sea, in the shape of a band fastened round the neck of an albatross, is thus reported in the *West Australian* of 21st September :—“ It often happens that strange messages reach land from people in distress at sea, but none could be more extraordinary than that which reached the shores of this colony on Sunday. A boy in the employment of Mr. V. E. Nesbit, of Hay-street, Perth, saw a dead albatross lying on the beach of North Fremantle. On going up to it he observed that the bird had only recently expired, the body being still warm. He also noticed that round its neck was fastened a tin band, a little more than 2in. wide. Taking off the band he found that it was covered with letters punctured into the tin. Being unable to make anything out of the inscription, he took the band to his employer yesterday morning. Mr. Nesbit at once saw the importance of this message from the sea, and took it to the office of the Colonial Secretary in the hope that the Government might take action in the matter. The message on the band is as follows :—‘ 13 naufrages sont refugees sur les iles Crozet, 4 Aout, 1887.’ Translated, this reads as follows :—‘ 13 shipwrecked sailors have taken refuge on the island Crozet, 4th August, 1887.’... The Crozet Islands are a volcanic group in the south of the Indian Ocean, and about 1,500 miles to the south-east of the Cape of Good Hope. The albatross, probably impelled by fear created by the tin band, must have travelled on and on until it dropped dead on the North Beach, a point over 3,500 miles from the Crozet Islands. The Government, we understand, cabled to England the contents of the albatross’s message.” In a subsequent issue of the same paper a correspondent writes on the subject as follows :—“ Everyone must have been astonished at the extraordinary incident of the albatross found on the North Beach carrying its message from the sea. Perhaps the most remarkable part of the incident is the question—what could have induced the bird to leave its haunts and fly 4000 miles straight away ? This must have been the first thought of many. An interview with the discoverer of the bird, however, sets the question at rest. Upon being asked if the tin band was fixed tightly on the neck, he said, ‘ Not very ; it was low down and the feathers were rusted ; but I found a broken shell with the fish in it in the bird’s throat above the band.’ Here then appears to be the secret. This shell was probably taken by the bird from its haunts at the Crozet Islands, and being unable to swallow it, discomfort and pain caused it to wander—as is usual with all animal life—until it reached our shores. It may be safely assumed that had the band of tin caused no obstruction, the bird might have carried the message round its neck in the Southern Ocean for the next half-century or more.”*

*This strange incident is quoted by Mr. Wm. Beebe in his latest book *The Arcturus Adventure* (pp 102-103)—EDITOR.

Review.

WHENCE CAME THE BIRDS ?

[“The Origin of Birds.” By Gerhard Heilmann, with two plates in colour and 140 photographs and text figures from drawings by the author. London, H. F. and G. Witherby, 326 High Holborn, W.C. 1926.]

The author, a professor of zoology at the University of Copenhagen, has produced a fascinating book of 211 pages. It begins with a detailed study of the two remarkable long-tailed, toothed birds of Jurassic age. The specimen preserved in the British Museum is the well known *Archaeopteryx lithographica*. The specimen in the Berlin Museum is referred to as *Archaeornis siemensi*. The first was found in 1861 in the lithographic quarries at Solenhofen in Bavaria and the second in 1877 at Eichstatt, also in Bavaria.

In the first of the four parts of the book, the author discusses fully the relationships of these long-tailed, toothed birds. Apart from feathers—a sure mark of a bird—these two Jurassic birds are shown to be closer in structure to reptiles than to living birds. The American toothed fossil birds *Ichthyornis* and *Hesperornis*, are then considered; though toothed, they have the short tail and plough-share bone of the modern bird.

In part II., embryology is called to the aid of the investigator and a remarkable series of drawings shows the origin and traces of the different organs and structures in birds, as well as in many reptiles. A wealth of clear diagrams shows that the individual, during its development, recapitulates the life history of the race, that is, that “ontogeny repeats phylogeny.”

One striking diagram shows the very different adult heads of a fowl, a crocodile, a Sooty Tern, and a lizard contrasted with the very similar heads of the embryos of these animals. Equally striking is the diagram of a cod’s heart and gill-slits compared with the same organs in the embryo of an electric ray, a Sooty Tern, a fowl and a shark; all bear a striking similarity.

In part three “Some anatomical and biological data” strengthen the claim for a close relationship of birds to reptiles.

The discussion of the “digital claws and retardation of primaries” in the South American Hoatzin as well as in the common chicken is well illustrated by photographs and diagrams. The Hoatzin using the claws of the first and second fingers for climbing would be inconvenienced by long wing feathers which would interfere with the use of the claws. The similarly delayed development of the chief flight feathers in the chicken then becomes understandable. The origin of sense organs, sexual organs, secondary sexual characters, and other organs and structures is also discussed.

The useful summaries indicate that the professor is a skilful teacher presenting clearly and recapitulating forcibly the chief points and results of his investigations.

The author considers that bipedal locomotion in the ancestors of birds came before arboreal life with a gradual lengthening of leaps from branch to branch. He considers that it was due to the specialisation of the hind limbs that mainly the fore-limbs and the tail were used for increasing the resistance of the air during the gliding fall. This resulted in the production of new animal forms with arm-flights, but these were "patagium-flutterers" rather than true fliers.

The origin of feathers is suggested as being due to the friction of the air having caused the outer edges of the scales to become frayed. The frayings then gradually changed into still longer horny processes, which in course of time became more and more feather-like, until the perfect feather was produced. From wings, tail and flanks the feathering spread over the whole body.

The lengthening of the penultimate joints of the fingers was attended by the using of the claws for climbing. The author considers that this elongation has been favourable to the subsequent development of the wing.

The fourth and final part is devoted to a study of the probable bird ancestor—the Proavian. It is shown that this must have been a primitive generalised form and that the *Pterosaurs* and the *Predentates* including *Iguanodon* and other so-called "bird-footed reptiles" will not do. The author considers the *Coelurosaurs* were closer, though the absence of any trace of the wishbone deprives them of the chance of being the ancestors of birds. He finds, however, that the extinct reptiles known as *Pseudosuchians* have claims. He states from the investigations "here set on foot it is evident that all our requirements of a bird ancestor are met by the *Pseudosuchians*, and nothing in their structure militates against the view that one of them might have been the ancestor of birds." He considers it possible that later fossil finds will furnish us with a *Pseudosuchian* still more allied to birds. "It would be a stroke of good luck hardly to be expected if, amongst the many thousands of reptile species living in the Triassic, the very ancestor of the birds should have been preserved."

The book is remarkable for several features, including :

1. The close examination of the various structures of birds and their detailed comparison with similar structures in other animals.
2. The excellent idea of modelling the whole structure from the part visible in the fossil is a great help to the student. Many of the illustrations are photographs of such models.
3. A charming and unusual employment of the scientific imagination in the reproduction of models of the animals themselves and of the conditions under which they lived.

Though truly scientific and a classic on the origin of birds, of great interest to all ornithologists, the book is so fully illustrated and so brightly written that even the general reader will derive pleasure and profit from its perusal.