then on its food and on its ability for doing mischief. If the moa was as good-natured and as omnivorous as the weka it would have been a great recommendation in the eyes of the old voyager, with his limited space and opportunity for obtaining food by the way. A weka will eat fish, flesh, or fowl, and get rolling fat on berries, though its staple food is insects. Our tame wekas catch and eat all the goldfinches that come to our place, and they are the greatest egg-thieves I ever met, and will stay by a dead penguin or a big stranded fish while there is a mite on its bones, apparently eating nothing else for days, though they have a strong muscular gizzard with gravel in it like that of a goose.

The moas may have been far easier controlled and less mischievous than pigs; may have bred several times a year, like the roa, when food was abundant; may have grown faster than our sheep, and produced better meat, though the latter, of course, would greatly depend on the livers of those old people, who may have been wise enough to choose what would suit them best. They also took care to bring no beasts of prey or noxious things, which would hardly have happened if New Zealand was the remnant of a sunken continent. So I think we might assume that it was the men that stocked New Zealand, if they came here at all of their own accord; and it would be quite easy to believe this if we would only admit that some people this side of Suez could have built and steered a decked vessel about the same time as Noah.

The following paragraph is from the *Otago Witness* of the 15th December, 1898: "Last Tuesday, while two dredgemen belonging to the Earnscleugh dredge were breaking down the face to allow of the dredge working into the bank, one of them, Mr. Coad, picked up a moa's egg. A fall of earth consisting of sandy loam had just come down in front of the dredge, when they saw the egg floating into the well hole. Mr. Coad picked it up, placed it on the deck, and proceeded to examine it. The egg was perfect, having all the appearance of having been but shortly laid. There was not a crack in it nor a scratch on it. It measures in length 7½ in. and 5½ in. in width. Mr. Coad has been offered £75 for his find, but he refused the offer."

HEREDITARY KNOWLEDGE.

I remember reading about the very young swallows taking their flight from England when they had been only a few days on the wing; and when we know nothing to the contrary we are likely to assume that the parents led them away, and taught them where to find their food in the country they were going to. But I have seen young shining-cuckoos at Te Anau as late as April apparently alone, and quite happy though they had a thousand miles to fly immediately if they wished to survive, and no one to show them the way, for it is probable that a young cuckoo never saw its mother except by accident. As far as our knowledge goes the cuckoos leave their eggs and young entirely to foster-parents that do not leave New Zealand and are not likely to teach any cuckoo lore. Therefore this knowledge of geography and of their own peculiar impositions must have been laid in the egg, or, in other words, must be hereditary; and why not the same with the swallows? If the parent swallow has to lead away her young and point out routes and localities it is but a poor plan as compared with that of the cuckoos, because if anything happened the parents, or if they were getting old and weakly, their young would perish with them for want of the knowledge that could as well have been laid in the egg.

Every one knows that a trout will teach nothing to its young, but will eat them at the first opportunity; yet those young ones know what a visible line means when attached to a bait, and some of them know too much even for a man to deceive with all his art; therefore this sort of knowledge must be hereditary when they had no teachers and no experience.

The young snipes, flying away to some far-off country, may have all the geographical knowledge that their parents had gathered for ages about where and when to find the marshes and springs that shelter their food in a land that they had never seen, and probably never heard of. Thus the long flights of migratory birds may be directed by knowledge derived from far-distant parents that first made the journeys when the land was almost continuous.

What a wonderful thing is mind, of which we seem only to have a part deficient in some of the most valuable qualities that other animals possess—deficient in memory and thought, and in the power of transmitting our hard-earned acquirements that our young ones need so much.

However, I saw in Dunedin recently what I take to be cases of hereditary aptitude in little boys, better read and more intelligent at nine or ten years of age than they used to be at sixteen; and when we remember our progress in recent times there appear great possibilities in the next few thousand years, which will skip away like hours when our time is up. Then, if any of us are allowed to look back at this old world, we may see hereditary knowledge an established fact, with ignorance and imposture things of the past. The power of heredity to improve we readily admit among animals, but ignore in ourselves, not because its laws are obscure, but because our whims are easier to follow; and though we experiment in all other branches of science, this, the most important of all, we have hardly the courage to touch.

In this lonely forest the native robin is the tamest of all birds, though neither itself nor its near relations may have ever seen a man before, yet it hops into our tent with a confidence and knowledge that cannot be otherwise than inherited. It was not big enough to be killed for food, but was always respectfully sociable and perfectly harmless, which begat it the friendship of man. Man's crumbs in return begat him the friendship of the robin; and thus they may have existed for ages, until Nature approved of the printing, and though afterwards they scattered all over the world, and changed their colours and forms, they carry that imprint still.

My two geese on Pigeon Island could not be induced to pass through a little piece of bush, even on a wide track with grass and water in sight at the other end. They were afraid of foxes, I suppose, though there was not a fox in New Zealand.

The friendliness of the woodhens may also be the result of a very old imprint, though it does not seem likely at first, on account of their value as food. Yet the idea is very forcible that