

THE ALBATROSS OF LAYSAN.

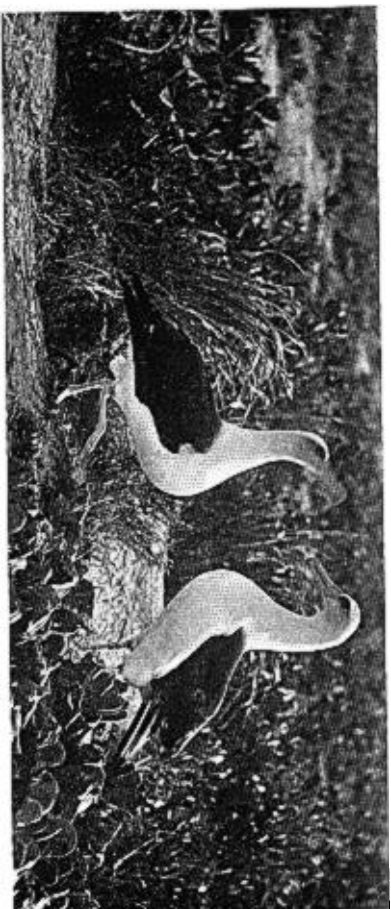
BY PROFESSOR HOMER R. DILL,
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STATE UNIVERSITY OF IOWA.

Hundreds of miles from the regular course of mail steamers, on a tiny sand-grit island in the middle of the Pacific Ocean, millions of birds have made their homes; here for countless generations they have lived, finding abundant food and suitable places in which to rear their young.

This primitive world, inhabited only by birds, is known as Laysan Island and is one of the Hawaiian group. The island has an area of two square miles, is low and flat, and although of volcanic origin has its upper surface to-day completely covered with coral sand and phosphate rock. The shores are of cream-white sand; the higher ground bordering the beach is covered with a rich growth of low bushes and sand grasses, among which are trailing vines. In the center lies a shallow lagoon unconnected with the sea, not far from the south end of which is a small fresh-water pond. From the central plane the sloping sides of the old coral atoll basin can be seen raising gently on all sides to the higher ground that borders the beach.

In the spring of 1911, I spent six weeks on this island with three assistants to collect the necessary material and data for making a cycloramic reproduction of the bird rookeries for the Museum of the State University of Iowa; and while there noted twenty-three species of birds, among the most notable being the Laysan albatross (*Diomedea immutabilis*, Rothschild).

The birds did not seem to mind the presence of man. As our party toiled up the beach through the loose coral sand, these beautiful creatures were seen on the higher ground, assembled in groups of twenty or more; as we drew nearer they came up to greet us, some of them bowing profoundly.



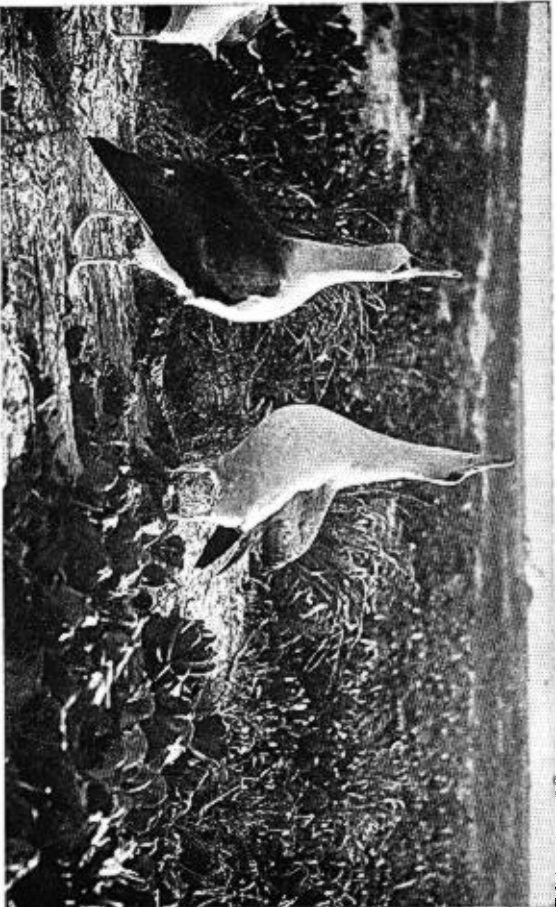
They walk about each other, stepping high like negro cake-walkers and bowing all the time.



They cross hills rapidly several times. The first stage in the strange "dance" of the Laysan albatross.



Second stage in "dance"—One bird quickly turns its head while lifting one wing; the other bird in the meantime snaps its bill.



The final stage in which each bird points its back straight up in air while rising on its toes, puffing out its breast and uttering a long-drawn groan.



Neighing like a horse. The albatross "dance" is repeated over and over again with slight variations.

They gathered about as we stopped to rest, even pulling at our clothing with their mandibles, and pecking at our luggage. If we offered to touch one of the birds they retreated somewhat, but soon returned, their curiosity getting the better of them.

About two years previous to our visit a party of foreign plume-hunters landed on Laysan and for several months made the slaughter of sea birds a business. Had they not been interrupted, they probably would have exterminated the entire colony. As it was, thousands of sea birds were destroyed, especially albatrosses. To-day there is about one-sixth of the original albatross colony left, numbering approximately 180,000—and to one who has never beheld such masses of birds, this colony is a wonderful sight. The level ground that surrounds the lagoon is wholly occupied by them; and nearly every other part of the island, also, with the exception of the beaches, supports small colonies.

The amount of guano deposited by the albatrosses and other sea birds on this island has been estimated to be about one hundred tons daily. For a number of years these guano deposits were leased to a company in Honolulu, but later the business was abandoned. A member of the company reports that while the supply of guano is abundant, it is of low grade, owing to the frequent rains that remove the ammonia.

The albatrosses are said to begin nesting about the middle of November. The one egg is laid on the ground, after which the parent bird draws the sand or earth about her, forming a platter-like nest, in which the young albatross, when hatched, spends the early part of its life; in fact, it does not stray far away even after it is able to walk about. I once carried a youngster some distance from its nest to see if it would find its way back; after it had recovered from its fit of anger at being disturbed, it slowly waddled home. During the morning hours, the old birds feed the young, the food consisting entirely of squid that have been partly digested by the parent.

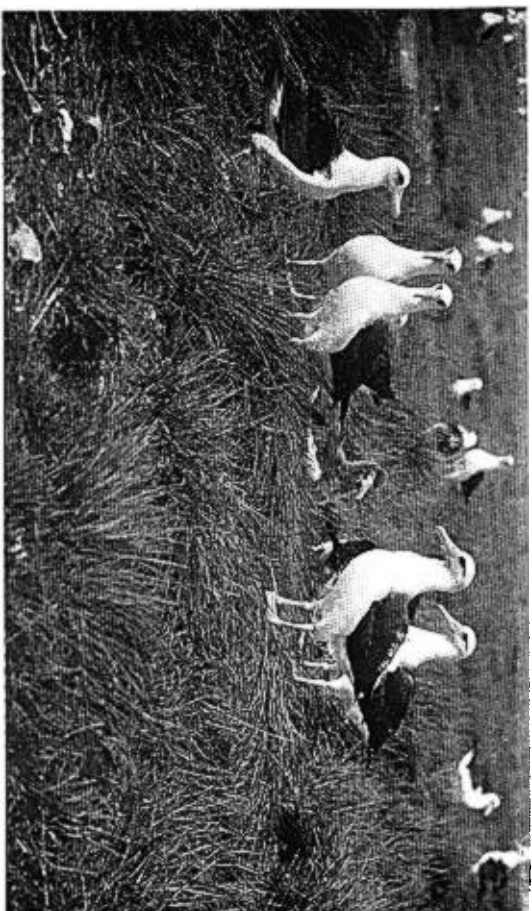
When we landed on the island on April 24, the young alba-

trosses were wearing a downy coat of a dark brownish color, which gave way a few weeks later to one of white feathers on the breast and abdomen and dark feathers on the back and wings. When the down has nearly disappeared, the young bird begins to try its strength by spreading the wings and rising on its feet like the adult birds. It is laughable to see the youngsters tottering along and fanning their wings in a futile attempt at flight. At this stage they play and quarrel with one another a good deal, and frequently amuse themselves by gathering together any loose material that may be near the nest. One young bird had surrounded itself with a pile of the bleached bones of its dead ancestors.

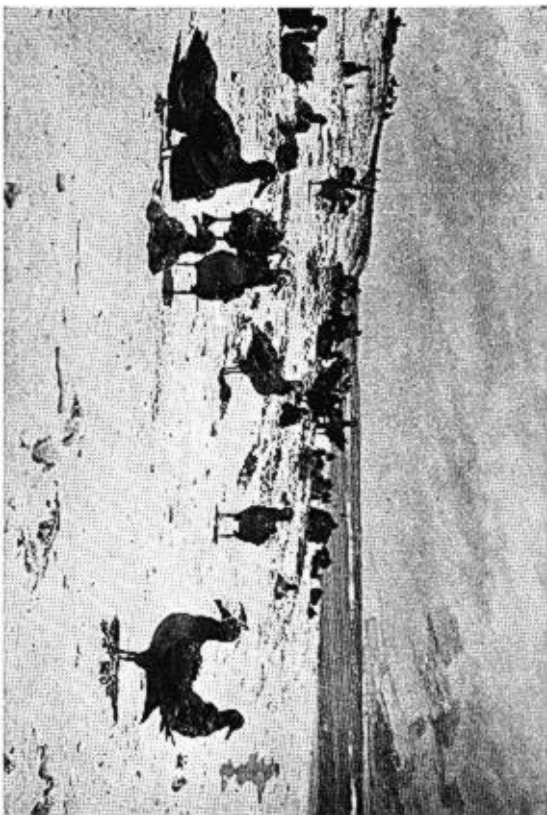
In flight the albatross, like an aeroplane, must rise against the wind; with its wings fully extended the bird runs swiftly along the ground until it has gained headway enough to rise. If thrown into the air it cannot fly as do most birds, but instead falls heavily to the ground.

Much of the time of the Laysan albatross is spent in carrying out a very strange performance. This dance, as it has been called, varies, but usually proceeds in the following order: one bird approaches another with an indescribable squeaking sound, bowing all the time. If the one addressed feels like performing, as is usually the case, he bows in return. Thereupon they cross bills rapidly several times. Then one bird turns his head and lifts one wing in such a manner that the primaries point directly out at the side. In the meantime his partner keeps up a loud noise that sounds like the neighing of a horse. The bird taking the lead then walks around his companion, stepping high like a negro cake-walker. This part of the procedure is usually closed by one or both of the birds pointing their beaks straight up in the air while rising on their toes, puffing out their breasts and uttering a long-drawn groan. The same thing is repeated many times, with slight variations.

The black-footed albatross (*Diomedea nigripes*, Audubon) has taken almost complete possession of the beaches along the north, east, and south sides of the island. While an occasional



Laysan albatrosses are not afraid of man. They approach a visitor on the island as if to greet him, bowing profoundly.



The black-footed albatrosses occupy the beaches of Laysan. This species also has a "dance," more elaborate than that of the white albatross and at a slower pace. The notes are soft and the dance ends with a sound like the stroke of a bell under water.



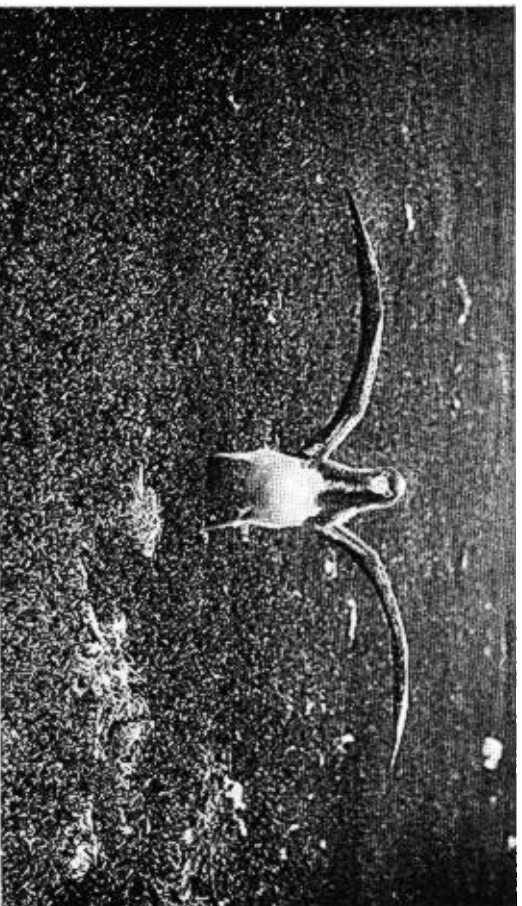
With wings extended the albatross runs along the ground until it has headway enough to rise against the wind like an aéroplane.



Black footed albatross about to feed young.
The food consists of squid partially digested by the parent.



Black footed albatross singing.



Young albatrosses totter along fanning their wings in a futile attempt to fly.

pair may be found nesting with the white species, as a rule they are found by themselves.

The black-footed albatross is somewhat larger than the white species, and when seen on the wing is instantly recognized as being far superior as an aviator. Birds of this species followed our ship all the way from the Hawaiian Islands to San Francisco. They nest like the Laysan albatross, and feed their young in the same manner. Likewise, they have a dance, as does the white species, but in their case it is much more elaborate, and the figures are more slowly and gracefully executed. Instead of lifting one wing they raise both, while the notes uttered are much softer, and the whole performance ends with a sound which seems to come from deep within the bird's body and suggests the stroke of a bell under water. Although they nest separately, black albatrosses are very neighborly with the white species. We often saw them visiting a white colony, and sometimes even trying to perform with them. On such occasions, however, the rapid pace set by the white bird was rather too much for his more deliberate cousin, and in each instance the affair ended disastrously.

During the latter part of August, when the young albatrosses are strong enough to fly and to feed themselves, they all leave the island and live on the sea until the return of the nesting season.

THE CEDAR WAXWING (*BOMBYCILLA*
CEDRORUM) DURING JULY AND
AUGUST, 1916.

BY KATHERINE C. POST.

A. INTRODUCTION.

This work was done at the University of Michigan Biological Station, Douglas Lake, Michigan, under the direction of Dr. R. M. Strong. Mr. R. F. Hussey gave me the facts regarding the building of the second nest and the dates for laying the eggs. Misses R. M. Hall, S. M. Moiles and M.