

SORROWS AND JOYS

OF A

NEW ZEALAND

NATURALIST

•



BY
H. GUTHRIE-SMITH

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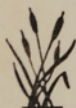


Seals, Enderby Island

SORROWS AND JOYS
OF A
NEW ZEALAND
NATURALIST

BY
H. GUTHRIE-SMITH

Author of
"Tutira, the Story of a New Zealand Sheep Station,"
Etc.



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SORROWS AND JOYS
OF A
NEW ZEALAND NATURALIST

By H. GUTHRIE-SMITH

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No. 489

H. Guthrie-Smith

DEDICATED
TO
MY DAUGHTER
BARBARA ABSOLOM

Preface

I do not know how the advance of years may affect the nerves of other writers, but to myself every fact stated outside of Natural History becomes increasingly a source of anxiety and reiterated inquisitorial research. In allusion for instance to William the Fourth and the delay in signature of the New Zealand Constitution how disgraceful would not it be to have got hold of the wrong Sovereign? It is beside the question to say "Look it up, man, look it up." I have done so in every history procurable, but even then, out of mere fatuity, or because of some obscure mental aberration which compels a man not to speak, but to write the wrong word, I yet retain the uneasy feeling that the credit due to William may accrue to some ordinary James or Henry. This weakness of the flesh I have confessed to the friend who has read the proofs and supplied the title. From him as Bishop I have received spiritual consolation and comfort. He has assured me and reassured me from unfathomable depths of historical knowledge that there can be no doubt of the date, reign and personality of the monarch in question. As grammarian and thus accustomed to deal with endless exactitudes, as Polynesian scholar and lastly as Bishop of Waiapu, son and grandson of previous Bishops of the same Diocese he should be right. Still . . .

To my daughter's energy and intrepidity I owe every photograph taken on the Kermadec trip and many of those secured on the Snares and Auckland Island Group. In roughest tossings of the mighty deep it is much to have had a companion never disheartened—to be precise, never out of spirits. To the very best of mates as is most justly due again thanks are proffered.

PREFACE

Mr. G. F. Green has once more consented to take upon himself the weary weight, to me, of all this unintelligible world of manipulation, inspection and rejection of stacks of plates and sheaves of prints, mostly mine, and mostly bad. With customary acumen he has made the best of indifferent material. I visualise him seated before the rubbish heap, his human, kindly humour quenched and dispelled, methinks I note again his various signals of distress, at bad the dubious prefatory strokings of the chin with hollowed hand, at worse the growing austerity of the long, sad face, the lining of the brow, the tightening of the lips, at worst the sibilant indrawn breath of voiceless agony. As best he may, he bears with one who in his lifetime has begotten a more vicious brood of negatives and perverted more photos than any man alive in New Zealand. To Miss Gertrude Johnston my warmest thanks are due for help in revision and rearrangement of papers.

Tutira Homestead

October, 1936

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ERRATA

- Page 20, 5th line, "Whitley-built" should read "Whitby-built."
- Page 153, 17th line, "against" should be "again."
- Page 155, footnote, "sulphate of ammonia" should read "sulphate of copper."
- Page 155, footnote, "sodium chloride" should read "sodium chlorate."
- Page 212, third paragraph, "crew" should read "screw."

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CHAPTER I

INTRODUCTORY

DURING the last century and a half, successive tides of biological change have swept New Zealand, each of them bringing its special perils to the ancient inhabitants of land and water, its special modifications to the very surface indeed and contour of the land. In this volume these alterations will be considered from the point of view of one who has lived his life in the back country and a considerable part of whose time has been spent on unpeopled coasts, islands difficult of access, and barren river-beds. Under canvas, in shepherds' huts, in grimy gold-washers' shanties, in the oily wigwams of mutton-birders, the writer has enjoyed opportunities at first hand and on the spot for consideration of the problems presented. What he has made of them readers must judge. In this volume his conclusions are given for what they are worth.

To a friendly public the author takes the occasion of bidding a final farewell. Alas! he is cognisant of his thousand and one omissions, oversights and negligences; chances of time and tide that all too late vainly he vows would never again be allowed to slip—vainly indeed, for to whom do the Gods proffer their favours twice? Opportunity is also taken to say adieu to reviewers known and unknown. They have taken the writer exactly at his own estimate—that of a not altogether idiotic sheepfarmer. They have not expected too much and consequently have been able to deal leniently with shortcomings. His more profound apology is due to New Zealand herself, to that fair maid whom he himself and his compeers have assisted to disrobe and strip; for surely

the squatters are a class accurst in that the ravishment of the Dominion has been their handiwork—offences must needs come, but woe unto them by whom they come. Only that it is impossible for any individual to withstand the stream of tendency to divaricate from lines aeons ago laid down must be the writer's partial exoneration. Such, too, must be the palliation of multitudes of landowners who have regretted what in a manner has been forced upon them. Like the lady in Sheridan's translation they "fell but unwillingly fell."

In the landing of Cook, nay in the momentary glimpse by Tasman of that "large high lieing land" as yet unnamed, were contained the seeds of death. Their development and culmination have swept like fire or flood the glory and beauty of ancient New Zealand. The work of destruction has proceeded with ever accelerating speed. The ravening energy of the Anglo-Saxon breed, its ferocious rat-like pertinacity has accomplished the ruin of a Fauna and Flora unique in the world—a sad, bad, mad, incomprehensible business that man should be thus still conformable to the remotest past, bound to the tyrant time. Alas! too, for the conflicting moods of even the writer himself, but though sometimes pluming himself as superpatriot on the thousand blades of grass created by him where less than none had grown, he can state honestly that oftenest he deems himself unfit to live.

New Zealand is a narrow strip of territory, the least of continents, eight hundred miles long and of an average breadth of one hundred. Two vast fissures—Cook Strait and Foveaux Strait—divide the Dominion into what were known in early maps as New Ulster, New Munster, and New Leinster. In later days rechristened North, Middle and South Islands, they have now subsided permanently into North, South, and Stewart Islands. Isolated in the Pacific, her three thousand miles of

indented reticulated coast-line are beaten upon by rollers from interminable distances, north, south, east and west. The climate varies from cold and mist and rain in the furthest south to almost continuous heat and sunshine in the north—warmth sufficient to ripen the orange, vine and other subtropical fruits. The mountains, high and rugged, are piled in masses that overhang the ocean, the rivers are fast flowing, the rainfall heavy, the hours of sunshine generous. We have then a long thin sinuous *tuatara* of a continent crested on its heights with forest growth, lower at head and tail, its utmost elevation rising to thirteen thousand feet.

Entering a little more into particulars, the North Island is the smaller of the two great areas into which New Zealand is apportioned; its mountains are of a lesser elevation and in the north of less durable material, its isolated highest peaks volcanic. In the South Island, lofty, almost unbroken ranges run north and south from one end of the island to the other. Its rushing rivers in their mile-wide beds are fed by lakes and glaciers. Eastwards of the great divide the climate is dry, westwards wet; eastwards of the divide extend fertile foothills, downs and plains; westwards a narrow strip of land falls precipitously into the famous Sounds.

Stewart Island is of quite inconsiderable acreage, its hills lower, its little rivers tidal. Thus in terms that could hardly have been abbreviated the skeleton of New Zealand, its bones and arteries, have been indicated. These still endure, but vast indeed has been the transformation in the country's skin, in its leafy integument. Vividly to realise this alteration the reader must visualise the unspoiled, unexplored, unexploited New Zealand of a century back.

It will be simple then from the naturalist's point of view to mark the waves of innovation on its physical surface, on its vegetation, on its wild life, on its beasts

of the field and fowls of the air. Again taking the North Island first in order of priority, forest occupied half the countryside, bracken and jungle the remaining moiety. The bulk of the South Island was clothed in natural grasses, areas of heavy bush flourishing only on the west coast and wetter portions of the northernmost and southernmost provinces.

On to this lovely land stepped late in the eighteenth century Cook, De Surville and Marion du Fresne. From that date all was changed.

Readers must for a few paragraphs resign themselves to breathe a strange mingled atmosphere of likelihood, possibility, inference, presumption and fact. Amongst the first are the probable instant liberation of alien species of the vegetable world; consideration of these involuntary acclimatisations will serve to show how from the moment a strange sail bosoms towards a new country, that country's transformation is inevitable. Very well then—we know that Cook during his first voyage landed with Banks and Solander on several localities on the coast of New Zealand. These are facts accepted and indisputable, but these eminent men having stepped ashore we halt in likelihood and inference. To my mind the first effect on New Zealand would be the instant inadvertent dissemination of weed seeds and the belief is stressed not because the introduction of insignificant vegetative aliens would be in itself matter of great moment, but that readers should comprehend from the beginning the minutiae of the grafting of one civilisation upon another.

Reverting to fact again we know that Cook had a goat on the *Endeavour* and must therefore have carried a supply of fodder. We can further believe that Banks and Solander must often have relieved the tedium of the weeks at sea by visits to this animal afterwards immor-

talised by Johnson.* We can believe, too, that being kind-hearted men and the goat vocal and importunate, it was fed by these philosophers with supplementary snacks of corn and tufts of hay. Whilst thus discussing the questions of the day and trifling with the ship's pet, seeds may quite easily have become secreted in their clothes. Banks and Solander, moreover, were certain to have carried ashore cases, boxes, bags and knapsacks for the anticipated stowage of indigenous specimens. They are equally sure to have taken with them tools for this special work. They would furthermore have donned rougher clothes worn already in field work at Home. We may be certain, therefore, that about their persons or gear would lurk stowaways from English lanes and gardens, representatives of species whose seeds run to millions per pound weight and which are parasitic to man the temperate world over. There are in fact to this day species of disputed origin in the New Zealand Flora. It is at least possible that they may have been dropped within a few minutes of the disembarking of the first discoverers. Perhaps the Flea (*Pulex irritans*)—*e pakeha nohi nohi*—"the little stranger"—may have been then also liberated.

The precise spot, the exact how and where of black rat acclimatisation must also remain a matter of surmise. Specimens may have swum direct from the

* Note—February 27th, 1772.

To Joseph Banks, Esq.,

"Perpetua ambita bis terra praemia lactis
Haec habet altrici secunda Jovis."

Sir,

I return thanks to you and to Dr. Solander for the pleasure which I received in yesterday's conversation. I could not recollect a motto for your Goat, but have given her one. You, Sir, may perhaps have an epic poem from some happier penman, Sir,

Your most humble servant,

Sam Johnson.

Johnson's Court, Fleet Street, February 27, 1772.

Endeavour at one or other or each of the bays visited; they may have managed—though that is improbable—to secrete themselves in the boats rowed ashore, and thus been assisted in their circumnavigation, too, of the globe. Later at Ship Cove the famous Whitley-built barque was careened and then if not before must the old English black rat (*mus rattus*) have issued from its long confinement on board ship. It was immediately after the date of Cook's first voyage that in Europe the grey rat rapidly dominated and very soon destroyed the older established breed; when Cook left England the black rat was in possession of the British Isles. Most unlikely it is that even had the two species boarded together in port such a cockleshell as the *Endeavour*, *mus rattus* would have survived the companionship of his more savage congener. It is certain at any rate that the old English black rat did arrive and that it had overrun New Zealand before the appearance of its grey cousin.

Fleas and such insignificant plants as Banks and Solander may be responsible for need not seriously disturb us, but the rat disembarkation was the foremost step in the defloration of these woods where Banks was awakened "by the most melodious music" he had ever heard, "almost imitating small bells but with the most tunable silver sound imaginable."

Of other animals landed by Cook geese were never again heard of, goats were slaughtered by the Maoris, presumably also the two ewes and one ram, unless indeed the last-named creatures poisoned themselves—a not unlikely event—on *tutu* (*Coriaria ruscifolia*). As to the fowls, the Weka (*Ocydromus* sp.) the most expert egg thief in the world, would account for their early failure. Pigs, however, from the beginning seem to have been cherished and carried from village to village. They, too, like the rat must have discovered ample food in

berry, drupe, tubers, in fern rhizomes of several sorts and in ground birds and their eggs. I think the likelihood is that swine must in small numbers have gone wild not long after liberation. Pigs readily revert to a feral state. There was unlimited covert to hide them, unlimited temptation to stray. The unsettled habits of the natives, too, must have assisted in their undomestication. When sudden attacks or even suspicion of a neighbouring *hapu* counselled departure in hot haste stragglers were certain to have been left in the scrub, for pigs must have from the beginning fended for themselves. Although, however, they may have become wild, it is unlikely that their number increased with rapidity, in forest areas. They dislike shade, they prefer dry land and sun. On the other hand it is not improbable that swine may have almost immediately been established in the more open areas of the North Island by visiting members of friendly tribes; indeed, we know that at Cook's inaugural disembarkation of European stock representatives of a distant *hapu* or sept were present, "a better race of men," as he noted, "with better arms, dress and ornaments." As our circumnavigator had already consigned his clearing in the woods to the care of their chief Teiratu, the latter was probably a man above the average capacity. In this matter also we can but steer by likelihood; from the beginning the local natives had evidently valued the pig. Teiratu, better armed and doubtless also anxious to show his tribesmen in the north actual evidence of the white newcomers' arrival and his personal acquaintance with their chiefs, would be likely to carry back with him samples of this strange new animal; perhaps he would not be the less eager in the business that as a *rangatira* whose *mana* would not permit of undignified labour, he himself would not be the carrier of so awkward a burden. Whether

Cook's swine were canoed at this very early date to the North Island may or may not be correct. They did arrive in New Zealand—that is certain; imported first by De Surville and later by Cook.

Turning again to the vegetable kingdom, the earliest European garden attempted in New Zealand was in size nearly an acre. It was situated in Dusky Sound, but an excessive rainfall, a sour red-rooty loose soil, and lastly, too close a proximity to tall trees, would militate against its success. Garden seeds would do little more than germinate, though a few weeds such as sheep sorrel, shepherd's purse, *poa annua* and chickweed—especially the last on such soil—may have struggled to maturity. Even they, however, could not at Dusky Sound have naturalised themselves.

Later at Motuara conditions were more favourable; that *pa* had been deserted, so that Cook's garden there would be superposed on abandoned Maori cultivation ground. As native plantations of *kumara*, *hue* and *taro*—sweet potato, gourd and yam—were whilst in use, extraordinarily well tilled and kept entirely free from undesired growth, the labours of Furneaux and Cook must have had every chance of success. Here garden seeds germinated and grew, for the circumnavigator-turned-gardener reports that though the pea pods had been eaten by rats, yet that cabbages, onions and parsley showed excellent results, and here again we can be certain that alien weeds were also inadvertently sown. As stowaways on this occasion they would have concealed themselves not only in bags, sacks and tools, but in the parcels, tins or bottles enclosing the precious garden seeds. We have furthermore to recollect that grain for poultry, fodder and bedding for pigs and sheep, all of which stock had been on board during the second voyage, must have harboured weed seeds on

a great scale. To this day descendants of Cook's cabbages survive on the sea cliffs of several localities.

Shortly after this date another garden on an even more extensive scale was established by the ill-fated Marion du Fresne. Crozet, who succeeded to the command of the expedition on the death of his chief, "sowed the seeds of all sorts of vegetables, stones and pips of fruit, wheat millet, maize, and in fact every variety of grain from the Cape." "I sowed stones and pips wherever I went, on the plains, on the glens, on the slopes and even on the mountains."*

Cook, de Surville and Marion du Fresne can thus share the onus of the earliest introduction of the more common aliens of every Old Country garden. The metamorphosis of New Zealand was proceeding, foreign weeds had established themselves, the black rat was over-running the woods, pigs had been liberated on both islands, the *pas* already swarmed with fleas.

We can also fitly consider the further multiplication of effects—the effects of Cook's landing or, even more retrospectively, of Tasman's momentary glimpse of his "large high lieing land." Perhaps one of the most far reaching of these effects was the knowledge revealed to mariners that by care and cleanliness the ravages of scurvy could be mitigated, almost stemmed. By water and fire had the men's quarters in the *Endeavour* been scoured and kept sweet. By his discovery of a primitive "beer," for which Cook was awarded the medal of the

*The writer of this volume, one of whose idiosyncrasies has been to note the arrival of aliens on his own property and the methods by which they have managed to smuggle themselves into his paddocks, orchards and gardens, may be allowed to express his amazement at the failure of Crozet's "stones and pips." Sown with the most elementary sense of choice they could not but have sprouted and peaches especially borne fruit in quantity the third or even the second year, yet authority without exception agrees in ascribing the earliest peaches to missionary enterprise.

Royal Society, the health of the crews was further assured.* Another major effect was an accurately surveyed harbour and coast-line. Forster's description of the climate, moreover, though as yet unprinted, must have been a general topic of the ports and quays of the shipping world—"as often as we visited this country it had abundantly supplied us with refreshments which were particularly efficacious in restoring our health and banishing the symptoms of scurvy. Not only well tasted antiscorbutic plants but likewise the fish which are easily digested, seem to me to have been equally salutary restoratives. The keen air which is felt in New Zealand on the finest days contributed not a little to brace our fibres relaxed by a long cruise in warmer climates. From hence it happened that we always left that country with new vigour. If we came in ever so pale and emaciated, the good cheer which we enjoyed during our stay soon rekindled a glow of health on our cheeks."

The sharpest incentive of all, however, to follow in the trail of Cook, De Surville, Marion du Fresne and La Perouse was the presence of seal. Thus foreknowledge of healthy climatic conditions, good food supply, charted harbourage and chance of gain, each and all, accelerated the exploitation of New Zealand.

*"Make a strong decoction of the small branches of the spruce and tea plants by boiling them for three or four hours or until the bark will strip with care from off the branches, then take them out of the copper and put in the proper quantity of molasses, ten gallons of which is sufficient to make a tun or 240 gallons of beer; let this mixture just boil, then put into the casks. When the whole is milk warm put in a little grounds of beer or yeast if you have it and in a few days the beer will be fit to drink."

CHAPTER II

SEALERS AND WHALERS

OF deliberate forethought and on a grand scale the first attack in force on the wild life of New Zealand was delivered by the sealers. China was the nearest trade centre in those days, the taking of skins for her markets was the earliest attempt at commerce with the outside world.*

By hardy mariners from Britain and the eastern ports of the United States, the very wildest portions of New Zealand were ransacked at the very earliest dates in her history. The Sealing Islands as they were termed—the Snares, Solander Rock, The Campbell, Lord Auckland and Macquarrie Groups, Antipodes and Bounty Islands—were pillaged one by one. Gangs from adventurous little craft were put ashore to be picked up upon the return of the mother ship—not infrequently a terribly procrastinated return. On desolate rocks and iron-bound islets men were marooned for months, sometimes for years. It is perhaps not to be wondered at that pig, goats and rabbits, stock of strongest constitution and of most rapid multiplication should have been landed as emergency rations for storm-stayed or shipwrecked sailor folk. To this day on these islands the descendants of animals thus liberated remain as durable a monument to the sealing fraternity as black rats to the British Navy.

With the indiscriminate slaughter—male, female and pup—of fur and hair seals, the traffic in pelts had, according to the author of “Murihiku” and “The Old Whaling Days,” become unprofitable by the first quarter of the nineteenth century. The pursuit of seals then gave place

* The New Zealand Meat Trade was yet in its infancy and like many an effort of private enterprise before and since was discountenanced by authority, Governor Darling having issued a proclamation in 1831 for its suppression. Who indeed at this date could have foreseen its vast increase from a few score of *mokamokai*—tattooed heads, smoke-cured—to millions of frozen carcasses.

to open sea whaling, then to bay whaling from vessels at anchor in port and finally to whaling stations established on shore. In this sinister work there is little to choose between the two regimes except that the sealers' presence was comparatively ephemeral; landed on naked rock they had as little thought of permanent residence as the seals themselves. On the other hand as pelagic preoccupations shrunk in volume, the whaling community began to clinch its talons in the soil. Nor from this date can be properly omitted mention of missionary interference. The churches must needs also bear their share of blame. Whaling and mission enterprise were in fact during this era about equally responsible for the further retrogression of New Zealand.

Direct damage, moreover, was supplemented by indirect. With increase of shipping, new plagues were constantly arriving by themselves. First of these and worst of these the grey rat had imported himself, though about the date and name of the earliest rodent-freighted craft nothing definite is known. The fact is sufficient; it did happen; the rat is here. The writer has found on lands intimately known to him that, whilst this breed marks for its domain the homestead, gardens, orchards, crops and warmer seaward portion of the run, the black rat, as befits his more adventurous spirit, prefers the woods and high country. The same respective inclinations induce on a wider field the grey rat to stock the coastal belt of New Zealand, the populated areas, the towns. At this date, as neither city nor white population existed, they especially multiplied along the shores where the natives chiefly congregated.

Animals as dangerous were purposely imported. None of man's parasites more readily quits him for the wilds than the cat. Sailors' shipboard pets originally, but sometimes landed with shore parties, they quickly took to the woods. The dog, we learn from Colenso,

was brought to New Zealand by whalers, the earliest imported specimens presented to chiefs whom captains of ships were anxious to propitiate—with pig plentiful, it can be imagined what value was attached to an animal eager to hunt and strong enough to hold.

From the shore whaling stations—the very word is ominous—another step was taken in the primrose path; a tentative and probationary cultivation of land for “flax” growing began. The liberation of domestic stock—sheep and cattle—raised as yet merely for local consumption also proceeded apace. All responsibility for land settlement cannot, as I have mentioned, be placed on the shoulders of the whalers. The missionary must share it; he also by this time had imported horses and cattle, he had begun to establish grasses and fodder plants, to plough and cultivate, to distribute drupes and pips of fruit trees, scraps of pot herbs; as Darwin noted, to interest himself in garden flowers from England.

On May 3, 1820, by the plough for the first time was New Zealand soil upturned. “I trust,” wrote the Rev. J. G. Butler, himself the apostolic puncher of his bullock team, “that this auspicious day will be remembered with gratitude and its anniversary kept by ages yet unborn.” We can let it go at that. Nothing could more clearly indicate the deplorable spirit of these times than that a good man could write thus of an operation destined to dislodge wholesale the Fernbird (*Sphenocacus punctatus*), the Bittern (*Ardea poeciloptila*), the Pukeko (*Porphyrio melanonotus*) and several species of small Rail. So definitely retrograde a movement may be considered as terminating the second period in the history of early New Zealand; the curtain falls on a land stocked with domestic animals, fowls, rabbits, cats, dogs, swine and goats, rats multiplied to incredible numbers, wheat, barley, oats, vegetables, pot herbs on every coastal *kainga*, here and there groves of cherry and peach,

here and there fields of grass and grain, here and there gardens stocked with the dear well-remembered wild flowers and fruits of the distant Homeland—sweet briar, perrywinkle and blackberry.

CHAPTER III

THE SWORD OF DAMOCLES

SINCE its discovery the sword of Damocles had been suspended over the unfortunate new country. It was now about to descend in good earnest. What Cook, De Surville and Marion du Fresne, what the sealers, whalers and missonaries had accomplished between them were but pinpricks to what was to follow.

Cook and his French compeers had been mere callers. The sealing and whaling phase in its heedless precipitancy had proved hardly less fugacious. The mission stations had been intent on the amelioration of the native race—probably on the establishment of a theocracy. None of them had envisaged settlement on a great scale. The advent of the Association known as the New Zealand Land Company was the crowning disaster.* Twenty

*The delay attendant on the departure of the New Zealand Land Company has often been attributed to mere official apathy. I myself see evidence rather of a foreboding heart of a prophetic head. William the Fourth was aware that his Dutch predecessor to the Crown had been dubbed "Stinking Willie," his Royal Protestant race been anathematised as "Hanoverian Rats." Pondering over these matters his genius had been bent into channels of thought unusual to sovereigns. He was aware that the enthronement of William of Orange was synonymous with the spread of Senecio Jacobea, that pungent-smelling orange-coloured rag-weed; he was aware, too, that the advent of his own ancestral house coincided with the spread in Britain of the continental rodent dubbed by the malcontent Jacobites, "The Hanoverian Rat." He had been led to think he had become a naturalist. Revolving these alien irruptions he was perhaps the sole Englishman of his time who had mastered the intricacies of weed seed dissemination, the dangers of animal introductions, the substitutions and supplanting of species, the world-wide significance of the problem. Even as Sovereign of Great Britain, however, he did not dare openly acknowledge his passion for this new branch of biology. Its ventilation in Court circles could never have been popular; we cannot think of "The Duke" as sympathetic; only perhaps in the very arms of his mistresses would our Royal ecologist have ventured to whisper his novel views of plant propagation and dispersal.

What, however, could be done for New Zealand by dilatory tactics was managed. By every legitimate means the official peopling of the Colony, with its terrible consequences, was postponed. In 1837 died King William the Fourth. He had at any rate been saved the disgrace of personal participation in the coming crime; he had been spared the infamy of consent. In 1839 sailed the first lot of emigrants.

million acres were purchased or thought to have been purchased for £9,000 in goods—strange goods some of them—Jew's harps, sealing wax, pocket handkerchiefs, red nightcaps.* If, however, the New Zealand Land Company obtained their territory at a not exorbitant rate, many years of experience of Maori mentality allows me to believe that it was equally well sold and probably, moreover, bartered with tongue in cheek by the vendors. Thus land was acquired in Wellington and later in Canterbury and Otago.†

Except in Canterbury, a mischievous nibbling might well describe preliminary progress, the axe, the plough, the spade all used in a small way by small settlers. It was otherwise in Canterbury; there a raging gluttony marked the aristocratic appetite of the pilgrims; tracts of land airily estimated as between river and river were devoured at a mouthful, whole mountain ranges swallowed at a gulp. Certainly the pioneers of this province experienced their own especial difficulties, but certainly also in Wellington, Nelson, Taranaki and Otago conditions were relatively still more adverse. In these districts forest had to be cleared, stumps to be grubbed, no natural boundaries presented themselves. From these woodland clearings, an insurrection of suckers, second growth and seedlings was always to be apprehended; the climate was wetter, the soil more difficult to manipulate, the natives often the reverse of friendly.

* Describing his Hokianga expedition of 1820 Cruise writes:—"In travelling through the country Mr. Marsden often wore a red nightcap and he used spectacles. When taking leave of Mowhenna, who had treated him with the most boundless hospitality, he asked his host to name the present he most wished to have. Mowhenna immediately asked for a red nightcap and a pair of spectacles, remarking that they must be the insignalia of a very great man in England."

† Our witty critic M. Seigfried in his "Democracy in New Zealand" will have it that emigrants were landed in Otago to the sound of hymns. I think he refers to the fact thrice. To a Latin the jest is too good not to merit emphasis.

On the other hand, from the Port hills of Christchurch, far as the eye could reach, yellow tussock clothed mountain, foothill and plain. The countryside was already grassed—though grassed may be a misleading word to describe the aboriginal matted growth that felted the ground. It was a far impossible to realise unless actually seen, and now only to be viewed on portions of one or two of the Subantarctic Islands. This brown dead quilt of rotting vegetation lay of yore sometimes feet deep on the ranges of Canterbury, and indeed, on the ranges of the whole South Island. On its movement of any sort would have been difficult, sheep in fact would have been dry bogged. To obtain green succulent feed, fire was the ready agent. It was the practice of the squatter to reach his vast leasehold months before stocking, burn his mountains charcoal black, return to find them vivid green and then and there to liberate his merinos.

These early fires were on a scale and of a duration that moderns can hardly picture. They burnt for weeks, travelling fast or slow, north, south, east and west as the wind veered, changed, freshened and slackened. Like the Deity visible to the Israelites of old, they moved in pillars of cloud by day, of fire by night. Heavy dews no more than damped them down. Rains that would instantly annihilate the transient restricted blazes of to-day were unavailing totally to extinguish these primordial conflagrations. Seed of fire was retained in logs that still at this period lay in considerable quantity on the hills—vestiges of a very different vegetative covering grown under very different climatic conditions. From the heavens' arch of thin cloud would blow the parching nor'-wester, and as if with the distant reflected glow of volcanoes, the darkness of night would be illuminated, red lurid lines in the open would trace themselves on the hill-sides, perpetually wavering and twinkling as from

moment to moment the underglow was veiled by the fall of sapped surfaces of dead matted growth. In these early clearing fires scores of thousands of acres were blackened in one act. Enormous harm was done to wild life.

The flames themselves, the clouds of dense, low blown, acrid, choking, stupefying smoke proved fatal on a vast scale to ground bird species unable to fly, and hardly less so to those that take wing reluctantly and do not willingly rise a second time. In the shrubby growth feathering mountain gorges, in patches of woodland covering sunless southern-facing hollows, the smaller birds of normal wing power also perished in multitudes. One negative virtue nevertheless attached itself to the holdings of the squatter. They were so immense that homesteads were few and far between. Where operations were conducted on a smaller scale, subdivision of land entailed a large number of households, each of which harboured rats, each of which possessed cats and dogs, each of which contained firearms. From every one of these primitive homes emanated slaughter of game birds—the harm however directly accomplished by man less by infinitude than that effected indirectly. He at least only slew for food and only during a portion of the year, whereas depredations of vermin proceeded during every one of the twenty-four hours of every day of the three hundred and sixty-five days of the year. In season and out of season continued an unabated raid on eggs and young of native birds. An evil start having been made, there was no staying its course.

In the beginning the number of chains of draining laid down, the size of orchard and garden plot, the bounds of the clearings for crops, the tract of hill-side bared of wood were negligible; as, however, the years passed the worked lands began to touch; on them grass—not flax, toetoe and rush—began to seem the natural

covering. Man, certainly not God, saw that it was good; the face of the earth was changed.

As the number of settlers still increased, saw-mills established themselves in the forests, footpaths became horse routes; pack tracks dusty in summer, fascined and corduroyed in winter's mud, widened into clay roads and these into metalled highways. The early huts sown in the dripping woods shot into grey unpainted townships and then into galvanised iron towns each surrounded by its ring of desolation. Immediately without the streets the largest trees stood gaunt, grey and grim, naked in death or lay a scatter of charred logs littering the desecrated earth. New Zealand was rapidly becoming little better than a home for white men.

CHAPTER IV

CRY HAVOC

UP to this date the deep solitude of forest areas, the far secluded sources of rivers, had remained untrodden by man. They were yet unexplored, uninvaded. This happy sequestration was to be stimulated into effervescence by the discovery of gold which took place in the 'sixties. After that period, wherever the precious metal was suspected to exist, not the tiniest rill in the most inaccessible area was overlooked. The writer has often at the very back o' beyond been astonished to discover traces of the indefatigable gold-seeker. It may truly be said that no river, stream or brook in New Zealand has not been intimately tested. These "rushes" as they were termed, were the more to be deplored in that gold is mostly to be found in poor, infertile districts, the which might otherwise have remained undisturbed for years.

Now, however, from new sprung mushroom townships, from the bark huts of "hermits," the tents of "placers"—solitaries who work alone—devastation radiated. Guns doubtless here also were a factor in the elimination of bird life, but deadlier by far, because more constant, were the ravages of dogs and cats, the latter perhaps the more fatal, for to mitigate the nuisance of one introduced plague—the rat—each household, each canvas bivouac was now burdened by another, the cat.

The effects of this unfortunate discovery of gold may be termed the fourth main disaster that had overwhelmed New Zealand. The arrival of the early voyagers, the coastal exploitation of the sealer and whaler, the inroads of organised settlement and now the influx of miners had each and all inflicted wounds irremediable.

The reader might well suppose that no fresh incubus could have been saddled on the country. He would be in error. The acclimatisation craze had yet to run its course. New Zealand was destined to pass through a period in which an attempt was to be made to recreate of it a cocknified Britain. New wine was to be poured into old bottles, nature was to be improved, her omissions to be remedied, her shortcomings to be rectified. These were the days when every Israelite did what seemed right in his own eyes. The evils of acclimatisation are ineradicable, inexpugnable; any results—except perhaps the introduction of trout—not wholly bad were precarious and ephemeral. Many of the importations were ludicrous or futile. There were shipments of Robin Redbreasts of one sex only, of migrants like the Nightingale. Sparrows and Hedge Sparrows were classed together. Science was unconsulted, no general programme agreed upon. Faddists and cranks were at a premium, crude enthusiastic ignorance enthroned. To cope with the rabbit pest, the Arctic fox was to be liberated, the skins to become an asset to the colony “as it could have known nothing of lambs in its polar haunts it would not relish mutton in New Zealand.” Each province ran its own society, the desires and aims of each province were divergent, one for example putting down Pheasants and Quail for sport whilst its neighbour was breeding weasels, stoats and ferrets. Hawke’s Bay, for example, offering rewards for trapped or shot specimens of what another—Wairarapa—was multiplying by the thousand, this with a paper line of demarkation betwixt their respective boundaries. These pages are not a history of acclimatisation, there is no need for advertisement of past errors. New Zealand does not stand alone in follies committed. It is sufficient to recall the fact that rabbits became a plague, that in the attempt to heal an immediate hurt, a still deeper wound was inflicted.

Weasels, stoats, ferrets and I believe polecats were imported. Even this warning was not taken to heart. Even after this double experience, at different dates in different districts, deer of different species to those imported during the early 'sixties and marsupials of various breeds have been liberated.

To re-enumerate the increasing complications of this biological catastrophe, we have firstly the arrival of Cook, De Surville and Marion du Fresne; secondly, the exploitation of the coastline by the sealing and whaling fraternities; thirdly, preliminary tillage of missionaries and whalers; fourthly, the advent of the New Zealand Land Company; fifthly, the discovery of gold; sixthly, the tragedies of acclimatisation. Such are the facts. There remains but to attempt a dispassionate review of them.

To begin with, had New Zealand been governed by sense and scientific foresight from the beginning—had, I repeat, New Zealand been governed by sense and scientific foresight (though where indeed can this happy combination be discovered?) the importations of at least rabbits, deer and weasels might have been averted. This was not done, indeed prolonged investigation of intricate problems in biology was hardly to have been expected in the breathless rough and tumble of life in a new land. We can now but consider palliatives and partial remedies. These resolve themselves into reserves and sanctuaries too few and far between. In them shooting is forbidden; but no attempt has yet been made to trap vermin, to provide artificial nesting accommodation, to foster the growth of the more prolific nectar and berry bearing shrubs, to feed by artificial means.

Rabbits and hares have long ago been declared vermin, more recently from deer of all kinds has protection been withdrawn, the case of marsupials is under consideration. By rabbits to grassland, and by deer and

goats to forest undergrowth, the damage done has been too obvious to require italicisation. Less manifest and indeed almost absent from a purely gross prosaic materialistic point of view, are the more insidious injuries of other vermin—of the black and brown rat, of the weasel. Proportionately, therefore, more difficult is it to stir interest in the general public. How profound, nevertheless, has been this injury and how soon it showed itself we learn from the early annalists of the colony. We hear of hordes of rats, of scores killed under a single house, of townships pervaded by the stench of their bodies, of scores killed in a couple of hours by a farmer defending his corn, of agricultural lands abandoned to their countless swarms—we read of them “climbing everywhere and eating everything.” The fecundity of both the black and grey rat must have been in fact such as has on occasion occurred in the Old World amongst animals following a vole migration—an enormous reproductivity consequent on unlimited food supply. Of other early importations swine had increased to tens of thousands. Maning mentions in the 'thirties hundreds of pigs collected for a single tribal feast. Hochstetter saw in Nelson miles of land ploughed up by pig. He states that twenty-five thousand were killed by three men in twenty months and that the contractors had pledged themselves to the slaughter of fifteen thousand more. I myself remember having heard details of contracts for numbers almost equally large in Canterbury. Readers will recall how, according to Colenso, dogs were imported at an early date. They also, under the careless unmethodical regime of the native *kainga*, lapsed from domesticity. Lyall, writing of them says: “We hear of a race of ‘wild’ dogs said to have ‘almost extirpated the Kakapo’.” Two years later Brunner was nearly starved owing to the destruction of ground birds by packs of European dogs. Cats, though

always working singly, were also everywhere to be seen. Weasels last of all and worst of all, bred by the thousand under Governmental auspices, spread themselves over New Zealand.

Thus rats, pigs, dogs and cats had in the 'thirties and 'forties overrun the colony; at a later date weasels, stoats and ferrets, forsaking the rabbit-infested areas, traversed mountain ranges, crossed rivers and dispersed themselves over New Zealand.

The result can be imagined. The dissemination of vermin roaming uncontrolled would in any country in the world have entailed diminution of the autochthones. Owing to aeons of isolation, to the absolute absence of predatory mammals, to an ignorance of danger, even of danger arising from man, induced by the methods of capture pursued by native hunters, the arrival of these terrible predatory strangers was nothing less than cataclysmic. Our ill-starred New Zealanders had lived for ages the proverbially dangerous sheltered life; beyond birds in any other region they were defenceless in the face of change. Disuse had in some species resulted in an almost entire absence of wings, in others atrophy of the muscles precluded flight. Many again though able to fly took flight unwillingly. In others progress through the air was a brief, feeble flutter. Their fearlessness was extraordinary. The writer has photographed Mountain Duck (*Hymenolaemus malacorrhynchus*) manoeuvred on to a convenient rock and after a few minutes has discovered the whole family, male, female and brood fast asleep within a few feet of his camera. During an experiment in rearing native pigeons taken from the nest, we found fully matured wild specimens also after a few days willing to accept food from the hand, to take their stand absolutely unafraid on wrist or shoulder, as most convenient to the bird. Henry in his delightful little book tells how in wandering

through the woods of the West Coast he noted a somnolent Kakapo—Owl Parrot (*Stringops habroptilus*), how he familiarly chucked it under the chin, the bird blinking at him for a moment with a sort of indignant surprise and then tranquilly resuming its siesta.

Allusion has been made to the silence and concealment of the native fowler—a contrast indeed to our field sports on moor and stubble, men fully seen, dogs fully shown, the loud terrifying explosion of cartridge, the drop of the stricken bird in sight of the flying survivors of the pack. The Maori on the other hand obtained his bag without contiguous birds obtaining an inkling of the fate of their fellows. By snaring, spearing, striking and most skilful of all, by hand capture, woodland species were procured in vast numbers and always with the minimum of noise. In the *tutu* method a stage was built amongst the branches of upright growing trees, on it the hidden Maori squatted working his snares. By another method—*tahere*—birds were struck in a vital spot by a barbed spear of thirty or thirty-five feet in length. A mode used for the taking of the Brown Parrot—Kaka (*Nestor meridionalis*) was termed *taki*; birds were attracted by a decoy and sliding down the sloping pole of hard wood were seized by hand. Although I can recall no allusions to the subject in Maori song or story, I have but little doubt that even the ebullitions of youth towards wild creatures—stone throwing, inimical gesticulations and shouting must have been discountenanced by the elders of the *pa*.

Even therefore at the hands of man there was no evolution in the emotion of fear, there was no education in the matter of suspicion; at the termination of each season nothing had been discovered by the birds, no step had been advanced in distrust of man, never a wounded specimen had escaped to inculcate caution.

Nowhere in the world had an avifauna been so unprepared for change, nowhere else therefore could there have occurred a slaughter of so devastating a thoroughness.

It was not, however, until the middle 'eighties that the last act of destruction was commenced. So far the great areas of heavy forest had been spared. They too were now to fall beneath the axe. Hitherto there had remained a residue at any rate of the ancient order of things, districts here and there not entirely tilled, coast-lines not closely trodden; in particular the forests of the north had stood intact. About the date mentioned they were given up to settlement. In the rage of these days to multiply the number of farms and to increase the output of butter and wool, the holder of his farm had no choice but to destroy. Unless his "improvements" reached the standard required by Government, he was ousted and his property transferred. About the month of May "underscrubbing," as it was termed, began. Ferns, tree ferns, smaller trees and shrubs were cleared by billhook and slasher; taller timber, often great pines of three and four feet in diameter were fallen on top; giants altogether too big to touch stood green and open to the sky above the shrivelling tangle. About December when leaves and boughs had dried and become brown fire was applied. By flames and heat the great standing trees were withered and killed; the ground lay cumbered with a litter of prone logs charred and black. On these unsightly disfigurements grass seed, turnip and rape were hand sown. Within a year another verdure had replaced that of the lovely forest. The stately woodlands had been transformed into prosaic turf; the very haunts and homes of the indigenous birds—however much already desecrated and fouled—were thus absolutely and finally destroyed.

New Zealand now at this present date, 1936, contains no land of any value for further settlement. Such unoccupied areas as remain consist of dripping forest, worthless brake, barren river-bed, alpine heights, pumice and peat. It is on them that the sparse representatives of birds of the mainland must survive. In this recast New Zealand the effects of stamping—the tread of sheep and cattle in millions on the surface of the land has not yet been discussed. Owing to them the carving force of rain has been vastly increased. On the erstwhile forest and bracken-covered areas of the North Island, there has been a trampling that has hardened the top soil from a sponge into slate. Rain that used slowly to soak through soft, loose leaf mould, rotted wood and vegetable fibre now rushes from a consolidated surface; instead of trickling and dripping from tree-tops matted and roped with lianas and parasites, instead of descending on to fern fronds, tall native grasses and flax and thus percolating to the soil, rain drives directly on to hard indurated sod.

The effect of this direct connection of rainfall and surface, though comparatively negligible on flat lands, is very perceptible on downs, uplands and hills. Especially after periods of drought, water rushes off as almost from a paved surface; erosion is proportionately increased, the number and size of slips multiplied; gorges are deepened, each of them in its turn with ever increasing declivity accelerating the volume of mud and grit carried downwards. Nor must it be forgotten that the faster the flow the larger the fragments of turf, stones and gravel borne forward on the current. Instead of a gradual ooze from a saturated countryside there is a brief spate. Without straining language stock may be thus truly pictured as melting at an accelerated rate the highlands into the sea.

The evil results of this liquefying process are by no means, however, confined to hill country. On the alluvial flats it takes a different form. They, too, are threatened by these ultimate effects of grazing of sheep and cattle on uplands that never should have been open to the axe and plough. In olden days before the country was stocked, before its primaeval vegetation was destroyed, floods indeed occurred as now. River-banks were as nowadays bitten out and gouged, but these inferior soils of the bleaker inland were filtered throughout every mile of the river's run; the coarser soil was deposited by blockage of dense riverside jungle and undergrowth. In those days millions of detaining leaves and blades stemmed the flood, each acting as breakwater, each hoarding its own tapering tail of debris. Thus only the finest silt, the most minutely comminuted vegetable matter reached the flats. The mouths of rivers were then moreover in great degree canalised, the current confined by the dense growth fostered by conditions of damp luxuriance and oceanic warmth. Now bad unfiltered soil is superimposed on good. With the trampling, moreover, and browsing of stock, especially of cattle, these guardian thickets were broken down and destroyed; the untrammelled river broke bounds; long deposited layers of silt and vegetable mould were directly engulfed by the sea. In place of flat terraces on either side of a deep, smooth, straight river we have a main stream torn into shallow channels, its mouth altering at every fresh.

On the high grassed ranges of the south the sheep has been wholly responsible for an accelerated crumbling of mountain into sea. True is it that there as of yore rain falls, frost disintegrates and glaciers flow, but then at least there was no constant stirring by sheep's feet of shingle on the screes, no nibbling of the specialised plant species that bind the stony slides; nor lastly was a dense

vegetation forbidden by the perpetual fires of modern methods of alpine sheepfarming.

It is on to this transformed mainland of New Zealand that the reader will first step. Later chapters descriptive of conditions on the Kermadec Group and on the far southern islands and islets will serve to sharpen the contrast of past and present.

CHAPTER V

CAPE FAREWELL AND BIRD ISLAND

PROCEEDING from generalities to particulars the six following chapters will deal with species of New Zealand birds, not until now known intimately to the author. The reader will cross Cook Strait with him and discover something of Nelson and Marlborough, the northernmost provinces of the South Island. Author and reader rather saddened by what they have there seen will later move southwards and, noting the habits of particular species, will also gather incidentally something of the biological conditions of other slices of New Zealand territory, the river-beds and river-mouths of Canterbury, the lesser heights of Westland. Later again crossing Foveaux Strait in small craft they will in more happy mood pass along the east coast of Stewart Island and camp on one of its attendant islets. Finally en route for the South Pole they will spend successively a few ecstatic hours on the Snares, the Auckland Island Group, Campbell Island, Antipodes Island and the Bounty Group. The six sequent chapters then, deal with the top portion of the South Island and cover a part of the work of two successive seasons. In early spring of 1924 the author left his home in Hawkes Bay, crossed Cook Strait from Wellington, found himself in picturesque Picton and proceeded at once to Takaka which village and another named Collingwood were for several months his basis of operation. Of the first shall he confess that before 1924 he never heard of it. Well, he can plead in extenuation that Mr. Pickwick had reached more than middle life before he visited Bath. "Never in Ba-ath, Mr. Pickwick? re-markable." The fact is that there are many townships in this part of New Zealand that have had their day. Now that gold is no longer to

be found they await a fresh vivification. Though in maps they still loom large, their names printed in capitals that might befit Auckland, Wellington and Dunedin, their virile cosmopolitan population has passed away. In truth these towns of the golden past, when millions were taken from their beaches and streams, wear nowadays an aspect rather forlorn.

Takaka Valley well illustrates the evil and good of human settlement. Originally nothing can have been more lovely. Then as is inevitable in the course of all human development in all lands, its primeval beauty was hacked and hewn, its fair original defaced. The desolation of that intermediate stage has largely passed away; the strath is again picturesque and clothed, there can be in fact few better planted vales in New Zealand, an adornment owing to the work of the original settlers. These splendid pioneers had contrived in the face of endless difficulties to introduce something of the woodland loveliness of Old England to their homes in the Antipodes. It is to this first generation that Takaka owes her "English" trees; the sons of that generation have done little or nothing—I judge by the age of the timber. It is of eighty years' growth or not there at all. Oak, ash, elm, chestnut and sycamore, walnut and cherry rear lovelier monuments to their planters' memories than the white headstones in the little churchyard. These foreign trees alone would adorn the valley and render it one of the most leafy and old-world in New Zealand, but a still more remarkable sylvan effect is obtained by the growth of members of the original forest. Everywhere both on the hill-sides and fertile bottoms does totara (*Podocarpus totara*) flourish in little groves and companies, in twos and threes, in single blessedness. Than this species grown as isolated specimens or in groups there are few more splendid trees in the world. There exist, moreover, scattered groves

and individuals of several different New Zealand beeches (*Nothofagus sp.*). All of these natives have survived from the old time forest and point to days when stock was run more sparsely and the work of clearing done in more careful piece-meal fashion.

An additional interest is given to the valley by its limestone reefs and outcrops. Not as in Hawkes Bay do they cap the hills. In Takaka one remarkable seam persists the whole length of the valley, starting on the high range of the interior and sloping athwart its side to ocean level. Immediately above this fertile belt is piled in violent contrast the poorest of poor stuff. So sharp is the line of demarcation that there are strips of country where a man could plant one foot on ryegrass of the deepest green and the other on rush fern (*Schizaea sp.*) a species that delights in utter barrenness. At the seaward termination of this limestone area its rocky outcrops become weathered as on the Tata islets into all sorts of fantastic shapes, fretted with rain into pinnacles and edges, honeycombed with caverns and caves. The high lands, too, of the neighbourhood are pitted with enormous circular funnels, responsible doubtless for such gushes of water as the Pupu Springs, where a full grown river of the finest, coldest, most translucent hue wells up crystal clear and fills at once a considerable river-bed. Limestone formation, a big rainfall, proximity to the sea ensure to Takaka an exceptional fertility; its gardens are set with golden oranges, its little fields fragrant with twining hops.

From this happy valley of green trees and flowing waters expeditions in search of Bush Canary, Blue Heron, Little Tern and Kakapo were organised. The Little Tern (*Sterna nereis*) which I thought we might have come across never blessed our vision. The Kakapo (*Strigops habroptilus*) about which we had heard the usual tales of great abundance in comparatively late

years diminished in numbers as we approached its erst-while habitat. The fifteen years and the twenty years became thirty years and forty years and the distances back in the mountains proportionately stretched themselves. Nobody in fact whom I met had seen a Kakapo since the gold rush of the 'sixties or 'seventies, "when the diggers lived on them." I must say, however, that but little hope had from the outset been entertained of hearing of living birds of this species, far less of finding specimens. Looking for an owl parrot in the tens of thousands of acres of almost impenetrable forest north of Takaka and west of Collingwood would have been searching for a needle in a hay stack. We knew for certain, however, of sea fowl on Bird Island near Collingwood and on Cape Farewell. As information was gathered of districts suitable for our work, gathered mostly from elderly miners still loth to leave scenes of former prosperity, or anchored to the district by domestic ties, we moved from spot to spot. Often did we return from these perambulations sadder and wiser men. On one of them our purpose had been to proceed by car to Pupenga, by buggy to Cape Farewell. The car, however, hired to take us to Pupenga, stuck en route in the soft mud of an estuary. Finally, when we did reach that village the population was celebrating Christmas before the proper time. Of its ten or twelve inhabitants but one could talk or walk.

We then bethought us of the local launch. At first by its Russian proprietor it was declared unfit for use; only that afternoon had its hold and decks been painted white. For that, however, we did not care, we were wearing dark oilskins, and as one of the species we were in search of was the Oyster Catcher, pied in plumage, and as furthermore our raincoats were plentifully sprinkled with guano from the Terns of the Rakaia river-bed, paint was no bar. That evening as we were

leisurely watching the moon rise, we were greeted with the news that the tide at Collingwood differed by an hour from the tide at Cape Farewell. Our baggage on board, we stepped on to the paint already dry, and in a dead calm, followed the winding pole-charted channel over the bar. This time there could be no doubt about the matter, we should be landed on Cape Farewell Spit before dawn. That night I dreamed a dream and behold an earthquake had occurred. Really we had grounded, in mid ocean as it seemed then, and the launch without water had behaved as toy boats do on a wooden floor. Its canting over had shot me from the bench by the engine on to the oily planks—apparently the tides between Collingwood and the Cape had differed by more than an hour, a great deal more than an hour, or our Russian friend from the Tundras knew more of land than water. Nothing could be done except to readjust our tents and camp gear to the novel inclination of our wreck, and sleep the darkness out.

We wakened to see the launch canted on its side, the dinghy flat on its bottom with miles of mud on all sides. I happened to have been reading of tidal farming in the low levels of Holland and at any rate could amuse myself by speculations as to the utilisation of this huge flat. Breakfast was "served on board" and selfishly regardless of picnickers who might come after us to this romantic spot we threw our egg shells and banana skins overboard. Watched at a distance by Black-backed Gull, who may have hoped we should prove a stranded whale or Blackfish, and by feeding Godwit we lay till the returning tide began to move in on us. A dirty muddy sea it was at first, ever so far away, then nearer and nearer until first the dinghy floated and then the launch righted itself. By this time it was blowing a stiff breeze from the south. We had to steam out seawards to round the submerged continuance of the Cape Farewell



Blackbilled Gulls and Terns, Bird Island



Moth, newly emerged on to manuka branch

sandspit over which there was now a sea running. For a couple of hours we ran up and down the edge of this tide rip, attempting to gauge by the breakers where the deepest water might be, and again and again getting well soaked. It was then that we blessed our stars for tossings previously endured between the Tata rocks and the Taupo headland—seasickness at any rate we were spared. At last upon my promise to be responsible for the launch our Russian friend elected to risk the passage and at once we found ourselves in calm water on the north side of Shelly Banks. The dinghy, which had been hauled on board, was now lowered into the sea, the cameras and camping gear hauled from beneath tarpaulins and all prepared for landing. Yes, but where, where was the second oar?—washed overboard in the tide rip probably—at any rate gone. We were determined not again to be baulked, so hoping that possibly one might be forthcoming from the lighthouse, my mate with a single oar was despatched to make shore as best he could. A propitious roller took him, paddling like a maniac, right on to the sand where the boat was secured and hauled up by the lighthouse folk. As these good people had but newly arrived in New Zealand from northern England, and were uninterested in the great deep except as a convenient plain over which, at so much a week and “found,” light could be flashed by machinery, they neither possessed oars nor the desire for them. There was no means of landing for myself except by the primitive method of leaping overboard. It was a heavenly beach of the finest, smoothest, cleanest sand, the tide was still making, the wind had dropped, a brilliant warm midsummer sun shone; the big lazy rollers, breaking leisurely, were an invitation to immersion. Our mode and manner of landing was watched with perfect unconcern by the people on shore. The appearance of my companion, hatless, coatless, bare footed like the

beggar maid, myself a Venus in knickerbockers rising from the foam and now dripping like a water dog, in no way disturbed their gravity. Certainly people in Lancashire—they themselves came from Lancashire—did not thus behave, but in this new strange land perhaps such methods of disembarkment were usual. We at any rate were satisfied, for often arrival at a fresh camping site is for the first few hours an exceedingly miserable job. The tent and fly may be wet; the hut may be rotten and leaky; worse still filthy and rat infested, or abominable with human refuse and untidiness. There was nothing of that sort on this occasion, we were sure of clean rugs, cooked food and dry bedding—then what a heavenly, glorious, wonderful beach stretched away westward to the mainland—grey beach, grey dunes, mile after mile of broad, wet, flat, brown shining sand—a beach where all the children of New Zealand could have paddled and bathed in safety.

On the burning sand dunes necessary upper garments soon dried and in nondescript costumes, something between Roman togas and kilts, we enjoyed our first meal at Cape Farewell Spit. The whole of the broad sand dunes on which the lighthouse stands has been covered at one time with scrub, flax, toetoe and smaller sand plants. On the landward side, stock had been run in too great quantity; what cattle and sheep had begun gales had ended, now the whole westward area is shifting sands blown into the snowdrift shapes that sand can assume. On the eastern side of the lighthouse the ground has still a vegetative covering of mixed native and alien plants. On it the few cows that are depastured do but little harm.

East and west of the lighthouse are ample breeding grounds for birds, on the seaward side, furthest out of all, Shelly Banks, and landwards amongst the dunes,

patches where sand never rests and where there is accommodation for small parties of Gull, Tern, single pairs of Oyster Catchers and Red Bill. The last-named two species had already nested, and even from a distance I knew that disappointment awaited me at Shelly Banks; a few Blackbacked Gull only, were found and a fine colony of Caspian Tern several hundred strong. Of this latter splendid breed some had three nestlings, some two, but there were as yet more eggs than young birds. Of other Tern there were none. On the mudflats to the south migrant Sandpipers were noted similar to those seen at Okarito on the West Coast of the South Island. There was also another migratory species before unknown to me. For any breed not yet watched at close quarters we were too late. Gulls and Caspians I had photographed elsewhere. The second day, therefore, after our arrival we drove back to Pupenga, transhipped into a car raised at North Cape, the westernmost hamlet of the island, and reached Collingwood without mishap.

Next morning we visited Bird Island. On the lower side of its irregular hogback of sand, driftwood and ocean wrack, were several hundred Godwit crowded closely together; near to them but distinctly defined was a segregation of Oyster Catchers (*Haematopus ostralegus*) five or six hundred strong—more in fact than I had seen before in my whole life. Amongst the Oyster Catchers were a score or two of Red Bill (*Haematopus unicolor*), the species named merely resting together until their feeding grounds should be bared by the retreating tide. The birds breeding on the island were Caspian Tern (*Hydroprogne caspia*), Sea Swallows (*Sterna frontalis*) and Blackbilled Gulls (*Larus bulleri*), these in amity and friendship closely packed together; lastly—the widest possible distance separating good and bad—half a dozen wicked pair of Blackbacked Gulls (*Larus dominicanus*). That they should have been there at all

was doubtless the result of a compromise; the wretches had insisted on breeding on the island, the others powerless to prevent their odious presence, had ostracized them, had as far as possible refused to countenance a settlement so cynically disregarding the ordinary decencies of life. As always in fact the Blackback was there as a bird of prey and though not daring actually to rob and murder openly was at hand to pounce upon any wandering chick of the triple alliance of Blackbills, Sea Swallows and Caspians.

Of the last named there were less than a hundred pairs, some with eggs, others with chicks up to ten days old. Of Sea Swallows there were twelve or fifteen thousand. By them few eggs had yet been laid, the nests—hundreds and hundreds of them—were mostly shallow sand scrapes, though here and there an artistic bird had put down for ornament a few white shells. Black-billed Gulls were also there by the thousand, three or four thousand we believed. Of them there were two separate islands in the ocean of Sea Swallows. The oldest Blackbill nestlings were ten to fifteen days, these chicks varying most curiously, most unaccountably indeed, in the tints of their downy immature feathers. All of them lay on the bare sand, this absolute want of cover in the youngsters seeming the more remarkable from the proximity of excellently built nests of still incubating pairs. I came to the conclusion that in this species the eggs having been hatched the material of the nest became the common property of any birds on the colony who might still require it. On the part of the donors there may have been an altruistic satisfaction in giving it up, more probably there was no choice in the matter. The result anyway from an aesthetic point of view was delightful, the nests heaped prodigally with elegant seaweed of a dozen sorts and shades—yellow, pink, red, purple, brown and green. The prevailing tint of one

CAPE FAREWELL AND BIRD ISLAND

nest might be yellow, or another pink, and of yet another purple; planted out equidistant from one another they looked like some strange garden growth.

CHAPTER VI

I. WOODS OF NELSON PROVINCE

FROM information corroborated and recorrobored I was as sure as human asseveration could make me—and that wasn't too sure—that several interesting species of birds were to be found on certain tracts of high country overlooking Cook Strait, and but a few hours distant from Takaka. Thither it had been our intention to have proceeded at once, but bad weather continuing and heavy hill rain flooding the creeks we were detained in camp for days during every hour of which my imagination pictured the latest building pair of Crow (*Callaeas cinerea*), Canary or Thrush (*Turnagra capensis*) hatching their last laid egg. In that interval steeds had been arranged for, but upon arrival at our starting point no pack-horse at all was forthcoming and but one riding hack. The fact is that unless by some heaven-sent chance a settler intelligent in such matters is met with, getting away in good time, and with proper gear, is striking sparks out of a dish of skimmed milk. On this occasion there was the choice of another day's delay—the certainty indeed that if rain again fell, of still further procrastination—or of walking, carrying on our backs the necessary blankets and stores.

At about 2,000 feet above sea level we struck bush growing on sound limestone country, the undergrowth luxuriant and varied, the streamlets numerous and running on the surface. It was ideal country for birds, Bush Canaries, Tits (*Myiomoira macrocephala*), Fantails (*Rhipidura fuliginosa*), Grey Warblers (*Gerygone igata*), Waxeyes (*Zosterops lateralis*), Tuis (*Prosthemadira novae seelandiae*), Bellbirds (*Anthornis melanura*), Rifleman (*Acanthidositta chloris*), Kaka (*Nestor meridionalis*), Pigeon (*Hemiphaga novae seelandiae*),

and Weka (*Gallirallus australis*) abounded, the last feeding on the great land snail so common in this locality. A few Brown Creepers (*Finschia novae seelandiae*) were also seen, a few Robin (*Miro australis*), no Crow, no Thrush. The settler whom later we were to know well and respect highly, and whose home we had been given permission temporarily to occupy, was away. The house had been uninhabited for weeks, during which time it had, I imagine, rained almost uninterruptedly. Everything within doors was mouldy, white moss furred the leather of boots, rust was red on metals that would corrode, the grey ash of the fireplace was sodden with wet where rain had poured down the wide uncapped tin chimney; the soot was channelled and streaked, a smell of dank wood smoke pervaded the single apartment. We ourselves after our long climb were saturated with sweat and Heaven's sweeter rain. In continuing torrents we chopped and split enormous faggots of beech. The dog of my companion, like all proper dogs, eager to be serviceable, running to and fro, brought with great tail wagging, the lesser fragments in his mouth, dropping them within hand reach of the fireplace and persevering with us in the good work till an ample stack was assured. From the dark forest had our absent host seen the blaze he would have believed that incendiarism was at work. Presently, the whole hut began to dry, our saturated boots we fed with glowing cinders, rattling them like dice and still replenishing. Our soaked clothes steamed on lines. Candles, based securely if primitively on their own drippings, shone and flickered in the draughts. For the hundredth time I learnt that there are no extraneous miseries that food, drink and fire will not obliterate. All that night it continued to rain. Next morning before dawn we wakened in a deluge that sounded terrific even to ears accustomed to heavy floods. There ran betwixt us and civilization a raging mountain stream; the food,

moreover, that I had calculated would last three days, was disappearing as if by magic before the onslaughts of my guide—the pride and boast of the local Rugby team—him I could call my own but not his appetite; we started homewards with the melancholy dawn. Walking faster and faster as men do in approaching an unbridged river in flood we reached the roaring stream, crossed it with less difficulty than had been anticipated and presently found ourselves once more on flat ground.



Fallen and burnt beech, Nelson high country



Camp, near Gold Reef

CHAPTER VII

II. WOODS OF NELSON PROVINCE

ALTHOUGH the New Zealand Crow, the New Zealand Thrush were still to find, Bush Canary at any rate were plentiful. This species is allied to the Whitehead whose curious breeding habits have been described in another volume. For some time therefore we were on the look-out not for a mated pair of Bush Canary but for a mated quartette. Whitehead customs distracted us; for weeks our minds ran on wrong trails. Then again we were at a loss as to second broods. I had gathered from books, and it ill becomes one who himself writes on bird lore to be sceptical of any ornithological statement clothed in the majesty of print—that the Bush Canary was the favoured host of the Long Tailed Cuckoo (*Urodynamis taitensis*), a species laying eggs late in the season. If that were so then the Bush Canary might build twice in the season as the Grey Warbler offers a second nest to the Shining Cuckoo (*Chalcococcyx lucidus*).

The owner of the *whare* used during my first flying visit already described had returned and was “in residence” with his wife and son, but we had heard of an uninhabited “three-roomed house” in that same locality actually on the very edge of the forest and safely out of reach of timber that might fall in a gale. This mansion’s situation so exactly where we required it seemed almost too good to be true—but there it was, for my companion of the previous trip had been in it and spoke of it as something out of the common, phenomenal, palatial.

Our start from the flats was once again of the usual kind—we had been promised a daybreak send-off, but upon arrival horses had not been caught, pack saddles were not forthcoming—as always, the same provoking dilatory slackness. The writer, foreseeing further delays and thereafter a tedious crawling march and the

nature of the beast being to abominate slow movement, he proceeded alone, in due time reaching the Sixtus' house where after a meal of bread and honey and hot tea, very welcome after the bitter rain, the heir of the establishment was detailed to lead him to the three-roomed house. In a hut with merely a sound roof we should have rejoiced, but after the flights of fancy indulged in by our football friend the appearance of the "three-roomed house"—Castle Carabas we called it—was an anti-climax indeed. The first act was to make one spot in it clean for the arriving stores. On a roaring fire therefore every receptacle was placed that would hold water; the remains of a bar of soap still unconsumed by rats and mice was discovered; stiff rushes for scrubbing were obtainable without. After endless scaldings and latherings the filthy, tallow-spotted, greasy table halting on three legs and a short leg—a table rampant if ever there was one—shone fair and white and appetizing as when first split from its parent trunk. The first room, the Baronial entrance hall, contained mouldy shakedownes heaped with damp rush, torn old perished sacks, sections of greasy blanket, dirty leather gear, skeletons of saddles and pack saddles, rusty tins, broken diggers' tools and uncorked bottles containing liquid dregs. By noon the following day we had scalded the floors and shelves; destroyed unclean matting and paper, burnt kapoc mattresses second or third hand probably when purchased and torn to bits by vermin, Keatinged the bunks, and with hot stones to our backs at night, a clean floor to our feet and a sound roof overhead had settled down at Castle Carabas as if born to it. As ever custom familiarises; change truly is the salt of life.*

* One New Zealand squatter knew it—a gentleman of the name of Samuel Butler, at a later date the author of "Erehwon," who the more to appreciate the homely comfort of his lonely mountain hut was in the habit from time to time of leaving its shelter to camp on the tussock of his run. His neighbours, incurably sane men all of them, reckoned the poor fellow cracked.

We found the Bush Canary singing freely around the forest's edge, but not more so than in its very depths. Clearings and natural open spaces in fact signify but little to tree top species. Though their human observers may move hour after hour in shade they themselves live in light; on the top-most layer of beechen twiglets they enjoy the fullest sun. When not gregarious on the heights the habit of the Bush Canary is to rove not in pairs but small clans and fellowships through the mid bush betwixt the fallen leaves and the sky.

With the fatal remembrance already alluded to of the Whitehead vivid in our minds, we were continually misleading ourselves. Three times small parties—quartettes as it so happened—evinced such concern over our presence that it did seem certain that we must be in the neighbourhood of a nest or at least of nestlings—again the Whitehead complex—unable to fly as yet, stationary on the site to which they had been coaxed and where they had been bidden to remain. Ceaselessly chattering, and in addition uttering what I took to be scolding notes, these parties of four hopped and perched and peered, threading their ways with mountebank agility through the intricacies of the low thick-set shrubbery. Then having excited hope to the uttermost the little pack would seem to lose interest in us, they would move away, their notes becoming more faint, until the brown trunks hid them. Thus the days passed till in the end we convinced ourselves that the trilling was a perennial song, that the breed were greater travellers than most species and that their cheerful chatter enabled their movements to be more easily traced.

On this high country, where we found it cold and where snow fell in December, grew two distinct types of bush. On the better slopes and valleys birds were plentiful; on the worse ridges and tops, except Canary and Rifleman, they were almost absent.

Woods growing at high altitudes never have supported and never can support a dense bird population; yet as matters now stand in New Zealand there was no reason to complain of the limestone areas of this district. On them the mixed forest and well-developed undergrowth carried a good head of the species already enumerated. On the highest, poorest countryside supporting *nothofagus* it was otherwise. The gods of the beech forest are jealous gods, envious of other growths on their own chosen ground, even of growth on the great beechen trunks and limbs themselves. The giant boles and boughs stand bare or bare except of mistletoe. There is something ascetic, spartan, severe in their stern nakedness, in the absence of orchids, astelias, and clinging, climbing ferns. Stoics of the dripping woods, no vanilla-scented clematis creeps loosely round their knees, no hawthorn smelling bramble clings about their waists, no pure white spring garland of virgin's bower crowns their dark heads. They live alone, indomitable, careless of the hampering kindlinesses of life, its daily gifts of friendliness, its costless charities. Another marked feature of this type of timberland is the proportion of dead trees—dead beech trees—emblems of mortality, standing spire-like, pointing as Southey has it, a silent finger to the Heavens. Their waste at each knot hole oozes out during rain as liquid wood pulp, or crumbles away in dark red granules the size and shape of caterpillar droppings, or in dry gales is dispersed as brown powder, the whole trunk peeling in flakes and layers and riddled from base to summit by borers and grubs.

To those who can recollect the wealth of life in the 'eighties before alien birds had been imported, before vermin had been freed, before the destruction of the New Zealand bush had begun, the forests of to-day must everywhere necessarily appear forlorn and desolate, yet this, too, must always be taken into account that the

intruder so reflecting has for the time being scared into silence and suspicious watchfulness each little citizen of the woods; his presence is a cloud athwart their sun; it is an ominous shadow out of a clear sky, a stone cast into a pool causing the erstwhile rising trout to sound and hide. As from the stricken city comes a carrier of plague from whom all live things flee, so our intruder robs the bush of joy and song.

By the mere passer-by, this melancholy hush may be taken for irremediable absolute death; a scholar of the woods can better estimate the trouble of their shy inhabitants. Presently if he does but sit still silence will cease, the music of the woods will again far off and faint begin to wake. The busy life of the forest folk will resume itself, song will encircle him till he becomes the centre of an eager choir.

The recollection of one particular summer morning in this Nelson high country is still fresh in the writer's mind; he had reached his conning tower in ample time. The morning mist drenched everything in white, vapours from little woodland waterfalls rose almost to pass away whilst watched; dawn found the tasselled forest hung with clear drops that did not fall. With fuller light the clean leaves gleamed. The faint sun was not yet more than warm, the undried blues of Heaven pale and dim. On the short unfed open turf grass blades were pearled, their sharp unnibbled points buttoned like fencers' foils, the tracks of moving things were green in the dewy grey of soaking pasturage. The faintest of evanescent sounds was audible, the smallest movement manifest, the rapid hum of single insects travelling fast, the dry scraping of a cicada breaking from its crinkly shell, the fall and water-sprinkle of a fragment of bark striking from layer to layer of vertical greenery, the flutter to earth or slide or spin of a single leaf, the ceaseless rotatory movement of another, suspended

by some invisible strand of spider web, twirling and untwirling, spinning and unwinding itself, sometimes a shield and black, sometimes a mirror to the sun, sometimes on edge and barely visible.

From two localities came the silvery "tic-tic" of a squad of Thumb Birds—Rifleman—the males most desperate fellows for all their littleness, worrying and pecking a worsted rival even on the ground. They were exploring every crevice and fissure; like mice running over holes in living and dead timber, travelling in cheerful parties of six or seven or eight, father, mother, and youngsters, by this date grown indeed and fledged, yet not above accepting small grey winged moths and green caterpillars, bruised, stretched and broken for their greater content. The entombment of a single bird of this smallest of New Zealand breeds in a knot hole of the prone stump my carelessness had taken as typical of saturated decay lent a new interest to the inert mass. As nothing was carried in and as the bird did not reappear I pictured three or four or five white eggs dainty and dry on moss and an amplitude of pigeon feathers, purple and curled. The nest itself was doubtless located in a vein of sound timber in the very heart of the bole, sufficiently stable at least to abide the present season's storms. Out of eyeshot but at no distance a Kaka talked to himself in low soliloquy. A pair of Fantails showed themselves. They are not often out of sight on bush edges and now they played in the open, fluttering in mid air like great midges, rising and falling, the click of their mandibles audible when a moth was seized; then for a change, in the open underwood with harsh, rusty-wheelbarrow creak they leaped with tail outspread along a slender bare vertical branch. From one or other of a Bush Creeper pair came the note that told us distinctly as though seen, of their two babies sitting at a height of seven to nine feet tight pressed to one another. Bush

Creepers are not frequent in these woods nor is the Grey Warbler a common bird—the bush mostly too open for concealment of the pouch nest—but in the pregnant calm prevailing, taught moreover by the long trill where to look, could be detected, if not the birds themselves, the stir at any rate of leaves, the spring and upward leap of twiglets alternately pressed upon and freed; also, though still this couple of Grey Warblers remained unseen, safely could it be inferred from the repetition of the tremors and quiverings in an unvarying line that gossamer and lichen were being borne to the finish of a second nest—a late second nest.

A serious Tit afforded a glimpse of his black and yellow self—Tits always appear to be thoughtful—their big heads often ruffled make them seem so, thoughtful and overborne with care, solemnly acrobatic, grave, unanimated even in the oddest attitudes. Kingfishers called deep in the forest. A party of Waxeyes passed, their actions in search of food and nectar as indeterminate as those of nut or mushroom gatherers, one discovering a treasure trove, then another, their rearward companions hastening forward lest they should lack their share, their place in the sun. Our imported birds I can but tolerate in New Zealand, but here at this forest edge there did seem on this fair sunny morning room for all, aliens and autochthones alike. The musical “quo-quo-quo” of the Californian Quail came mellow from a branch nearby. From the clover and grass rose the cheerful “cherruk” of a cock pheasant. Presently there commenced the singing of a male Chaffinch—I had been watching the flutterings of the hen around the tops of certain saplings. She was collecting web.

On the edge of the clover plot an English Thrush began to pipe, later I found the nest cool and dry, the fresh eggs cold, ere incubation had begun. Is there any egg in the world more lovely than that of the Thrush,

the blue so exquisite a shade, the dots so very sharp, so very clear, so very black, such tracts of spotless azure on the thinner end? It is the egg first known to the country child. Every lassie and lad can find the simple conspicuous nest; the smallest bairn's untutored touch can gather the smooth handful and without harm replace them in the dry clay cup. I wonder how many naturalists can trace their earliest delight in matters of the woods and wilds to the feel of a Thrush's clutch warm in the hollow of the hand. Be that as it may, ruminations of boyhood seventy years ago were pleasantly dispersed by a cry that, alas for New Zealand, is now not everywhere to be heard. Not from one of the Woodhens still rustling and howking immediately below my perch, but probably from one of our porridge-fed pensioners and dependents at Castle Carabas arose again and again and again that wonderful whistle, that oft-repeated call as musical as is the ring of thick loch ice splitting in hard frost on a winter's night or cry of breeding Curlew on the moors. Then silence reigned again, that murmurless silence that had since dawn been hitherto only punctuated by song of single birds, by hum of single insects; but now no longer did the deathly hush of the colder hours prevail. On no one instant could you swear to the change, it had occurred, it had stolen upon the listener like age, as imperceptibly as passing time. You felt rather than heard or rather surmised than even felt, that innumerable new hatched insects were shivering flaccid wings, that from dry chinks and crannies lizards were dragging themselves into the sun. On the forest floor your ears detected at least imaginatively the rasp of fallen leaves beginning in the heat to contract, to shrivel, to arch themselves on the toasting ground. The parched litter, the debris of the woods, the cores of shed, dead twiglets withered to skeletons and incased in bark were becoming crisp. Where in the

morning a man might have walked delicately like Agag, silently, furtively, now all would crunch and crackle brittle beneath his tread. Though in the breathless calm not yet had a single airy feather seed detached itself and floated away, the thistles prickly pouches had burst. The ripened parachutes pearl grey, rayed, resilient, would soon be rising like froth or foam or—and surely this is a sheepfarmer's simile—as tight pressed wool in bales when slashed for marketing, burst from its jute and blossoms in snowy fleece.

There is a rustle as of tautening and tightening. Every tree in the forest willowed and pendent by its enormous morning water weight of dew stiffens and stands erect. If each has bowed and bent to the lady dawn now in the high sun's sight, each rears itself up-right and rigid. Here is the forest's daily miracle—an abasement and exaltation as marvellous as that of the tides.*

Absolute stillness was breaking and now as when a sluice is opened and level water passes forward smooth and serene did a draught draw from north to south. So undeviating and equidistant from earth did the buoyant thistledown moving float, that in fancy the air current grew visible, bearing on its surface flotsam of pappus, winged gossamer of alien bush-edge weeds—wall lettuce, Canadian groundsell and hawkweed.

Beneath my high throne the shining tops of slender sapling growth that had sprung from stumps unscathed by fire, bent towards the south and streamed uninterruptedly, so even was the pull of air. It is in stillness that

*What I once witnessed on the Dee in Scotland may let readers comprehend the magnitude en bloc of almost inappreciable activities. From a window in my fishing lodge on the 1st of April a ruined ancient tower was distinct and clear through the birch tops. On the thirtieth—I was tenant of the Breakachie water for a month—though no single leaf had protruded its green uncurling tongue, it was completely hidden, entirely gone. The brown buds swelling had in their aggregate blotted it from the landscape.

best work can be done by the field naturalist, the draught would presently I knew give place to a breeze dancing irregularly every leaf and branch. For my purposes the prime of the day was over. Even as I clambered down, the trees were shaken by preliminary puffs and gusts; brown leaves fell in sudden showers, the diurnal castings of the forest that drop in thousands, after any prolonged calm. The great tree cicadas, stridulating, shrilled their stunning concert, the hot air throbbed with the chorus of their unwearying castanets. Once more on earth did I stand and stretch myself and presently came across my companion moored like a steamer to a pier, rocking and ranging beneath a tall beech bole, peering and prying into its topmost intricacies.

CHAPTER VIII

CANARIES

MOHUA OCHROCEPHALA has been well named the Bush Canary. Its commonest call is a trill or rapid shivering rattle not unlike the pea whistle note of the popular cage bird. That is the ordinary means of communication in normal life. There is the sparrow-like chirp, a scolding note, a muffled, beseeching, supplicating utterance not often heard, and during incubation a whisper inaudible out of the nest hole. At dawn the rattling trilling chorus begins, becomes more silent towards noon and then again breaks forth, the little performers mostly unseen in tree top greenery. When detected in full song near at hand the very tail will be seen to vibrate with the energy of the vocal outpouring, a passion of melody which is nevertheless prosaically, almost comically blocked in full jet by desire to scratch and search for vermin, a trouble peculiarly incident to the breed. Its plumage is well described in the name; the cock bird particularly is a handsome fellow, the yellows between his great black beedy eyes and immediately above his dark brown bill sometimes shading almost into orange. The plumage of the female is faintlier marked. The tail shafts of old birds are often abraded and worn, the legs are black. Gripping hard with the feet, legs spread, the strong horny bill is vigorously dug into the close fibred south and east facing moss clumps, that in the rain-forests beloved of the Bush Canary, glue themselves on to trunks and branches. Like the Pukeko and Kaka the claw is utilised for holding morsels of food. When moving in flock at mid-bush levels Canaries are not infrequently accompanied by Parakeets—the Parakeets moving singly here and there in the stream of hopping restless Canaries.

Though it is impossible amongst timber to swear to the movements of such spry, alert creatures as individual Canaries, yet we believed that pairs confined themselves more or less to a range of eight or ten acres. Besides single birds and pairs seemingly moving much at random, travelling parties trilling and chirping, sometimes low in the forest but more often high overhead, were continually passing. The significance of an episode in this corporate life has still remained a puzzle. On one occasion for a week—2nd November to 9th—not a Canary was heard, the former unceasing unintermittent jubilant chorus ceased, yet some at least must have remained, for on the 10th a pair were discovered sitting. Had in fact that nest not been found it might have been supposed that Canaries were not in the neighbourhood. For seven days none of our beats yielded a sign by sight or sound. The birds were in truth not there. On the morning of the eighth day, that is to say the 10th of the month, a deaf man could have heard them. It would have seemed that no great difficulty should have been experienced in obtaining the nest of a species thus comparatively common. As yet, however, it must be remembered we did not know where especially to search. Who indeed could have anticipated that a knot hole high in an apparently hopelessly rotten beech bole would prove the favoured spot—the nest itself of course invisible. From lack of knowledge then, of the habits and customs of the species, again and again we misled ourselves. I remember the scolding note was several times thought indicative of a nest; the pursuit of other Canaries from a certain locality deceived us more than once. On a third occasion I felt sure we held a definite clue—a pair showing anxiety over some unelucidated trouble. I could see their anxious consultation in thick cover, a perturbation which I believed must arise from our proximity to their nest. It was only when after-

wards we heard the mobbing of a Morepork (*Ninox novae seelandiae*) that we became enlightened, as to what had been passing through their minds.

Confusion, however, is worse confounded by the great number of fully plumaged bachelor Canaries. These unmated though apparently marriageable youths and maidens were a source of still further entanglement. If, however, to segregate a pair of breeding birds was no easy matter, that was but a first simple step in our work. The erection of a stage affording some sort of perch, however primitive, was from the habit of lateral branch growth in the living beech, a heavier task; to attempt a dead trunk was to invite mishap. During construction, moreover, the platform could not be concealed and hardly camouflaged, each rough hewn board and crosspiece therefore had to be assimilated by the birds ere another was added.

Then, too, in the prophetic mind of the New Zealand field naturalist anxiety ever arises in regard to rats, stoats and weasels. Boles liable to be scaled it is wise to ring with tin right-angled to their trunks like Elizabethan ruffs; nor should the precaution of encircling immediately adjacent trees be neglected. Owing to comminglement of topmost branches vermin may easily thus attain a nest otherwise ensured. Even when vigilance has been fully alert, a shadow full of fear is never quite absent. After each matutinal climb to the stage sometimes not a sound will be heard; no such species as Canary might be in existence; in anguish of soul every conceivable reason for desertion would be marshalled and reviewed, then one or other or both the birds would reappear and the spirit of the observer return to his bosom. Three nests at elevations of forty, fifty and sixty feet from the ground were found late in the season. One of them was immediately deserted for no apparent reason, one was impossible to watch because the entrance

to it faced into treeless space. The third we discovered immediately before the chicks were about to fly. In haste a rickety stage was extemporised. One evening came when we rested from our complicated toil, all was finished, though certainly rather for balance than foothold. At break of day the following morning I visited the spot and passed, not without dolorous forebodings a little party of Canaries where never before Canaries had been noted. Alas! On further observation no longer were parent birds to be seen with straight undeviating purpose-like flight plying to and fro with supplies. The nestlings known to have been within their dark home at nightfall had vacated their breeding quarters with the morning light. The group I had remarked were the emancipated brood with the old birds mothering them. In suicidal mood we climbed the rope ladder, widened the aperture and wept salt tears into the dirty nest, now for the first time visible.

The following season we were again in the woods of Nelson rendered even more eager and anxious after our previous discomfiture. By this date we had almost ceased to search for nests except at high elevations. Feeling our way with our feet, with our boots fumbling the inequalities of the ground, guarding our faces from branch and bough with hand and arm, days passed away. Ever thus staring aloft we ranged the woods like little Johnnie-head-in-air. Envy arose in us of Alice in Wonderland and desire of that magic mushroom by which we also might have telescoped our necks to any length required. Temporarily we would have exchanged skulls with the chamelion, so simple then with eyes on top of head to mark Canaries moving to and fro.

This year the first nest discovered was one forty-seven feet from the forest floor. The tree in which it was built and the neighbouring tree destined to support the camera were each over nine feet in circumference

at ground level. The green leafed growing observation bole was ascended by hooks of stiff wire stapled on to the wood, the adzed uprights and flooring hauled up by rope. During fair days—fair temperamentally, not meteorologically, for it hardly ceased to rain or sleet or snow or blow, did one or other of us sit aloft serene, refrigerated, cold as stone, content. Two pairs of stockings, two vests, pants, knickerbockers, woollen shirt, woollen jersey, flannel coat, leather jacket Burberry, rubber thigh boots, oilskin, woollen cap, sou'-wester over it, barely kept out the devastating wind. Little I ween was there in that elephantastic, tortoise-tardy, body-hoist of the nimble sailor's leap aloft to furl or free the swelling sail.

The incubating Canary—always taken to be the hen—sat sometimes for forty minutes at a stretch and sometimes for half that time. She was sometimes called off to be fed, sometimes fed in close proximity to the nest, sometimes on it and rather strangely, too, fed sometimes on the nest after the two birds had just returned from a brief flight in the forest. It was early in our watch that one day we saw the female dash forth calling on her mate. The two then entered the hole together and almost at once re-issued in high excitement and flutter—perchance the little pair may have been rejoicing over their first egg—as matters turned out afterwards this quite well might have been the case.

During early days of incubation the hen would absent herself from the nest for considerable periods; upon return her habit was to dive with folded wings into the knot hole. Often the male could be spotted at considerable distances. Loitering on his way home he would perch on some handy branch and there preen and clean his ruffled plumage. At intervals of half an hour or so he would appear with billfuls of insect food; its delivery always preceded by faint sparrow-like chirpings. The

hen would then hasten forth, accept the proffered fare and after wiping her bill as if whetting a knife blade would in a flash return to duty. Occasionally when on her egg, if offered food, a muffled rattle would proceed from the nest, as if perhaps bored at her sedentary task and half asleep she would be remonstrating at the superfluous meal. The male when bringing in moth or beetle or *weta* was not infrequently pursued to his very door by one and sometimes by a brace of other Canaries, wishful like harrying gulls to snatch the coveted morsel. Sometimes it would be secured by the hen almost without trouble, on other occasions not until by dodging and shifting the male had eluded his troublesome comrades. Another incident from time to time witnessed, one which throws light on the difficulty of finding nests of this breed, is the habit of the male—his mate the while quietly incubating her eggs—of answering the challenge of another bird—I could never be sure of its sex—chancing to be in the neighbourhood, joining company with it, the pair chasing one another either in anger or amorous play. Parakeets were often seen. Once when the hen Canary was sitting and the cock bird absent gathering food, a Parakeet on pleasure bent innocently and unwittingly elected to perch close to the knot hole. Its siesta was of brief duration and rudely disturbed for as it chanced to happen the cock returned and the hen issued from her knot hole at one and the same moment. The nonplussed Parakeet awakened thus suddenly, in avoiding the one, all but collided with the other. Together they chased the trespasser from their domain, uttering the while a bombardment of loud rattling chirps until the interloper with a high pitched derisive screech and a glide that only the Parakeet can achieve, glanced into the tree tops. On another occasion in that silence that reveals all things, a Harrier floated down and down from his high circlings in the sky above, alighted on the branchless trunk, and



Photographing Bush Canary



Bush Canary



Bush Canary



Nelson District Land Snail

clinging like a cat proceeded with obvious ease and facility to inspect the premises. Not a hole or crevice was omitted from the rapid efficient search. Awaiting my chance, I shot forth an unanticipated head and suddenly barked at the intruder who must have experienced the surprise of his life; he was embracing the trunk, tail fully spread, wings fully extended. As though shot, he slithered and slipped a couple of yards ere zig-zaggedly shying off through the forest. It was not the first time he had circumambulated a dead bole or attempted to fish up with his talons eggs and nestlings.

The particular pair of birds described had, by this date, become inured to our presence. They had hardly objected to the staging put up bit by bit, yet now this nest, too, was deserted—perhaps the continued deluges of rain may have overflowed it. Two eggs had been laid, one of which had been found broken three days previously at the foot of the tree; the other containing a chick, was of a faint unfreckled brown with no hint whatsoever of a ring of deeper marking circling the thicker end. It was rather round than oval, and about the size of an English Robin's egg. The nest, soggy and sodden, was placed fifteen inches deep in the hole and was built of mosses with fragments of soft *carex* superposed; round its edges finer mosses were firmly packed. Its internal diameter was two and a half inches; all material was of recent gathering—the hole had not been occupied before.

The season was drawing to a close and nests forty and fifty feet up in the air concealed in knot holes, themselves invisible from the ground, are not to be discovered like the proverbial blackberry in the hedge. Twelve solid or rather liquid days were spent in further search. At last a Canary was spotted, again and again disappearing into a certain hole. That, however, was no positive indication as Canaries frequently vanish into

holes and stay in them, moreover, for quite considerable periods. Nevertheless, after their visits had many times been repeated scepticism born of a thousand disappointments began to melt away. This surely must spell a nest. The bird remained hidden for three hours, at the end of which time a neighbourly tree was scaled, the hole inspected and nothing found therein. This same horrid disillusionment happened on two other occasions.

From time to time reference has been made to the auriferous nature of the countryside where we walked. Half an hour's climb from our hut was situated Quartz Reef Hill crowned with the largest outcrop but one in New Zealand. It was from this gold-bearing rock mass that on 5th December Morel, one still morning caught the soft almost inaudible nest note. Again the orifice was scarcely detectible; only from one part of the ground could it be seen, only indeed after several hours was the nest definitely located. Its height above the forest floor was forty-three feet. On the 18th, the eggs were looked at and found to be similar in shape and colour to those seen before. Again they were a pair, so that if generalisation can be risked on limited data, it appears that nowadays on these uplands but two eggs are laid. As elsewhere, as in the case of the Saddleback (*Creadion carunculatus*) and Bush Wren (*Xenicus longipes*) on limited land areas, restriction of food in proportion to population may, however, have reduced an originally larger clutch.

Our platform of hewn cedar was completed on the 17th and the excision of an intervening branch safely performed the following day. To make us good and happy, reasonable photographic light was all that was required, but the weather again exasperatingly deteriorated into rain and mist. My diary records a miserable run of wet and gloom.

The inadvertent visit of a Parakeet to the first nest has been described, but the owners of this second nest were still more persecuted by interviewers on one occasion deliberately inspected by a Robin, the sitting hen peered at, until she flew at him. Another caller was as impertinent. One of those wandering unmated Canaries to whom allusion has been made, and who had for some days haunted the premises, actually entered the hole where sprawled the chicks. Its inspection could have been but brief for one of the parent birds fell on him beak and claw; in a flash the only evidence of that call was a soft green feather that in the white mist slowly in concave swayings, floated to the ground.

By 22nd December the two eggs were hatched, the day or two youngsters naked and black as baby Cormorants. On the 29th, when again inspected, the young Canaries were asleep clad in grey-blue fluff. The parents were now feeding their nestlings as fast as food could be procured—the chicks were growing apace.

It began to seem as if meteorological conditions alone were going to interdict our chances of decent pictures. The parent Canaries were quite careless of our presence, hiding was unnecessary, but the last nine days of our tree-top life afforded only two chances of photography and then only between the hours of 2.30 and 4 p.m. If the negatives resultant are bad all I can say is that the weather was worse. On 8th January the nest was vacated; upon inspection we found it had been placed some ten or eleven inches within the knot hole which as in another case had healed over with fresh bark; the eggs lay on shredded fibre and sere pale carex blades. Its base was constructed of similar stuff, but less fine; the edges and exterior were of dark squat mosses of several sorts; the whole a strong substantial structure befitting the cradle of any creature reared in so harsh a climate. In pulling the nest to pieces we also detected

dark rhizomes of filmy fern, minute twiglets and bush leaves, material that had been gathered carelessly and in quantity. A few feathers were noted, too, but I believe feathers shed from the incubating birds and not deliberately gathered for use. We found also three living earth worms seven inches in length. Had they managed to reach an elevation of even forty feet by climbing up the rugosities and vermiculations of the wet bark? Certainly neither of us had during weeks of watching noticed worm big or little brought to the nestlings.

Our experience may thus be summarised. Whatever may have been their practice in former periods Bush Canary now chiefly haunt the high *nothofagus* forests of the interior. Their breeding season is in accordance with climatic conditions, that is relatively late, November and December. The species appears to be strictly insectivorous. Of the nests discovered nearly all were in rotten boles. Of the four most closely observed two were in dead timber, two in sound green-leaved living trees. The species selected was always beech. The clutch consists of two eggs; about twenty-one days is the duration of incubation.

CHAPTER IX

THE BLUE HERON

IN the neighbourhood of Takaka during November and again during December and January we watched the nesting customs of the Blue Crane. Throughout the earlier period, because I was a few inches taller than my companion and alas! because I was by more than forty years his senior, it was not easy for me to be on very intimate terms with these birds; it was impossible in fact to crouch for hours on a ledge not larger than a sofa. During, however, a second and more prolonged acquaintance we viewed them together, in the beginning at thirty yards distance, later at thirty feet; lastly we sat directly above the nest and youngsters. By this time so carefree had the parent birds become that by judicious whistlings distinct enough, that is, to arrest their attention, yet not loud enough to startle or scare, we could stay and hold the birds in view on any spot convenient for observation and photography.

We had been informed that Herons were to be seen about the shores of Tarakohe, a northern indentation of Wainui Bay, itself included in the larger Murderers' Bay—Golden Bay they call it now—where Tasman's boat crew was attacked. This intelligence of course led to enquiries as to the nature of the coast and as to the existence of likely localities. We learned that in two places there were high precipitous craggy headlands; the twin Tata rocks especially, half a mile distant from the mainland, appeared from the description given to be possible breeding grounds.

With closer inspection, and more ample time for consideration, the prospects still seemed fair; in approving mood we viewed the seascape with its scattered rock stacks and islands. Whilst thus planning how most conveniently to work the ground and as a preliminary

how to obtain a dinghy or boat, a launch was espied labouring athwart the little bay. This launch, the "Sieve"—not its real name by the way—was later requested to call and pick us up and presently we found ourselves introduced to its skipper and on board his dinghy, the "Colander," also by the way not its genuine appellation. The "Sieve" was about 25 feet long; both it and the "Colander" pertained to a bygone shipping generation; both were unimaginably leaky; the engines of the former quite worn out, though hope sprang eternal in her master's breast; he was never tired of assuring us that he had them "right at last"; in the little bay nevertheless, we could hear him of nights furiously pumping ship—diabetes was no name for that launch's bladder troubles. Language, too, in an unknown tongue we could plainly distinguish floating across the balmy sea. Our skipper was a Swede by birth, a good fellow to whom I fear we gave many anxious hours; he was never convinced we could quite be trusted with his precious "Colander," that we valued her at her proper worth. Such as they were, however, we were but too glad to hire these craft, nor except when once the "Colander" sank and except when once the engines of the poor old "Sieve," anchored in a gale, ceased altogether to work and kept her unfortunate hirers and owner working at the pumps for hours, did they ever actually fail us. Panting and puffing, daily we hirpled to and fro.

The first arrangement was for possession of the launch and boat, then for possession of Peter Petersen's iron whare on the nearer of the twin Tata rocks, finally for possession of Peter Petersen himself body and soul as skipper, cook and fisherman to the new establishment. Henceforth we lived on the western extremity of this limestone tableland. Though at the date of our occupation completely overgrown with tall cocksfoot, its flat

surface of two or three acres must have been at one time in a high state of Maori tillage. It was too smooth in fact, too unbroken. On its cliff face looking out to sea there was but one Heron's nest. A hundred yards, however, to the south, a channel of deep water dividing them, stood the larger Tata islet. Unspoiled and picturesque it maintained its ancient greenery of karamu, karaka, kohekohe and other sea loving native trees and shrubs. The appearance of these little islands differed remarkably, the one on which we lived a miniature plateau, the other a pile of huge limestone ledges. On its crest enormous slabs like bee combs set on edge, sometimes feet and sometimes yards apart, stood nearly upright. Each separate razor ridge was weathered to an edge no thicker than a finger nail. More particularly to the north had the wash of the ocean undermined the strata which flake by flake had tumbled outwards. There they lay resting on one another at every conceivable angle, roofs, floors and walls shaken together as by an earthquake shock, some flat, some hanging precariously poised, some already fallen forward, some sloping towards the ocean that will in the end engulf and devour the island. To this main process of the pounding seas the chemical action of rainwater had added peaks and fretted pinnacles. In the more solid material of the island, too, carbonic acid was responsible for many remarkable pits and dry, evenly circular wells. One of the latter in the bottom of which a Heron had laid, measured ten feet in depth and four in diameter. On earliest fallen fragments deep in the clear water, bright seaweeds had rooted themselves. Upon others shallower in the sea and encrusted with mussels, at low tide, the storms beat and the waves broke. The gritty rock afforded a perfect foothold for rubber shoes, several pair of which were cut to pieces during our work; soon indeed no mendicants wore clothes more torn and patched.

When during preliminary exploration it was necessary to advance along the razor ridges by progressive sitting movements their edges played havoc with our garments; it was impossible to squeeze betwixt the grey detaining close-set jagged slabs and not emerge in shreds.

Following the coast southwards for five or six miles—long miles, too, in the weather-worn, leaky old "Sieve," limestone outcrops reappear on the cape itself, on the prominent Taupo rock, and on another smaller cone-shaped stack. The geology of this locality and the rock cleavage of its limestone outcrops well suit the Blue Heron. There are stretches, moreover, of tidal ooze and of sand both about the little river that flows past Tara-kohe and of a considerable stream, the Wainui, that reaches the sea midway between the Tata rocks and the Taupo headland.

Hitherto the Blue Heron had to me been little more than a fleeting glimpse or a distant speck. On two occasions only had I come across specimens in the North Island, once in Hawke's Bay where probably the soft, unenduring, easily eroded sea-coast cliffs of marl spell bad breeding accommodation; once on an outlying rock off Motupipi in the Hauraki Gulf. In the South Island single specimens had been noted north and south of Kaikoura. There are Herons at Pegasus in Stewart Island and a considerable heronry on the northernmost extremity of the island by Gilroy's passage, one of the grandest bits of coast scenery in New Zealand, but which few see because of the reluctance of sailormen to pass round the western side of the island. Herons in fact though widely scattered over New Zealand are nowhere to be found in numbers. During a part of the year often a Heron will live a solitary life, even throughout the breeding season they seem to be as willing to nest



Blue Heron's egg



Half-grown Blue Heron

in pairs far apart as in a somewhat ungracious gregariousness. On the 21st November I found a nest containing three new laid pale blue eggs, another half built and two or three of this season's building used and vacated. On the 22nd another nest and single fresh egg was discovered—eggs by the way in our experience are laid between noon and two o'clock. On the 23rd I got three old nests on Taupo headland, also nestlings on Taupo rock. Three days later, my companion made a very thorough search, whilst I in the dinghy kept well in view of the birds and thereby prevented them too closely noting his shore movement. In five localities well grown youngsters free of the nest were found; six old nests with broken shell, two more with fresh eggs. We judged the whole heronry up and down the coast to have totalled twenty to twenty-five brace. The Heron's nest is an untidy collection of stick and sea wrack, two and three eggs is the usual size of the clutch; one nest we discovered in which there were four eggs. The newly hatched nestlings are not naked scraps of black leather like young shags but clothed as shown. The number of birds and the discovery of two additional new nests gave us great hopes of establishing intimate relations with one or another of the incubating pairs, but though the usual precautions were observed, ill-luck or rather want of special knowledge of the ways of this particular breed upset our calculations. We had not discovered then that young Herons quite capable of flight, and sometimes also full grown incubating birds would, if suspicious of danger on the sea-front, scramble inland to the very bowels of the island; yet so it was and the fact cost us our most conveniently located nest. It was ignorance, not carelessness that had wrecked us. Always upon approach by boat, loud talk, even shouting as if to an imaginary friend on the rock had, we believed, given the sitting birds and those mothering

their slinking recondite young ample notice of our approach. We imagined then that all of them had flown seawards, deeming their secrets unrevealed.

I may here by the way reiterate that it is always wise upon discovery of a nest to pass on as if unenlightened; never for a moment to pause, much less stay to inspect. Utterly therefore to lull the Heron's jealous vigilance, upon each approach by sea, hands were clapped, shouts were uttered, oars were rattled loudly enough we believed to have put off temporarily every Heron and especially the particular bird marked for observation and known to be sitting in a certain dark cave. Not at that date realising what scramblers Herons are we made sure that it, too, must have flapped off with others whose departure we had witnessed from the coast. We were wrong. We landed and advancing incautiously were on the top of our precious Heron without warning; the bird even then not taking refuge by flight outwards to sea, but like a rabbit scrambling into troglodytic darkness. Instantly in that sorrow and remorse that only erring naturalists know, we reembarked, and taking the boat well away from the cliffs, ostentatiously, apologetically, not to say abjectly withdrew—the harm was done however, the eggs deserted. The second nest was lost to us through another sort of inexperience, ignorance in fact of the intricacies of the limestone jumble where these birds do most delight to congregate. On this occasion I was crawling down from above, very carefully both on the birds' account and my own, and believed my deliberate movements inaudible on account of the bellowings of the surf and invisible because of the immense slabs piled like unbundled loose shingles one on top of another. I suddenly found myself only twenty feet above the bird brooding on its eggs, I viewed her through an infinitesimal crevice. She could have only noticed the shadow, the intercepted light,

or possibly detected the tinkling slither of a thin displaced rock chip. That, however, was enough. The Blue Heron in fact will very readily leave fresh eggs. We were now thrust back on a nest situate on the sea-surrounded cone adjoining the Taupo headland, thirty minutes steam from our hut; more inauspicious still it was suspected from the intervals of exit and entrance by the old birds that the nestlings might not be quite young. As reconnoitred through field glasses there was moreover but one possible resting spot for man and camera. We knew by this time what scramblers Blue Herons were, how they could cling to and traverse rocks that no goat would attempt, and that on the least alarm the nestlings might for ever vacate their rough birthplace of sticks, and leave us anchored on the rockstack's single shelf and unable to follow.

Viewed in the light of later days we might well have delayed, but I am detailing not what I should do now but what seemed then the proper course. It was decided in fact that as we had struck a heronry it was better to press the occasion. We had other work on hand, it seemed likely that the breeding season of the Blue Heron was about to end; lastly I was desirous during the following year to spend the spring with Kakapo (*Stringops habroptilus*) in the wilds of Westland. Errors and misadventures acknowledged if of no other value act at any rate as scare-lights both to illuminate and warn—others profit by them. We climbed Taupo rock, cone-shaped, and therefore particularly deficient in hiding holes and shelves; inspected the somewhat trodden nest; obtained a glimpse of a youngster three-quarters grown, selected a scanty stand for camera and screen, fixed the climbing rope secure and withdrew lest over many new objects should scare these Heron too. We had learned our lesson and now of course inclined to the extreme of over-caution. The afternoon was

spent on shore cutting straight poles for the proposed screen and shelter. These next morning were shifted in the "Sieve" that took us near to the rock where they were dropped into the dinghy and finally hauled by rope on to the ledge where the camera was to stand and my unfortunate friend daily to cripple and cramp himself. Our routine was to leave the Tata camp as soon after dawn as possible, do a part of the boating and building and then retire to the shade of a big karaka tree growing just above high water mark. Scrub was cut on the mainland and hurdles constructed which load after load—the old birds of course out of the way—were boated across to the rock and there hauled up.

We discovered during these days of preparation in how different a light our birds viewed events on ocean and dry land. Although their rock was hardly fifty yards out at low tide, on the green grass we were included with grazing stock—cattle, sheep and horses—no heed was taken of us there; on the other hand any happenings on sea or seashore were regarded as infringements on our Heron's policies. Upon trespass of but a foot of sand, off they fluttered seawards.

Finally my companion with the half plate camera was installed and perhaps only those who have attempted this kind of photography can appreciate the difficulties of his task and the slender chances of success. Eliminating gales and heavy seas—no inconsiderable factors by the way—the lighting was wrong except between 6 and 8 a.m.; then the youngster had left his nest for ever and spent his time scrambling and rambling about the cliffs, clawing and perching in the scrub and during the heat of the day disappearing into cool crevices. Sometimes he would be fed on one spot, sometimes on another; it was impossible to predict whether near the nest, on a crag above it or on a cliff edge near the sea—an anticipated feeding place having been focussed the

nestling might elect another—not rarely one invisible altogether to the camera. The telescope attachment then had to be used, formidable to adjust even in the open but on a narrow shelf with no assistance refractory indeed. As, moreover, it always seemed to blow, the tremor of the wracked out bellows was an abiding anxiety; all sorts of improvisations and substitutes were schemed out. I recollect one breezy day our loaf of bread was sacrificed as a wedge. Between us, he on the rock, and myself on my signalling tree on shore, we just managed to watch and record a very little.

Thackeray says somewhere that many a poor novel would be interesting could readers but know the agonies that have gone to the making of it, and so, if my companion's photos from the rock had turned out ill, the inevitable unsurmountable difficulties would have excused the performance. The two illustrations were taken at the price of the dinghy sunk, a terrible event to Peter Petersen, who loved it with the love of a mother for an ailing child. How furthermore we passed the hours of darkness on shore foodless and blanketless; how my mate dropped from the cliff, fortunately at high tide and into deep water; how his night was spent on the cliff when engine trouble was acute and the "Sieve" out of action, how his midnight swim in shark-haunted water was accomplished in hot haste, how almost in rags we were mistaken for ship-wrecked mariners, how we were housed and fed by kindly settlers, how our boat drifted off and after an absence of thirty-six hours was returned water-logged by a passing holiday craft, with the rest of our acts and of all that we did are they not written in the book of the Chronicles of the Kings of Israel, are they not recorded in the note-books and diaries of the author?

The naked eye at close quarters is my ideal, yet glasses do something and at this date I feared a few

feet distant observation of a Heron's nest, was not to be—I could note the slow, laboured flight of the returning parent birds, at each stroke the tips of their pinions just clearing the water, the long legs trailed straight behind, held close together with the two spurs conjoined showing distinctly like a knob. More than once I have noticed a Heron thus flying close over the surface of a calm sea, give a sudden shy or start, a quick upward lift as if scared by fish or porpoise. This awakenedness to danger, this alertness to possibilities of peril even in the open where surely a bird might have deemed itself most secure, made our surprise the greater when, at a later period working at a few feet distant with a six inch rent in the material of the screen and afterwards with an eight inch rent, the birds were seemingly unaware of our presence; they appeared to be and indeed were oblivious to our movements through the great gap.

On the Taupo rock as an old bird alighted it would often, not always, utter a croak or caw—a hoarse croaking caw—often, too, a parent bird would perch in one of the damp seaweed-covered, mussel-clustered caverns wrought in the fretted rock, not in search of food I think but for the atmosphere, the cool footing and tang of the salt, salt sea. In such spots at any rate a bird would stay for hours inactive and inert. I could distinctly through my glasses also see the youngster fed, its shag-like attitude of imploring expectation, its ecstasy of anticipation, its agony of supplication, its precipitation on to its stern mother. Sitting sometimes almost on its tail, brandishing its bill about her neck, grovelling and flapping its dark soft wings, the actions of this youngster surpassed the eloquence of speech. I could note also its habit of scrambling both on hard, dead, twiggy growth and on growing green-leaved bushes, its great feet enabling it to perch and balance like a Finch. The process of feeding is rapidly accomplished—the

food forced down or apparently so with hurry and an utter absence of sentiment; the half choked nestling using its little wings, now I thought as an aid to deglutition, now in solicitation for further food supply. On one occasion when both parents had in some way or another—not by us—been for long kept away from the rock, the youngster could no longer remain quiet, it began to sing out in a whistling whine; the pangs of hunger becoming still more acute it ran from one feeding station to another and finally did what I had only once before witnessed, went through the process of receiving food imaginatively, grovelling and flapping to a non-existent suppositious parent.

When the chick has taken what is believed to be sufficient, perhaps when no more is immediately forthcoming, the parent Heron will stand regarding its offspring as Shags do, with cold, stern, step-mother eyes. It was my fancy that sustenance is given with an unamiable “drat you,” with a sharp word or two. After the meal is over perhaps in observance of some stoic precept of the woods the parent will, as I have said, perch inflexible, unsympathetic, severe, inexorable, unheedful of its young—Hérons and Shags are in manners much alike. Our nestling was visited about every two or three hours. Though not remaining long on the rock or at any rate long in the company of the nestling, the parents seemed more or less to keep watch and ward by turns. By the time one vacated the rock the appearance of the other could be reckoned upon.

After the departure of its parent the youngster would crouch gazing out to sea for minutes together, then disappear into one of the innumerable chambers or ledges or clefts. One night, the “Sieve” having been unable to call for us owing to bad weather, lying awake on the grass, we heard at dawn the sepulchral caw of a flying Heron. During another night, the “Sieve” having

again failed, my assistant awake on his rock shelf, heard a parent bird fly in about 3 o'clock and then again depart. It was also from my perch on the karaka tree that I first got a hint that Heron might breed a second time in the same season, one of them whilst still in attendance on the first brood appearing with a stick in its bill. It was also whilst seated on the karaka tree that by sudden inspiration the reason for the species' name flashed on me; how it should have so long escaped me seemed afterwards a marvel, it seemed incredible that I should have watched these cranes stretching and elongating their long necks in a dozen attitudes without connecting the noun with the species.

By the first week of December the young Heron, ranging further and further afield and the old birds coming in more and more irregularly, we decided to move northwards to Cape Farewell Spit; this we did the more willingly as on the Tata rocks a fresh clutch of eggs had been found in a position comparatively easy to watch and photograph.

A month later we resumed possession of our hut on the Tata rock and although the particular nest we had marked for our purpose had been destroyed—there were rats on the island—we discovered almost immediately another containing newly hatched nestlings. We had learnt with what indifference eggs were deserted and could not but fear that such heartlessness might extend even to the squab young. Erection therefore of a screen was carried on with extremest caution. Bit by bit was the work accomplished, the blind this time made not of bundles of manuka scrub which shrink when dry, the small leaves falling off, but of sacking. This more convenient material was wedged by pegs driven into the interstices of the rocks—one man doing this work while the other purposely prominent in the dinghy lay off the rocks to prevent the parent bird's return and consequent



Young Blue Heron perching



Blue Herons, male and female

alarm. The sacking was an entire success and was accepted without demur. Herons I dare say are accustomed to all sorts of strange flotsam and jetsam piled by the chances of the sea on their rocks and shores. I may say that we lived henceforward in the centre of a huge fowl-run, for when the screen was complete, besides the pair specially under observation, others all day long at intervals would perch unseen within a few yards, a few feet of us. Their great wings outspread, when about to alight, shut off the shining sun, their shadows darkened the diaphanous fibre of our scrim. We could hear their chasings and flappings for food, the scraping of their horny feet sharp on the limestone grit, their wanderings in the cracks and crevices. Sometimes their calls were those of an English rookery; there were gruntings, too, low hoarse guttural interchanges, sepulchral, stomachic croakings and often a note like a klax-horn. There were in fact three or four or five families of different ages being fed, behind, above, and around us. On more than one occasion a bird lit on our roof and could have been secured by the foot. It can be imagined what a pleasure this domesticity was after the long distance work through glasses at Taupo headland.

In a sort of rough inverted V formed of the nearly complete junction of two enormous slabs our first hiding hole was established, it lay about thirty yards from the entrance of the watched nest. Directly beneath us, visible through a dozen gaps, the sea, distant at ebb and close at flow, smacked and clapped and clooped and hissed. At low tide, a vast rock almost flat was exposed. This shell-encrusted table was a favourite spot for alighting and rest by the parents of the nestlings that at this date were five or six days' old. There was also grudgingly allowed to use it a full fledged able-to-fly member of a former brood. Here sometimes for half an hour at a time this enfranchised youth would sit lugubriously. I

saw him fed but once or twice—a brief meal reluctantly bestowed. Though from his melancholy aspect he appeared to think himself neglected we had little respect or sympathy for him. A youngster as big as his parents and except for a slightly darker shade of blue, fully fledged, should not have been on the dole. By his father, contributions as I say were once or twice unwillingly conceded. His mother, her affections transferred to her new brood, chased him on every opportunity from the too close proximity of her later born.

As the birds grew more accustomed to us a second hiding hole was constructed ten yards only from the nest; our final screen was exactly above it. We could hear directly below us—four feet perhaps—through a loose mass of fissured rock, the cries of the youngsters. By inducing the parent Herons to relinquish their former perch we were able in the end to delay at will their entrance to the nest for minutes or for hours. They could then be watched at nine or ten feet—almost at arm's length. They were so very close that on their necks we could detect the slight ruffle half way up, as if the neck feathering had been done in two bits and the joining not smoothed over in quite a workmanlike manner—the same peculiarity may be seen in the neck of the Blue Duck (*Hymenolaemus malacorhynchus*).

Speaking generally, one bird would watch whilst the other foraged, but the pair once in each other's company remained together for considerable periods; not infrequently the arriving bird would in the act of eager alightment almost collide with its mate, causing the latter to flinch and shrink, both of them in momentary agitation raising their crest feathers. Sometimes a returning bird would in the act of settling down brandish and dart out its long bill; often, too, after alightment, a bird would shake out its feathers like a fowl after a dust bath. When assured that the family were fully

fed often the two birds in close proximity would doze with heads slouched between their shoulders and yawn; the Heron by the bye yawns not like a Shag, but throws back his head to perform the act; but though thus dozing and yawning the birds love also to change attitude, however slightly, from time to time, for instance raising a foot and holding it much in the position of a dog offering a paw; for a few moments, too, a bird sometimes will dance or mark time rapidly on one spot.

At low tide over tracts of exposed rock the long-legged graceful birds would walk daintily. Across the wet crannies, cracks and seams, they would hop lightly with folded wings. Their great spreading feet, on dry or wet alike, supply a grip that never fails. Reference has already been made to the scrambling propensities of the half or three-quarter grown nestling on Taupo rocks, how it would ramble and perch alike on green and dead shrub growth. This habit we now again noticed on Tata. The Heron in spite of its stately appearance, evidently enjoys scrambling for its own sake and it is astonishing to witness what grown specimens can do. Twice I noticed a mature bird on Tata when a hundred other perching spots offered, apparently for the pleasure of the action, embrace and breast sheer cliff, remaining for a moment or two, scraping and scratching pan-caked, glued like a flattened leaf in a gale to perpendicular rock. Notwithstanding this seeming recklessness in regard to plumage, Herons, except when wading, are strangely particular in regard to ocean wash, even to wavelets; stalking amongst the rocks they do not care even in calm weather to let their legs or even feet be submerged. Splash from beneath they treat with unconcern.

North and south of us all day at intervals, individual birds bringing in food flapped slowly along the surface of the sea. From certain sandy flats at this season of

the year are gathered the fry, needful for the nestlings during a brief stage in their career, minute flat fish about the size of florins elongated. I have watched the old birds, too, wading deep in the golden grit washed from little streams dammed up till ebb tide, spearing what I have taken to be tiny fish, as they are rolled along in the flowing sand. Once only has it been my good fortune to see a Heron on the wing spear any object in the water, it was an extraordinarily graceful series of movements, the poise in air, the enormously lengthened stretch of neck, the swift darting drive, the rise again into the upper air.

To recapitulate, a heronry, large or small, is primarily dependent on such rock formation as will offer shelter of ledge and shelf for nests and in the second place crevices, tunnels and bolt holes for the young who soon leave the nest and begin so to ramble and scramble that in the end feeding may take place during every meal on a different spot. These conditions the Tata rocks, the Taupo headland and the Taupo rockstacks exactly fulfil. As important to a successful Heronry is the proximity of estuaries, tidal flats and sandy beaches where are obtained the small fish, fed during a few weeks of the year to the baby birds. The breeding season of the Blue Heron seems to extend over an unusually long period. It begins perhaps in October and November and continues to February and March. Although rats obtain on the Tata rocks and on the Taupo headlands apparently they treat the Herons nests and eggs with respect; thus though we found on occasion broken shell that might have been their work, we also found deserted eggs whole and untouched and which had remained for weeks untouched. There seems therefore to be no danger immediately threatening the welfare of the species.

CHAPTER X

MARLBOROUGH SOUNDS AND TOPHOUSE

FOR weeks before our start late in September what had we not imagined of the Marlborough Sounds? Fancy never let it roam, pleasure always is at home. How had we not pictured those multitudinous islands, in their charts so very lonely, in their charts so very undisturbed, those islets, inches, archipelagoes, rock stacks, deltas, beaches? What suggestive names—the Jags, the Big and Little Trios, Sentinel Rock?

Unpalatable common sense based on acquaintance of man's imperfect nature should indeed have bidden us abate these high imaginings; still surely it was allowable to visualise areas unvisited, unspoiled, unfelled, unfired, still surely allowable on some scrap of sea-surrounded rock to hope that there might yet lurk furtive in the scrub the Stephen Island Wren (*Traversia lyalli*). Shag species unknown to me—so my hopes ran—might yet breed on the wave-washed crags of the deep sounds. The shingles or sands of the long bays might be the haunts of innumerable wild fowl, of Oyster Catcher, Red Bill, and hoped for especially, the Little Tern (*Sterna nereis*). On peat banks, on shingly steeps, on broken stony shelves there must be Petrels yet unstudied. Such were the anticipations with which we set forth. Alas! Still they are unfulfilled.

Farewell Spit, was, however, first revisited. There it was during the previous season that en route for the lighthouse our little steamer had been stranded on a mud bank. Not to be trapped thus a second time we were determined, but in avoiding Scylla we perished on Charybdis. The overland track to the lighthouse on Farewell Spit follows a stretch of dunes, banked by the

ocean on either edge and equally a pitfall to the inexperienced who can hardly contemplate quicksands in such immediate proximity to arid hillocks of drifting sand. Such, however, are the chances of travel. Our horses indeed were extricated from the gleaming, heaving slough of despond, the buggy with its gear remained a fixture. To the caretakers of this fatal lighthouse our approach once more must have been an episode of the unknown, uncomformable to Lancashire habit, irreconcilable to Lancashire ideas. Shamefacedly for miles we trudged through deep sand, our plight marked from afar by the wondering keepers.

Here in the scrub and "flax" we heard and saw on the 29th September the Shining Cuckoo; on Shelly Banks not an egg had yet been laid by its colony of Caspian Tern. No Gulls or Tern were breeding; Black-backed Gulls were numberless, one of which for long I watched dropping in play empty mussel shells. Lodged in the rootfangs of a huge forest tree stranded by some abnormal tide were built four or five still empty nests of the Queen Charlotte Sound Shag. For a week we remained on this magnificent beach searching the dunes, hoping that they might bring to light rare breeding species or temporary migrants, then since sand still proved unpropitious it was determined that the oozy mud flats of Wanganui Lagoon on the West Coast should be explored. Into this shallow haven the tides rush daily through a gap in the cliffs. Sawmillers and settlement have spoiled what must have been a lovely spot. The inevitable has happened, but it is the part of a wise man to recall the fact that doubtless Britain, too, has suffered the same sad process of spoliation. New Zealand in fact centuries hence will be a fairer land than now. It has not yet been long enough in Anglo-Saxon hands to have had lavished on it the adornment that has made England what she is.

During a great proportion of our 1925 trip this anticipation made amends for much that hurt. In especial the Marlborough Sounds will not suffer by passing years. At present they are in transition between savagery and culture; besmirched by alien touch and fouled by fire there still remains enough of the original forest to tease the imagination and to sadden the heart. A couple of centuries hence these headlands, islets, islands, ugly with blackened scrub and charred remains of forest trees will be bare of everything but grass. No longer vexed by reminiscences of beauties that have passed away we shall view only green swelling hills and verdant slopes. Another improvement that can be reasonably anticipated is an increase of sea birds. These Sounds at present are empty of life. It cannot be proper to allow the slaughter of sea fowl and indiscriminate destruction of shaggeries, nor can it be gratifying for tourists to note wounded and dead birds on their nests. Instead of exterminating our Cormorants with Jeddaborough justice a strong point should be made of their presence here. New Zealand is the headquarters of the race. The crowning annoyance to all who care for wild life is that this harm is done to the wider interests of the Dominion and to the most pleasant people in it by such a very minute proportion of the population. By a few score persons careless or cruel a source of intelligent pleasure is denied to a thousand times that number—I have and always shall maintain that if thirteen per cent. of the people of New Zealand, and elsewhere too, were sterilised it would improve matters.

At once I may state that our inspection of Marlborough Sounds was one long-drawn disillusionment. Unpoliced, unwatched, they are available to everybody who can raise a gun. They are within too easy reach of the thirteen per cent. of Wellington, Nelson and Marlborough.

As yet, however, uncognizant of the future and its disappointments to come, from the homestead of an hospitable settler, resident on the oceanward point of D'Urville Island and lastly from Stephen Island light-house, we cruised about the bights and bays and coves and islets of this most disappointing region. D'Urville Island, about which we had heard so much and hoped more, still carries a considerable portion of forest, but it is forest nibbled by settlers, destroyed or half destroyed often with no corresponding gain in pasturage, woodland so unlikely to harbour any rare species that we did not even trouble to land. Cats and dogs had ranged every acre, rats grey and black we knew must swarm. No prospect could have been more dreary, forlorn and unalluring. Along the shoreline unkept patches had been cleared and then allowed to revert to coarsest alien weeds like briar and blackberry; scrub, manuka and tauhinu were repossessing themselves of the dishonoured soil. Elsewhere fires had run into the green bush, leaving breaks and belts and narrow strips of lifeless, leafless, gaunt, grey skeleton trees; on the great boughs still hung in coils and ropes, dangling, dry, blackened creepers. Lastly, such ancient forest as did survive covered the poorest land. In the mad rush to grass New Zealand for the sake here and there of a few thousand extra acres of inferior turf, incomparable sanctuaries have been sacrificed. On the furthest oceanward portion, however, of the island were several excellent farms without a tree on them and, though this prospect did not please us as bird men, it was at least better than desolation to no purpose; the ground had at any rate been properly utilised. Bird life was everywhere scarce, only here and there a solitary Blue Heron, a few Shag, a few Blackbacked Gull, Terns and Kitty-wakes; Blue Penguin were in fair numbers. New to me was a blunt winged Petrel of much stronger flight

and rather larger than the Kuaka (*Pelecanoides urinatrix*) of Southern waters. A white bellied Mutton Bird was also new to me.

Stephen Island lies in Cook Strait at the northern end of D'Urville Island. Certainly we had hardly dared to venture to hope that we might find the Stephen Island Wren not extinct on this, the island from which its popular name is derived, but after one glimpse of the conditions this faintest expectation vanished. Fires, grass-seed sowing, cattle and sheep had done their work, only Petrel and Gulls remain on Stephen Island. Of the primeval growth that once covered it, little or nothing remains—only here and there an inconsiderable grove of cedar—kohekohe—a species difficult to burn; even these survivors are thinly foliaged and moribund; because of stock none of their seedlings reach maturity. Ngaio, whose taste is unpleasant to sheep and cattle, has appeared in some places as a second growth. On the steepest, most inaccessible slopes luxuriates a tangle of nettle, bush vine and veronica. Here two pleasant days were spent enjoying superlative views of the mountains of northern Nelson, noting the wonderful hues of Mount Egmont and of snowy Ruapehu, investigating Petrel burrows and hunting for the rare frog (*Liopelma hamiltoni*), which, however, we did not locate.

Stephen Island is chiefly peopled by a Petrel twenty inches from wing tip to wing tip—blue-grey above, white below legs, blue claws, blue web of feet—in life grey-blue. Apparently in the second week of October this Petrel had begun to lay—I say apparently for it may happen that its habits approximate to those of *Puffinus griseus*, whose hordes are composed of different clans each one of which breeds at its own time and on its own selected area. The bantam-sized egg of the Stephen Island Petrel is laid in a shallow burrow of which there are hundreds of thousands on the island. Converging

from the ocean as darkness falls, these Petrels appear in vast numbers. Circling and wheeling above the island their velocity is such that individuals striking the strainers of the wireless station are clean decapitated. In spite of this, however, not a window pane in the keeper's houses is broken. As with Petrels in the south the final drop is perpendicular. As elsewhere, too, with Petrels the species holds territory in vast numbers, and though tolerating minute settlement of other kindred breeds, yet dominates the whole locality.

On the Jags were a few Kittywake and Sea Swallow nesting—no Shag of any sort. On Sentinel Rock we found a dozen Pied Shags breeding. On Titi Island rich in a soil of greasy decomposed slate a portion of the surface was still in native bush—the type of bush least easy to burn—stag headed kohekohe and glossy green karaka. As, however, evidence of rats was conspicuous we did not linger long—none of the species hoped for could have survived in their vicinity. On the northernmost of the Trios another small colony of Pied Shag were breeding and on the largest of this little group a remnant of bush still remained.

On Triad Island, though forest covered the land, fires obviously had at different periods run through its woods. Havoc of this sort destroying only a breadth in one conflagration is at any rate less fatal than total destruction of all greenery in a single blaze. Whilst even a section stands intact and umbrageous it operates as refuge and sanctuary for creatures locally dislodged. In fact a forest area thus burnt in strips is really more safe in some respects than one still in its virgin prime; the scorched and withered ribbons of flame penetration, will always remain out of step with one another, never again be fit contemporaneously to carry fire.

On Triad Island brown, grass-green lizards, and Tuatara (*Sphenodon punctatus*) were exceedingly plentiful, in one locality every third Petrel hole seemed to contain one of these last named survivors of an enormously remote past. From one shallow burrow out of which, along my intruding arm had scuttled its mutton-bird owner, I obtained both Petrel egg and Tuatara; the last I pulled out by the head not at first aware of the nature of the booty; lizard and bird had been sitting together sharing in amity the guardianship of the latter's egg. Although I had read of this peculiar partnership, I was glad to have had ocular proof—I should imagine that the obligation lies on the side of the lizard; it gains a pleasant if oleaginous warmth and gives nothing in return, unless indeed it can be supposed capable of guarding its ally's nest against any intruding outlander of similar breed.

Of *Pelecanoides exsul* we obtained a fresh egg taken from a burrow the size of that of *P. urinatrix*—if indeed one should prove not to be a form only of the other. Very different anyway are the habits of flight. *P. urinatrix* common to the southern seas, scuttling along its way clumsily and after a few yards striking a roller and plastering itself higgledy, piggedly into the sea, whilst *P. exsul* on the other hand though also flying low on the water always keeps clear of it and never when alighting disappears into it with haste and fussy flurry.

On Chetwode Island it was a presage of good to see the New Zealand Robin. They were the first noticed on the Marlborough Sounds. As this tame confiding species falls the easiest prey to cats, rats and weasels, its presence may always be taken as a sign that other rare woodland birds may also reasonably be expected. If indeed there is a chance of the re-discovery of the Stephen Island Wren, the little fellow may be found in the dense impenetrable thickets of wind-blown spray-scorched

manuka that clothes the lower slopes and more infertile portions of this minute island. Besides ironwood, pukatea and tawa, their trunks festooned with creeping vines, clinging rata and pendant ferns, there was an unusually vigorous growth of minor trees and shrubbery. It was a delight once again to see New Zealand forest unspoiled. Birds noted were Weka, Bellbird, Tui, Red-fronted Parakeet, Morepork, Kingfisher, Pigeon, Kaka, Grey Warbler and Yellow-breasted Tit. The only fly in our ointment was the presence of a deer that must have swum from the mainland. This island deserved more than the two days devoted to it.

From French Pass to Portage we sailed in dead calm under a cloudless sky. It was one of the pleasant days of our trip for the vegetative processes of transition were nearly complete. Along the peaceful inlets only on the poorest spurs did a blur of bracken remain, only on the coldest slopes did blackened stumps still mar the greenery of the sward. Though melancholy for those who have known better things, by a second generation the change will hardly be considered; a third, so limited is human imagination, will accept the present as something established from time immemorial. Sea and sky, green grass, the contours of the hills will always remain.

The Marlborough Sounds had not done much for us, the Marlborough rivers less. In this too highly civilised province cultivation extended from sea-shore to the foothills of the mountains. Settlements exist, moreover, at every river-mouth. We were informed that the eggs of Tern and Seagull colonies were appropriated by the local pastrycook industry—good perhaps for it, but surely bad for New Zealand that more and more and more its sea-shores and skies should be depleted, that the beauty and interest of birds should be lacking in the landscape.

Although we had discovered that the Sounds had been overrun with yachts and launches with their accompaniment of firearms, yet we still hoped that the Lakes Rotoroa and Rotoiti in Nelson might shelter Grebe and Duck, possibly the Wood Duck; that in their upland forests we might encounter the Thrush, the Laughing Owl, the Crow—not even yet in fact had we been wholly disillusioned.

From the coast our route had taken us over Spooner's Range and Hope Saddle, wretched barren hills, indeed it was melancholy in parts of this province to see worthless Government lands still being advertised as open for settlement—men still being invited to lose money and time or by extra endeavour painfully to protract their financial fate. Even sheepfarmers should be obliged to pass some kind of test, if not in sense at least in ordinary observation.

Money squandered, seed thrown away, timber fit for milling destroyed, labour wasted; such are the results of a policy that attempts to plant men on high, wet, infertile soil. In this part of New Zealand, save for scant limestone outcrops and trifling areas of terrace land along the rivers, the country is barren. Too heavy a rainfall, too bleak a climate, further unfit it for dairy farming or sheep breeding. More remote, even more sterile, the foothills and low slopes of the Stirling Range, are covered with beech; only along the rivers, kowhai and rata brighten in their flowering seasons the otherwise sombre green of this type of forest. During the preceding winter a phenomenal hurricane must have passed over the district; in many spots scores of acres of trees had not been so much blown down as wrenched and twisted on their stems ere falling to the ground. It would have been impossible to have made our way through this titanic jungle, but in truth we did not attempt it. In these vast lonely tracts still

intact or almost intact no man can certainly affirm that individual representatives of almost extinct breeds of birds may not harbour, but in their dark recesses what are the chances of noting a single Thrush, or a single Laughing Owl, what are the vastly greater odds against discovery of a breeding pair? The scarcity of Robins was a discouragement too, for it is only where this species is plentiful that still rarer birds are likely to be found.

On Rotoroa Lake there are the remains of a large shaggery (*Phalacrocorax carbo*) of which a few pair yet survive; some of these birds are entirely black, some with white patches on thigh, but no white on neck. At the time of our visit seven or eight nests were inhabited, all of them planted on tops of tall trees well back in the woods—birds near the water had offered easiest targets. Climbing inland and behind the shaggery we found that from the first the breeding birds were unapprehensive. They were not anticipating landward danger, their enemies had always appeared like pirates by water. Scaling an immense tree which had been blown slantingly on to a high pinnacled rock fragment, we managed to get level with the nests to watch the splendid birds at close range and listen to their strange gramophone noises. Nearly always after separation and return mated couples in greeting one another raised their crests. At other times, alongside each incubating bird, its mate stood sentinel, erect on the edge of the nest. Some were on eggs, some on squab young; older nestlings, too, were visible, stationary on their stick platforms and perchance wondering why on the approach of our boat should their parents have evinced such perturbation.

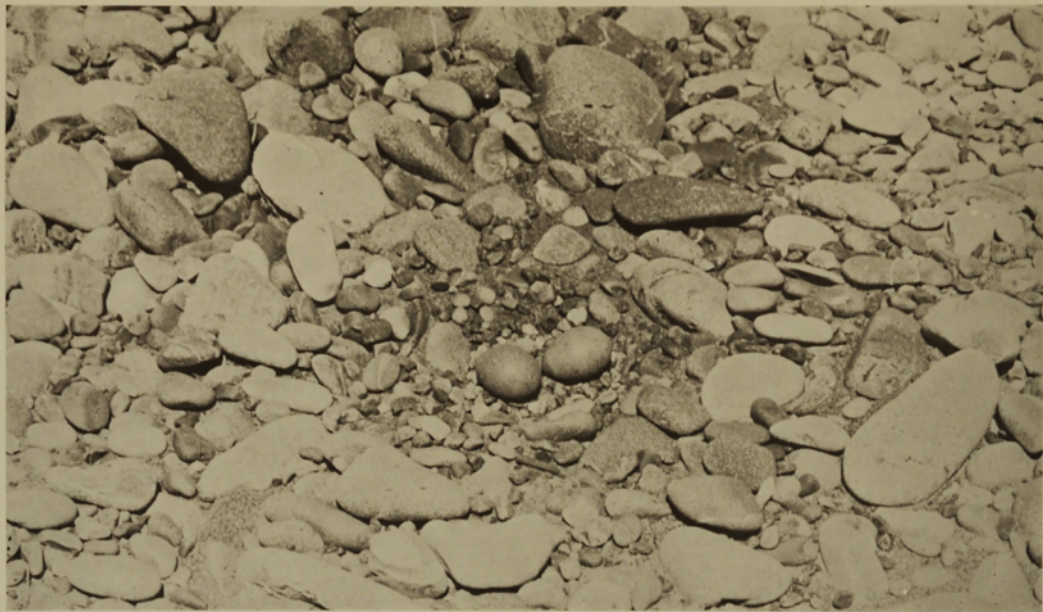
The main river feeding Rotoroa is the D'Urville, its flat river-bed affording excellent means of penetration deep into the Stirling Range. Marks of its fury in flood

were everywhere evident, trees entire from root to crown piled in heaps and masses, boulder barricades driven into the green bush. With the sun shining on dry gravel and the cushion plants of the river-bed fragrant in the warmth, it was difficult to imagine its torrential flow when rains were melting the winter snows. Had conditions obtained that should have obtained we could have worked no more likely a strip of sunlit open space for Thrush, Crow or Bush Wren. Certainly their numbers in these wilds could not have been directly affected by man, but alas! the rat, weasel, and cat have traversed the countryside for years; we knew, furthermore, the small feeding value of these barren forests, their comparative scarcity of insect life. Robins were almost absent, we noted in fact little of particular interest; individuals of the ubiquitous Blackbacked Gull drifted overhead, Paradise Duck flew up and down the river-bed, Harrier Hawks floated aloft. Deep in the woods could be heard the harsh breeding calls of the Kingfisher.

Even, however, in these lifeless, almost uninhabited woods long quietude reaps its rewards; a Pigeon resplendent in its purples and whites elected to perch at the distance of a few feet, and there, full cropped, pouter-like, sleepy, to digest its leaves and berries; a Bellbird gave forth its sudden alarm note as a great stoat ran along the prone bole of a shaggy beech, a party of twittering Waxeye stirred through the woods, a Grey Warbler trilled in the distance, an inquisitive Tit faced us point blank, Parakeets moved in the high greenery or in midwood accompanied their friends the Bush Canaries.

Everywhere there were signs of red deer, young trees decapitated, boughs nibbled and trimmed, fresh peeled saplings shiny and white. Over the more open lower stretches of the river-bed other acclimatised species also

loomed large. In the glare of full daylight parties of Starlings were spearing their short bills into the ground. Skylarks sang, Blackbirds, Thrushes and Chaffinches gave an unpleasing foreign touch to what should have been an exclusively native picture. As, however, the valley narrowed into a gorge and as the mountain-sides closed in like walls, as the trees met over our heads, once more we moved in conditions somewhat approaching to those of old New Zealand.



Eggs of Wrybill



Wrybill

CHAPTER XI

THE WRYBILL

HAVING shaken the dust of Nelson and Marlborough from off our feet we moved southwards to the mighty Rakaia. On its banks we camped, at first midway between foothills and sea and later on the estuary of this great snow-fed Canterbury river. On its sands and wastes we recemented friendship with certain Gulls and Terns, also with the Oyster Catcher and Banded Dotrel (*Ochthodromus bicinctus*). We also renewed a very brief North Island acquaintance with the Wrybill (*Anarhynchus frontalis*).

“Detect Wrybill—erect cairn of half a dozen stones—walk birds up river-bed before me—one flies to right—other lost to sight in grey blue of stones—build cairn No. II—return after an hour to spot where birds first seen—again there—run alongside me with equal anxiety or equal indifference, cannot tell which—sit still for couple of hours—again move, again birds appear—attempt to fix gaze on one of them—by pipings aware of another accompanying me—lose bird in river-bed blue—long wait, return to No. I cairn—hear but cannot see birds—hunt over dry area furthest from river—return to original beat and move upstream—male between me and river—another male or female(?) flies towards me in short flights—alights on damp sandy seepage—joined by second bird—return to No. II cairn—pick up hen who appears to be wishful to lure me away—male(?) appears careless of my presence—joined later by another male skirmishing alongside chirping, piping, eyeing me—strike inland right angles to river—two birds fly overhead—work round to No. I cairn—begin to think birds evince preference for particular locality—again lose birds in stone grey of river-bed—for hours no bird

within sight or hearing—late in evening far downstream, bird flew in peculiar manner as if to mislead—passed low overhead—alighted apparently inviting pursuit though no affectation of lameness—birds again No. I cairn—too dark to see——”

Hardly altered, almost exactly as they were set down, these jottings are reproduced. They are offered as an example of the riddle set the field naturalist in his quest for a first nest of a species new to him, ere he has fathomed the tricks and wiles of a quarry whose ways are still incomprehensible. Until then previous acquaintance, however intimate with the nesting habits of other species, is of little assistance; it may be a dis-service. The hunting for a first nest is as I have endeavoured to show, a groping in the dark, the second and all others cannot fail to be discovered by the least observant—I had almost said by a blind man on a dark night, so simple is the task.

We were in fact ransacking on the Rakaia river-bed a locality uncongenial to the nesting requirements of the Wrybill. Thus quite unavailingly did we for two days strain our eyesight in that grey blue desert light which so soon calls a halt to the long unblinking stare by which alone a bird can be kept in view. Often, too, the temptation is not to be withstood of attempting to focus both sexes simultaneously, in which case the one is lost; the other never rediscovered. In this manner fooled or rather fooling ourselves we sank so low in our own esteem as to consider the advisability of working a string over the stones as is done in some parts of the Argentine prairies to put up game. In this mood of perverse self-depreciation we believed some strange novel form of blindness must have sealed our eyes.

The blandishments and enticements of the Wrybill are of course merely a manifestation of spring in the river-bed, an episode in the tactics of the breeding season.

These furtive alluring runnings, these crouching attitudes are assumed whenever an area is reached upon which the birds intend to lay their eggs and rear their young. Nor in these fooleries is man alone paid a special compliment, similar blandishments are called forth by every stray beast and sheep on the river-bed. They are practised before the nest site is selected. Many years previously to this date I had known the Wrybill, but only on its North Island winter quarters. From but one correspondent could I now obtain definite facts as to the species southern range. He had himself seen Wrybill on the Clarence River in Marlborough. Acting on this information we had crossed from Wellington to Christchurch and moved northwards hoping that en route we might perchance light on the species in one or another of the North Canterbury rivers. We did not do so and in due time reached the Clarence. Along its banks we spent several days and learnt that there were no Wrybill either upstream or about the river-mouth. From the beginning indeed the result of this search of the Clarence river-bed was a foregone conclusion. Little as I knew of the requirements of the species it was easy to surmise that they would not be forthcoming on that contracted torrent bed.

Returning from this wild goose chase we ranged for a second time over portions of the Conway, Waiau and Hurunui, a couple of miles here and a couple of miles there, but on none of these mighty rivers found our bird. We did note, however, in the fortnight betwixt going and coming, the great general awakening of things to the call of spring. The Blackbacked Gulls had taken possession of their breeding grounds. Terns and Kitty-wakes had gathered in great companies. Blue Herons had returned to former nesting sites. Paradise Duck, Oyster Catchers, Pied Stilt and Banded Dottrel were all intent on the great game of reproduction of their kind.

As always the avifauna of a countryside is dependent on the geology of that countryside. A glance at the map of the South Island of New Zealand will show how it narrows towards its northern extremity. Thereabouts three great rivers, the Clarence, Awatere and Wairau run in vast parallel earthquake fissures. From nearby mountain ranges of many thousand feet they debouch almost direct on to the ocean. The width of their valleys is insignificant, their banks are steep, their boulders enormous, their currents confined to one main channel. On the other hand the plains of South Canterbury are formed by the overlapping of vast fans of detritus carried down by the Rakaia, the Ashburton and the Rangitata. Below their gorges each of these rivers is untrammelled by rock, all of them are unconfined except by their own terraced banks, all of them flow for miles over enormously wide beds. When the running channels of these four great waterways become blocked and blind other sections are overflowed, other areas in their turn carry the glittering intricacies of the arterial streams. During one period of years the shifting inconstant river will favour the southern bank, during another the northern edge of its broad spread. Compared to Marlborough the beds of these South Canterbury rivers are less tilted, their seaward drop less abrupt; until near the ocean their level waters pour themselves seawards in a vast ramification of mill races of varying width, depth and velocity.

Now the Wrybill is above all things a bird of the bifurcated stream. The shingle bays, the high and dry stony terraces, the arid flats of shallow sand where the thorny tumatakuru ekes out a scant livelihood, count but little in the life history of the species. Between its nesting grounds and the terrace edge of its chosen stream must flow two or three or four separate raging runnels, sky colour in fair weather, Cambridge blue in flood,

turbid and wan in roaring spates. Thus guarded by rapid water, on elongated diamond shaped spits, wedges, spear heads and deltas, such shapes in fact as are worked out by swift currents rushing through stone and shingle and sand, the Wrybill incubates its eggs and rears its young. This racial wisdom though superfluous for centuries—for what had the Wrybill to fear from the indigenes of old New Zealand, the bat and frog, its harmless neighbours of the immediate past?—may nevertheless in one period have been a trait of cardinal consequence inherited from ancestral types living millions and millions of years ago in other times when other more predatory beasts were prevalent. Be that as it may, these braided watercourses of the South Canterbury rivers are buffers betwixt the Wrybill race and dangers that its race had never formerly experienced. Now in the whirligig of time—a caution, unnecessary before, stands it in good stead. Certainly its predilection for the central river-bed must in great degree protect it from the imported vermin of the western world, the rat, the stoat, the weasel.

Till we located our Wrybill the completion of a permanent camp was of course waste of time. During our protracted search how we hated that baggage that had to be so often handled and transferred and always as if we cared for it. We had to care for it for as the music lies in the Nightingale's egg might not one of these blind plates set in its grey box, backed, wrapped in black paper, encased in oil cover which we had dragged desperately, despairingly from river to river, be one day destined to hold a perfect image of an incubating Wrybill?

Arrived in South Canterbury we found in Edgar Stead the man required. No one could have been more eagerly active to assist, but the advice of others is never

fully assimilable nor their experiences entirely communicable. We had therefore to rediscover for ourselves what had been known to our informant for years. We were sure, however, that at last we were in the Wrybill's breeding grounds; what we might doubt was whether we had not arrived too late; whether the incubating season might not for that year be over.

Abysmally anxious under these conditions does the writer always become. Obsessed that each day is of priceless value and that only perhaps by some extraordinary bit of good fortune one pair of Wrybill on one bank of the whole course of the river may yet by superhuman exertion be discovered on eggs, does he range the river-bed.

The course of the Rakaia is nearly a hundred miles and below the long railway bridge spreads over huge areas. These wastes, stony and arid, are yet not altogether bare of vegetation. Nature soon makes an effort to re-clothe her uneconomic nakedness. Bright hued lichens cling and spread on the smooth, loose, unburied, sun-baked stones. Honey sweet is the hot air with scent of innumerable half-inch cushion plants, dwarf heaths and tiny alpine. Wiry thickets of prickly tumatakuru grow sparsely on the naturally laid dry paved cobble. Clumps of stunted manuka, meagre plantations of tutu, here and there wind-scourged tussocks of toetoe diversify the river-bed and act as landmarks. All native plants, especially the smallest species, become scarcer as the river-mouth is approached. Thereabout where sand is collected in greater depth the stronger British garden escapes loom large—acres and acres of gorse golden in winter time, and almost equally abundant dense thickets of pale yellow tree lupin and yellow broom.

The study of such a river-bed would itself last a man's lifetime. Besides our main task every day, every minute provided its novel incident were it but the glimpse

of a rabbit with a mouthful of sere grass for its nest, of a weasel as it rushed, a brown flowing streak from gorse bush to gorse bush, of a hare shower-bathing the dry stones after crossing a rivulet. Scattered like topiary work in an Old World garden stood the quaint furniture of the river-bed—its cushions, sofas and stools—gorse plants all of them year after year trimmed and nibbled into shape by rabbits, infiltrated with flour-fine glacier dust till perfectly compact and stiff enough to endure the weight of a man. The pavement alone of the Rakaia would have been a study of months, for on no two consecutive roods was the setting of its material alike. There were high and dry segregations of smooth boulders, each lot of an exact shape and size; there were collections of stones rough squared, still with the fracture marks uneroded. There were egg-shaped, bean-shaped, shingle deposits, banks of gravel from shot to ball size. Endless minor modifications, too, were to be noted after each freshlet.

Towards the end of October, a pair of Wrybill were found under conditions that dismayed the writer anew; they were mothering chicks of three days old. By that date we were working according to weather and river-bed conditions four widely separated areas, for with every change of airt and temperature the river waxed or waned—what might be attempted in one locality was impossible in another. Sometimes nothing at all could be done, wind from the nor'-west would turn the river-bed into a Sahara of drifting sand and, worse still, melt the distant snowfields and raise every stream and channel to danger point; even cold local southerly rain would colour the water unpleasantly and swell the fords.

In late October, our first nest with eggs was discovered. Immediately I pictured it to be the very last nest on the whole river-bed; with this belief strong on

me immediate action was imperative. We were off before dawn the following morning and certainly my craving for time to watch the brooding birds at arm's length was not slackened by the electrifying discovery that the chicks were chirping in their shells. This nest was built just where all Wrybills do build, a foot or eighteen inches above stream level and guarded from approach of vermin by alternate strips of shingle and wide channels of swift running water. The two eggs, pale grey green, peppered with infinitesimal speckles, lay on bare shingle, though either for comfort or adornment the birds had surrounded their eggs with minute fragments of pebble, the size of broken almonds or sunflower seeds—very much as I have noted at Home the eggs of the Thick-knee Plover surrounded by rabbit droppings. After heartfelt thanks for mercies vouchsafed we retired some considerable distance, gradually decreasing the space betwixt us and the eggs until the birds grew accustomed to our presence. Neither of them left the neighbourhood; they kept within fifty or sixty yards, running indeterminately about the stream edge and the shingle banks, evincing little alarm and no indignation whatsoever. The male is the more assiduous sitter, for hours he incubated the eggs though the hen was for nearly the whole of that time within a chain or two of him. By noonday he and I were face to face at four or five yards' distance, vigilant, wondering, observing one another; entirely friendly, though at any considerable movement of mine he would still rise on the nest and stand astride the eggs till reassured; only then would he gradually sink downwards once more to a sitting posture. It was curious to see him cuddling on to them, making as it were feints at them—as if to poke them under him yet lacking resolution so to do; rarely in fact did he actually touch them and then so delicately that his bill seemed to slide off the smooth shells—but was



Wrybill



Wrybill



Blackbilled Gull



Blackbilled Gull

he really seeking to move them, was he not perhaps reassuring the cheeping chick in a pitch too high for my detection? The day turned out to be cold, dusty and blustering, one sudden preliminary gust overturning the camera and breaking a leg. Next morning again we were at the nest early, and scanning apprehensively a sky which from earliest dawn foretold a gale; by eleven o'clock glacier dust as fine as flour was flying in clouds.

I may say here that any coloured illustrations I have seen of the species are exceptionally misleading; in life I could detect nothing asymmetrical about the narrow black band high on the breast, neither does the grey of the breast shade off more on one side than another. The breast band of the male is darker than that of the female. More than most birds, the Wrybill has taken his colours from his environment, the grey-blue boulders, the splashed water edges, the stones half dry, half wet, darker or grey, the dusts and sands and gravels of the river. Every one of them is blended into his plumage. In life seen very near—stroked on his nest as I have managed to do—the narrow brow contrasts a little with the lighter crown; the head is flat, the horny sheathing of the bill is often moistened with the tongue, the nostril is prominent. Often at his chief enemy—the Blackbacked Gull—have I seen him looking upwards with his little eye, an attitude, with the broad bill held sideways, never failing to recall the snout of a pig.

Working with my daughter, not many days later a second nest was discovered. We had become aware of a hen wearing that certain indescribable mysterious air that egg-owning birds often assume. What also induced us to protract our watch was the sight of her quiet but persistent pursuit of a male Banded Dottrel, a perturbation not sufficiently solicitudinous to denote alarm for young yet unmistakably envincing some private personal particular interest in the locality. One fresh egg was

there, another was added to the clutch that same morning. Upon the following day a third nest containing a pair of eggs was found. These like the others were grey blue, thickly peppered with black speckles, in fact, the six Wrybill eggs seen that season in the Rakaia river-bed varied not at all in size and colouration.*

The owners of the latest found nest were eager to return and proved most amenable to do business with; we were at last in the happy position of knowing of two nests, one with fresh eggs, the other of half incubated eggs; from the latter most of the photographs were taken.

Watching these two pairs of Wrybill day after day, our misapprehensions and false inferences as to the first seen birds of nearly a month before, solved themselves. No anxiety on our part need have been experienced as to the duration of the breeding season. Snow-fed rivers like the Rakaia must be perpetually on the increase and wane; a rise therefore of only a couple of feet would be sufficient not only to sweep away the lowest lying nests but to erode shingle banks of twice that height. Our birds, whose movements had provided the jottings at the beginning of this chapter, watched so intently, so unintelligently, we now knew never had or could have had nests where we had searched. They were there partly attracted by us and partly perhaps in search of food. We knew now that the allurements that seemed so significant were merely the stock in trade of spring. The birds themselves may even quite well have been members of a late party freshly arrived from their winter

*The intense blistering aridity of a Canterbury river-bed in full summer sun during noon and afternoon necessitates at any rate in the writer's case some sort of protective unguent for the face. Cold cream is his particular Balm of Gilead. A countenance thus larded, though unbecoming and indeed repulsive, offers after hours of a dry nor'-wester, a very fair imitation of the colour of the Wrybill's egg, the stone grey tones supplied by the glacial dust, half a century of sunburn providing the darker hues.

quarters in the North Island. It is probable in fact that the Wrybill's breeding season may be extended over an unusually long period. Wooing and marriage were yet proceeding. We still witnessed courtship dances on sand and shingle, the excited pair now facing, now turning their backs on each other, now with alert agility leaping over one another's heads, now fencing with their bills in feints and thrusts and parryings too rapid exactly to follow; now circumvolving, running round one another in great circles and ovals. We still saw battles betwixt rival males in which the defeated bird would finally be thrown on his back; there in most un-English fashion would his tail feathers be grimly twitched and tugged—last scene of all the twisting, twirling, rapid chase of vanquished and victor.

Wrybill may oftenest be seen running and pausing and feeding about the seepages, percolations, oozes and damp of the infinitely varied river-bed. They may also be noted on the sterile, stony, arid, hard set pavements of the stream, nor do the very brims of the raging mill race rapids remain unvisited, untenanted, unoccupied. There, on some prominent stone half grey, half jet, half dry, half wet, with plumage compressed, one foot tucked up, rigid, for moments monumental, a bird will poise himself. In moving on some such rounded apex not rarely he will lose his balance and only using his wings at the last moment, slide off, toboggan down the grey-blue boulder that so exactly matches him. At earliest morning ere the dawn wind begins to blow, distinct in the bubble break and splash of the torrent's rim can be distinguished the silvery chink of pebbles dislodged by his small feet. Often on some little eminence he will for long pause, head on one side, like a duck scanning the sky. He is on the watch for his chiefest foe, for the wicked Blackbacked Gull. I have never been so fortunate, except as mentioned at Porangahau, to note

any remarkable use of the remarkable bill; maybe whilst we were on the Rakaia the food sought for could be obtained without special effort; at any rate we only noted capture in ordinary ways of the tiny insects so common to shingles and sands. Much has been written as to this abnormality; few have speculated on it from the bird's point of view. For all we know it may be a silent grief to respectable Wrybill to see their little ones grow up with this horrid distortion of the proboscis, to reflect that in the councils of the great Plover family their breed has been sent to Coventry—relegated for all time to South Canterbury—to know that they are untouchables, that their kith and kin the world over are black ashamed of such contemptible nebs.

The chicks are greyer than the river-bed stones; they match rather the dry white skinny skum left on sun-dried gravel; often they are to be noted on the edges of bays and backwaters. A parent bird in charge of youngsters will either alight near to, or run up near to the chick and there stand till it emerges and plays its part in the reunion. A few feet away the parent will thus wait, but directly the long legged little grey chick appears, will snuggle down to provide warmth. A chick once discovered running and pursued makes no attempt then to hide, but will continue to run at a pace quite sufficiently fast to test the metal of a man in heavy waders and oilskins. However much alarmed at the threatened danger the old birds never order it to squat. On the other hand once hidden the nestling will never budge from its shelter of friendly stones.

The well-being of the Wrybill may at first thought be deemed threatened by the enormous growth of lupin, gorse and broom in the Canterbury river-beds. Further consideration, however, will call to mind that on the very same type of shingle grew in the old pre-European days, equally dense beds of native vegetation. Instead

THE WRYBILL

of modern weeds such as those named there flourished equally impenetrable groves of tutu, flax, koromiko, dwarf kowhai, toetoe, coprosmas and a dozen or score of lesser shrubs. That would be the order of things in the 'sixties and 'seventies; by the 'eighties and 'nineties imported stock would have destroyed the indigenous vegetation. This change, however, from native plants to British plants would hardly affect the Wrybill's existence. It built then doubtless as it builds now in the central river-bed of naked shingle, always then as always now liable to be flood-swept—a peril in some ways, but on the whole salvation to the breed.

CHAPTER XII

TERNs IN NEW ZEALAND

THE nesting habits of the Caspian Tern (*Hydroprogne caspia*) have elsewhere been described. Suffice it here to say that I have found the species widely scattered throughout New Zealand—the largest colonies on Bird Island off Collingwood and on Shelly Banks at the very tip or toe of Cape Farewell. Individuals of dense bird congregations are tamer by far than those of scantier assemblages. Numbers inspire confidence. Whereas the owners of the nest or couple of nests on Porangahau in Hawke's Bay took days to discover that no harm was intended, on Bird Island and Shelly Banks it was possible to stand at once within a few yards of the breeding birds.

The Sea Swallow (*Sterna frontalis*) still survives in vast numbers both on the North Island coast-line and about the mouths of the big South Island rivers. It is plentiful, too, on Stewart Island. There, however, should the site selected be a bare spit or rocky promontory near forest, I have known every egg devoured—and they must have run into thousands—in one or two nights. As it is impossible that the immediately adjoining woods could have supported vermin in such numbers it is allowable to suppose that the breeding calls of the birds had reawakened memories of the past and that rats from considerable distances, associating the clangour of the dinner bell with the forthcoming meal, had gathered in from an extended area.

Of the Little Tern (*Sterna nereis*) I have seen but two breeding birds in my life. This pair had doubtless assessed the advantage to themselves of the proximity of the numerous Sea Swallow population under whose aegis they had chosen to range themselves. Although, however, in a sense consenting to merge themselves in

the larger alien community, their individuality remained intact. They were still Christians in Jewry, whites amongst coloured folk; in their own estimation at least doves trooping with crows, for I can never believe but that each breed of birds is as fully convinced of its superiority over all other breeds as man is satisfied of his superiority to the anthropoid apes. At any rate by thus outwardly conforming to the manners and customs of the majority they gained the immunity conferred by numbers and noise. Small as these Little Tern might be, Blackbacked Gulls and Harrier Hawks dared not molest them in the crowd.

After an hour's search I found the nest midway betwixt two sections of incubating Sea Swallow. Because of the ceaseless overhead flight of this species to and from their breeding grounds, it lay safe from marauders. It was well worth the discovery, eggs and environment a most delightful colour scheme, the whole so graceful and dainty that sight contracted for it alone, the eye was content to view nothing else, to concentrate on one object only, to shut out the whole great world beside and revel in a microcosm of loveliness. On a wind-swept sand-clear, hard-set strip of dry beach the pair of Little Tern had elected to lay. It was one of those reaches often met with on windy shores where no loose sand but only conglomerated shell, tight packed, tight rammed, can remain. These huge aggregations chance tossed together by sea and tide in the past or gathered for food by the Maori of old, form bases which often the wind seems not to erode or undermine. On them lie sparingly scattered similar shells of later date, dead indeed yet in death often still conjoined and occasionally at each juncture rimmed with purple or pink. On such a strip, sparsely sprinkled with little heaps of pebbles and surface shells in twos and threes, lay the couple of eggs. These surface sea shells had been

allowed to remain, as camouflage, untampered with, but from elsewhere had been also collected twenty or thirty other halves and wholes, showing deep lateral widths of purple and pink. Not a brilliantly tinted shell had been missed over the couple of acres I searched. The hen Tern had then laid eggs to match the bivalves, the shells bright pink. I have never forgotten that nest, memory no doubt energised by the catastrophe that followed. A gale was glowing; to lessen vibration of the camera a stone was suspended from the base of the tripod; another clean flat boulder placed on top of the instrument. All screws were tightened; my friend and myself stood up to break the blast; still further to minimise the tremor I closed the camera face. Two plates were then exposed with the greatest of care, circumspection and caution into Cimmerian Stygian midnight blackness. I had forgotten in closing the camera face that the metal lens guard was shut. My agony of remorse at this bit of folly can be imagined when I developed these plates two hundred miles away. Then again not for the first time did I curse the day a man child had been born into the world. Since that fatal hour I have not seen a specimen of *Sterna nereis*.

The Swallow-tailed Tern (*Sterna vittata*) breeds, not in large numbers, on the Snares Group. I have noticed half-grown young about Boat Harbour. The cherry coloured feet and legs of the mature birds makes this species impossible to forget or to confuse with any other. Elsewhere in this volume allusion has been made to a species in Campbell Island as yet unnamed. Consorting with a colony of Inland Tern (*Sterna albistriata*) I have come across once in my life the Black-bellied Tern (*Sterna sp.*). The remarkable velocity of the flight of this species, their celerity of movement when in the air would have rendered the pair conspicuous even had their plumage not vividly individualised them.



Blackbilled Gull



Inland Terns, Rakaia river-bed

The Inland Tern (*Sterna albistriata*) seems specially plentiful throughout the provinces of Otago and Southland. There the breed may always be seen in the wake of the plough snatching upturned insects and worms, screaming, fluttering, protesting. On the actual coast-line I have never found this Tern breeding. In my experience it prefers the river-bed—the colonies nearest the sea being established a mile or two inland from the beach, others established far, far inland. Populous terneries exist in the Waiau near Manapouri. The wide desolate stony bed of that river is a great haunt of interesting birds, and there the Inland Tern may be watched in summertime hawking for flies and moths above the sunburnt yellow tussock grasses.

About the second or third week of October breeding grounds are selected, on them about that date a proportion of birds will be found sitting eggless amongst the stones, others are flying and hovering overhead as if on tours of inspection, whilst from time to time a male—I take him for a male—will mingle in the crowd, a little silvery fish dependent from his bill. “Quis?” seems to be his query and “ego” the instant reply from half a dozen ladies tempted by the fish if not the man. Far and fast do they fly—many are in the air simultaneously, multitudinous the twistings and turnings, the male still gripping his fish, the hens in hot pursuit; often as I have watched this courtship I have never seen the fish delivered.

As to the philosophic mind there is a matter for meditation anent the order and arrangement of buttonings, so in the bird world do minutest minor dissimilarities offer mental entertainment. Why amongst humans are the fastenings of male garments different from those of the female? Was it necessary in days when allurements of “ridi” gave place to skin and cloth that the sexes should be in the veriest trifles shown distinct? I know

not. Who has explained the male bow, the female curtsy? So in the world of birds small differences are of value in their suggestions of why and wherefore.

I find that whilst the Sea Swallow preferably lays her egg, or sometimes eggs, on sand, the sitting birds almost touching one another, the Inland Tern chooses a tract of river-bed unevenly set with stones, even with loose low boulders. Inland Tern, too, on their nests may sit yards apart. Not infrequently they and the Blackbilled Gull (*Larus bulleri*) join forces during the breeding season, each keeping strictly to its own quarters. October twenty-third was the date of the earliest laid egg on the Rakaia colony of Inland Tern whence many of my photographs were secured. The weather was propitious. Usually I had arrived by daylight at the Ternery and in its vicinity boiled the porridge pot and breakfasted. The first few hours of light are very pleasant on a river-bed, the boulders have not been warmed to oven heat, the scant herbage is wet with dew, the bare stones damp and cool.

Compared with the Sea Swallow, the Inland Tern is an emotional fowl, excitable to pugnacity, easily roused, soon soothed. At first but not for long the male of the pair selected for special study, besides furious swooping, crying and screaming, would strike my cap sufficiently hard with his bill to penetrate the cloth, though not to break the scalp beneath. Another method of annoyance was also practised. We were bombed from above. The male purposely defiled us as he flew overhead. The camera, our waterproofs and headgear were spotted with whitewash. By the second afternoon, however, the vehemence of his agitation was abated. I had taken up a position within twelve feet of the hen who remained unconcernedly on her eggs; the male had accepted me as his cross in life.

Besides man, however, the sight of any object out of the common develops in the Inland Tern a brief fierce offensive when first discovered. I remember one swooping so long and so fiercely not on me or my camera, to whom and to which it had become accustomed, but at a Banded Dottrel which I was in the act of photographing that the bird—the Dottrel—flew in remonstrance twice almost straight upwards from its eggs. It then settled on them quite unconcernedly, myself seated within five or six feet—so easy is it to hold the confidence of birds when once attained.

I have noticed the same bellicose curiosity over the attitudinising of a Pied Stilt which doubtless in compliment to myself, albeit distant thirty yards, was after the manner of its kind most decorously feigning death. It, several Inland Terns detected; instantly did they drive and dive and swoop at the misconstrued, misapprehended Stilt, flapping and dying on the stones; comical as to myself was its instant, forced, crude recovery, yet did my heart feel for the poor bird, for its outraged dignity, for its bitterness of heart, that Terns, birds like itself, should be so crassly unappreciative of the commonplaces of river-bed wisdom and oh, how mortifying to the malingerer to know that before a human its methods had thus been unavailingly betrayed.

To reiterate, the Inland Tern is in my experience commonest in the southern province of New Zealand; it breeds inland rather than on the coast; when conjoined in multiplication with another species it consorts with the Blackbilled Gull (*Larus bulleri*), it is bold and pugnacious in attacking intruders, its method of defilement is unique amongst Terns, its eggs are laid on stone rather than sand; the incubating birds sit relatively far apart.

CHAPTER XIII

RED BILL AND OYSTER CATCHERS

MANY years ago on the beach at Porangahau, I secured two baby Redbill. An hour or two after capture the little prisoners partook of shredded raw beef. Next day they endured several hours of coach and railway travelling and lastly a thirty mile buggy drive. Notwithstanding incarceration within the wooden walls of their box for fully thirty-six hours, they arrived smiling. Next morning worms were dug, the smaller specimens selected and offered as a prelude to the beef; these novelties were accepted with avidity, in fact, from the very beginning the infant Redbill flourished like the tree of Scripture planted by its river of water. They were perfectly tame on the second day and were only not there and then allowed complete liberty because of the perils of rats, station cats and wandering sheepdogs who must needs have their inquisitive noses everywhere. I was accepted as foster father to the twins, they would follow me everywhere. Each morning when first freed from the box and its circle of enclosing wire they would crowd about my shoes, expectant, puzzled, wondering, hopeful. They were about to obtain food, that they knew, but where was it and how to be got? Was it to fall from above? Was it to be seized emerging from the ground?

The signification of my tool of office they were not long in learning to grasp. It was the garden spade. As every youthful angler is aware the agitation of such an implement deeply sunk into the ground will induce worms to shoot up clear and free of soil. This weapon carried shoulder high was the banner under which the youthful Redbill marched, the white plume shining in

the ranks, the helmet of Navarre. All forward movement on my part was at first, however, of a shuffling, hesitant, zigzag sort; unregardful of my great human feet they risked their lives at every step. In the half shade of an immense pear tree I took my stand, the spade was slowly lowered to become familiar, to become an object of curiosity, the steel was buried deep in earth and in the miniature earthquake that followed, up shot the worms—a miracle to the nestlings had they but known it, as marvellous as that of manna to the murmuring Israelites.

Always it is fascinating to speculate on the mental workings of animals. Often used I to entertain myself by plunging the spade and only pretending to go through the action of wagging. It was amusing at first to contemplate the rangings, roamings, perambulations and perplexity of the baffled youngsters, yet even in this they showed intelligence for after several mystifications they ceased to be agitated by the prospect of famine. They were philosophic in discomfiture. They had learned that if the shaking of the spade did not at once produce a crop of worms, it infallibly did so in the end.

Although I cannot, as Themistocles declared of himself, play upon any stringed instrument, I do lay this flattering unction to my soul that as a tamer of wild things I might have risen to circus celebrity. No work entails more foresight, delicate manual manipulation and care than the handling of a callow brood, necessarily taken prematurely from the parent nest. Babies—more's the pity considering what most of them become—are not liable to be eaten by rats, cats don't kill them, owls and hawk's don't swoop at them, they don't squeeze through incredibly minute apertures, their food is easily acquired. Often have I reflected that an equal attention devoted by me to the young of humanity would have reduced infant mortality to nothing at all. Yes, indeed,

and left my memory infamous as responsible for the still further multiplication of the commonest, plainest species in the world.

Within a fortnight the little foundling Redbills were in train of being as tame in perfect freedom as at various times have been my domesticated-wild Native Pigeons, my Kiwi, my Parakeets, my Blue Duck, my Scaup, my Tuis, my Brown Duck, my Paradise Duck. Alas! however, it had become necessary that we should part. They never did reach that crowning confidence when birds not only permit stroking but solicit the mesmeric comfort of the human hand. I was bound on an expedition to the wilds of Stewart Island. It was impossible to take the Redbill with me. I knew of course that my foster children would be fed and watered, but most reluctantly had I to order the curtailment of their freedom, to have them penned within their wire enclosure, not because they would have wandered from the policies—they were well satisfied with their surroundings—but because of the fear of vermin.

When I returned, that had happened which I had anticipated; they had been treated as children might have been treated—well enough for children I dare say. They had been reared with care indeed, care sufficient for the raising of human youngsters but not, not, for wild things with fear latent in their very feathers, with dormant sense of peril that once aroused can never be allayed. They had been overfed, fed anyhow; food had been slung to them, relatively slung to them, as a bottle to a baby. They had been watered, watered anyhow. It had been set before them as porridge is set before an infant as if that was enough. Ah! how with another would not every meal have been offered in grains and scruples, the precious moments prolonged during which he should have enjoyed carrying happiness into their innocent lives; how would they not have been

teased from very tenderness, till they grew bold, how would he not, at the offer of every dainty have prefaced its selection, its proffer, with the little language. In the hearing and sight of the expectant pair would not the preparation of their water jar have been purposely perfunctory; in small quantities would not each approach have been heralded by fillings and refillings, till in the birds consciousness all else was merged in expectation of anticipated delight. Would not the protracted splashing, the sight of the dripping overflows have made trebly welcome the footsteps of their friend; how, the door opened of their night shelter, would he not have piqued their impatience by peeps, by playful denial of what he brought, by feigned forgetfulness of their needs. With the gentleness required for unravelment of long-stemmed etiolate blossom from entanglements of hedge-row growth so would he have restrained their fluttering eagerness. Only at last through his half-spread fingers would the twins have been suffered to obtain their desire and only then by following him from spot to spot. He would not have touched them, him they would have learnt to touch yet know not fear. By association of ideas all good would have seemed to radiate from his presence. Omniscience of Deity would have enhalloved him. From his hands would have streamed the vital needs of life, the dewy freshness of dawn, the early warmth of sun, unfettered motion in the open ways. In this mad world my masters, where a man can enact so many follies and tyrannies in attempting to constitute himself his brother's keeper, it is refreshing to reflect that at any rate, tendence on plant and bird can entail no wrong.

By the date I got back from Stewart Island my pair of Redbill were three months old. They were at once freed and everything possible done to conciliate them. They would, however, only take food if scattered for

them, never would they accept it from the hand. The fact is my brother to whom they had been entrusted had a young family of his own. Upon my return it needed no great powers of perception to see what had happened; he had neglected my birds for his children. Suspicion and misgiving never to be allayed had penetrated too deep for any subsequent atonement, not poppy, not mandragora, nor all the drowsy syrups of the world would medicine them back to eggshell innocence of right or wrong. As wild birds, however, a pleasure that never palled during the dry summer of that year was trotting up and down the as yet unmetalled road, deep then in powdered dust. Perhaps it tickled their toes like sand, perhaps they found in it a reminiscence of the beach. On the close-cut lawn, too, they spent much time hunting for insects. They would leave us at times to fly up and down the length of the lake, visiting its sandy bays and shallows but still returning to the home that hadn't been all it should have been to them. Before their final departure they were old enough to delight us with their musical pipings.

The following sentences are from notes taken on the West Coast of the South Island; if they sound impossible as they do to me now years later set down in cold print, I must have been in error, that's all. Thus do they run: "That the man who christened *Haematopus longirostris* Oyster Catcher must have been an idiot born is the first natural note of exclamation of those who have witnessed its habits of boring into the sands after the manner of the Kiwi or Snipe into peat. Amplifying nevertheless the word Oyster to include a bivalve difficult to open with a knife no fault can be found with the nomenclature. To gauge indeed the opposing forces—the slender long bill of the bird and the rigid grip of the shell is to credit the Oyster Catcher with the audacity of a rabbit that would stamp on a fox trap and yet expect

its foot to remain free and unscathed. At Okarito in Westland where I have watched these birds at work on their favourite shellfish, they used to assemble with the retreating tide on a shoal in the tidal estuary. There, a dozen or so standing just clear on pebble and shell, or submerged to the knee, would from time to time exhume an unlucky "oyster." It was impossible to get nearer to the birds than the river's edge and difficult to follow accurately their movements through glasses. To the best of my belief, however, the "oysters" were brought up from a depth of several inches. The exact antecedent processes I could never be sure of, but from the patient expectant air of the waiting birds the psychological moment—perhaps when the bivalve opened itself on the sandy bottom and might be disabled at a touch—occurred at fairly long intervals."

CHAPTER XIV

THE BLACKBILLED GULL

SCIENCE informs us that there exist in New Zealand three species of Gull allied to South African and South American breeds. The largest—the Blackback (*Larus dominicanus*) is to be seen in every harbour and headland of New Zealand, of Stewart Island and of the southernmost islets. There is no open expanse of plain or shore or river-bed where the Blackback may not be viewed. The Kittywake (*Larus scopulinus*) is a smaller species so well known that little need be said of it; wherever sailors ply their trade, there will this little gull be found familiar and fearless. The Blackbilled Gull (*Larus bulleri*) is our third New Zealand species. Save in the mature colouration of the beak, it differs not greatly from the Kittywake in appearance. It often, though not always, breeds far inland and in my experience when the two genera—Gull and Tern—build together, the Blackbill will be found more frequently consorting with the Inland Tern than with the Sea Swallow.

The nesting season of *Larus bulleri* extends over a considerable period, the site of the future colony being selected in mid October. By the end of the month a few pair will have laid their clutches of one or two or three eggs, dark brown with darker spots. To this colour scheme, however, there are many exceptions. Remarkable variations may be found in every great gullery.

Nidification is a perfunctory business with the Blackbill, the sitting bird often beginning to incubate her earliest laid egg in a most meagrely furnished nest. Building, however, does not then cease; her mate still for days after the full clutch has been laid, will continue

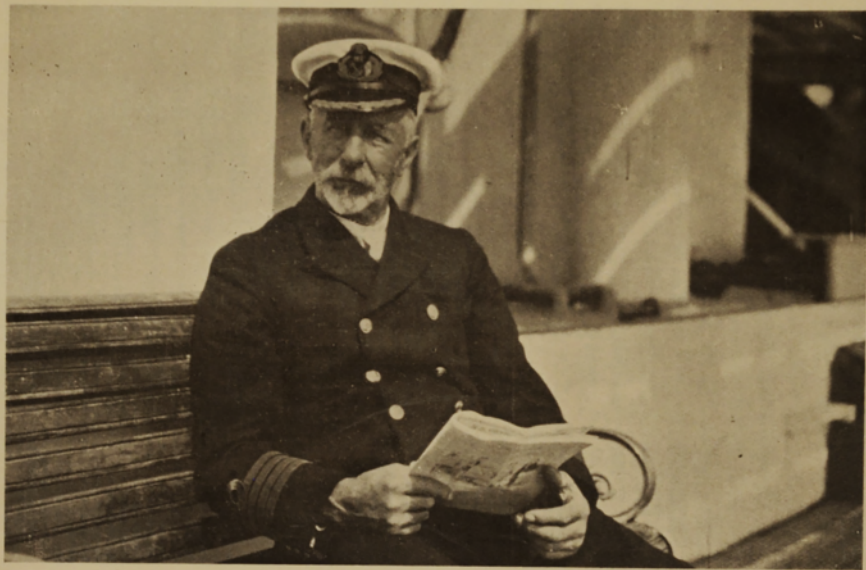
to provide fresh material. It is carefully dropped from a foot or two above on to her back; thence gripping it with her bill she slides it off right or left as may be required and safely tucks it beneath her.

Intimate acquaintance with the Blackbill began on the Mararoa river-bed between Monowai and Manapouri in Southland. Down the mighty Waiau my companion and I had descended at dawn, I myself scarcely hoping to emerge out of the venture an undrowned man; the friend in fact who rowed was a giant in weight and energy. His dinghy was of quite a different build; very, very old and very, very frail, at every stalwart stroke its poor decrepit ribs contracted like a concertina. During the five mile row leisure was ample for mixed reflection, sometimes on the new species that I was about to see for the first time, sometimes on the probable number of minutes I could survive cramp in that ice cold river.

I know not if others are as misled by imagination as the writer; for the hundredth time all turned out different to what he had fancied—he had been informed of this gullery on the Mararoa—he was aware that that river was a branch of the Waiau and had leapt to the conclusion that at the junction of the two streams he should discover a huge Gull colony ready to his hand. Instead of that a six or seven mile walk awaited us. We followed the tributary stream sadly, the country only interesting on account of the desolation that can be wrought by pig, rabbits and fire. It was a land naked indeed, the native vegetation and avifauna almost totally destroyed. In twelve hours one Pukeko and two pair of Ground Lark were seen; on the river-bed itself a few Oyster Catcher. There were no Wrybill; only Banded Dottrel were plentiful. Imported species were as rare—Redpole, Chaffinch, Blackbird and Thrush we saw or heard. Our route was parallel to the river, but never on the river-bed, mostly we traversed low terraces

growing stunted bracken, narrow stony valleys thinly sprinkled with yellow tussock. We got to the Gullery at last and at any rate I discovered what often does not happen—that I had not been misinformed as to the species. It proved to be what I had been promised—*Larus bulleri*—the Blackbilled Gull. We were too late except for stragglers, but the colony had evidently been a conjoint affair, its site shared with Inland Tern. Practically all of the latter were now gone, no traces of them remaining except here and there a dead bird, here and there an addled egg. Of the Blackbill there were great numbers of half and quarter grown chicks. Still unhatched eggs remained in twenty or thirty nests.

The breeding ground was a great shingle island, one side bounded by the main Mararoa stream, the other by a broad rapid subsidiary branch paved with the cruelest of stones for naked feet. A bitterly bleak southerly gale was blowing, but deep and difficult as wading proved, the creature comforts of dry knickerbockers, stockings and boots barely compensated for the martyrdom of that long unshod up-river crossing. Arrived on our island we had to be exceedingly cautious in our movements. At every alarm the crowding chicks thronged to the river brim. On two occasions youngsters thus hustled into deep water and then drawn into the current were ducked till dead and then swallowed by Blackbacked Gulls, several of which like devils waiting for whom they might devour, camped on a not far distant spit. Always or almost always in my experience one or two pair of these Wicked Ones are to be thus found in close proximity to any great congregation of Tern or smaller Gull species. Whether these individual Blackbacked Gulls are steeped extra black in original sin, having been already outlawed for tribal offences, or whether they have but more fully than their neighbours grasped the modern trend of economy of labour, I know not. There at any



Captain Bollons.

rate throughout the whole breeding season they remain taking eggs and chicks at every fair opportunity—fair opportunity. Chiefly it is youngsters who are thus trepanned, stragglers from the confines of the nesting grounds—what in fact the gods are pleased to provide. I have never seen a Blackback dare quite openly to pillage. Undoubtedly it could be accomplished for all the physical injury that would occur to the robber. To rapine and sack of an utterly conscienceless, absolutely brazen sort there do seem however self-set limits. The golden rule—do as you would be done by—does seem when invigorated and vitalised by aggregation of hostile eyes, by multitudinous vocal execration to have developed a rudimentary discomposure, a sense of uneasiness in the performance of certain acts. Even the Blackback, depend upon it, has his own ethical standard—not a very high one, and acts up to it. Another sure fact is that the Blackbacks are well aware of the detestation in which they are held. They crowd together for mutual moral support. Should they be actually nesting on an eyot—as just off Collingwood in Nelson Province—close to a great gullery and ternery their breeding quarters are extruded to the very extreme edge of the island. They have the sense of propriety sufficiently developed not unnecessarily, not wantonly to exacerbate. As far as can be in such limited space, there is a great gulf fixed as between Dives and Lazarus; one-third of the island is crowded with active happy life, another central third is vacant, on the extreme point of the remaining portion pairs of Blackback brood dark and ominous. Their smug belief in the goodness of God—“these chicks come to us, why should the gifts of the Lord be neglected and despised”—combined with cold-blooded murder of infants, has always seemed an unpleasing mental combination. It has always prevented anything like a bosom friendship between the author and the Blackbacked Gull.

After this long digression we may return to *Larus bulleri*. It was in December that I had been on the Mararoa River. There as will be recollected by the reader, incubation was nearly over; only a few pairs still sitting.

On the Rakaia, however, I became intimate with a colony of a thousand or twelve hundred Blackbills. It was late in October; at that date few of the nests contained eggs, a large number had been begun, but the major portion of the birds had not yet scraped out a preliminary circle in the sand; many I think were not mated. This considerable congregation of Blackbilled Gull adjoined a still more populous colony of Sea Swallow (*Sterna frontalis*)—thousands of the latter—for the Blackbilled Gull, like its near relative the Kitty-wake is not only of a gregarious disposition in regard to its own race, but welcomes to its neighbourhood other gregarious breeds—the larger their combined numbers, the lesser chance of trouble from Harriers and Black-backs.

Dawn in the beginning of the breeding season will discover a colony of the species we are considering, a grey white silvery patch on its selected shingle spit, silent, closely compact. There is no individual absent then from the community, not one but sitting or sentinel on its appropriated bivouac. With earliest light commences the work of the day, first of all a few, later many birds begin to visit their bathing pool—a shallow lagoon distant a few chains and warm from the diurnally heated stones that stud its smooth expanse. Soon there is a constant aerial backward and forward stream of birds keen for their matutinal dip or returning preened and cleaned. In this communal washpool they splash and duck their necks—the dark water pouring from their backs; there with outspread wings they thrash the surface into white, shaking themselves, flickering and fluttering

to their heart's content; there on its banks they dry their pinions and dress and bill their plumage. At that early hour, too, building birds gather from near and far afield strips from dried lupin, drift and flood debris; so close, however, is the crush of nests that as already stated this material has to be dropped precisely and exactly from above by the hovering partner on to the very back of the sitting bird. Love making, too, seems an early morning diversion for mating is of frequent occurrence. Then also supplies are brought in to the sitting birds or those in occupation of the chosen spot, which I think is never vacated from beginning to end of nidification by one or other of the pair. Light still increases; the sun is up, the boulders hold shadows, as in gales they shelter tails of sand; the erstwhile silence of the river-bed gives place to continuous intermittent screaming and clamour, but with all this noise and vociferation, it is but sharp remonstrance, emphatic warning, minatory gesticulation. The nests in fact all but touch one another; there is no room for strife in that dense pack, no space for bickering. Building, egg laying, courtship, feeding and rearing of offspring must not at all or harmoniously proceed.

This primal fact in the corporate life of the species is never forgotten. Even when as happens sudden transient panics seize the entire community, when after a first instant's scared silence every bird clamorous and calling rises into the air—every individual that is, not caught with building material in beak. As wildly agitated though dumb these at any rate are precluded from minglement in the clanging chorus. For sudden scares of this sort, I have never been able to account; they may and do occur when neither man nor grazing beast is near. Out of silence all in a moment rises a wild outcry; the gullery lifts into the air, an effervescence of grey and white. The plaint of a thousand birds hovering, flitting and screaming quickens the river-bed. All

seemingly is confusion, derangement, entanglement inextricable, yet as in other processes of nature however apparently chaotic there is contained the germ of order, so in this instance. That germ is the first laid egg. Already it has decided the future plan, the future architecture, the direction and spread of the bird town; it has become the nucleus around which the molecules throng. About it cluster and crowd individuals just about to lay, about it the circumference of incubation daily expands, about it the oolitic circle thickens.

That first egg is truly the heart of the community. It is the centre from which life radiates. There, as though in defence of it, camp propinquent the egg owners of slightly later date, next to these, birds with completed nests, then those with half, with quarter built structures. Then come pairs guarding unlined sand cups, and outermost of all—dilatatory, dilettante—possessors of mere scrapes. The breeding area grows in fact by accretion, divaricates from the centre outwards. When therefore panic occurs, impulse is of exterior origin. The edges of the gullery first rotate, the birds with least to lose first quitting earth. During penetration to the heart of things, it proceeds to arouse in turn each ring of the community, primarily the holders of ground only cupped, then the possessors of quarter and half-built nests, then those just about to lay, then at length the incubating birds, latest of all by fractions of a second the matriarch, the owner of the primal egg.

Again in the swift subsidence of the assemblage's alarm that brown inaugural egg shows up once more as central fact. Money speaks. Instantly almost, instinctively, the sense of values obtrudes itself on the wildly flying inchoate horde. A partially incubated egg is worth more than an egg, an egg is worth more than a nest, a well-lined nest is worth more than one partially built, a cupped beginning is worth more than a scrape in the



Banded Dotterel



Banded Dotterel

sand. Primarily, therefore, the birds fall soonest and thickest to the centre—to the loadstone egg—the hub of their little world. Alighted, alighting and low in air, the big bird bubble subsides as it has arisen, funnel shape, a waterspout of wings waisted like a balloon, thicker above, attenuated below. It is order in chaos, method in confusion, begotten of that subconscious care for the race so deeply implanted in the individual. This seemingly so broken a confusion in birds, their rise in air, their fall to earth, is truly in its stages as exact and un-deviating as any chemical process. Arouse these Black-bill Gulls a thousand times and rearrangement will occur on precisely similar lines.

CHAPTER XV

THE BANDED DOTTREL

ONE of the boons of old time travelling—at first, on the narrow pack trail, later on the unmetalled clay road—was leisure to observe. From horseback in the 'eighties and in the 'nineties at the staid and demure pace of animals either terminating a long stage of bad road or about to face the same, the writer has for more than fifty years watched Banded Dottrel on the beach betwixt Petane and Tangoio in Hawkes Bay. Their comings and goings during autumn and winter appear to have little to do with local weather conditions; sometimes the birds are on the beach and sometimes not. Every year, however, a few couple lay and, what is surprising considering the stock traffic—droves of thousands of sheep passing over their breeding grounds—manage to hatch and rear their broods. On my own sheep station the species was unknown till ploughing began. On one occasion, after prolonged nor'-west gales I returned from Stewart Island to find several hundred acres of brairding turnips withered up and blown away on the loose soil. Of this barren looking desert many pairs of Banded Dottrel had possessed themselves; doubtless they had been attracted by the appearance of what must have seemed to them a glorious sand dune. They have never quite relinquished this newly acquired territory; a few still every season breed on the place. All goes well in nidification when dry localities growing a scanty turf are selected for nesting sites. Sometimes, however, recently ploughed alluvial ground temptingly rolled and harrowed into the semblance of a Sahara, is chosen. There later the parent birds must be nonplussed by the rapid transformation of their desert into rape or turnip crops. Everywhere in fact through New Zealand on

light land, beach and river-bed, are Banded Dottrel to be found. I have got them far afield in the South Island under the great ranges, on the central pumiceous areas of the North Island; even in Stewart Island, though never on the islets south of it.

Unlike the Wrybill that loves as a safeguard the central spits and islands of some snow-fed river, the Banded Dottrel prefers drier, higher-lying shingle deposits. Where rounded boulders are cemented up to their necks in sand; where open plains of lichen and cushion plants with here and there a clump of prickly scrub extend, there may the Banded Dottrel be watched. On any such locality may the nest be found in late Spring, sometimes the eggs bare among stones, where hardly a scrape seems to have been required, sometimes on shingle where pebbles approximate in size to the eggs, sometimes in sand with or without a few supplementary bents or bits of withered herbage. Two or three eggs are laid—I have found four. The male is easily distinguished from the hen by his more showy plumage.

If in mid October on almost any river-bed in New Zealand, the observer will be content to sit perfectly still and watch, he will soon spot a hen Banded Dottrel. If she appears to be alone, trotting hither and thither, with seemingly aimless runs and chirrupings, less emphatic than usual, and if these perambulations seem to centre round a particular spot he may be sure there is a nest in the vicinity containing fresh eggs. Should the young be hatched and hidden both parents will appear alert and running fast from spot to spot, or flying overhead and around with cheepings and chirpings incessant. If walking backwards an eye is kept on the birds, the male will be seen watching and keeping guard whilst the hen gets her chicks away to greater and greater distances. Always, I think, the chicks are kept separated from one another.

CHAPTER XVI

THE WHITE FLIPPERED PENGUIN

(*Eudyptula albosignata*.)

ALTHOUGH I have but little to add to what is already known concerning this penguin, yet at any rate it will be good news to all who are aware of the diminution in the numbers of our native birds—not to say in the numbers of our species—to know that the breed yet exists on the coasts of South Canterbury, in tens of thousands. We worked from Akaroa, but were told by local observers that White Flipped Penguins were equally plentiful in other bays and inlets of Banks Peninsula. About that I can say nothing personally, nor have I knowledge of how far afield the species may wander during autumn and winter. The single White Flipped Penguin in fact seen by me elsewhere than at Akaroa was a bird picked up dead in December near the light-house on Cape Farewell Spit; it was, however, an immature specimen and may therefore have been washed out of its natural habitat by gales and heavy seas.

We discovered birds breeding in Akaroa harbour during September, October and November. Their nesting sites were of three types, beneath and between piled boulders lying just above high-water mark, secondly, on steep dry slopes where shallow burrows could be scraped, lastly and chiefly, within the far interiors of caves rising inwards till ceiling and floor narrowed almost to vanishing point. Two such great caves were explored though little or nothing was seen of the birds themselves; judging, however, by signs of traffic on the dusty shelves and ledges, by guano deposits and by the peculiar smell pervading the atmosphere, we believed that enormous numbers must be incubating their eggs out of sight.



White-flipped Penguin's egg



White-flipped Penguin

There are certain burrowing and cranny loving species such as the Kiwi, the Petrel, the Penguin and others, about the intimacies of whose breeding habits little can be learned. An X-ray apparatus is required to tell how such birds really sit, how they incubate their eggs, how they care for their young. Except by the hardy field naturalist standing on his head, like a rabbit in the act of disappearing into its bolt hole, or by sprawling on his stomach, is anything at all visible; moreover, as can be well imagined, to glower in this way at an incubating bird, to spy on it in this outrageous manner as through a keyhole, is not the readiest way to invite full confidence. Even what is seen, moreover, is not the normal appearance or expression of the Penguin any more than what is seen by the bird is the normal appearance and expression of the man. Boulders and slabs of rock, all of them misfits to the ribs and abdomen, fail to show the observer at his happiest, fail to show him as his own bright self. With dolorous, exasperated countenances do the two creatures—man and bird—exchange a duel of looks.

In its breeding habits, choice of nesting site and general behaviour as thus obscurely scanned, the White Flippered Penguin resembles the Blue Penguin (*Eudyptula minor*). The nest of each is constructed of sticks of considerable size and weight, the sea wrack and debris of the tides. The breeds differ, however, in size of clutch and appearance of eggs; that of the White Flippered Penguin being oleaginous like that of the Duck family whilst the two eggs of the Blue Penguin are rounder and, as far as my memory serves, chalky, and in Stewart Island at any rate sometimes showing a minute diffused spot of green at the thick ends. One breeding chamber only of *Eudyptula albosignata* contained more than the single egg and in this case the extra egg had been displaced and had become lodged in a

crevice where incubation was physically impossible. Both species manifest their annoyance by small nervous movements as if swallowing on a dry throat; purring and growling are symptoms of extraordinary irritability in an anyway irascible character.

Sometimes both birds may be discovered together within their draughty nesting space; on one such occasion whilst with great care stones were being removed to facilitate photography, one of the pair, becoming scared, retreated seawards, diving easily and smoothly into the shallow water. It was gone, we thought, not to return, for a bird thus frightened will very rarely come back at once to mate and responsibility. Our Penguin, however, proved the rule; it did reappear almost immediately. Penguins bite savagely, and as gauntlets were not procurable in Akaroa sometimes a pronged stick was utilized in the manipulation and setting aside of intervening stones; this instrument was by the birds at once discovered not to be the disturbing agent but only the tool of the disturbing agent and as such disdainfully endured.

With these meagre data I leave the reader to draw what conclusions he may choose concerning the social habits and the intellectual perceptions of the White Flippered Penguin.

CHAPTER XVII

THE ROCK WREN

(*Xenicus Gilviventris*.)

THE two following chapters on the Rock Wren and the Little Grebe take us to localities far apart, to the wilds of magnificent Westland National Park and to the more modest beauties of Tutira Lake. Some twenty-five years ago, walking from Te Anau to the Sutherland Falls, I had noted on a certain flat-topped rock not far from the top of McKinnon Pass a brace of tiny brown birds—Rock Wrens they were—curtseying, ducking, and telescoping, exploring the rocks, appearing and reappearing from crannies, fissures, ledges and chinks. More rarely from time to time brief flights were taken, but always the little fellows returned to their boulder as to an established home. I had been thrice across the world since then; war had altered the boundaries of half the States of the Old World; in a dozen departments of human thought science had revolutionized the conceptions of men; yet in the immediate vicinity of that same rude platform the small Rock Wren had managed to maintain his steadfast hold.

When in 1912 these wilds had been visited it had been Autumn; now it was full Spring on the mountain-sides. The gritty peat slopes were lightened with innumerable blossoms of the mountain-lily. As single plants or in great irregular clumps, their white flowers high above the deep-green shield-shaped leaves dotted and streaked the dips and falls. Among the stone and broken rock debris, often on the very edge of the track, flourished grey silvery *Celmisias*, some flat on the ground and woolly with soft tomentum, others low shrubs; there were stiff, straight-stemmed *Dracophyllums*—plants no

blast can bend or gale subdue, laden snowberries, prickly heaths, tiered ourisias, pubescent or smooth, whipcord veronicas, tough stringy brooms, scraps of the vegetable-sheep plant, geums with delicate cherry-like blossoms, berried astelias, spear-grasses, violets, gentians, edelweiss, mosses, and lichens. Mats of wiry high-country grasses still lay prone on the ground, flat from the pressure of the previous Winter's snow. The countryside was a huge rock-garden, with an outlook such as no artificial rock-garden, from the nature of things, can ever possess.

Looking downwards from the top of the pass, the bases of the mountains stood precipitous, sheer, unscalable; above the actual perpendicular cliffs there were grey naked steeps where no fragment of rock rested. Stripped by the elements even of grit, the broken ridges of the great range lay bleached and bare. Here and there whole mountain-sides had slipped in tumbled avalanches of broken rock, each of them for ever still, after its one tremendous rush. The little river, no longer muffled beneath its blanket of snow or dumb in emerald ice, sang its gay summer song. So steep was the descent it seemed as though a stone could have been dropped on to the tree-tops hundreds of feet beneath.

Birds move so little from localities once discovered to be suitable, that I had determined in my mind that the breeding-quarters of one pair at least of Rock Wren would be found near the spot where I had noted them in 1912. I had expected, furthermore, that the nest would be discovered, if discovered at all, built in some dry rock-cranny—in some such site, in fact, as is selected by the Bush Wren (*Xenicus longipes*)—stone, of course, taking the place of timber. I had pictured an unsubstantial domed nest hidden away within shelter of dry rock.



White-flipped Penguin, Akaroa



Rock Wren

We did discover our first pair of breeding birds on the summit of the pass, on the very edge of the track, so near that our camera legs straddled it; our photographic gear blocked the King's narrow highway. At first this was believed to have been a pleasant piece of good fortune; afterwards, when the nestlings were found to have been destroyed, we altered our opinion. We thought then that perhaps had we got a nest farther removed from the path an accident of this sort might have been less likely to happen.

On the top of the pass, first of all we noted a single bird; then that bird, or another, was detected with food in its bill; then the goings and comings of the pair were localized, yard after yard of untraversed ground being discarded from our field of vision. In this most fascinating of all games we grew "warmer" and "warmer," until in the end my daughter unravelled the mystery by detection of the faint, faint rasp of eager little feeders; searching still more closely, one of the parent birds flew almost into my face. As there were half-grown chicks in this nest during the last week of November, and as I found another pair carrying food about the same date, eggs are probably laid in the beginning of the month.

The orifice of the nest pierced into a fribrous mass of overhanging roots. Partly within and partly beneath this densely matted live growth was built the nest. As we discovered afterwards when ransacking the deserted structure, its remarkable bulk was composed of skeleton leaves, finely shredded grass, and feathers. On this comfortable cushion—the feathers were laid most thickly on the bottom of the nest, or, rather, within this over-arching bower—reposed the chicks.

Of the 791 feathers counted, over seven hundred were those of *Ocydromus australis*, and perhaps those of *O. finschi* and *O. brachypterus*. There were feathers

also in considerable numbers of the Kakapo and Kiwi, showing how high these species ascend in their alpine wanderings; there were also a few kea and a few pigeon feathers. When counted by us, in spite of desertion and the deluges of two preceding days, the interior of the nest and the feathers themselves were fresh and sweet, they betrayed no signs of mould or damp.

Unlike the Bush Wren which is constantly taking dry feathers in and wet feathers out both during incubation of the eggs and rearing of the young, the Rock Wren seemed to prefer to make a thorough job at the beginning. Warmth and dryness are attained once for all by bulk of material, the natural oil of the feathers massed together helping to exclude any dampness that might penetrate, firstly, through the live root-mass, and, secondly, through the exterior shield of shredded grass and skeleton leaves.

The powers of flight are greatly superior to those of the Bush Wren, with which species I have fully dealt in another volume. The Rock Wren can fly comfortably fifty or sixty yards—downhill certainly, but with a sustained easy, unlaboured movement—no fern-bird's feeble flutter. The Rock Wren, too, is much less of a ground bird in its search for moths and other insect life, often alighting upon and exploring the rounded tops of the shrubby hillside veronicas; the curtsey or bob, and then the tip-toe telescopic elongation of the little fellow is also more pronounced. However little differences museum specimens may show, there are well-marked dissimilarities in the live representatives of *X. gilviventris* and *X. longipes*.

Watching the birds at work, we noticed grasshoppers and big whitish spiders carried in for the hungry chicks; more rarely a worm was secured by scratching the drier surfaces of grit and peat. The nest was visited by one or other of the parents about every ten minutes. During

the operation of feeding, or perhaps in eager anticipation of the event, the nestlings would emit an almost inaudible rasping cry like the faint winding of a lady's wrist-watch.

Of the several days devoted to observation of the home life of the Rock Wren the first alone gave us passable weather. The second was so bitterly bleak that our numb fingers refused their office, entire loss of feeling preventing pressure of the shutter-release. The third day, doubtful from dawn, developed into a terrific gale; torrents of icy rain fell, every precipice and bare slope was grey with innumerable waterfalls, white ragged clouds climbed the cliffs and tore over the tops—really an almost terrifying storm. In weather such as no man ever did bird-nest in before, or, I should imagine, ever will again, I persisted for a couple of hours; but, though I came within a few yards of a second nest, cold and misery would not let me rest quiet, and the birds remained unsatisfied as to my presence and refused full confidence. I never found the tiny entrance of that second nest, but, at any rate, discovered that the little pair seemed in no wise perturbed by blasts that nearly whirled me from the mountain-side. No doubt during hundreds of centuries the species had become inured to the climatic conditions of Westland.

Xenicus gilviventris, I am glad to think, is one of the species likely to survive changes that from the forester's and field naturalist's point of view have desolated New Zealand. The ravages wrought elsewhere by deer, rabbits, opossums, birds, and other imported vermin are unlikely to affect the welfare of the Rock Wren. Even weasels and rats—and I know they ascend to great heights—are hardly likely to draw sufficient recompense in prey from such unpeopled solitudes. Plant life, furthermore, in these high altitudes and in this shower-bath climate is certain to remain undominated by an

alien flora. The vegetable kingdom thus unaltered, native insect life is consequently secure. With cover and food supplies unmodified, the Rock Wren may be considered relatively safe.

To this species, as to others threatened by the inroads of civilization, climate! climate! climate! when all else has failed, remains a tower of strength, a city of refuge, the shadow of a great rock in a weary land. The assets of the Dominion are by no means limited to warmth of sunshine and refreshment of shower. In the wilds of New Zealand fierce gales, tempests prolonged, torrents of rain, perpetual wetness, spell salvation to many an interesting breed; "O ye Frost and Cold, O ye Ice and Snow, O ye Mountains and Hills, bless ye the Lord, praise Him and magnify Him for ever!" must be the canticle of our little mountain Wren.

CHAPTER XVIII

THE GREBE

(*Podiceps rufipectus*.)

Two and sometimes three pair of Grebe bred on Tutira Lake in the 'eighties and two and sometimes three pair still continue to do so, but although sought for fifty years never yet have I found the half-floating, half sunken platform that serves to support the damp eggs. Eggs, however, I have recovered by diving in water of ten or fifteen feet. They were fresh, three or four in number, white, rather long in shape, the shell rough and chalky like those of some species of Shag and tinged with the very faintest suspicion of red. The breeding grounds of Grebe on Tutira have always been on the western edge of the large lake. There, the banks are steeper than elsewhere, and it is to this circumstance that I attribute my inability to locate the nests. One pair of Grebe for several successive breeding seasons, I used to watch in one particular locality. The water was deep to the very edge of a *papa* ledge that on this spot rimmed the lake, too deep to support more than a sparse fringe of raupo which was easily penetrable to the eye from above. It was impossible that a nest, even such an affair as Grebes satisfy themselves with, could have been concealed on the water surface yet, thereabouts, the birds were continually to be noted cruising singly or in pairs, and thereabouts also they afterwards mothered their brood of Grebelings, no bigger than bobbins. Where, moreover, I had obtained the submerged eggs already mentioned, no floating water weed or reed growth could have harboured a nest. The clutch of eggs visible on the bottom and for which I had dived had been in some way or another scraped out, or rolled out, or washed out

from the bank above. Grebes must therefore, I think, on occasion build on shore or perhaps locally follow up one of the not infrequent holes at water level out of which great tree boles have rotted, leaving in the tenacious *papa* clay long canal-like havens. One other possibility I submit to the reader. It is founded on what I have twice observed on shallow lochans in Scotland; a batch of four or five eggs of some species of water fowl deposited well out from the bank, close to one another on the peaty bottom. Repetition of the same performance on the same spot is amongst animals by no means an uncommon occurrence, as can be noticed in the mating of birds, the sexual act preferably performed within a foot or two perhaps of the original trysting place. It is possible, therefore, that for some unfathomable reason the Grebe eggs alluded to may have been laid on the water and not as I have suggested been ejected from some hole in the bank.

Grebes on Tutira are visitors, not residents. They arrive in mid or late autumn and broods of two and three may be seen from mid-winter onwards. Whence the mature birds come and where they go I have no idea. The specimen from which the photograph is taken must have been flying in from the west, from the direction of the great lakes of the North Island volcanic area. It was brought in from the forest on the Maungaharuru Range. What the little creature was doing, unless temporarily disabled by accident, at the height of 3,000 feet and amongst trees is hard to imagine. When liberated and sporting and splashing in a full-filled bath it seemed in perfect health. Afterwards it was photographed in a basin and finally when liberated in the lake instantly dived and disappeared. Grebes mate, not on the water, but on the land. Alone of the Tutira water-fowl this small species continues to hold its own in numbers.

CHAPTER XIX

THE KERMADEC GROUP

WE have now reached the last section of this little volume. It will tell of outlying groups north and south of the mainland. Of these we can take the Kermadecs first, although I am not unaware that they may lie outside the biological orbit of the Dominion. The reader is asked to condone the heresy as simply another lesson in the geography of the Antipodes. The Kermadec Group, distant from Auckland six hundred sea miles, comprises a little over eight thousand acres. The largest of these parcels of ground is Sunday Island, or as it was originally named by the discoverer, Admiral D'Entrecasteaux, Raoul Island. The Herald Islands, though much smaller, are nowadays at least as interesting for on them nature remains as in times prior to discovery by Europeans.

The whole of these islands and islets are volcanic, and, speaking geologically, of recent date. They have been pushed up from great depths on one of the world's huge linear fissures. A straight line drawn from Ruapehu, on the mainland of New Zealand, through White Island in the Bay of Plenty, continued through the Kermadec Group would, if extended, eventually bisect Tonga and Samoa. Although I believe there is some sort of dubious unlikelihood in the presence of certain syenite boulders upon which the theory of a continental area might be based, yet the weight of evidence points to an exclusively volcanic origin. Sunday Island, the Meyer, Dayrell and Chanter Islets are in fact the tops of mountains appearing above the sea. They are composed of lava and tuff ejected on this great seismic line.

The Sunday Island craters show traces of activity at the present day; certainly they have been in action within

very recent dates. In one of these outbursts ornithologists have a particular concern. It quickens the fancy to realise that within quite modern times an overflow of mud has been fatal to a Megapode that lived in the old Sunday Island crater. Buller has an actual illustration of this mysterious fowl in the supplement to his "Birds of New Zealand." Truth, however, to tell, it is a question whether any specimen has ever been seen by mortal eye, or feather or scrap of bone unearthed. Our New Zealand claim to the honour of a Megapode depends on the statement of "a Mr. Johnston," who resided on the island prior to the eruption of 1876. He has stated that a bird "inhabited the floor of the large crater which made mounds of sand and decayed leaves two or three feet high, laying its eggs on these accumulations, and that he was in the habit of visiting these mounds for the sake of the eggs and young birds, and has frequently taken five or six of the latter from the nest at once time." The eruption of 1876 covered the floor of the crater with mud very similar to that ejected during the eruption of Tarawera, and in it the Megapode apparently perished. In some degree, however, substantiating this statement of Mr. Johnston, it is certain that a Megapode does exist at the present day in the crater basin of Minafow, one of the Tongan islands, not more distant from Sunday Island than Sunday Island is from the mainland of New Zealand.

Other than this problematic Megapode no endemic species exist on the Kermadec Group. It has been populated by transoceanic migration, though surely the presence of the Megapode requires another explanation, one I think furnished in the pamphlet of a Cambridge friend. In this paper he suggests that the Megapodes were carried about by the wandering Polynesians as we do our domestic fowl. Wild as these mound builders might remain, rearing themselves without human care, feeding



Little Grebe



Amakura, Meyer Island

themselves, unhoused in the forests, their nesting sites once located would never be forgotten. The eggs would be permanent sources of food supply, *tapued* probably to some chief. Each year at the proper season these wild-wood hen houses would furnish an unfailing store. We know that Maoris declare that their forebears conveyed to New Zealand the Pukeko, the Polynesian rat, as well as many plants for use and show; there is, therefore, nothing inherently improbably in the acclimatisation of the Megapode on Sunday Island.

Before the eruption of 1876, which destroyed the bird so dear to the enthusiastic Buller, and drove out Mr. Johnston, Sunday Island had, during different periods, supported various families, these settlers always, however, in the end being evicted by volcanic outbreaks; thus the scant population successively fled from the uncanny neighbourhood in 1847, again in 1853, and once more in 1872. At the last of these dates two craters became active and an island was thrown up in Denham Bay, of size sufficient to form a shelter to vessels anchoring under its lee. Five years later this elevation had become a shoal, and to-day only the Wolverine Rock, over which the sea breaks in ordinary weather, remains to attest the violence of the eruption. In 1878 Sunday Island was again inhabited, a family remaining on it for a period of nearly thirty years. It is at present deserted and likely to remain so. Macaulay Island, Curtis Island and French Rock, also visited by us on this trip, are all of volcanic origin—Macaulay Island, roughly circular in shape, and a mile and a half across, Curtis Island simply a cone, one side of which has been blown away or broken off by the sea, and French Rock a mere speck in mid ocean.

Leaving Auckland late on an afternoon in early April, the "Tutanekai" that night lay off Little Barrier Island. There, in deep water opposite West Landing

she rolled uneasily till dawn—a strong nor'-west wind blowing. Eight o'clock the following morning found us near the Chicken Light erected on the easternmost islet of the "Hen and Chicken" group. Although, I am informed, the Saddleback (*Creadion sp.*) is common on the "Hen," and though the various minor islets of the group are in close proximity, it happens, remarkably enough, that it is only on the major island that that rare species survives. About our Lighthouse isle, there was nothing particularly noteworthy. It wore on the north and west the usual covering of waist-deep, wind clipped manuka, whilst the richer, less arid ravines supported a shrubbery of deeper green. The huge leafed *Puka*, which now I saw wild for the first time, was the most conspicuous small tree of the island. Along the narrow path leading to the Light, and used for the transport of acetylene cylinders, grew the usual aliens parasitic to man; in great luxuriance *Lotus angustissimus* flourished in that miserable soil; there were also several poor land grasses, sorrel and other weeds.

After two days of discomfort during which melancholy confidences were exchanged between my daughter and myself, as to the respective merits of ocean and dry land, and bitter speculations, not for the first time propounded, as to our own sanity in leaving terra firma, French Rock was sighted; here, as at other landfalls in other expeditions, the magic call of an unknown shore revived our drooping frames.*

Next morning Sunday Island was dimly visible. It, at first, I did not see, being occupied in the discovery for

*It was during this gale that one morning, arranging my daughter's pillows, I was aware of something beneath. Her Bible, thought I—good lassie—she reads her "portion" even in the worst weather—and then to improve the occasion—young things love to have the occasion improved to them—"We are in His hands and . . ." "Oh! no Dad," she hastened to interrupt, "It's my brandy bottle."

myself of a stupendous new countryside. Sombre it lay in forest breadths, high in unbroken snow rose its mountains, rifted were its slopes in gorge and river-bed, fertile and fair its rolling downs. Like Khubla Khan's stately pleasure dome decreed, it was a miracle of rare device, but all too quickly I became aware of its unsubstantiality—in my life I have seen many marvellous cloud effects, but few indeed to equal this. Subconsciously perhaps the realism of its ranges and snow-clad summits had been evoked by a mind dwelling on a rock garden in course of completion at home. My vision, like that of Coleridge, passed away; I was left lamenting the world's loss of a magnificent new Alpine Flora.

The whole surface of Sunday Island is covered with forest of medium height, excepting where landslips have avalanched downwards, sweeping all before them, or where by ejection of volcanic mud growth has been temporarily wiped away. Of these woods the finest feature is the Kermadec Palm—*Rhopalostylis Cheesemanii*.* At the western end of the island a rounded hill

* *R. baueri* it used to be called when I was younger, and a cruel business it is this change of names as memory becomes less retentive. Until recently I had thought it merely arbitrary, really putting in time when museum folk had nothing else to do, a sort of holiday task. "Why can't you people leave names alone?" I had asked Falla one day when showing him a fern plant at the Auckland Museum. "Leave them alone and lose our jobs?" he had replied. "We are driven to it." "Driven to it?" "Yes driven to it by you sheep-farmers; you are so intelligent. We do it in self-defence; we change the names of animals and plants to baffle you. It has come to this that only knowledge of the latest fashion in nomenclature divides the sheep-farmer from the scientist. We have educated you till you have grown a menace, you have learnt all we can teach, our departmental leaflets on sheep-farms have displaced other literature, they have become the preoccupation of the station study, and Latin the language of the sheep-yards. Then our broadcasts too—why, nowadays, there is not a squatter who does not know that blue stone is not really blue stone at all, and never has been, but sulphate of ammonia, that blackberry snow is sodium chloride and sheep drench carbon tetrachloride." Then he proceeded with increasing agitation: "It's too bad; you sheepfarmers

nearly 800 feet high with steep cliffs on the seaward side marks the position of an old volcano. In 1887 apparently there was but one lake. Oliver mentions in 1911 two; in 1929—the date of our visit—these still remained. There are two landing spots, elsewhere the coast is guarded by precipices from two to five hundred feet high. The old neck or throat of the volcano is still to be traced in the solid lava of the western cliffs from whence the various beds that form the island slope away to the east; the lowest is a hard andesite lava; above it comes a deep bed of light coloured pumiceous tuff full of blocks of pumice, obsidian and andesite for a depth of two hundred feet. After the great crater had ceased its activity, a smaller one appears to have formed on its bottom. With the exception of syenite, found in no great quantity, the islands afford little support to the theory that a continent, now submerged, extended formerly in this direction.

My daughter and I, however, really saw but little of Sunday Island itself. We had elected when the chance came to spend all possible time elsewhere. We trod Sunday Island consequently on narrow breadths of shore line and mainly viewed it from the deck of the "Tutanekai."

During the first unpropitious morning, the ordeal of delay was lightened by a short run in the launch. Ostensibly this trip was undertaken to view the possibilities of Meyer Island. We preferred to ascribe it to the humanity of the skipper, for at once it was but too evident

have seized all the best land in New Zealand, yet now you are dissatisfied with the stations in life to which Providence has called you, you want our jobs"—his voice quite trembled as he spoke; "but sooner than see our wives and little ones begging their bread from Bob Semple at a minimum of forty shillings a day, we will trot out every animal and plant in New Zealand and adamise them afresh. Yes, just as Adam did and just as arbitrarily." He was not in a pleasant mood. "Take your old fern," I heard him mutter, "and go on calling it 'Low Maria' to the end of time."

that landing was out of the question. Although, however, disembarkation was impossible, we saw during our brief voyage, sometimes within a few yards, the Tropic bird, the Masked Gannet, the White-capped Tern, the White Tern, the Little Grey Noddy, the Sooty Tern, and quantities of the Winter Petrel. The last species, so named because of the date of their arrival on the island, were evidently breeding in great numbers. We were sanguine, too, in regard to the Tropic Bird. From their manner of flight and mode of alightment it was certain that some pairs at least retained shore interests.

Later that same day Western Bay was visited. It had been hoped that passengers, if not material for the depot, might have been landed. This was not yet to be, so, proceeding to Boat Harbour there first we stepped, or rather floundered ashore on the slippery rocks of Sunday Island. In the beach pools, rock-fish were in abundance, enormous limpets stuck to the great ocean-worn rounded boulders, slimy sea eels of chestnut hue wormed along the bottom, red clawed crabs in multitudes clambered and clung to the wet perpendicular rocks.

Here, with but a few yards betwixt precipice and sea, there was no bird life, but many of the ferns were new; we spent some time, too, in unsuccessfully searching for the large red drupe of the glorious Kermadec Island Palm. Conspicuous on the cliffs, like tree butts that only require the saw and plane to unfold their tale of years, strange lava "pillows" attracted our gaze. Flat and even with the face of the cliffs they lay embedded in the jumble of shaken deranged volcanic debris; from the seemingly hard wood centre of each of these remarkable mineral agglomerations, a star-like radial arrangement suggested effects as if of decay in long weathered logs.

Next morning, though formidable rollers still whitened the steep beach at Western Bay, landing was

pronounced possible. Taking advantage of the long smooths between each breaker, the surf-boat was worked with a kedge dropped astern far from shore, and steadied with ropes from the bow by men on the beach; with the receding wave our boat was hauled shoreward, with the incoming curl it was dragged to sea; thus we landed and thus we re-embarked with nothing more than a partial wetting, pleasant rather than otherwise, in the heat.

With several hours available we stood on an explor-able coastal area of Sunday Island; but alas for the proverbial fly in the ointment; lovely as is the island in its half tropical luxuriance, its charm nevertheless is depreciated to the naturalist by the presence of goats and pigs and by the settlement at several different periods of several different families, each of whom has dragged in its wake unwanted weeds; it grated on our feelings to note, for instance, the *Ngaio* woods of Western Bay carpeted with our garden *ageratum*, to discover that on the cliffs opposite the landing, goats had eaten every scrap of a certain rare *veronica*.

High on these cliffs, however, Tropic birds could be distinctly seen settling on their nests. On the long beach below, full grown chicks of the Sooty Tern still haunted their breeding quarters, more of them dead than alive. In plumage mature enough for flight, their carcasses lay on the sand in scores and hundreds. One poor starved chick I remember coming up to my daughter's outstretched hand, for desperate creatures will to desperate possibilities resort. Nearly all, however, of the survivors when approached fell over from very weakness. There was no indication of the constant currents of busy food bearers flying to and fro that gives such a pleasant air of liveliness to a vigorous ternery. Some disaster may have occurred on the local feeding grounds, some minor tidal wave such as there did seem to be signs of in the recently devoured flats and in the line of coastal

trees with tap roots recently uncovered to the depth of twenty feet or more. There was merely a sprinkling of parents about this stricken beach, a bird now and again flying in from the sea; personally, I never saw food pass from old to young—my daughter only once—some immedicable desperate substitute—certainly not fish. If any old birds stayed in the vicinity it was not for what they could offer but from an instinctive disinclination to leave their youngsters whilst still alive.

Years ago on one of the islands east of Stewart Island, I recollect a similar instance of starvation on a vast scale—not on that occasion, however, in a Tern but in a Petrel congregation. The Kuaka or Diving Petrel was the species affected; not scores and hundreds, but thousands and tens of thousands of young birds in their grey down had crawled through starvation, prematurely out of their burrows, and lay dead thickly over the whole island. In appearance the Sooty, or Wide-awake Tern, is grey or greyish above with a black cap, a white dot over bill, white throat and neck; it is white below, has a well marked, forked tail in which, when flying away direct, the outermost feathers, or part of them, show white, the legs are black. On this beach, too, at its northern end, appeared high in the air from time to time three or four pairs of White Tern.

Although they do certainly breed on Sunday Island their numbers, according to Captain Bollons, have always been small. On land we were never very near to them—our best view had occurred during the previous day's trip of inspection of Meyer Island.

Of the rat inhabiting Sunday Island no single representative was procured; one only was seen alive; a dead specimen picked up flat in decay was all we saw of the species. These rodents are supposed to be of the Polynesian breed, and identical with the *Kiore Maori* of New Zealand, at one time considered a great delicacy and

trapped in huge quantities by the old time natives. According to members of the Bell family, who were resident on Sunday Island for nearly thirty years, these rats hibernate during the winter, reappearing in summer to work havoc on fruit and maize.

The evening on board was a lovely one, the air warm and calm; from the open hatch came the joyous shouts of the crew as they hauled in groper and kahawai, two fish on a line, of course, always eliciting extra mirth and extra vociferation. I must say that a sprinkling of Maoris in a crew spells smiling countenances; theirs is something super-added to the jollity even of normal sailor folk on shore. Amongst this race at any rate there is nothing of our Pakeha gnawing, rat-like, furious, ferocious energy, our disgusting concentration on material gain. I believe there is such a term in the navy as a happy ship. The "Tutanekai" was pre-eminently a happy ship. Again and again we noticed how the crew were companionable and helpful to one another and how the officers gave all in turn a chance of going ashore. I can imagine indeed no better chance for a boy than several years on the "Tutanekai"; one lad indeed there was on board whose grandfather and father had both worked under Captain Bollons. A youngster there learns not only what he learns nowhere else in New Zealand—discipline—but he also gets adventure differing in degree with every gale and tide, a proper alternation of work and play, a storm and fair weather acquaintance with every promontory and lighthouse in New Zealand; but what would the "Tutanekai" be without that highly original personality—her Master? When shall we look upon his like again, where shall we listen to such lore of the sea? Who like he could regale his trembling passengers with every casualty on the coast from furthest north to furthest south, from the Three Kings to the Macquaries? Who like he could describe the name of



Amakura panting, Meyer Island



Tropic Bird and youngster, Meyer Island

every deep sea shell, the history of every craft afloat, the nomenclature of every rock and reef, of every bay and cape? If the distinction of the Imperial Service Order lately bestowed on Captain Bollons pleased the recipient it must have delighted, besides, every good fellow within sniff of the sea.

Next day shortly before noon the sea had moderated; the choice was then offered us of Meyer Island or Sunday Island—the former was of course our selection—fortunate island in being waterless, therefore not fouled with humanity and therefore goatless, pigless, and innocent of such iniquities as *ageratum* and “buffalo grass.”

Hopefully, we stepped into the launch, eagerly we scanned the Tropic birds and Winter Petrels wheeling and gliding over their nesting sites. Transfer from the launch to the boat was the work of a few moments, in a few more we found ourselves in a little harbour, formed as far as I can remember by projecting lava dykes and rounded boulders that broke the full sweep of the sea.

Will it be credited that the first word syllabled on this earthly paradise was “lunch”? Lunch on an unspoiled bit of wilderness with three hundred and sixty-four other days in the year for noontide meals! Lunch! the two of us exclaimed amazedly and proceeded to saturate ourselves in the delight of stroking the quiet birds, of smoothing against our cheeks the warm smooth white egg-shells. What loveliness there is in shell, in unruffled, even plumage, every feather in its place; however small each overlapping and in its turn overlapped, every subtle grade of colour, every pattern distinct, however slight the difference. Excepting eggs themselves, nothing surely can be more dainty than feathers; then what a psychological study in the gradual clouding of the birds’ serenity, in the dawning of an indefinable blind trouble when first the borrowed egg begins to be missed, when first the absence of its accustomed shape and

warmth begin to insinuate itself through the feathering, then again the air of restored tranquillity, of serene satisfaction with which the contented owner shuffles the egg beneath her breast, hides it in her plumage, tucks it below her with her bill—lunch!

At once, just above high-water mark, we had stepped into the breeding grounds of the Winter Petrel, a breeding ground that extended over the whole island. Everywhere were birds sitting on their single hen-sized, bluntly pointed eggs; many in the sun on naked rock, more on the trampled trodden knife-edged gahnia; wherever there was room for an egg there one was deposited. Nests were so numerous that in backing away from one there was difficulty in avoiding another. Each Petrel sat in the open tranquil as any fowl. Beneath the scanty half shade of the woods, on the dead dry tangle of gourd and bean, on the gahnia, on the bare earth, incubating birds were dotted. They were hatching their young on an indigenous flora that had reached the island before man had ever spied it. Recalling the habits of other Petrel, it was pleasant to find a species honestly sitting in the open, to be able to view comfortably the clean egg; a difference indeed to the South Island necessity of grubbing in wet, oily, guanoed peat. Sitting Petrels as I have described, if approached with circumspection will, ninety-nine times out of a hundred, give the intruding hand no more than the merest gentle experimental tweak. Cross grained individual specimens can, however, behave as roughly, and savage the hand as unmercifully as any Stewart Island Mutton-bird. When in ire they do grip, the flesh is spitefully wrenched and twisted till the skin is lacerated and blood flows, as if in fact the birds were aware how the greatest pain could be inflicted in the briefest period.

The normal plumage of the Winter Petrel is brown black above, and white below; birds vary, however, very

considerably; one pair I remember sitting together, venerable in octogenarian greys, that might have almost been thought a different species from the surrounding crowd. Only one chick about a week old was seen, its parent sitting in the windless heat, not on it but alongside. I omitted to notice, so much was there of novelty, if, as in other Petrel congregations, clans and septs had in the general community laid their eggs at slightly different dates.

Meyer Island is steep to climb and would in parts be almost inaccessible were it not for the loosely rooted, scanty Ngaio scrub that offers a friendly grip; an extra, if awkward stability, is afforded by intermittent descent up to the knees or beyond, into burrows of the several troglodytic Petrel species that inhabit the island. Quite unlike conditions of bird-tunnelled land in the southern peats, the surface here is dry and dusty, the texture of the ground free and open. Petrels therefore who lay underground are compelled to burrow deeper as there is little or no vegetation to bind the fast disintegrating surface. Only here and there on such clumps of sere, saw-leafed, cutty-grass as were not appropriated by incubating birds, a few yards of reasonably good footing was obtainable. On the more extensive stretches of bare earth lightly shaded by Ngaio and Pohutukawa only snowshoes would have filled the bill. Without such extension of the human foot we were perpetually breaking through the flimsy roof—or floor—regarded from the point of view of man or Petrel. Germinating as cotyledons or just showing the third leaf, some sort of native gourd or pumpkin was breaking through the loose slopes; otherwise all was dry and sere; we viewed the island I suppose, still browned after the summer and autumn heats.

These details give a rough idea of the lowest section of the slope and hereabouts the little grass-green, blue-

winged, red-headed Parakeets were most numerous. From a distance of a yard or two we could pause and watch them in threes and fours moving in the thin shrubbery, or on the ground raking the sandy grit, one foot at a time with a sideways slow scrape, and in a manner so uncouth as surely to denote a newly acquired and as yet scarcely ingested habit. The numbers of these Parakeets like the numbers of certain small species to be found elsewhere amongst Seal and Penguin communities are directly and indirectly dependent on the multitudinous Petrel of Meyer Island. Directly and indirectly the yearly shedding of down and feathers, the annual deposit of guano, is transmuted into rank vegetation, insect life, and finally into a big head of Parakeets. The middle or waist of the island is the part barest and most difficult to traverse. On the top section the brown, loose-set, easily dislodged rock was much in evidence, its surface scratched and clawed by the traffic of innumerable birds; the whole slope in fact from top to bottom is not unlike a vast irregular scree or series of screees, the downward impulse, however, not chiefly due to rain as is usually the case but to the movements of living creatures. That an island should tend to disappear through the action of its migratory inhabitants must surely be a rare phenomenon in nature, yet Meyer Island is in all sobriety being slowly scraped into the sea through the action of at least four species of burrowing Petrel. Angle of incline, loose material, and dry atmospheric conditions all favour this remarkable erosion. Lava and lava dykes only in the end will remain. The Winter Petrel incubating in the open is wise in his generation—or has he only acquired understanding by painful experience? Has he in the countless ages of the past been forced into daylight incubation by ancestors who have also scratched themselves out of house and home?



Winter Petrel



Sooty Tern, Denham Bay, Sunday Island

Four species of burrowing Petrel were, during April, inhabiting the island; we dislodged specimens of *Oestrelata Cooki*, a solitary representative of *Oestrelata nigripennis*, a third excavator, the Allied Shearwater (*Puffinus assimilis*) was found high up on the island. The fourth species was obtained by a friend; each of the two first named is shown held in the hand. It is the only method to be pursued with burrowing species, and gives an idea at least of the head and bill.

The unknown always offers hope of something new—which profound reflection may serve to preface the appearance of a land bird strange to both of us. It was *Porzana tabuensis*, the widespread Polynesian Rail. From time to time heard on Tutira, it nevertheless had to the writer for forty years remained unseen, “a voice, a mystery.” Now for full five seconds we obtained an uninterrupted view, a long glimpse indeed of an exceedingly furtive species. The bird was silhouetted on a steeply leaning Pohutukawa bole against strong light which, whilst but little affecting the tone value of the blue-black plumage, lent a strange wonderful semi-transparency to its long, slender, cherry-red legs. Much can be absorbed in five seconds, for now either of us can at any time visualise this minute rail daintily perambulating the scaly trunk. In vain we prepared the camera, we had been seen; at once, but in no undue haste it scrambled into the higher boughs, moving along them just as my Tutira Pukeko—*Porphyrio melanotus*—climb the willow trees. Long after our Rail was lost to the eye its peevish cry, so reminiscent of its large relative, could be faintly heard in the thin, dim under-wood.

We had been informed that there bred on Meyer Island a colony of White-capped Noddy (*Micranous leucocapillus*), but though that ornithological item had been registered as an interesting fact, it had not been

considered likely that so late in the season traces of their breeding grounds would still exist. Now, peering through the open undergrowth our pleasure was the greater in the discovery that not only had we been fortunate enough to strike the Ternery, but that it was still inhabited. Seated at a deferential, respectful distance, we watched the eight or ten or twelve birds nigh enough one another on their chosen trees to be dubbed gregarious. Whether they were fully matured young specimens or whether they were old birds newly arrived and holding the patriarchal sites for future use I know not. One of them, twice ousted from its nest, twice returned, hardly the action of a full fledged youngster. Some of them sat, some stood on two legs, some on one, head under wing and so fast asleep in this attitude that it was possible to capture them. Whilst watching, we became aware—each independently of the other—how the slightest change in position obliterated on the cap and head its dissimilarities of black and white; with certain movements the whiteness became invisible; to the onlooker's eye it became black, indistinguishable, that is, from the rest of the plumage. Then again the white would reappear, re-emerge, till it became impossible to imagine the two colours except as perpetually and enduringly in vivid contrast.

On Ngaio trees projecting from a steep section of dusty hill-side the nests were built. These strange structures seemed plastered rather than balanced on more or less horizontal branches, mostly on naked branches, indeed the normal choice was a round, perfectly smooth, twigless, mossless, lichenless bough, the girth or less of a man's upper arm. Forked sites though in use did not particularly seem to have been sought after. The plastered appearance of the fully used nests may well have been the result of guano trampled into the nest material, finally glueing it on to the bark. What a

miracle, however, must have been the creation of a new nest, the fresh construction of one of these spilliken heaps where only the most delicate manipulation, the utmost precision of balance could have ensured completion; how finical must have been the arrangement of bits of dried stick, thin slippery grass blades and crinkled leaves, stirred by each breath of air, poised one by one on a smooth, bare, round bough.

The general plumage of the White-capped Noddy is black, but an extra touch of colour is provided in a yawning bird, the gape being of a bright orange hue. The ground colour of an addled egg found in situ was dull white—an irregular circle of chocolate brown blotches round the thick end, the very apex peppered with brown freckles.

We were now, if not on the top, at any rate on the uppermost edge of our island, beneath us some four or five hundred feet, we could look down on the narrow rift separating its two portions. Through this channel the ocean rushed chafing on the opposing rocks and dykes. To leeward in the clear depths we could distinctly see after each great wave's ebb the flashing opalescence of shoals of darting Blue Fish; each fallen cliff mass, each eroded boulder deep in the sea had its own peculiar hue. From the cliff edge, too, we could watch the wheeling Petrel only a few feet distant, often near enough distinctly to show the pinion pattern of silver and grey. We could note the different plumage of the young and old Masked Gannet, but above all delight ourselves in the sight of the Tropic bird.

The bill of the *Amokura* is coral red, its plumage silky white, ever so faintly tinted with salmon. The setting of the tail shafts, however, is the arresting feature of the species. They are wide at the base but, the web suddenly contracting at a distance of two inches from the root, are produced as rigid, bright red plumes,

thirteen inches beyond the cuneiform tail. We watched birds at every angle of flight, every rate of speed; not rarely they passed below us so swiftly that their plumes behind seemed but a diaphanous flash of strange brightness; sometimes more slowly in the sunlit air the hyaline red followed in a ruddy haze, as a meteor's radiance is shed astern. When floating with motionless wings, web, as well as shaft, were perfectly plain to the eye.

On the naked soil of the rock mass opposite and inaccessible, incubating Tropic birds could be distinctly viewed, white on the dark ground. On our side also of the rift they were breeding, for although to the east the drop was sheer to the ocean, northwards the ground fell away in a series of slopes each of which terminated in a precipice. Half hidden in shelter of soil and leafage against the caves of these cliffs, glimpses of white plumage could also be detected. The shelf immediately beneath offered no safe ingress but another was reached, though with difficulty owing to the congestion of Winter Petrels' nests; it was almost impossible not to tread on eggs or sitting birds; movement on our part had to be doubly circumspect for another reason. The ground beneath our feet was riddled with burrowings of other Petrel species, and seemed as ready to slide away in an avalanche of dust and rubble as thawing snow off slates. It lay at the angle of thatch on a cottage roof.

Although we had not at this date seen Macaulay Island and, therefore, were unaware of its cliffs pierced with hundreds of holes, it was easy nevertheless to infer the Tropic bird's ideal breeding site. Every nest on Meyer Island or rather every spot on which a nestling rested was overhung with pendent gahnia roots and dead debris. Each bird sat as much as might be, concealed from the sun, pressed close against the bank of rock. I take it in fact that the nests photographed by us were those of outliers unable completely to hide themselves



Curtis Island



White-capped Tern

from the strong tropic light. No eggs were seen, nor young birds less than four weeks old; the plumage of these nestlings was white barred with black and as yet showing no tinge of pink or salmon. I must say I do like to be able to declare that I have actually touched the mature birds shown photographed; this was a matter of no great difficulty, nor were our kindly advances repelled, a courtesy returned on our part—no feather stolen from its possessor.

We reached the sea again streaked with sweat and dust, our clothes torn, our boots filled with grit and rubble. Almost we fell into the sea, so great was our ardour for cool water and cleanliness. The day had proved unexpectedly propitious for, although starting with no certain prospect and in any case too late in the season, we had managed to make the acquaintance of three species of Petrel and a Tern, to watch at the closest of close quarters the Island Parakeet, to stroke the Tropic bird on its nest, and lastly, to note a Rail, till then unviewed by either of us. We were, moreover, on board the "Tutanekai" in time to view with benevolent commiseration the Sunday Island party re-embark with their deplorable farrago of alien weed, amongst them sacks of oranges, huge citrons, and great bunches of green plantain.

Next morning found us off Macaulay Island waiting for a slant to get ashore. This lonely little bit of land, sixty-eight miles in a south-west direction from Sunday Island, is roughly circular in shape and a mile and a half in diameter. It is eight hundred feet above sea level, of volcanic origin, ringed with precipitous cliffs two to five hundred feet high, and inaccessible but for one point of ingress—the black lava cascade.

Macaulay Island is a great breeding ground for the Tropic bird, probably there indeed we witnessed the typical nesting quarters of the species. The top of the

western cliff face is perforated as plentifully with their innumerable holes or scoops as a dry bank at Home is pierced by Sand Martins. About these holes, too, they were flying as thick as Sand Martins do round their tunnelled pits; otherwise I must say that to the enthusiast in plants and birds Macaulay Island is of little account. It is overrun with goats liberated by whalers in times when it was believed that whaling would prove a permanent industry. These goats have so bitten down the gahnia, which I take to have been the original grass here as on Sunday, Meyer, Curtis Island and on French Rock, that when mustered by the blowing of the siren their hoofs were actually visible on the naked ground. The whole surface was grazed bare, no vestige of bush or tree remaining on it; the ground, moreover, seemed to have become set and compressed, otherwise these animals' hoofs would not have shown. Though Macaulay Island is now, except as a home for the Tropic bird, valueless, it might quite well be otherwise; it might quite well be stocked with species elsewhere threatened by the press of civilisation. Like many another islet off the coast of New Zealand, it could be rehabilitated, the goats mustered together and shot down to the last head. It might then be left alone as an ecological study or sown with the ordinary flora of the Kermadec group and become after a time fit for acclimatisation purposes.

Macaulay Island was inspected only at long range from the decks of the "Tutanekai." This was not from want of will, for the sight of a stranded canoe, additionally whetted the curiosity of all on board. A short sea, however, was running that precluded the use of the kedge; there seemed no chance of a change so after an hour or so, like Bunyan's hero, we proceeded on our way. Over this enforced inactivity, however, we did not break our hearts. Had we been able to get ashore, except for the canoe and a closer view of the strata of

this ancient volcanic stump, Macaulay, with its population of goats, would have proved a sad anti-climax after Meyer Island.

Twenty miles south of Macaulay Island is Curtis Island, as the originally termed twin islets of Curtis and Cheeseman have come to be called. All night between them we lay in Stella passage; at dusk we could note the rise of the steam from the crater and smell the odour of sulphuretted hydrogen, yet breakfast on the following morning was no earlier than usual—actually within sight, I say, of Masked Gannet, several pair of them—breakfast had not been accelerated; we were compelled to swallow food as per usual at 7.30.

Curtis Island is formed of lava, overlaid, however, with a loose pumiceous soil, like that of Meyer Island, and equally riddled with Petrel burrows. It stands out of the sea five hundred feet. The crater is a deep hollow with internal slopes almost perpendicular, except where one side has been blown out in some far past explosion. This makes a small boat harbour, the only landing place on the island; here on the morrow we landed, stepping into water hot enough to scald bare feet, and even in boots unpleasantly warm. We found ourselves on the floor of the crater fifteen feet or so above sea level.

On all such occasions when his stay is precarious, the wise man at once proceeds to the work considered most important. Our immediate objective was one or other of the several pair of Gannet we had seen from deck seated on the cliff edge. The crater floor extends I dare-say over ten or fifteen acres. On its flat base scores of fumaroles diffuse a constant steam, pools of boiling water rumble and seethe, pot holes of thick mud-porridge simmer; the ground is covered with masses of sulphur crystals, flakes of sinter and silica, red, and pink, and grey. There is no growth whatsoever on the crater floor. Stopping from time to time and always

turning to the uncanny scene below, we scrambled up the interior crater wall. The chief, almost the only vegetation of the island, was the same gahnia we had trodden on Meyer Island. Here, besides its presence acting as some sort of support to the foot, its absence served as a warning. In tracts where no gahnia grew it was unsafe to step—the ground was scalding hot. Zig-zagging up, often forced into long detours, our feet as on Meyer Island perpetually breaking through the hollow Petrel-tunnelled surface, we reached the top.

The breeding season of the Masked Gannet was over. Only here and there on the bare ground lay an addled, chalk-layered, white egg, but nevertheless here and there too, a pair of spoony full grown birds remained to kiss and toy with one another. These amatory anticipations or recollections of courtship are by no means confined to man, and reminded us much of Albatross flirtations in a colder clime. Whether the Masked Gannet breeds on Curtis Island in vast rookeries as does *Sula serrator* on the mainland of New Zealand, I know not. Certainly we saw no signs of the rows of dung-and-seaweed nests formed by the latter species on the Kidnappers and elsewhere.

Pictures of the Masked Gannet we had not yet secured, nor indeed had we seen the species at close quarters. These considerations were in our mind as we climbed and on the top eagerly gazed round. The first pair of Gannet seen objected to the camera and, after an awkward step or two, with wings outspread, fell into the air and floated off. Upon another more amenable couple did my daughter—"excellent wench perdition catch my soul"—advance with camera set for instant use, sitting and slithering forward on the succulent squashy liquescent mesembryanthemum. Afterwards, so acquiescent was this pair that with due courtship, we were privileged to stroke their plumage.



Masked Gannet, Curtis Island



Meyer Island

We then walked round the rim of the crater in a north-west direction, hoping to find the nesting rock of the Little Grey Noddy; in this we failed, though circumnavigating the crater and searching everywhere. Besides alien species like Blackbird, Thrush, and Starling—ten or twelve of the last, rather unlooked for on so small a bit of land in so great an area of sea—we noted Parakeet, and New Zealand Pipit as land birds, also two species of burrowing Petrel, one of them *Pterodromus nigripennis*. Of the other we saw no mature specimens, the youngster exhumed after being partially trodden upon, being twice the size of the fluffy *Pterodromus nigripennis*.

Our last port of call was French Rock, also of volcanic origin. It is a little over two hundred feet in height and situated fifty miles south of Curtis Island. Though it was impossible to land there, we lay near enough to obtain photographs of the little Grey Noddy resting in its scoriaceous shelves, and to distinguish the plants on the cliffs and tops, on the former seeming chiefly to be *Mesembryanthemum australe* hanging in heavy veils, and on the latter the usual gahnia so prevalent over the whole Kermadec Group.

French Rock, though only a few acres in extent, provided a rich colour scheme, the strata lines of its precipices seamed with the bright red we had noticed also on Sunday Island; the bulk of the cliff surface was of a rich orange rust, the lichen-like mass that seemed to produce it, appearing raised and rough on the rocks. Where grass could grow at all, masses of sere gray gahnia matted the surface of the land.

With French Rock the cruise may be considered to have ended. Two days later we sighted the outlying islands of the New Zealand mainland, and a few hours afterwards were in Auckland.

CHAPTER XX

GALLINAGO AUCKLANDICA

IN the five forthcoming chapters of our attenuated geography lesson we cross Foveaux Strait and, passing along Stewart Island, find ourselves amongst the pleasantest folk in the world, the most delectable company, Seals, Penguin and Albatross. There in these Islands of the Blest, peace perfect peace prevails, with loved ones—French, Germans, Russians, Chinese, Italians—far away. A silence, too, as of the stars, enwraps these heavenly solitudes, for what are wash of seas or roar of gales to the reverberating wail of poor humanity? Ah! better to have been born a Penguin “than nursed at ease and brought to understand,” or rather not to understand the economics of world recovery, the adequacy of air raids, the efficacy of sanctions.

The quest of the Snipe—“What went ye forth for to see—a reed shaken by the wind?”—may be said to have started when our party left Napier and, without stop or stay, to have continued until the Bluff at the southern extremity of the South Island was reached. There it had been arranged that we should at once cross Foveaux Strait, call at Half Moon Bay in Stewart Island, pick up the five ton “Pegasus” in the harbour of that name, and be deposited by her at our final destination.

This expedition of considerable length even in mileage might have been almost indefinitely extended in time. It was not. During the month of November on or south of Stewart Island we were blessed with unusually fine weather; not more than three or four inches of rain fell; the sea, with horrid exceptions, was calm, calm at any rate for these latitudes.

The species we hoped to make friends with were the Snipe (*Gallinago aucklandica*), the South Island Crow (*Glaucopis cinerea*), and the South Island Thrush (*Turnagra crassirostris*). The first of these I knew to be resident on many of the small islands east of Half Moon Bay; I had seen specimens of them during former expeditions. As to the others I may say at once that the South Island Crow though breeding on Stewart Island itself, was never seen south of it. The South Island Thrush still undiscovered on Stewart Island after years of search, proved equally undiscoverable on the out of the way shred of land where eventually we found ourselves.

On the island selected for camping ground are no harbours worthy of the name, the seas break everywhere on granite cliffs. At the foot then of this inhospitable barrier one day in early November the reader must imagine our party landed together with a mixed assortment of cameras, bedding, tents and stores. These belongings piled above high-water mark on a great slab, our hard-bitten little "Pegasus" weighed anchor and presently the bay was empty. As can be imagined no time was lost in scrambling up to view our new surroundings and to take possession of the hut where our baggage was to be dumped. Huts in these Mutton Bird islands are either huts de luxe or of the common or garden sort; the latter are of the simplest contrivance, roundabouts of tall poles lashed together at the top, the loose leaning sticks stiffened and kept equidistant by pliable binders passed in and out between them. Only in the centre is it possible to stand upright. A couple of feet from the ground a shelf of manuka brushwood circles the rude tepee. It is just sufficiently broad for a man to lie coiled on his side, moulded to its circumference. In each of these huts there is room for six or seven persons sleeping half-moon wise, one

man's head to another's feet. The thatch is of coarse island grass, root and blade, made to overlap like slate or shingle. Rough and ready, however, as is the construction of these huts, they are dryer than might be thought possible from the description of them.

However, the building we had been loaned was widely known for its comparative grandeur, it was the finest house south of Pegasus, and after all, when you can get a good thing why not take it? Where was the gain in discomfort? Better photographic work could be accomplished under pleasant conditions. These were our sentiments; we were determined in fact to do ourselves well. In size our habitation was 12 by 14 feet. It faced the sea, it was built of unlined sheets of corrugated iron, it possessed a waterproof roof, not by any means always the case even in whares de luxe south of Stewart Island; the window, albeit cobwebbed, was unbroken, the door—though as it were under protest and groaning at the effort—could be opened and shut; the uneven oozy floor of peat we spread with a woodland carpet of tree fern stems. Though dryer than the peat, they never had quite time to sink in, they never really set; in fact until experience taught us that like spillikins one could hardly be touched without disturbance to others, meals were a series of mishaps, upsettings of pannikins, overturnings of plates. Such elementary politeness as rising to assist was eschewed, crouched up like hares in their forms, with plates on knees, and feet immovable, we lived the simple life.

As the small table was the only bit of furniture reasonably dry it was dedicated to stores and photographic plates. A large, amorphous, uninviting bed occupied part of the floor space; slung from the roof on a sort of raft were heaps of mouldy bedding and wearing apparel we never dared to explore. Everything smelled of Petrel oil, everything touched was greasy to the hand. The



Eggs of Snipe



Snipe

big open fireplace was paved and faced with rounded stones from the beach or rather from the cliff foot; an assortment of pots and pans of dubious former use stood flaked with soot and rust. Across the chimney, high out of flame reach, stretched bars of hardwood, from which depended the usual array of S hooks, short to escape the leaping flames, long for descent into the ember glow.

The haulage, handling, and landing of iron work in heavy seas is a work of difficulty, not to say danger; we were but too thankful in the case of one bad gale to have possessed these few feet of relatively dry ground where we could huddle and keep warm.

The gathering of Mutton Bird squabs from their burrows is labour of the severest and most arduous sort. It is continued day and night till finished—or not finished, for often with only half their wealth of collected birds, the half-castes and Maoris, to whom these islands belong, are stampeded at a moment's notice into the tossing toy steamer that dares not wait. The sea allows no time for tidying up. We found, therefore, the hut as we expected it to be, weather-proof and orderly only as hurried abandonment had permitted. Our improvised meals were prepared sometimes by one of the party, sometimes by another, according to calls on time. Breakfast especially, varying from dawn, noonwards according to the requirements of search and photography, was a movable feast. Such was the aspect and interior of our habitation and such the manner of life of its temporary possessors.

Immediately outside on the few yards of trampled ground to be found in front of every hut in these regions survived a small alien flora. On this cleared space where stores are temporarily dumped, ashes and rubbish thrown out, and firewood stacked, barely hold their own those weeds that dog mankind like disease, like sin follow him to the remotest quarters of the globe. No

extraneous plant had, however, obtained more than a foothold, whilst several of them, like the apple, were represented by a single specimen. These water-logged, unhappy foreigners included oats, dock, shepherd's purse, ragweed, cleavers, chickweed, mouse ear chickweed, poa trivialis, Yorkshire fog, agrostis stolonifera, poa annua, parsnip, sowthistle, pearlwort, sheep sorrel, white clover, ryegrass, sweet vernal, and veronica agrostis. The ubiquitous potato was there, too, it and the apple seedling had sprung from peelings and cores thrown out; the other weeds had no doubt reached the island as stowaways in sacks, boots and clothes.

We noted also representatives of two acclimatised species of birds—Sparrow and Goldfinch—two of the former; one of the latter. Native birds on Kaipara included Tui, Bellbird, Saddleback, Jackbird—if indeed it be a species at all—Robin, Bush Wren (*Xenicus longipes*), Fernbird, Red-fronted Parakeet and Auriceps Parakeet. Weka, too, were plentiful; on the other hand smaller species common elsewhere—Grey Warbler, Tit and Fantail—were infrequent. Pigeons were scarce and Kaka very scarce. Other birds seen were Seahawk, Morepork, Pied Shag, Pipit, Harrier, Mollymawk, Blackbacked Gull, species of Petrel and species of Penguin. One small, dark brown wild-flying bird seen on and among the dwarf scrub on the heights of the island was a complete puzzle; its strange shyness, its obvious mistrust, precluded the possibility of its inclusion amongst indigenes whilst definitely it did not belong to any acclimatised breed. It flew always as if scared and suspicious and never rose at less than twenty or thirty yards; perhaps it may have been a straggler from Australia.

Arrival on an unexplored island will always be to the writer an ever fresh delight; to the ladies of the party every experience was new—the strange plants and birds,

the evening inflight of Petrels, the dripping cliffs hung with veils of pink mesembryanthemum, the climbings over peat, greasy with oil and guano and worn bare with the journeyings of tens of thousands of birds.

Our island was in shape a long valley situated between two low ridges running north and south, a conformation, particularly safe, which debarred the possibility of being "bushed." Over its whole area, except the tops, lay a blanket of peat, sometimes deep and sometimes scarcely more than a crust. In parts where for centuries Petrels have bred and burrowed, its surface has acquired an extraordinary fertility. Thereabouts the ground is covered with a rampant vegetation of *Stilbocarp* (*Stilbocarpa lyallii*). Its immense rough pumpkin-like leaves, together with Island Grass (*Poa foliosa*), luxuriant growth of such ferns as *Pteris incisa*, *Aspidium aculeatum* and *Asplenium bulbiferum* providing admirable covert for the Robin and tiny Bush Wren (*Xenicus longipes*). Here and there, too, flourishing in the sea spray, extend gnarled groves of grey *Senecio rotundifolius* and thickets of straighter stemmed *Olearia angustifolia*, both of them bare of undergrowth partly because of excluded light and partly because of the immense bird traffic. Rather more inland on damper slopes and hollows spared by the searching westerly gales nestle patches of low bush shrubs such as *Melicytus lanceolatus*, *Myrsine chathamica*, species of *Olearia*, species of *Panax*, *Pittosporum eugenioides*, *Fuchsia excortica*, *Coprosma lucida* and other members of that great genus. From amongst them in sheltered combs and basins rise singly or in groups small Rimu (*Dacrydium laxifolium*), small *Weinmannia racemosa*, small Ironwood (*Metrosideros lucida*) and a very few Miro (*Podocarpus ferrugineus*). Elsewhere, except on the tops where out of granite grit protrude the bones of the island and on one minute and most interesting portion of

the central valley, the island is clothed with impenetrable thickets of manuka and grass tree (*Dracophyllum longifolium*). Amongst them, but thickest about their edges, grows a prickly jungle of *Cyathodes acerosa*.

Over the few acres alluded to in the centre of the island fire had passed; and now slowly and surely nature was healing the harm and re-establishing the pristine covering of manuka, grass tree, and gaultheria. On this blasted heath grew also many interesting minor plants; we found the pink rosettes and all but opened flowers of our smallest sundew (*Drosera spathulata*), multitudes of the white blossoms of *Celmisia longifolia*, *Myosotis albidia*, *Hydrocotyle novae zealandiae*, a tiny whipcord Veronica which we hoped might immortalise our visit, *Actinotus suffocata*, *Erechtites scaberula*, *Nertera depressa*, with its shining berries and creeping habit, the white flowering *Gentiana lucida*, *Acaena sanguisorbae*, *Astelia linearis*, conspicuous in its central single red fruit, one of the rush ferns (*Schizaea fistulosa*), six members of the Orchid family, amongst them the elegant *Caladenia bifolia* and lastly three *Lycopodiums*. Wind, however, in this bleak region once allowed to rage over naked land makes rehabilitation a work of time. Manuka to be sure had germinated, but was pinned to earth in rounded cushions a few inches high, the growths of grass tree whose motto might be that of the proud Oak—"I may break but never bend"—was dwarfed and depauperated; heath and gaultheria had hardly reappeared at all. Amongst this prostrate and stunted shrubbery lay bleached and grey the skeleton debris of the aforetime fallen fire-swept thickets. To their sere branches rotting very, very slowly on, not into the peat, clung stiff little rosettes of moss, yellow toadstool cups and flat grey moulds. Lichens, too, grew thickly on the impoverished ground, one coral-like in appearance soft and white; another larger and stiff which when trodden

underfoot gave forth the crunching sound of half thawed snow, refrozen crisp. With shed needles of grass tree, moulder of manuka leaves and wisps of tattered bark, for nothing decays quickly on peat, grey was the prevailing tint of this, at first glance, melancholy spot, at first glance only, for it was here in the neighbourhood of one or two shallow sinkholes in the peat that bill probings were first noticed. On this central desert, Snipe were viewed the morning of our fourth day.

As on the fired central area so about the tops is the effect of wind remarkable. On storm-swept ridges I have measured Manuka trees seven or eight feet long, not tall, their naked backbone three or four inches in circumference prone and cold on the grit. There they lie stretched flat, sometimes lanceolate ovate, sometimes like tridents, alternate strips of grit and green, as if pressed between boards and rolled and shorn by machinery. In grim harbourage of the fractured outcrops survived also one or two *Olearias*, their greenery fitted into each fissure and funnel and slit of the rock as tightly as seed in a capsule or as the roots of a fern to its cranny in the cliff. Clumps of tough hill flax frayed and worn bowed to the gales; the grass tree alone stood erect, sometimes blossoming even on a three inch perfectly upright stem like a century old Japanese miniature oak or pine. Only on these few acres of burnt out valley and hill top was it possible to detect or at any rate follow for more than a moment the movements of any living thing.

At first I had watched for Snipe exclusively in the wooded areas where ten years previously I had noticed them. At that time, 1913, during the single hour spent ashore I had been nowhere but in the woodlands and had, moreover, been unaware then of the presence of Weka (*Ocydromus sp.*) at all. In 1923, however, these

amusing robbers and fossickers were plentiful—what strange and sudden thoughts will slide into a lover's head—a bird lover's head. Oh Mercy! to myself I cried if *Gallinago aucklandica* should be dead—if the native owners should have during that decade imported and liberated Weka, if in that fatal ten years Wekas should have destroyed the Snipe. Only the heart knoweth its own bitterness and I am told that daily before the re-discovery of the last-named species, my aspect became of a more and more rueful cast. Perhaps; for few conditions can be more desolating to the eager field naturalist than to know that in the limited time of the breeding season of birds—a few weeks only—he is in the wrong place and exchange of location impossible. I do not say but that the ladies of the party did not when in my presence wear a grave air of sadness conformable to my own melancholy visage, yet there was not one of them to whom I could comfortably confide my honourable ornithological tears. I could not but be aware that to these frivolous creatures freedom from convention in clothes, meals and ablutions, the discovery of Sea Hawk nests, the icy bathing on our one patch of sand, the chorus of Petrel at night, the tracking of Penguin to their rocky lairs, outweighed by far the scientific sadness of their host. I could not but be aware that the study of the respectable old seal whom they could induce by blindman's buff teasings and temptings to show his tusks and make short rushes at them, whom they could watch basking in the sun or rolling on the beach like a horse on grass or with his flippers throwing sand on to his back as oxen throw dust, or weeping from his large pathetic eyes till the tears made dark little waterways on his sleek fur—I could not but be aware I say that such recreations must outweigh the thought of their host's martyrdom. They would have buried me on that island and still been glad.

The heights and burnt out centre of the island have been described, these were or more probably only seemed to be the two localities where Snipe bred. There can scarcely be a doubt in fact but that mated pairs were scattered over the whole of the hard prickly scrub thickets already mentioned. Definitely, however, now in early November they were not in the wooded areas where ten years previously I had found them in late December. Snipe, therefore, must temporarily desert the richer ground in woodland or rank herbaceous growth; the nightly fall of Petrel with their tramlings and burrowings would imperil the eggs and chicks, the presence of ever watchful Weka would be equally dangerous. The very poverty of much of Kaipara is indeed the salvation of the Snipe. Where they breed no berries ripen, no large insects feed, there are no pickings from the neck, leg and wing—snared mutton birds caught and killed by Sea Hawk (*Megalistris antarctica*)—to tempt the Weka from the fertile bush and its luxurious undergrowth; indeed the Weka probably at no time deserts these lands of Goshen whereas except during the nesting period the whole island is open to the Snipe. These considerations so obvious in the light of later knowledge and wider experience did not at first prevent me from searching more and more despondently in the forest where I had seen birds years before and where I naturally believed I might see them again. Then as on other occasions I was wise after the event; having once ascertained the facts I was able very clearly to perceive the improbability of Snipe breeding in the proximity of Weka and on lands nightly overrun by hordes of Petrel. Excepting for these minor troubles the continuance of the race is assured, though always hangs overhead the sword of Damocles; should rats obtain a footing, farewell to Snipe, Robin, Bush Wren and Saddleback, none of which species are able to adapt

themselves to novel conditions. As on the mainland these four interesting breeds would disappear.

The first nest was got by my daughter—on a cold miserable, drizzly morning. In the open waste she had noticed very faintly cheeping a moribund, draggled chick. Judging from its debility that it could not have trailed after its parents for more than a few feet before collapsing she had marked the spot. When the beat in which we were engaged had been completed she returned to the wet, wretched chick and within a yard or so of the spot noted, discovered the nest; it was of the most simple construction, hardly more than an indentation on the thickly scattered brown *dracophyllum* needles blown there and wind-stored naturally in the open cushion of stunted manuka. The eggs, two in number, were remarkably large for the size of the bird; on their ground colour of brown were spots and blotches of black, chiefly at their thick end.

Evidently this nest had just been vacated; within a few inches of it lay the shells of the two eggs but little damaged by the emergence of their contents. They were replaced and appear as seen in the accompanying photograph. Apart from the actual simple elementary delight in the sight of eggs new to the discoverer, detection of a first nest shines into the dark like day, all that was formerly difficult grows clear, every observation barely in bud till then, bears fruit; almost it is the wild surmise, the breathless pause of genius on the threshold of some vast discovery. I felt that even with knowledge of that nest and sight of its broken eggs our journey had not been taken for nothing; it illustrated type of site, building habits, date of nidification, probable normal number of eggs, size and colour.

Another nest placed also in the shelter of a low manuka cushion showed more care in construction; on granite grit and sand thickly littered with *dracophyllum* needles,



Snares Island Robin



Snares Island Robin

it was piled a couple of inches high with moss, softest lichen and minutest lengths of frayed lissom manuka twiglets. Of this nest the eggs, also two in number and also large in proportion to the size of the Snipe, were greeny brown in hue with dark spottings and blotches evenly distributed over the whole surface. Of the five pair of mature birds we knew and were always sure to find each in its own domain, not one possessed more than a single chick. Concerning the first discovered brood at one time we had thought it possible that inadvertently the hen might have been scared and thus been led to desert the weaker nestling, but when pair after pair both in the valley and on the tops were found with only a single chick we came to think it must be the custom of the impatient little mother immediately to leave the nest with her one youngster able to follow. Only once when, within a few minutes of first acquaintance, very gently I closed my hand upon and secured the stronger chick of the earliest found brood did the hen deign to take some interest in her ailing younger offspring. Its dolorous wailing induced its restless mother to delay; as if to inspire and inspirit the poor little beastie, her probings in the peat were doubly frequent near it, she even once or twice touched it with her long bill, but would not brood or mother it, not at all from fear of us, for as I have explained, the birds could hardly have been less perturbed, but rather perhaps because the inherited memory of some danger of past time forbade in the open an absolutely easy mind. For the same reason I suppose we never saw the strong chick fed; promises there were in plenty, encouragements and inducements to follow, but no fulfilment visible to us. There were no grounds for the belief that one chick was taken by the female, another by the male; in every instance the hen seemed to be mothering one and one only. In the case, furthermore, of the first nest, the little ones must have

been coaxed—actually tempted—to leave at all, for even the larger was very, very young, an hour or two old perhaps; nor did it that first day follow with the bright alertness and quick sprightliness of a normal youngster; on the contrary it did seem so bored, rolling heavily after its parent, making no brief rushes and excursions of its own, neither did the little creature wear its tiny wings tucked tightly against its sides, an unfailing indication of vigour in nestlings.

Snipe begin to lay about the end of October and continue during the early November. Except that the legs are pale yellow they much resemble the common Snipe of the Old Country. The sexes vary but little, the male rather larger and of rather a richer plumage. The birds stand about two and a half inches high and measure along the body about six inches. Both male and female sit. Although it is impossible to swear that the breed has altogether lost its power of flight, it is nevertheless so highly probable that the assertion can be safely hazarded; for centuries it cannot have been necessary and the little fellows have now become ground birds so completely that I cannot imagine an occasion arising to make the habit needful.*

They trust to concealment, not to flight. Though ever so tame in our company they never ventured further than a few feet from covert, and the whole island is covert; watched through glasses at a distance the same distaste for the open was apparent. Even when suddenly put off the nest with a violent start—and thrice I hardened myself to this iniquity—the perturbed bird would merely emerge with full spread pinions from its isolated humpie of manuka. There were no signs however faint of ability or desire to fly. Often during the

* That *Gallinago aucklandica* can fly is I believe the experience of a friend whose ornithological abilities cannot be gainsaid. What, however, each field naturalist himself observes that he is bound to declare. My particular cronies did not use their wings and I can leave it at that.

incubation of the eggs the bill of the sitting bird will be deeply dived into the ground through the nest fabric; often, too, on its nest the bird will sit leaning for long periods on its bill as if for support. Thus brooding on the eggs I have stroked the owner not only on back but on head and beak; touched in this way the little fellow would remonstrate with an almost inaudible piping whine. The two pair we saw most of indeed were from the very first unbelievably, incredibly, unafraid. To solve the problem of flight having on one occasion put off—rushed—the incubating hen, before she had completed her feigned death agonies a few feet distant, the cock passing her by an inch or two clambered over my boot and took the vacated space on the warm eggs. He did not seem to think it incumbent that he should go even through the pretence of seeming to share the feelings of his better half! I thought it like the churlishness of a man who grudges a word or two on the shape and material of his wife's new head gear, however conscious he may be as to the monstrosity and absurdity of the thing.

These were delightful hours indeed watching in perfect quietude the pair of incubating Snipe, sharing the responsibility of their nest. As happily, too, the days passed following the appearances and disappearances, the exits and returns of the parents of the single chicks amongst the prone strips and cushions of green manuka, the grey flat dead sticks, the lichen stiff, like coral, and dwarf grass tree no taller than real grass. Moving with a curious halting, hesitant gait, always they advanced rocking as if balanced on springs. Usually the male, like the country Scotsman of half a century ago kirkward bent with his womenfolk, moves a foot or two ahead. If lost to sight, however, for the briefest period communication is kept up betwixt the pair by a low hoarse double croak. This is uttered from time to time as the

pair or trio irregularly progress, sometimes at a walk, sometimes at a trot, but always whether slow or fast—and if necessary they can dart and disappear like lightning—probing, probing, quickly, eagerly, decidedly. The long bill is held well forward after the manner of the Kiwi—a Lilliputian stride or two, five or six rapid spearings into the ground, a brief hesitation, a prolonged sniff, a deeper and more assured perforation of the spongy soil, a quick little mouse-like run, a pause, an advance, a downward thrust of the beak, so they moved ahead. Each minute red worm hardly thicker than a pin could upon withdrawal of the bill always be seen dangling at its extremity ere being passed downwards and swallowed. They fed also on small chrysalis-like objects on the surface and once I noted the female take from the male an inch-long pale worm of another kind. Some may be Rooshians and some Prussians according to their nature, as for me I confess that I could have lingered for weeks in the company of these fascinating birds, wondering over their loss of flight, large eggs and contracted range, watching the little creatures, brown like Autumn, harmless as Autumn's fallen leaves. There was something extraordinarily attractive in their trustfulness, an irresistible appeal in their absence of fear, of even the shadow of suspicion of fear. We were back to the days of our first parents, to the golden dawn of the world, to that delectable garden where fear and pain and anger and sorrow were still unnamed, unknown. They were forms wholly lovable, wholly beautiful, living, moving and having their being in full view of us, to be adored like winter blossoms, to be touched as brides are touched. We could not but grieve that a few field naturalists on one long isle should be in sole enjoyment of what would have been a happiness to hundreds of pleasant people the world over.

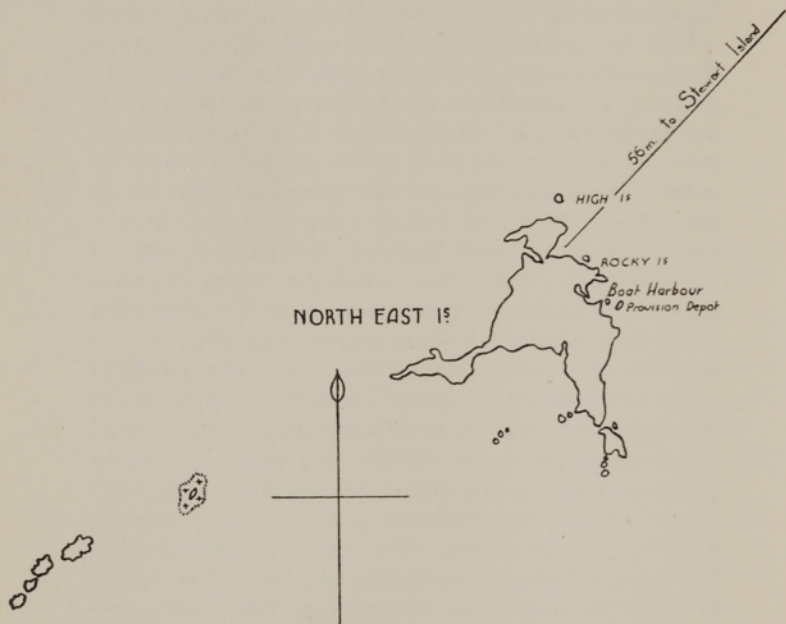
CHAPTER XXI

THE SNARES

THE vegetation and avifauna of the Snares, Campbell Island, the Antipodes and the Bounty Group continue much as they were before the white man reached New Zealand, not altogether so, however, for goats, swine and rabbits landed in the sealing days still survive, whilst more recently on Campbell Island sheep have been liberated. To rescue shipwrecked mariners and to replenish food depots these wild localities are from time to time visited by the New Zealand Government steamer "Tutanekai." With this beneficent object in view, though not on that account only, twice has the writer sailed with Captain Bollons to the Subantarctic. He was wise to have done so for these inspections are likely to be less frequent or quite discontinued owing to the installation of wireless on all ocean-going craft.

A deplorable decline in the barometer reported by the alarmist of the ship did not prevent the "Tutanekai" sailing from Port Chalmers for The Snares on the morning of 23rd March. We were safe and we knew it. Captain Bollon's seamanship was proverbial, pitiful as a father was he to his engines, "more than my brothers are to me," he might have exclaimed of the "Tutanekai's" every plank. As supernumeraries to her machinery and decks we could not but be assured of every care.

That night we lay in the lee of Ruapuke Island in Foveaux Strait; three days we sheltered in Pegasus Harbour. En route for the Snares the weather was still unpropitious; a heavy head sea ran, causing concern lest time and tide should not permit of landing. We did not dare to speak of such a possibility—better to hope to the



SNARES ISLANDS

From a Survey made by the Land Survey Dept. of New Zealand, 1891

last than to obliterate happiness by precipitate enquiry; the countenance of our skipper was scanned like that of a doctor in a critical case.

About midday the wind shifted a couple of points; it became then less a question of the sea running than of sufficient light to disembark and get away in good time from an uncanny locality. Late in the afternoon we knew definitely that a landing would be made. The "Tutanekai," slackening speed, lay with steam up some half mile distant from the insignificant but only harbourage of the island.

At deck level we tumbled into the great whale boat that had weathered a hundred gales and was fit to weather a hundred more; smart was the word and a minute later she was dropped from the davits. There in the rocking, rolling boat hastily and hurriedly did we grip thwarts, constrict redundant legs, refrain from rowers' room and sweep of oars; lightly the mighty sailorman in charge slid down the boat falls, possessed himself of the huge astern steer oar, and we were away from the dark sides of our mother ship and the running waves that slapped them bright and clean.

Why had I wasted the lean years on shore? Not every man has the luck of our master wrecked on his very first day in New Zealand—the exhilaration to a landsman of that row ashore it is impossible to describe, an exhilaration I confess I should by no means experience were it my fate to be swung from the davits of an ocean liner; then I should doubt the ropes, distrust the unaccustomed crew and assume that every plank and oar was perished from disuse.

Straight for the cliffs we ran and presently the port oars were touching—no more than touching—barely touching the darting tongues of bullkelp that flat and far with each receding wave flung themselves out to sea. Towards this vast volatile vegetable fringe we had

steered—I presume because its manes as it were oiled the waves and thus prevented backwash and break.

The tide was on the make; in the commingled roar and whine of the gale, the shouted orders of the headsman, the grinding and creak of the rowlocks, the avoidance of spray and spill to the camera, the semi-deafness and quarter blindness induced by sou'-wester bound tightly round the chin, I can recall only the towering cliff along which we seemed to rush, the tangle of the brown sea growth, the fascination of the huge waves that followed as if to overwhelm, the glide away of the boat as if playfully alive and sensible of the fun, the half-seen seals gambolling and cavorting in front and behind, or racing us neck to neck, the clamorous sea fowl blown about like leaves, the harsh cries of the gulls and terns.

Proceeding up the narrow cove on the north-east side of the island—Boat Harbour it is called—the water became calmer and then calm; there was more leisure to look about. Here and there where the steeps offered a giant knee perched Penguin rookeries of no great spread. It was there also I sighted one single specimen of the swallow tailed Tern (*Sterna vittata*), red billed as at first I spoke of it, really cherry-coloured as Hutton and Drummond have it, a term which exactly and unforgettably describes the rare brilliant tint. Besides this specimen of *Sterna vittata* were a few black-fronted Tern (*Sterna albistriata*), there were Kittywake either in full plumage or youngsters still dark legged and dark billed; on the water floated fleets of bobbing Cape Pigeons.*

At the very head of the inlet many young full fledged Nellies (*Ossifraga gigantea*) crowded together; sufficiently perturbed were they at our advent to seek each

* Cape Pigeons breed on South-west Reef, rock so exceedingly difficult of access that even sealers have managed a landing only once or twice in the memory of man.



Snares Island Fern Bird



Penguin, The Snares



Penguins, The Snares



Buller's Albatross, The Snares

other's company yet not enough alarmed to trouble themselves to fly.

We leaped from the boat on to dark beds of peat scooped into multitudinous smooth-rimmed wallow holes, uninviting slimy midden tarns, dark dunghill pools fringed with plantations of coarse *carex* and prickly *stilbocarp*.

Almost on our path squirmed one grand old deep-chested, brown-maned sea lion; there he reclined in solitary state, from time to time suppleing himself after the manner of seals, stretching and yawning. A few yards further afield with extended flappers, lifeless apparently and flat almost as vermin nailed to a gamekeeper's barn door, lay female seals—clapmatches as they are called.

This Boat Harbour and its vicinity had doubtless been for ages before the coming of man, the landing ground and camp of bird and beast. The presence of generations of trailing seal and trampling penguin had abundantly enriched the locality.

On it and other such minute prolific island oases life abounds; there on infinitesimal areas it is concentrated. Within one minute of landing I had spotted the Black Robin (*Miro dannefordi*) and the Snares Fernbird (*Sphenaeacus fulvus*), each of them well differentiated from their mainland kith and kin.*

To the field naturalist there is always something lacking in the study of breeds practically indistinguishable from one another except under the microscope. We were proportionately pleased, therefore, to find ourselves in the presence of species not only strange but distinct in outward appearance.

* In Hutton and Drummond's "Animals of New Zealand," *Sphenaeacus fulvus* is located "South Island and Snares." In my island wanderings I have not come across it. The South Island Fernbird of the West Coast—Okarito and Franz Joseph way at any rate—is markedly different in colour and other respects from the Snares species.

The Snares Robin is jet black all over, slender in build and sensibly smaller than the Robins of the mainland, its plumage, too, fits more tightly and closely to its trim little body. Out of the several specimens observed some appeared to be without mates—perhaps this season's birds—others certainly were in pair as I could tell by calls to order not unlike those of their cousins in Long Island and Kotiwhenu. Stirring in short flights amongst the grey nakedness of the open underwood, perching on the prone and slanting ironwood boles, from time to time one would dive down to seize a tiny red wormlet such as I had seen Snipe draw from the moors of Long Island. I cannot suppose that really the Snares Robin does not possess peculiarities of glance and flight common to the representatives of the North and South Islands of New Zealand, yet I never did during this first visit happen in our too brief twenty minutes' stay to notice either the palsied impatient trampling or the aerobatic right angled grasp of bough so striking in Robin species elsewhere. The breeding season was long past; it was not indeed until we were again on board that visions of nests—old discarded nests certainly—occurred. Then too late I recalled the rafter sills in the food depot. Robins I was aware could have obtained entrance to this cache and a flat plate-like building site is always irresistible to the race.

The Snares Fernbird is extremely distinct from other members of the genus *Sphenaeacus*; it is larger, the plumage as near chestnut as brown, almost deeper than tawny—the feathers are loosely compressed. On short legs or flattening themselves purposely for fear of sudden squalls these little birds move like mice among the seals and penguins; in short lizard-like progressions they creep over the thinly scattered flat, fresh fallen, leathery *Puheretaiko* leaves. Quite openly—they have no enemies—they thread their way among the crooked

crouching recumbent boles of the gale smitten scrub. They are notably less shy, they are notably less furtive than the mainland species.

The Crested Penguin of the Snares Group (*Catarrhactes pachyrhynchus*) we had no leisure to look at in its greater rookeries. We had passed two small congregations whilst entering the harbour, a third of fifty or seventy was established beyond the landing. In smooth expanse of pure white waistcoat, dark blue-grey back and splendid golden bands and plumes, they looked the cleaner in contrast to the surrounding filth of their puddled breeding grounds. The young birds were fully grown, perhaps indeed the rookeries had already begun to disperse. We had, however, but time to gaze and go, for "all aboard" was now the cry and instantly into the whale boat had we again to pack. Though we could not but regret our shortened stay, yet there was consolation in the thought that others had fared worse; twice that season the "Tutanekai" had failed to make the Snares at all. Twice she had been baffled by gales both east and west of Stewart Island. Nearly two years elapsed before my second sight of the Snares. Aboard the "Tutanekai" three months earlier in the year than on the first occasion, my daughter and I hoped for new experiences amongst both plants and birds.

Passing along the coast we had two seasons before called at the lighthouses on Akaroa, Moeraki and Cape Saunders. On the Nuggets we enjoyed a day of cloudless blue and heavenly calm. There on its ideal stretch of shore the magic of sand quickened our frames, sand that rejuvenates mankind, nay more all living things; dogs ever so weary and stale race and play like puppies on its gleaming wetness, staid old horses caper and pig-jump when their hoofs touch its golden grains. All life is akin, we humans too, desired to race and skip and dance.

It was a holiday for the whole little lighthouse community. By all our skipper was beloved; to him the children rushed for sweeties, there was a grasp of the hand from the elders and laughing embraces from the halfling lassies. In the warm shallows the dark-skinned Maori sailormen hunted for a kedge mislaid. Like a school let loose they laughed and groped and splashed. As the water deepened clothes were tossed into the boat. Presently they were diving and gambolling naked and brown as porpoises in the brine. Meanwhile in the offing lay the "Tutanekai," her loaded boats plying fast forward and back, the carts standing hub deep in water to receive the stores, the landed gear at once rushed inland. It was a picture of the good old smuggling days, tea and right Nantz bumped ashore in spite of the customs, Dirk Hatteraick and his merry men at work.

At 9 a.m. the following day we were off Pegasus once more en route for the Snares.

Always on approach to an island not likely to be easily or ever again attained, the question arises how best to utilise the precious hours, which of a thousand desires utters the most imperative call? The few score acres round the landing place were easiest of access. Should we content ourselves with what lay near, or further afield reach out for golden possibilities, become the discoverers of some new noble plant or strange antipodean archaic bird? Of species known from former experience to be immediately visible were Robins, Fern-birds and Penguin—should these suffice us now?—again should we be content to watch the indefinite flights and feedings of unattached individuals or attempt to find nests and intimately note the proceedings of a selected specimen? Should my daughter and myself hold together or separate or compromise by a middle course, keeping just within eye and earshot of each other? These alternatives were open to us and a dozen more, always



Barbara Guthrie-Smith landing dry-foot



Hair Seal, The Snares

with the bitter possibility, apparent of course too late that our very efforts towards success had led us from the goal desired. Our final decision was wise I think, to be content with what lay at hand. When landed on an unknown environment nothing really is gained by superhuman efforts in locomotion. It is I confess hard to remain still and seem to be idle, but as in angling on a dour loch on a bad bright day, the man who sticks to one bay, who refuses to allow himself to be beguiled by local ripples and erratic rises, ends his day content.

When bird hunting, therefore, the wise man will select a viewpoint and stick to it for some considerable time. The writer's very first act was to search the store-hut for the Robin's nest, the nest that he had recollected too late during his visit two years previously. Sure enough there it was, exactly on the spot anticipated, the flat sill from which the rafters rose. Though totally different in shape, it was hardly tidier than a House Sparrow's clumsy structure, nor were its materials more fastidiously selected; they consisted of feathers, coarse grass and grass heads. That the nest had recently been in use was testified by the droppings on its edges, for though sanitation is strictly observed when the chicks are first hatched, at a later period when it is known that the home will be presently vacated and when the labour of food collection is at its maximum, the early cleansing processes tend to slacken.

As before noted, Robins and Fernbirds are most plentiful where seals and penguin abound, where therefore insect life is most easily obtainable. In such a locality, after an exciting hide-the-handkerchief game getting ever warmer and warmer we discovered a Fernbird's nest in the thick grey-green salted six-inch turf—it was built of sound dead grass and sparingly lined with curled feathers and as island peculiarities are always worth recording, I shall not omit to remark that

this nest seemed to be domed, probably as a precaution against weather. It contained an addled egg and newly hatched young, fed from time to time with white maggots. My daughter and I agreed that the Snares bird, pale yellow in colour with poll brown—almost red brown—is considerably larger than its relatives of the North or South Islands. In approach to the nest the male was always shyer or more timid when alone; his circumspection and precaution always lessened in the presence of his mate. In the calmest of airs and hottest of suns, we watched the feeding operations and the approaches and exits from the nest.

These species and the penguin I had seen before. Buller's Albatross (*Thalassarche bulleri*) had only been known to me on the wing, but now these birds were sitting on still empty nests or on nests containing a perfectly fresh egg. We had arrived almost to the day. Twenty-four or forty-eight hours earlier these nests would have been empty of their single eggs and vacant of the expectant occupants.

Just as the finest tinted fruit is to be found in illustrations of nurserymen's catalogues, so coloured drawings of birds are usually overdone. Such is not the case in the representation of this great mollymawk, no brush in fact could adequately delineate the lovely dove-like shadings of back, neck and breast. At two or three feet we could note the pure white around the eye and the striated stripe colouration of the bill.

The nest of a Buller's Albatross when new is raised on a stem slightly concave on top and a foot or so off the ground; it is built of grass and beakfuls of peaty turf plucked indiscriminately from the immediate vicinity; later it becomes compressed by trampling and treading and by the weight of the sitting bird; in the end the upper surface of this symmetrical shaft of cobb is

still further indurated by shed down and particles of grey scurf.

Eroded by occupation, worn by the elements, stripped of every shred of frippery in the shape of straw or stem they assume a grim austerity matching the rigour of their climatic environment. About the cliffs we came across these strange relics by the score, some hardly bigger than stands for pot plants, whilst others of full size like great puddock stools lay overblown by gales or undermined by petrel traffic. Big or little, however, each vestige retained its slim disc configuration. The perch-shaft of the particular Albatross photographed was meagre even to tenuity and must have been in use for several years. Unconscious of the disparity between herself and her nest, there the great bird sat like a turkey on a platter fit for a corpulent bantam. Always far apart the nests were placed amongst mats of felted grass, the rotted growth of scores of years, perhaps of centuries; always, too, sites were selected that could be attained and vacated on the wing.

A month on the Snares Group would have been welcome, but at any rate our one morning and afternoon had been spent under most favourable conditions. It was weather unsurpassable for watching the crowds of penguin floating, diving, paddling or taking the water as I have noticed seals doing, corkscrewing through the clear depths.

CHAPTER XXII

THE AUCKLAND ISLAND GROUP

WE had timed ourselves to make this group at dawn. The high hills of the interior were sighted first and later the nearer lower lying easterly islands. Steaming between Ocean Island and Rose Island the "Tutanekai" passed up Port Ross, anchoring in Sarah's Bosom* at the head of Laurie Harbour.

As we opened bay after bay and channel after channel, we could never tire of watching the storm smoothed forest roof and speculating as to the architectural methods of the gale.

Sometimes from sea level to tussock line we might almost have been viewing the slope of a vast gently undulating moorland sphagnum bed, the tree tops lilac, apple green, pink and bright red. On each individual tree a cauliflower cleavage, a rounded sponge contour displayed itself; on each individual tree top bifurcation and divarication were visible as on alpine or river-bed cushion plants; this wind-clipped vegetation was in sober earnest on the road to similar parvitude. Never certainly in these regions could any tyrant Tarquin have illustrated his method of dealing with too prominent subjects; there would have been no taller heads to strike off. No leaf was prominent, no twig predominant; liberty, equality, fraternity did really seem at last to have been discovered on this difficult old earth of ours.

Complete illusion, however, in regard to a densely packed moss bed was broken at varying heights by lines of grey, dead stiff stems—mere streaks here and there in the greenery. Did these thin upright skeleton walls mark an eternal process of wood renewal almost as slow

* So called by Captain Bristol early in the nineteenth century after the whale ship "Sarah." Possibly, another harbour, in Stewart Island—Abraham's Bosom"—may have suggested the name.



Hair Seals, Auckland Island



Hair Seals, Auckland Group



Hair Seals, Auckland Group



Seals, Enderby Island

as time? Had this front file in the grass tree ranks been here and there lashed into nakedness by some intolerable gale, by some unprecedented storm? Was this dry death destined to extend to the tops, eating into the living green like some rodent sore? Why, too, were these leafless, lichenless, bark-stripped lines always in streaks and strips—never oblong or tailing into deltas or tapering into tongues as dying fires expire in bracken and grass?

A particular instance may be cited. Between the ocean and one such grey break as has been described grew thick young luxuriant sapling stuff, level, or with the almost imperceptible rise caused by each leaf passing the gale on to its rear rank fellow leaf; then, further inland, preceding it this wall or fence line of stark stick. That is how it stood, but how had it begun?

I pictured in my mind, expanse of ocean overwhelming perchance by salt spray, perchance by sheer weight of wind the green front rank. Then, its work initiated, I imagined the slow failure to resist of each successive leaf, of each tip terminal, of each upright pole. As one lashed stem rotted and fell the loss of just that stem's breadth causing the death of one yet only moribund; so inch after inch, foot after foot, chain after chain I imagined the thin line moving upward but always meagre in breadth, always followed at similar speed by thick young lower growth that trampled on its heels, as if the boscage behind was utilising the grey, dead stick mass as a shield to oust and extrude the older greenery.

Wind work of quite another sort was apparent in the lanes of draught torn through the upper portions of the scrub, but smoothly torn—the edges of the wind-ways rounded and green. My recollections, too, are that on certain low bush-clad tops the gales had stabbed down as if from above, leaving yellow tussock clearings, pools of space in the stiff surrounding jungle.

Such was the effect of wind on aggregations of vegetation; equally curious was its manipulation of individual shrubs and trees, some of them as on Rose Island wearing the whole leaf and twig system at right angles to the handle or heft—streaming to windward like an anchored aeroplane; elsewhere the scrubby eroded ramage resembled such eccentric icicles as once I witnessed in the Canadian Rockies—not sober English icicles but set slantingly to mark the drift of the prevailing blast. On heights above five or seven hundred feet, tussock prevailed, too volatile to retain a permanent impress.

To the south of the Auckland Group, cut off from the mainland by Carnley Harbour, lies Adam's Island. At the western end of this great volcanic fissure is situated that famous portion of the globe called Fairchild's garden. Long, long may this magnificent plant field retain its virginity. It is sacred soil belonging not only to the wise ones of the earth but to devout horticulturists the world over. Still in this changing universe it stays unchanged, its plants yet flourishing there as they grew ten thousand years ago.

We were seeing so much in so brief a period and under such arduous conditions in time, that the formation and geology of these subantarctic islands is not always so clear in my mind as it might be; in memory, one harbour tends to blend into another; hills do not everywhere stand out distinct.

It is otherwise with the inconsiderable number of roods that comprise this wonderful wild garden. These precious acres lie wrinkled, creased and tumbled between the sea and low broken rock walls that hereabouts press close to the narrow beach. The peat cliffs above are riddled with petrel burrows and top-dressed with guano, shed feathers and dead birds. Still further to stimulate the garden beneath there are indications of earth slips

that have from time to time slid over the cliffs. On the moorlands above and at no great distance are extensive breeding grounds of the Giant Petrel. These rookeries are drained by a reduplication of shallow very narrow rifts that drip their phosphate dampness over the cliffs and thus ensure a perpetual flow of fertility. Alas! alas! only the ribbed leaves, the immense corrugated leaves—a foot and a half long—of the noble *Pleurophyllum speciosum* were visible as late as April. A dozen of these great flat stars I can visualise now glued on a wall of peat almost like *Ramondias*. There amongst tall tousleheaded tussock and feet-deep brown rot of fronds and moss their leaves like titanic hawk weed on an ill-kept lawn flattened for themselves a breathing space; alas! once more, the flower stems with their purple blossoms were fallen, prone they lay in the sodden wet. Another plant (*Aciphylla latifolia*) segregated in masses, was as conspicuous in its dark gigantic wrinkled acanthus-like leaves. In the case of this species also we had come too late for bloom, but the club-headed stems still stood erect and stiff; one of them measured well over four feet and from many I got excellent seed.

There were masses, too, of the rough surfaced pumpkin-like foliage of *Stilbocarpa polaris*, its leafage though less prickly resembling that of an almost identical species growing on islets south and east of Stewart Island; from their spikes too, ample supplies of black glistening seed was obtained. Last of the more conspicuous plants was a big *Poa* tossing its miniature plumes in the wind.

All of these grew beneath the cliff; on the moorland close above dotted yellow with blowsy tussock grass I noticed the silvery leaves of *Pleurophyllum hookeri* and near it *Celmisia verticosa* and *Veronica benthami*. There were plainer species such as *Cotula plumosa*, *Acaena antarctica*, sprung from an old rotting Nellie nest, all

growing with an enormous vigour. Many ferns were there also, some flourishing like the black *Aspidium*, others depauperated in their uncongenial sites. Purple and white gentians and a glaucous ribwort were also new to us.

Everywhere we came across the Auckland Island Shag. Always we found them unalarmed and easy to approach. We had arrived too late to see them in their breeding quarters, indeed the one or two nesting grounds pointed out by our skipper were by this date completely carpeted in luxurious masses of *Cotula plumosa*.

As seen in life the plumage of this cormorant is dark green above and white below, the neck black or black shot with green except for a white patch under the chin, the bill and legs brown, the pupil of the eye dark, surrounded by a red ring; in flight the alar bar is distinct.

Towards the "Tutanekai" these birds used to direct their flight from every strait and bay. At first we were merely surprised at their interest in us and wondered at their enthusiasm. Afterwards I fear we took an unbenevolent pleasure in the anticipation of their disillusionment. Regardless of the feelings of possible autochthones they had come to claim the "Tutanekai," to hoist the cormorant flag with as little compunction as ever discoverer did that of his king over a continent. Happy shags! they were troubled with no debilitating twentieth century compunctions as to prescriptive claims, no modern qualms as to rights of ownership. Theirs was the primitive "Bags I" of the schoolboy over unguarded goods. It was amazing to watch the eager resolute start, the undeviating straight flight from shore; then upon nearer approach the retardation of their speed, their hesitation as expressed in a swerve to bow or stern, their disgruntlement as they disgustedly allowed themselves to sag down wind—a miserable business truly—we could almost tell it in their expression; here was a miraculously



Seals, Enderby Island

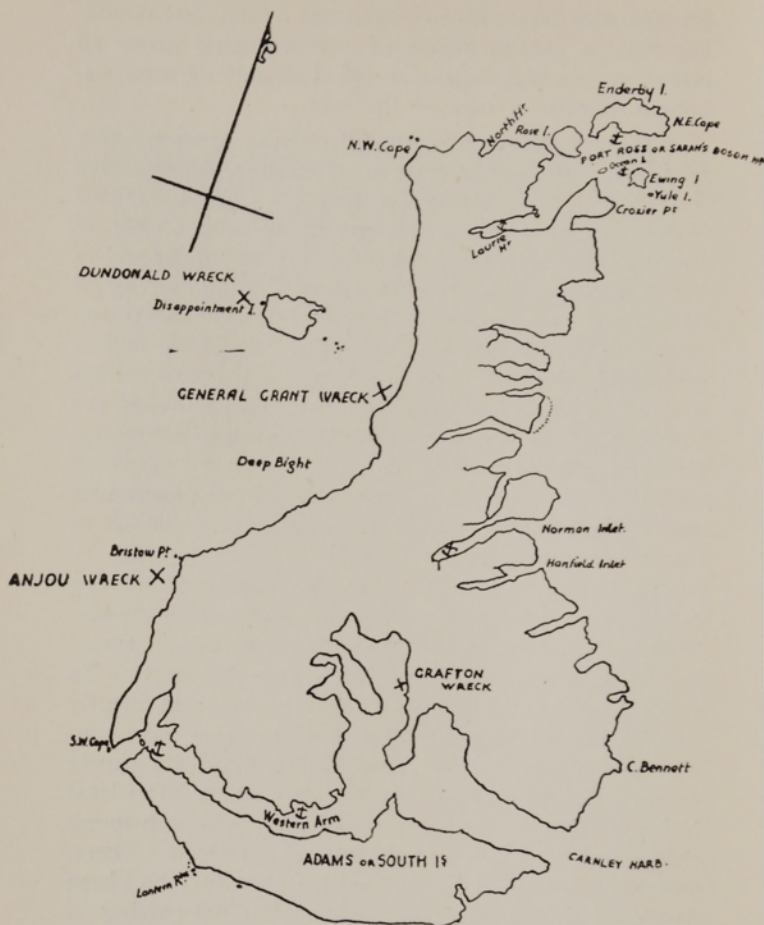


Seal Pups, Enderby Island

erupted rock islet with tier upon tier of dry level breeding flats, a perfect forest of perches, deep water all round, yet wasted, useless—peopled already by some unknown monstrous race of Penguin.

In Carnley Harbour I think it was that we first dimly made out Albatross on their breeding grounds above the scrub line. It was hereabouts, too, that I first beheld the Sooty Albatross, a species once known impossible to confuse with any other. Shyer and more infrequent on the high seas than representatives of the familiar Royal and Wandering species this noble bird never in my experience closely approaches any ship; I could not in fact previous to this date have sworn to it as the most distant even of ocean acquaintance. Once viewed, however, the Sooty Albatross is unforgettable by reason of his majestic flight, the carriage of his head, the crown of which always seems to be ruffled, the beak pointed downwards and lastly, the pure white eye circle doubly distinct in the dark plumage.

The Sooty does not breed on the moorlands, the egg is laid on any eligible niche directly overhanging the sea. The nest or nests are placed singly or in twos or threes on ledges thirty and forty feet above the beach. To reach them the cliff had to be ascended not from directly beneath but where accessible and often from some considerable distance. The perpendicular climb was simple enough, the sidle along was less easy work. The least bad going lay on the very rim of the precipice between the scattered tussock and the gale shorn scrub. There, where the storms had struck with fullest fury had been developed as it were, a sort of longitudinal parting of the island's hair. Along this path we crawled and scraped, guided by directions from the launch below. The first nest reached, we found ourselves in the presence of a Sooty chick, five or six weeks old; an incipient ring of white exaggerated the prominence of the eyes



AUCKLAND ISLANDS

Port Ross from Captain J. C. Ross's Survey, 1840; the Eastern Coast by Captain T. Musgrave, 1865; the remainder by Navig.-Lt. John Edwards, H.M.S. Blanche, Captain John E. Montgomerie, 1870.

These Islands were discovered by Abraham Bristow, Commander of the ship "Ocean," South Sea Whaler, 1806.

and lent him something of an owlish look; by tossing his head and snapping his mandibles like castanets he discouraged familiarities. Where the growing feathers were not obscured by down the darker hues of maturity were already visible. Round the black pupil of the eye lay a brown circle and already a faint hint of white was showing round the feathering of the eye itself; the toes were horn colour, the webbing of the feet greyish black; the down low on its breast was matted, almost felted by pressure.

The nest, fifteen inches across and raised three or four inches above its surroundings, was composed of such rough woodland material as was readily obtainable; mostly it consisted of grass tree needles by this time half rotted by rain and the weight and warmth of brooding bird and well-grown chick.

On the second locality visited were situated two nests within nine feet of one another, the nearer containing a youngster such as already described whilst on the further could be espied the noble head of a full grown bird. Little more was visible than the remarkable feather circle of pure white round the eye for the chest and back were hidden by loose tussock perpetually blown outwards from the cliff face. By the incubating bird this chick was apparently reckoned sturdy enough to withstand the cold and presently the parent albatross was hanging almost motionless, wavering in the wind, level with my head and but a few yards out from her offspring on the precipice; I could distinctly note her, open and close her full round eye inspecting me; then without stroke of pinion or even feather flicker that I could detect the gale was allowed to draw her seawards; balancing her great body in the air she circled and swept in enormous rings; again she returned to hang still and motionless close to the tussocks where I crouched. I could have continued to watch for hours but lost her

presently behind a curve in the cliff line. As, however, our launch panted its way back to the "Tutanekai" I saw—doubtless the same bird—a Sooty flying near and nearer to the rock face passing to and fro at less and lesser distances from the cliff. Before we scrambled on board I thought I could note even the act of alightment, the folding of the pinions albatross fashion, in three motions deliberate and defined as the private's "Forward, Raise arms, Slope."

At Handfield Inlet the absence of the Merganser (*Merganser australis*) was a disappointment. There we had expected to see one or more specimens of this rare sea duck, but in vain the syren echoed, in vain did Captain Bollons thus call spirits from the vasty deep; they would not come; no bird appeared. It was a rough afternoon, a considerable sea was running and many distracting shags were on the water, their plumage in differing degrees of immaturity; disappearing in the trough of the sea it was impossible to keep any object fixed in view, so that the Merganser may well have been within eyeshot and yet not recognised.

At the entrance to Ross Harbour extend islands of varying size on one of which—Ewing Island—are to be found, in greatest numbers, the so-called Flightless Duck. Its size is about that of the Brown Duck of the mainland of New Zealand. Its range is confined to the Auckland Island Group.

Easy is it to recall such a spot as Ewing Island; its inland breadth of white roofed *Olearia insignis* growing twigless and stiff; its enormous titantic roll of seaweed, uprooted, dead, and so densely packed that in unison with the pulse of the outside sea its mouldering bolster slowly heaved along the whole frontage of the bay—a convoluted slippery vegetable coil so deep and felted that in manipulating the camera the knees hardly sank into its mass.



Seals, Enderby Island



Hair Seals, Auckland Island



Hair Seals, Auckland Island



Kelp, Enderby Island

Immediately beyond lay the tossed brown curls of heaving bull kelp at base crowded and piled, but along the back of each receding wave darting their myriad flat shining tongues far out to sea. In deeper water grew the hundred feet long *Macrocystis pyrifera*, each elongated submerged narrow branch drowning in the ocean's draw; at every slack its presence above water revealed by little fins or manes, two or three inches long, which when struck by squalls transformed themselves into white water flipping bannerets.

In its desire for covert and its disinclination to venture beyond sanctuary *Nesonetta aucklandica* resembles not a little the brown Duck (*Elasmonetta chlorotis*). Even in the shelter of the little bay few swam beyond the seaweed area. Mostly they were to be seen diving in quick coils like active trout or floating restfully close to the piled roll of ocean debris. When out of water they stood on the bull kelp, preening themselves or half asleep; more or less in fact its pancake growth served both as playground and bivouac.

Within the vast bolster of dead and decaying seaweed warmth must have been generated almost as in a hot bed. Insect life was abundant. On its unctious surface these Flightless Duck guzzled about our feet with all the unconstrained gusto of their domesticated kin.

There was but little difference between the sexes; the drake perhaps carried a more distinct green sheen in the prevailing brown; at this time of the year, except in size the young were hardly to be distinguished from their parents—all alike were fully fledged.

At the hooked termination of the bay rises a low cliff in the holes of which—though I could see none myself—or more probably in the peat above, the birds are believed to nest. The master of the "Tutanekai" has seen them rise on the wing towards this rocky wall,

a flight however brief, steeply vertical. It is likely, therefore, that their power of volition may be supposed feeble only because it has been little observed. Additional weight is lent to this probability from the fact that when two years later I was again on Ewing Island not one solitary duck was to be seen. Quite possibly they may follow up these great seaweed accumulations or at any rate move from haven to haven for shelter and safety. On this first visit, however, to the Auckland Group I saw nothing in the way of flight beyond wing-assisted runs such as are managed by the smaller rails.

On Rose Island during this first visit were also observed a single bird and a pair, the solitary bird standing on a flat of kelp—a shining seaweed waterlily pad—in a vast pool left by the receding tide. There it remained awash though not quite afloat, as much at home in this latitude of tremendous seas as is the Blue Duck in its sheltered inland gorges, as perfectly adapted to its environment.

Woodland birds were rare on the Auckland Group, an abundant forest avifauna was in fact not to be anticipated. Except where enriched by the droppings of sea-fowl and seals the soils of all the subantarctic islands are desperately poor and where land is infertile no great head of birds need be expected.

No Robin or Fernbirds people these lifeless woods; on the narrow shore lines, especially in the vicinity of Penguin and Shag rookeries, and of seal camps, Pipits were to be seen; Pipits differing from the Ground Larks of the North and South Islands of New Zealand. I believe I may have on one occasion heard the note of the Bush Wren (*Xenicus longipes*). Of the commonest mainland species, one Waxeye only was noted. Tits were rare, one I remember pale carmine on the breast instead of yellow—the third thus coloured seen by me in a life time. Falcon on two occasions were observed,

one perching on the rigging of the "Tutanekai," the other hovering over Rose Island. Tuis were fairly plentiful and Bellbirds common.

Here, in the subantarctic, as in the more easily attained zoological gardens of the Old World, seals will ever be a source of diversion and amusement.

The Hair Seal (*Arctocephalus hookeri*) we noted at every landing; Fur Seal (*Arctocephalus forsteri*) but once, and then but three of them on the Bounty Group.

Though in fact really quite harmless to man the males of both species are in appearance formidable fellows; large specimens weighing up to a ton. The female seals—clapmatches they are called—retiring to the woods give birth to their pups early in the year; these youngsters were now the size of mastiffs and very playful and friendly.

Hair seals were abundant on the shores; as has been remarked, the small coves were full of them. It is, however, in deep calm water that their habits may be best watched. In smooth seas they can be seen turning head over heels in their odd way circumvolving lengthwise, not breadthwise, steeping their obese bodies in the brine, circling round and round heads down, heads up, in the course of each tardy revolution pausing to gaze gravely at the clothed folk watching them—the whole process of subsidence and resuscitation so dilatory, protracted and slow, each portion of the anatomy of the animal so philosophically displayed, from the depths of ocean the reappearance of each smooth blind tail piece so gradually indicating itself. There was such a naturalness in it all—"are bottoms"—they seemed to be asking "really and truly more humorous than tops?" and down the creatures would sink themselves, wheel-like they would slowly circle again, down would go the heads, up would rise the behinds, at each reappearance that questioning glance persistent on their fat faces and in their

great dim watery eyes, "after all what is there in bottoms?" Obviously, it would have been utterly bad manners to have smacked them with an oar. Peering from the cliffs into the deep clear sea it was equally curious to note companies of them standing on their heads browsing on shells or fish—everything about them, their fin-like flappers, their tails, their sinuous willowy bodies stirred by the long roll of the ocean as seaweeds are stirred or as soft woodland shadows play in summer time. Rooted by their heads to the unseen mysterious gloomy ocean floor, washed this way and that like submerged growth, they blended into the eternal backwash and break of the tides.

Though thus to be observed in sober mood, more frequently their disposition was frisky and frolicsome. They welcomed the "Tutanekai" like a holiday; the ocean was en fete for her; she was their honoured guest; the tidings of her presence spread like a mist over the illimitable seas.

Throughout the trip at every landing we were met by deputations of seals, they accompanied us shorewards, gambolling and playing below the boat or alongside, splashing and diving, leaping out of the water or easily rolling along with only flappers visible. They fraternised with us like laughing South Sea Island girls, glad to receive with open arms a great whale ship of the olden days. They were so willing to be playmates—with hardly an invitation, wishing to join in our fun—our presence there was alone a sufficient overture. The creaking and strain of wood on rowlock, the stirring of the crew, the hoot of the syren was sufficient to call them up and set them capering.

Nor was it in the ocean only or in deep water that they were pleased to sport with us. Whilst walking one happy afternoon along the narrow shore line of Port Ross, a couple of pups about the size of Newfoundland



Auckland Island Shags



Auckland Island Shags



New Zealand Pipit, Ewing Island



New Zealand Pipit, Ewing Island

dogs after moving parallel—they in their element, we in ours—presently ventured a further step. These heavenly twins, heading us left the shallows where they had been splashing and galumphing as if in challenge and solicitation.

On that long loch amongst the low tide-worn stones, hard set in yellow sand and salt seawrack, the little roundabouts awaited me. Like two girls together egging each other on, daring what one alone would eschew, in most attractive fashion they revealed their simple wish to know me better, to be friends. It was now for me, the eldest by far of the three of us to reciprocate, further to press the proffered comradeship. Ah! that all of our emotions are not as rightful as the best of them, that man has almost perforce to persecute and destroy when he might cherish and serve. Who has not watched a mother playing with her babe, yet in our relation to what we serenely term the brute creation we lose the altruistic touch divine. Through human un-humble dull brainedness we forfeit a pleasure akin to that sweet opening of the heart to kindliness, to that maternal forgetfulness of self. In the happy hunting grounds, nay, better named by far, in the Elysian fields how shall not author and seal renew their momentary mundane tie—a miracle almost as of discourse betwixt the quick and dead—that link of wild and tame when for the first time in these subantarctic isles the flesh of man and seal have met in ought but pain and fear. Far, far more eagerly do I long to meet that baby seal again than to regret in heaven nine-tenths of my acquaintances. It was love at first sight. Speaking the little language—Swift's language to Stella—and advancing very slowly I put out my hand till one of them touched it with his nose; nor were the nostrils hastily withdrawn. We were friends—*Hoa matenga*—friends to the death. I feel sure that within its fat body there must have been some

movement corresponding to a canine tail wag, to a shy canine wriggle and laugh.

At the very head of this smooth firth wooded to the water's edge extends an infinitesimal delta, one indeed of the few spots on the whole group where anything that can be dignified with the name of soil can be found. This small patch of alluvium is created by a couple of burns emptying themselves into the west end of the channel. There these scanty deposits of granite grit are secured by a shallow bar; within its bounds, short turf worn bare by trampling and rolling, saline shallows, minute sand dunes and fresh water from the streamlets offer an ideal trysting place. There, clapmatches and young males lay supine in amorphous ease, or jolting themselves into new postures, opened from time to time their jaws in long wide yawns, slowly weaved and waved their fat necks from side to side or almost succeeded in laying the crown of the head on the spine—a favourite seal exercise.

On the long pool of peat water half blocked by the bar beyond, the pups played as if their play could have no ending, their games never slackened, they chased and pretended to bite one another. They rolled through the shallows with half their sleek bodies uncovered; breasting the water before them they darted on one another like spawning salmon in a shrunken river reach. They paused only as frolicking dogs pause to catch one another's eye, then rushed afresh to the worry and tumble of this delightful game of romps.

At this date the cubs were still unweaned. Whether the female when about to give down her milk, habitually withdraws from the crowd I cannot tell, but, except on one occasion, I have never observed a mother feeding her pup. Often near one of these seal parks or playing grounds are to be found in the adjoining woods resting

beds covered with grey-green moss no taller than lichen and satin soft with age-long pressure. These milking stations, smooth as golf greens, are gently undulating lodgments as if made to fit the sinuous contours of the seal mother, as if on springs, too, resting on fibrous mats of ironwood root. Near such a spot amid stunted woodland naked of leaf to its very neck, for an hour one afternoon I watched a clapmatch suckling her cub. At a distance of only four or five feet she herself took but little note of me; the pup once or twice seemed a little perturbed and uttered a deep bleat or bark. So almost unimaginably obese was the old seal that when she raised and lowered herself as it were on her elbows, her stomach lapped and squelched like a slack filled water bottle. She possessed no visible udder, no protuberance that would have interfered with swimming and made movement impossible over stony shores and branch-strewn underwood. The teats, dark brown flat buttons hardly seemed to offer a grip to the hungry pup, but though I could never notice any sign of milk on his lips such as calves show, he was well content and would often after an extra long pull, as a thirsty child into its empty mug, give forth a deep breathing sigh of satisfaction. Like a sow the clapmatch would now and again change her side, the two of them squirming together whilst overhead, at less than arm's length, the bellbirds tolled their heavenly music, the woods were full of them.

Enderby Island, to which our boats were accompanied by a frolicsome escort, is another favourite rendezvous for seals. On this stretch of more than half a mile of fine white sand, I counted over one hundred and fifty males and females. Seals vary considerably in colour, the old bulls brown and wearing over shoulders and breast a thick mane of coarse hair; the clapmatch is lighter in her skin; the pups are grey and slate grey—in vain I scanned the beach for Kotick.

The breeding season was over, but still at this date there seemed to be several lots of well-grown pups and females herded together in groups of fifteen and eighteen; though not worth the fighting for, yet perhaps the possession of whom may have still conferred a certain *mana*, a certain dignity and importance upon their lords and masters. At any rate the old males seemed to retain some kind of authority and would round them up from time to time as if to exercise it. One of the delights of these islands of the far south is the tameness of their inhabitants.

It was fascinating to watch this seal congregation practically undisturbed by our presence; at the utmost, if provoked by too near approach an old male would in ponderous bluff project his huge bulk forward, shuffle a lazy yard or two and snort out a loud minatory "woof."

Everywhere on beach and peat, full grown animals lay in easy attitudes of undress and sprawl. Oftenest they sat on their tails with fore fins supporting chest and head. I have seen them rolling like horses in the sand. I believe, too, they manage to throw it over their bodies as oxen sprinkle dust to keep away the pestering flies. In ridding themselves of vermin, they hiss through their wrinkled nostrils, like dogs hunting fleas. Stirred to motion they waddle and roll along on their "knees" rocking from side to side, progressing in short drags with "toes" shockingly turned out. When a seal gently scratches herself the beast seems to be hardly more than fanning the tickly place; more energetically the operation appears as though accomplished with fingers inserted in gloves scores of sizes too large and too long, the extremities of the fins bending backwards, useless like empty flat, flaccid fingerstalls. Mostly, they are a silent community though now and again an old bull would blow a perfect blast of nasal spray.



Nelly, Auckland Island



Nelly, Auckland Island



Yellow-eyed Penguin



Yellow-eyed Penguin

This spot—Enderby Island—and the head of Ross Inlet, carried the heaviest stocks of seal seen during the trip and on both of them, seals were our main interest and occupation. We landed on Rose Island, too, where according to Captain Bollons the aged and ailing males retire. I had hoped to discover some approximation to the dying camps of the Huanaco. Beyond, however, the actual presence of old bulls in considerable numbers no further facts were ascertainable during the brief time at our disposal. We had viewed our seals in their proper setting. Everything about the animal is adapted to its pelagic existence; the unprotuberant udder, the flat teats, the tiny ears, the small forked tail, the minute dark brown elongated nails, the sleek skin below the eyes wet with the furrow mark of tears—though in these parts at any rate there is no reason why a single seal should walrus-like “weep like anything” on any account, and least of all “to see such quantities of sand” for such material can hardly be said to exist on the subantarctic islands. On beaches undesecrated by the dirt of humanity, free of the horrible drift refuse of civilization, there these happy creatures live in clean, unflurried, well fed ease.

At one period Fur and Hair Seal were very plentiful; McNab has instanced over seventy thousand fur seal pelts, for instance, taken in a single season, but indiscriminate slaughter has resulted in their almost total extirpation; since then poaching of survivors by foreign ships and local craft has been continuous. At present, therefore, through mismanagement and carelessness a valuable source of income to the Dominion has been lost, yet it need be but a temporary loss, for these islands only require protection again to become naturally stocked.

To all of us, but mostly I do believe to the sailormen of the “Tutanekai,” this trip brought the recurrent

question, why for the benefit only of a very limited number of individuals in the world, should these southern seas be denuded, or run the risk of being denuded of creatures like Whale, Seal, Albatross and Penguin.

The boiling down of tens of thousands of the last named for the anticipated benefit of one person has now at last been stopped, but the numbers of Albatross, according to those who have known their haunts for half a century, have of late years much diminished. This is owing to the presence of sheep on areas not fit for sheep, an enterprise that has hurt the very originator of the idiotic business, benefited in the present nobody and is abridging the existence of birds that are a source of pleasure to everyone who sails the sea, and who is there in these days that does not go down in ships to the great deep? What a poor, curtailed, mutilated, sterile world we threaten our descendants with! Man and the rat sharing it—fit mates in many ways—in their desperate, deplorable, gnawing energy, in their ruthless destruction of every obstacle. Let us at least preserve species for the wiser race of man to come. A gunboat guarding it, the subantarctic should be a Seal and Whale Farm, stocked to the limit of good supply and if all matters must seemingly be judged by economic result, yielding an income of half a million annually.

As good Americans when they die go to Paris, so the spirits of good New Zealanders, the eighty-seven per cent., will after decease people the Subantarctic Islands.

CHAPTER XXIII

CAMPBELL ISLAND

As at present operated the administration of this island is an offence to God and man; in every subantarctic prayer uttered on board the "Tutanekai" was embodied the morose petition that fire might descend from Heaven and consume owners of sheep, shepherds and sheep.

What has been done—the defilement by stock of this splendid natural sanctuary for the pitiful sum of £40—is truly an example of what not to do—forty pounds to enable every man who has touched it in the business way not to gain but to lose money—forty pounds for the right to burn, graze and destroy.

Campbell Island dawned in thick drizzle, then presently upon nearer approach with the intermittent lifting of the mists, its half veiled heights were seen and lost again fleeced in ragged drifting clouds. The coast line was magnificent beyond description, the setting of the isle severely stern, conformable to the seas that rage, the gales that roar in these wild latitudes. Far out from the mainland, one after another stupendous naked clean cut isolated rock masses came into view. Beyond them, hurled out as if by volcanic force, crouched cliff fragment after cliff fragment wet-black above the dark water or awash and white in the break.

Along a towering edge of precipice we sailed near enough to note a huge rookery of the yellow-billed Mollymawk (*Thalasarche melanophrys*). In its proximity we had hoped to have been dropped, but weather conditions were adverse; we could but see in the distance the innumerable white breasts of the sitting birds. As we proceeded along the coast, huge numbers of them followed in our wake screaming and scrambling for scraps dumped overboard; plunging neck and shoulder

deep into the sea, one glutton even submerging his whole body—surely an acquired habit—and diving wholeheartedly for the vanishing morsel.

At North-east Harbour three hours were spent on shore. As with Pippa apportioning her one whole day in the year, “free from wearisome silk winding coil on coil,” our problem, too, was how wiseliest to employ the limited precious hours. It is when landed on an unfamiliar coast that accurate local experience is most needful and most unattainable—the time so short, so easy to mis-spend. Willingly, willingly had it been possible would I by prayer and fasting, even by moderate application of the scourge have attained vision of the most eligible stance, the most felicitous vista, the primrosiest path. On this occasion there was the choice of climbing the hill or pacing the shore line. The latter was selected as I was anxious to note at close quarters the slight differences between the cormorants of Campbell and Auckland Islands. That was done, but much more, too. There it was that I descried a bird, the puzzlement over which will hold me in the doldrums of pro and con till again I visit the island.

Here on the shore of Perseverance Harbour did I or did I not behold a white crowned Tern? Can I have seen such birds? Shall I in the future find my belief corroborated? Shall it be written of me that as Abraham in his old age begot a son, so I also in mature life have begotten an additional New Zealand species? On the other hand shall I be compelled to drop it as Potts dropped his “Little Owl,” as in this very neighbourhood the great Hooker tripped on the length of his long trailed seaweed? Never.

The first clear sight vouchsafed me of this precious fowl was on the narrow boulder beach of Perseverance Harbour. It stood on this occasion for half a minute on a rock only thirty feet distant, fronting me it is true



Yellow-eyed Penguin



Flightless Duck on Ewing Island



Flightless Duck on Ewing Island

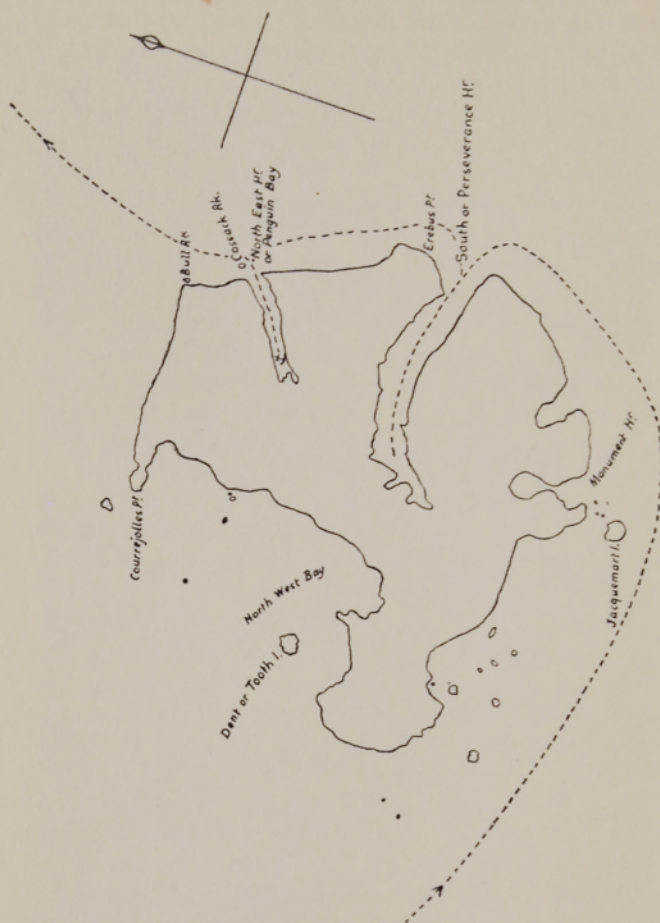


Campbell Island Shag

but on a lower plane. On that bird's head as at intervals it slightly moved, did I concentrate my gaze; pure white it was with black behind—a cap of pure white with black surrounding that cap or crown.

Ungallantly I had outwalked my comrade Miss Spencer and now repentant of the offence and returning—there was in fact no time to go further—I noted a second white headed Tern, this time in flight. She also in the course of that slippery walk over those breakleg stones had seen a bird so marked. Now it seems hardly possible that previous explorers of these wilds should have failed to observe specimens of white crowned Terns—of birds so dissimilar in head to any of the species that breed in New Zealand. On the other hand I cannot believe myself to have been deceived by light glancing or resting on the bird's crown, more especially in the case of the individual on the rock where I was able to discriminate blacks and whites. All other details I neglected, on its crown alone my gaze was rivetted; I am not prepared to swear to the minutiae of plumage beyond a general impression of greys, of pale greys, of ash greys, of whites.

Once more and for the last time a few days later did I observe a small flight of these Tern, forty or fifty perhaps passing near the "Tutanekai" when about to drop anchor off the Bounty Islands. One of them—and I must say I concluded all—was a white headed Tern. They were breeding on the narrow shelves of the stupendous cliff opposite to where we lay. Although so late in the season I could see them flying to and fro with small silvery fish suspended in their bills; the distance was beyond eyeshot, however, and glasses told me nothing further. It is my fate in life to think of things too late; on Bounty Island where we landed I do believe it would have been possible to have reached this Tern cliff, to have been held by the heels overlooking the nest



CAMPBELL ISLAND

Discovered by Mr. Frederick Hazelburgh, of the brig "Perseverance," 1810.
 From a French Government survey in 1873-4; additions to South Harbour
 from a survey by J. E. Davis, 2nd Master, R.N., 1840.

ledges—I might have been dead sure then—sure at any rate if not dead; in the meantime we can hibernate in the sound compromise, “It’s a moral impossibeelity.” “Aye but it’s a fac’.”

In Campbell Island, Albatross are, not very incomprehensibly, diminishing in numbers; upon Captain Bolton’s suggestion to one of the shepherds—whom the Almighty bye the bye has so far spared—that we should be conducted to a certain tarn there to photograph the birds, the reply was that not a single individual now bred in that vicinity. We consoled ourselves as best we might with the thought of our New Zealand treasury enriched by £40 and of how every little helps in an efficient public service where no waste whatsoever is allowed to occur, where overlapping of staffing and redundancy of labour is unknown and where no farthing falls unnoted to the ground.

Not every one, however, of the great eggs had been basely cooked and eaten, not all of the majestic birds been destroyed by degradation of pasture or worried by stray sheep dogs. After a long tramp over soppy moor we found a few Royal Albatross incubating eggs or young chicks, but the absence of the dense tussock that should have sheltered their nests, the desolation of the grazed moorland—reverting wholesale to *Bulbinella rossii*—was a poor setting for the nests of so noble a species. The birds might almost as congruously have been placed on a carpet, they looked sadly out of place in their glaring, staring, flagrant, salient obviousness.

There is a strong family resemblance in the nests of Mollymawk and Albatross. Those of the Royals are raised seven or eight inches above ground, their substantial stems composed of rooty peat. There being of course no attempt at concealment, so also is there no care shown in the collection of building material from afar. It is merely howked up from adjoining patches

of liverwort, the gouge marks of the birds' bills clearly visible. The egg or youngster lies on a lining of narrow tussock blade, the sole architectural refinement of the structure.

The deeper green of the surrounding vegetation on one side of the nest marked the prevailing wind; it was the direction towards which the liquid excretions had been most often ejaculated by the parent on duty. Near one nest I noted the wet peat-stained integument of an egg, but as with the Giant Petrel rookeries above Fairchild's Garden not a vestige of shell was visible here or elsewhere. But one nest contained a yet unchipped egg, in most were youngsters from ten days to three weeks old. At this date they were clad in pure white down, the horn of the bill white, the web of the feet the cold, pinched blue of washerwoman's hands.

Never willingly did the sitting birds leave their nests; when forced temporarily to vacate, their desire was at once to return; cruel was it then to contemplate the heavy footed tramlings endured by the tender babes. Judging by the spacing of the nests, aloof and yet not incongruous the Royal Albatross may be set down as a semi-gregarious fowl, if not sociable at any rate disinclined for complete isolation; in fact able to thole its fellow creatures if the dose be not administered in too great bulk.

During the whole period of our intrusion Albatross in considerable numbers continued at a great height to circle and sail above the scattered nests and incubating birds. As the drizzly evening closed they still continued their distant observation of us, they were in no degree perturbed I think; our departure drew them no nearer to their nests.

Really to know the Albatross with its probably dilatory courtship, its probably tardy incubation, its infrequent change during the breeding season of brooding



Royal Albatross, Campbell Island



Royal Albatross, Campbell Island



Royal Albatross, Campbell Island



Whale Bird, Antipodes

bird for brooding bird; really to comprehend the feeding processes, the visits of old birds to their big nestlings, the endearments of parent and chick, the final meeting after weeks or months of absence, would furnish tasks for a conscientious year.

This brief intimate fraternisation indeed, after months of watching of Albatross on the seas between New Zealand and Home was in some sort even disappointing. We had been allowed with a kind of indignant wonder on the part of the great birds, to stroke their glossy plumage, we had purloined pinches of down from the chicks, we had handled an egg or two—that was all.



ANTIPODES ISLANDS

Sketch by Captain Fairchild, New Zealand Govt. S.S. "Hinemoa," 1886.
Discovered by Captain F. Hazelburgh, sealer, who also discovered
the Campbell's.

CHAPTER XXIV

ANTIPODES ISLANDS

THIS group lies distant from Stewart Island about five hundred miles, its greatest elevation is thirteen hundred feet; its largest land area four miles by two; in addition there is the inconsiderable Bollons Island and the usual appanage of eyots, inches, rocks and reefs.

Not always do weather conditions permit approach to its stern circle of cliff. We were fortunate in our day; we were put ashore high and dry at Penguin Landing where on the north side of the island an enormous rock jut breaks the even line of precipice, and with Leeward Island to the south provides a modicum of shelter. There on a devil's lapful of rock we were dumped on to a huge penguin rookery, or to be exact, two rookeries conjoined. This camp had at first showed up from the "Tutanekai" as a long irregular pennon-shaped strip dotted thick with white specks. They were the bellies of the standing birds; only as we got nearer were their steel blue backs distinct against the dark rocks.

The lower stone and boulder space was appropriated by the larger Big Crested Penguin (*Catarrhactes sclateri*), the higher by the Tufted or Red-eyed species (*Catarrhactes chrysocome*). Between the territory of these breeds no very sharp line of demarcation was apparent, nor did there seem amongst the birds themselves any disapprobation or objection to one another, the slighter built species obtaining rather easier elbow room above and thus in some degree mitigating the push and crush necessary first to obtain and later to defend its nesting ground.

The rookery must have contained many tens of thousands, no boulder, rock, ledge or shelf remaining unoccupied, no feasible site untenanted. White and blue,

broad at base, tapering to a point, plastered and caked on to the cliff face it filled every foot of available space betwixt sea and moorland. Through its centre we moved with circumspection, climbing heedfully over slide-smooth stones, squeezing betwixt lubricated fissures and rifts, and passing along buttresses oiled and oiled again with penguin exudations. Every oleaginous pummel, hump and jag gleamed like dark glass where the tread of thousands upon thousands of birds had in age long climb and descent polished and stropped the hard rocks to an unimaginable gloss.

Almost like fallen leaves in this forest of jostling penguin, so small and flat and level did they appear by contrast, so few in number, so minute in size, here and there might be noted Ground Larks and Parakeets. Regardless of the press and hubbub they were perambulating the camp searching for scurf, snapping up unconsidered trifles of freshly shed quill butts and minute particles of fat, for I believe that such enormously obese creatures as Penguin do as they move lard the lean earth with driblets and atoms of animal matter. Parakeets in especial can resist nothing in the way of suet or grease or fat of any description.

Crouching like lizards, their bellies brushing the ground, these small Antipodes Islanders are ever apprehensive of blasts that may blow them from their moorings, gusts that may sweep them out to sea. The hop and flutter so characteristic of the mainland species of Ground Lark is absent here. With the pittance of a half rood or so of scrub on the whole island the Parakeets, too, have seemingly lost their power of flight and desire to exercise it. Extraordinarily fearless these species were, imperturbably running over our boots and between our legs without thought of danger or apprehension of wrong.



Young of Sooty Albatross, Antipodes



Wandering Albatross, Antipodes



Wandering Albatross, Antipodes



Wandering Albatross, Antipodes

The plumage of the Ground Larks is in living specimens grey brown above, the breast almost a rosy brown, the underparts yellowish white; there is little white in the cheeks and tail shafts; in fact though differences from the mainland representatives are not glaringly or even strikingly obvious, they nevertheless do exist in the Pipits of Long Island and in those of the Auckland, Campbell, and Antipodes Groups.

Parakeets and Pipits were on this group in a sense parasitic like the Black Robin and Fulvous Fernbird on the Snares. Were Penguins to disappear the numbers of each of these four species would very markedly diminish.

As described, this conjoint Penguin rookery occupies the base and steep sides of a huddled, chaotic rockfall almost perpendicular. Rising that, the climber emerges immediately on to tracts of yellow tussock. At once he finds himself in the mouth of a widecombe where the hay-hued herbage stretches away in gently undulating folds and sags; with its felted growth the island is covered; it overlaps the very cliff edges like thatch on an outhouse. On two sides this trough is hemmed in by low outcrops of granite, supporting walls of brown mouldering peat; into its hollow soaked the oozeings of the hills above; it terminated in wastes of moor.

Across this growth lay our line of access inland; following it we discovered at once the limitations of the human foot, the narrow outspread of the human toe; only indeed the Pukeko's—the New Zealand big blue Water Hen's—stretch of claw with its wide distribution of weight could have made progression easy on this deceitful surface. It was merely a super-structure of interwoven rotted leafage, the tousely tops of "nigger-heads" borne aloft on thick stems, three or four or five feet high, their heads felted together and conjoined; the real Antipodes Island lay in fact beneath. To move

ahead with anything like speed and anything like decorum it was necessary to step exactly on the centre of each downward sloping slippery skull cap. In practice this was not achievable, an inch's miscalculation entailing a fall. Vainly attempting to keep his balance the walker might at one stride be semaphoring high and tall, desperately gesticulating, the next his shoulders only might be visible above the treacherous mat of grass. Sometimes deeper still only a lonely head with ears like handles to lift the thing by might remain oscillating from side to side spying out the best line for a new struggle—a head in a tight collar of brown growth through which it seemed to have pushed like an unexpanded toadstool, or as though living there “by itself” by its own will, an entity complete, armless, bodyless, horribly anticipatory of those unpleasant people of the far future who are to be only head and brains. There momentarily would remain the puffball poll, the body below useless apparently as that of the black marble prince in the Arabian Nights.

In this strange Slough of Despond at one moment therefore we might be watching the Parakeets dimly and dustily from below, at another be viewing them eye to eye, during a third standing colossal, almost astride the birds.

On the whole however, frequent as were the falls and disappearances this mode of progression was faster than by shouldering a way, waist and neck deep through the dead unyielding sodden hay tangle. That would have been in fact impossible.

The tortuous peat scoops draining the combe varied in depth from two to seven or eight feet. They could hardly have been gouged out by rain—the catchment area was too insignificant; more probably alternations of level in this roofed underworld were dependent on the

tunneling and breeding of birds and on their hidden travel paths.

The head of the soggy hollow through which we had half waded and half walked terminated in low granite outcrops where the rebuff of the blast had produced a cushion of recoil, an eddy, an air pocket of calm. Nearby in comparative quiescence survived the sole arborescence of the island—a rood or two of storm-clipped coprosma. Deep rooted in peat, waist high, stiff and rigid this hard bitten shrub growth sheltered against the cliffs, moulding itself into their configuration, nestling into, adventuring its way into every rounded granite gorge, every grey recess. Upon each twig sturdy and stiff, upon each tiny leaf had the tempest exerted its uttermost will. As in shoal water sands are ribbed and patterned by wavelets dancing above, so the fancy arose in me that on the storm-worn, storm-shorn surface of the stunted thicket, there could be descried, tooled into graven greenery the similitude of a rolling sea or the long wash of a breaking wave. On this unresilient, unwrinkled arboreal roof crouched or stood—their short bow legs quite unadapted to this strange stance—parakeets of two species. Hitherto these birds had blended naturally into an environment of blowy grass and coriaceous brake, now on the clipped coprosma with never a leaf deranged they stood forth like brilliant unexpected buds of some strange cactus growth; out of the shrub itself they seemed shorn in topiary exactitude—yew or box birds, each foot, each little toe visible on the hard impercipient platform.

Here on the Antipodes Group do these endemic species of parakeet yet exist where scrub even of man's height is unknown. Here do they still survive though their continent has been reduced to little more than a rock, their forests to an alpine flora, their nesting quarters to humble burrow holes in peat.

Cyanoramphus unicolor, green blue or blue green, according to accident of light or shade, stands on dark brown feet and legs of wrinkle-patterned skin; the whole of the under mandible is black brown as also the top portion of the upper mandible—the lower portion, however of this upper mandible is pearly white. The whole bill is to my mind disproportionately large to the size of the bird—a bloated nose, an influenza nose. *Cyanoramphus erythrotis* is very distinct from its companion species, its breast a greenish yellow wash rather suddenly terminating across the lower part of the breast, its head crimson with a thin line of the same colour extended from the eye, its back and body moss green, the tips of the primaries distinctly brown, the pupil of the eye black surrounded by a red circle.

Like subantarctic birds in general these Parakeets are exceedingly trustful and unapprehensive of evil. They were quite undisturbed at our approach and close inspection. One friendly little specimen of *Cyanoramphus erythrotis*, without moving its feet, without ceasing its contented munching, lent forward in response to my extended hand; selecting the thumb a gentle experimental tweak was administered.

Little indeed is required to content these birds, one I noticed chewing with satisfaction, if not with relish, the feeble looking pendent strands of the island Stitchwort (*Stellaria decipiens*), another I saw munching with equal appetite the mere thin green grass blades of the tall common Poa. On the more naked uplands I noted their scrapings about the roots of two small terrestrial orchids. They feed also on the leaves, the tips and I believe judging by the way they burrowed their heads into its stubly sward the berries of *Coprosma rugosa*. On the moors the red drupe of another crawling Stinkwood (*Coprosma repens*) is also devoured.



Wandering Albatross, Antipodes



Wandering Albatross, Antipodes



Wandering Albatross, Antipodes



Wandering Albatross, Antipodes

Both of these Parakeets were most numerous in the long legged jungle of niggerhead carex and in the vicinity of the veins of tall dark green *Aspidium* that streaked it like some mineral outcrop; in lesser numbers, too, both were to be found on the bare unsheltered moors.

The roof of the island consists of easy undulations, flats wet but not boggy and gentle slopes. I noticed only one slip of recent date, a deep raw-red narrow gash yet even at its deepest not revealing the underlying rock. Except the cliffs mentioned as sheltering a limited area of stunted scrub, I remember no outcrop of stone. Peat lay a thick carpet over the whole island.

The moors of the Antipodes Group are the breeding grounds of the Wandering Albatross (*Diomedea exulans*). There upon their nests on the day of our arrival sat the incubating birds like great daisies—*Celmisias*—the simile is not original—and curious it is that so large a fowl should breed so far inland. On April 4th, the single egg in each nest was still unhatched, one, however, was chipped and the chick's bill and head visible; most of the eggs showed no marking, two only out of many inspected were on their thick end thinly spotted with irregular pinkish dots.

Walking on the moors as Albatross do, with wings erect and fully stretched, one full grown specimen we took for a yearling still haunting its last season's nursery. The wings of this bird were black to the tips. The feathering of the breeding birds varied more than considerably, indeed I could never discover two incubating birds of similar colour plumage, nor yet two birds of similar colouration of what I believed to have been similar age. Concerning one exceedingly handsome sitting Albatross I jotted down the following notes—tip of bill horn colour, bill deep flesh, pupils black with lighter coloured circle round pupil and pinkish circle round eye itself—crown of head brown, about bill and

eyes pure white, cheeks pure white, chest stippled almost imperceptibly guinea-fowl colour, back of head—not crown—and upper part of back dappled, a feather here and a feather there, wings shading to brown black, upper surface of tail feathers black, membrane of foot bluish.

The courtship of one couple we watched for as long as time allowed. Their nest had not in earnest been more than begun, the site only had been selected and round its precincts the pair gyrated and pranced or as their amatory emotions relaxed, stood still or subsiding even seated themselves sedately on the ground. Sometimes one of them danced, the other watching the performance as we thought rather abstractedly. Sometimes the pair stood facing one another, open beaked, steady, as if prepared to fence, sometimes rapidly at close quarters they would open and shut their bills at each other. Again almost they might be said to toy and gently kiss. A striking attitude was when one of the pair stood upright, bill, throat and neck in one straight line pointing to the sky. Another posture, also with the beak held erect, was to raise and fully stretch the wings, then to arch them till the tips of the primaries met and thus produced a hollow bower—though I have not noted the fact I think the under surface of the Albatross wing must be white for the sun happening to shine the effect was one of dazzling brilliance. Round the trampled herbage of this nest to be, the two birds sat or stood or moved, from time to time a poor scrap of liverwort or fern passing between them, by one of the pair lackadaisically offered, by the other nonchalantly allowed to drop.

Alas! that there should not have been days, weeks, months to be spent when there were only hours; moreover had I given the whole, every moment of this precious day to the Albatross I should not have tasted the happiness of the little Parakeets, so fearless, so lovely

in their loneliness, so contented with their simple fare of grass and stitchwort—I should have seen nothing of the Nellies—their rookeries represented by only two or three late straggling birds quite able to fly—or the Pipits—or the Penguins. Oh! if only on the Antipodes Islands I could but have recovered days sad in the loneliness of cities, wasted in futilities, squandered in the daily ineptitudes of life.

CHAPTER XXV

FOUR HOURS ON THE BOUNTY GROUP

THE several islets that compose this group are the easternmost surviving heights, the easternmost undrowned peaks of the continental New Zealand of former ages. About three hundred feet above sea-level, they lie four hundred and ninety miles east of Stewart Island and ninety miles north of Antipodes Islands. From the latter, weather conditions have erased all trees and shrubs. On the Bounty Group yet another step in denudation may be noted; an absolute nakedness is in fact the feature of this array of sea girt tops. Its erstwhile vegetation has been stamped out by bird traffic, the very peak upon which that vegetation may be supposed to have grown has been sluiced off by ocean scour, by deluges of rain and doubtless in dry spells has been blown away in dust and grit. Bald, grim and bare, its length of three miles and breadth of two, fronts the devouring sea; unclad and flayed it stands weathered into sagging terraces, cleft by transverse rifts or on the innumerable narrow lines of bird traffic clawed into slippery slopes and slants. When first dimly seen in the dawn of an April morning, viewing the magnitude of the whole it did seem incredible that so great an area of land should not sustain a single herb. Its land animals are a few spiders and insects.

We were presently summoned to our morning meal, called as if on any ordinary occasion, not as though close to the Bounty Group; breakfast—any delay—becomes under such conditions torture, crucifixion to the enthusiast; to have gained the very door of Paradise and there to pause for marmalade, to view the smiling houri's outstretched arm and to stagnate on bacon—that morning



Wandering Albatross (courting), Antipodes Island



Wandering Albatross, Antipodes



Big Crested Penguins, Antipodes Island

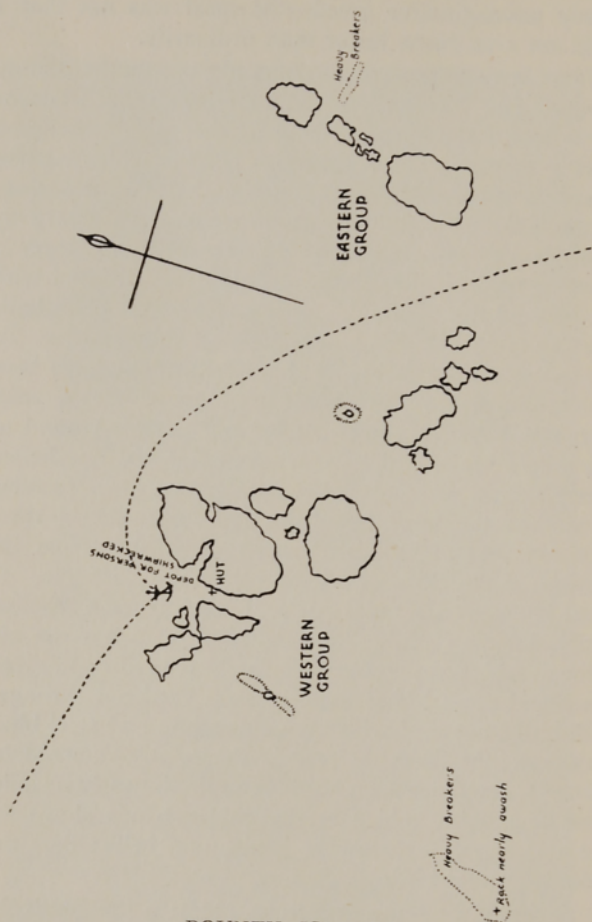


Parrakeet (*Cyanorhamphus erythrotis*), Antipodes

I loathed alike both crew and passengers for their unseemly unimaginative greed—the meal was not that I could see even eaten faster than ordinarily.

There is no harbour or anything like one on the Bounty Group. The "Tutanekai" had merely dropped anchor in the lee of the biggest island of the pack. Sheltered there from the strong clean ocean blast to which we had become accustomed, she swung round on her moorings in the eddy of calm and at once we were aware by scent, as well as by sight, of the vast bird population in front of us. In one minute the ship was diffused with the reek of the rocks, the strong oleaginous phosphatic smell so typical of Penguin and Petrel communities. To windward all the farms of the world might have been undergoing a drastic top-dressing. An unceasing yammer, a low clacking growl, filled our ears. Around us the rollers broke white on submerged reefs, on shelves barely awash, or blanketed themselves green on heaving screens of the huge bull kelp that flourishes in these southern seas and which must enormously retard the erosion of the cliffs of all the subantarctic islands. In front lay mass after mass of rock, each block a separate entity, disjoined from its neighbour by a narrow gut through which the combers endlessly poured themselves. On island after island there was no yard not thronged with birds, not pied with Penguins white and steel blue; they are the great Crested Penguins (*Catarrhactes sclateri*), standing when heads are raised, nearly or quite three feet, with golden crests, golden bands above the eye and snowy expanse of breast and belly; they are indeed splendid birds.

Sheltered in some degree by reefs to the south, by islands to the east, spread an expanse of calm waters, the washpool of this strange community. In its grey blue depths thousands upon thousands of splashing Penguins jostled one another like seasoning logs in timber booms.



BOUNTY ISLANDS

Sketch by Captain Fairchild, New Zealand Govt. S.S. "Hinemoa," 1886.
 Discovered by Captain Bligh on the voyage which was brought to an end
 by the mutiny after leaving Tahiti.

Diving, rising, preening themselves, their enormous numbers stirred the agitated surface into a simmer. The cool sunlight of the south glinted on their sodden feathers. The keen wind blew their splash aslant. In strongest, strangest contrast to this wet dank fleet ranged to and fro great drifts of silver plumaged Petrel. Above, but only just above, the spatter and plash of the Penguin, this aerial army ranged and dipped and skimmed like swallows, or fluttered and danced and swayed like shining butterflies. Water and air alike were quick with life, the deep clean sea, the ozoned air.

These hosts of fluttering Petrel were, I believe, scavengering morsels of floating fatty matter shed from the bodies of the penguins or extruded in morsels from their beaks. They, too, like the four small land species mentioned elsewhere were indirectly benefiting by the obesity of the Penguin congregation; were also in some degree parasitic on their corpulent compatriots.

Apart and separate on their own particular water space swam buoyant multitudes of Cape Pigeon (*Daption capensis*). Here and there a dark Nelly, or Stinkpot, or Giant Petrel (*Ossifraga gigantea*) breasted in single self importance towards the "Tutanekai" for scraps, at its advance any lone Penguin, met, bobbing, bowing and disappearing. There were wicked Gulls, too, of the Blackbacked breed (*Larus dominicanus*) like Satan seeking always whom they might devour. Once or twice, but far away, Shag showed themselves, Shag which we believed were representative of the latest named New Zealand species (*Phalacrocorax ranfurlyi*). There were my White-capped Terns still at this late date feeding their nestlings on the narrow ledges of the dark cliffs fronting our anchorage.

On the heights of the particular portion of the Bounty Group visited, vestiges were found of what earlier in the season had been a large rookery of the

Grey-backed Mollymawk (*Thalassarche salvini*). On the abraded cones of their few remaining nests were to be seen huge fully fledged youngsters in grey and brown, white below bill, tip of beak dark horn, legs and web of feet bluish brown, eye black. There they sat, not on the centre of their hard eroded coprolitic cones like reasonable fowl, not secure on their breasts and feet like ordinary nestlings, but squatting on their hocks, viewing abstractedly, complacently, the great flat ungainly feet that overlapped their nests. It was difficult to forbear the slight upward twitch to the toe which would have inevitably caused a somersault. From time to time one of these lazy bones would rise and fully spread its wings. Upon these occasions the neighbouring Penguin would sidle away temporarily closing on to one another until the conclusion of the stretching process when again they could ease off and shuffling outwards replant themselves as before. Although now far apart and few in number, a sprinkling of these great inert monsters of Mollymawk stood grey and horizontal amongst the upright perpendicular Penguin—rogues in a seedplot, dull coloured weeds in a full garden gayly blue and white. It is probable that at an earlier date certain spaces had entirely belonged to themselves and that only since the departure of the majority had their particular portion of rock been taken over by the encroaching Penguin multitude.

Other bird inhabitants of the group were the Petrels, flying in their thousands over the washpool. Earlier in the season they, too, must doubtless have nested in numbers on the rock for still from time to time a breeding bird would alight, its huddled crouching footfall, its immediate furtive sliding dive into its nesting chink showing mistrust of the wind on shore, a terror of the very element that over the ocean provides a rapturous mastery of the fiercest squalls, a glad wild revelry above the millionfold marbled troughs of the heaving sea.



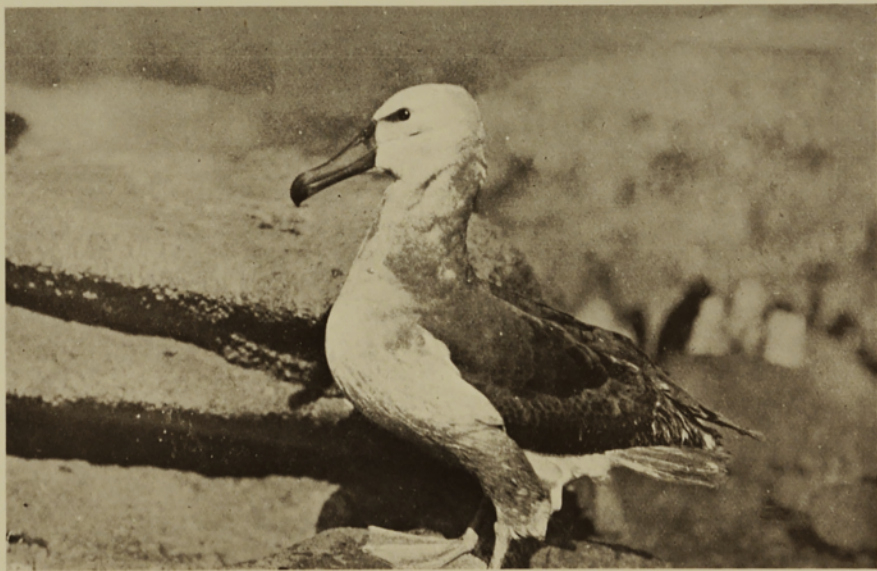
Parrakeet (*Cyanorhamphus unicolor*), Antipodes



Parrakeet (*Cyanorhamphus unicolor*), Antipodes



Cape Pigeon, Bounty Group



Mollymawk, Bounty Group

After momentarily perching flat on the bare rock the bird would disappear below the great undermined terrace sections. From beneath them grit had been scooped by wind and weather and its place taken by soiled shed Penguin fluff. In this shelter, up to their very necks in dirty feather beds I could spy out though not reach these grimy sybarites.

All other forms of life, however, were dominated by the Penguin horde—their numbers must have run into millions on the whole group, there must have been many hundreds of thousands visible on our small section of island alone. They stood on the land, they floated on the washpool, they streamed along the tracks, they never ceased to climb out of the sea. Only between the washpool and the land, a distance maybe of two or three hundred yards, were no birds visible; that intervening space was subaqueously traversed. We could mark their landward set, we could note, too, at their quays of ingress and egress the double stream of clean and dirty birds, the one ascending purified from the bath, the other coming down guanoed and defiled. If my memory serves me these two currents held right and left as scupulously as London city's midday throng. Where a track narrowed, the flippers otherwise loosely worn were tightly compressed, the clean birds drawing aside to avoid contact with the unwashed, behaving as we ourselves do in passing a sweep or coalheaver on the pavement of a street.

The spot chosen for our landing—the least bad of many worse—had been clawed by generations of Penguin into a slope so dangerously slippery that only wool gave any sort of a grip. Boots were discarded; guardedly and with circumspection we walked and climbed in stockinged soles. Hereabout, after making land, we dropped anchor a chain or two distant from the rocks and kelp, the stationary boat in no way disturbing the traffic

of birds. Afterwards, however, when endeavouring to disentangle the anchor that had fouled we tacked and chopped to every point of the compass. The movement then evidently scared the birds desiring a return to land; the multitude on the washpool grew every minute greater, quite dark it became with its steel-blue brood; evidently the Penguins who used this particular quay were not to be lightly side-tracked on to another.

Nearing the island we could see how each roller threw its burden of birds on to the land. Out of its crest they leaped on to the rock, that leap their last happy pelagic movement. Upon nearer approach also we could note how at each of these traffic posts, and there were scores of them, even the teeming kelp had been abraded by their wear and tear. From beneath the cliff they flung themselves ashore in dozens and scores. With every ascending wave they appeared as from a conjuror's bowl; from nowhere; at one moment invisible, the next dwarf, swart and wet, hopping painstakingly, laboriously up the slopes. The Penguin on land never seems to function properly—this solid earth is no fit spot for me—must be its constant lament. By sad inexorable necessity compelled to leave the ocean to lay an egg and incubate, with what joy must not the birds quit that dull routine, with what ecstatic delight must they not return to the tireless vigour of their leap and plunge action, that mode of movement too, adopted by the porpoise, seal and dolphin, to all four doubtless the line of least resistance through the fields of sea.*

Viewed from a distance as far as numbers and colour counted, the landing Penguin—we only saw their backs—might have been swarming bees in busy eager pursuit

* The Dolphin and Seal breach clear, the Penguin just does so, the more leisurely porpoise "The shallow water puffing pig" of sailor men, moving on the same principle but with more of a roll does not absolutely leave the sea in his rise and dive. Penguin do seem to be as ill-adjusted to their rocks as Albratross to their moors.

of their alighted Queen. There was this dissimilarity, however, that they were not a homogeneous whole; they ebbed and flowed in gangs and bands; they hopped in clans, communities and septs; one roller would produce a dozen birds, the next a score.

Like the vast armies of Petrel or Mutton birds, this host, too, was divisible into parts. Ocean itself would otherwise have been unable to provide food for their enormous number; consolidated into a single school they would have starved. Though probably—certainly it happens with the Mutton birds—each little Penguin clan and community may differ in date of laying, these minor dissimilarities, supposing them to exist, seem to be less pronounced than amongst Petrel. There were no quite young birds on any part of the rock, the differences were hardly discernible, at most but that of a few days unless indeed precocious broods had already taken leave of the group.

The rock itself was of a guano grey, here and there reddened in patches with ejected squid, here and there green with liquid excrement. Its scoured heights were piled in cubes and squares. The base of every crack and chink was trampled tight with quills brayed almost into fibre. Puddles of brown dunghill water filled every shallow depression. In the dry cold the discarded fluff of the moulting birds flew like soiled thistledown at every puff of wind. All nests—and I cannot believe them to have been substantial structures at the best of times—had been worn out and trodden flat; in fact the moulting of the birds was almost, or quite, accomplished.

Moving amongst and passing through their ranks, where most thick they had to be gently moved aside. On the best stands the birds could hardly have shifted even had they been willing and certainly they made no voluntary effort to budge. There were degrees only of discourtesy to the stranger within their gates, some

standing inexorably on their rights, others grudgingly assenting to our presence. They had no fear and no desire of us, their own concerns sufficiently engrossed their time. Clacking and clamouring in high remonstrance they submitted to be set aside. For the most part their armies were vast gatherings of unemployed. I could discover indeed but one bird actively occupied in the whole crowd. The far, far future lay before this exceptional fowl, a study in mental detachment, ludicrously preoccupied, he moved about collecting beakfuls of feather refuse, dreadful stuff trodden almost into pulp, clammy with salt and caked with dirt.

Shuffling to and fro Penguin fashion, out of an obscene chink industriously he gathered this pestilential material—mating birds of many breeds will now and again long before nesting time pick up sticks and otherwise show that their thoughts outsoar the present, but I never happen to have come across such persistence in so untimely an instinct—it is hard to see how it can have been pleasurable in this case, no mate was nigh and the very artificer shook his head as if in disgust after deposition of each beakful. Disheartening work it must have been, moreover, for his poor labour was again and again trampled flat, even during the brief time I watched. I had surmised that at least the rudimentary idea of a nest, a modified structure on the line of those of *Eudyptula albosignata*, *Eudyptula minor* and *Megadyptes antipodum*, perhaps a mere inch or two of seawrack would have persisted. The master of the "Tutanekai," however, unless my memory plays me false, with life-long experience declares that Penguin of the Bounty Group hold the single egg laid between the legs, resting on the upper part of the conjoined feet; there it is kept warm and secure in contact with the lower part of the bird's belly. I can now after our skipper's description of the egg-laying customs of *Catarrhactes sclateri* only regard



Penguins, Bounty Group



Penguins, Bounty Group

the efforts of this archaic bird as a remarkable case of atavism or reversion; its mentality was out of date by a few score of million years, that was all.

The fact is, Penguin ashore sustain a role but ill-adapted to their build. They hop doggedly, conscientiously, as if in performance of a duty but always without hilarity and glee. There is no glad buoyant bound in the poor Penguin's earthly pilgrimage; it is laboured, low, flat footed, stiff-kneed. Sloping forward as if about to fall he pauses after each effort gathering himself for the next. His bent back, his rounded shoulders, his anxious expression, his arms hung dejectedly by his side, give him the air of an old old wearied little man. Ashore his single posture that can inspire any kind of deference is that of absolute repose, though indeed even then the anthropoid image obtrudes itself of a small swag-bellied mortal in huge expanse of white waistcoat and shirt. Penguins in truth can never be seen without in some sort suggesting ludicrous human analogies. They are not altogether men nor yet quite birds—Sir James Clark Ross has compared them to battalions of solemn little men in dress suits; Dr. Murray Levick has described them rolling about and splashing, making sounds exactly like a lot of schoolboys calling out and chaffing each other, "so extraordinary was the whole scene that on first witnessing it we were overcome with astonishment. It seemed to us almost impossible that the little creatures whose antics we were watching were actually birds and not human beings." A later expedition has dubbed them the Charlie Chaplins of the Antarctic. By Penguins in their gait as by apes in their physiognomy the great race of man is in some sort caricatured.

They take on the similitude of every kind of human gathering, they are crowds on the thronged beach of some fashionable watering place, they pass and repass each other like busy men in a city street, they are sober

folk scaling from Kirk and Conventicle, they are dispersing members of a committee still reiterating each his own especial view—they are Sunday School children in clean, white, shining pinafores. As corporate bodies or individually there is no limit to their likenesses to men.

Accepting us with more of annoyance than fear these strange creatures stood plantigrade in every attitude, bowing and bending, stretching their necks, twisting their heads and always irefully prepared for instant strife. Their expressions varied as greatly as their attitudes, coy, dignified, despondent, sleepy, even—in modern phrase—bored to tears. Whole hill-sides of these little people we passed on our upland climb, rocking and ranging, shuffling, easing off, marking time, glancing their angry eyes from side to side. Protestingly they moved and then again stood firm, but sometimes a slow and solemn panic, a very deliberate perambulatory stampede would seize an entire army corps; thousands would slope off the field—slope by-the-bye is exactly the right word. It was easy then for the intruder to fancy himself—for always, always, always the idea persists that Penguin are people, people of small stature indeed but still human beings—it was easy then I say, seeing them flee, for the intruder to imagine himself some demi-god, some being of heroic mould scattering a host with his single arm, till in a day dream he expires immortal, historical, Wolff on the heights of Abraham. On the Bounty Group fancy indeed cannot but take the wildest, widest flight. On the mainland of New Zealand the writer can assure readers he is a strictly moral person. Unconscience-stricken, unabashed he can look bishops in the face; he defies any man to say that in the North Island or the South Island or even in Stewart Island his way of life has not been unimpeachable, perhaps indeed virtuous to the verge of eccentricity; but really here alone . . . well . . .

. . . he must confess that his mind would revert to the

glories of Solomon and his attendant train. It would recur to his memory that Dr. Johnson—Dr. Samuel Johnson—in an armchair on the island of Skye had declared: "That in his seraglio the ladies should all wear linen gown or cotton"—and who is the author of this little volume that he should set himself up as better than that majestic teacher of moral and religious wisdom? It was impossible in fact not to reflect that half of these people whom he could thus sway to his wish and will were ladies "clothed in white samite mystic wonderful"—dear darling little creatures in spotless undies, combies, knickers . . . Well . . . and it just shows the ethical value to the world of the racial conscience, the restraint of public opinion on frail male morality . . . but down here in the Bounty Group what could it matter? . . . a quite limited entourage, a reasonable roll . . . say five, "five sweet symphonies, Cecily, Gertrude, Magdalen, Margaret and Rosalys" . . . six perhaps . . . one for every day of the working week . . . or make it seven, one extra for a Sunday treat.

On the other hand whatever might be the influence of man on these sea-fowl en masse, a single specimen cornered will look up straight into his disturber's countenance, more of the open throat by the way on these occasions visible than the head, and croak forth abuse the easier of interpretation in my case from previous general acquaintance with the race. They confused us as we confounded them, they esteemed us Penguins of unclean habits and unpleasant appearance.

One particularly acrimonious person for instance began to abuse me for an unwashed bird returning from sea level, an unprecedented occurrence of course in Penguin experience as we could tell from watching the ceaseless climb of clean birds ascending from the ocean. "Go and wash"—"Go and wash"—"Go and wash,"

so its outcry rang in my ears—an outcry echoed by dozens and scores of its neighbours. With any other creatures on the face of the earth such vituperation of course would have been mere empty sound but as I have said, and affirm again, with Penguin it is a different matter. They cease to be birds. After two or three hours association they had become humanised enough for me to desire at least ordinary common justice—ordinary fair play. I was alone, moreover, there was not a soul to keep me in countenance; it seemed at the time perfectly natural that I should find myself vindicating my conduct to these denunciatory birds.

The fact is that I was wearing what had been a white sweater covering my chest and abdomen; certainly it had become soiled in crawling through peat and clasping clumps of wet *Pleurophyllum* and *Stilbocarp*, but how on earth I should like to know *could* I have had it laundered on the "Tutanekai?" It wasn't *my* fault, yet at my least movement dozens of neighbouring birds—birds who couldn't even *see* my sweater, from shelves below and slabs above would repeat the parrot cry of "Go and wash"—"Go and wash."

Another set of silly asses on another part of the rock would deride what they chose to consider my crest—when Penguin become really enraged their roar rises to a high pitched yell; the new scream, the dernierest cry, was "wears its crest beneath its beak, its crest beneath its beak." Well, I *know* my moustache is white, it *will* get like that—I am not so young as I was—I can't *help* it; possibly, too, it may be extra conspicuous on a weather-beaten, but I do trust, an honest countenance.

Nor did my very feet escape, this time I was mis-called as a straggler belonging to one of the polar branches of the breed, which just shows as amongst ourselves that the mere fact of singularity and unpropinquity



Penguins, Bounty Group



Penguins, Bounty Group

may easily engender dislike. Readers of Arctic literature, will recall descriptions of the breeding habits of the Emperor Penguin, how during incubation the egg rests on the foot and is protected further from the intense cold by a flap or fold of overhanging skin. They will recollect, too, the fatal competition for nestlings amongst the old birds and lastly how eggless birds failing living chicks will brood lumps of ice.

No man knows the sea routes of the Penguin tribes, hence it is not impossible that the paths of the Bounty Island species may overlap and intercross those of the Emperors; anyway the former had apparently gathered enough exaggerated sea gossip to nourish a foolish hatred of their tall cousins, amongst whom, doubtless on account of my height I was included.

Will it be credited that a couple of these Bounty Island birds began a fresh uproar because I was too thin forsooth for their worshipful taste and showed an instep? "Not even webbed," "Not even flat" was now the thousand throated shriek, "Doesn't know ice from egg—you smike, you bone, you skeleton." I *am* thin, I have never denied it, but better *that* anyway than bloated obesity, and of *course* I can't balance an egg on my toes—I never even tried.

I had read of mob psychology, of the herd feeling, of the urge of propaganda; I had not credited their persuadabilities. It was different now; could, I began to ask myself, all these vast crowds be wrong and I alone, one single individual right? How can opinions challenged hour after hour in endless iteration remain unshaken? I began to doubt my identity; for fractions of time I almost came to believe that after all I must be akin to the multitudes round about me, or at any rate a kind of tweenie, malformed only about the crest and feet and not thoroughly clean.

As in the eyes of Ross, Shackleton, Levick and of every expedition before or since, in contact with Penguin, so in mine had these strange beings transmuted themselves to uniformed hordes amongst whom I might have taken my place, into lounging crowds whose stereotyped colours I might have worn, into whose massed regiments, amongst whose ranks I might have enrolled myself.

Even amongst good men like myself deterioration soon develops. In the society of these Bounty Island people—Penguins I mean—in this our companionship of a few hours I was aware of an incipient loosening of moral fibre. Thoughts would obtrude themselves as to the desirability of the harem system, the pomp of leadership in arms, the bliss of oriental absolute command. Likewise, too, was I amazed at debasement of my better self in another fashion; phrase and vocabulary commenced to retrograde to school time speech. It was part and parcel doubtless of the subtle change working in me from something but a little lower than the angels and crowned with honour and glory, to pelagic fowldom. “How strike a chap” surprisedly I found myself soliloquising “So much smaller, how hit a fellow who wouldn’t put up his hands; how kick the conceited coprolite—only at school we used another word—who gave you cheek.”

Of course with the Geneva Conference sitting I knew it was no time for brutality; all the same it was hard to be wantonly abused and not retort. There were, however, methods of reprisal at hand less drastic than application of the foot and fist. Nature in fact on the Bounty Group has provided dozens and scores of opportunities for retaliation; vengeance lay in the narrow rifts, the cleavage pattern that seams the island; in depths these miniature precipices ranged from three to seven and eight feet.

Now a Penguin in single combat with a man retreats, but always gallantly retreats with front to foe. It was not difficult therefore to hold the creatures attention by hopping high, by oscillation of the head, by contortions and writhings of the countenance. Advancing thus in a stooping attitude, eyes rivetted on your opponent as in a duel, it was an easy task so to manage that the bird was forced to shuffle backwards, always backwards.

At last like Hamlet's uncle cut off in the full flower of iniquity roaring forth curses "Go and wash"—"Go and wash"—"Go and wash," there would come a momentary terror in the eye of the bird, a frantic scraping of cliff edge, a windmill flap of attempted recovery, then catastrophic silence. Shimei, the son of Gera had in fact fallen bodily upon a fat gentleman below. Peeping over I could see a terrific hand to hand combat apparently as in Lancashire style of wrestling, no grip disallowed.

After that first success with almost no compunction and with almost no delay—too soon the hardening of the human heart begins—I focussed upon myself the indignant gaze this time of a particularly outrageous couple. As before the psychological moment duly arrived. Capering, leaping and hissing out—this kind of thing grows on you when alone with Penguin—"Villainous birds you lie" the screaming yell of "doesn't know ice from eggs—doesn't know ice from eggs" ceases on the instant; with the birds themselves it goes down into the pit.

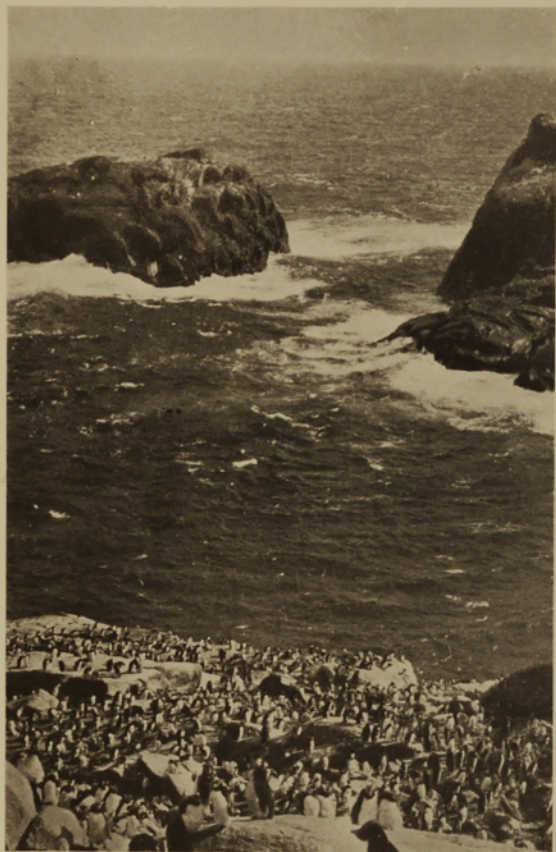
As before the cliff edge had been unobserved or in their hymn of hate forgotten; this pair of Penguins, too, had fallen on to the very beaks, like spears uplifted, of those beneath; again had occurred one of those catch-as-catch-cans, an incredibly rapid multiple exchange of flaggelations, buffetings, flappings, bitings and cuffs.

Was it wrong thus to tease the poor Penguins, was it additionally wrong in one old enough to have known better! Well! it was done but twice or thrice, and I can guarantee that the quilted armour of the warriors was impervious to the most vicious punching and shaking.

In ages long ago these lines of cleavage may have proved dangerous as traps and pitfalls, they are now so clawed that escape is everywhere possible. Penguin, moreover, can shoulder and foot themselves out of almost any hole, they can squirm and wriggle like rock climbers out of a crevasse.

Amongst the tens of thousands actually walked through I never saw a dead bird; a few, however, floated lifeless on the bay, their dense feathering resisting the bills alike of Giant Petrel and of Blackback Gull. One bird I saw fall without assignable cause from the sea cliff; striking on ledges on its downward drop of many hundred feet it lay stone dead just above high-water mark.

It was difficult as we stood away not to believe we were leaving friends ashore, not to flutter a farewell to this vast sea-going population, something of whose life we had for one portion of one day beheld. Then slowly the Bounty Island Group became a thing of the past. The rising haar, the grey sea fog blotted out one by one the base line, white with ocean break, the gleaming cliffs, the scourged and naked tops. At length save in memory the group was gone, yet wonderful still it is to reflect on modes of life that know not change, that in the loneliness of these wide seas flourish a folk whose ways are as the ways of God, with whom there is no variableness neither shadow of turning.



Penguins, Bounty Group

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To lovers and students of nature, both in New Zealand and overseas, the appearance of

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is a noteworthy event. It is over a quarter of a century since Mr. H. Guthrie-Smith delighted nature lovers with his "Birds of the Water, Wood and Waste." Eleven years later appeared the now classic "Tutira."

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The intimation by Mr. Guthrie-Smith, that this will be his last published book, will be received with unaffected regret. "To a friendly public," he says, "the author takes the occasion of bidding a final farewell." That fact will add a poignant interest and particular value to "Sorrows and Joys of a New Zealand Naturalist. In view of this, purchasers will be gratified to know that each of the limited edition of one thousand copies will bear the signature of Mr. Guthrie-Smith.

Continued on Back Flap.

To those who are acquainted with Mr. Guthrie-Smith's previous works, it is unnecessary to state that they not only enshrine the results of a patient and keen observer of nature, but that his story is told with such literary skill and charm as to add greatly to the reader's enjoyment.

A very attractive feature of

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A few words may be devoted to indicating the wide sweep of the author's observant quests. From Cape Farewell and Bird Island he takes us to the woods of the Nelson province, where we make the intimate acquaintance of the Canary and Blue Heron. After sharing the naturalist's sorrows in the Marlborough Sounds we move southwards, and watch the ways of the Wrybill in the Rakaia river-bed. Expeditions to various places in and around New Zealand enable us to fraternise with the Tern, the Red Bill, Blackbilled Gull, Banded Dottrel, White-flipped Penguin, Rock Wren and Grebe. Memorable visits are paid to the Kermadec Group, the Snares, Auckland, Campbell and Antipodes Islands. Four hours on the Bounty Group brings to a close a fascinating and informative series of expeditions, in which, however, we shall wish again and again to accompany our guide, sharing with him his sorrows and joys. For this reason the book is emphatically one not merely to borrow, but to keep upon one's own shelves for reference.

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