

ANTARCTIC

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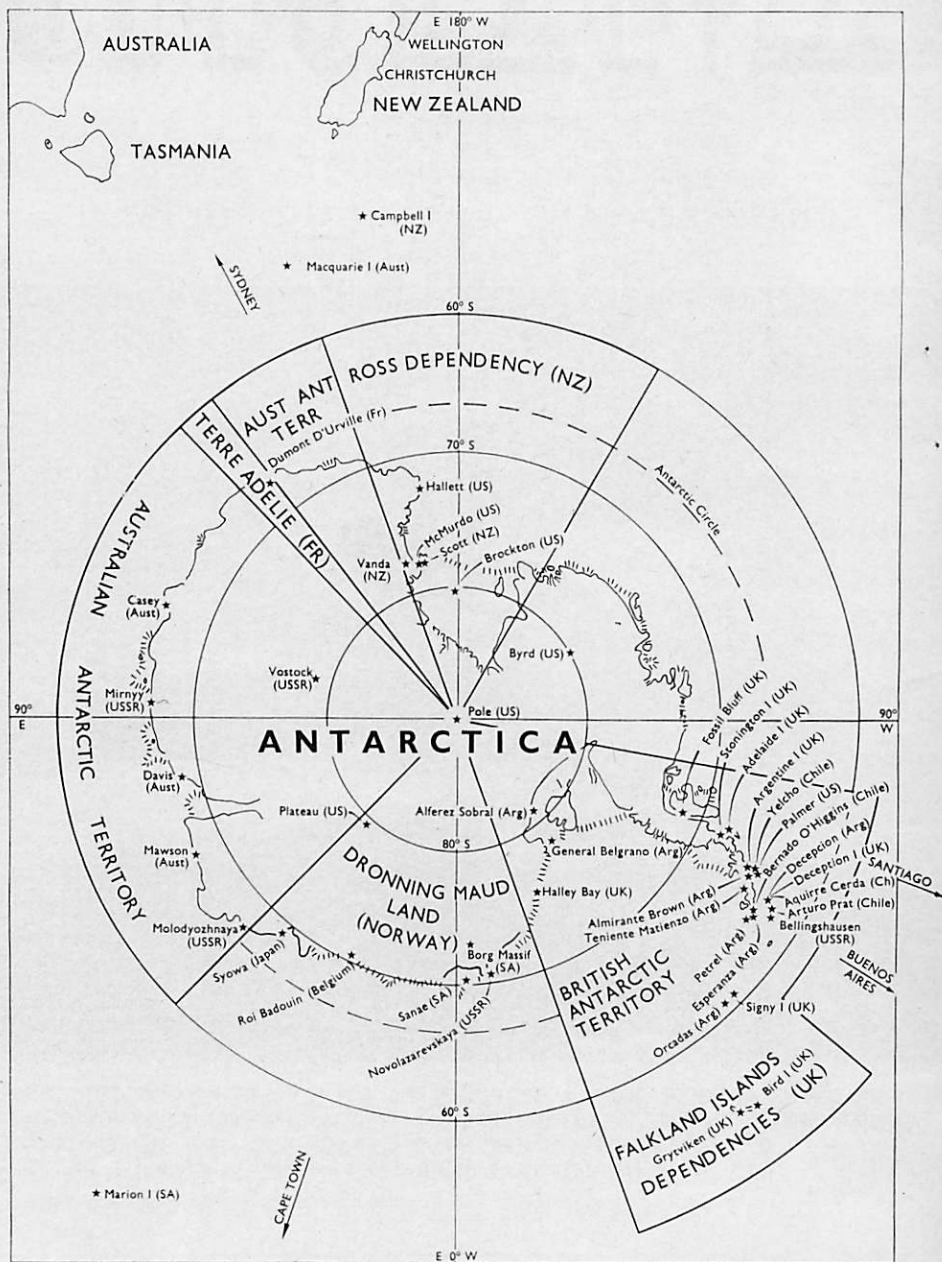


BRITAIN'S LARGEST AND MOST POWERFUL POLAR RESEARCH VESSEL, THE BRANSFIELD, IN ANTARCTIC WATERS ON HER MAIDEN VOYAGE EARLY THIS YEAR. SHE HAS REPLACED THE SHACKLETON FOR THE RELIEF AND RE-SUPPLY OF BRITAIN'S SEVEN ANTARCTIC STATIONS.

British Antarctic Survey Photo — B. Peters

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Editor: H. F. GRIFFITHS, 11 Dartford Street, Christchurch 5.

Asst. Editor: J. M. CAFFIN, 17 Wilfrid Street, Christchurch 4.

Address all contributions, enquiries, etc., to the Editor.

All Business Communications, Subscriptions, etc., to:

The Secretary, New Zealand Antarctic Society, P.O. Box 1223, Christchurch, N.Z.

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For some time now this journal, like so many other publications, has been faced with the problem of continually rising printing costs.

We had hoped to keep our subscription rates at their present level, but at a recent meeting of the Publications Committee it was reluctantly decided to increase forthwith all rates by 50 cents a year.

This means that the new subscription rates, which will operate immediately, will be:—

OVERSEAS: \$3.50 a year including postage (air mail postage extra).

NEW ZEALAND: Society members, \$2.50 a year; non-members, \$3.00 a year.

**BRITISH SURVEY NEWS**

# Sir Vivian Fuchs returns to old Shackleton base

Nearly 14 years after he and his party set out on the first crossing of Antarctica, Sir Vivian Fuchs returned for the first time to Shackleton, the expedition's old base at 77 deg. 57 min. S.

Now director of the British Antarctic Survey, Sir Vivian Fuchs was able to visit Shackleton when the R.R.S. Bransfield called there early in February on her maiden voyage to the Antarctic.

Britain's largest and most powerful polar research vessel, the Bransfield sailed from Southampton on January 4 and returned on May 21. She made her first voyage in a season which was remarkable for a record absence of sea ice in all areas. Her design and handling characteristics were found to be most satisfactory.

After calling at Montevideo, where Sir Vivian Fuchs and the logistics officer, Derek Gipps, embarked, and the Falkland Islands, the Bransfield arrived at South Georgia on February 3. By this time the route to Halley Bay was ice-free, and the 1300-mile voyage was made in a record four days instead of the normal eight to 12. The Bransfield's service speed of 13.5 knots compared with the John Biscoe's 12 and the Perla Dan's 10 helped her to make a fast voyage.

## OLD BASE RE-VISITED

Unloading at Halley Bay was completed in four days and advantage was taken of the open water to continue 200 miles southwards to Shackleton. The base was found to be in excellent condition with the roof still showing above the snow and the anemometer still working. In contrast, the I.G.Y. hut at Halley Bay, which was built at the same time, is now 60ft. below the surface.

Shackleton was closed down on November 24, 1957, when Sir Vivian Fuchs

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**No British Antarctic Survey news was printed in our March issue because of the British postal strike. This report covers ship movements, re-supply of bases, and the work of field parties from the beginning of the year.**

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and his party set out for the South Pole and Scott Base.

After the Shackleton visit the ship moved westwards to pay a courtesy call on the Argentines at Belgrano Station before making the final push southwards, as far as it is possible for a ship to penetrate. During the last two days in the area, 6in. of new sea ice had formed (the temperature being  $-25^{\circ}\text{C}.$ ) and it was deemed prudent to turn north. On this leg of the voyage sufficient ice was found to test the Bransfield's capability which proved to be most satisfactory.

## RELIEF OF BASES

From the Weddell Sea the Bransfield sailed to help the John Biscoe relieve the Antarctic Peninsula bases, the furthestmost—Stonington—being 3000 miles distant by sea although less than 1000 miles due west. On the way she called at Signy Island (in the South Orkneys) and the Falklands, and then transported some of the 1970 wintering party to Punta Arenas to be flown home.

The ship then joined the John Biscoe off the west coast of the peninsula. There, conditions were unusually diffi-

cult for an unusual reason. The sea ice normally damps down the heavy swell from the Pacific Ocean, but this year the lack of ice allowed the swell to reach the coast, making landing operations particularly hazardous.

The situation was aggravated by the presence of large numbers of bergs. Small boats suffered damage and two men were injured while unloading at Adelaide Island, one suffering broken ribs and the other a broken ankle.

Nevertheless, the Bransfield's design and handling characteristics were found to be most satisfactory. In particular, the passive stabilising system was very effective in reducing the rolling of so rounded a hull.

### BISCOE'S VOYAGES

The Biscoe's first summer voyage from the Falklands began at the end of November last year. South Georgia and Signy Island were relieved, and the ship then went on to Anvers Island where the old base, which had been closed in January, 1958, was reopened as a summer air facility. The British base is near the United States Palmer Station. The four men left in charge established a fuel depot and prepared an emergency runway on the ice piedmont above the base for the two aircraft flying between South America and Adelaide Island.

The ship then continued south to the Argentine Islands before returning to South Georgia via Deception Island and King George Island.

Several weeks in January and February were spent carrying out biological work in the seas around South Georgia, the South Orkney Islands and Elephant Island. Parties of biologists and geologists were also landed at a number of otherwise inaccessible points, and the unoccupied South Georgia whaling stations were inspected.

Deception Island was revisited at the end of February, but bad weather made it impossible to carry out any useful work there, and the ship therefore proceeded down the west coast of the peninsula once more. The Adelaide

Island base was reached at the end of the month, but rough seas delayed unloading for a week and in the meantime the ship went on to Stonington Island.

The Bransfield arrived off Adelaide Island in the middle of March and stayed in the area until the end of the month, while the Biscoe returned to the Falklands and thence back to Southampton.

The Biscoe is now undergoing extensive engine repairs to rectify the trouble which delayed her at the beginning of the season. The Bransfield has been returned to the builders for a complete check and the correction of various teething troubles.

In addition to landing the Joint Services Expedition on Elephant and Clarence Islands (see Antarctic March, 1971, p. 29), H.M.S. Endurance resumed hydrographic survey in the Argentine Islands' area using Decca hifix equipment.

A number of other ships were also in the area. In fact the Argentine Islands had a specially busy shipping season—the final number of visits being Endurance five times, Piloto Pardo (Chile) twice, Yelcho (Chile) once, Westwind's helicopters (United States Coast Guard) once, San Martin (Argentine) once, Bransfield twice and Biscoe three times.

Two other visitors to the west coast were the yacht Awahnee which had hailed from New Zealand and later called at Signy, and the United States research vessel Alpha Helix. The United States research vessel Hero based at Palmer Station, also visited Signy and four geologists on board (including one woman) spent several weeks working on the island.

A 30ft. French yacht Damien, with a crew of two put in at Grytviken, South Georgia, in the course of a round-the-world cruise. Several Russian trawlers also visited South Georgia.

### AIR OPERATIONS

The two aircraft, the twin-engined Otter and the Beaver, were flown south from Punta Arenas in the second week



**H.M.S. Endurance, the Royal Navy's ice patrol and survey ship, in the ice off Stonington Island, Marguerite Bay, Antarctic Peninsula. She was formerly the Anita Dan, and was bought from the J. Lauritzen Lines, of Copenhagen, in 1967, and has been in service in southern waters since 1968.**

B.A.S. Photo by B. Peters

of December, and cargo flights to Fossil Bluff and Stonington Island began almost immediately. Among the stores taken to Fossil Bluff, was material for an extension which was added to the hut in February.

Engine trouble in the Otter and a damaged tail-ski in the Beaver took them out of service for a while in January, but the aircraft assisted field parties and supplied depots throughout the rest of the summer in spite of periods of poor visibility.

#### FIELD PARTIES

At the end of November a United States Hercules aircraft flew four B.A.S. men from Halley Bay to the Shackleton Range where they had a very successful season continuing the geological survey begun two years previously. The party was returned to base at the end of January.

The B.A.S. chief geophysicist, J. Far-

man, was flown into Halley Bay on the first aircraft and stayed there until the Bransfield's visit. He then sailed to the peninsula and stayed at the Argentine Islands observatory while the Bransfield went south to Marguerite Bay.

Two hundred snow samples were collected on a 600-mile tractor journey inland from Halley Bay. These have been brought back to Britain for analysis of the various contaminants, some of which are of natural origin, such as marine salts, volcanic dust and cosmic dust, and others of man-made origin. The amount of contamination will be correlated with the various ages of the samples.

#### OTHER ACTIVITIES

Field work south of Adelaide and Stonington included glaciological observations and the measurement of a survey base line near the Bluff. Geological sledge parties from Stonington worked

in the Eternity Range, in the Fleming Glacier area south-east of Marguerite Bay, and also in northern Alexander Island. Surveying parties also worked in the Batterbee Mountains east of George VI Sound.

All field parties returned to Stonington by early February when the summer melt restricted travel, and the aircraft were then engaged on depot-laying and cargo flights. They were flown back to Toronto in early April for servicing.

At South Georgia, biological work has been extended. The zoology wet laboratory is now functional and experiments on krill have begun. The King Haakon Bay botanical survey and geological work east of Cumberland East Bay were successfully carried out.

A wide range of biological projects at Signy Island have been supervised by summer visitors, notably Dr R. Laws, a former base leader of Signy and South Georgia who is now head of the British Antarctic Survey life sciences section.

### ERUPTION STUDIES

An international party, including two Britons, arrived at Deception Island in mid-December on board the Argentine vessel Zapiola (see Antarctic, December 1970, p. 490). They found that the eruption of August 13 last year had resulted in some major changes.

The island formed in Telefon Bay in 1967 had been much eroded, and had become linked to the land by a series of vents along an arcuate fissure. The former land eruption centre had been obliterated by a mud flow and had been superseded by new vents further north. The entire west side of the island appeared to be ash-covered.

Two very large seismic shocks (7.3 on the Richter scale) were recorded at the Argentine Islands on February 8. The theoretical focus appeared to be nearer than Deception. Long period sea waves were also recorded. The Argentine Almirante Brown base, about 40 miles north-east of the Argentine Islands, also reported tremors.

W. Sloman, the survey's personnel officer, visited McMurdo, Byrd and

South Pole Stations as a guest of the United States Navy. He also called at Scott Base at the same time. The survey's geophysicist, J. Farman, also visited the United States stations before flying to Halley Bay.

## ICEMANSHIP

Selling refrigerators to the Eskimos has long been regarded as the peak of salesmanship. In November a 33-year-old Englishman will fly to the Antarctic to try to sell encyclopaedias to the Americans.

Mr Brian Heath, of Auckland, is North Island district manager for Encyclopaedia Britannica. He has half of New Zealand as his sales territory, and suggested to his principals in Chicago that he should add an extra 5.5 million square miles to it. They liked the idea and were able to obtain approval for his visit.

An encyclopaedia salesman in the Antarctic would have a captive market, and Mr Heath is hopeful of making sales. An American oceanographer has told him that many of the men at the United Stations are academically minded. They not only study encyclopaedias at the stations, but rip out pages to take away for closer examination.

\* \* \*

### EARLY U.S. NAVY FLIGHT

Two United States Navy Hercules ski-equipped aircraft will fly from Christchurch to McMurdo Sound on September 1. The aim of the flight, which was planned last season, is to get some technical staff and scientists to the Antarctic before the summer season begins.

Three Hercules aircraft will land at Christchurch on August 30. They will carry 82 passengers.

# SOUTH ON THE WINGS OF THE MORNING

By **GERALD S. DOORLY**

Gerald Stokely Doorly was born on June 4, 1880, at Port of Spain, Trinidad, where he was educated at Queen's Royal College. He was a lifelong friend of Admiral Lord Mountevans (Evans of the Broke), for both were cadets in the Thames training ship Worcester. From thence Doorly entered the Merchant Service while his chum went into the Royal Navy.

Doorly began his long career at sea in the traditional manner by voyaging round Cape Horn in a windjammer. From this stern apprenticeship he passed to steam. He made two voyages with his friend Evans to the Antarctic in the Morning, relief ship to Captain Scott's vessel the Discovery with the National Antarctic Expedition of 1902-04.

After serving as second officer in several ships Doorly came to New Zealand in 1905 on the maiden voyage of the Arahura, and joined the Union Steam Ship Company. He was second officer and chief officer in 12 of the company's ships.

Appointed to master, he commanded no fewer than 21 ships and was in command of the Aparima when that vessel was torpedoed and sunk with heavy loss of life in the English channel in 1917.

Captain Doorly left the Union Company in 1925 and joined the Port Phillip (Melbourne) pilot service, retiring in 1945. He later came to live in New Zealand where the present editor met him on several occasions, and found him a delightful raconteur. In his last years he wrote an autobiography which follows closely his earlier book "In the Wake".

He died in 1956, and we are honoured to print in this and succeeding issues the Antarctic portion of his unpublished manuscript as a small tribute to a great sailor.

## DOORLY'S MEMORIES

Arriving at Southampton one voyage about the middle of June, 1902, a great surprise awaited me. Amongst my mail was a telegram from my friend Evans\* which contained the astonishing query: "Would you care join Antarctic Relief Expedition? Ship Morning sailing early July. Friends quite agreeable. Reply at once or place will be filled."

I went below to my cabin to consider this startling proposal. Why a relief expedition? To relieve whom? It was possibly connected with the Discovery expedition, which had sailed about a year before for the Antarctic. But what did I know of such things? Was I suitable for an undertaking of that nature?

Then it flashed through my mind—Evans and I would sail in the same ship! My mind was soon made up, and, obtaining leave from the captain, I proceeded to London.

## S.Y. MORNING

Polar adventuring was more impressive in the days when little ships sailed into the Great White South veritably into the unknown, before wireless telegraphy times. It required greater daring, and the tasks of past expeditions have made the job easier.

Repairing directly to the East India

\*Later Lieutenant E. R. S. R. Evans, second in command of Scott's last expedition, 1910-13.



Docks, I discovered a small, wooden Norwegian whaling vessel of some 300 to 400 tons, barque-rigged but with a tiny yellow funnel in the after end and a long barrel-shaped crow's nest at the mainmast head. The name across the stern was unusual. It read: S.Y. Morning, R.G.S.

The pokey little whaler exuded such a pungent aroma of blubber and whale oil that I was later told that several would-be Polar heroes, having ventured on board, inhaled one devastating sniff of her and hastily beat it for shore! However, it needed more than this to put me off.

No-one seemed to be about, but friend Evans spotted me as he popped his head up from the one and only hatch.

"Hello, Jose\*!", he called out. "Welcome to the Dreadnaught."

I skipped up a plank to the deck and we greeted each other with great joy.

"Well, I'm here!" I said.

"Jolly good job, too! The captain will be down soon—he'll be glad."

Evans put me wise as to what was doing. There were over 50 applicants for the position of third officer (he himself was second), and of these there remained only two, of whom I was one; the other was a young naval officer, Mulock, with surveying experience.

Evans was concerned about the situation. He was keen for me to join up, naturally; at the same time he felt generously disposed towards his brother officer who, by his credentials, appeared to be better qualified than I for appointment.

### AN ANXIOUS TIME

I met Captain Colbeck on board. He impressed me as being a fine sailorman, and he had experienced an Antarctic voyage, in the Southern Cross, sponsored by Sir George Newnes (of Strand Magazine fame). He had been magnetic observer of the first party to spend a winter in the frozen south.

The Captain said that Evans' telegram to me was premature. It was difficult



Gerald Doorly as a young man.

deciding on the officer to be appointed. However, he held out hope for me, and hinted at the nature of my duties should I be chosen. That seemed encouraging. He said he would see Sir Clements Markham on my behalf that evening.

I returned to town, and decided to call personally on Sir Clements. As a boy in the Worcester I remembered Sir Clements Markham coming on board occasionally during winter terms and giving lectures to the cadets on Arctic exploration. One of our "O.W.'s", A. B. Armitage, was at that time in the Arctic with the Jackson-Harmsworth Expedition, and Sir Clements had been, as a young naval officer, on a search expedition to the Arctic in quest of the fated Franklin party. I felt Sir Clements would be friendly; he was interested in Worcester boys, anyway.

The interview was a happy one. I

\*Doorly's nickname.

learned a lot about myself and my record! It was evident my chum had blown my foghorn to some tune. The selection from so many excellent men was stressed, but I felt convinced that Mulock was my only rival.

Sir Clements told me frankly that Captain Cust, R.N. (who was Mulock's sponsor) was Chief Hydrographer to the Admiralty, and Mulock's claim therefore had to be considered. Any decision would be conveyed to me by the council of the Royal and Royal Geographical Societies—and that was that!

I next called at the P. and O. offices in Leadenhall Street to see how matters stood there. Sir Clement Markham had communicated with the chairman of the company suggesting long leave for me should I be appointed to the relief expedition.

I was surprised to find that I had been promoted and appointed to a ship sailing in a few days for Bombay. Had no-one been told of my hope of joining the Morning expedition? Communications had been received some time ago, they said, but as no word had come from me, it was thought I had been unsuccessful, so had decided not to go! As I had only known that very day of the possibility of going on an expedition, I could not have communicated much earlier. I promptly applied for leave, and happily it was granted.

Then I hastened to St Bartholomew's Hospital to see my mother, who had undergone a serious operation. She was thrilled with my news, and beamed with delight. "You'll get the job!" she said brightly. "You were born with a silver spoon in your mouth, sonny!" We laughed and both felt very happy.

When I got home my father didn't seem so sanguine about my prospects. "You're very young, my boy," he said. "That's what Sir Clements Markham said!" Though I admit he had his tongue in his cheek. He favoured bright young men—they'd always served him well. Some of his learned Fellows regarded us as "the Babes in the Wood", I heard! (Why? Mulock celebrated his twenty-first birthday in the Antarctic!)

However, one anxious week passed and no word came from the R.G.S. When Saturday arrived I decided I should make some move myself. Hiring a bicycle, I rode through Blackheath and Greenwich, and finding a way through the Blackwall Tunnel (under the Thames) I soon got to the Morning.

Much activity was taking place. Deck-houses and lockers were being built; running rigging rove off, sails bent, and fittings fitted all over the ship; and stores were being stowed away.

Evans was up to his eyes in work. He knew nothing about what I had been doing—indeed, he hoped when he saw me that I was the harbinger of glad tidings. Whilst cogitating on the little poop-deck, Evans, turning towards the dock gates, exclaimed: "Here's the missing link, Jose—Mulock!"

We were introduced, and we chatted frankly together. Mulock was keen to go, and so indeed was I. Mulock was one up on me—his "Commissioner", he thought, was on board. We discussed the position, and Evans considered it would be worth suggesting that both be appointed! We could do with another officer—the Discovery had four.

Evans was optimistic, and repairing below to his half-built cabin, he handed out a tin pannikin out of which we "toasted", in turn, success to the Antarctic Relief Expedition. He then said he would put our case to Sir Clements Markham that very evening. In the event of both of us being accepted, Evans thought it right, if sporting, to toss for Third Officer. He tossed. Down clinked a florin. I called "Heads!", and it was so. So I was Third Officer!

### APPOINTED

More or less jubilantly I returned to Lee; but thinking over the facts fairly, my chance did not seem very hopeful. Before turning in that night a telegram arrived for me. It read: "Cheer up; both going! Teddy."

I was delighted. We attended a dinner on the Monday evening in Hanover Square, given by the Royal Geographical Society to us. I was rather hazy about it. I remember shaking hands with

Sir Clements Markham in his decorations who, being the president of the R.G.S., was handy in the foyer. So also was a busy little man with a grey beard who pounced on me and asked me who I was.

"One of the officers of the Morning," I said haltingly.

"Splendid!" he replied. "Tell me, then, what do you think of my idea of the ballast tanks?"

Without batting an eyelid, I think, I agreed that it was a good idea.

"Quite!" said my new friend. "The very thing—though it was difficult getting the society's permission to put them in."

Happily Teddy Evans was in the offing, and I turned to him in bewilderment.

"Evans is one of our officers, too, sir," I ventured.

"Yes, yes. We know Evans very well, don't we?"

"Yes, Mr Longstaff—you know Dooly?"

Evans explained later. Mr Longstaff had given £25,000 to the expedition, and one of his hobbies was ballast tanks. He put them into the ship at his own expense.

### PREPARATIONS

My duties commenced at once, and the work was extremely interesting. The first job I had was addressing letters to publishers and book firms seeking supplies for the Expedition. The response was most generous.

The Morning had made her steam trial from East India Docks to Sheerness with a scratch crew composed of the captain, two retired admirals and Sir Clements Markham, all of whom were old Arctic warriors; one executive officer, Teddy Evans, and Alf Cheatham, bo'sun, who bossed them all.

Chief Engineer J. D. Morrison was in charge of the engines which, as he later wrote in one of his inimitable verses, "was misfits from prehistoric time", and risked donating a pound to the Poplar Hospital should the trial be successful. It was; Morrison paid up.

After this experience the Commander-in-Chief at the Nore lunched the party at Admiralty House, Chatham, during which Sir Clements behaved in an apparently unorthodox manner by winking deliberately and unashamedly across the table at his host's two pretty daughters!

"Don't be alarmed, gentlemen," he explained, noticing the look of amazement on the guests' faces. "I'm only teaching the girls the dots and dashes of the Morse alphabet!"

### SAILING DAY

Shortly before sailing the Bishop of Stoney held a service on the deck. He wished us God-speed, and shaking hands all round he gave to each of us a Bible, in the flyleaf of which he wrote:

"If I take the wings of the morning and dwell in the uttermost parts of the sea, even there shall Thy hand lead me, and Thy right hand shall hold me." Psalm 139.

We had hinted about trying to beg, borrow or steal a piano, but it was dear old Sir Clements Markham who came to light with one at the last minute. A second-hand piano was purchased from a very second-hand piano place near the docks, was hove on deck just as the ship's ropes were being cast off, and stowed away in the sail-locker under the poop.

We got under way amidst much cheering and cock-a-doodling along the dockside, with the nurses waving sheets and towels from the windows of the Poplar Hospital.

A small tug Bessie attended us through the locks. I remember the name of that fussy little puffing-billy, but not the name of the Trinity House river pilot on the flimsy bridge at the wee telegraph handle, working with me. We had been shipmates some months before when he piloted the P. and O. Nubia up to the Royal Albert Docks.

"Whatever are you doing here?" he asked in astonishment.

"I got the job and I took it."

"Your bally job can't steam for nuts!"

"We have our sails."

"You can have 'em!" he smirked.

Off we went at a speed of four knots, with sailing barges overhauling us most of the way down the river.

The Worcester boys gave us a rousing cheer-ship as we passed Greenhithe. We rounded the South Foreland at a snail's pace, and setting the brand new sails we bowled merrily down Channel, cheering,

exchanging signals and whistle toots with passing ships.

Off Start Point our pilot and the few friends who had accompanied us from London bade us farewell, the last cheers were exchanged, ensign dipped, and the Morning stood away out to the open sea.



## PENGUINS, POLITICIANS, AND SCIENTISTS

Scientists often have difficulty in explaining the significance of their work to politicians. The problem of communication is common to all countries.

According to a staff correspondent of the "Christian Science Monitor" in Washington, Congressmen have a tendency to be suspicious of natural scientists. The following report appeared late last year under the heading: How to irk a Congressman.

Take the following exchange that occurred earlier this year in the House (of Representatives) floor when the National Science Foundation (NSF) budget was up for debate.

Representative James W. Symington (Democrat) of Missouri, along with Representative Emilio Q. Daddario (Democrat) of Connecticut, and Representative George P. Miller (Democrat) of California, were defending the NSF budget, when Representative H. R. Gross (Republican) of Iowa, one of the economisers in the House, asked Mr Symington to yield.

"Perhaps the gentleman who has been talking about these scientific projects," he said, "can tell me what the study of penguins is all about. I refer to embryology, incubation, and behaviour of the Adelaide, or whatever it is—the print is not very good."

Mr Symington, not feeling equipped to answer, turned the floor over to his colleague, Mr Miller, chairman of the House Science and Astronautics Committee, who replied:

"Last year I had the privilege of going to Antarctica. There are many teams down there working with penguins. Three scientists there told us they had discovered a new nematode. I thought nematodes came only in potatoes.

"They brought these out of the penguins. They put them under a microscope and they looked like little pieces of thread, like three little snakes wiggling. They were very excited about the discovery. They felt if they could be found there, they could be found elsewhere.

"I don't know the relation of nematodes to the human body, but perhaps they do get into the human body and do the same damage to us they do to Irish potatoes. I know the gentleman would not like that."

Mr Gross: "You say they were excited. Do you mean the penguins or the scientists?"

## JARE 12 REPORTS

# Winter team launches first sounding rocket

Members of the winter team of the 12th Japanese Antarctic Research Expedition successfully launched an upper atmosphere sounding rocket from Syowa Station on Ongul Island at the end of April. This was the first launching of a sounding rocket in the Antarctic winter.

A report from Syowa Station received by the Ministry of Education in Tokyo early last month said that the S160 rocket, weighing 242lb, streaked to an altitude of 273ft and landed about 300ft south of the station after a flight of 4min 32sec. The rocket, which is 13ft long and about 4in in diameter, was fired at 7 p.m. (Japan time) on April 30.

This season the Japanese team will launch six more S210 rockets, which are a little larger, and have a maximum altitude of about 75 miles. They will measure auroral particles, aurora light, electron and ion densities, electric and magnetic fields, and radio emissions. The S160 rocket, which has a maximum altitude of about 55 miles, was used to measure the density distributions of electrons and ozone.

According to the latest report from Syowa Station the morale of the winter team of 29 is good, and good progress is being made in research work. The winter leader is an Antarctic veteran, Dr Takasi Oguti, professor of geophysics at the University of Tokyo. He is an upper atmosphere physicist, and has served with JARE 1, 2, and 3, wintering with JARE 3.

Another Antarctic veteran, 50-year-old Mr Zenbei Seine, who is chief of the Antarctic office of the Japanese Meteorological Agency, will lead the 40 men of JARE 13 next season. He was a member of the first JARE in the 1956-57 summer, and since then has been with JARE six times, wintering twice at Syowa Station.

The deputy-leader, Mr Sadao Kawaguchi, will lead the winter team of 30 men at Syowa. He took part in JARE 2, and then took part in four expeditions, including two winterings.

Japan's 7,760-ton icebreaker, the Fuji, returned to Tokyo on May 4, one month behind schedule because of unusually severe weather in the Antarctic. She sailed for the Antarctic on November 25 last year with the men of the JARE 12 winter team, and left Ongul Island on March 17. However, she was trapped in pack ice about 185 miles from Syowa after breaking a propeller blade, and was trapped for 39 days.

Captain Masato Omori, of the Fuji, said on his return to Tokyo, that the ice in the Antarctic was the worst he had experienced because of the severe winter. The area of pack ice was twice as big as in a normal year, and the ice was more than 9ft thick, against 6½ft in an average year.

The Fuji took aboard the 30 men of the JARE 11 winter team led by Dr Tatsuro Matsuda, but the 500 tons of feed and equipment for JARE 12 could not all be flown to Syowa. According to Dr Oguti, the winter leader, 465 tons were transferred to the station.

Dr Oguti reported that he did not foresee any serious inconvenience to this year's researches because the team lacked the full amount of supplies.

One member of the winter team, Mr Masao Mishima, could not join his colleagues because of ill-health. He was to have been in charge of the geochemistry programme.

## DISCOVERY VETERAN DIES IN ENGLAND

Five years ago only four of the men who sailed with Scott in the Discovery in 1902 were still alive. First to go in 1967 was James Dell, who joined the expedition from H.M.S. Pembroke.

Then the New Zealander, Clarence Hare, died in Australia in 1968. He joined the Discovery at Lyttelton and spent one year in the Antarctic.

Now Frank Plumley, the "very clever" Navy blacksmith, has gone. He died early this year, aged 95.

The last of the Discovery men is C. Reginald Ford, who settled in New Zealand and became a distinguished architect. He lives in Auckland and is nearly 91.

Plumley was born at Clevedon, Bristol, and was apprenticed as a wheelwright and blacksmith in his home town. His natural ability with ironwork and a love of the sea led him to join the Royal Navy, and he was serving as a stoker on H.M.S. Gibraltar when, with Ernest Joyce, he joined the Discovery on October 12, 1901, at the naval base of Simons Bay, near Cape Town. He was then 26.

In his diary he recorded that his pay was 2s 5d a day from the Navy and 1s 6d a day from the Royal Geographical Society. Lieutenant A. B. Armitage, in his book on the expedition, refers to him as "a very clever blacksmith".

Plumley was a member of the first—and very inexperienced—sledging party under Lieutenant M. Barne, which got into trouble on March 11, 1902, on the ridge leading down from Castle Rock, resulting in the death of Vince and the remarkable escape from death of Hare. Plumley wrote in his diary that after they had lost contact with three of their companions he and four others were "nearly paralysed with cold" and "came to the conclusion that the three had gone over the precipice of ice into the sea."

"We stumbled on in the surmised direction of (the) ship until all five of us slipped and went sliding down to the edge of the precipice, bringing up on some soft snow. Poor Vince having fur boots on was not able to stop himself and went over into the sea. When we

looked again we were within a few feet of the edge and saw the sea directly under us. Powerless to render assistance even if we had seen him we managed to reach the top after a fearful struggle, digging our knives into the ice to climb up again and managed to reach the ship about 8.30."

Plumley himself had frostbitten fingers and wrist "but not serious".

### SLEDGE JOURNEYS

After the first winter Plumley and Blissett formed Royds' party which left for Cape Crozier on November 3, 1902. On November 6 both Royds and Blissett were snowblind so Plumley had to doctor both up . . . and light their pipes for them." This trio found an Emperor penguin's egg at Cape Crozier. "A great prize," wrote Plumley: "There is not one of the sort in existence." They turned for home on November 13 and reached the ship on November 17.

Plumley was in a party of six under Barne which left on December 30, 1902, with additional provisions for Scott's southern party. They made up to about 12 miles a day except during a blizzard which held them in their tent on January 11, and again when a belt of crevasses compelled a retreat. They were running very short of food before they sighted a depot flag on January 20. "It is a week since we had a square meal," Plumley wrote. They reached the Discovery on January 30, 1903.

After the second winter Plumley was a member of the support party which accompanied Scott's team on the abortive first attempt to strike into the Western Mountains, leaving on October 12, 1903. It was on this journey that Plumley, while chopping up frozen pemmican, cut off the top of his thumb. Scott wrote: "He is quite cheerful about it, and has been showing the frozen detached piece of thumb to everyone else as an interesting curio."

Plumley in his own diary says simply, "While trying to cut the pemmican I cut part of my thumb off." He admits "turning the air blue for a bit." After nine days the whole western party returned to repair their sledges, and the support team was not required to go out again.

Finally, Plumley was in Royds' six-man party which struck south-east across the Barrier in November, 1903, and returned after 30 days "day after day . . . marching over the same unutterably wearisome plain," a journey which Scott says "deserves to rank very high in our sledging efforts." When they turned for home on November 28 they were 155 miles from the ship with "neither land nor water in sight".

After the return of the expedition to England in 1904, Plumley served in H.M.S. Dreadnought, Venus and King George V. He was occasionally, his daughter remembers, "loaned" to other ships when iron repairs were needed. After the First World War, in which he was torpedoed, he joined the "shore-ship" H.M.S. Vernon at Portsmouth.

When he retired in 1919 Plumley settled down in Hertfordshire, England, and was a keen and successful amateur gardener until a few years ago. A stroke then made writing impossible and his sight and hearing were impaired, but his mind remained active and nothing pleased him more than to hear about and to talk about the Antarctic.

He was devotedly cared for by his daughter, Doris, until his deteriorating health made it necessary for him to live with his son on the Isle of Wight, where he died in hospital on February 8.

—L.B.Q.

## By Snowmobile to Pole

A United States engineer, Mr Walter Pederson, still wants to be the first man to reach both the North and South Poles by land. In the coming Antarctic summer he plans to make a 900-mile snowmobile journey from McMurdo Station to the Amundsen-Scott South Pole Station.

Mr Pederson, who was a member of the snowmobile expedition commanded by Mr Ralph Plaisted, which reached the North Pole on April 19, 1968, had to cancel his proposed journey to the South Pole last summer because of lack of planning and the lateness of the season. He and his party of nine were refused approval to make the journey by the Antarctic Policy Group in Washington.

Nevertheless, the party came to Christchurch in a Super Constellation, and waited for five days in the hope of getting permission to go to the Antarctic. Finally, Mr Pederson left five snowmobiles, radio equipment, and clothing in storage, and flew back to the United States in January. Before his departure he announced that he intended to spend several months preparing for his second attempt in October or November.

Mr Pederson has now told one of his New Zealand associates that he hopes to invite New Zealanders with Antarctic experience to take part in his trek to the South Pole, and will also consult Sir Edmund Hillary.

This time Mr Pederson is planning his expedition well in advance, and expects to arrive in New Zealand early in the spring so he can reach the Antarctic in adequate time. He has not said whether the Antarctic Policy Group has approved his plan, but when he left Christchurch in January he said he would apply as soon as possible.

# PHILATELIC MAIL FOR ANTARCTICA

Stamp collectors may have covers postmarked at two United States bases in the Antarctic and aboard three United States Coast Guard icebreakers working with the United States Navy in support of the National Science Foundation this year.

Collectors are limited to one cover each from McMurdo Station and the Amundsen-Scott South Pole Station, plus one cover from each of three icebreakers.

Philatelic mail to be postmarked in Antarctica must reach the Navy's collecting point at Davisville, Rhode Island, not later than September 1, 1971, in order to be processed by the winter parties.

Covers to be cancelled in the Antarctic must have either United States postage at the letter rate or an international reply coupon enclosed to defray postage on covers going to foreign lands, and they should be mailed to: Deep Freeze Philatelic Mail, U.S. Naval Construction Battalion Centre, Davisville, Rhode Island 02854.

Because of limited air transportation to and from Antarctica, philatelic covers to be cancelled at the two American bases are shipped as surface cargo. They are then delivered from McMurdo Station to the designated stations by ski-equipped Hercules aircraft.

During the six-month Antarctic winter the covers are stamped with the official Operation Deep Freeze cachet and the postage is cancelled by the station's postmark.

Collectors must indicate where they desire their covers to be cancelled by printing the station's name in the lower left corner of the address side of the cover. Only one cachet may appear on the address side of any philatelic cover—others will be obliterated.

Collectors can expect to receive their philatelic mail between April and June, 1972.

The three Coast Guard icebreakers participating in Antarctic operations, and which will cancel philatelic mail

provided the covers reach the ships by November 1, 1971, are:

U.S. Coast Guard Cutter Staten Island, c/o Fleet Post Office, Seattle, Washington 98799.

U.S. Coast Guard Cutter Southwind, c/o Fleet Post Office, New York, N.Y. 09501.

U.S. Coast Guard Cutter Northwind, c/o Fleet Post Office, Seattle, Washington 98799.

Covers postmarked aboard these ships will be returned to collectors during the operating season (October, 1971 to February, 1972) as expeditiously as the operations schedule and any developing postal backlog will permit.

In the past there has been an unfortunate disregard by collectors of the procedures established for the submission of covers for cancellation. They must follow the established procedures for their mail to be cancelled by the Navy in Antarctica or on ships.

Philatelic mail may be returned unprocessed when there is insufficient postage to cover the forwarding to the address as listed, if more than the authorized number of covers is submitted, if it appears that a commercial motive is involved, if covers are received after the cutoff date, or if covers are submitted to units which do not have a post office.



## SCOTT BASE LEADER

The leader of the New Zealand Antarctic research expedition for the 1971-72 season will be Major J. R. M. Barker, of Christchurch. Last year he served as deputy-leader for the summer season.

Major Barker has been seconded from the Army to the Department of Scientific and Industrial Research from May, 1971, to October, 1972, to enable him to accept the post. Before he went south last summer he was second-in-command of the 2nd Battalion, Royal New Zealand Infantry Regiment.



## NO CONCESSIONS TO ANTARCTIC TOURISTS

Antarctica makes no concessions to tourists. They can encounter incredibly rough seas in southern latitudes, icy cold winds, low temperatures, and gales on the continent itself.

An Australian tourist, Miss E. F. Teece, of Double Bay, Sydney, found that the Antarctic was not a tourists' paradise when she joined the second expedition organised by Lars Eric Lindblad in February this year. She was one of four Australians who travelled south in the Lindblad Explorer, and the 70 passengers included Americans, Japanese, Canadians, two Germans, six people from Britain, and one New Zealander.

Antarctica is really very beautiful when the sun shines but cruel and merciless when the wind blows, says Miss Teece in an article written for this bulletin. The weather is quite unpredictable and can change extremely rapidly as we saw for ourselves in McMurdo Sound.

"This is a trip that will probably not be done too often because of the incredibly rough seas prevailing in southern latitudes," writes Miss Teece. (There are) the roaring forties, the furious fifties, and the screaming sixties.

After leaving Bluff the tourists had a fairly rough night and day at sea. Miss Teece remembers the Auckland Islands because a party was chased off a small island by an enraged bull sea lion, and later she was serenaded by a quite fearless bell bird only about 12in away.

Before crossing the Antarctic Circle the tourists had two days of head winds and heavy seas with the Lindblad Explorer rolling through an angle of 90deg.

The weather was bad again when

we steamed through McMurdo Sound to Cape Royds and only some of the party were able to land and see Shackleton's hut, says Miss Teece. At McMurdo Station the day was very cold and windy, the temperature was 20deg below zero, and sea ice formed round the ship. A visit to Scott Base was made in a 50-knot gale with swirling snow everywhere.

Miss Teece says there was a gale warning the night before the ship left McMurdo Station, and the next morning it took the captain two hours to manoeuvre out of the ice and turn the bow into the wind.

There was brilliant sunshine when the ship went into Robertson Bay, but because of ice only two rubber boats got their passengers ashore on Ridley Beach where Borchgrevink's expedition wintered.

"We sailed again through thick pack ice into the open sea and the full force of a gale. . . . For three days we experienced such rough weather our speed was reduced considerably. In one 24-hour period we averaged only 5.4 knots compared with the ship's normal average of 15 to 16 knots.

"How the cooks prepared, and the stewards served, the magnificent meals, I shall never know; it was all I could do to walk to the dining room to eat them. I shudder to think what might have been the cost of broken crockery!

"We arrived late at Macquarie Island and were ashore for only three hours between 6 and 9 p.m. . . . After leaving Macquarie the weather improved, seas became calmer, and 2½ days later we were ashore in Hobart from where we flew home."

## Trophy for Antarctic Conservation

An Antarctic conservation trophy has been presented to the Canterbury branch of the New Zealand Antarctic Society. It will be awarded annually to a New Zealander in recognition of contributions to conservation in Antarctica.

The trophy has been presented by Mr P. Joyce, who has inherited a desire for conservation of nature from his father, Mr N. I. Joyce, president of the North Canterbury Acclimatisation Society. Judging of the competition under the auspices of the branch will be by the leader and deputy leader of the New Zealand Antarctic Research Programme.

"Antarctica slowly but surely is going the same way as the other continents and is becoming polluted; we must try to keep Antarctica as man found it," Mr Joyce told the annual meeting.

In a letter to the branch, Mr R. B. Thomson, superintendent of the Antarctic Division, D.S.I.R., said that such a competition would help protect flora and fauna in Antarctica. It would remind members of expeditions of the need for conservation.

Disappointment at the few persons returning from duty in Antarctica who joined the society was expressed by members. The committee was instructed to study ways of increasing membership, particularly among these persons and their friends and relatives.


The retiring president (the Rev J. B. Keith) said in his report that the greatest aid to membership during the last year was the two cruise-ship tours conducted by Lindblad Travel. About 150 tourists passed through Christchurch, on these tours, and at the suggestion of Lindblad Travel, many joined the society.

Membership of the branch is now 299. There are 165 New Zealand members and 134 overseas members, 104 of these having joined as a result of the two tours.

The new president of the branch is Mr A. Anderson, who has been a member since 1956. He has been secretary-treasurer, a committee member and vice-president. In 1966 he spent six

weeks at Cape Crozier on Ross Island, working with a team from Johns Hopkins University, Baltimore, engaged in penguin studies.

Other officers of the branch are: Vice-presidents, Messrs J. Cross and S. W. M. Smith; secretary, Mrs E. Cross; treasurer, Miss J. D. Garraway; committee, Mesdames M. Williams, E. Smith, Messrs G. Hurrell, J. Morrison, D. Hobby, B. N. Norris, F. Gurney, V. Wilson, B. Duffell and A. Burton.



## Spirit of Treaty Could be Tested

The spirit of the Antarctic Treaty will be tested in the years ahead when attention is drawn to the fact that there is considerable wealth to be exploited in the Antarctic. This prediction was made by the Minister of Science (Mr B. E. Talboys) when he spoke to members of the Canterbury branch of the New Zealand Antarctic Society at their annual Mid-Winter's Day dinner.

Mr Talboys told members of the society that since the Antarctic Treaty came into force ten years ago there had been a period of challenging research in Antarctica, but soon man would be confronted with the results of this research.

The role played by scientists in the Antarctic had contributed to the shape of the Antarctic Treaty, according to Mr Talboys.

"There can be no doubt that the effective co-operation of the scientists persuaded governments to try again to find a political solution to the many territorial claims in the Antarctic," he said.

# McMURDO SOUND SKUAS, PETRELS AND PENGUINS

By IAN F. SPELLERBERG\*

In 1903 Dr Edward A. Wilson wrote to his father: "Bird-nesting at  $-62^{\circ}$  F. is a somewhat novel experience. Those journeys to Cape Crozier were pretty average uncomfortable, even for the Antarctic. It has been worth doing—I feel that; but I am not sure I could stand it all over again."

Wilson was, of course, speaking about the Emperor penguins after a summer journey to Cape Crozier during the British National Antarctic Expedition of 1901-1904. But the Emperor penguin was not the only bird that received much attention from this "nature lover". Several other bird species were recorded in McMurdo Sound during that early expedition apart from the Adelie penguin and the McCormick skua.

Today the avifauna of McMurdo Sound still consists of several bird species, some breeding at this high latitude, some solitary visitors, yet all welcome sights in an area sparsely populated by animal life.

While a member of the Canterbury University Antarctic biology unit I was able to record some activities of the McMurdo Sound and Ross Island avifauna.

## PENGUINS

The two species of penguin found in McMurdo Sound and on Ross Island are certainly everyone's image of the Antarctic. The Emperor penguin (*Aptenodytes forsteri*) has an extraordinary winter breeding cycle on the ice at Cape Crozier and the northward movement begins during October and early November. It is not necessary to leave the Ross Island bases to see these large penguins because many frequent McMurdo Sound in the summer and most will be found in a state of moult.

The southern breeding distribution of the well-known Adelie penguin (*Pygoscelis adeliae*) is at Cape Royds where there is a rookery of about 2,000 breed-

ing pairs. Throughout the summer period the Adelie penguin is a constant visitor on and about the edge of the Ross Ice Shelf and near Cape Armitage. Between February and March many Adelie penguins can be seen standing in groups on ice floes and on land at Cape Royds, Cape Barne and Cape Evans while in a state of moult.

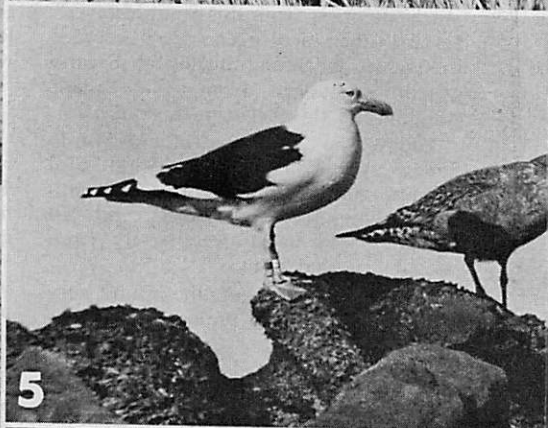
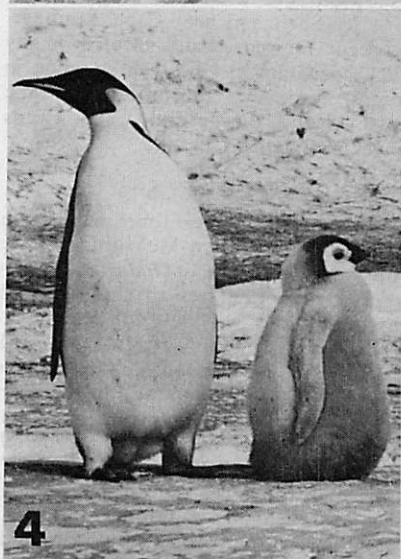
## PETRELS

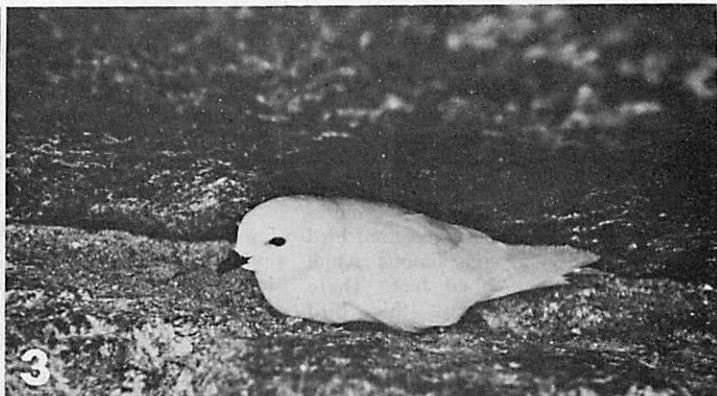
During the summer four petrels are often seen in southern McMurdo Sound. The Antarctic petrel (*Thalassoica Antarctica*) was often seen to land in small groups on the ice-floes and ice-bergs. While the brown plumage of this bird was always clearly visible the white plumage of the body and the trailing edge of the wings merged with the colour of the ice. The Antarctic petrel breeds in the Rockefeller Mountains of King Edward VII Peninsula and on islands close to the Antarctic Continent.

One or two of the dark-coloured southern giant petrel (*Macronectes giganteus*) were seen each summer between 1963 and 1966. These were recorded flying slowly above the open sea about 80 metres off the Cape Royds coast in December and January. This species nests on some parts of the Antarctic coast such as Cape Adare and on many Antarctic islands.

The ethereal and white snow petrel (*Fagodroma nivea*) was often seen flying rapidly near open water in the sound and was never seen to alight.

\*Zoology Department, La Trobe University, Bundoora, Victoria, Australia.





These breed at Cape Hallett, Cape Adare, and on Mt. Helen Washington, King Edward VII Peninsula. The distribution and range of these birds during winter is not well known. However, it is thought that they move northward and remain with the pack-ice like the Antarctic petrel.

The Wilson's storm petrel (*Oceanites oceanicus*) is a small dark-coloured bird characterised by a conspicuous white rump and yellow webbed feet. There are few photographs of this bird although it is a common species and was often seen skimming, gliding, and fluttering over the sea off Cape Royds. These petrels nest in crevices found in cliff and rock screes in South Victoria Land and along the Antarctic coast and on the sub-antarctic islands.

### GULLS AND SKUAS

On December 19, 1965, a Dominican or kelp gull (*Larus dominicanus*) was sighted and identified at Cape Royds. This large gull is well known in New Zealand, on the sub-antarctic islands and on some parts of the Antarctic coast, but is rarely seen so far south.

The McCormick skua (*Catharacta maccormicki*) has a circum-polar breeding distribution and breeds on all ice-free areas of the Antarctic Continent. While it is common in McMurdo Sound the breeding populations are not large and the breeding success is low. The birds nest sites have been found as far south as 78° beyond Cape Chocolate.

The McCormick skua should not be confused with the brown skua (*C. lonnbergi*) which is a larger and more darkly-coloured bird. Although the brown skua breeds on the sub-antarctic islands it is probably a regular visitor to the Balleny Islands and may be a solitary visitor to McMurdo Sound. One sighted and captured at Cape Royds in December, 1965, made an interesting record.

### POSSIBLE VISITORS

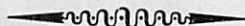
No other bird species were recorded south of Cape Royds in McMurdo Sound. The silver-grey fulmar (*Fulmarus glacialisoides*) was often seen at

the entrance to the sound and the Cape pigeon (*Daption capensis*) was by far the most common sighted. One albatross, probably a black-browed albatross (*Diomedea melanophris*), was sighted north of Cape Bird and these became more common as lower latitudes were reached.

### ACKNOWLEDGMENTS

I am pleased to acknowledge the logistic support received at Scott Base. Photographs were kindly supplied by Dr N. Orton (Antarctic petrel) and the ANARE photographs are by K. Martin (snow petrel), W. Merrilees (brown skua, Dominican gull, giant petrel) and R. Webb (Wilson's storm petrel).

The birds discussed in Mr Spellerberg's article and shown on pages 54 and 55 are: 1. McCormick skua. 2. Brown skua. 3. Snow petrel. 4. Emperor penguin. 5. Dominican gull. 6. Antarctic petrel. 7. Adelie penguin. 8. Giant petrel. 9. Wilson's storm petrel.



## BOTTLE TRAVELS FOR 12 YEARS

A bottle set adrift at Marion Island, the larger of the Prince Edward Islands, which lie 900 miles south-east of Capetown, was found on a beach at King Island, Tasmania, on January 3 this year. It took 12 years 4 months and 12 days to make the voyage to Tasmania.

South Africa maintains a meteorological station on Marion Island where the bottle was set adrift on August 22, 1958. Inside the bottle was the standard form used for research on ocean currents and the date and place of launching.

Mrs Dorothy Perry, of King Island, discovered the bottle on the beach and wrote to the South African meteorological authorities.

# NEW ANTARCTIC SUPPORT FORCE COMMANDER

Rear-Admiral L. B. McCuddin, a naval aviator since 1942, and a holder of the Navy Cross and the Silver Star, has been appointed the seventh commander of the United States Navy Antarctic support force. He will succeed Rear-Admiral D. F. Welch, who commanded the force from June 19, 1969.

Rear-Admiral Welch has been assigned to duty in the Pentagon as Assistant Deputy Chief of Naval Operations for Logistics. No date has been set for the change of command, which will take place at the Washington Navy Yard where the Navy's Antarctic command headquarters is located.

Since June, 1970 Rear-Admiral McCuddin has commanded Carrier Division Three, including the nuclear-powered aircraft carrier Enterprise, with the United States Navy's Seventh Fleet in the Pacific and South-East Asia. Before being appointed to command Carrier Division Three he served as commandant of the 12th Naval District, and commander of the Naval Base, San Francisco.

Rear-Admiral McCuddin gained a Bachelor of Arts degree at the University of Nevada in 1939. He was studying law at the University of Arizona when he was appointed an aviation cadet in the United States Naval Reserve in 1941, being commissioned in 1942.

In the Second World War Rear-Admiral McCuddin served as a fighter pilot in the Pacific. He shot down seven Japanese aircraft, and for his gallantry in the Battle of Leyte Gulf was awarded the Navy Cross and the Silver Star.

After the war Rear-Admiral McCuddin studied law at Georgetown University, Washington, D.C., receiving the degree of Bachelor of Laws in 1948. He is a member of the District of Columbia Bar, and has been admitted to practice before the United States District Court for the District of



Rear-Admiral McCuddin

Columbia, and the United States Court of Appeals for the District of Columbia circuit.

Rear-Admiral McCuddin has served with various fighter squadrons, carrier air groups, and aboard numerous aircraft carriers. He has commanded the fleet oiler Mattaponi and the aircraft carrier Ranger, and is a graduate of the Air Command and Staff College, and the Naval War College.

For outstanding services in the Korean area during the hostilities there Rear-Admiral McCuddin was awarded a Gold Star in lieu of a second Distinguished Flying Cross. He won his

first D.F.C. for his heroism in action against Japanese fighters in the Formosa area in 1944.

Early in 1966, while commanding the Ranger off the coast of Vietnam, Rear-Admiral McCuddin gained the Legion of Merit for his personal dedication to the crew and his attention to the

planning and execution of day and night aerial armed reconnaissance and interdiction air strikes in North Vietnam. He was awarded a Gold Star in lieu of a second Legion of Merit for his service as commandant of the 12th Naval District and commander of the Naval Base, San Francisco.



## REFIT FOR THE DISCOVERY

After nearly 70 years Scott's Discovery is beginning to show signs of age. Since her honourable retirement to the River Thames in 1961 she has been in dry dock (in 1966) for her hull to be scraped below the waterline.

Now it has been found that some of the Discovery's timbers above the waterline, and the mizzen mast have been attacked by dry rot. She has been closed to the public for three months, and it will be six months before the refit is finished.

The Discovery is being repaired on the spot by R. Green, Siley, Weir and Company, a ship-building and repair firm which built fine ships on the Thames 100 years ago. One of them was used by Sir James Clark Ross on his search for Franklin in the Arctic in 1848-49.

The mizzen mast has been taken out of the ship. A Norwegian spar will be used to replace the bowsprit, and much of the hemp rigging will be renewed.

Because the Dundee shipbuilders built the Discovery for strength, her refit presents some difficulties. Her 11in frames are covered by a 4in inner lining of Riga fir, and outside are two layers of plank 5in and 6in thick. Renewing these will be difficult because there are fewer shipwrights able to work in wood.

After Scott's 1901-1904 expedition the Discovery was employed by the Hudson's Bay Company. Then in 1923 she was bought by the Discovery Committee as an oceanic survey vessel. She was to have been recommissioned in 1926 after her return to England for a

second series of Antarctic voyages. Instead she was chartered for Sir Douglas Mawson's BANZARE expedition.

Later the Discovery served as headquarters of the Scout movement, and then as one of the drill ships of the Royal Naval Volunteer Reserve.

The present refit should give the Discovery another 10 or 15 years of life. But eventually she may have to be put in dry dock permanently like the Victory, the Cutty Sark, and Sir Francis Chichester's Gipsy Moth.

Mr P. L. Brown, who took part in the 1952-53 Australian National Antarctic Research Expedition, has suggested that the Discovery be used as a permanent British polar museum to record the work of Scott, Shackleton, Mawson, and the 19th Century sealing and whaling captains. So far his proposal has produced little reaction.



## A LONG WAY FROM HOME

Four penguins picked up by the net of the Russian refrigerated trawler Peremysk fishing in Antarctic waters became so used to the ship that they wouldn't leave. When a seaman, L. Gerasimovich, who looked after them, went ashore, they raised a tremendous racket.

The penguins were brought to Murmansk, and then handed over to the Leningrad Zoo.—Novosti Press Agency.



# *First visit to Antarctica by a summer caretaker*

By C. A. SATTERTHWAITE

In the summer of 1969 the Antarctic Division, New Zealand Department of Scientific and Industrial Research decided to appoint caretakers to spend a few weeks at McMurdo Sound during the peak of the season for summer visitors and tourists.

Their job was to carry out minor maintenance to the two historic huts at Capes Royds and Evans, and to guide visitors through the penguin rookery at Cape Royds.

Two caretakers were selected from members of the New Zealand Antarctic Society and how they fared was related by one of them, Michael Orchard, in the June, 1970, issue of this journal.

In late 1970 two more caretakers were appointed. In the following article, Charles Satterthwaite tells of their experiences.

I had the good fortune to be able to spend the period from November 27 to December 20 last year visiting the historic hut sites on Ross Island in the Antarctic through the good offices of the New Zealand Antarctic Society.

In company with Stan Smith, of Rangiora, I was to carry out an inspection and maintenance of the living quarters erected long ago by the early explorers of the region, and still preserved there. We were to act as guides to the region if necessary and to survey the Adelie penguin colony at Cape Royds.

This opportunity to go to those places so often read about and for so long imagined, and to experience at first hand a little of the flavour of the environment, was never really regarded as being at all likely. Therefore, I passed the days of preparation in a state of suspense—until the prolonged drone of the aircraft engines beat the fact into my head that I was really on my way.

We left Christchurch at 7.30 p.m. to head south. After a short time the sun rose again, not to set for the ensuing 24 days until our return to New Zealand.

We flew over the vast expanse of pack ice and icebergs at 8000ft., in a few hours reaching the Ross Sea. (It took Scott's ship the Terra Nova about three weeks to do the same journey.)

In anticipation of landing we clothed ourselves in the unfamiliar bulk of quilted and windproof gear, padded boots and balaclava.

## ON THE EDGE

We disembarked on to the sea ice off Scott Base, into a penetrating cold although it was only a light breeze. A day sufficed to acclimatise and in the genial and efficient company of the staff at the base we prepared our equipment for a sojourn in the field. Here we were on the edge of the experience; in Antarctica but not yet of it, so to speak.

By courtesy of a Navy helicopter we arrived at Cape Royds and humped our loads of gear, food and tools from the pad to our camp site. With the departure of the 'copter we found ourselves utterly alone in a vast, beautiful and very quiet place. There are no words adequate to describe the sense of awe and fascination we experienced standing behind and above the lonely

hut erected by the men of Shackleton's expedition in 1908.

The slopes of Mt. Erebus rise behind and the black volcanic sand and ash streaked with snow and ice descends in rolling vista to the blue ice of Pony Lake and the rocks of Cape Royds. Here one sees the extent of the penguin rookery and beyond stretches the sea ice over McMurdo Sound to far views of the majestic Western Mountains of Victoria Land, more than 40 miles away. The vast blue sky and the ever-present bright sunshine combine with the ice and snow drifts to fill every possible view with intense light, of varying character, but always great beauty.

We had jobs to do and we did them. The clear dry air was exhilarating and since it was always light, the time of day meant very little. Desire for sleep was absent; we simply worked on. For water it was necessary to melt selected ice and snow. Selected because although the volcanic sand sank to the bottom of our cups, penguin feathers did not! We ate prodigiously.

Working in and about the old hut, amongst stores and gear left by those pioneer explorers we sometimes felt like intruders. To have found a fur-clad figure sitting at the table, or moving about the stables would not have been a surprise.

We surveyed and placarded the penguin rookery—discreetly but clearly—to minimise any future effects of human intrusion. We sat for hours studying the mating and nesting behaviour of the birds.

#### SUMMER GALE

A summer gale terminated our week at Cape Royds with very gusty winds and snow showers. At Cape Evans, further south, we spent another week at the hut built by Captain Scott for his last expedition.

For me this hut held a greater fascination than that at Cape Royds. In it were such things as personal effects, furnishings, the evidence of the care and workmanship of those almost legendary men. There were the collection of gear over Dr. Wilson's bunk, his

medical supplies, his sketching and painting equipment; Herbert Ponting's darkroom still full of chemicals, photographic paper and apparatus; the pony harness draped over Oates' bunk and the pictures of the dogs beloved by Cherry-Garrard. One expected the door to open at any moment and the sledging parties to return.

As at Cape Royds so here Mt. Erebus towers over and behind the hut and the beaches of black volcanic sand. The lower slopes show either the crevassed expanse of the Barne Glacier terminating in a wall of ice more than 100ft. high, or a black moonscape of volcanic ash and cinders.

Except when there is a wind the silence is profound. Before we left the sea ice began showing clear signs of breaking and seals came up through the cracks to bask in the sun. In the far distance one could see remote processions of Adelie penguins or occasionally a solitary Emperor.

We left with mixed feelings; our work was done. Back at Scott Base the world of administration demanded chores of us and then came the wait for transport home.

Looking back it seems, and was, a visit to another world—one of the greatest of the Quiet Places. With every passing year it becomes more urgent to recognise the value of such lands and such experiences. An enlightened and cultured people would preserve them against all possible pressures. Antarctica offers so much more than opportunity for science or profit to industry.

\* \* \*

## MEAT MARKET

New Zealand is probably the first and only country in the world to export meat to Antarctica. A rush order for seven tons of beef and slab bacon was filled by a Christchurch meat company and flown south to McMurdo Sound just before the summer season ended.

American servicemen and scientists wintering in the Antarctic this year are now enjoying New Zealand T-bone and Swiss steaks as well as bacon.

**AUSTRALIAN NEWS**

# Anare to Have Unmanned Geophysical Station

An underground cosmic ray observatory and an unmanned geophysical station are two of the projects for a comprehensive winter programme at Anare bases, says a report from the Antarctic Division of the Department of Supply, which is responsible for their administration.

The regular observations for synoptic meteorological purposes will be continued at Mawson, Davis, Casey and Macquarie Island, as will be auroral photography and micropulsation studies. Ozone measurements are being carried out at Macquarie Island. Established geomagnetic measurements will continue at Mawson, Casey and Macquarie Island, seismological observations will go on as usual at Mawson and Macquarie Island; and studies of the ionosphere will continue at Mawson and Casey in connection with the work of the ionospheric Prediction Service Division.

VLF emission is being studied at Mawson and Davis where it is being recorded on slow-moving 35mm film and on magnetic tape. Cosmic ray astronomy continues at Mawson where time variation of cosmic ray intensity will be recorded to investigate interplanetary and galactic phenomena, as well as geophysical and solar disturbances. At Macquarie Island, tides will continue to be measured.

## BIOLOGICAL WORK

In biology, the past year saw the rounding off of a long-term biological programme at Macquarie Island. Future biological work is moving towards the Antarctic continent, where the first emphasis is to be a survey of Antarctic bird and animal species, along with a marine biological study of the waters near Mawson.

This year the ectoparasites of birds and seals will be investigated at Mawson, Davis and Casey. At Mawson,

there will be a census of Emperor penguin adults and eggs at the Taylor and Fold Island rookeries. There will be studies of the elephant and Weddell seal population at Davis where there will also be a census of Adélie penguins.

At Casey, reviews will be made to ascertain whether there have been changes in the populations of silver-grey, Antarctic and giant petrels since 1961. Medical officers will continue long-term programmes of research in human physiology.

## TRAVERSES PLANNED

In glaciology, the two principal programmes will be based on Casey and Davis. At Casey, field work will include autumn and spring traverses inland, and a possible spring traverse will follow the Wilkes-Vostok traverse of 1962, which is approximately along a flow line of the ice cap. A continuous strain net will be established by trilateration: features to be observed and measured include elevation, elevation change, ice thickness (by radio echo sounders), accumulation,  $0^{16}/0^{18}$  ratios, ice cap temperatures and magnetic measurements.

The principal aim of the glaciological work based on Davis will be to make a first journey along the route already established from Davis towards the Grove Nunataks. In this programme, strain grids will be set up each 10 miles in the form of a square with 800 metre diagonal: measurements will be made of velocity of ice movement, accumulation elevation of the ice surface and surface morphology.

### UNMANNED STATION

A prototype of an unmanned geophysical observatory designed by the Antarctic Division has already been installed 12 miles south of S2, which is in turn 60 miles south of Casey Station: this is being tested in the field for the first time.

The automatically recording station is sited on the ice plateau where the equipment is required to operate unattended for up to one year. Data are recorded on magnetic tape and photographic film which are housed in an instrument shelter, a 2.2 metre cube non-ferrous structure of aluminium section, sheeted with plywood and insulated with rockwool. This housing is buried so that the roof is one metre beneath the surface of the snow.

The shelter is regarded as expendable and the instruments can be recovered from a hatchway: it functions mainly as a container for transport of the equipment to the site, a shelter for on-site work, a dark room for film-handling, and a foundation for the above-surface structure which carries the riometer antenna, the solar charger for the batteries, the meteorological instruments and the auroral camera.

Timing of the recorded data to an accuracy near to ten seconds throughout the year is provided by a stable quartz crystal reference divided to give coded time-pulses in the range of one second to 999 days. Micrometeorological data, of which little has been collected for inland Antarctic areas, will be recorded for wind speed and direction, barometric pressure and temperature.

The three components of the earth's magnetic field, the micropulsations in the earth's field, the ionospheric electronic density measured by riometer and all-sky photography of the aurora will continue to be recorded throughout the year in the absence of any observers.

Work has begun on mining a shaft 45ft deep and excavating adjoining vaults in solid rock near Mawson Station, to house a sensitive cosmic ray telescope and seismic instrumentation underground. The absorption of the

less energetic cosmic rays by the atmosphere and rock will allow an extension of the investigation into the anisotropy and source of this energy.

## HEARD ISLAND EXPEDITION

After the return of the summer parties involved in relief and exploration, a party of Australians who had been included in a French summer expedition to Heard Island returned home in March. Four of these men were engaged from January 8 to March 25 on separate projects including a study of the detailed dynamical glaciology of the Vahsel Glacier, the field-testing of a 16mm. all-sky camera, newly-built by the Antarctic Division, a biological census of fur seals and penguins and synoptic meteorological observations.

The Australian party's fifth member worked with the French expedition to establish the limit of closed-field lines of the earth's magnetic field by investigating the VLF electromagnetic emission in the magnetosphere. These physicists made VLF conjugate measurements with stations in the U.S.S.R., and this work had application to Australian research based at Mawson and Casey.

\* \* \*

### *Six Scott Letters Given to Museum*

Six letters written by Captain Scott have been presented by his son, Mr Peter Scott, to the Canterbury Museum's new National Antarctic Centre. The gift was announced by the director of the museum (Dr R. S. Duff) when he proposed the toast of the New Zealand Antarctic Society at the Mid-Winter's Day dinner of the Canterbury branch.

Scott's letters were written to his wife's aunt, Mrs Zoe Thomson, widow of an Archbishop of York. The first five letters were written in 1908-09 when serving in H.M.S. Bulwark, and the sixth, dated July 19, 1910, was written at sea aboard the R.M.S. Saxon, when Scott was on his way to Cape Town to join the Terra Nova.

# New Voyage to the South Shetlands in 1819-20

by A. G. E. JONES

It is reasonably certain that many of the early sealing voyages to the regions south of Cape Horn have never been chronicled. This is partly due to the reluctance of ships' masters to disclose the location of profitable sealing grounds, but also because ships' logs and other records have been lost.

The whole question of priority of discovery is a vexed one, and is likely to engage the attention of historians for some time to come. Through the researches of Mr Jones we are now able to print an account of a voyage to the New South Shetland Islands, the landing on one of them and the taking possession of the group a month before they were formally annexed to Great Britain by Edward Bransfield in 1820.

Captain William Smith discovered the New South Shetlands on February 19, 1819. This news came to the ears of Captain Sir Thomas Masterman Hardy when he arrived on the *Brazils* station, and a few days later, on January 6, 1820, he wrote a brief report to the Admiralty, which the *Creole* brought to Portsmouth at the end of April.

The first brief outline, copied by London and provincial papers, was published in the *"Courier"* on May 2, 1820:

"A new island has been discovered off Cape Horn, in Lat. 61deg. Long. 55deg. by the ship *William*, on a voyage from Monte Video for Valparaiso. The same ship having been despatched again by Capt. Sherriff, of the *Andromache* frigate, to survey the coast, has explored it for 200 miles. The captain went ashore, found it covered with snow, and uninhabited. Abundance of seals and whales were found in its neighbourhood.

A fortnight later, the *"Newcastle Chronicle"* added: "He has named the island New Shetland". In the two following Antarctic seasons, the South

Shetlands (as New South Shetland ultimately became known) were visited by many British and American sealers who virtually exterminated the fur seals on those coasts.<sup>1</sup>

A fuller version of Smith's discoveries appeared in the *"Courier"* on July 20, 1820, and from that point onwards there came a number of longer, descriptive articles in the journals and magazines. One of these which was printed in the *"Imperial Magazine"* in July, 1820, came from a voyage which has not previously been described. It was written by Joseph Herring, who for a long time had been employed in the Falmouth packets, and having arrived at Liverpool there took a berth as mate of a ship then about to sail to the Pacific Ocean round Cape Horn. Herring later became master of the ship, *Aurora*, 289 tons, trading from Liverpool to South America, losing his ship in 1831.<sup>2</sup>

## HIGH LATITUDE

During the passage from Buenos Aires, Herring's ship reached a high latitude, sighted land at a distance and found themselves surrounded by seals. On the return passage the ship did not visit this land; but Herring being mate, knew the position of the newly discovered land, and persuaded some British merchants at Buenos Aires to fit out a vessel to take fur seals for their skins which were highly valued. The name of this ship is not stated in the *"Imperial Magazine"*, but it was probably the *"Espirito Santo"*, a vessel of 650 tons, built in the *Brazils*, and

trading from London to Pernambuco under Captain Rodrigo.<sup>3</sup>

Joseph Herring's account, inaccurate and vague as it is in some respects, is the first reasonably full report of a newly-discovered land. It was dated July 3, 1820, more than a year before the articles written by Captain Richard Sherratt (master of the Liverpool ship, *Lady Troubridge*) and by Sir Thomas Bone, Midshipman, R.N.

After explaining the origin of this speculative voyage, Herring wrote.—“On the 25th day of December, 1819, the vessel reached this land, which he found to consist of a group of barren islands, the largest of which he conceives to be about ten miles long. The whole surface was covered with snow; but in no part could he discover either tree or shrub, and vegetation was exceedingly scanty. The snow alone furnished them with water. They, however, succeeded in finding a tolerably good harbour, and safe anchorage in a sandy bottom; and their landing was easily effected on a sandy beach.

### FLAG HOISTED

On getting on shore, Mr Herring, being fully persuaded that his was the first human foot that had ever made an impression in the sands, or that trod upon the rocks, hoisted the British flag; and he and his companions drank his Majesty's health in a glass of grog.\*

The seals, which were the great object of the voyage, they found in countless multitudes, varying in dimensions from the size of a sheep to that of a small ox. Of these, in 33 days, they killed vast numbers, the skins of which they sold at Buenos Aires at a very low rate.

Some sea elephants were occasionally on the shore, which he conceives would be productive of oil, but they were rather shy. The seals, on the contrary

were so tame, that even while they were killing some, the survivors made no effort to get away, but would even come and smell around them while they were skinning those they had previously knocked down.

Among the rocks they also found many gulls resembling those of England, and a species of very large bird, such as they had never seen before. These birds were so tame, that they sometimes dragged them from their nests; but to these they instantly returned, even while the men were standing by their sides.

On returning to Buenos Aires, they found everything in a state of confusion, through the calamities of war; and although an offer was made to Mr Herring to go on another voyage, he declined it, and seizing the first opportunity, sailed for Liverpool, which he reached a few days since.

Some merchants, to whom he has imparted the latitude and longitude of these islands, are decidedly of opinion, that they have never been noticed by any of our circumnavigators, and that they have no existence in any map or chart yet published.

It is difficult to decide upon Herring's landfall, unless it be that the *Espirito Santo* happened to find the right beaches in the first place and did not visit other islands in the group. The north end of King George Island, near North Foreland, where William Smith made his landing in October, 1819, has a sandy beach, but King George Island is much more than 10 miles long. Neither in Captain Robert Fildes log book, nor in Captain Richard Sherratt's notes, nor in the present-day “Antarctic Pilot” is it possible to find a harbour which corresponds with Herring's remarks.<sup>4</sup>

Seals did, in fact, inhabit the beaches “in countless multitudes”. Fildes said he had seen as many as 1400 killed in one day; and when William Smith returned to England in September 1821, he had 30,000 seal skins. In 1821 more than 200,000 seal skins were imported into Great Britain, almost entirely from the South Shetlands. The selling of

\*If we can rely upon Herring's veracity, and if his date is correct then he took possession of these islands nearly a month before they were formally claimed for Great Britain by Edward Bransfield, Master R.N., and William Smith, who went ashore on January 22, 1820. Smith had, however, made a landing on October 16, 1819, two months before Herring.

the skins at Buenos Aires "at a very low rate" was due to the ignorance of the owners as they had always fetched a good price at Canton, and when methods had been invented for removing the coarse hair from the skin, fur seal skins sold readily in London, for clothing and for making hats. Even in 1823, when the London market had received nearly 250,000 skins, they were still fetching 10s to 12s each.<sup>5</sup>

Sea elephants would indeed have been productive of oil, but the prospect of a quick profit on seal skins caused them to be neglected, and it was only in later years that sealers killed them for the oil, building their try-works on the beach and bringing the oil home in barrels. When Herring was writing pale seal oil was selling at \$33 a tun despite the growing use of gas instead of oil for lighting.<sup>6</sup>

The "species of very large bird" which Herring mentioned, was doubtless the penguin. Crown penguins, King Penguins and Adelie penguins were all found in New South Shetland in large numbers.

As for the land itself, Herring's comments were very much like those of Richard Sherratt, who said, "I wish I could say something in favour of its vegetable productions; but alas! little or nothing of that can be said. There is not a tree, not a bush, not a shrub, not a flower, in all the islands."<sup>7</sup>

#### MERCHANTS' VIEWS

The pages of the "Gaceta de Buenos Aires" show only too well the political uncertainty brought about by the revolt against Spain and by internal disension, and it is easy to understand why Herring wished to return home. The name of the ship in which he embarked was not stated, but it was probably the Aberdeen, 466 tons, Captain Thomas Hodges, which had called at Buenos Aires on her return from Madras and Calcutta with general cargo reaching Liverpool at the end of June, 1820.<sup>8</sup>

The merchants at Buenos Aires were certainly right in that the islands had not been seen before their discovery in

1819 by William Smith; though some maintained that they were the land sighted by Dirk Gerritz in the 1630's. It has also been said that they had been seen by American sealers as early as 1812, but if that had been so their existence would have been made known very soon, despite the inclination of sealing and whaling masters to keep knowledge of their grounds to themselves.<sup>9</sup>

When the discovery of New South Shetland was disclosed in Liverpool a number of ship-owners and merchants sent ships there to make good use of the opportunity. One of these was the scow, George, 247 tons, Captain John Richards, owned by Richards & Co., which spent the 1820-21 season there. She left on February 24, 1821, having been blown off the coast in a hurricane, with the loss of boats and sails. The George reached Cork in May, 1821, with 18,000 fur seal skins.<sup>11</sup> While the ship was at Livingston Island, lying in New Plymouth, an officer of the George wrote on January 3, 1821:—

"When I left home, I did not think an opportunity would offer, through which I should be able to write to you an account of New South Shetland; but more ships are here than we expected to find when we left England. A London cutter leaves this place tomorrow, whose captain has kindly offered to forward this letter to Liverpool.\*"

"After a short passage of ten weeks we arrived at the Falkland Islands . . .

#### DETESTABLE PLACE

"We left the Falkland Islands on the 25th of November and made this detestable place on the 1st of December; 'detestable', I say, because I am certain it was the last place that ever God Almighty made. As we have many specimens of the truth for this assertion, I will give you one, which will convince

\*This was probably Captain James Weddell, master of the brig, Jane, 134 tons, who left the South Shetlands on January 7, 1821, reaching London on April 9. He made another voyage to these waters in 1821-22 and in 1824 achieved Lat. 74deg. 15min S in the Weddell Sea.

any person that would believe the truth. When I was walking one day on a mountain, where I am certain never a human creature was before, I saw the ribs and bones of a whale lying in the snow; and snow never quits this place, even now at midsummer. I have not seen a star, or moon light, since we came hither, nor do we know the difference between midday and midnight when it is cloudy weather. The sun is only two hours out of twenty-four, below the horizon.

"On our first making land, I came in a boat to look for a harbour among the rocks, for we have found nothing else but rocks; and going off again to the ship, as a thick fog came on, we lost ourselves, and very nearly for ever; for, getting among the breakers, the boat was upset, rolled over three times, and dashed against the rocks. Our escape was so miraculous, that all the men in the boat, who were eight besides myself, when we got on shore, were so sensible of the danger they had escaped, that they fell on their knees to return thanks to God for his kind mercy towards us; so you may judge how we were, when a sailor thinks of his Maker. In this disaster, I lost my boots, great coat, and nearly all my rough clothing, so that I am now purser-rigged.

"But this is now all forgotten, and we are killing seals by thousands. The weather is as cold as you have it at Christmas. We are constantly wet, and overhead in blood and blubber. The seals are so plentiful as they were represented to be before we left Liverpool, we must put up with a moderate quantity. We have now on board nine thousand skins, and I am still in hopes, that we shall procure about two thousand weekly. You may judge from hence what murder is committed merely for the covering of the animal, for the gratification of our pride.

"I could tell you a hundred things, but will reserve my stories till I can relate them when we meet again. But God knows when that will be, we expect to go to winter next year in Russia."<sup>11</sup>

On the beaches the George was in

keen competition with many other British and American sealers, and it is not surprising that they should have had some difficulty in getting a full cargo of skins. In the next season the sealers fared worse and to all intents and purposes the seal fishery came to an end.

At the time that the letter was written, another Liverpool vessel was on the same station, the *Indian*, 247 tons, Ferdinand Spiller, master, owned by Kenworthy. She then had between ten and twelve thousand skins on board, but when she returned to Plymouth in May, 1821, she had twenty thousand skins. While the *Indian* was in the South Shetlands Captain Robert Fildes lost his ship, *Cora*, and the *George* was forced to leave some of her men ashore. The *Indian* carried home these men with Fildes and part of his crew. In the end, Captain Richards brought back a cargo of 18,000 seal skins, making it a profitable voyage, even though it had been attended with dangers and discomfort.<sup>12</sup>

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SUB-ANTARCTIC

# News From Campbell Island

**DEREK LAWS REPORTS:**

Once again it is time to write another report and like the other members of the staff here on Campbell Island, I wonder where the time has gone to. We are now well past the half-way mark of our stay on this semi-outpost; our estimate of the mid-point was April 17 and it was duly celebrated with another one of Bryan George's excellent dinners.

A fairly successful evening was held on March 7 for the benefit of our two departing meteorological observers, Mark Crompton and Mike O'Donohue, the eight members of the wildlife party and the two technicians, Eric Woodward, DSIR, and Keith Masters, MOW. Eric and Keith and the wildlife party had been here since January 30.

H.M.N.Z.S. Endeavour arrived on March 10 bringing us supplies and mail. Aboard was an NZBC television film team from Christchurch which put on record the whole day's happenings. Everyone was able to get in on the act and from reports received from friends and relatives in New Zealand it was very good. We were all pleased with the good image of Campbell Island that was presented, although it was straight off the cuff without any opportunity for a "dummy run." Members of the expedition party turned out in the Aurora and followed the Endeavour to the harbour waters.

About seven weeks after the visit of the Endeavour an airdrop by an Orion aircraft of the RNZAF took place. This turned out to be rather spectacular. The first load broke free of the parachute and the boxes plummeted straight into Tucker Cove. Recovery of these items was quite a task.

Many hours were spent leaning over the side of the boat peering through glass bottomed boxes. Some films were among the items and when these were sighted Neville Brown, our senior meteorological observer, dived over into about 20ft of water and recovered

them. They then had to be washed in fresh water and dried. Due to the efforts of all, the films were saved and restored to good condition.

Work has been progressing steadily and a big slice of the maintenance programme has been completed. A temporary culvert was laid under the marden road to feed the peat water tank. This was done in very heavy rain so needless to say the job was completed as quickly as possible.

The new roof, complete with guttering, was fitted to the food store as part of the station works programme. Some safety modifications have been carried out on the shower in the hydrogen filling shed. A non-slip ramp has been installed for easy access. This is something we hope never has to be used.

Another safety item was the fitting of a safety frame to the Oliver tractor. This frame was manufactured in New Zealand and sent down here. Once again we hope it is not put to the test, but it does give our drivers more confidence when driving the tractor over uneven ground.

March and April were two months during which many trips were made away from camp. Bull Rock and North-West Bay were the most popular places. Mt. Honey was climbed by a party of nine people, and it was very pleasant sitting at the summit consuming some beer and surveying the rest of Campbell Island.

Several trips were made to the albatross colony on St. Col. After sitting on 138 nests the parents have now

flown away and abandoned the chicks. Under the supervision of Keith Herrick, the chicks are now being banded.

Part of the fence, used for containing the sheep over one half of the island was flattened out by sea elephants at Tucker Cove but this has now been repaired.

We are now getting into the bad weather period with Mid-Winter's Day just around the corner. I am confident that the future will be just as pleasant as the past. Two chess matches are at present under way with Scott Base and after about 15 moves both games are still in the balance.

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## WILSON DRAWING AND BYRD DOG SLEDGE

What appears to be an original wash drawing by Dr Edward A. Wilson has been lent to the Canterbury Museum by Dr G. M. Gray, of the University of Canterbury. It is a view of Hut Point from Observation Hill, and was done during the last expedition.

On the mount of the drawing are the date, April 1, 1911, and the name Ed. A. Wilson. Dr Gray obtained the drawing when he took over a medical practice, and, realising its historical importance, decided to give it to the museum on indefinite loan. It will be placed in the Antarctic section of the new centennial wing. According to the director, Dr R. S. Duff, the drawing is the first work by Dr Wilson with an Antarctic theme to be received by the museum.

Another dog sledge has been added to the museum's collection. It was used for training dogs in the Mount Cook area by Captain Alan Innes-Taylor, of Rear-Admiral Richard E. Byrd's first and second expeditions in 1928-1930 and 1933-1935. It has been presented to the museum by the Mount Cook and Southern Lakes Tourist Company.

This particular sledge was made in Dunedin, and the dogs which pulled it spent most of their time in New Zealand. The dogs, 13 of them, arrived in New Zealand after the winter party had landed at Little America.

Byrd makes several references to these dogs in his book, "Little America." The expedition was short of funds, and the crews of the City of New York and the Eleanor Belling lived under fairly

strained circumstances. "Most of them asked for no more money than was absolutely necessary to support them and their families," says Byrd.

"Taylor, for example, took his dogs to Mt Cook and used them as transport, causing them to earn part of their expenses."

Although the expedition took more than 90 dogs south the numbers were soon reduced, and in the early spring of 1929 Byrd noted that the dogs Taylor had at Mt Cook would certainly come in handy. "Our dog power is dwindling much too fast . . . we shall be hard-pressed for dogs if any rescue attempts are necessary," he wrote a week later.

Byrd then decided to radio Taylor to board one of the whalers with his dogs. The Kosmos was leaving New Zealand early and Byrd hoped Taylor and the dogs could be relayed to the base on a chaser. However, the Kosmos and other whaling factory ships were delayed because the pack ice was so heavy.

Eventually Taylor and his dogs reached Little America. They were transferred to the City of New York when she borrowed coal from the Kosmos. "Taylor and the dogs which he brought down were more than helpful in the rush of loading," Byrd recorded.

The dogs from Mt Cook were transferred to the Kosmos with one of the Little America radio operators, Howard Mason, who was suffering from appendicitis. Mason went up in a basket, and after him went the dogs in crates. One crate fell between the two ships but the dogs were saved.

## *Suggested future work by unit at Cape Bird*

Much is now known about the basic breeding biology of Adelie penguins, and about the behaviour involved in courtship and nest dispersion. But no detailed information has been published yet on seasonal fluctuations in populations, and there is no real evidence as to whether the birds are generally increasing or decreasing in numbers.

This comment is made by an ornithologist, Mr E. B. Spurr, in the report of the University of Canterbury Antarctic unit's 1970-71 field programme. Mr Spurr, who has spent four seasons in the Antarctic, was the leader of the party which did research on penguins and skuas at Cape Bird, and also carried out a comprehensive marine programme.

Since the summer of 1960-61 the university's zoology department has been engaged on a programme of Antarctic biological research in the McMurdo Sound region. To date the work has fallen into two sections: (a) seal research involving two scientists based at Scott Base; (b) research on penguins, skuas, and terrestrial invertebrates, initially at Cape Royds, and since the summer of 1966-67 at Cape Bird.

Initially the field programme was directed by Dr B. Stonehouse. From 1966-67 to 1969-70 the programme was directed by Dr E. C. Young. The work is now being co-ordinated by Professor G. A. Knox, head of the zoology department.

The 1970-71 season was planned to incorporate for the first time a comprehensive marine programme at Cape Bird, after preliminary studies in the 1969-70 season. In addition, freshwater studies were also included for the first time.

Ideas for future work by the unit are outlined in the latest report. In the section on penguin studies Mr Spurr says that the annual count of Adelie penguins at Cape Bird has shown vast

fluctuations among numbers returning to breed. These fluctuations need relating to physical conditions of the environment, availability of food, and population structure. Counts of total adults, total nests with contents and empty nests, should be continued at Cape Bird every summer.

### **BANDING BIRDS**

Referring to studies of known age penguins, Mr Spurr says as yet no chicks have been banded at Cape Bird for use in studies of either the behaviour of known age birds or for studies of population changes.

Chick banding was started by the unit at Cape Royds in 1969-70. The rookery there has a breeding population of about 1600 pairs, producing some 1400 chicks—a size which has the potential of becoming a completely banded known age population. However, the ideal of all chicks being banded has not been realised because of lack of sufficient workers and equipment.

Mr Spurr suggests that it would be more practicable to band chicks at the Cape Bird middle rookery. Working conditions are much more favourable there than at Cape Royds, the weather is considerably less disruptive, there are fewer visitors, and the unit has a well-established base at Cape Bird about one and a half miles north of the rookery. Much is still unknown about behaviour of penguins of different ages, and about population age structure and stability, says Mr Spurr. Such information must come from a long-term programme (20 years is not too long!).

We do not know exactly where penguins feed, whether rookeries each have their own exclusive feeding grounds, or whether penguins from different rookeries share the same feeding areas, says Mr Spurr. It is not known how far penguins travel for food, how they find where the food is, how they catch the food, how much time and effort they expend feeding.

Nothing is known about Adelle penguin feeding in winter. It is not known what the food is, what is its availability, and what is its effect on the breeding condition of the penguins.

Mr Spurr suggests that there is need for a major bio-telemetry programme tracing winter and summer movements of penguins.

#### SKUAS IN CLUB

Mr J. E. Hilton studied the South Polar skua at Cape Bird. He says that skuas are strongly territorial, and most of the Adelle penguin rookery at Cape Bird is divided up between breeding adults. On one small area of 150 square yards there is a flock essentially non-breeding birds which is commonly known as the club.

During the summer there were about 30 skuas in the club on the northern penguin rookery. Mr Hilton concentrated his study on these skuas, and says that it throws new light on the social behaviour of skuas, and is an excellent example of the value of studies in undisturbed environments. In other parts of the world studies of gull clubs have been hampered by artificial food supplies and disturbance by man which upsets the natural population structure and activities of the birds.

Mr Hilton says that the future study of skua behaviour relies on the marking of birds of known age and the subsequent recovery and follow up of them. As skuas do not start breeding until they are about five years of age, the fruits of such a study are slow in ripening, but there is still ample scope for detailed observational studies of Antarctic seabirds. Between October 21 and December 14 last year studies of the Weddell seal were carried out between Cape

Royds and Pram Point. The leader of the seal programme was Mr D. J. Greenwood, a senior technician in the zoology department, who has now spent three seasons in the Antarctic. He was assisted by a B.Sc. honours student, Mr P. D. Lawrey, and Mr C. Knott, a field assistant from Scott Base.

The aim of the programme, which is now directed by Dr M. C. Crawley, a lecturer in the department, was to tag all seal pups and selected adults, and to trace the movements and fidelity of seals from resightings of previously tagged animals. The teams tagged 701 seals, including 79 adults, 28 sub-adults, and 594 pups. Numerous resightings of animals were made.

Mr Lawrey's project work involved a collection of fingernails from known age animals with a view to correlating growth rings in the nails to age. Teeth and nails of dead seals were collected to assist this work. The project also involved a study of aggressive behaviour in the seals in the hope that it could be related to man's influence.

In his suggestions for future research on the Weddell seal Dr Crawley says that the development of techniques for determining the age and reproductive condition of live seals would greatly facilitate quantitative work on the population dynamics of the Weddell seal. He lists the following topics which, he says, should provide opportunity for interesting and valuable research:

- (1) The effect of ice conditions on the fidelity of females to pupping sites and on their reproductive success.
- (2) The comparative age structure of breeding colonies in consistently stable and unstable areas.
- (3) The effect of coastal configuration on age structure, reproductive rates, and dispersion of seal populations.
- (4) The dispersal of pups and sub-adults; their ages and first breeding; their fidelity to natality sites.
- (5) The diet of seals of various ages in different localities.
- (6) The dynamics of small isolated populations, e.g. at White Island and Keetlitz Glacier.

# ANTARCTIC BOOKSHELF



## NEW ZEALAND AND THE ANTARCTIC

By L. B. Quartermain.

Published by Government Printer, Wellington, 1971.

pp. xix and 1-269. N.Z. price \$5.85.

It will surprise many people to learn that the first New Zealander to visit the Antarctic was "Tuatti", a half-caste who somehow had got to the United States and from there joined the exploring expedition led by the American, Charles Wilkes. "Tuatti" made a voyage to Antarctic waters aboard the Vincennes and returned to his native land in 1840.

From this far-off beginning Mr Quartermain, in his latest book, goes on to chronicle in great detail as befits his title, all expeditions to Antarctica in which New Zealanders have served, or in recent years, led.

The author is well-qualified to deal with the subject he has chosen, as readers of his previous book "South to the Pole" will agree. His interest in the Antarctic goes back to the early years of this century, and besides being a foundation member of the New Zealand Antarctic Society he was also the founder and long-time editor of this journal. He has visited the Southern Continent on several occasions, and has met and corresponded with practically all its living explorers.

A glance through the index, with its list of men, ships and places running to nearly two and a half thousand entries will show the tremendous industry and scholarship which Mr Quartermain has put into his task. Moreover, there are appendices which list the names of every member of the wintering parties at Scott Base and those New Zealanders who served with the early Byrd expeditions.

After a chapter dealing with the earliest explorations the author moves to what has become known as the Heroic Age, the years from Scott's Discovery expedition in 1901 to Shackle-

ton's Trans-Antarctic Expedition in 1917. Naturally this country became closely linked with the several expeditions which made New Zealand ports their final point of departure or the initial ones on their return, and many New Zealanders during these adventurous years had their baptism of ice aboard one or another of the explorers' ships. One feels, however, that 13 pages is rather much to devote to the acrimonious dispute that arose over the relief of the Ross Sea party in 1917, a subject which has been adequately dealt with elsewhere.

The period of the Byrd expeditions again gave a few New Zealanders a chance to see the Antarctic, and had it not been for the Trans-Antarctic Expedition of 1957-58 and the establishment of Scott Base, it could well be that even today the only way our people could go south would be with the expeditions of other nations.

With the decision made to maintain a New Zealand base in Antarctica for an indefinite period, following the success of the International Geophysical Year, expeditions organised from this country followed each other in bewildering succession every year, many of them university sponsored and manned. From this point on Mr Quartermain's book becomes a procession of names, places and dates, all faithfully set down for the record, culminating with the tenth anniversary of the opening of Scott Base on January 20, 1957.

It is a long story, crowded with people and events. Inevitably the writing is taut, and the feeling persists that one never really gets to know the characters. They remain wooden figures, names in a team of men all

in a hurry to do the job of mapping the Ross Dependency, as if to make up for lost time, and if New Zealand was late in the day in measuring up to her Antarctic responsibilities she

has certainly caught up on the lost years, and the record of her achievements has been ably set down in this book by the one man most qualified to do it.—H.F.G.

## ADVANCES IN ANTARCTIC AND FAR SOUTHERN ENTOMOLOGY

J. L. Gressitt & R. L. Strandmann (Editors)

Pacific Insects Monograph 25. Bernice P. Bishop Museum, Honolulu.

1971. pp. 1-226.

This is a collection of 15 miscellaneous papers in which data are presented that lie within the fields of taxonomy (1), biology (12) and biogeography (2), with an addendum. Records and distribution of species of Collembola, mites and bird ectoparasites form about one-third of the volume. The papers by Peterson and Peckham record more detailed studies on the populations of a collembolan and of a wingless midge respectively. Rapoport gives an extensive review of the relationships of the Antarctic Collembola and comments on these for areas outside the ones indicated by the title of this volume. Gressitt gives a general review of Antarctic entomology covering especially the recent descriptions of fossil insects. A very useful "Catalogue and Bibliography of the Acari of the New Zealand Sub-region" comprises the addendum to this volume.

The main feature of the book is its variety in contents and their organisation. The range is from precise taxonomic descriptions and physical data to what the editors state to be "only a preliminary organisation of

field notes" for which they ask the reader to make allowances. The editors acknowledge that some articles are incompletely revised, and it seems that these were included in this state only so that the publication of the better work of other authors would not be held up. This can only be regarded as an acknowledged drop in editorial standards.—P. M. Johns, Department of Zoology, University of Canterbury.



## TREATY ANNIVERSARY STAMP ISSUED

This month the New Zealand Post Office issued a 6c stamp to commemorate the 10th anniversary of the Antarctic Treaty. The stamp, in shades of blue and green, has a symbolic design based on an impression of the icy, wind-swept mountains, snowdrifts and storm-whipped seas typical of the Antarctic landscape.

Designed by Miss Eileen Mayo, of Christchurch, who has designed several New Zealand stamps, the new stamp bears a map of Antarctica in the centre. The issue was printed by the Japanese Government Printing Bureau in Tokyo.

## ANTARCTIC SOCIETY TIES

Fresh stocks of the New Zealand Antarctic Society's tie are expected to be available to members some time in October. The British firm which is making the ties has sent the mock-up of the kiwi and penguin pattern back to Christchurch, and expects to have the ties ready for the opening of the Antarctic season.

## **“ANTARCTIC”**

is published quarterly in March, June, September, and December. It is the only periodical in the world which gives regular up-to-date news of the Antarctic activities of all the nations at work in the far South. It has a world-wide circulation.

Subscription for non-members of the Antarctic Society, NZ\$3. Overseas NZ\$3.50, includes postage (air mail postage extra). Details of back issues available may be obtained from the Secretary, New Zealand Antarctic Society, P.O. Box 1223, Christchurch, New Zealand.

### **The New Zealand Antarctic Society**

The New Zealand Antarctic Society was formed in 1933. It comprises New Zealanders and overseas friends, many of whom have seen Antarctica for themselves, and all of whom are vitally interested in some phase of Antarctic exploration, development, or research.

The society has taken an active part in restoring and maintaining the historic huts in the Ross Dependency, and plans to co-operate in securing suitable locations as repositories of Polar material of unique interest.

There are two branches of the society and functions are arranged throughout the year.

You are invited to become a member, South Island residents should write to the Canterbury secretary, North Islanders should write to the Wellington secretary, and overseas residents to the secretary of the New Zealand Society. For addresses see below. The membership fee is NZ\$2.00 (or equivalent local currency). Subscription to “Antarctic” is a further \$2.50.

#### **New Zealand Secretary**

Miss J. Garraway, P.O. Box 1223, Christchurch.

#### **Branch Secretaries**

Canterbury: Mrs E. F. Cross, P.O. Box 404, Christchurch.

Wellington: Mr F. O’Leary, P.O. Box 2110, Wellington.



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